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U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

(Also referred to as FORM PTO-1465)

REQUEST FOR *EX PARTE* REEXAMINATION TRANSMITTAL FORM

Address to:
Mail Stop *Ex Parte* Reexam
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Attorney Docket No.: 10306-107453-02

Date: February 16, 2022

1. [✓] This is a request for *ex parte* reexamination pursuant to 37 CFR 1.510 of patent number 9,880,715 issued January 30, 2018. The request is made by:
   [ ] patent owner. [✓] third party requester.
2. [✓] The name and address of the person requesting reexamination is:
   Andrew M. Mason
   Klarkquist Sparkman LLP
   121 SW Salmon Street, Suite 1600, Portland, OR 97204
3. Requester asserts [ ] small entity status (37 CFR 1.27) or [ ] certifies micro entity status (37 CFR 1.29). Only a patent owner requester can certify micro entity status. Form PTO/SB/15A or B must be attached to certify micro entity status.
4. [ ] a. A check in the amount of $_____ is enclosed to cover the reexamination fee, 37 CFR 1.20(c)(1);
   [✓] b. The Director is hereby authorized to charge the fee as set forth in 37 CFR 1.20(c)(1) to Deposit Account No. 02-4550;
   [ ] c. Payment by credit card. Form PTO-2038 is attached; **or**
   [✓] d. Payment made via EFS-Web.
5. [✓] Any refund should be made by [ ] check or [✓] credit to Deposit Account No. 02-4550. 37 CFR 1.26(c). If payment is made by credit card, refund must be to credit card account.
6. [✓] A copy of the patent to be reexamined having a double column format on one side of a separate paper is enclosed. 37 CFR 1.510(b)(4).
7. [ ] CD-ROM or CD-R in duplicate, Computer Program (Appendix) or large table
   [ ] Landscape Table on CD
8. [ ] Nucleotide and/or Amino Acid Sequence Submission
   If applicable, items a. – c. are required.
   a. [ ] Computer Readable Form (CRF)
   b. Specification Sequence Listing on:
      i. [ ] CD-ROM (2 copies) or CD-R (2 copies); **or**
      ii. [ ] paper
   c. [ ] Statements verifying identity of above copies
9. [ ] A copy of any disclaimer, certificate of correction or reexamination certificate issued in the patent is included.
10. [✓] Reexamination of claim(s) _____ is requested.
11. [✓] A copy of every patent or printed publication relied upon is submitted herewith including a listing thereof on Form PTO/SB/08, PTO-1449, or equivalent.
12. [✓] An English language translation of all necessary and pertinent non-English language patents and/or printed publications is included.

13. ☑ The attached detailed request includes at least the following items:

a. A statement identifying each substantial new question of patentability based on prior patents and printed publications. 37 CFR 1.510(b)(1).

b. An identification of every claim for which reexamination is requested, and a detailed explanation of the pertinency and manner of applying the cited art to every claim for which reexamination is requested. 37 CFR 1.510(b)(2).

14. ☐ A proposed amendment is included (only where the patent owner is the requester). 37 CFR 1.510(e).

15. ☑ It is certified that the statutory estoppel provisions of 35 U.S.C. 315(e)(1) or 35 U.S.C. 325(e)(1) do not prohibit requester from filing this *ex parte* reexamination request. 37 CFR 1.510(b)(6).

16. ☑ a. It is certified that a copy of this request (if filed by other than the patent owner) has been served in its entirety on the patent owner as provided in 37 CFR 1.33(c).

The name and address of the party served and the date of service are:

Wolf Greenfield & Sacks, P.C.

600 Atlantic Avenue, Boston, MA 02210-2206

Date of Service: February 16, 2022; **or**

☐ b. A duplicate copy is enclosed since service on patent owner was not possible. An explanation of the efforts made to serve patent owner **is attached**. See MPEP 2220.

17. Correspondence Address: Direct all communication about the reexamination to:

☑ The address associated with Customer Number: 24197

OR

☐ Firm or Individual Name Klarquist Sparkman LLP

Address
121 SW Salmon Street, Suite 1600

City	State	Zip
Portland	OR	97204

Country
USA

Telephone	Email
503-595-5300	andrew.mason@klarquist.com

18. ☑ The patent is currently the subject of the following concurrent proceeding(s):

☐ a. Copending reissue Application No. _____

☐ b. Copending reexamination Control No. _____

☐ c. Copending Interference No. _____

☑ d. Copending litigation styled:

LiTL LLC v. Lenovo (United States) Inc., et al., 1:20-cv-00689, (D. Del.), filed May 22, 2020

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/Andrew M. Mason/ — Authorized Signature

February 16, 2022 — Date

Andrew M. Mason — Typed/Printed Name

64,034 — Registration No.

☐ For Patent Owner Requester

☑ For Third Party Requester

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The **Privacy Act of 1974 (P.L. 93-579)** requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

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5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (*i.e.*, GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

Exhibit 1001

US009880715B2

(12) **United States Patent**
Behar et al.

(10) **Patent No.: US 9,880,715 B2**
(45) **Date of Patent: *Jan. 30, 2018**

(54) **SYSTEM AND METHOD FOR STREAMLINING USER INTERACTION WITH ELECTRONIC CONTENT**

(71) Applicant: **LiTL LLC**, Boston, MA (US)

(72) Inventors: **Yves Behar**, Oakland, CA (US); **Joshua Morenstein**, San Francisco, CA (US); **Christopher Hibmacronan**, Oakland, CA (US); **Naoya Edahiro**, San Francisco, CA (US); **Matthew David Day**, San Francisco, CA (US); **Robert Sanford Havoc Pennington**, Asheville, NC (US); **Noah Bruce Guyot**, Mill Valley, CA (US); **Daniel Kuo**, San Francisco, CA (US); **Jenea Boshart Hayes**, Castro Valley, CA (US); **Aaron Tang**, Somerville, MA (US); **Donald Francis Fischer**, Charlestown, MA (US); **Christian Marc Schmidt**, Brooklyn, NY (US); **Lisa Strausfeld**, New York, NY (US); **David Livingstone Fore**, Oakland, CA (US); **John H. Chuang**, Brookline, MA (US); **Chris Bambacus**, Framington, MA (US); **Bart Haney**, Boston, MA (US); **Logan Ray**, Boston, MA (US); **Serge Beaulieu**, San Francisco, CA (US)

(73) Assignee: **LiTL LLC**, Boston, MA (US)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 168 days.

This patent is subject to a terminal disclaimer.

(21) Appl. No.: **14/680,422**

(22) Filed: **Apr. 7, 2015**

(65) **Prior Publication Data**

US 2015/0277688 A1 Oct. 1, 2015

Related U.S. Application Data

(63) Continuation of application No. 12/416,496, filed on Apr. 1, 2009, now Pat. No. 9,003,315, which is a (Continued)

(51) **Int. Cl.**
G06F 3/048 (2013.01)
G06F 3/0484 (2013.01)
(Continued)

(52) **U.S. Cl.**
CPC ***G06F 3/0484*** (2013.01); ***G06F 1/162*** (2013.01); ***G06F 1/169*** (2013.01); ***G06F 1/1632*** (2013.01);
(Continued)

(58) **Field of Classification Search**
CPC G06F 3/0481–3/04847; G06F 17/2247–17/3089; G06F 1/1626; G06F 3/04886
See application file for complete search history.

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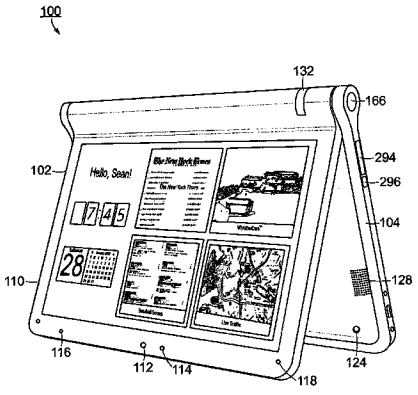
Primary Examiner — Claudia Dragoescu
(74) *Attorney, Agent, or Firm* — Wolf, Greenfield & Sacks, P.C.

(57) **ABSTRACT**

Various aspects and embodiments are directed to a graphical user interface that organizes interface elements into views of computer content for presentation to a user. Different views of are used to provide an interface that is responsive to
(Continued)



configurations of the device and activities performed by the user. Aspects include permitting the user to transition the device from one configuration to another during its use. The elements that comprise the graphical user interface are configured to present a summarized view of available actions and content to simplify user interaction. The different views present different organizations of the interface elements and in some examples display only certain modes of content in order to reduce the number of options a user must navigate. Methods and systems for streamlining user interaction with computer content are also provided. Streamlining includes, for example, pre-configuring a user device based on received information.

20 Claims, 56 Drawing Sheets

Related U.S. Application Data

continuation-in-part of application No. 12/170,939, filed on Jul. 10, 2008, now Pat. No. 8,289,688, said application No. 12/416,496 is a continuation-in-part of application No. 12/170,951, filed on Jul. 10, 2008, now Pat. No. 8,624,844.

(60) Provisional application No. 61/041,365, filed on Apr. 1, 2008.

(51) **Int. Cl.**

G06F 1/16	(2006.01)
G06F 3/0362	(2013.01)
G06F 17/30	(2006.01)
H04L 29/08	(2006.01)

(52) **U.S. Cl.**

CPC ***G06F 1/1677*** (2013.01); ***G06F 3/0362*** (2013.01); ***G06F 17/30905*** (2013.01); ***H04L 67/02*** (2013.01); ***H04L 67/10*** (2013.01)

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International Search Report from a commonly owned PCT application PCT/US09/39117.

Miller, M., "Creating a Digital Home Entertainment System with Windows Media Center" , Apr. 2006, Que.

Supplemental European Search Report from corresponding European Application No. 09755433 dated Mar. 25, 2011.

European Examination Report dated Jan. 17, 2017 in connection with European Application No. 09755433.1.

International Preliminary Report on Patentability dated Oct. 14, 2010 for International Application No. PCT/US2009/039117.

International Search Report and Written Opinion for International Application No. PCT/US2009/038599 dated Jun. 3, 2009.

European Examination Report dated Nov. 22, 2016 in connection with European Application No. 09727165.4.

Extended European Search Report dated Apr. 5, 2011 in connection with European Application No. 09755433.1.

Chinese Office Action dated Jul. 18, 2013 in connection with Chinese Application No. 200980117859.8.

European Communication dated Nov. 23, 2015 in connection to European Application No. 09727165.4.

Japanese Office Action dated Apr. 16, 2013 in connection with Japanese Application No. 2011-503058.

Japanese Office Action dated Dec. 4, 2012 in connection with Japanese Application No. 2011-503058 and partial English translation thereof.

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Office Action L2039-700111 dated Apr. 4, 2011, for U.S. Appl. No. 12/170,951.
Canadian Office Action dated Aug. 18, 2017 in connection with Canadian Application No. 2719828.

* cited by examiner

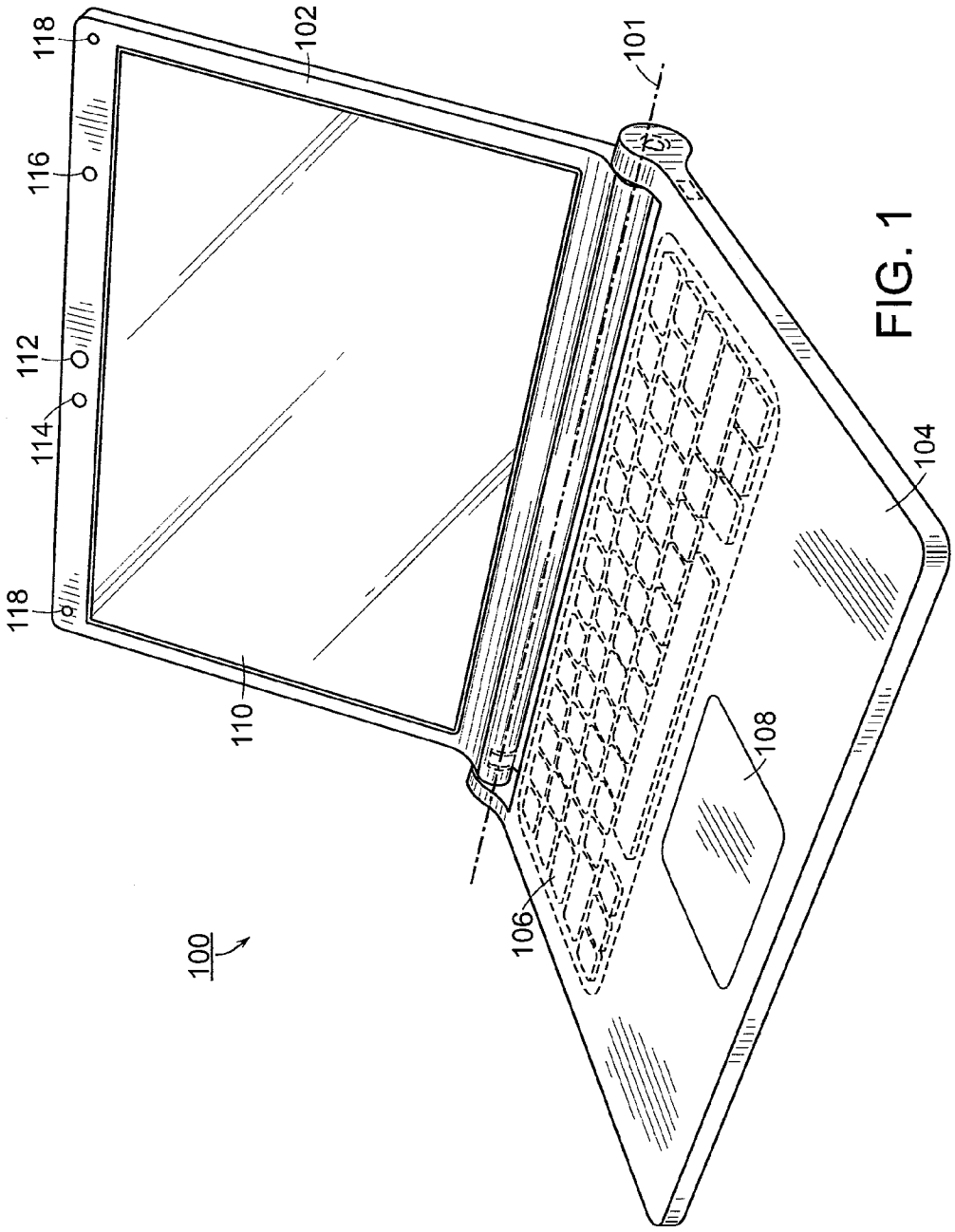

FIG. 1

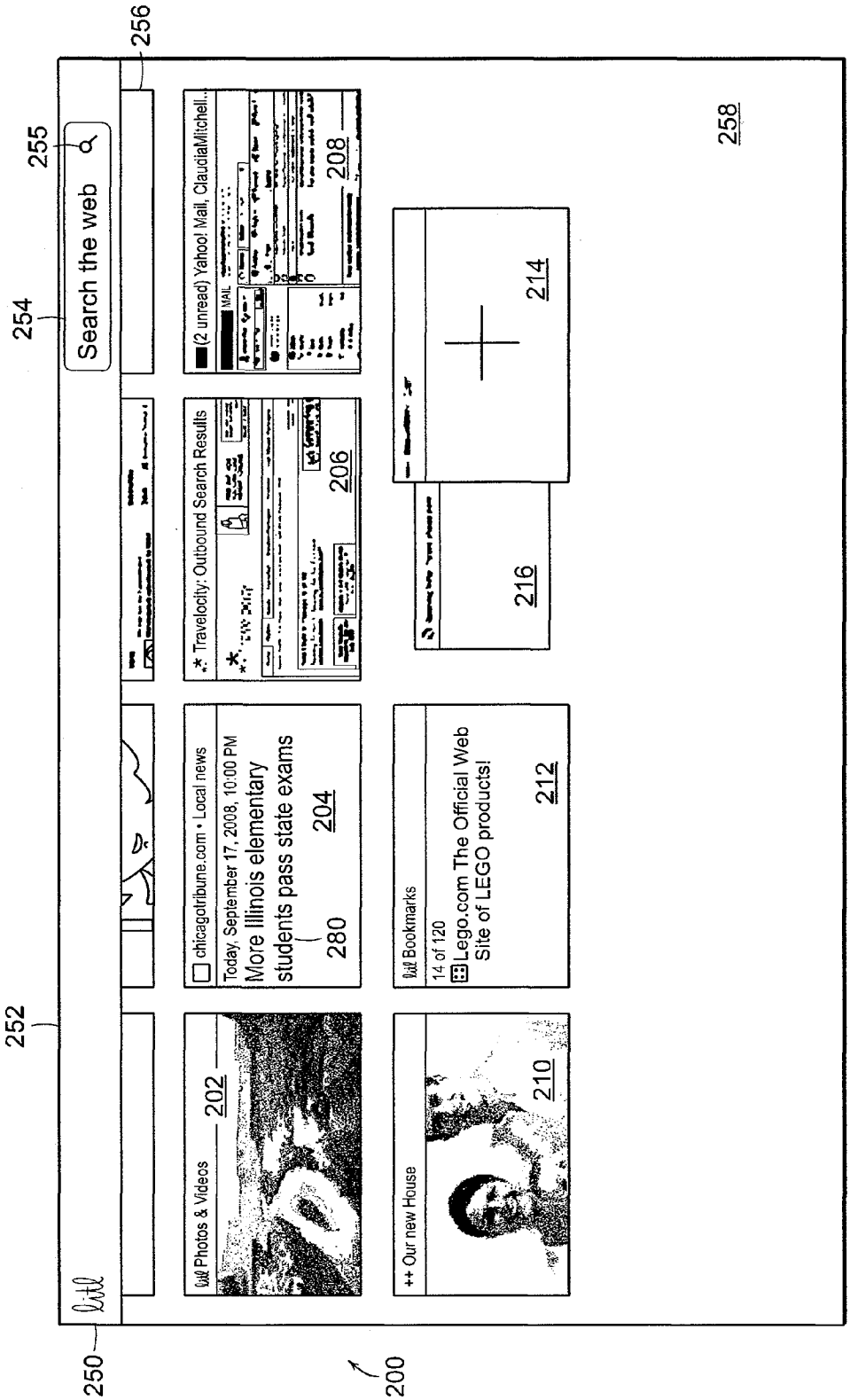
250
252
254
255
256
258
200
Search the web
Photos & Videos
202
chicagotribune.com • Local news
Today, September 17, 2008, 10:00 PM
More Illinois elementary students pass state exams
204
280
Travelocity: Outbound Search Results
206
(2 unread) Yahoo! Mail, ClaudiaMitchell...
208
Bookmarks
14 of 120
Lego.com The Official Web Site of LEGO products!
212
++ Our new House
210
214
216

FIG. 2

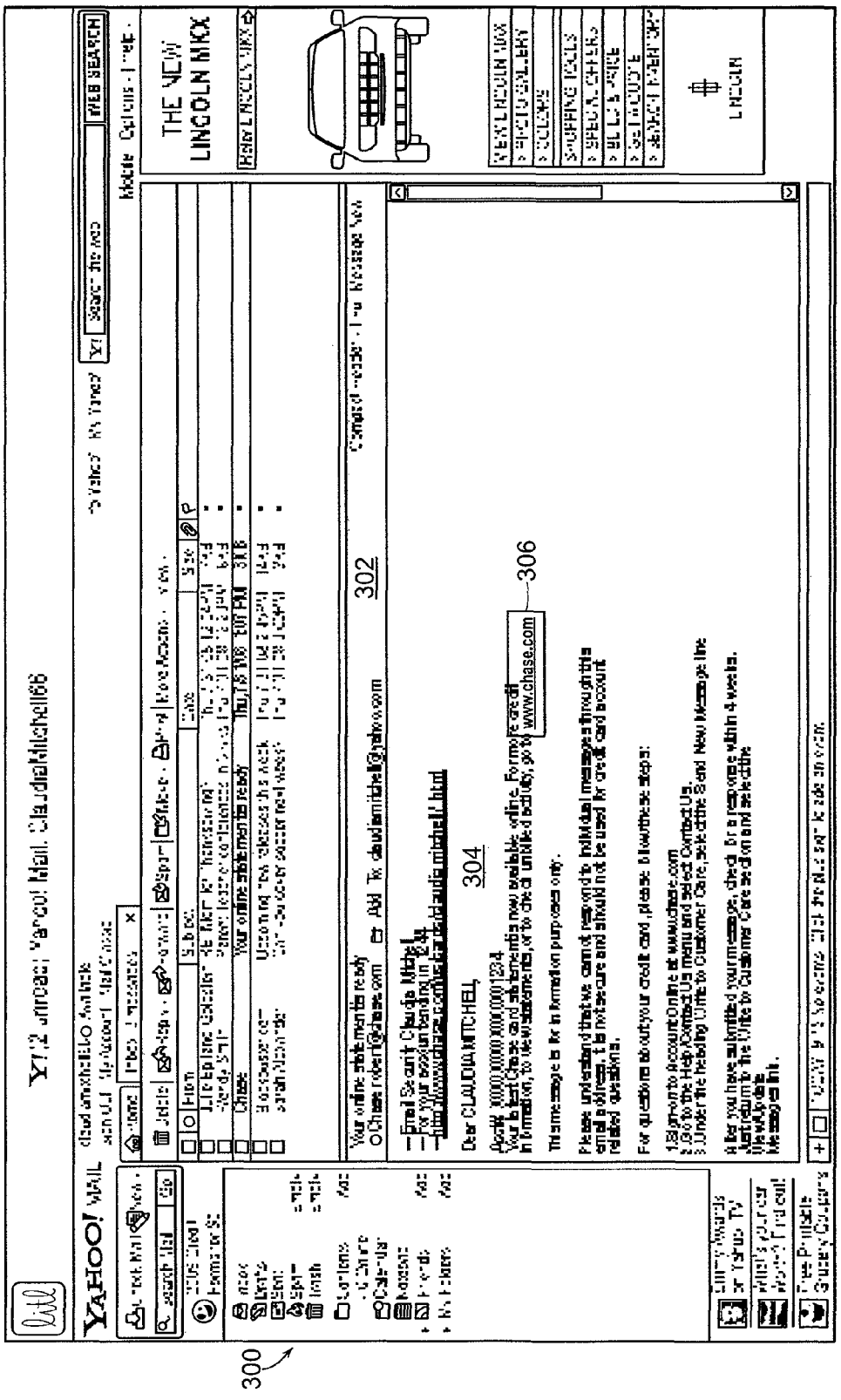

FIG. 3A

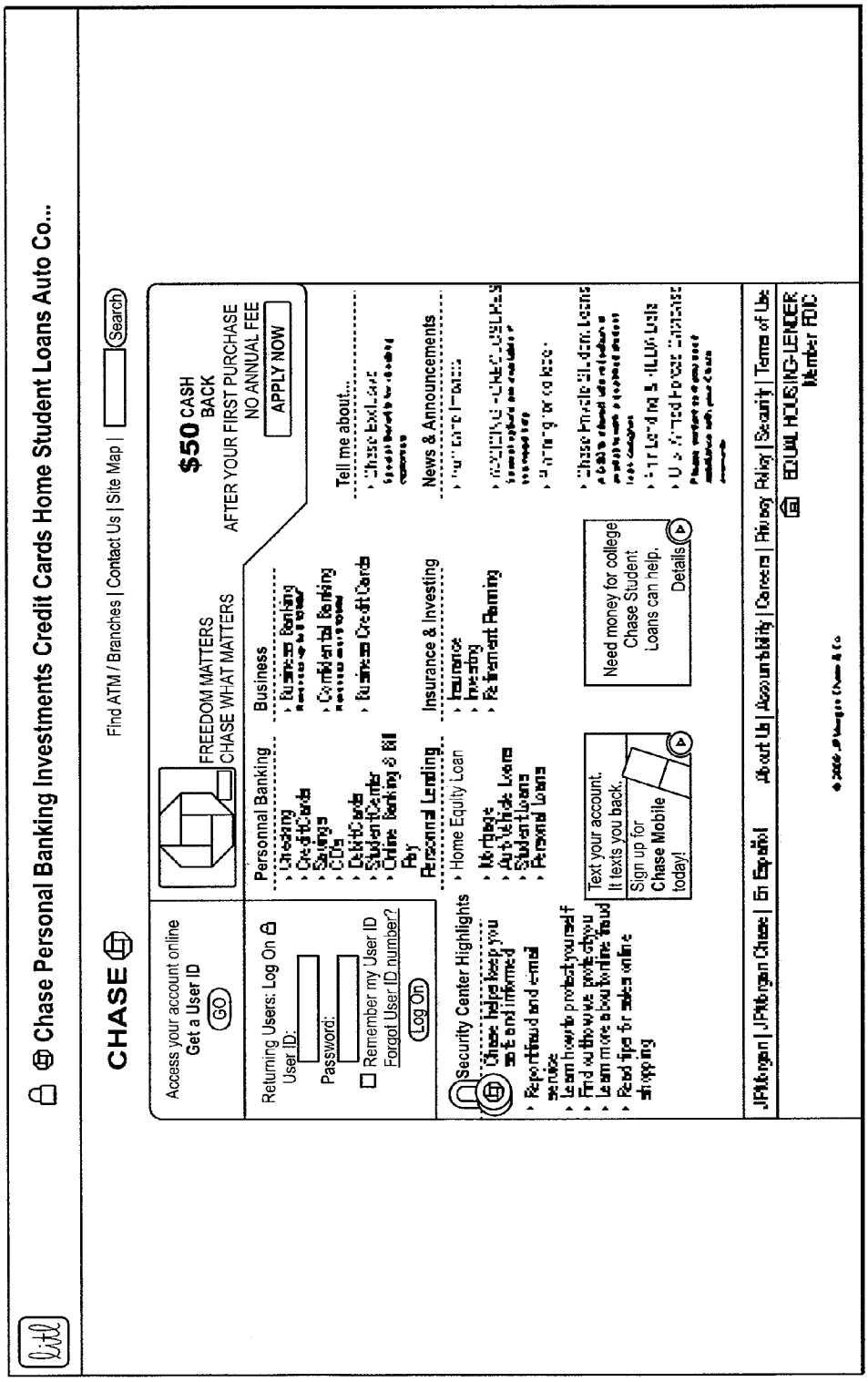
Chase Personal Banking Investments Credit Cards Home Student Loans Auto Co...
CHASE
Find ATM / Branches | Contact Us | Site Map |
Search
Access your account online
Get a User ID
GO
FREEDOM MATTERS
CHASE WHAT MATTERS
$50 CASH BACK
AFTER YOUR FIRST PURCHASE
NO ANNUAL FEE
APPLY NOW
Returning Users: Log On
User ID:
Password:
Remember my User ID
Forgot User ID number?
Log On
Personal Banking
Business
Insurance & Investing
Tell me about...
News & Announcements
Security Center Highlights
Text your account. It texts you back.
Sign up for Chase Mobile today!
Need money for college
Chase Student Loans can help.
Details
JPMorgan | JPMorgan Chase | En Español | About Us | Accountability | Careers | Privacy Policy | Security | Terms of Use
EQUAL HOUSING LENDER
Member FDIC

FIG. 3B

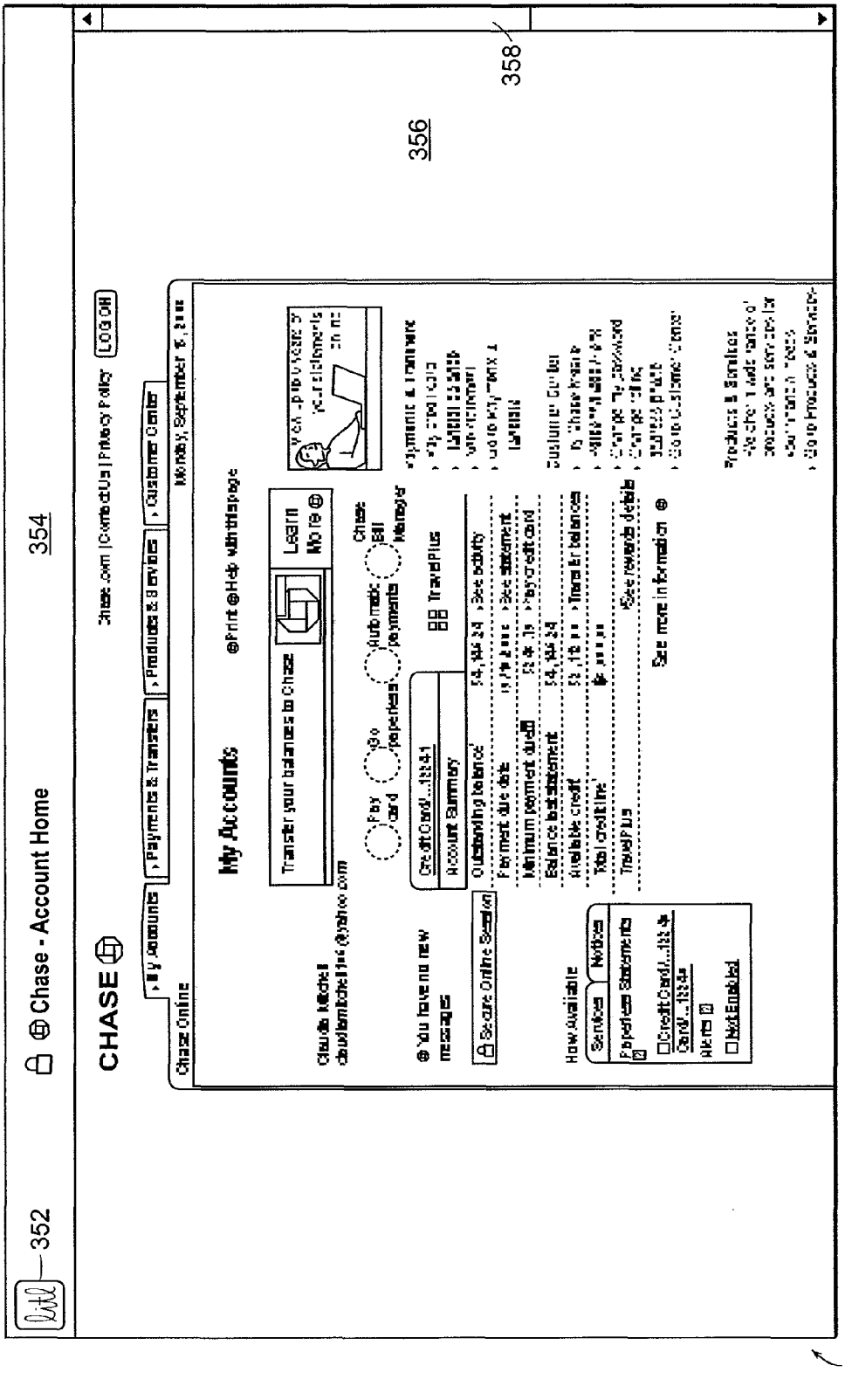
352
Chase - Account Home
354
CHASE
Chase.com | Contact Us | Privacy Policy
LOG OFF
Chase Online
My Accounts
Payments & Transfers
Products & Services
Customer Center
Transfer your balances to Chase
Learn More
Pay Credit Card
Go Paperless
Automatic Payments
Chase Bill Manager
Account Summary
TravelPlus
Secure Online Session
How Available
Services
Notices
Paperless Statements
Credit Card...
Alerts
Not Enabled
356
358
350

FIG. 3C

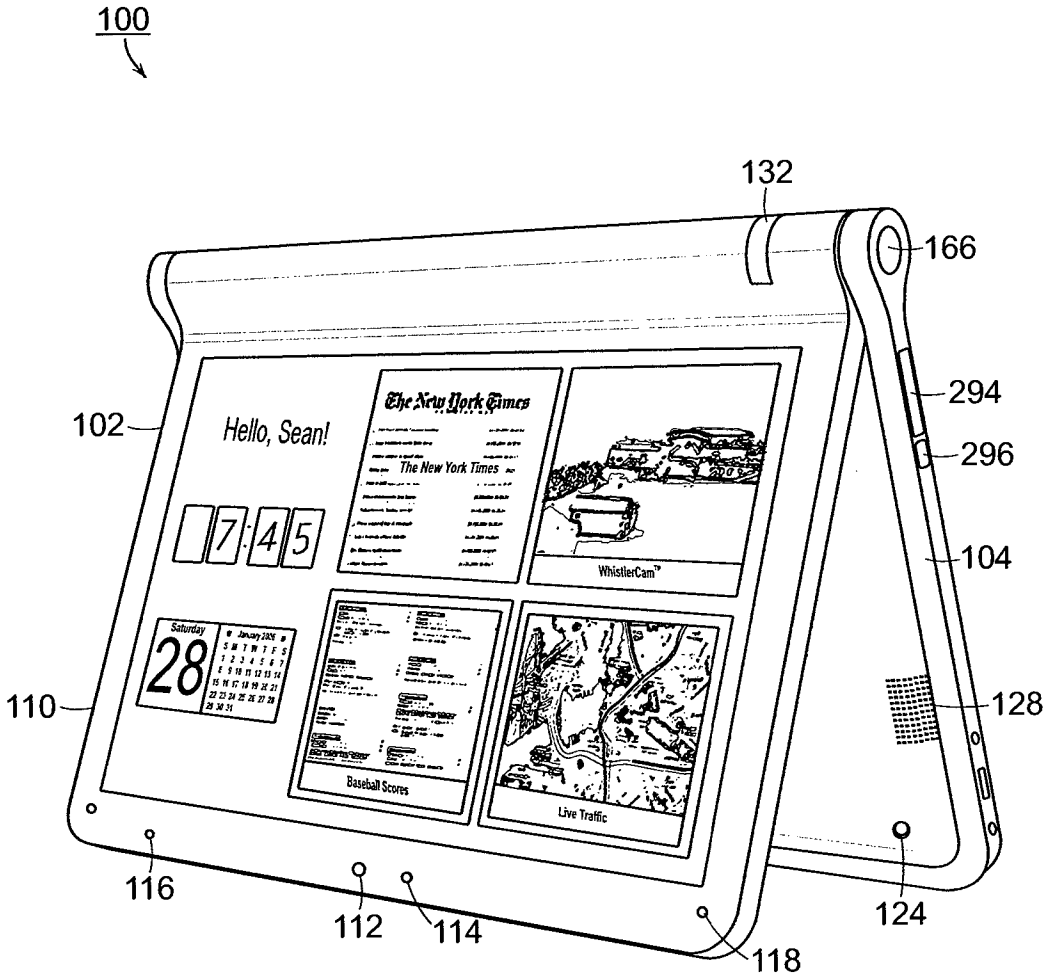
100
132
166
294
296
104
128
102
110
Hello, Sean!
7:45
The New York Times
WhistlerCam™
Saturday
28
Baseball Scores
Live Traffic
116
112
114
118
124

FIG. 4

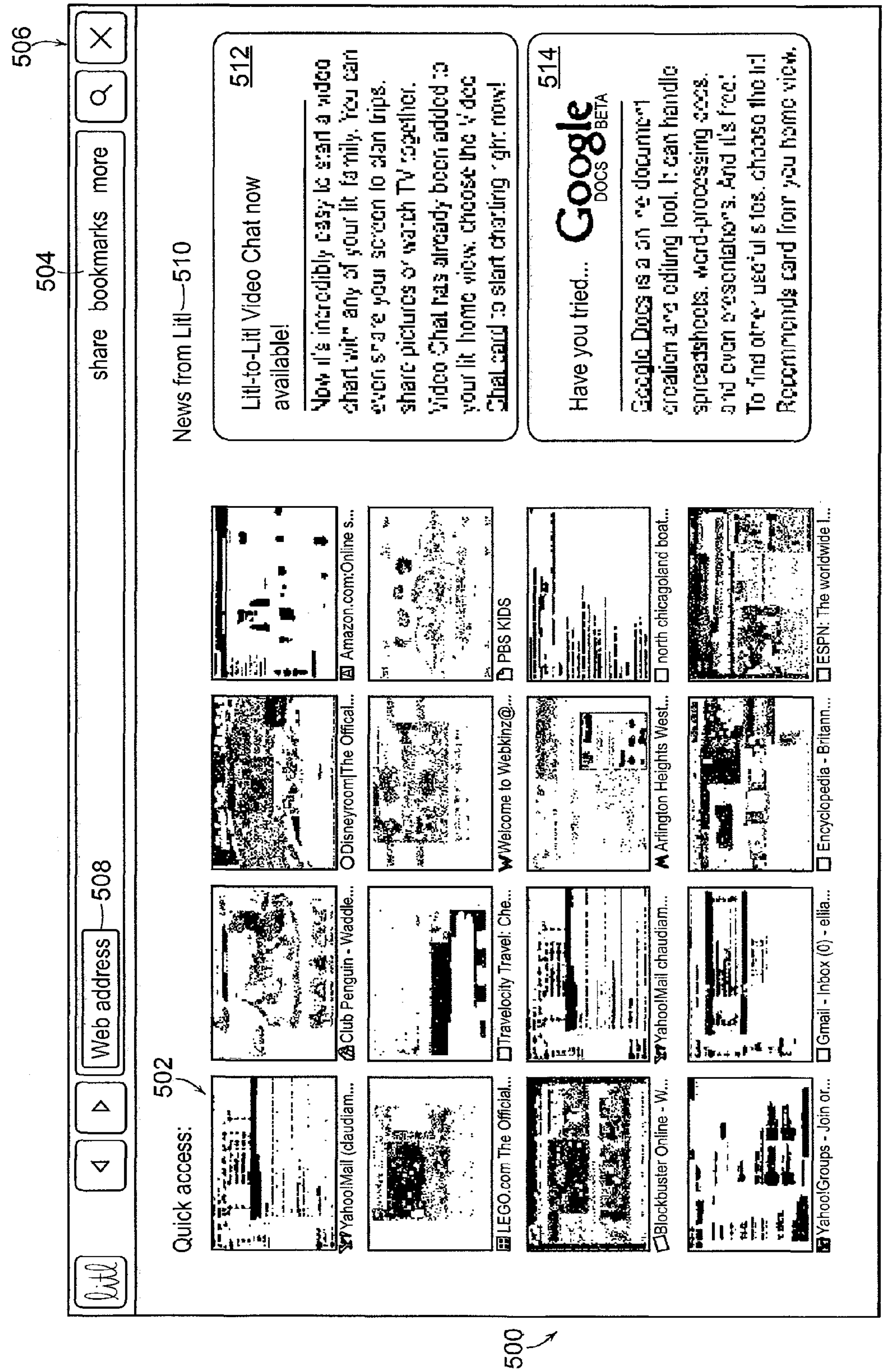
500
502
504
506
508
510
512
514
Web address
share bookmarks more
Quick access:
News from Litl
Litl-to-Litl Video Chat now available!
Have you tried...
Google DOCS BETA
Yahoo!Mail (claudiam...
Club Penguin - Waddle...
Disneyroom|The Offical...
Amazon.com:Online s...
LEGO.com The Official...
Travelocity Travel: Che...
Welcome to Webkinz@...
PBS KIDS
Blockbuster Online - W...
Yahoo!Mail chaudiam...
Arlington Heights West...
north chicagoland boat...
Yahoo!Groups - Join or...
Gmail - Inbox (0) - ella...
Encyclopedia - Britann...
ESPN: The worldwide l...

FIG. 5

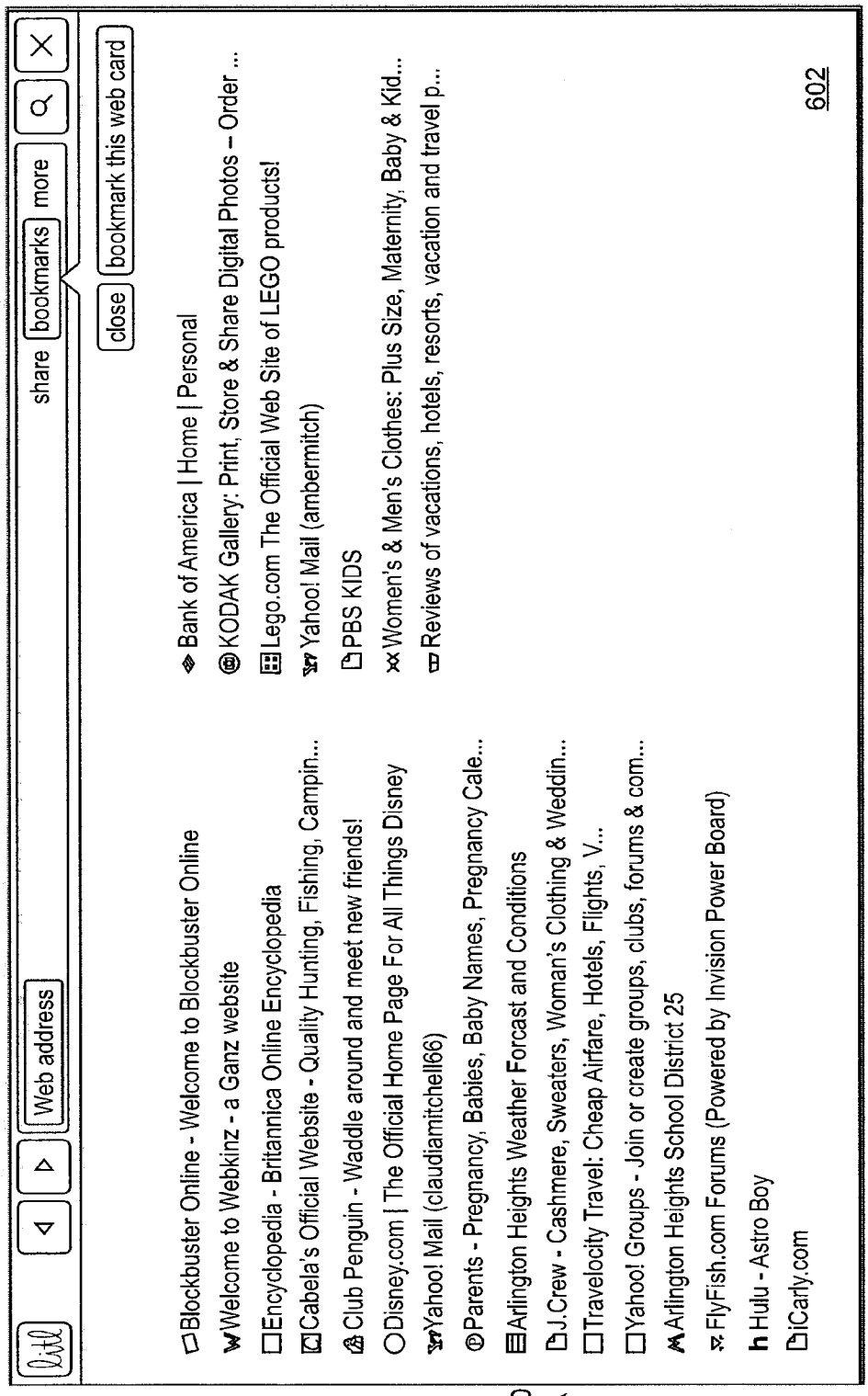
Web address
share
bookmarks
more
close
bookmark this web card
Blockbuster Online - Welcome to Blockbuster Online
Welcome to Webkinz - a Ganz website
Encyclopedia - Britannica Online Encyclopedia
Cabela's Official Website - Quality Hunting, Fishing, Campin...
Club Penguin - Waddle around and meet new friends!
Disney.com | The Official Home Page For All Things Disney
Yahoo! Mail (claudiamitchell66)
Parents - Pregnancy, Babies, Baby Names, Pregnancy Cale...
Arlington Heights Weather Forcast and Conditions
J.Crew - Cashmere, Sweaters, Woman's Clothing & Weddin...
Travelocity Travel: Cheap Airfare, Hotels, Flights, V...
Yahoo! Groups - Join or create groups, clubs, forums & com...
Arlington Heights School District 25
FlyFish.com Forums (Powered by Invision Power Board)
Hulu - Astro Boy
iCarly.com
Bank of America | Home | Personal
KODAK Gallery: Print, Store & Share Digital Photos – Order ...
Lego.com The Official Web Site of LEGO products!
Yahoo! Mail (ambermitch)
PBS KIDS
Women's & Men's Clothes: Plus Size, Maternity, Baby & Kid...
Reviews of vacations, hotels, resorts, vacation and travel p...
600
602

FIG. 6

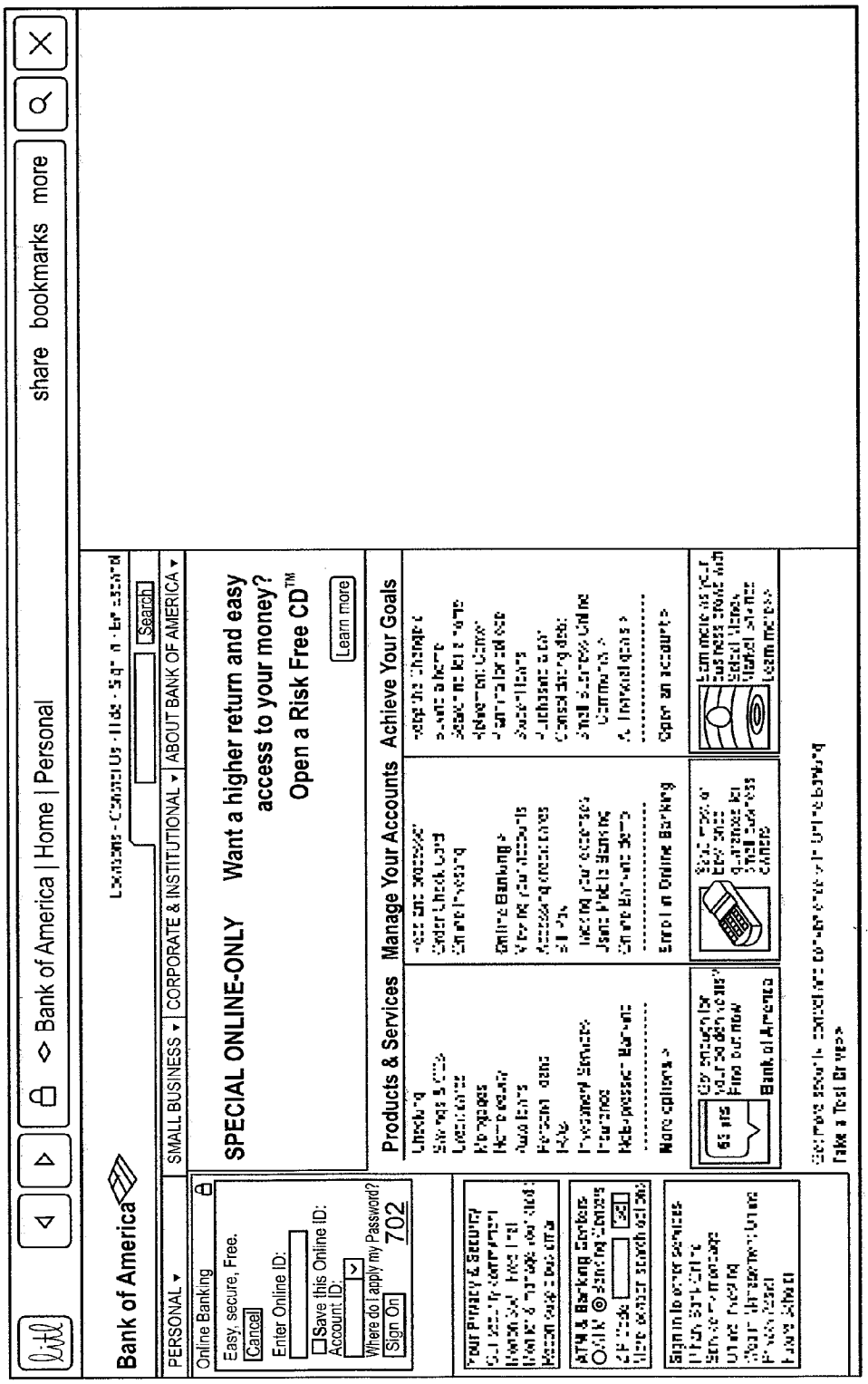
700
Bank of America | Home | Personal
share bookmarks more
Bank of America
PERSONAL
SMALL BUSINESS
CORPORATE & INSTITUTIONAL
ABOUT BANK OF AMERICA
Online Banking
Easy, secure, Free.
Cancel
Enter Online ID:
Save this Online ID:
Account ID:
Where do I apply my Password?
Sign On
702
SPECIAL ONLINE-ONLY Want a higher return and easy access to your money?
Open a Risk Free CD™
Learn more
Products & Services
Manage Your Accounts
Achieve Your Goals
Search
Bank of America

FIG. 7A

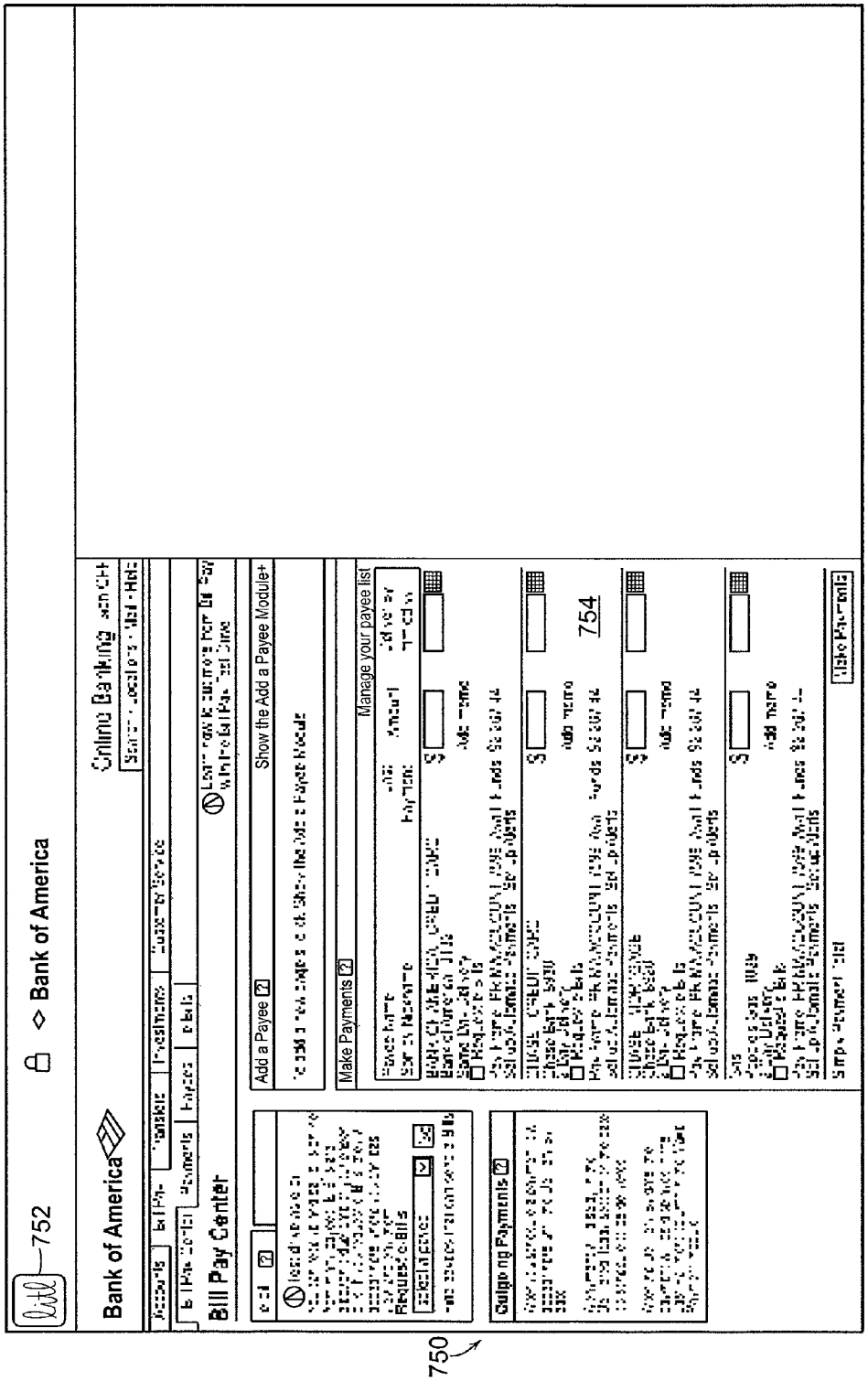
752
Bank of America
Bill Pay Center
Add a Payee
Show the Add a Payee Module+
Make Payments
Manage your payee list
Outgoing Payments
754
750

FIG. 7B

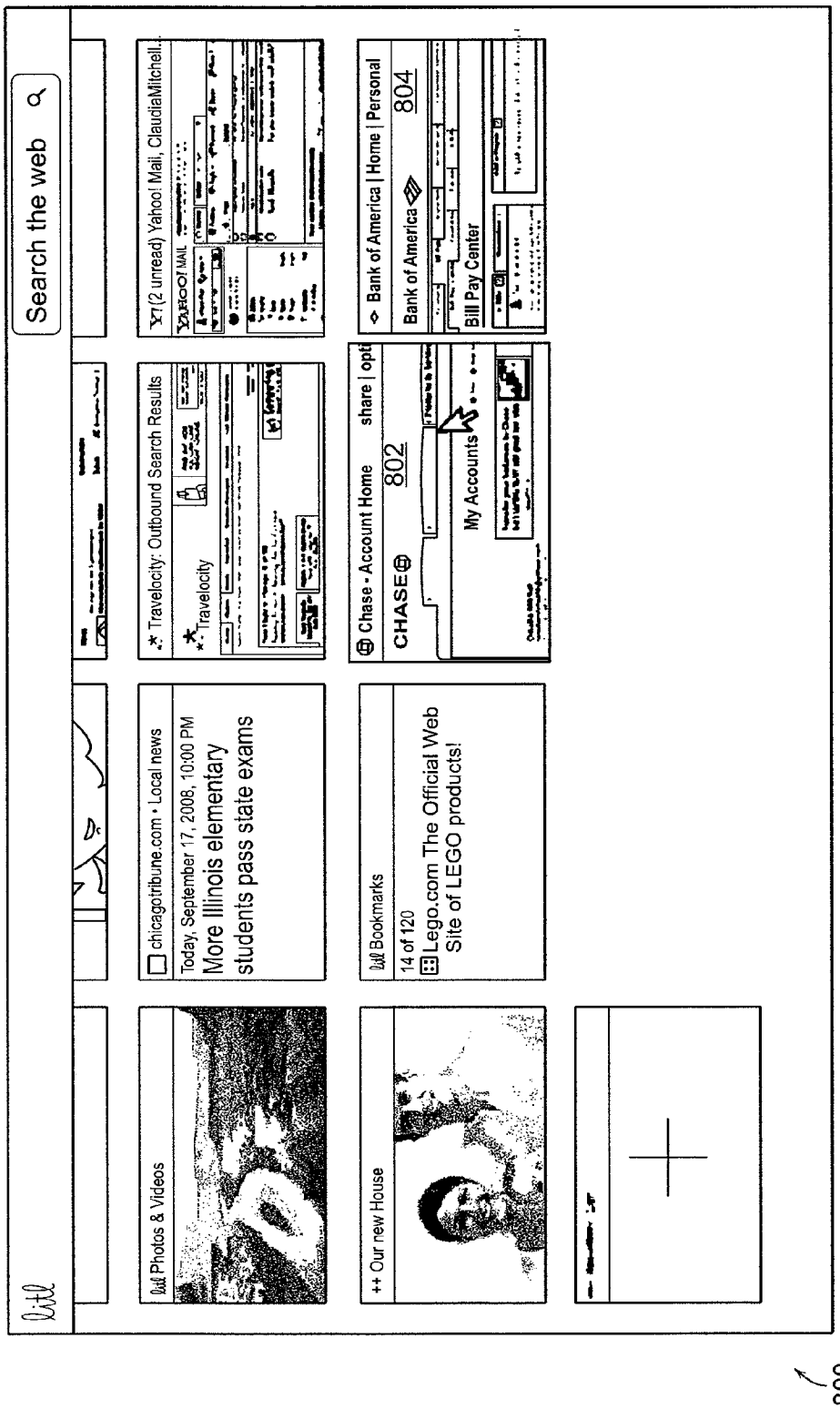
Search the web
Photos & Videos
chicagotribune.com • Local news
Today, September 17, 2008, 10:00 PM
More Illinois elementary students pass state exams
Travelocity: Outbound Search Results
Travelocity
(2 unread) Yahoo! Mail, ClaudiaMitchell...
Bookmarks
14 of 120
Lego.com The Official Web Site of LEGO products!
Chase - Account Home
share | opti
CHASE
802
My Accounts
Bank of America | Home | Personal
Bank of America
804
Bill Pay Center
++ Our new House
800

FIG. 8

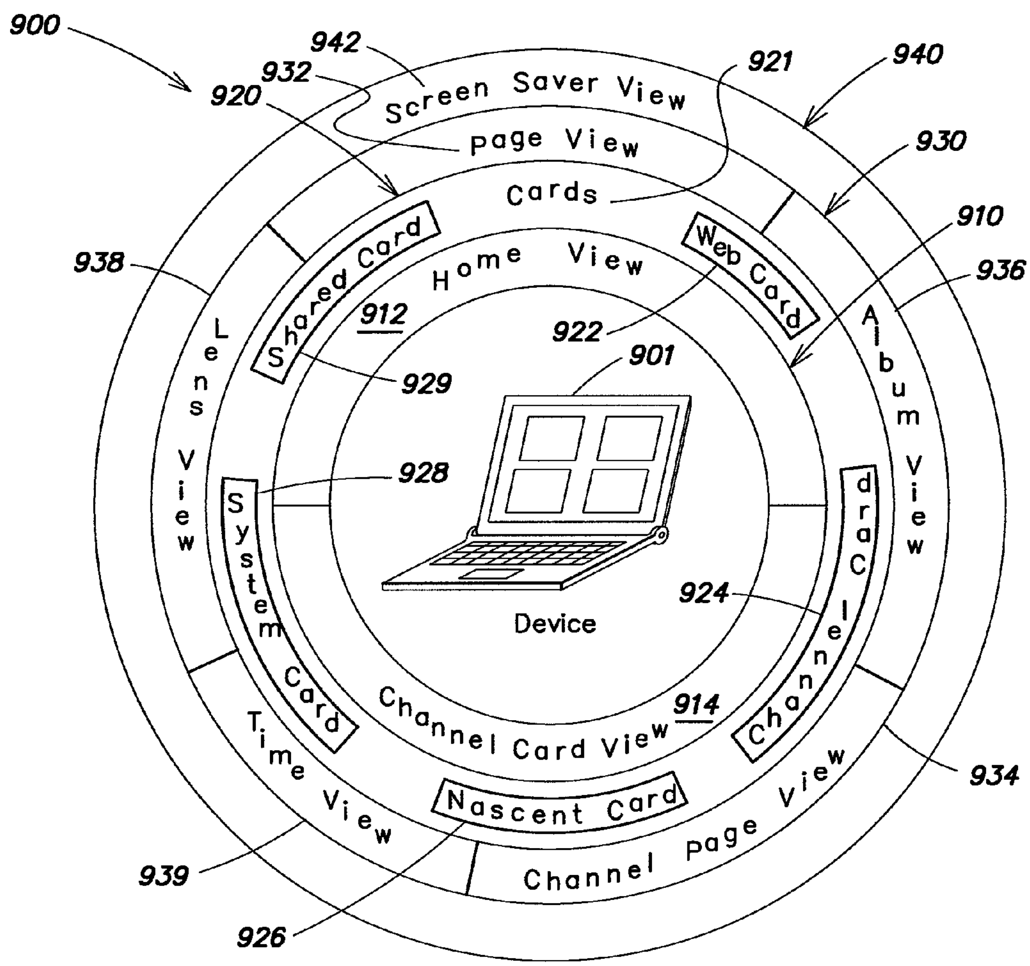
900
942
932
920
921
940
930
910
936
938
Screen Saver View
page View
Cards
Shared Card
Web Card
Home View
912
922
901
929
928
924
Lens View
Album View
System Card
Channel Card
Device
Channel Card View
914
Time View
Nascent Card
Channel page View
934
939
926

FIG. 9

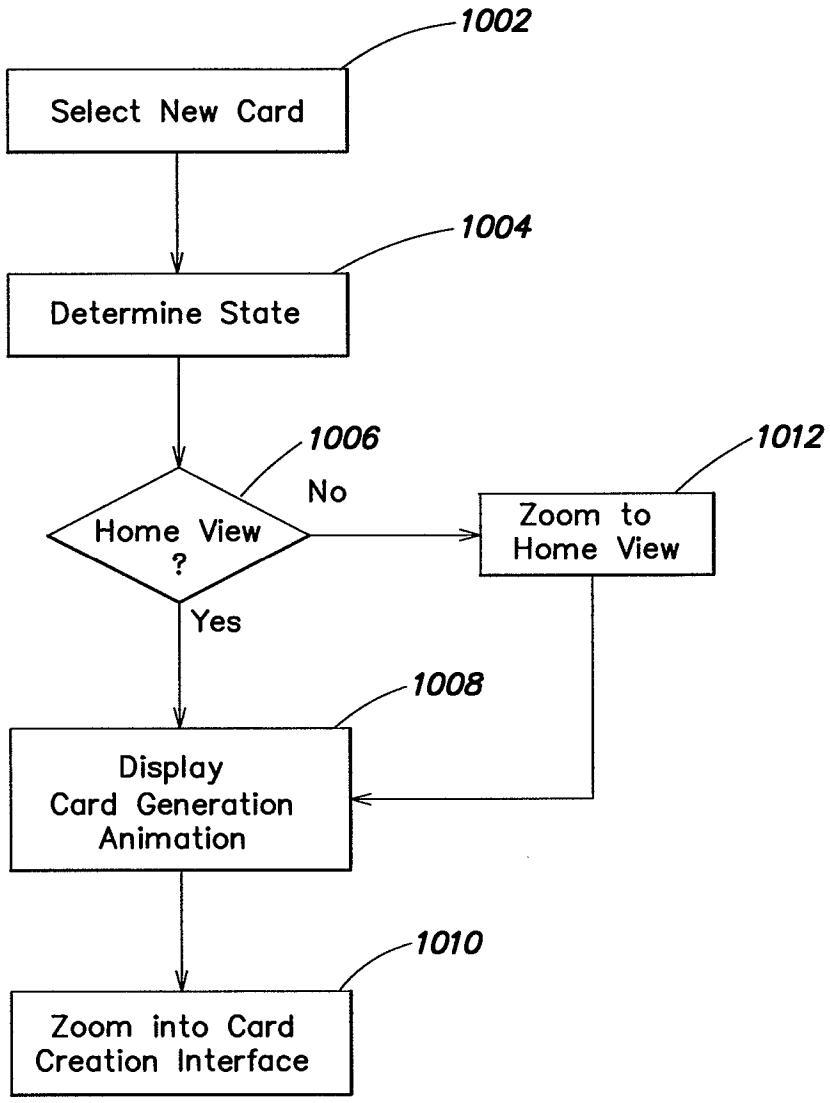
1002
Select New Card
1004
Determine State
1006
Home View ?
No
Yes
1012
Zoom to Home View
1008
Display Card Generation Animation
1010
Zoom into Card Creation Interface

FIG. 10

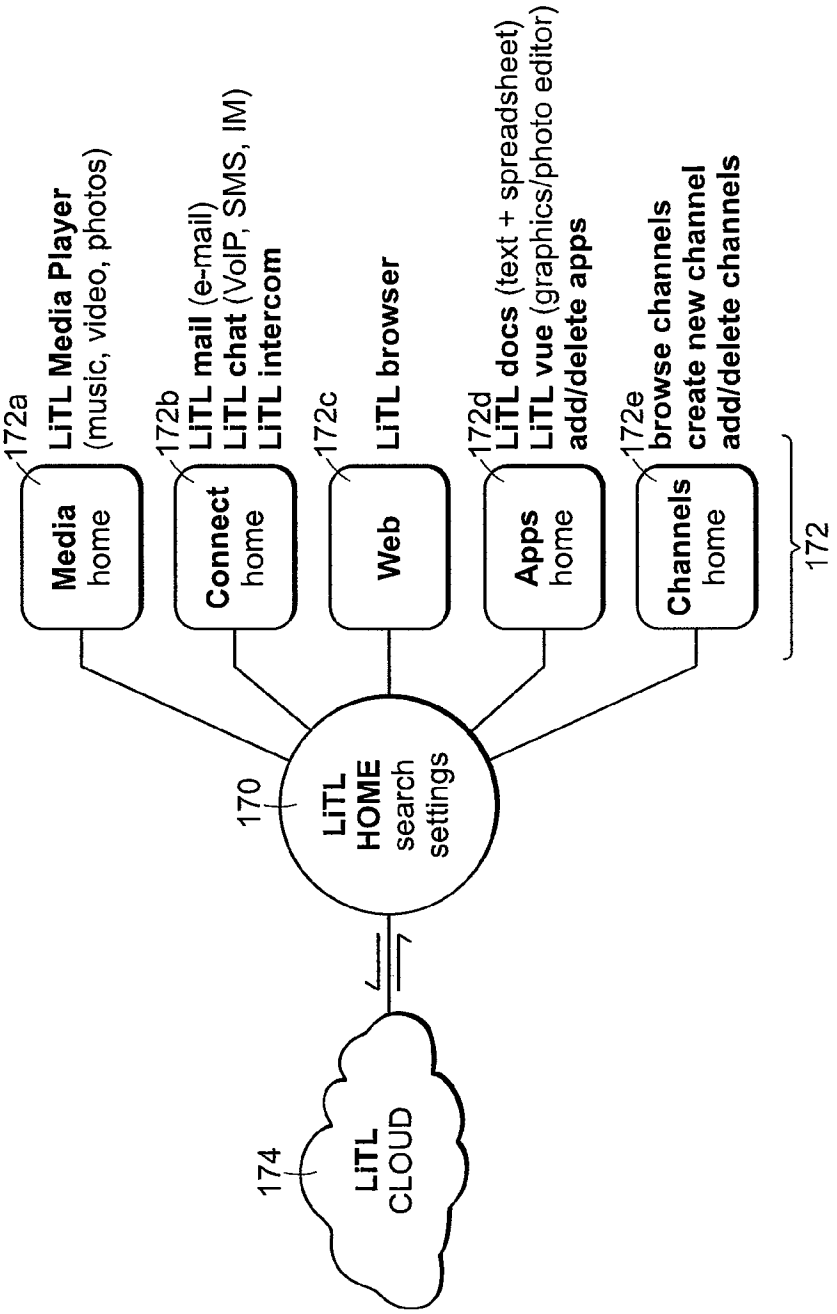
172a
LiTL Media Player
(music, video, photos)
Media
home
172b
LiTL mail (e-mail)
LiTL chat (VoIP, SMS, IM)
LiTL intercom
Connect
home
172c
LiTL browser
Web
172d
LiTL docs (text + spreadsheet)
LiTL vue (graphics/photo editor)
add/delete apps
Apps
home
172e
browse channels
create new channel
add/delete channels
Channels
home
172
170
LiTL
HOME
search
settings
174
LiTL
CLOUD

FIG. 11

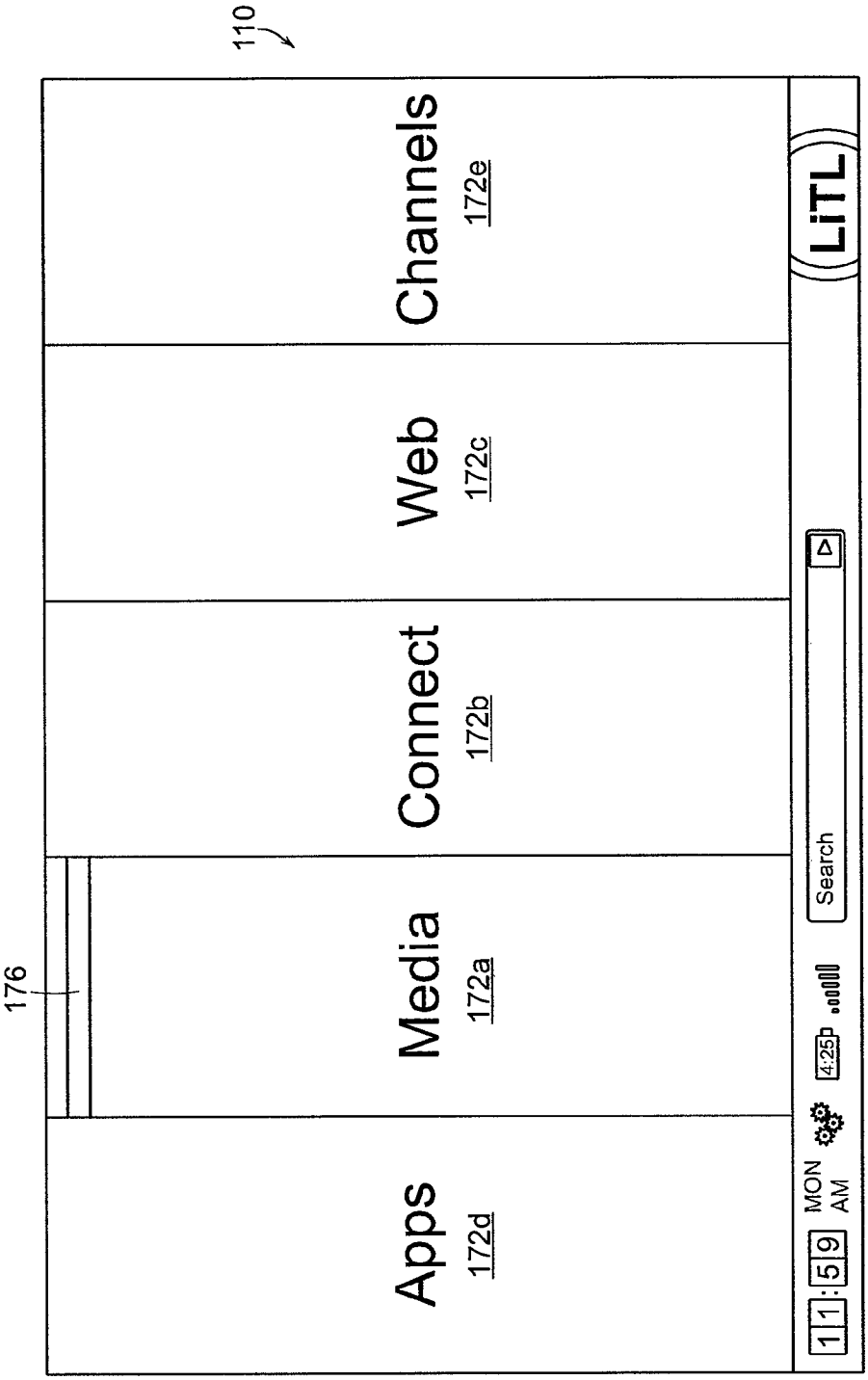
110
176
Apps
172d
Media
172a
Connect
172b
Web
172c
Channels
172e
LiTL
Search
11:59 MON AM
4:25p

FIG. 12

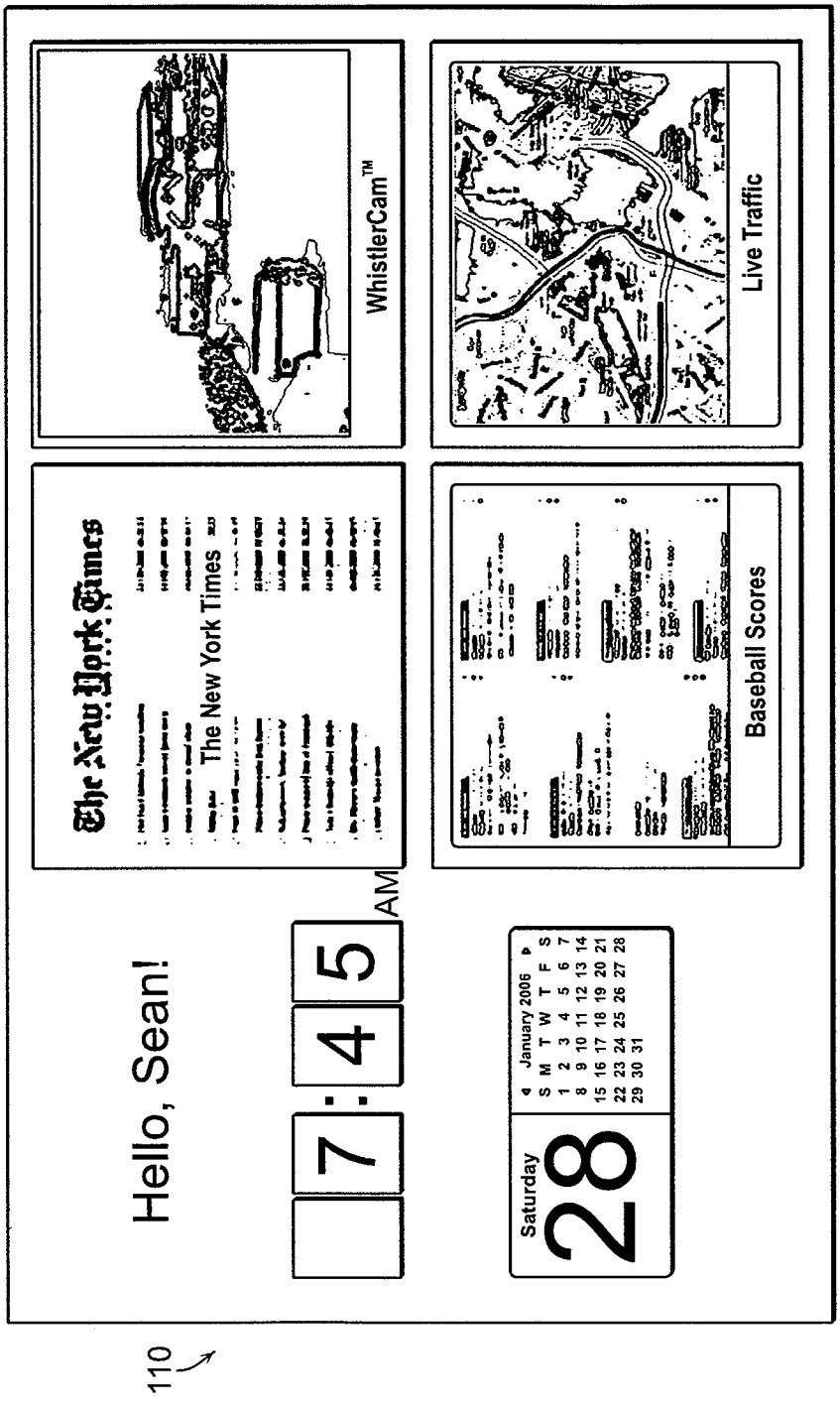
110
Hello, Sean!
7:45
AM
The New York Times
The New York Times
WhistlerCam™
Live Traffic
Baseball Scores
Saturday
28
January 2006

FIG. 13

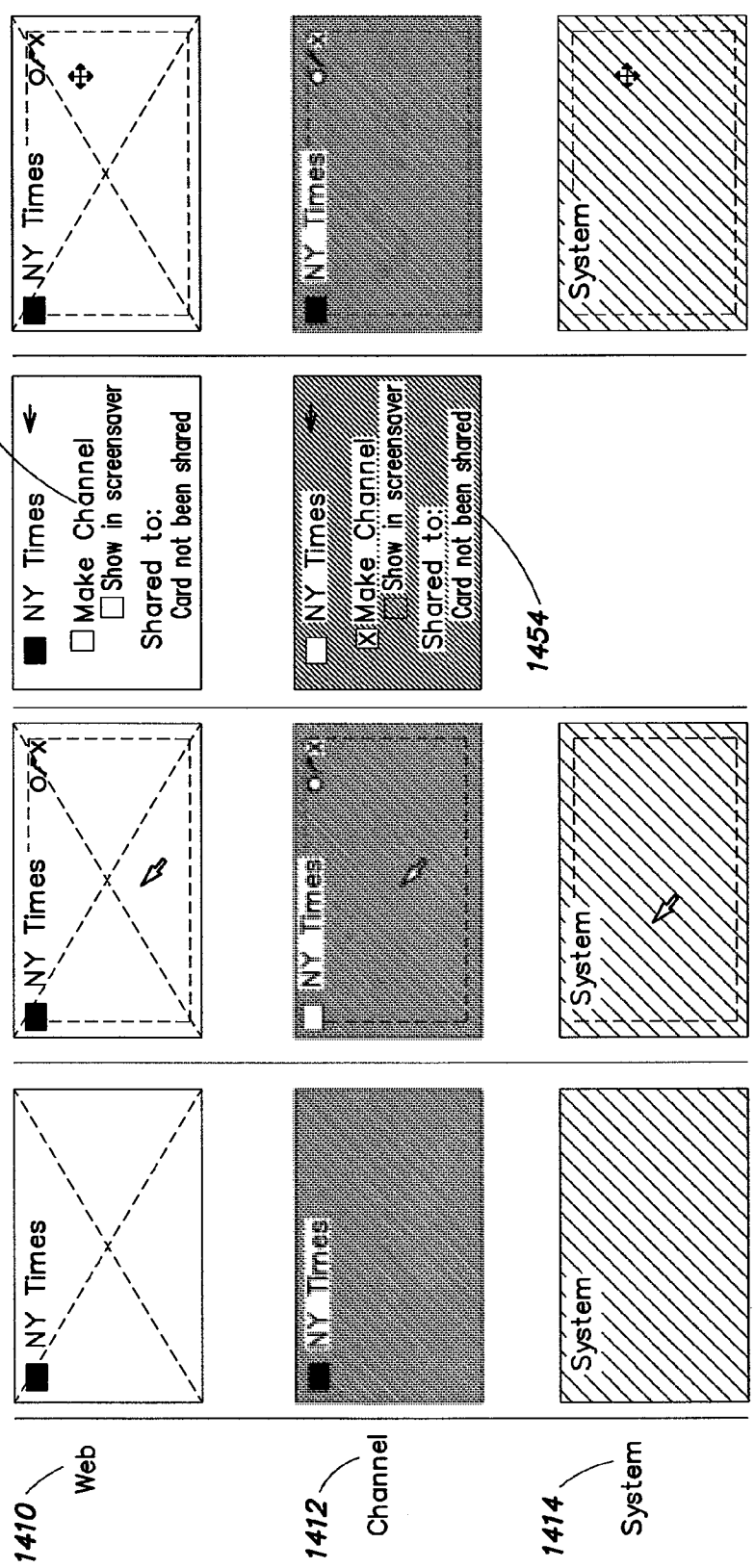
1408
Click–Drag
1406
Options
RSS available
1452
1454
1404
Hover
1402
Normal
NY Times
Make Channel
Show in screensaver
Shared to:
Card not been shared
System
1410
Web
1412
Channel
1414
System

FIG. 14

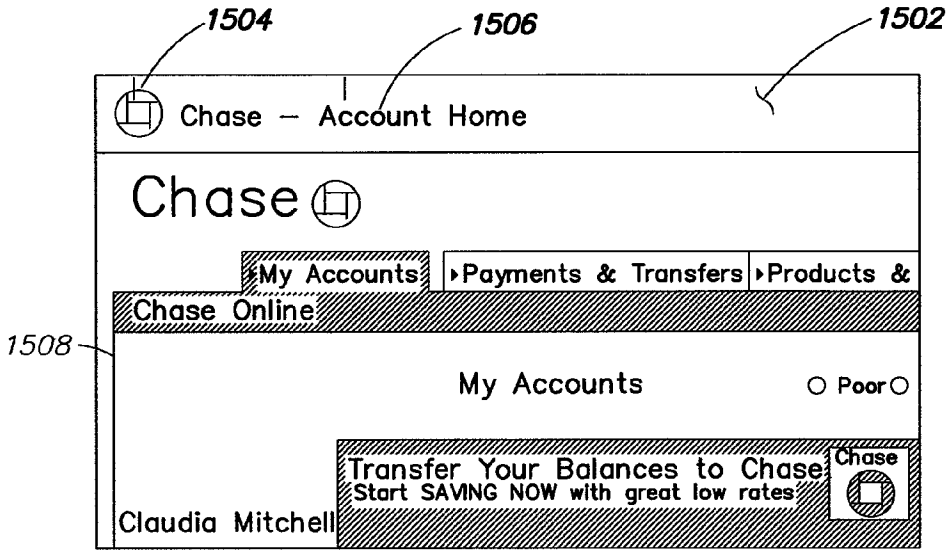

FIG. 15A

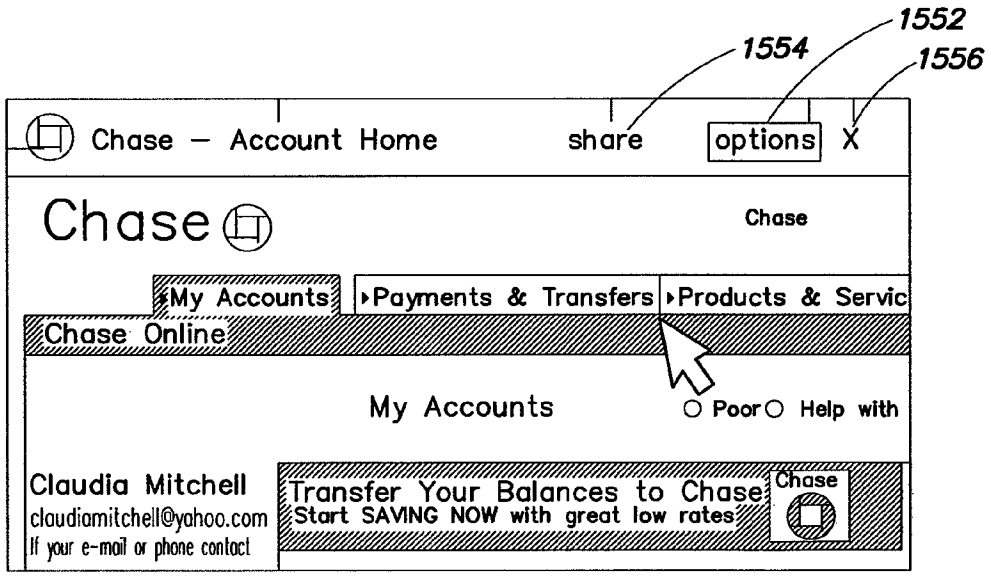

FIG. 15B

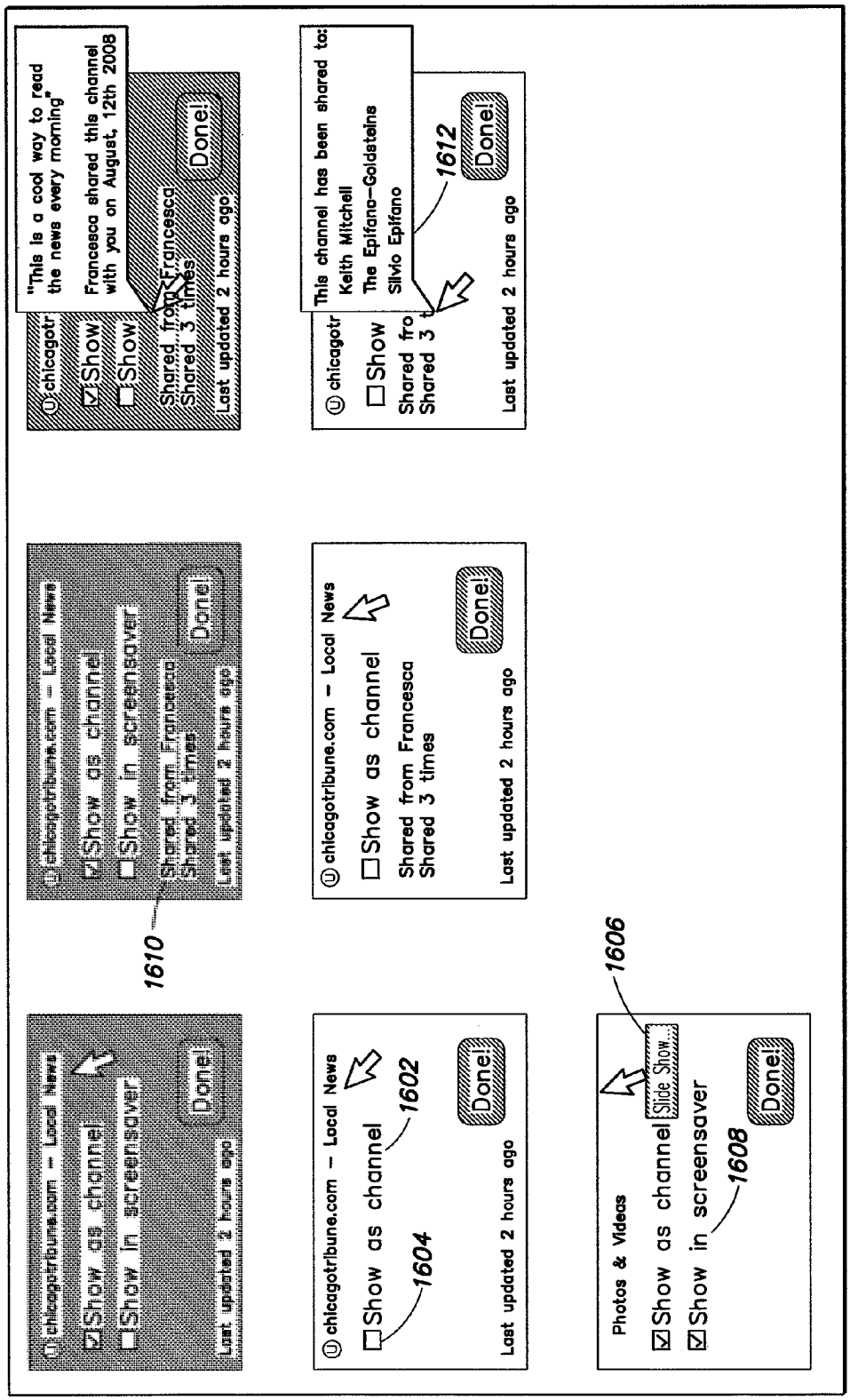
chicagotribune.com – Local News
Show as channel
Show in screensaver
Done!
Last updated 2 hours ago
1610
Shared from Francesca
Shared 3 times
"This is a cool way to read the news every morning."
Francesca shared this channel with you on August, 12th 2008
This channel has been shared to:
Keith Mitchell
The Epifano–Goldsteins
Silvio Epifano
1612
1602
1604
1606
1608
Photos & Videos
Slide Show...

FIG. 16

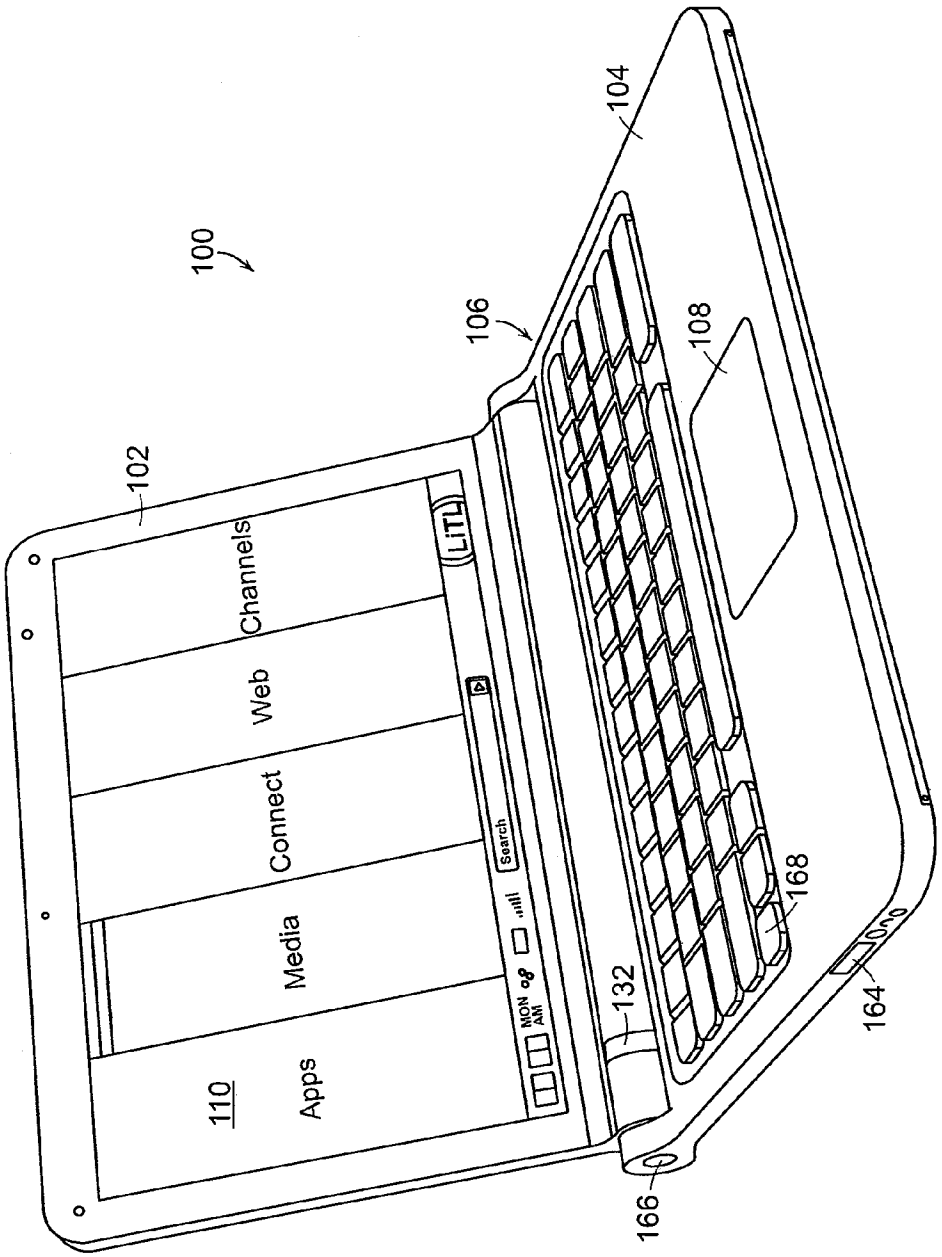
100
102
104
106
108
110
Apps
Media
Connect
Web
Channels
Search
MON
AM
132
164
166
168

FIG. 17

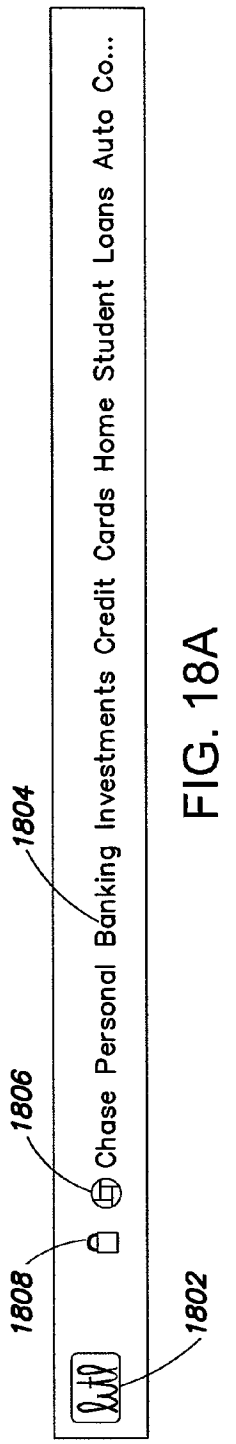

FIG. 18A

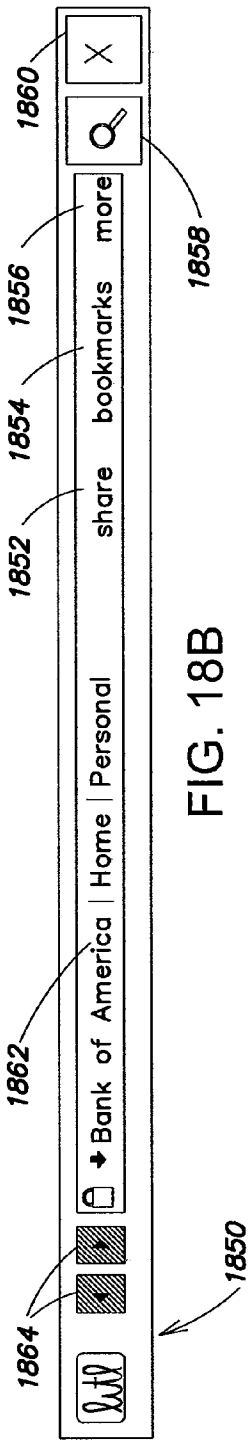

FIG. 18B

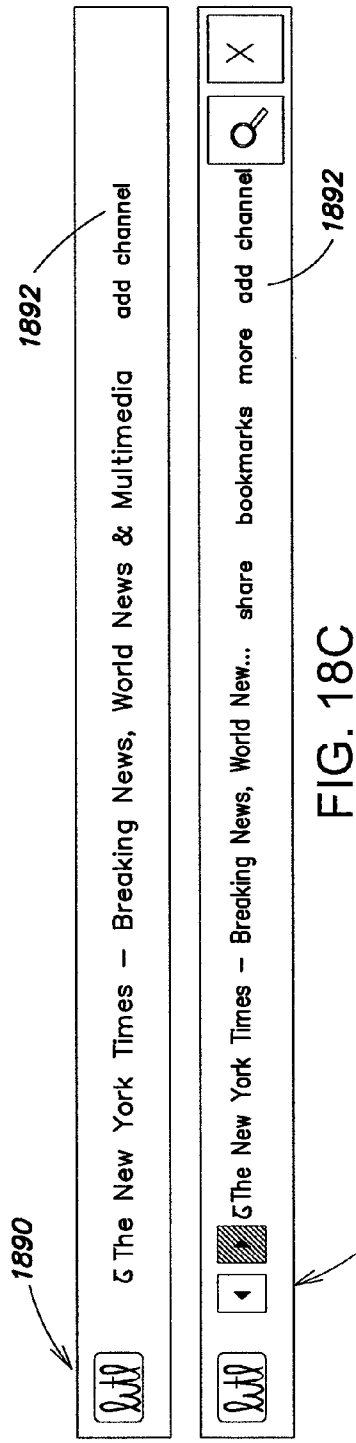

FIG. 18C

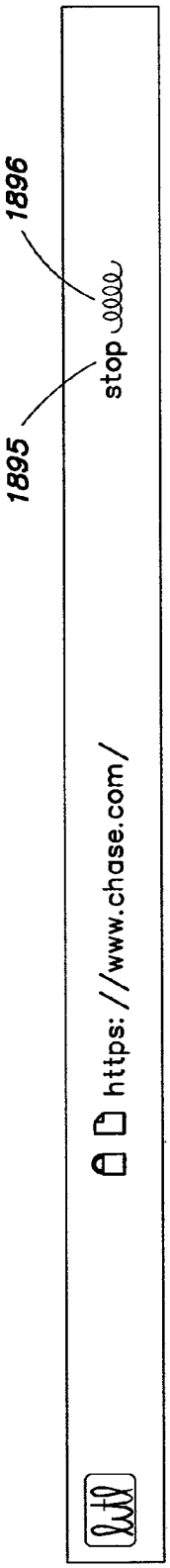

FIG. 18D

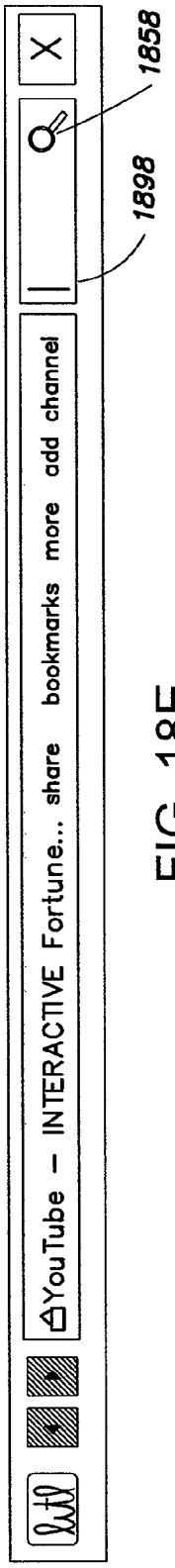

FIG. 18E

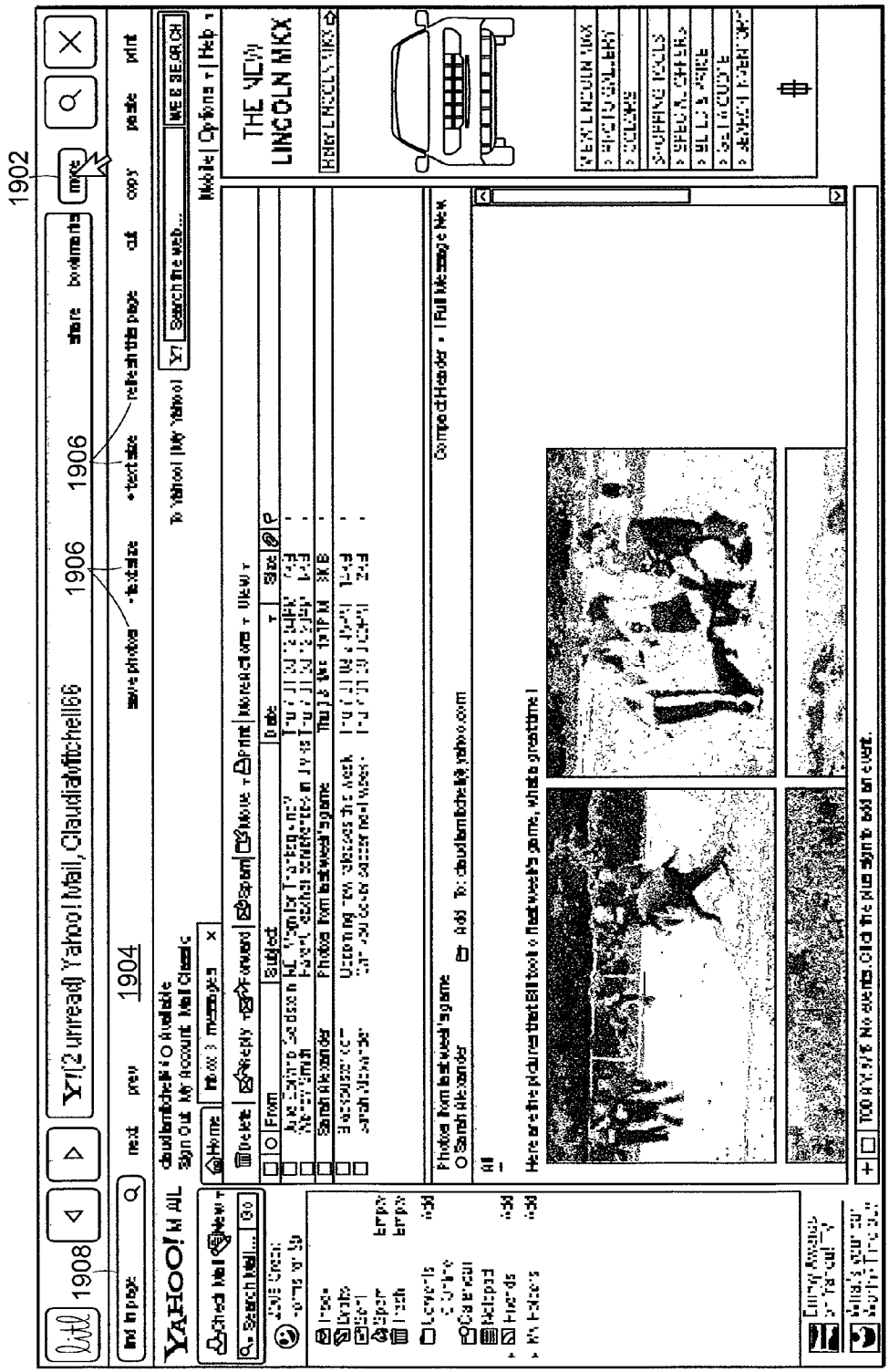

FIG. 19

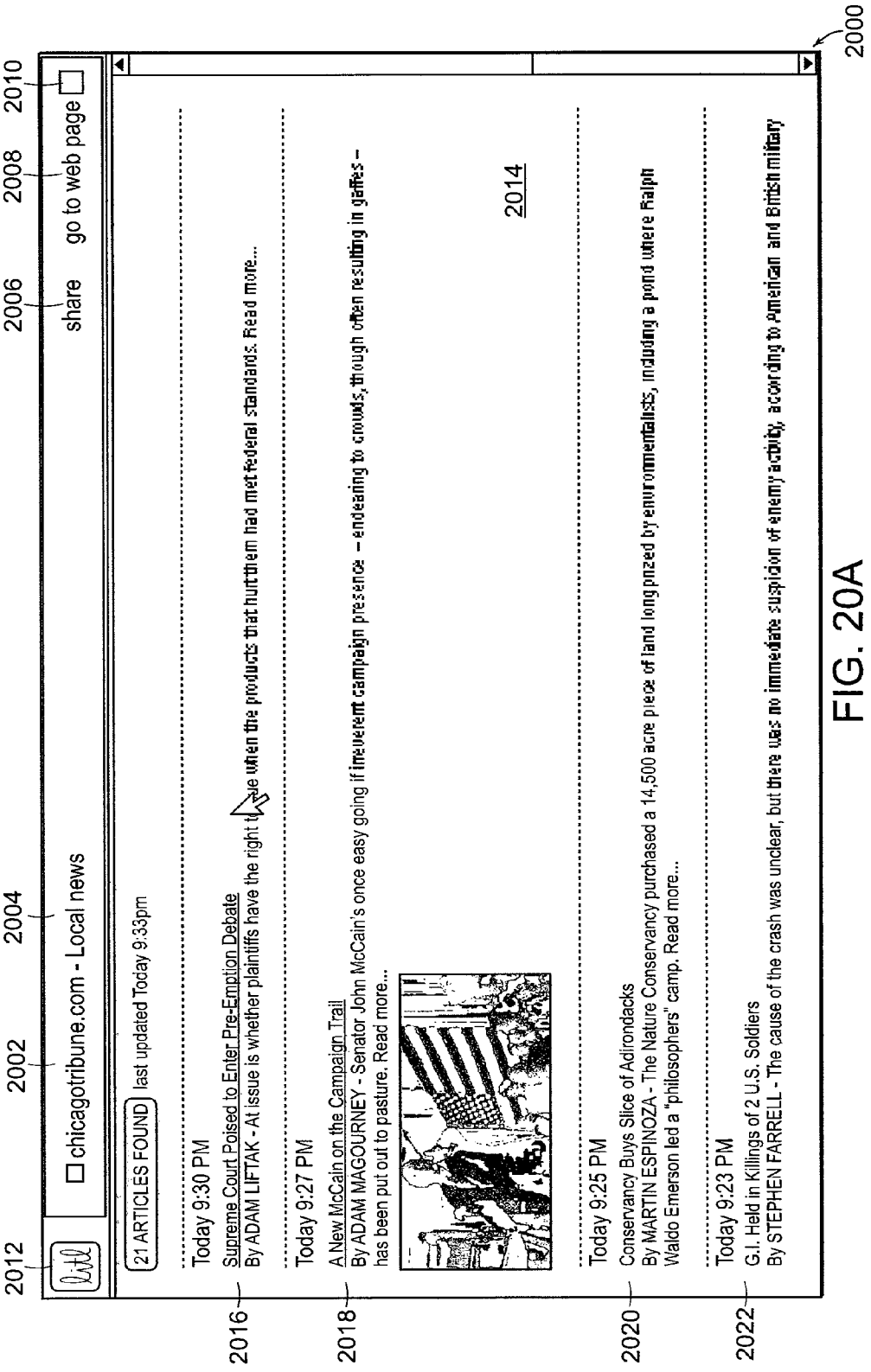
2000
2002
2004
2006
2008
2010
2012
chicagotribune.com - Local news
share
go to web page
21 ARTICLES FOUND
last updated Today 9:33pm
Today 9:30 PM
Supreme Court Poised to Enter Pre-Emption Debate
By ADAM LIFTAK - At issue is whether plaintiffs have the right t
ue when the products that hurt them had met federal standards. Read more...
2016
Today 9:27 PM
A New McCain on the Campaign Trail
By ADAM MAGOURNEY - Senator John McCain's once easy going if irreverent campaign presence – endearing to crowds, though often resulting in gaffes –
has been put out to pasture. Read more...
2018
2014
Today 9:25 PM
Conservancy Buys Slice of Adirondacks
By MARTIN ESPINOZA - The Nature Conservancy purchased a 14,500 acre piece of land long prized by environmentalists, including a pond where Ralph
Waldo Emerson led a "philosophers" camp. Read more...
2020
Today 9:23 PM
G.I. Held in Killings of 2 U.S. Soldiers
By STEPHEN FARRELL - The cause of the crash was unclear, but there was no immediate suspicion of enemy activity, according to American and British military
2022

FIG. 20A

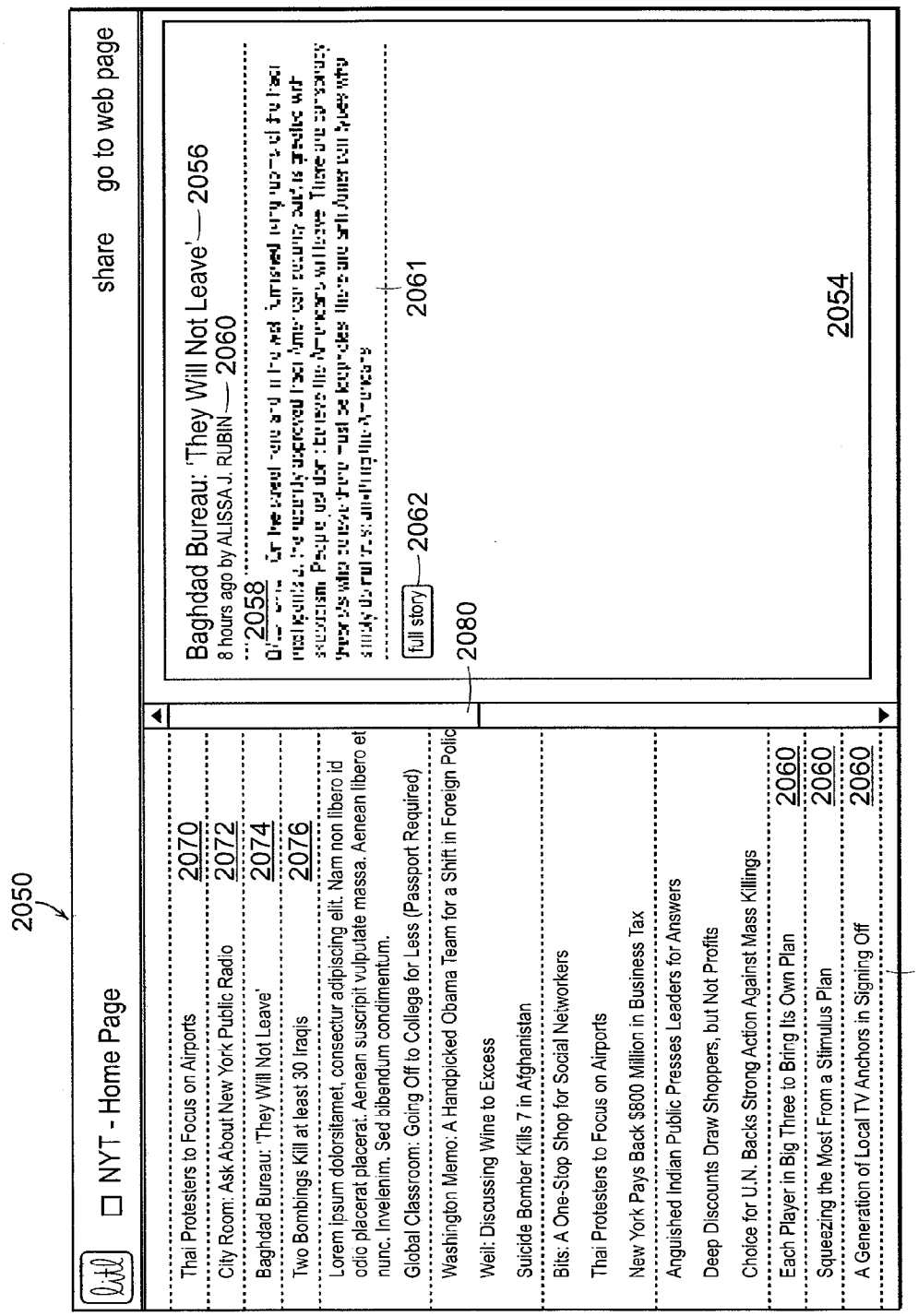
2050
NYT - Home Page
share
go to web page
Thai Protesters to Focus on Airports 2070
City Room: Ask About New York Public Radio 2072
Baghdad Bureau: 'They Will Not Leave' 2074
Two Bombings Kill at least 30 Iraqis 2076
Lorem ipsum dolorsitamet, consectur adipiscing elit. Nam non libero id odio placerat placerat. Aenean suscripit vulputate massa. Aenean libero et nunc. Invelenim. Sed bibendum condimentum.
Global Classroom: Going Off to College for Less (Passport Required)
Washington Memo: A Handpicked Obama Team for a Shift in Foreign Polic
Weil: Discussing Wine to Excess
Suicide Bomber Kills 7 in Afghanistan
Bits: A One-Stop Shop for Social Networkers
Thai Protesters to Focus on Airports
New York Pays Back $800 Million in Business Tax
Anguished Indian Public Presses Leaders for Answers
Deep Discounts Draw Shoppers, but Not Profits
Choice for U.N. Backs Strong Action Against Mass Killings
Each Player in Big Three to Bring Its Own Plan 2060
Squeezing the Most From a Stimulus Plan 2060
A Generation of Local TV Anchors in Signing Off 2060
2052
Baghdad Bureau: 'They Will Not Leave' 2056
8 hours ago by ALISSA J. RUBIN 2060
2058
full story 2062
2061
2080
2054

FIG. 20B

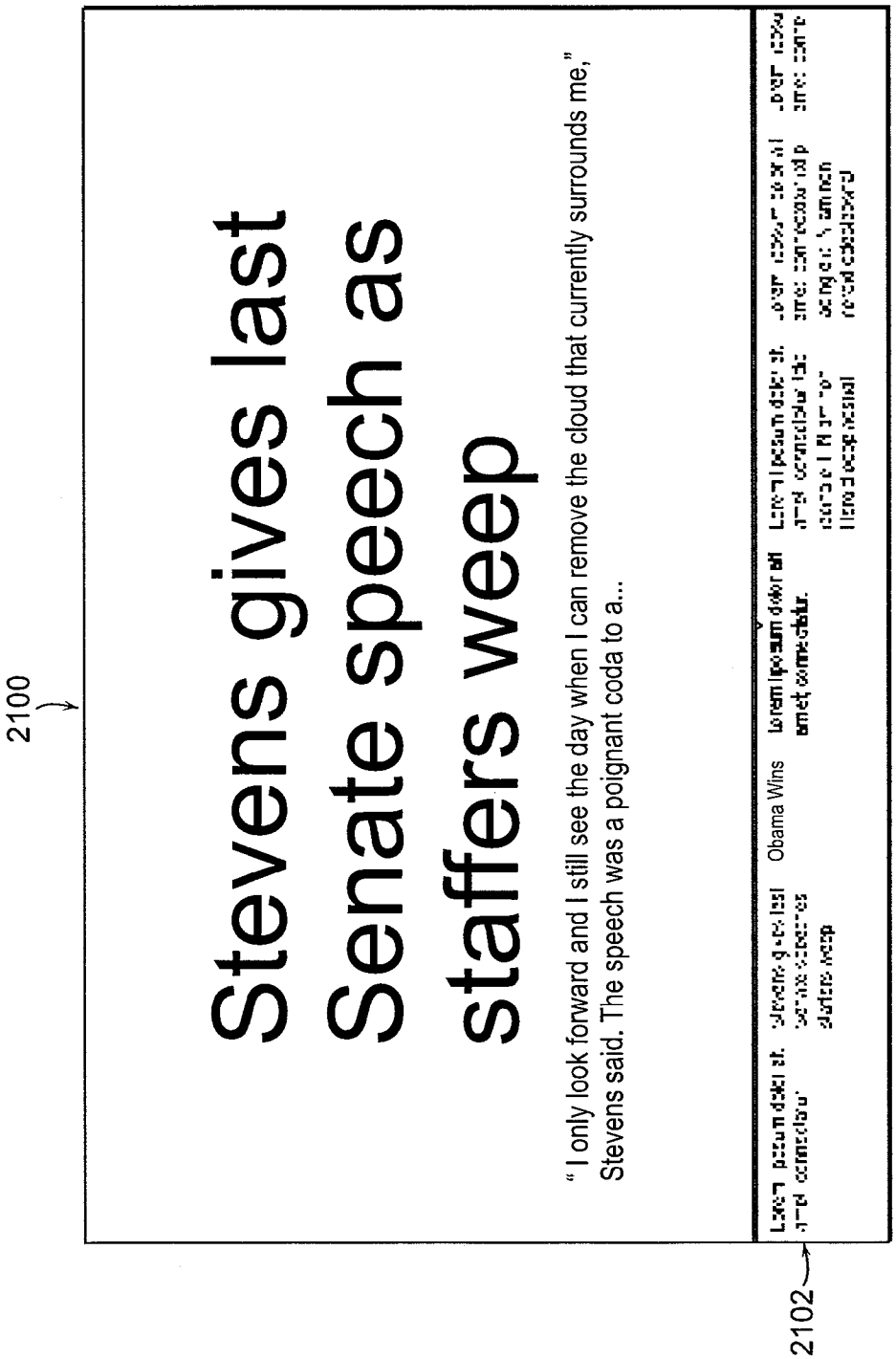
2100
Stevens gives last Senate speech as staffers weep
" I only look forward and I still see the day when I can remove the cloud that currently surrounds me," Stevens said. The speech was a poignant coda to a...
Obama Wins
2102

FIG. 21

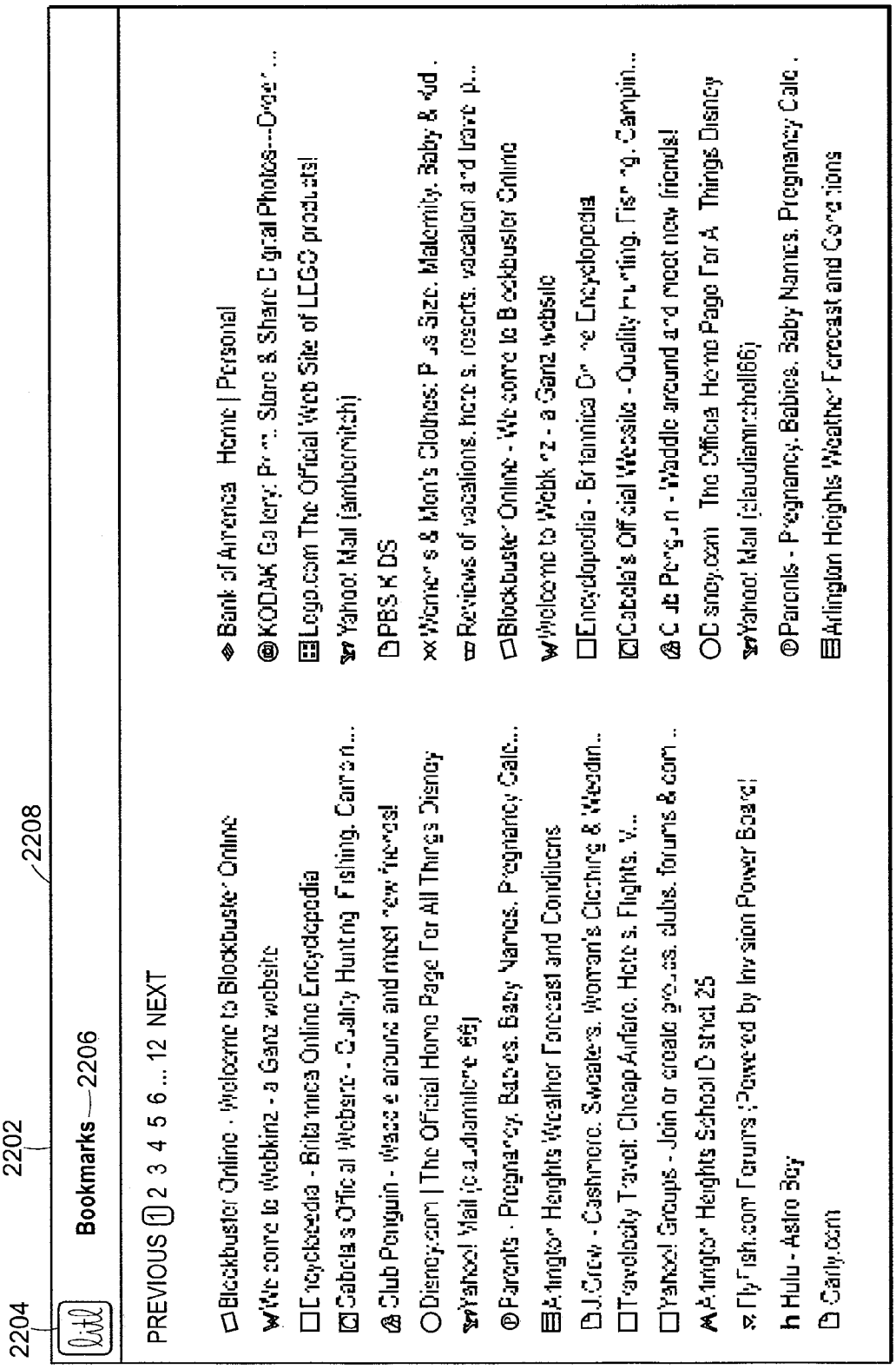
2204
2202
2208
Bookmarks
2206
PREVIOUS 1 2 3 4 5 6 ... 12 NEXT
Blockbuster Online - Welcome to Blockbuster Online
Welcome to Webkinz - a Ganz website
Encyclopedia - Britannica Online Encyclopedia
Cabela's Official Website - Quality Hunting, Fishing, Camping...
Club Penguin - Waddle around and meet new friends!
Disney.com | The Official Home Page For All Things Disney
Yahoo! Mail (claudiamitchell66)
Parents - Pregnancy, Babies, Baby Names, Pregnancy Calc...
Arlington Heights Weather Forecast and Conditions
J.Crew - Cashmere, Sweaters, Women's Clothing & Weddin...
Travelocity Travel: Cheap Airfare, Hotels, Flights, V...
Yahoo! Groups - Join or create groups, clubs, forums & com...
Arlington Heights School District 25
FlyFish.com Forums | Powered by Invision Power Board
Hulu - Astro Boy
Carly.com
Bank of America Home | Personal
KODAK Gallery: Print, Store & Share Digital Photos--Over ...
Lego.com The Official Web Site of LEGO products!
Yahoo! Mail (jambermitch)
PBS KIDS
Women's & Men's Clothes: Plus Size, Maternity, Baby & Kid...
Reviews of vacations, hotels, resorts, vacation and travel p...
Blockbuster Online - Welcome to Blockbuster Online
Welcome to Webkinz - a Ganz website
Encyclopedia - Britannica Online Encyclopedia
Cabela's Official Website - Quality Hunting, Fishing, Camping...
Club Penguin - Waddle around and meet new friends!
Disney.com The Official Home Page For All Things Disney
Yahoo! Mail (claudiamitchell66)
Parents - Pregnancy, Babies, Baby Names, Pregnancy Calc...
Arlington Heights Weather Forecast and Conditions

FIG. 22


2302
2310
2308
2306
2304
Video Messages 1
Mitchell Family
Today at 2:12 PM
Weather: Milan, Italy. Light rain with thunder, 72°F
78°
Sorrento
Venezia
International Herald Tribune
Bush faults China over rights and detentions
THU AUGUST 7, 2008 / 7:30 PM
The White House on Wednesday released critical re

FIG. 23

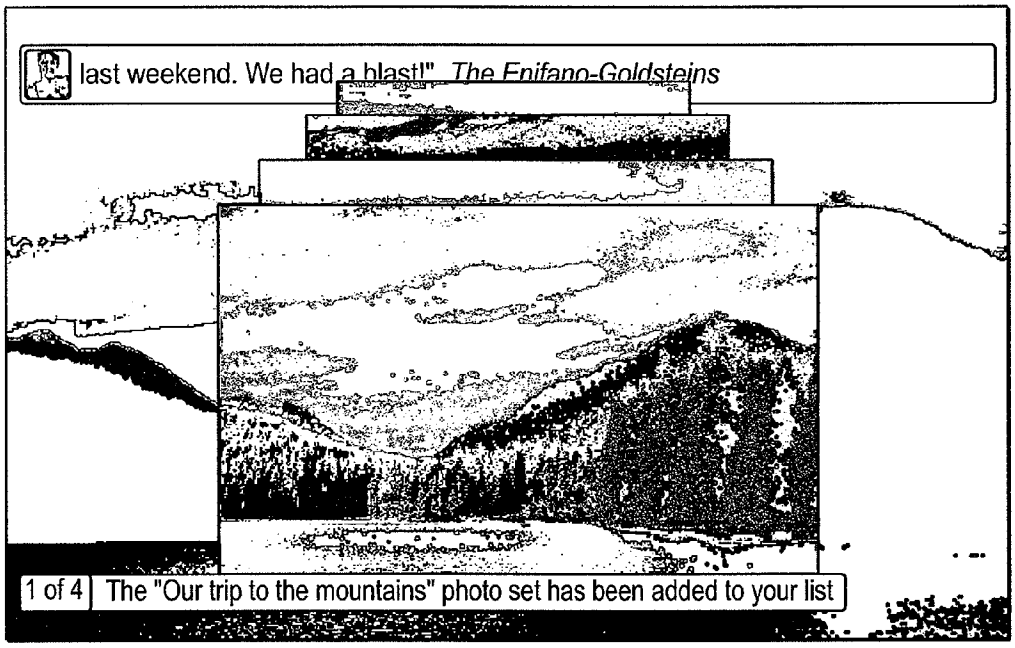
last weekend. We had a blast!" The Enifano-Goldsteins
1 of 4
The "Our trip to the mountains" photo set has been added to your list

FIG. 24

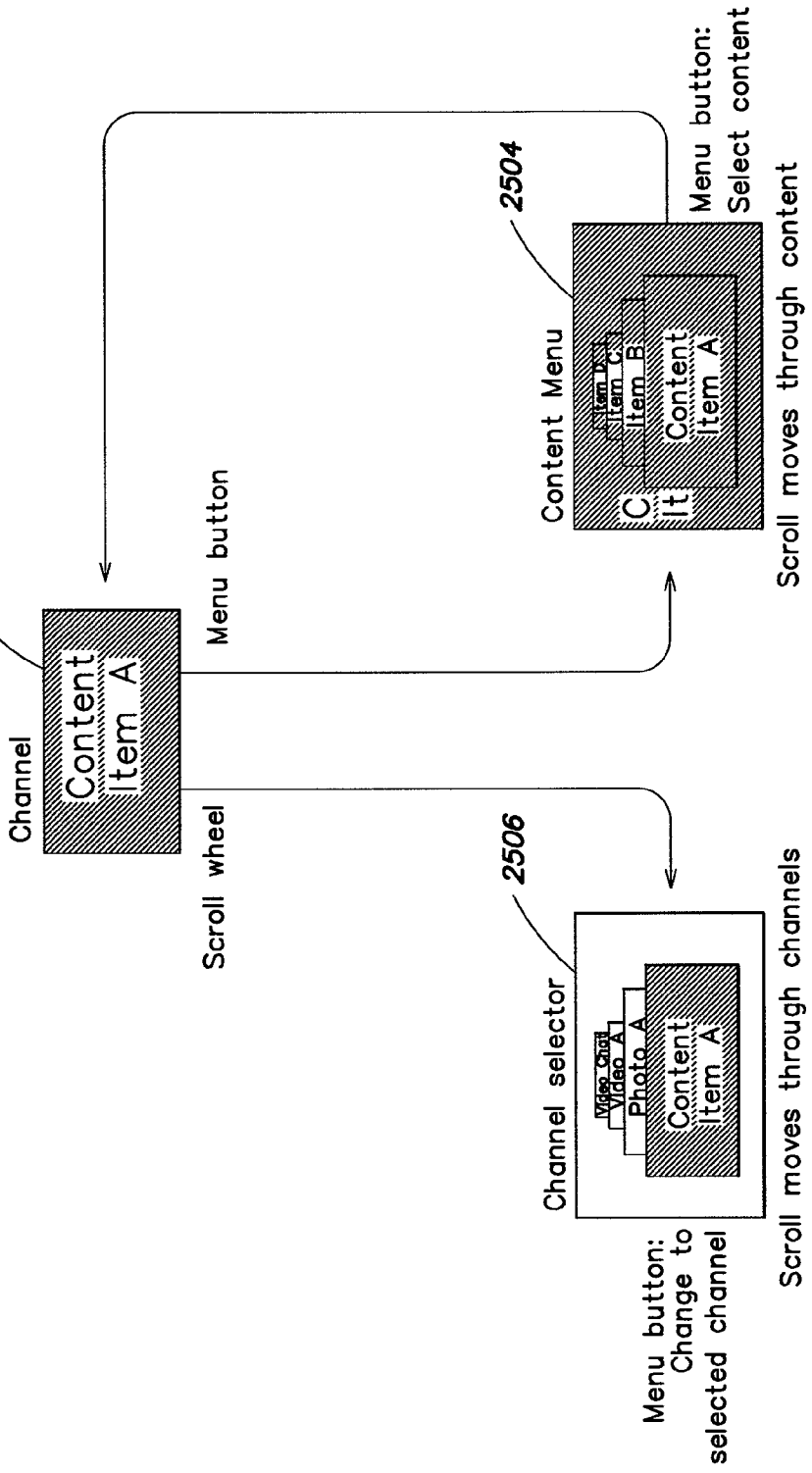
2502
Channel
Content Item A
Menu button
Scroll wheel
2504
Content Menu
Item D
Item C
Item B
Content Item A
Menu button: Select content
Scroll moves through content
2506
Channel selector
Video Chat
Video A
Photo A
Content Item A
Menu button: Change to selected channel
Scroll moves through channels

FIG. 25A

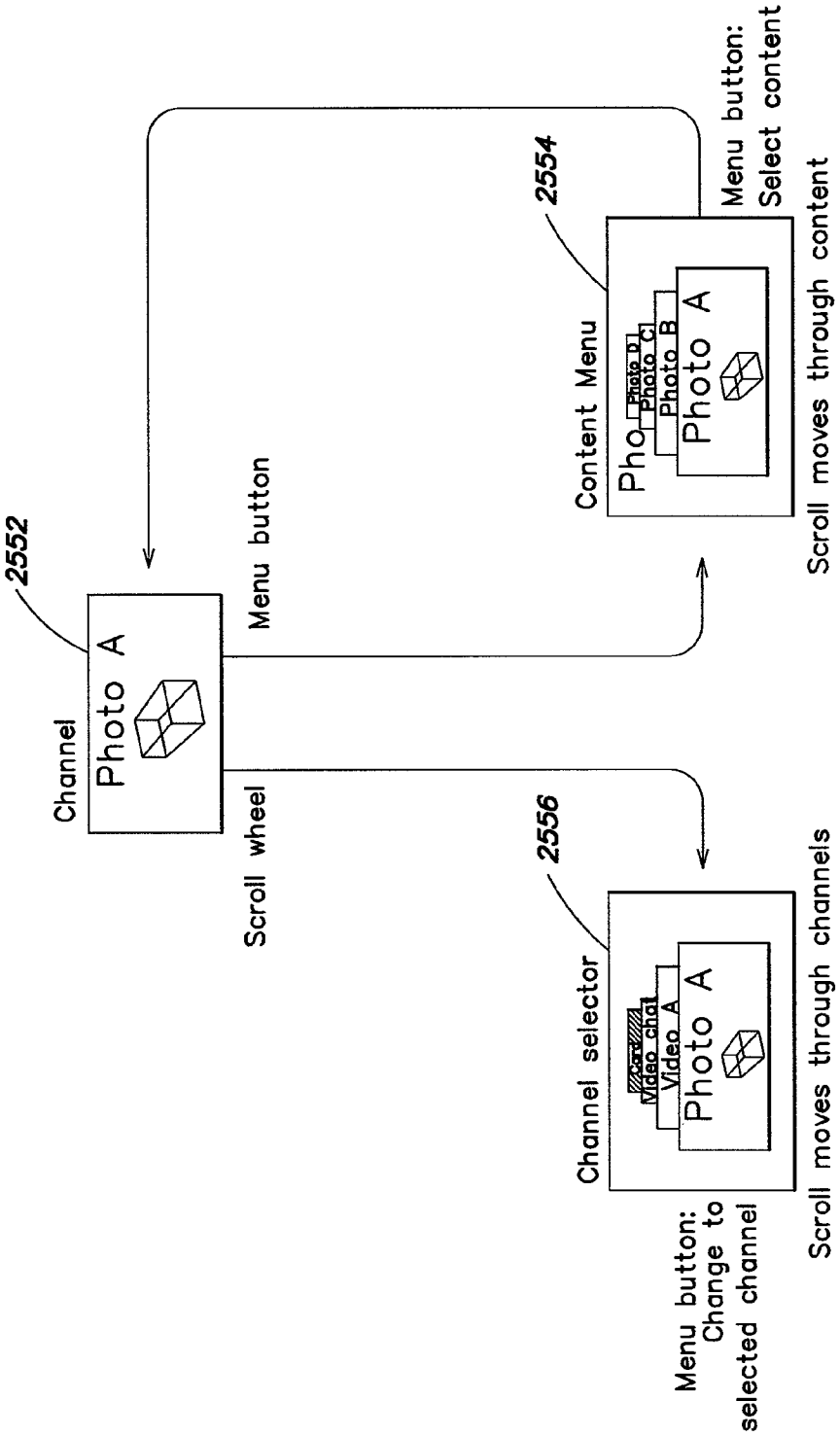
2552
Channel
Photo A
Menu button
Scroll wheel
2554
Content Menu
Photo D
Photo C
Photo B
Photo A
Menu button:
Select content
Scroll moves through content
2556
Channel selector
Card
Video chat
Video A
Photo A
Menu button:
Change to
selected channel
Scroll moves through channels

FIG. 25B

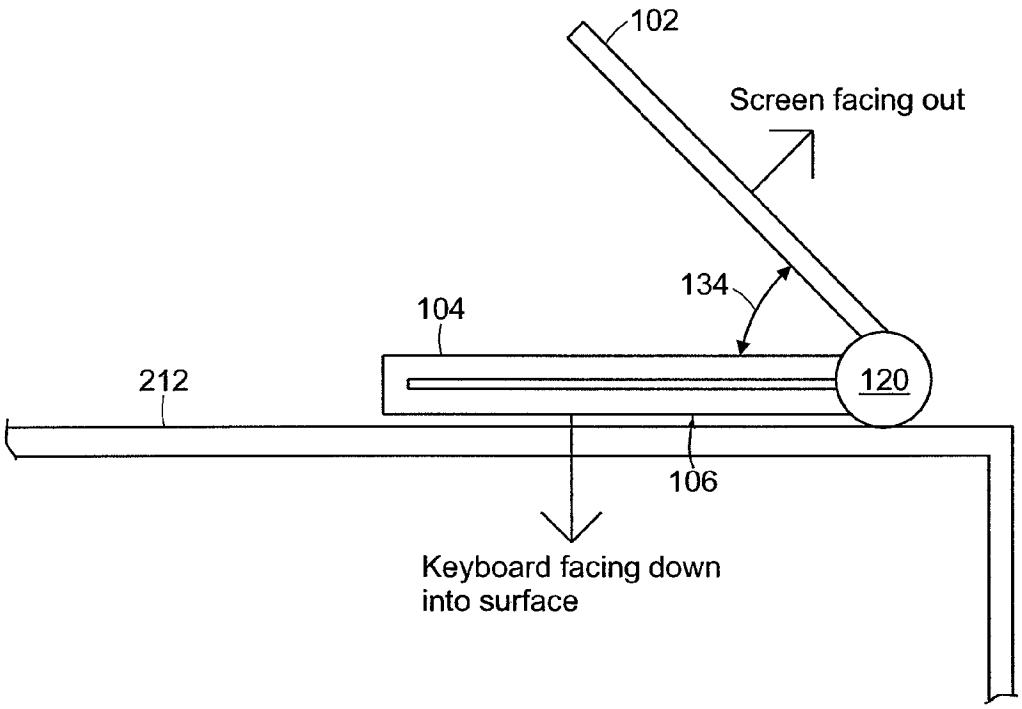
102
Screen facing out
134
104
212
120
106
Keyboard facing down
into surface

FIG. 26

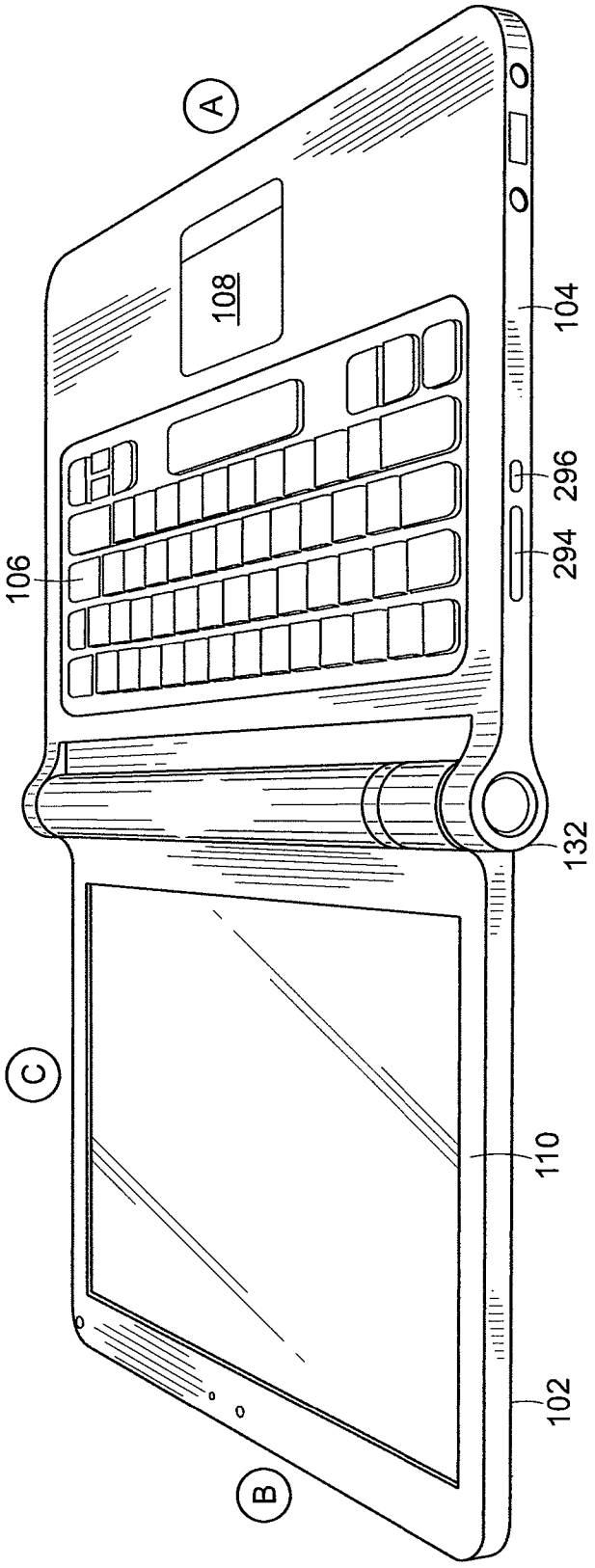

FIG. 27

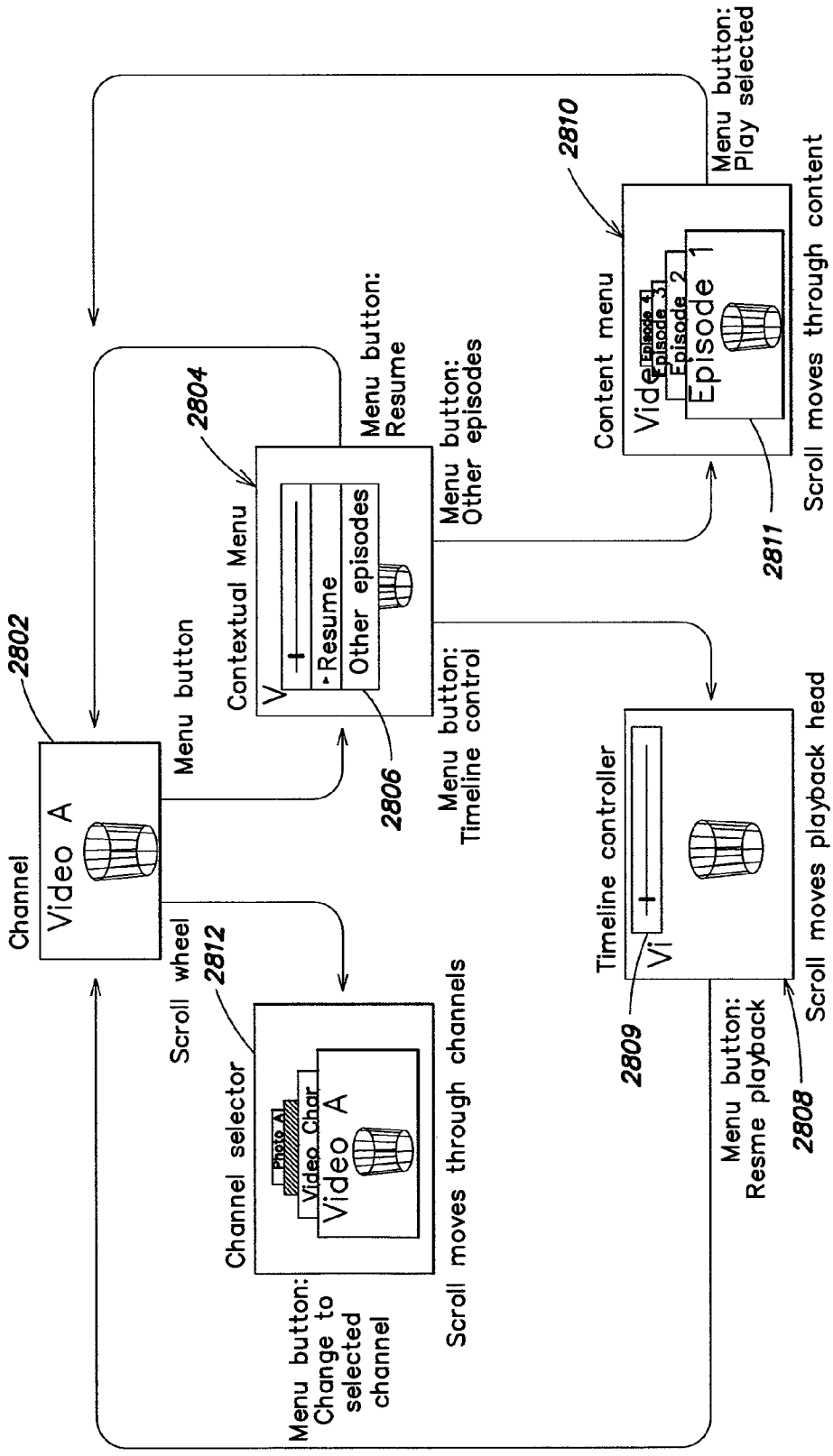
2802
Channel
Video A
Menu button
2804
Contextual Menu
Resume
Other episodes
Menu button: Resume
Menu button: Other episodes
2806
Menu button: Timeline control
2810
Content menu
Episode 1
Episode 2
Episode 3
Menu button: Play selected
2811
Scroll moves through content
Scroll wheel
2812
Channel selector
Photo A
Video Char
Video A
Scroll moves through channels
Menu button: Change to selected channel
Timeline controller
2809
Menu button: Resme playback
2808
Scroll moves playback head

FIG. 28

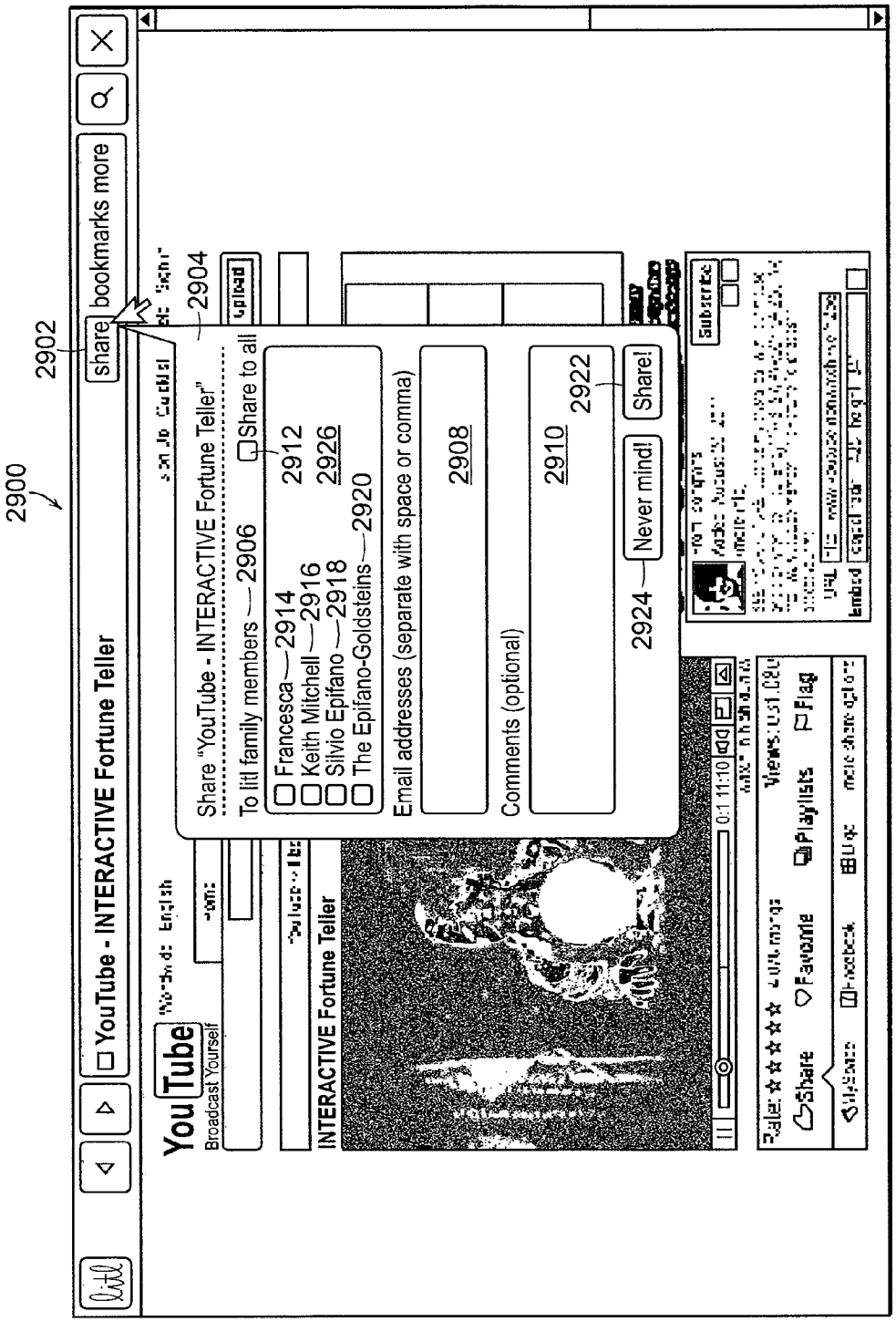
2900
2902
YouTube - INTERACTIVE Fortune Teller
share
bookmarks more
YouTube
Broadcast Yourself
INTERACTIVE Fortune Teller
Share "YouTube - INTERACTIVE Fortune Teller"
2904
To litl family members
2906
Share to all
Francesca
2914
2912
Keith Mitchell
2916
Silvio Epifano
2918
2926
The Epifano-Goldsteins
2920
Email addresses (separate with space or comma)
2908
Comments (optional)
2910
2922
2924
Never mind!
Share!
Share
Favorite
Playlists
Flag
Subscribe

FIG. 29A

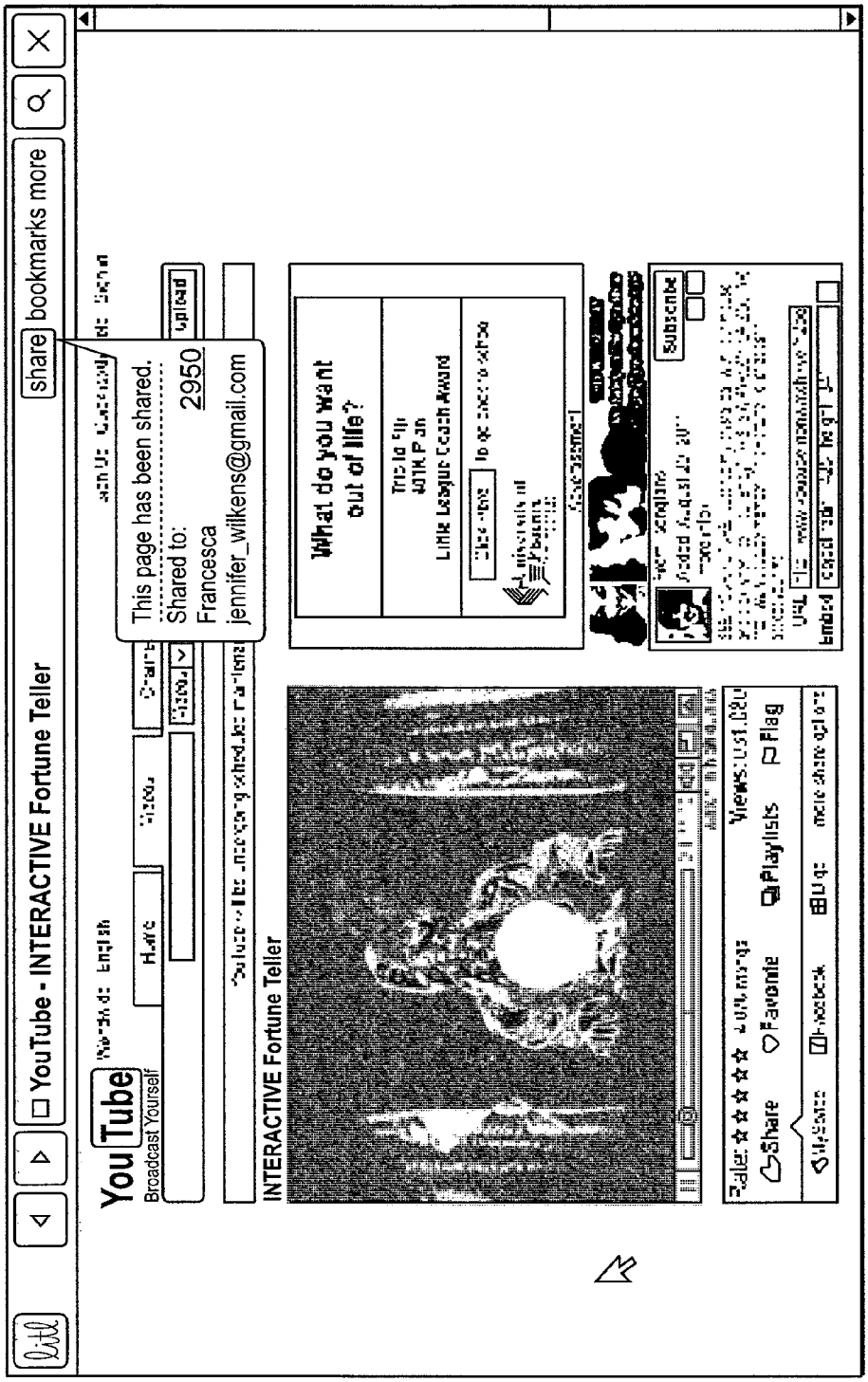
YouTube - INTERACTIVE Fortune Teller
share
bookmarks
more
YouTube
Broadcast Yourself
This page has been shared.
Shared to:
2950
Francesca
jennifer_wilkens@gmail.com
INTERACTIVE Fortune Teller
What do you want out of life?
Share
Favorite
Playlists
Flag

FIG. 29B

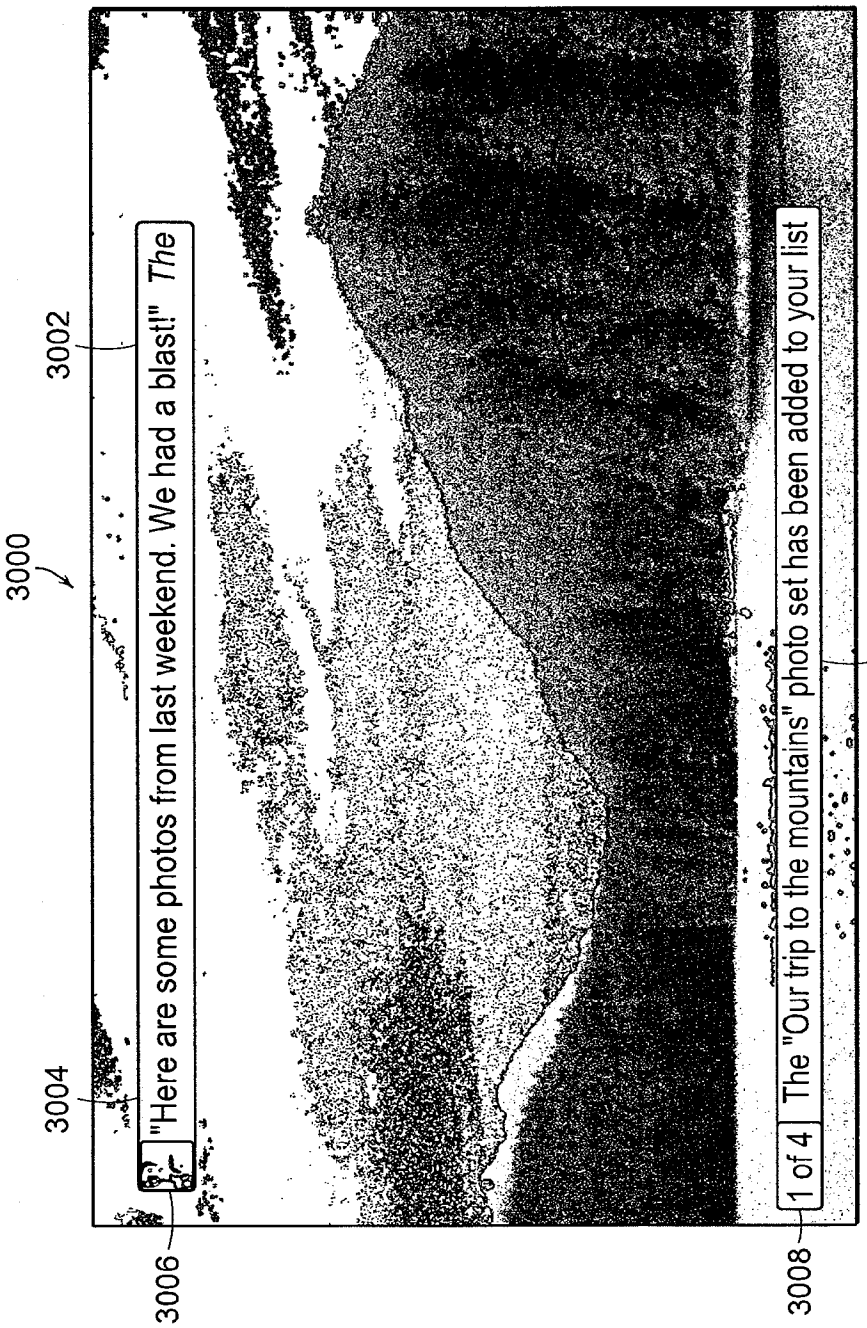
3000
3002
3004
"Here are some photos from last weekend. We had a blast!" The
3006
1 of 4
The "Our trip to the mountains" photo set has been added to your list
3008
3010

FIG. 30

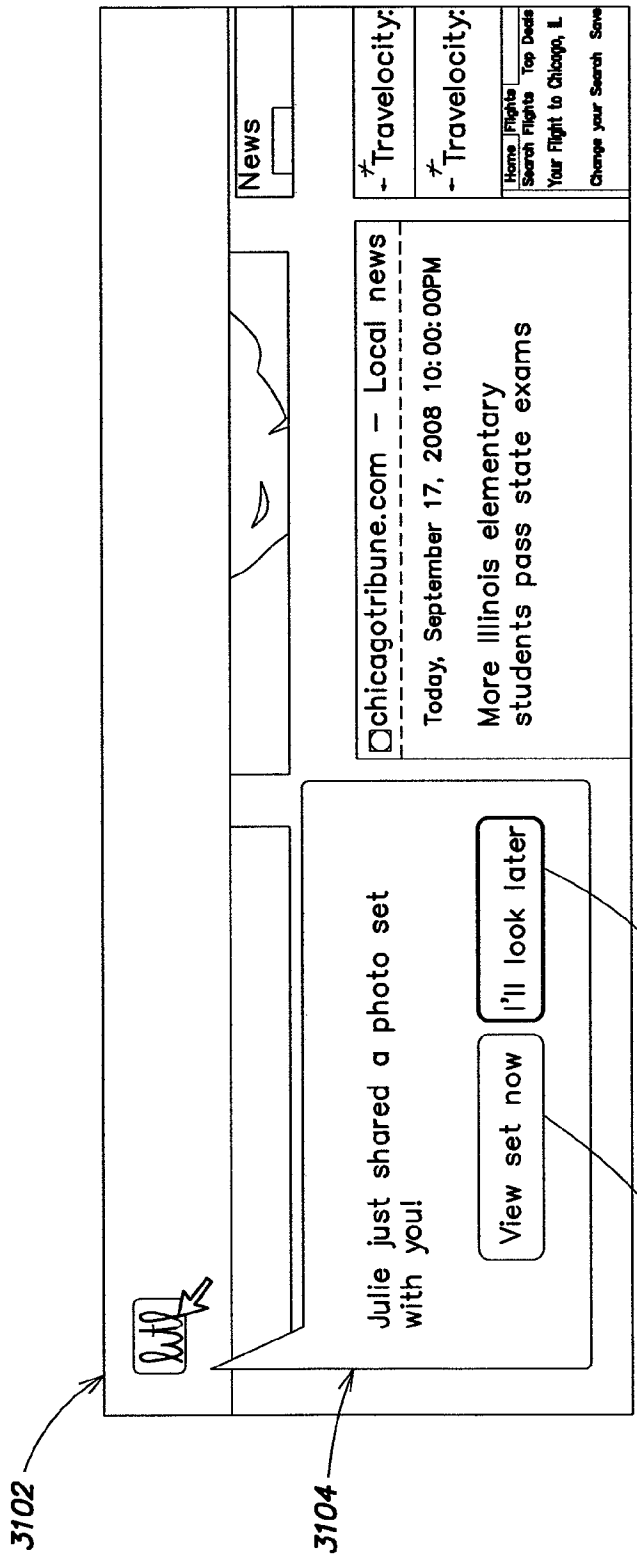
News
Travelocity:
Travelocity:
Home Flights
Search Flights Top Deals
Your Flight to Chicago, IL
Change your Search Save
chicagotribune.com – Local news
Today, September 17, 2008 10:00:00PM
More Illinois elementary students pass state exams
Julie just shared a photo set with you!
View set now
I'll look later
3102
3104
3106
3108

FIG. 31

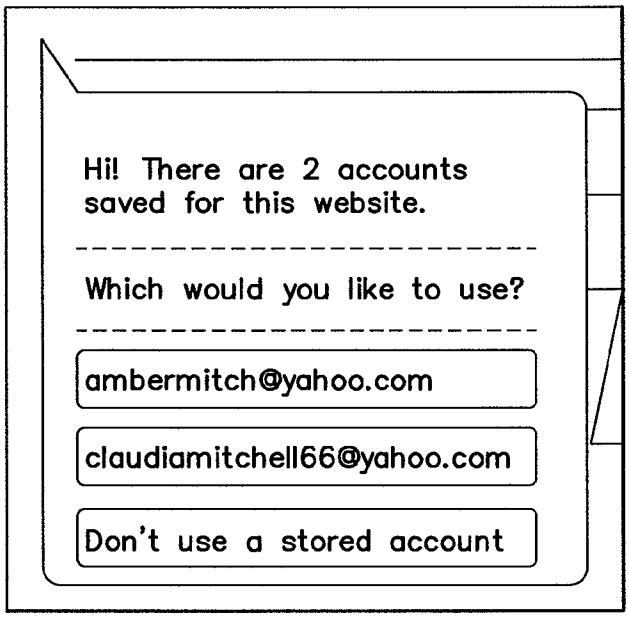
Hi! There are 2 accounts saved for this website.
Which would you like to use?
ambermitch@yahoo.com
claudiamitchell66@yahoo.com
Don't use a stored account

FIG. 32

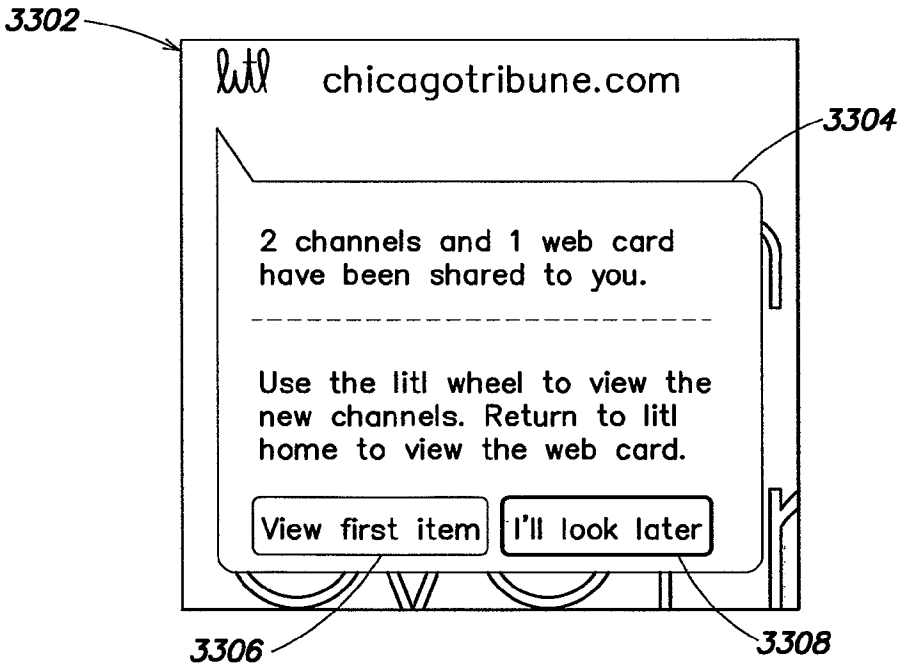
3302
litl
chicagotribune.com
3304
2 channels and 1 web card have been shared to you.
Use the litl wheel to view the new channels. Return to litl home to view the web card.
View first item
I'll look later
3306
3308

FIG. 33

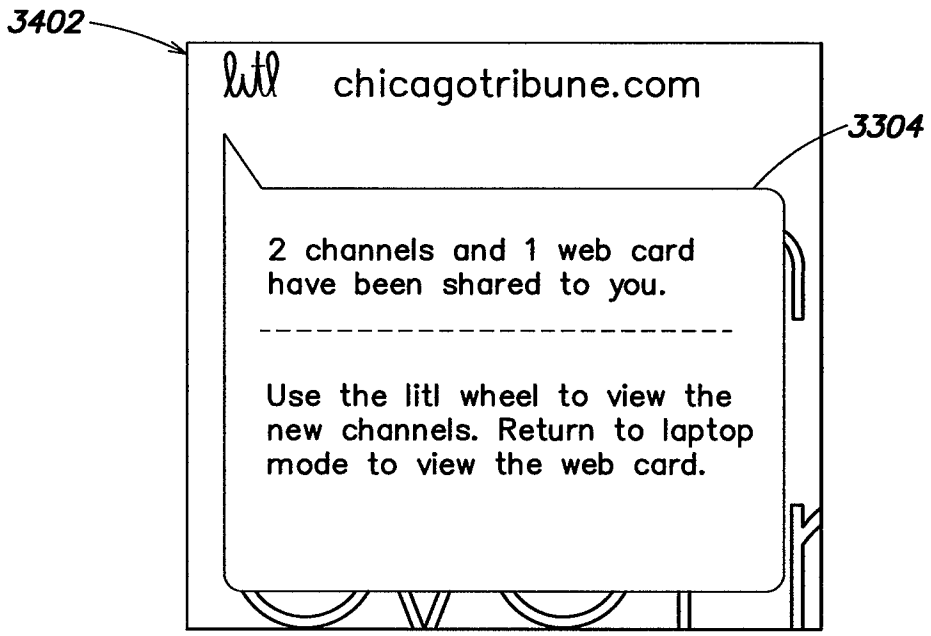
3402
chicagotribune.com
3304
2 channels and 1 web card have been shared to you.
Use the litl wheel to view the new channels. Return to laptop mode to view the web card.

FIG. 34

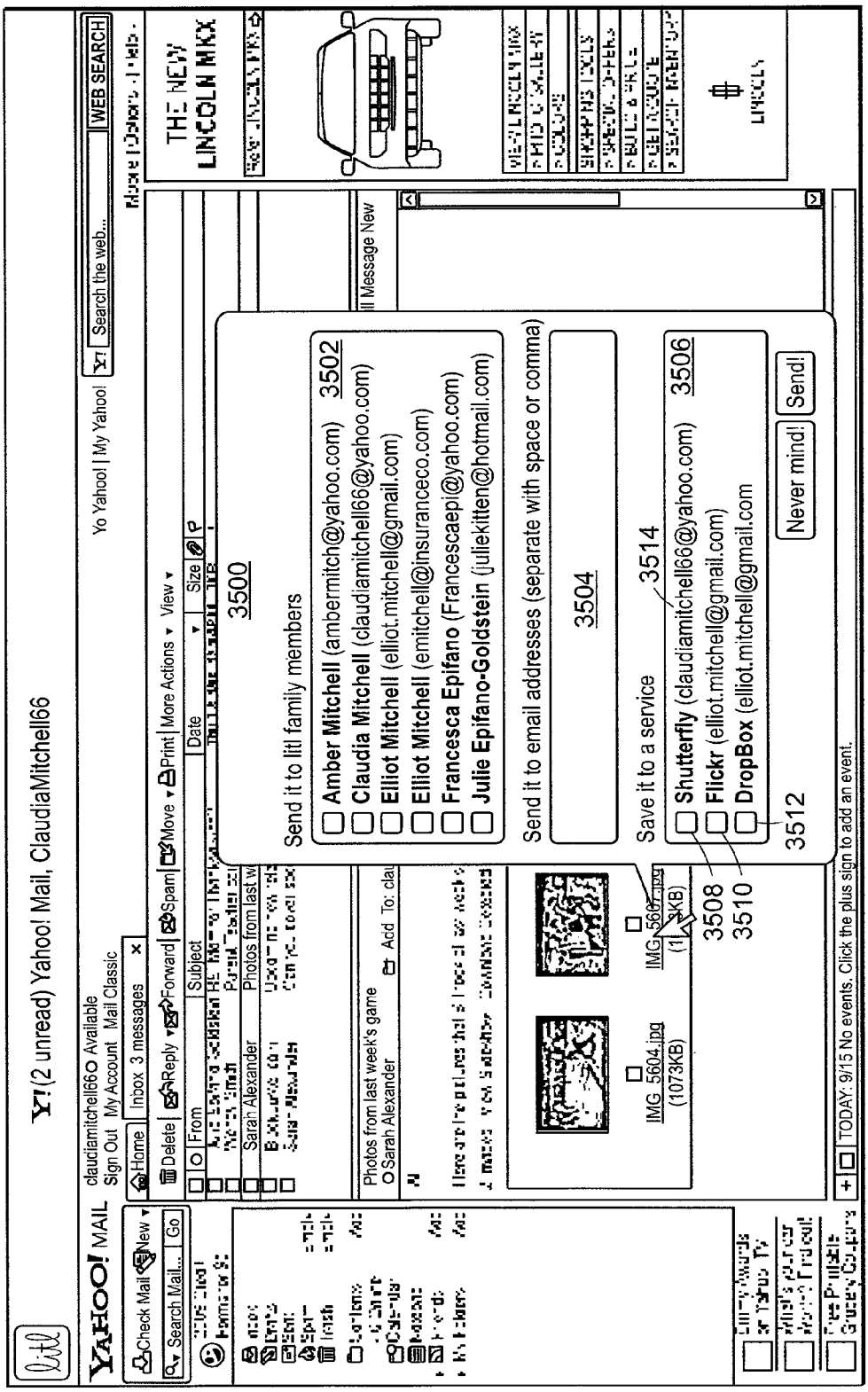
Y!(2 unread) Yahoo! Mail, ClaudiaMitchell66
YAHOO! MAIL
claudiamitchell66 Available
Sign Out My Account Mail Classic
Yo Yahoo! | My Yahoo!
Search the web...
WEB SEARCH
Check Mail
New
Search Mail...
Go
Home
Inbox 3 messages
Delete
Reply
Forward
Spam
Move
Print
More Actions
View
From
Subject
Date
Size
THE NEW LINCOLN MKX
Send it to litl family members
Amber Mitchell (ambermitch@yahoo.com)
Claudia Mitchell (claudiamitchell66@yahoo.com)
Elliot Mitchell (elliot.mitchell@gmail.com)
Elliot Mitchell (emitchell@insuranceco.com)
Francesca Epifano (Francescaepi@yahoo.com)
Julie Epifano-Goldstein (juliekitten@hotmail.com)
Send it to email addresses (separate with space or comma)
Save it to a service
Shutterfly (claudiamitchell66@yahoo.com)
Flickr (elliot.mitchell@gmail.com)
DropBox (elliot.mitchell@gmail.com
Never mind!
Send!
Photos from last week's game
Sarah Alexander
IMG_5604.jpg (1073KB)
IMG_5607.jpg
TODAY: 9/15 No events. Click the plus sign to add an event.
3500
3502
3504
3506
3508
3510
3512
3514

FIG. 35

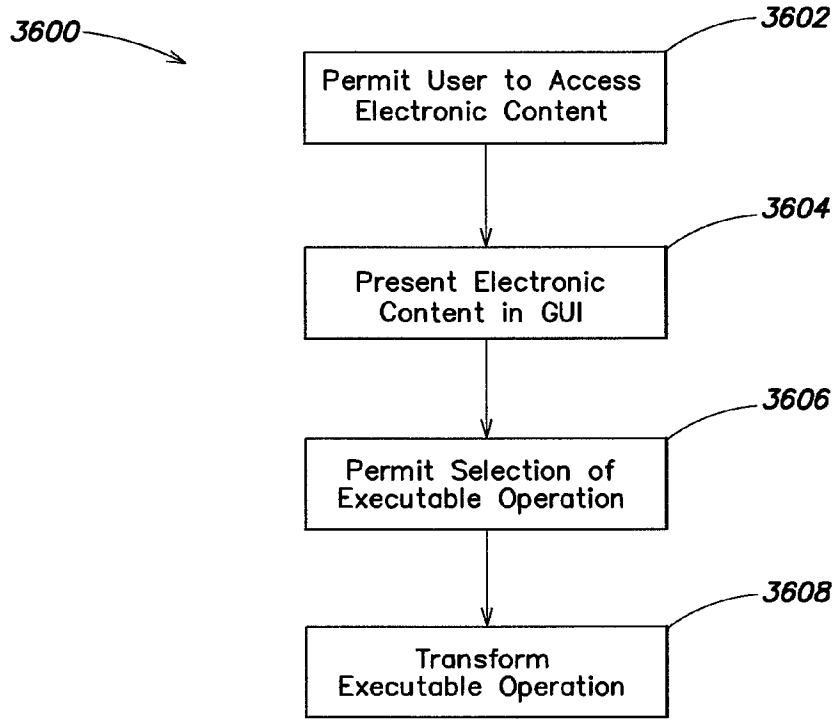
3600
3602
Permit User to Access Electronic Content
3604
Present Electronic Content in GUI
3606
Permit Selection of Executable Operation
3608
Transform Executable Operation

FIG. 36

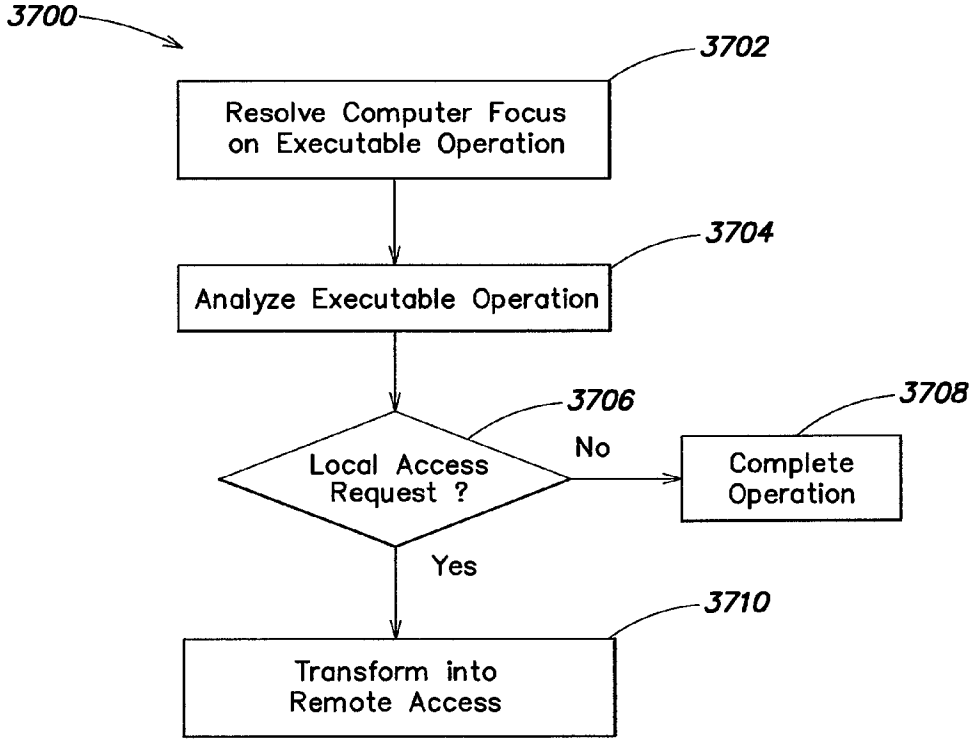
3700
3702
Resolve Computer Focus on Executable Operation
3704
Analyze Executable Operation
3706
Local Access Request ?
No
3708
Complete Operation
Yes
3710
Transform into Remote Access

FIG. 37

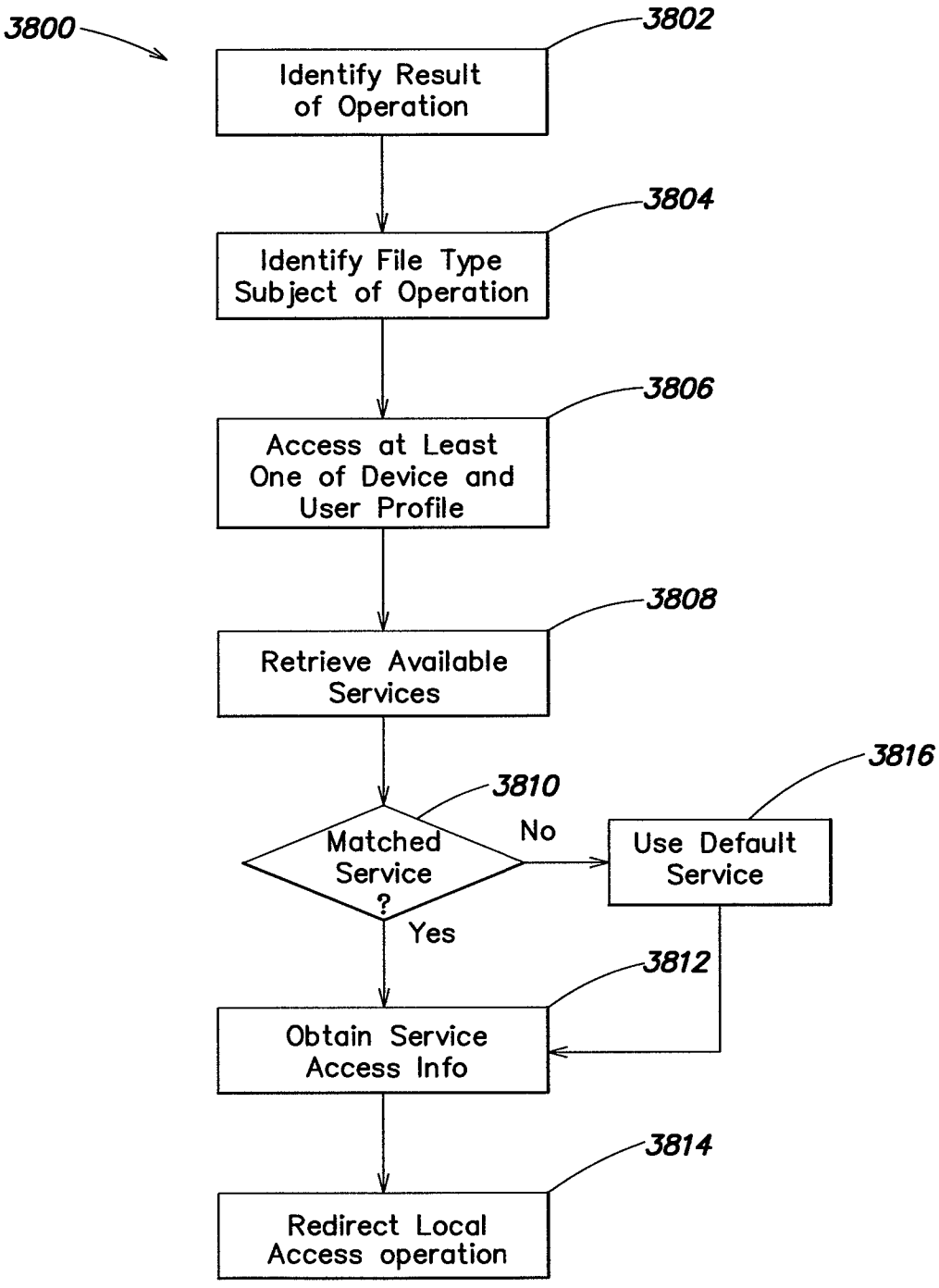
3800
3802
Identify Result of Operation
3804
Identify File Type Subject of Operation
3806
Access at Least One of Device and User Profile
3808
Retrieve Available Services
3810
Matched Service ?
No
3816
Use Default Service
Yes
3812
Obtain Service Access Info
3814
Redirect Local Access operation

FIG. 38

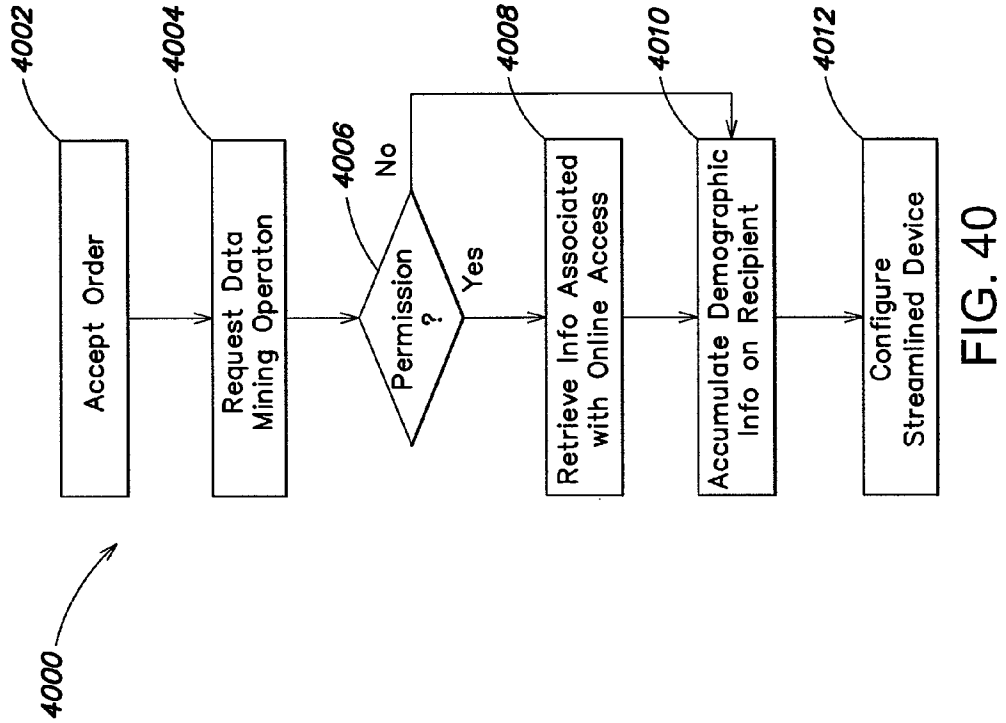
4000
4002
Accept Order
4004
Request Data Mining Operaton
4006
Permission ?
No
Yes
4008
Retrieve Info Associated with Online Access
4010
Accumulate Demographic Info on Recipient
4012
Configure Streamlined Device

FIG. 40

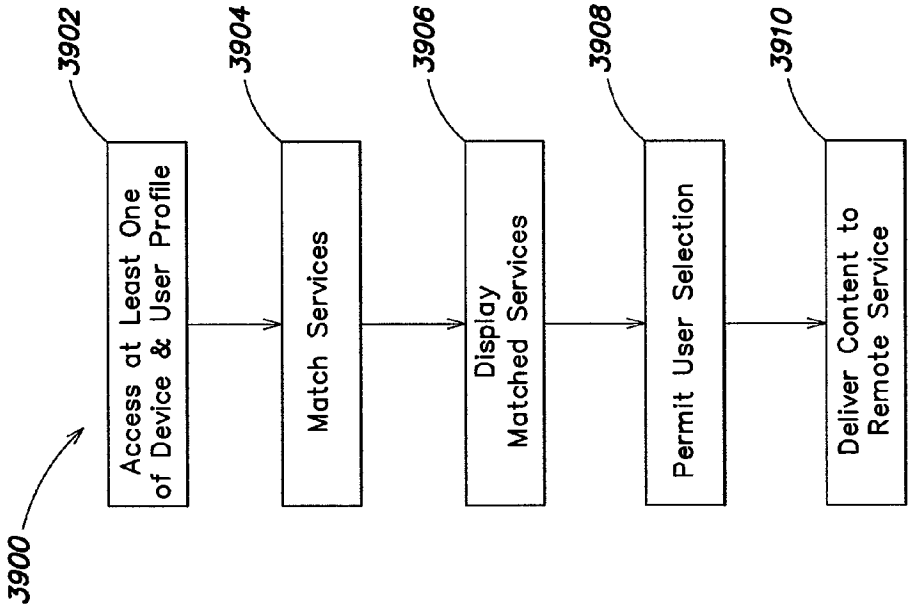
3900
3902
Access at Least One of Device & User Profile
3904
Match Services
3906
Display Matched Services
3908
Permit User Selection
3910
Deliver Content to Remote Service

FIG. 39

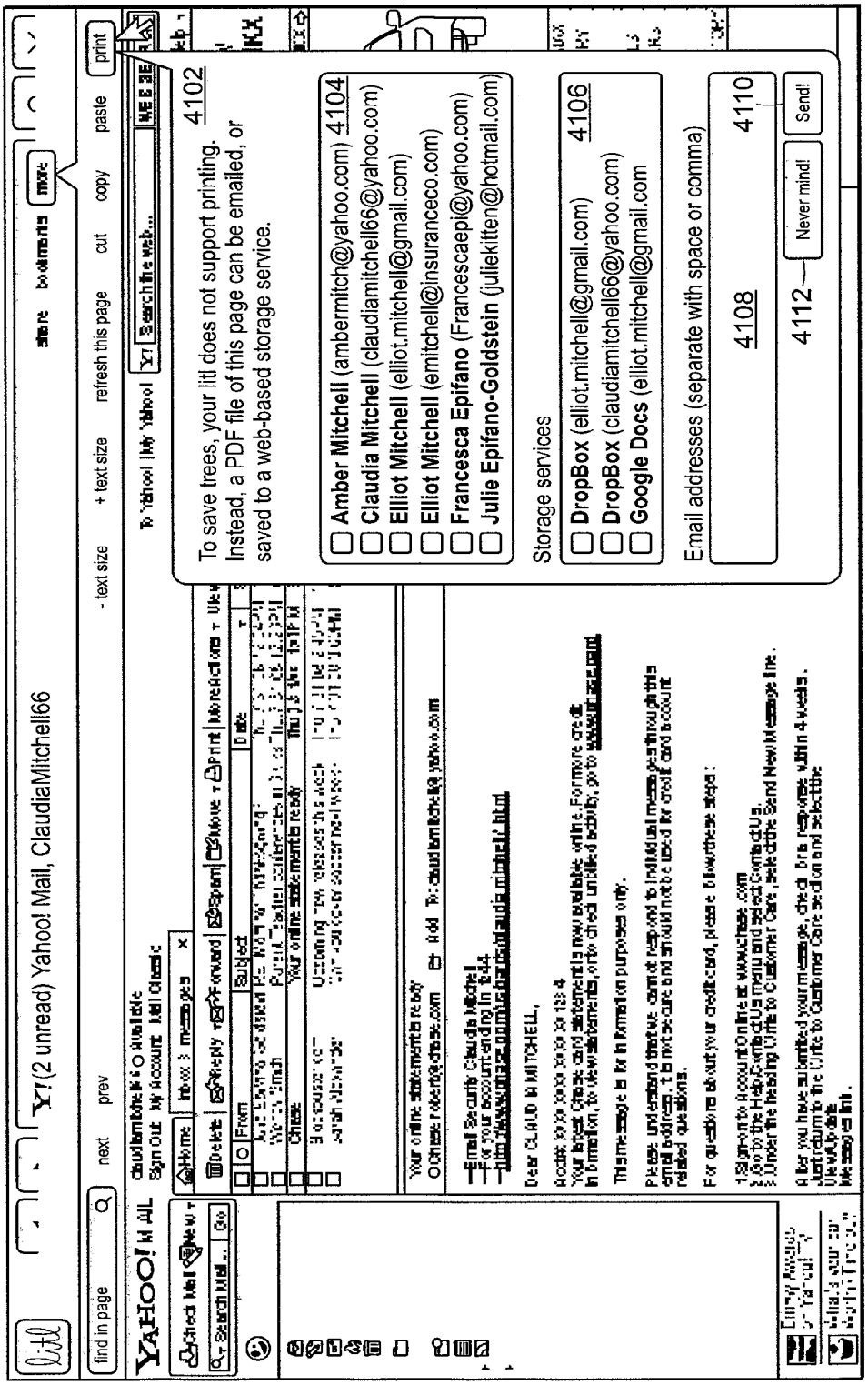
To save trees, your Intl does not support printing. 4102
Instead, a PDF file of this page can be emailed, or saved to a web-based storage service.
Amber Mitchell (ambermitch@yahoo.com) 4104
Claudia Mitchell (claudiamitchell66@yahoo.com)
Elliot Mitchell (elliot.mitchell@gmail.com)
Elliot Mitchell (emitchell@insuranceco.com)
Francesca Epifano (Francescaepi@yahoo.com)
Julie Epifano-Goldstein (juliekitten@hotmail.com)
Storage services
DropBox (elliot.mitchell@gmail.com) 4106
DropBox (claudiamitchell66@yahoo.com)
Google Docs (elliot.mitchell@gmail.com
Email addresses (separate with space or comma)
4108
4110
4112
Never mind!
Send!

FIG. 41A

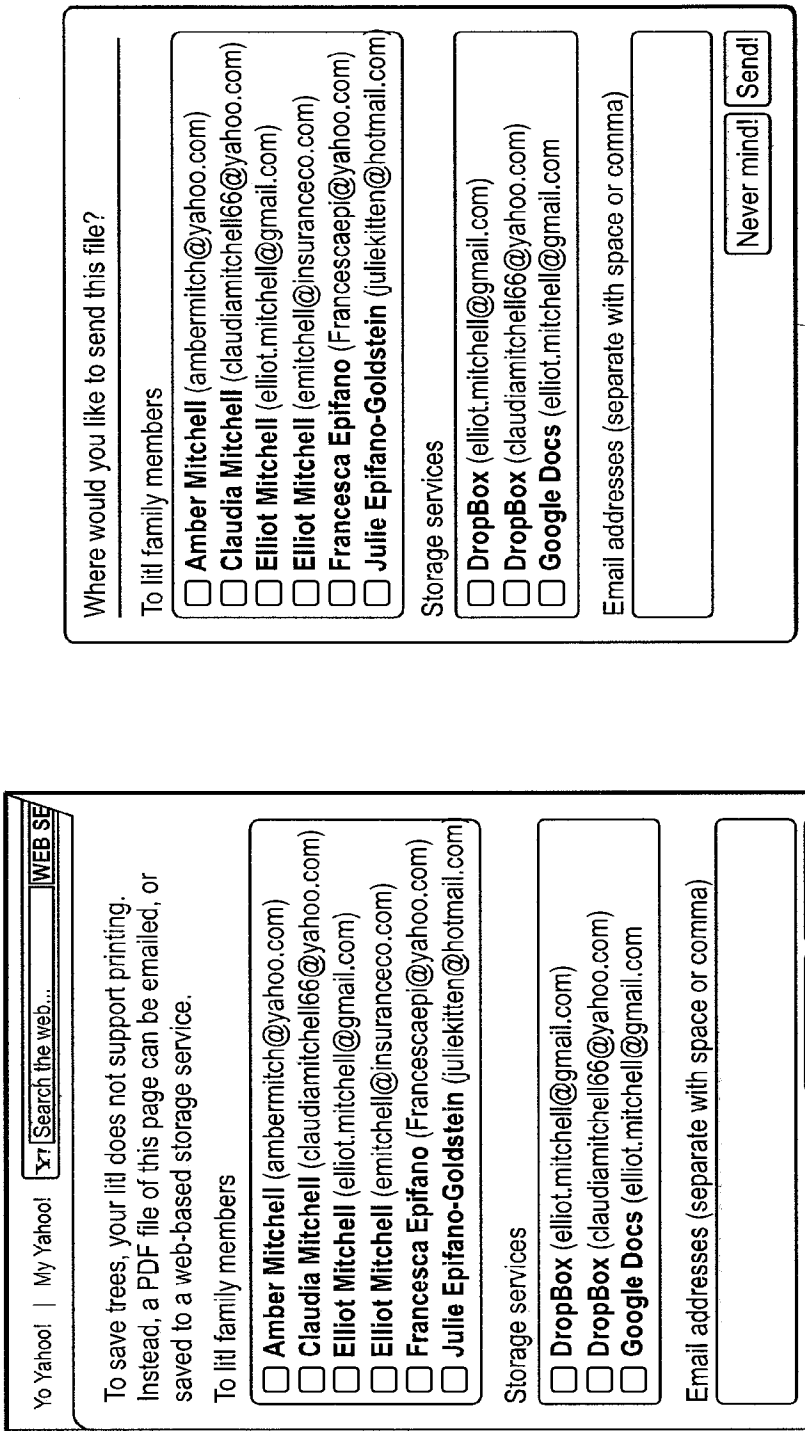
Yo Yahoo! | My Yahoo!
Search the web...
WEB SE
To save trees, your litl does not support printing. Instead, a PDF file of this page can be emailed, or saved to a web-based storage service.
To litl family members
Amber Mitchell (ambermitch@yahoo.com)
Claudia Mitchell (claudiamitchell66@yahoo.com)
Elliot Mitchell (elliot.mitchell@gmail.com)
Elliot Mitchell (emitchell@insuranceco.com)
Francesca Epifano (Francescaepi@yahoo.com)
Julie Epifano-Goldstein (juliekitten@hotmail.com)
Storage services
DropBox (elliot.mitchell@gmail.com)
DropBox (claudiamitchell66@yahoo.com)
Google Docs (elliot.mitchell@gmail.com
Email addresses (separate with space or comma)
Never mind!
Send PDF
4150
Where would you like to send this file?
To litl family members
Amber Mitchell (ambermitch@yahoo.com)
Claudia Mitchell (claudiamitchell66@yahoo.com)
Elliot Mitchell (elliot.mitchell@gmail.com)
Elliot Mitchell (emitchell@insuranceco.com)
Francesca Epifano (Francescaepi@yahoo.com)
Julie Epifano-Goldstein (juliekitten@hotmail.com)
Storage services
DropBox (elliot.mitchell@gmail.com)
DropBox (claudiamitchell66@yahoo.com)
Google Docs (elliot.mitchell@gmail.com
Email addresses (separate with space or comma)
Never mind!
Send!
4152

FIG. 41B

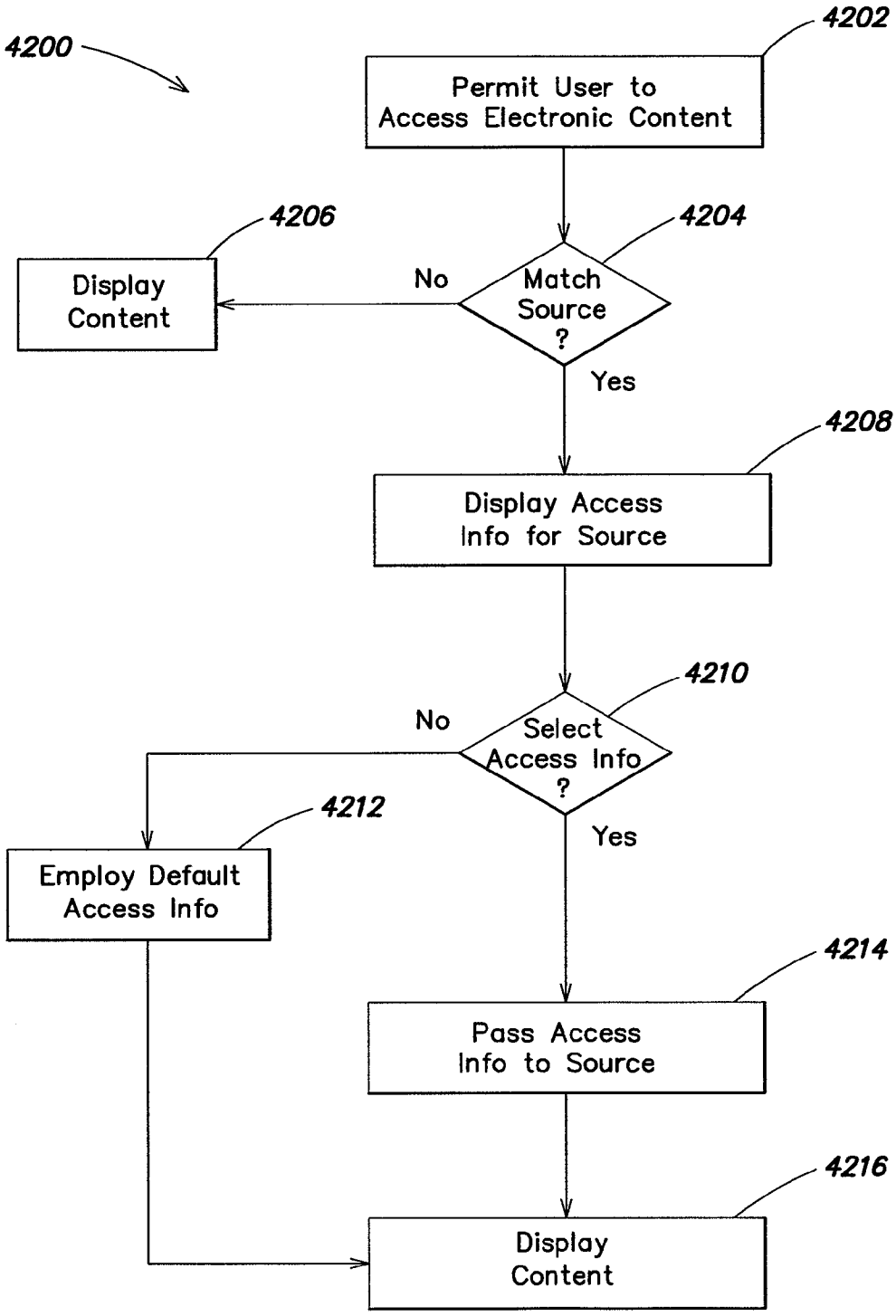
4200
4202
Permit User to Access Electronic Content
4204
Match Source ?
No
4206
Display Content
Yes
4208
Display Access Info for Source
4210
Select Access Info ?
No
4212
Employ Default Access Info
Yes
4214
Pass Access Info to Source
4216
Display Content

FIG. 42

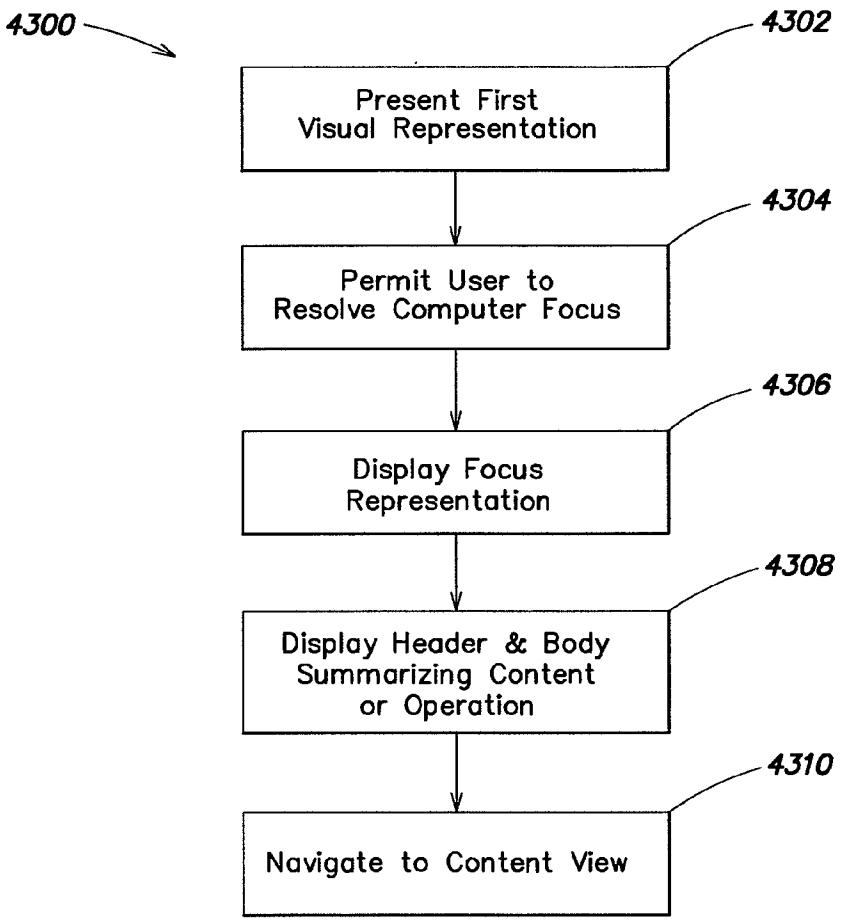
4300
4302
Present First Visual Representation
4304
Permit User to Resolve Computer Focus
4306
Display Focus Representation
4308
Display Header & Body Summarizing Content or Operation
4310
Navigate to Content View

FIG. 43

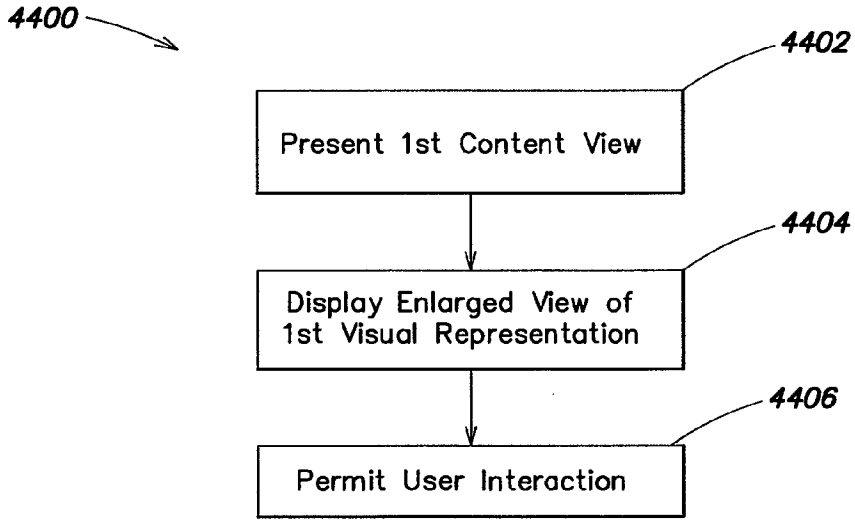
4400
4402
Present 1st Content View
4404
Display Enlarged View of 1st Visual Representation
4406
Permit User Interaction

FIG. 44

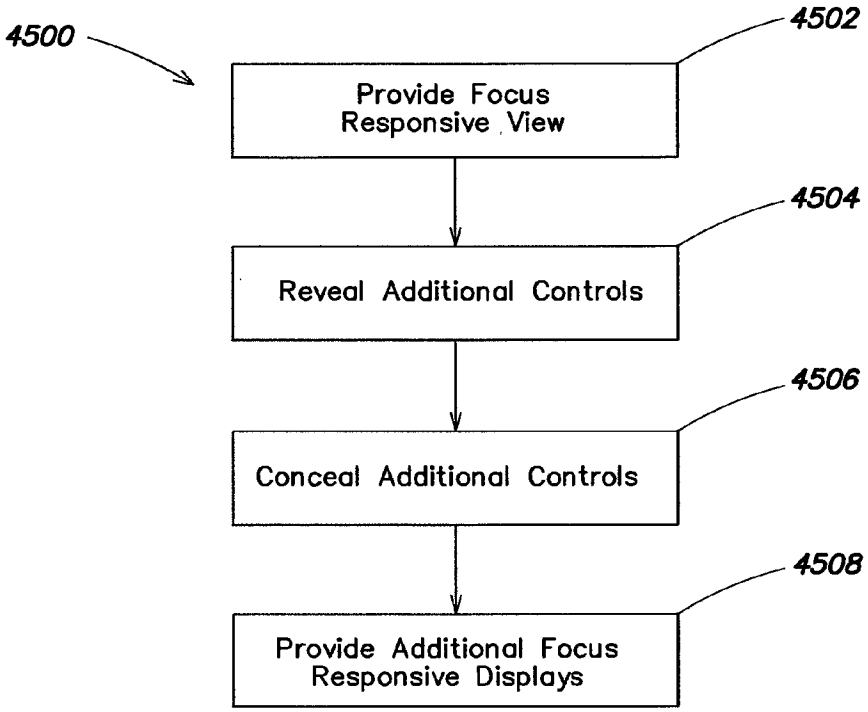
4500
4502
Provide Focus Responsive View
4504
Reveal Additional Controls
4506
Conceal Additional Controls
4508
Provide Additional Focus Responsive Displays

FIG. 45

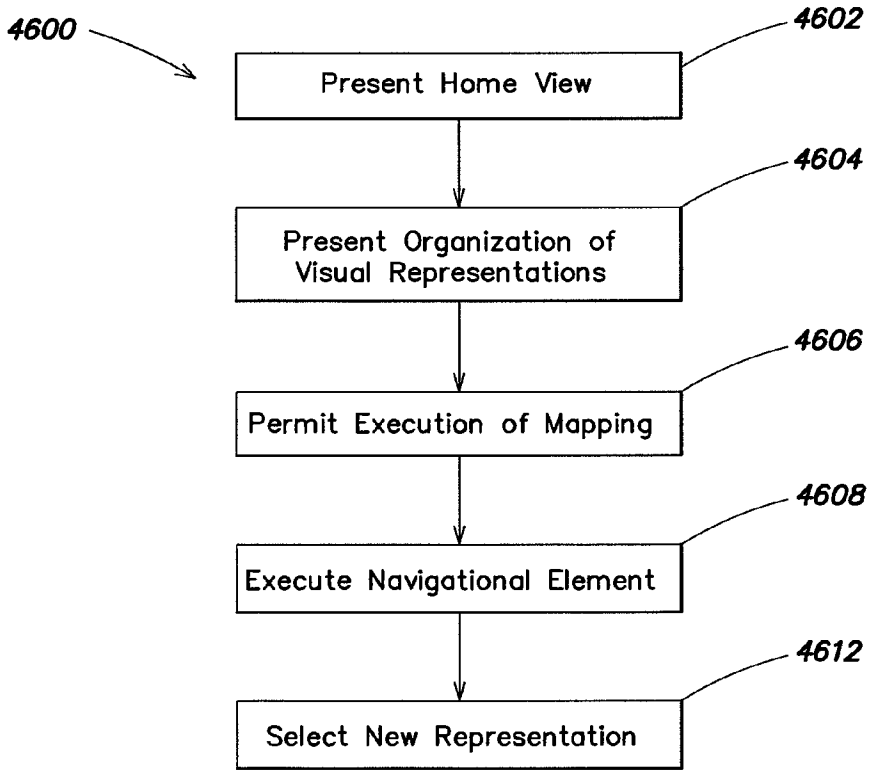
4600
4602
Present Home View
4604
Present Organization of Visual Representations
4606
Permit Execution of Mapping
4608
Execute Navigational Element
4612
Select New Representation

FIG. 46

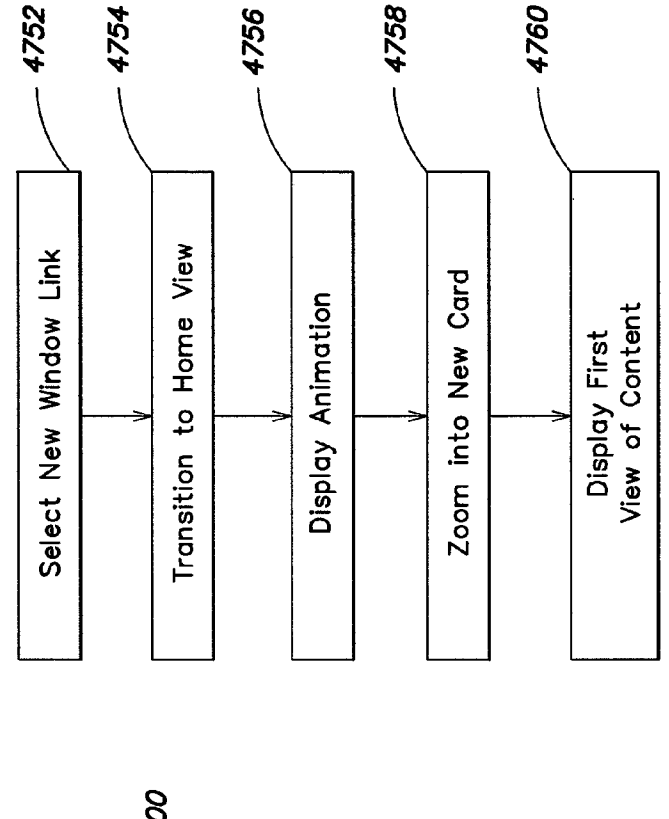

FIG. 47B

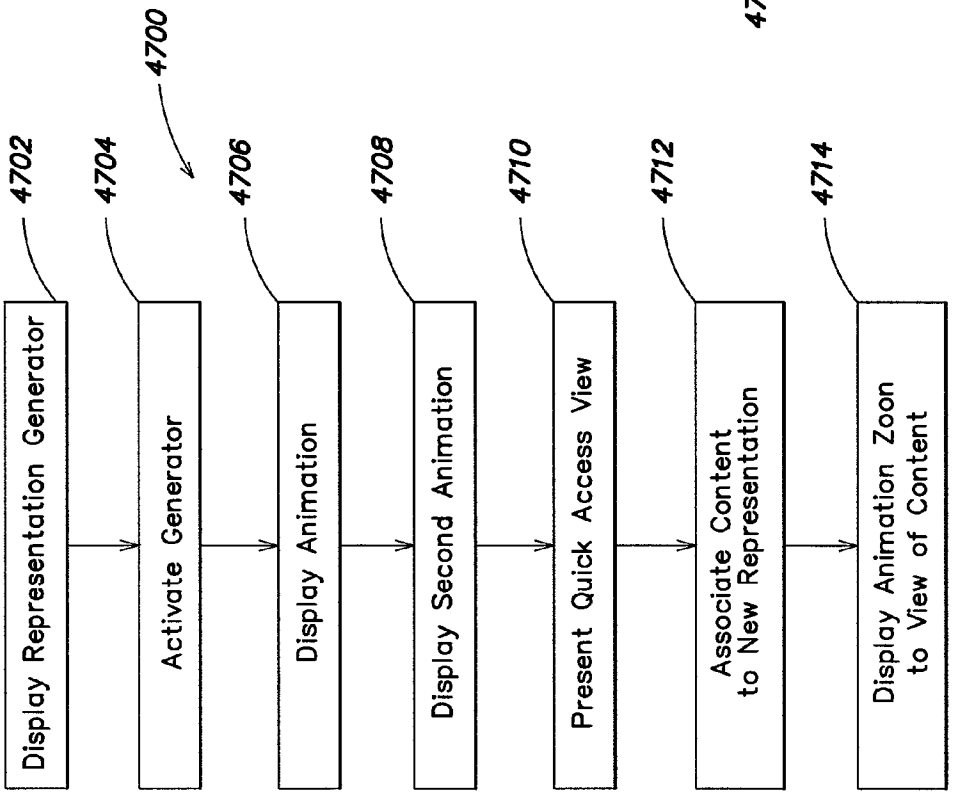

FIG. 47A

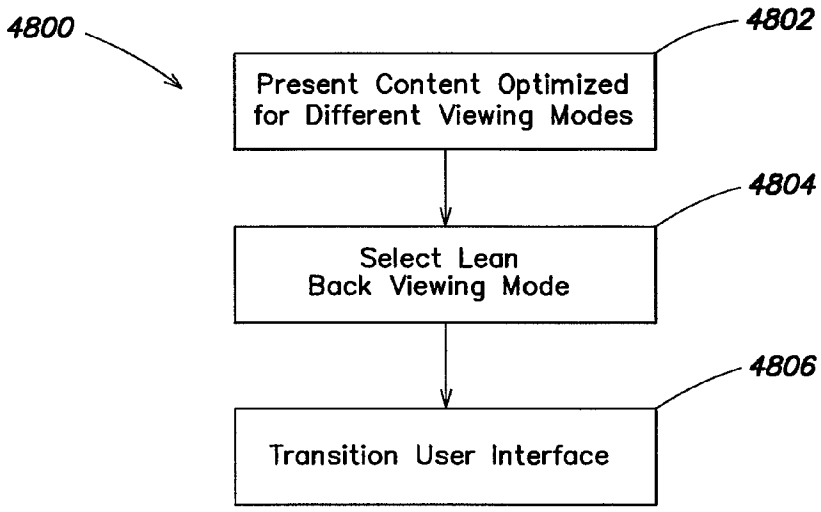

FIG. 48

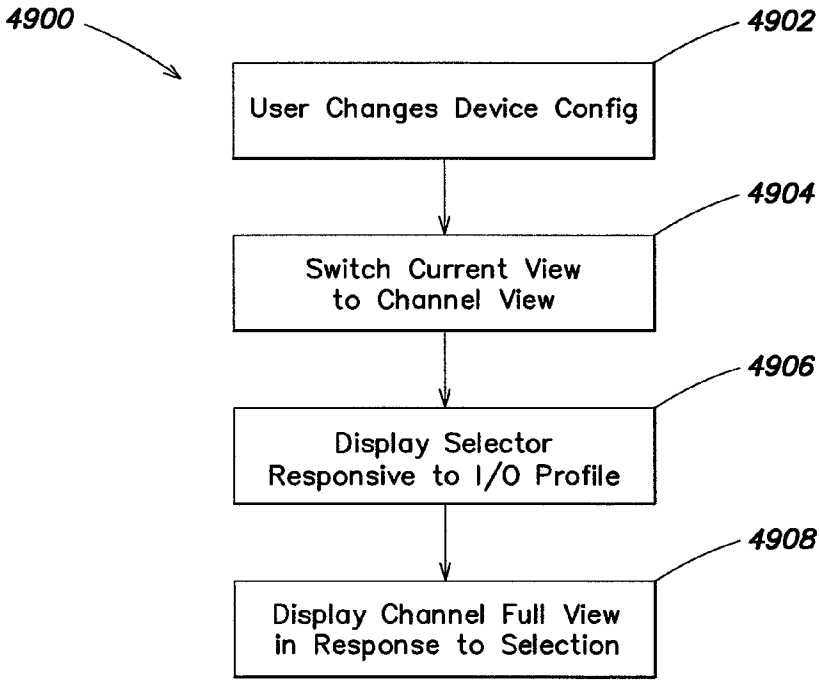

FIG. 49A

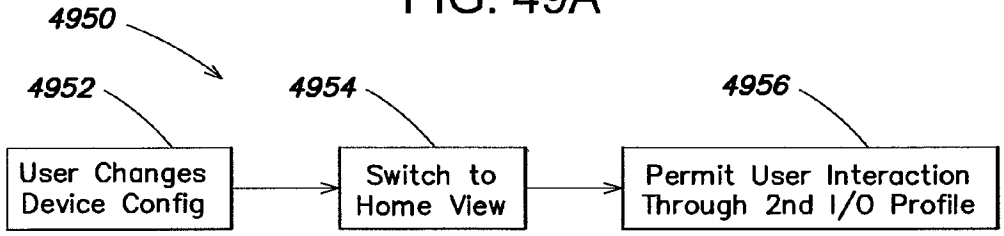

FIG. 49B

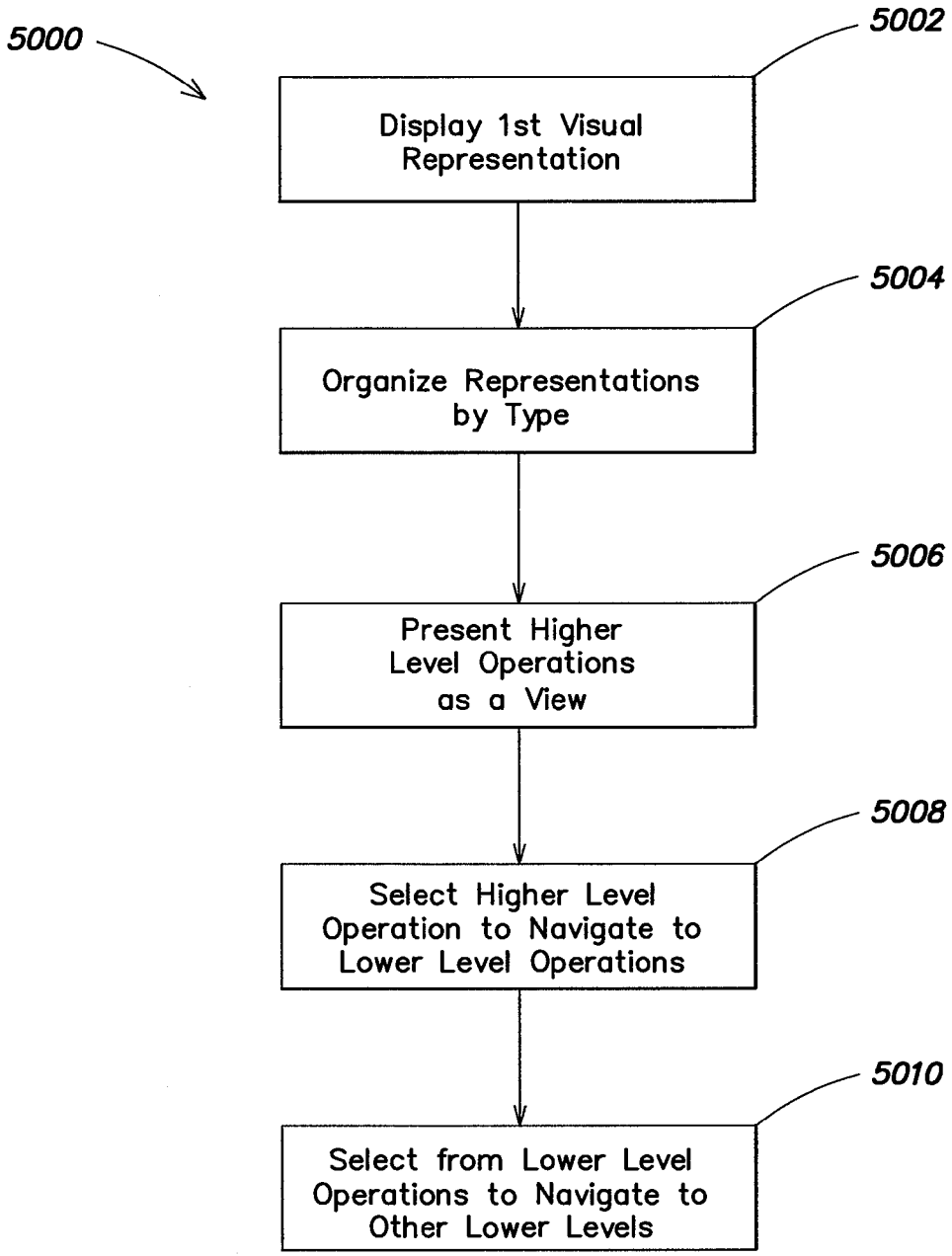
5000
5002
Display 1st Visual Representation
5004
Organize Representations by Type
5006
Present Higher Level Operations as a View
5008
Select Higher Level Operation to Navigate to Lower Level Operations
5010
Select from Lower Level Operations to Navigate to Other Lower Levels

FIG. 50

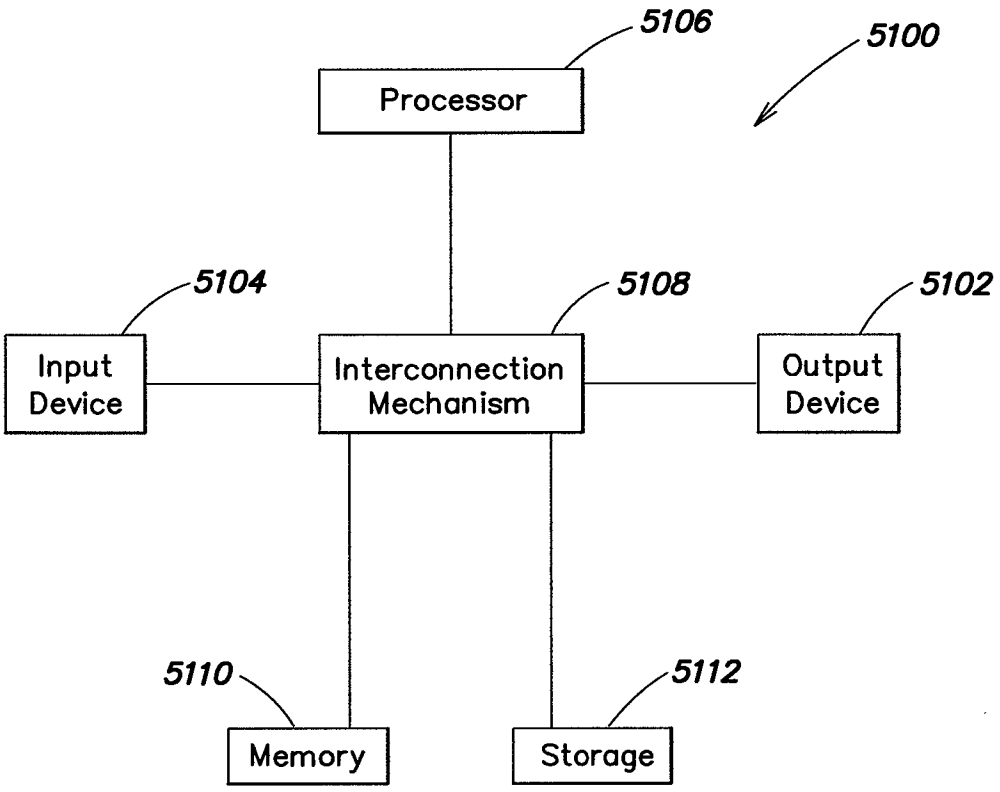
5106
5100
Processor
5104
5108
5102
Input Device
Interconnection Mechanism
Output Device
5110
5112
Memory
Storage

FIG. 51

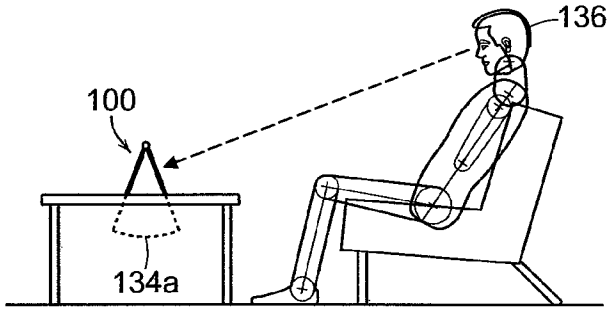

FIG. 52A

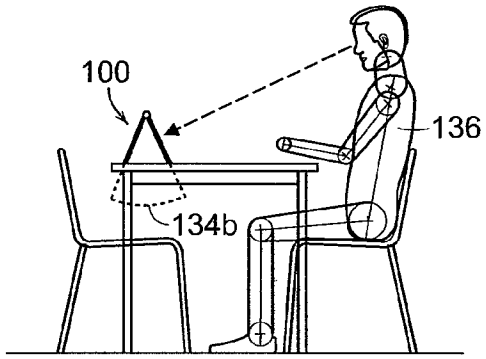

FIG. 52B

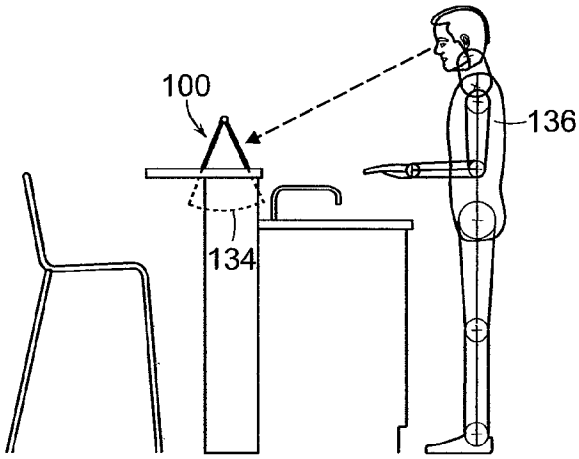

FIG. 52C

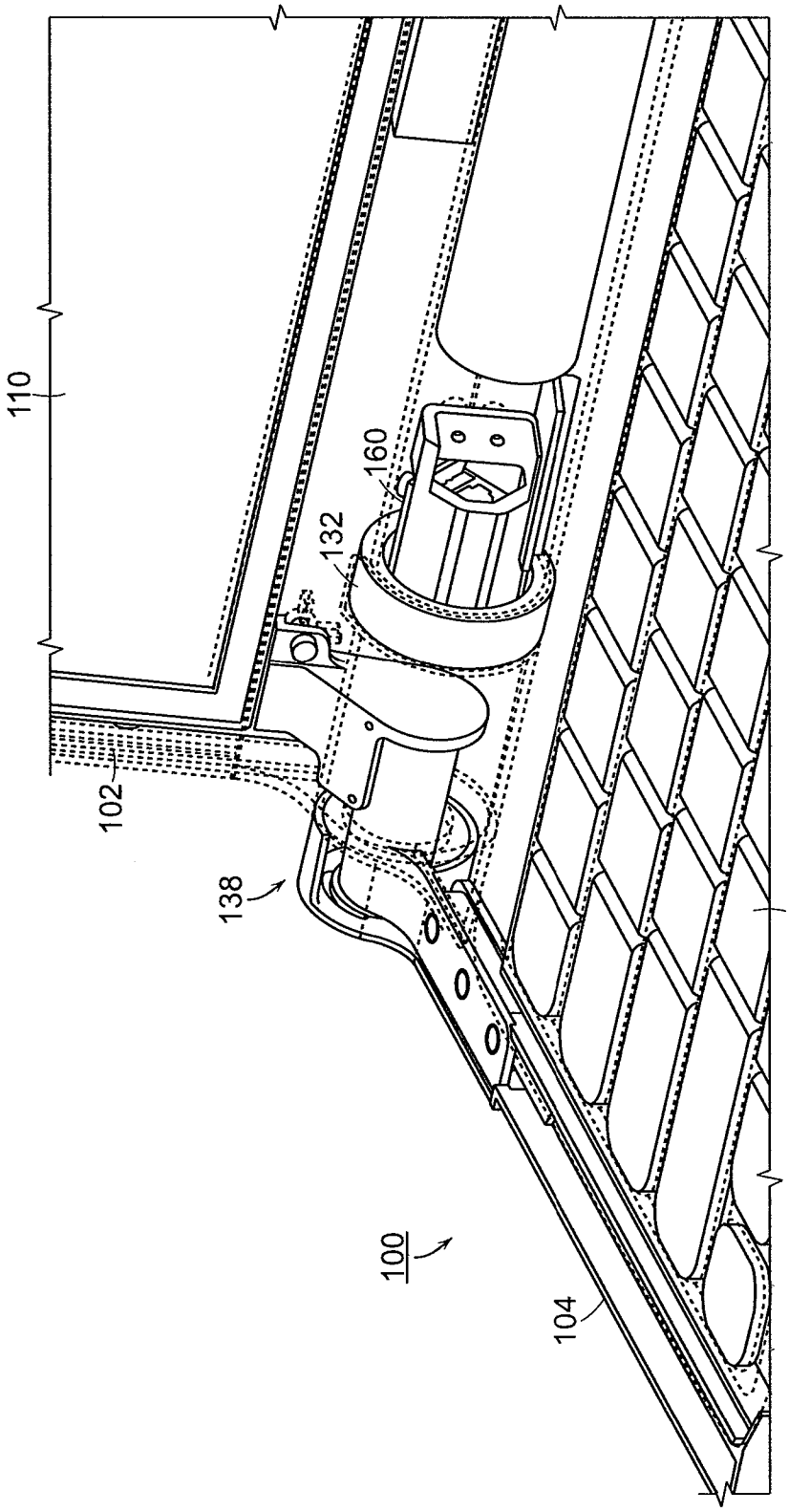

FIG. 53A

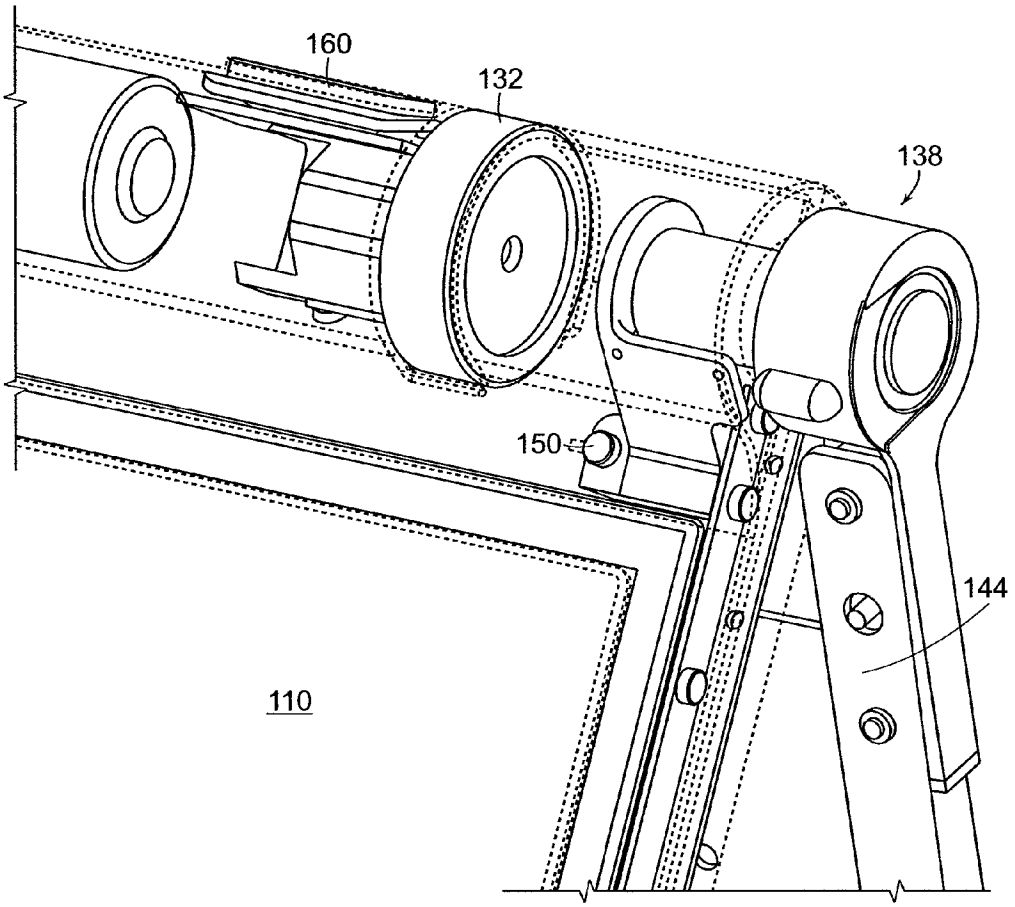

FIG. 53B

SYSTEM AND METHOD FOR STREAMLINING USER INTERACTION WITH ELECTRONIC CONTENT

RELATED APPLICATIONS

This application is a continuation of, and claims priority under 35 U.S.C. § 120 to, U.S. patent application Ser. No. 12/416,496 entitled "SYSTEM AND METHOD FOR STREAMLINING USER INTERACTION WITH ELECTRONIC CONTENT," filed on Apr. 1, 2009, which is a continuation-in-part of, and claims priority under 35 U.S.C. § 120 to, U.S. patent application Ser. No. 12/170,951 entitled "PORTABLE COMPUTER WITH MULTIPLE DISPLAY CONFIGURATIONS," filed on Jul. 10, 2008, which claims priority under 35 U.S.C. § 119(e) to U.S. Provisional Application Ser. No. 61/041,365, entitled "PORTABLE COMPUTER WITH MULTIPLE DISPLAY CONFIGURATIONS," filed Apr. 1, 2008, each of which is hereby incorporated herein by reference in its entirety. U.S. patent application Ser. No. 12/416,496 is a continuation-in-part of, and claims priority under 35 U.S.C. § 120 to U.S. patent application Ser. No. 12/170,939, entitled "PORTABLE COMPUTER WITH MULTIPLE DISPLAY CONFIGURATIONS," filed on Jul. 10, 2008, which claims priority under 35 U.S.C. 119(e) to U.S. Provisional Application Ser. No. 61/041,365, entitled "PORTABLE COMPUTER WITH MULTIPLE DISPLAY CONFIGURATIONS," filed Apr. 1, 2008, each of which is hereby incorporated herein by reference in its entirety. In addition, U.S. patent application Ser. No. 12/416,496 claims priority under 35 U.S.C. 119(e) to U.S. Provisional Application Ser. No. 61/041,365, entitled "PORTABLE COMPUTER WITH MULTIPLE DISPLAY CONFIGURATIONS," filed Apr. 1, 2008, which is hereby incorporated herein by reference in its entirety.

BACKGROUND

Much of the advancement in contemporary computer systems and services stems from the significant increases in computing power. Hand in hand with those increases, enhanced features sets have developed designed to utilize that computing power. Conventional wisdom suggests that the more features that can be provided to a particular computer user, the better the user's experience will be.

As computers have become more powerful and capable of providing more and more features, ordinary/typical computer users has not been able to keep up with availability of features and services. User may become frustrated by the inability to navigate the myriad (sometime unending) configurations and options provided in order to achieve something useful and/or workable to their ordinary use. Many users simply don't take advantage of provided features. Some outright ignore options and features that would simplify the use of their computer system. This may occur because of user ignorance or even fear and in some instances because the user lacks experience with new features—so the user doesn't know the feature can be useful.

User frustration is felt not only with respect to the newer more powerful computer systems being offered today, but also frustration abounds with respect to their computer's interaction with the Internet. The present movement on the Internet, often referred to as Web 2.0, also subscribes to conventional thinking in that more and more features are being packed into each and every aspect of the web experience. Third party service providers can be found for almost

any service—virtually no limitations have been found for the services that can be provided.

More typically, these on-line services provide very useful opportunities for the users who know how to take advantage of them—online photo management/sharing, online financial services, online marketplaces, online exchanges, web hosting, web development, dating services, social networking to name only a few. Very often these on-line services can be found for free or minimal costs. Typically, registration is the only requirement for participating in what is offered as free services. In other words, all that is required is the creation of a user name and password. Each service often attempts to outdo competitors by offering more and more options/features than their competitors.

SUMMARY

It is realized that the conventional wisdom with respect to such "feature packing" as discussed above suffers from significant flaws. Typical computer users simply can't take advantage of all the functionality offered, either the services and features offered by their own computer, or the services and features offered by online providers. The complexity of the interface (both hardware and software) hampers adoption, as does the volume of features offered. For example, third party service provides often find difficulty in subscribing new users, educating existing users, and providing integration of feature sets for the features they provide as well as those offered by other service providers.

Further complicating the user's interaction with computer devices and provided services is the inflexibility of the devices being used and their accompanying interfaces. It is realized that a device that can provide a user with a flexible portal into electronic content, that is, one that can be configured dynamically improves the user experience. For example, permitting transitions from a "lean back" mode of viewing (imagine, for example, a person watching television from their couch) to a "lean forward" mode of viewing (picture, for example, a laptop user typing away in a word processing application) to on a computer device improves the user experience. Further, user interfaces that are responsive to the user's dynamic configurations improve the user's ability to interact with the electronic content, from the machine itself, the internet, and even from both sources.

Accordingly, aspects and embodiments are directed to a graphical user interface that organizes interface elements into modes of content for presentation to a user. Different views of the modes of content are used to present the user with an interface that is responsive to configurations of the device and responsive to activity being performed by the user. Further the elements that comprise the graphical user interface are configured to present a summarized view of available actions and content, in order to simplify user interaction. The different views present different organizations of the interface elements and in some example display only certain ones of the modes of content in order to reduce the number of options a user must navigate to accomplish an objective.

According to one aspect of the present invention, a customized user interface for a computer system with a plurality selectable I/O profiles configured to present computer operations to a user in a format configured to a selected I/O profile is provided. The user interface comprises a map based graphical user interface displayed on the computer system, the map based user interface comprising a plurality of views of a plurality of visual representations of computer content, wherein the computer content includes at least one

of selectable digital content, selectable computer operations and passive digital content, and the plurality of visual representations of computer content rendered on the computer display, wherein the plurality of visual representations of computer content include an association to a first view of the plurality of views, the first view including the computer content, and wherein the each of the plurality of visual representations is responsive to focus and execution, wherein execution includes clicking on the visual representation, and an execution component comprising at least one computer hardware element configured to transition the computer system display between the plurality of views, wherein the execution component further comprises a view selector component configured to select one of the plurality of views for display on a computer system in response to a computer system configuration. According to one embodiment of the present invention, the execution component is further configured to transition between the plurality of views in response to execution of at least one of a computer system operation, a visual representation, a computer system configuration, and a change in computer to system configuration. According to another embodiment of the invention, the user interface further comprises a plurality of modes of content for the computer content rendered on the computer display.

According to one aspect of the present invention, the plurality of views are configured to organize modes of content into different views. According to another embodiment of the invention, the plurality of modes of content comprise at least one of a web content mode, a channel content mode, a media content mode, an application content mode, a communication content mode, and a passive content mode. According to another embodiment of the invention, the plurality of modes of content include a web content mode, wherein the web content mode is configured to display web based content for proximal viewing by a user. According to another embodiment of the invention, the plurality of modes of content include a channel content mode, wherein the channel content mode is configured to display web based content for non-proximal viewing by a user. According to another embodiment of the invention, the plurality of modes of content include a media content mode, wherein the media content mode is configured to display media based content for non-proximal viewing by a user mode. According to another embodiment of the invention, the plurality of modes of content include a web content mode, wherein the web content mode is optimized to display web based content for proximal viewing by a user. According to another embodiment of the invention, the plurality of modes of content include a channel content mode, wherein the channel content mode is optimized to display web based content for non-proximal viewing by a user. According to another embodiment of the invention, the plurality of modes of content include a media content mode, wherein the media content mode is optimized to display media based content for non-proximal viewing by a user mode.

According to one embodiment of the present invention, the media based content includes at least one of digital photos, digital audio files, and digital video files. According to another embodiment of the invention, the media based content is accessed through a remote service. According to another embodiment of the invention, the plurality of modes of content include a connect content mode, wherein the connect content mode is configured to display computer configuration operations for viewing by a user. According to another embodiment of the invention, the plurality of modes of content include an application content mode, wherein the application content mode is configured to display computer applications for use by a user. According to another embodiment of the invention, in the plurality of views includes a home view configured to organize a plurality of content modes. According to another embodiment of the invention, the plurality of views includes a channel view configured to organize a single content mode. According to another embodiment of the invention, the plurality of views includes a channel view configured to organize dual content modes. According to another embodiment of the invention, the plurality of modes of content include a passive content mode, wherein the passive content mode is configured to display web based content for non-proximal viewing without user interaction.

According to one embodiment of the present invention, the plurality of modes of content include a passive content mode, wherein the passive content mode is optimized to display web based content for non-proximal viewing without user interaction. According to another embodiment of the invention, the plurality of views includes a screen saver view configured to organize selected content modes for passive viewing. According to another embodiment of the invention, the plurality of views further comprise a first layer, wherein the first layer organizes computer operations, including navigation operations, into groups based on similar functional operation. According to another embodiment of the invention, the first layer maps to groupings of lower level functionality. According to another embodiment of the invention, the first layer include navigation operations maps to a seconding layer comprising computer operations for interacting with computer content. According to another embodiment of the invention, levels of computer functions are segregated based on proximity of the operation to a source of digital content, higher levels including operations that navigate to lower level operations that permit interaction with computer content.

According to one embodiment of the present invention, the first layer comprises a home view and a channel view, and the first layer is further configured to organize and simplify access to lower level functions. According to another embodiment of the invention, the visual representations comprise a lower layer relative to the first layer and include lower level functions. According to another embodiment of the invention, the plurality of views includes a home view organizing a plurality of visual representations of digital content, wherein the home view is displayed responsive to a computer system configuration. According to another embodiment of the invention, the computer system configuration comprises a physical positioning of the computer system about a longitudinal axis of rotation. According to another embodiment of the invention, the computer system configuration further comprises a physical positioning of a computer system display relative to a base of the computer system. According to another embodiment of the invention, the home view comprises a header display and a body display. According to another embodiment of the invention, the header display comprises a lateral bar extending from the left of the computer display screen to the right of the computer display screen. According to another embodiment of the invention, the user interface further comprises a search tool displayed in the header display, wherein the search tool is configured to accept search terms entered by a user and in response to execution, causes the computer system to navigate to a view of a first visual representation of digital content, wherein the digital content includes a search engine, and the search engine presents results for the search terms.

According to one embodiment of the present invention, the user interface further comprises a storage component configured to retain a previous view state. According to another embodiment of the invention, the execution component is further configured to cause the computer system to transition to a previous view in response to execution of a navigation element by a user. According to another embodiment of the invention, the user interface further comprises a navigation element disposed in the header display. According to another embodiment of the invention, the body display is rendered below the header display in the display screen of the computer system. According to another embodiment of the invention, the body comprises an organization of the plurality of visual representations of computer content rendered on the computer display. According to another embodiment of the invention, the user interface further comprises a display threshold for a screen rendered in the computer display. According to another embodiment of the invention, the home view is configured into pages based on the display of the computer system and the display threshold. According to another embodiment of the invention, the display threshold establishes a maximum number of visual representations display per page of the home view. According to another embodiment of the invention, the user interface further comprises an indication of visual representations displayed on adjacent pages of the home view, wherein the indication is display within the body of the home view.

According to one embodiment of the present invention, the user interface further comprises a nascent card displayed in the body of the home view, wherein the nascent card is configured to permit generation of additional visual representations of digital content. According to another embodiment of the invention, the execution component is further configured to execute a process for creating a visual representation in response to execution of the nascent card, wherein the process for creating a visual representation includes acts of transitioning to a quick access view, generating a mapping to online digital content, executing the mapping, and displaying a first view of the mapped digital content. According to another embodiment of the invention, the user interface further comprises a quick access view, wherein the quick access view is configured to permit user generation of a mapping between digital content and a visual representation. According to another embodiment of the invention, the quick access view permits a user to select from a display of frequently accessed web content to generate the mapping. According to another embodiment of the invention, the quick access view permits a user to select from a display of stored bookmarks to generate the mapping. According to another embodiment of the invention, the quick access view permits a user to enter a url to generate the mapping. According to another embodiment of the invention, the plurality of views includes a channel view, and the view selector component is further responsive to an integrated scroll wheel on the computer system. According to another embodiment of the invention, the view selector component is further configured to transition the computer system to the channel view in response to manipulation of the integrated scroll wheel.

According to one embodiment of the present invention, the channel view further comprises a channel selector. According to another embodiment of the invention, the channel selector comprises a display of a sequence of visual representations presenting a channel content mode. According to another embodiment of the invention, the display of the sequence of visual representations is responsive to manipulation of the integrated scroll wheel, and manipulation of the integrated scroll wheel causes the computer system to render a next visual representation in the display of the sequence of visual representations. According to another embodiment of the invention, the visual representations are responsive to execution by a selector, including a button. According to another embodiment of the invention, the button is available in a plurality of computer system configurations. According to another embodiment of the invention, the execution component is further configured to cause the computer system to transition to the first view including the digital content in response to execution of the selector by a user. According to another embodiment of the invention, the user interface further comprises a storage component configured to retain a current computer system configuration state.

According to one embodiment of the present invention, the storage component is further configured to retain a current view state. According to another embodiment of the invention, the execution component is further configured to transition the computer system display between the plurality of views, responsive to at least one of the current computer system configuration state and the current view state. According to another embodiment of the invention, the execution component is configured to transition to a channel view in response to manipulation of an integrated scroll wheel, when the computer system is in a laptop and an easel configuration. According to another embodiment of the invention, the user interface further comprises a scroll wheel threshold configured to require additional manipulations of the integrated scroll in order to cause the transition to the channel view, when the current computer system configuration state indicates the computer system is in a laptop configuration. According to another embodiment of the invention, the execution component is further configured to transition from the first view and a home view to a channel view in response to a change in computer system configuration state from laptop to easel.

According to another embodiment, the interface discussed above is displayed on a portable computer configurable between a plurality of display modes including a closed mode, a laptop mode and an easel mode. The portable computer further comprises a display component including a display screen, a base, a hinge assembly at least partially housed within the base and configured to pivotably couple the display component to the base, wherein the display component is rotatable about a longitudinal axis running along an interface between the display component and the base, wherein, in the closed mode, the display screen is disposed substantially against the base, wherein rotating the display component about the longitudinal axis up to approximately 180 degrees from the closed mode configures the portable computer into the laptop mode, and wherein rotating the display component about the longitudinal axis beyond approximately 180 degrees from the closed mode configures the portable computer into the easel mode.

According to one aspect of the present invention, a method for presenting a customized user interface for a computer system with a plurality selectable I/O profiles to a user is provided. The method comprises displaying a a map based graphical user interface on the computer system, the act of displaying the map based user interface includes acts of displaying a plurality of views of a plurality of visual representations of computer content, wherein the computer content includes at least one of selectable digital content, selectable computer operations and passive digital content, and displaying the plurality of visual representations of

computer content rendered on the computer display, wherein the plurality of visual representations of computer content include an association to a first view of the plurality of views, the first view including the computer content, and wherein the each of the plurality of visual representations is responsive to focus and execution, wherein execution includes clicking on the visual representation, and executing, by a computer processor, a transition in the computer system display between the plurality of views, wherein the act of executing includes an act of selecting one of the plurality of views for display on a computer system in response to a computer system configuration. According to one embodiment of the present invention, the act of executing occurs in response to an act of permitting execution of at least one of a computer system operation, a visual representation, a computer system configuration, and a change in computer system configuration. According to another embodiment of the invention, the method further comprises an act of displaying a plurality of modes of content for the computer content on the computer display, wherein the plurality of modes of content comprise at least one of a web content mode, a channel content mode, a media content mode, an application content mode, a communication content mode, and a passive content mode.

According to one embodiment of the present invention, the plurality of views are configured to organize modes of content into different views. According to another embodiment of the invention, the web content mode is configured to display web based content for proximal viewing by a user, wherein the channel content mode is configured to display web based content for non-proximal viewing by a user, wherein the media content mode is configured to display media based content for non-proximal viewing by a user mode, wherein the application content mode is configured to display computer applications for use by a user, wherein the communication content mode is configured to display computer configuration operations for viewing by a user, and wherein the passive content mode is configured to display web based content for non-proximal viewing without user interaction. According to another embodiment of the invention, in the plurality of views includes a home view and a channel view, and the method further comprises acts of organizing a plurality of content modes into the home view; and organizing at least one of a single content mode and a two content modes into the channel view. According to another embodiment of the invention, the plurality of views includes a screen saver view, and the method further comprises an act of organizing selected content modes for passive viewing in the screen saver view.

According to one embodiment of the present invention, the plurality of views includes a home view, and the method further comprises organizing a plurality of visual representations of digital content into the home view, wherein the home view is displayed responsive to a computer system configuration, displaying the home view in response to a compute system configuration, wherein the act of displaying the home view includes an act of displaying a header display and a body display in the home view, wherein the header display comprises a lateral frame extending from the left of the computer display screen to the right of the computer display screen, and wherein the body display is rendered below the header display in the display screen of the computer system. According to another embodiment of the invention, the computer system configuration comprises a physical positioning of the computer system display relative to a base of the computer system about a longitudinal axis of rotation. According to another embodiment of the invention, the method further comprises displaying a search tool in the header display, accepting entry of search terms through an I/O device, navigating to a view of a first visual representation of computer content, wherein the computer content includes a search engine, and the search engine presents results for the search terms, in response to an act of executing the search tool. According to another embodiment of the invention, the method further comprises an act of storing in a computer memory a previous view state. According to another embodiment of the invention, the method further comprises acts of displaying a navigation element in the header display, permitting execution of the navigation element by a user, and transitioning the computer system display to a previous view, in response to the act of permitting.

According to one embodiment of the present invention, the home view further comprises at least one display page and the method further comprising acts of displaying the plurality of visual representations of computer content rendered on the computer display in the body display, and displaying a maximal number of visual representations in a display page of the home view. According to another embodiment of the invention, the method further comprises displaying an indication of visual representations displayed on adjacent display pages in the home view, wherein the indication is displayed within the body of the home view. According to another embodiment of the invention, the method further comprises acts of displaying a nascent card in the body of the home view, permitting execution functionality associated with the nascent card, and generating an additional visual representations of digital content in response to execution of the functionality associated with the nascent card. According to another embodiment of the invention, the method further comprising act of executing a process for creating a visual representation in response to execution of the functionality associated with nascent card, wherein the process for creating a visual representation includes acts of transitioning to a quick access view, generating a mapping to online digital content, executing the mapping, and displaying a first view of the mapped digital content.

According to one embodiment of the present invention, the method further comprises acts of displaying a quick access view, permitting a user to select a source of digital content in the quick access view, and generating a mapping between the source of digital content and a visual representation in response to an act of selecting a source of digital content. According to another embodiment of the invention, the plurality of views includes a channel view, and the act of executing a transition occurs in response an act of activating an integrated scroll wheel on the computer system. According to another embodiment of the invention, the method further comprises an act of displaying a channel selector including an act of displaying a sequence of visual representations. According to another embodiment of the invention, the act of displaying the sequence of visual representations is responsive to manipulation of the integrated scroll wheel, and the method further comprises and act of displaying a next visual representation from the sequence of visual representations, in response to manipulation of the integrated scroll wheel. According to another embodiment of the invention, the method further comprises an act of storing in a computer memory a current computer system configuration state and a current view state. According to another embodiment of the invention, the act of executing, by a computer processor, a transition in the computer system display the execution component, includes an act of transi-

tioning the computer system display between the plurality of views, responsive to at least one of the current computer system configuration state and the current view state.

According to one embodiment of the present invention, the transition occurs to a channel view in response to manipulation of an integrated scroll wheel, when the computer system is in a laptop and an easel configuration. According to another embodiment of the invention, the transition occurs from at least one of the first view and a home view to a channel view in response to a change in computer system configuration state from laptop to easel.

According to one aspect of the present invention, a computer-readable medium having computer-readable signals stored thereon that define instructions that, as a result of being executed by a computer, instruct the computer to perform the method for presenting a customized user interface for a computer system with a plurality selectable I/O profiles to a user as described above is provided.

According to one aspect of the present invention, a system for presenting a customized user interface for a system with a plurality selectable I/O profiles is provided. The system comprises a first user interface component configured to display a plurality of views of a plurality of visual representations of computer content, wherein the computer content includes at least one of selectable digital content, selectable computer operations and passive digital content, a second user interface component configured to display the plurality of visual representations of computer content on the computer display, wherein the plurality of visual representations of computer content include an association to a first view of the plurality of views, the first view including the computer content, and wherein the each of the plurality of visual representations is responsive to focus and execution, wherein execution includes clicking on the visual representation, and an execution component configured to execute a transition in the computer system display between the plurality of views, wherein the execution component further comprises a view selector component act configured to select one of the plurality of views for display on a computer system in response to a computer system configuration. According to one embodiment of the present invention, the execution component is further configured to transition between the plurality of views in response to execution of at least one of a computer system operation, a visual representation, a computer system configuration, and a change in computer system configuration. According to another embodiment of the invention, the second user interface component is further configured to display a plurality of modes of content for the computer content rendered on the computer display, wherein the plurality of modes of content comprise at least one of a web content mode, a channel content mode, a media content mode, an application content mode, a communication content mode, and a passive content mode. According to another embodiment of the invention, the plurality of views are configured to organize modes of content into different views. According to another embodiment of the invention, the web content mode is configured to display web based content for proximal viewing by a user, wherein the channel content mode is configured to display web based content for non-proximal viewing by a user, wherein the media content mode is configured to display media based content for non-proximal viewing by a user mode, wherein the application content mode is configured to display computer applications for use by a user, wherein the communication content mode is configured to display computer configuration operations for viewing by a user, and wherein the passive content mode is configured to display web based content for non-proximal viewing without user interaction.

According to one embodiment of the present invention, the first user interface component is further configured to display a home view configured to organize a plurality of content modes, and a channel view configured to organize at least one of a single content mode and two content modes. According to another embodiment of the invention, the plurality of views includes a screen saver view configured to organize selected content modes for passive viewing. According to another embodiment of the invention, the first user interface component is further configured to display a home view organizing a plurality of visual representations of digital content, wherein the home view comprises a header display and a body display, and wherein the header display comprises a lateral frame extending from the left of the computer display screen to the right of the computer display screen, wherein the body display is rendered below the header display in the display screen of the computer system. According to another embodiment of the invention, the system is configured to permit selection of a computer system configuration, and the computer system configuration comprises a physical positioning of the computer system display relative to a base of the computer system about a longitudinal axis of rotation. According to another embodiment of the invention, the first user interface component is further configured to display a search tool in the header display, wherein the search tool is configured to accept search terms entered by a user, and wherein the execution component is further configured to causes the computer system to navigate to a view of a first visual representation of digital content, wherein the digital content includes a search engine, and the search engine presents results for the search terms in response to execution of the search tool.

According to one embodiment of the present invention, the system further comprises a storage component configured to retain a previous view state. According to another embodiment of the invention, the execution component is further configured to cause the computer system to transition to a previous view in response to execution of a navigation element by a user. According to another embodiment of the invention, the first user interface component further comprises a display of the navigation element in the header display. According to another embodiment of the invention, the body display comprises an organization of the plurality of visual representations of computer content rendered on the computer display, and the home view further comprises display pages in response to a display threshold establishing a maximal number of visual representations displayed per display page. According to another embodiment of the invention, the home view further comprises an indication of visual representations displayed on adjacent display pages of the home view, wherein the indication is displayed within the body of the home view. According to another embodiment of the invention, the second user interface component further comprises a nascent card displayed in the body of the home view, wherein the nascent card is configured to permit generation of additional visual representations of digital content. According to another embodiment of the invention, the execution component is further configured to execute a process for creating a visual representation in response to execution of the nascent card, wherein the process for creating a visual representation includes acts of transitioning to a quick access view, generating a mapping to online digital content, executing the mapping, and displaying a first view of the mapped digital content.

According to one embodiment of the present invention, the first user interface component further comprises a quick access view, wherein the quick access view is configured to permit user generation of a mapping between digital content and a visual representation. According to another embodiment of the invention, the plurality of views includes a channel view, and the view selector component is further responsive to an integrated scroll wheel on the computer system. According to another embodiment of the invention, the view selector component is further configured to transition the computer system to the channel view in response to manipulation of the integrated scroll wheel. According to another embodiment of the invention, the channel view further comprises a channel selector comprising a display of a sequence of visual representations presenting a channel content mode. According to another embodiment of the invention, the display of the sequence of visual representations is responsive to manipulation of the integrated scroll wheel, and manipulation of the integrated scroll wheel causes the computer system to render a next visual representation in the display of the sequence of visual representations. According to another embodiment of the invention, the system further comprises a storage component configured to retain a current computer system configuration state and a current view state. According to another embodiment of the invention, the execution component is further configured to transition the computer system display between the plurality of views, responsive to at least one of the current computer system configuration state and the current view state. According to another embodiment of the invention, the execution component is configured to transition to a channel view in response to manipulation of an integrated scroll wheel, when the computer system is in a laptop and an easel configuration. According to another embodiment of the invention, the execution component is further configured to transition from the first view and a home view to a channel view in response to a change in computer system configuration state from laptop to easel.

According to one embodiment, a portable computer is configurable between various modes, including a closed mode, a laptop mode, an easel mode, a flat mode and a frame mode. The portable computer may comprise a display component including a display screen, a base, and a hinge assembly at least partially housed within the base and configured to pivotably couple the display component to the base. The display component may be rotatable about a longitudinal axis running along an interface between the display component and the base. In the closed mode, the display screen may be disposed substantially against the base, and rotating the display component about the longitudinal axis up to approximately 180 degrees from the closed mode may configure the portable computer into the laptop mode. Rotating the display component about the longitudinal axis beyond approximately 180 degrees axis from the closed mode may configure the portable computer into the easel mode.

In one example of the portable computer, the display component is rotatable about the longitudinal axis up to approximately 320 degrees from the closed mode. In another example, the portable computer comprises a display orientation module that displays content on the display screen in one of a plurality of orientations relative to the longitudinal axis. The orientation of the displayed content may be dependent on the current display mode of the portable computer, or may be configurable responsive to a user input. The portable computer may further comprise a mode sensor which detects a current display mode of the portable computer, and the display orientation module may display content on the display screen in an orientation dependent on the current display mode detected by the mode sensor. Depending on the hinge assembly used, the longitudinal axis may comprises multiple parallel axes, and the hinge assembly may be configured to permit rotation of the display component about any of the multiple parallel axes to configure the portable computer between the plurality of display modes.

Still other aspects, embodiments, and advantages of these exemplary aspects and embodiments, are discussed in detail below. Moreover, it is to be understood that both the foregoing information and the following detailed description are merely illustrative examples of various aspects and embodiments, and are intended to provide an overview or framework for understanding the nature and character of the claimed aspects and embodiments. Any embodiment disclosed herein may be combined with any other embodiment in any manner consistent with the objects, aims, and needs disclosed herein, and references to "an embodiment," "some embodiments," "an alternate embodiment," "various embodiments," "one embodiment" or the like are not necessarily mutually exclusive and are intended to indicate that a particular feature, structure, or characteristic described in connection with the embodiment may be included in at least one embodiment. The appearances of such terms herein are not necessarily all referring to the same embodiment.

BRIEF DESCRIPTION OF THE DRAWINGS

Various aspects of at least one embodiment are discussed below with reference to the accompanying figures, which are not intended to be drawn to scale. The figures are included to provide illustration and a further understanding of the various aspects and embodiments, and are incorporated in and constitute a part of this specification, but are not intended as a definition of the limits of the invention. Where technical features in the figures, detailed description or any claim are followed by references signs, the reference signs have been included for the sole purpose of increasing the intelligibility of the figures, detailed description, and/or claims. Accordingly, neither the reference signs nor their absence are intended to have any limiting effect on the scope of any claim elements. In the figures, each identical or nearly identical component that is illustrated in various figures is represented by a like numeral. For purposes of clarity, not every component may be labeled in every figure. In the figures:

FIG. **1** is an illustration of one example of a portable computer, according to aspects of the invention, in a "laptop" configuration;

FIG. **2** is a screen shot illustrating one example of a graphical user interface showing a home view, according to aspects of the invention;

FIGS. **3**A-C are screen shots illustrating examples of a graphical user interface showing web page views, according to aspects of the invention;

FIG. **4** is a perspective view of the portable computer of FIG. **1** in the easel mode;

FIG. **5** is a screen shot illustrating one example of a graphical user interface showing a quick access view, according to aspects of the invention;

FIG. **6** is a screen shot illustrating one example of a graphical user interface showing a bookmark view, according to aspects of the invention;

FIGS. **7**A-B are screen shots illustrating examples of a graphical user interface showing a web page view, according to aspects of the invention;

FIG. **8** is a screen shot illustrating one example of a graphical user interface showing a home view, according to aspects of the invention;

FIG. **9** is an illustration of an example conceptual model of a graphical user interface, according to aspects of the invention;

FIG. **10** illustrates an example process for generating a visual representation of computer content, according to aspects of the invention;

FIG. **11** is a block diagram of one example of a portable computer user interface architecture, according to aspects of the invention;

FIG. **12** is a screen shot illustrating one example of a graphical user interface, according to aspects of the invention;

FIG. **13** is a screen shot illustrating another example of a graphical user interface according to aspects of the invention;

FIG. **14** illustrates an example of a behavior model for display of cards responsive to computer focus, according to aspects of the invention;

FIG. **15**A is a screen shot of an example web card in a non-hover state, according to aspects of the invention;

FIG. **15**B is a screen shot of an example web card in a hover state, according to aspects of the invention;

FIG. **16** is a screen shot of examples of option views of cards, according to aspects of the invention;

FIG. **17** is an illustration of an example of the portable computer in the laptop mode, according to aspects of the invention;

FIGS. **18**A-E illustrate examples of a header display responsive to focus and user activity, according to aspects of the invention;

FIG. **19** is a screen shot of a web page view including a toolbar, according to aspects of the invention;

FIGS. **20**A-B are screen shots illustrating examples of a graphical user interface showing a channel page view, according to aspects of the invention;

FIG. **21** is a screen shot illustrating examples of a graphical user interface showing a channel full view, according to aspects of the invention;

FIG. **22** is a screen shot illustrating one example of a graphical user interface showing a bookmark view, according to aspects of the invention;

FIG. **23** is a screen shot illustrating one example of a graphical user interface showing a channel view, according to aspects of the invention;

FIG. **24** is a screen shot illustrating one example of a graphical user interface showing a channel page view, according to aspects of the invention;

FIGS. **25**A-B are illustrations of example logical diagrams of the behavior for the channel view, according to aspects of the invention;

FIG. **26** is an illustration of the portable computer configured into a "frame" mode, according to aspects of the invention;

FIG. **27** is an illustration of the portable computer configured into a "flat" mode, according to aspects of the invention;

FIG. **28** is an illustration of an example logical diagram of the behavior for the channel view, according to aspects of the invention;

FIGS. **29**A-B are screen shots illustrating example graphical user interfaces showing a web page view with a share interface, according to aspects of the invention;

FIG. **30** is a screen shot illustrating an example graphical user interface showing a shared card, according to aspects of the invention;

FIG. **31** is a screen shot illustrating an example graphical user interface showing a shared card notification, according to aspects of the invention;

FIG. **32** is a screen shot illustrating an example graphical user interface showing a notification messages, according to aspects of the invention;

FIG. **33** is a screen shot illustrating an example graphical user interface showing a notification, according to aspects of the invention;

FIG. **34** is a screen shot illustrating an example graphical user interface showing a notification, according to aspects of the invention;

FIG. **35** is a screen shot illustrating an example graphical user interface showing a web page view with a download interface, according to aspects of the invention;

FIG. **36** is a flow diagram of one example process for interpreting executable operations into streamlined operations according to aspects of the invention;

FIG. **37** is a flow diagram of one example process for permitting selection of executable operations in content according to aspects of the invention;

FIG. **38** is a flow diagram of one example process for transforming executable operations into remote storage operations according to aspects of the invention;

FIG. **39** is a flow diagram of one example process for obtaining service access information, according to aspects of the invention;

FIG. **40** is a flow diagram of one example process for pre-configuring a streamlined device, according to aspects of the invention;

FIG. **41**A is a screen shot illustrating an example graphical user interface showing a web page view with a print interface, according to aspects of the invention;

FIG. **41**B are screen shots illustrating examples of print and download interfaces, according to aspects of the invention;

FIG. **42** is a flow diagram of one example process for streamlining user interactions with digital content, according to aspects of the invention;

FIG. **43** is a flow diagram of one example process for streamlining user interactions with computer content, according to aspects of the invention;

FIG. **44** is a flow diagram of one example process for permitting a user to interact with computer content, according to aspects of the invention;

FIG. **45** is a flow diagram of one example process for providing consistent accessibility to computer content, according to aspects of the invention;

FIG. **46** is a flow diagram of one example process for providing consistent navigation operations to a user, according to aspects of the invention;

FIGS. **47**A-B are flow diagrams of example processes for generating a user interface element, according to aspects of the invention;

FIG. **48** is a flow diagram of one example process for permitting a user to select a viewing mode for a streamlined device, according to aspects of the invention;

FIG. **49**A is a flow diagram of one example process for transitioning between a lean forward view to a lean backward view, according to aspects of the invention;

FIG. **49**B is a flow diagram of one example process for transitioning between user views, according to aspects of the invention;

FIG. **50** is a flow diagram of one example process for organizing a plurality of views and GUI elements into a consistent presentation, according to aspects of the invention;

FIG. **51** is a block diagram of a computer system for streamlining user interactions with computer content according to aspects of the invention; and

FIGS. **52**A-C are diagrams illustrating different positions of the portable computer of FIG. **4** in easel mode;

FIG. **53**A is an illustration of a portion of the portable computer of FIG. **1** in the laptop mode, illustrating a hinge assembly according to aspects of the invention; and

FIG. **53**B is an in illustration of a portion of the portable computer of FIG. **1** in the easel mode, illustrating the hinge assembly according to aspects of the invention.

DETAILED DESCRIPTION

It is realized that the conventional wisdom with respect to such "feature packing" as discussed above suffers from significant flaws. Typical computer users simply can't take advantage of all the functionality offered, either the services and features offered by their own computer, or the services and features offered by online providers. The complexity of the interface (both hardware and software) hampers adoption, as does the volume of features offered. For example, third party service provides often find difficulty in subscribing new users, educating existing users, and providing integration of feature sets for the features they provide as well as those offered by other service providers.

Synergy between services providers can be found and exploited by even the most novice user through streamlined computer systems and user interface presentation. According to one aspect, the interplay between various third party services and computer features can be readily appreciated by even the most novice user because the various functionality and features sets are easily accessible through the streamlined access controls and consistent user interfaces. As discussed further below, in one example, the graphical user interface improves transitions from one service to another, through a consistent view of available content. A user is able to navigate easily and quickly from one content provider to another user the organized view. The elements that comprise the view further facilitate navigation and transition by, for example, retaining state information an in another example by remaining persistent to the view.

According to another aspect, streamlining the computer system/device the user interacts with includes establishing a first set of I/O devices that a user needs to operate and providing that first set of I/O devices as a physical configuration of the device. Additionally, providing the user the ability to change from the first set of I/O devices, a first I/O profile, to another at will improves the user experience and permits the user to dynamically select a preferred I/O profile best suited to the user's present need. According to one embodiment, user selection includes transitioning from a lean back mode to a lean forward mode and vice versa. In one embodiment, the user's computer device is configured to have multiple I/O profiles that can be selected by physically manipulating the orientation of the computer device itself.

According to another aspect, streamlining user interactions with the computer system/device includes representing computer based content in visual representations that render computer operations/behavior in a consistent manner. The visual representations are adapted to permit easy user interaction even upon selection of a first I/O profile or the change in selection of an I/O profile. According to one embodiment, the visual representations are rendered as cards, as discussed in more detail below. Different types of cards may be employed to render different types of available content. For example, web based content, may be rendered as a web card (e.g. FIG. **2**, **206**) that associated with a mapping to web content. Some web cards map directly to web pages and in response to selection of the web card the computer device executes the mapping and displays a web view of the content. Other cards may be used to provide interactive displays selectable by a user. In another example, system operations are displayed as system cards (e.g. FIG. **2**, **212**), which are associated with mappings to system operations, for example communications configurations, and may comprise a settings card, among other system options. Another type of card includes a channel card (e.g. FIG. configured to stream web based content in a manner that allows for summarization of content, while still providing the ability to fully appreciate the summarized content.

Those skilled in the art will appreciate that previous attempts have been made to present summary views of available content. However, known summarized content typically suffers from significant flaws. For example summarization of web based content simply reduces the display size of the information in the content. With respect to news headlines, for example, this often prevents a user from being able to appreciated the summarize content. Quite simply truncating a headline prevents the user from understanding the context of the portion of the headline s/he is able to read. In other examples, headlines are display to such a reduce size that an average computer user simply cannot read or appreciate them. Using channel cards according to aspects and embodiments, summarized content may be presented in a manner that permits appreciation and interaction with the summarized content itself. In another example, channel card are configured to present a streamlined view that cannot only be appreciated and interacted, but may be transitioned from one mode of viewing to another without loss of the ability to appreciate and interact with the streamlined view.

According to one aspect, streamlining of the user device and streamlining of the user interface provided in such devices leads to simplified interaction between a user and features. The streamlining may impact not only features of the system, but features provided by services accessed by the system. Streamlined activity leads directly to better adoption, understanding and integration of both new and old features available to users. The consistency of user experience even with third party service providers, for example, fosters familiarity not only with a particular user and his/her interactions with a particular device, but also with other users of the same/similar device. A common experience may be created for multiple users, fostering a community experience. According to one example, providing a common experience includes establishing a global profile for a user of a streamlined device. The global profile, in some examples, is retained in remote storage, and accessed upon start up of any streamlined device. The global profile permits the user's experience to be consistent even across multiple streamlined devices. In one example, configurations and customizations are retained in remote storage; changes on one device may be written to remote storage, propagating changes across multiple streamlined devices that access the remote storage. Thus a common experience is also provided across multiple devices.

According to another aspect, the common experience may also include a community aspect. The community aspect includes sharing of content between users, sharing of con-

tent and configurations, sharing of content, configurations, and customizations, among many options. In particular, sharing may involve the transmission of user interface elements to other users. In one example, a user may share a card and any of its configurations with another user. Access to the shared user interface elements, in some embodiments, facilitates communal computer usage. In one example, a first user may be watching media on their streamlined device, another user known to the first user, may receive a user interface element that retains information related to the accessed content and information related to the present context. That is for the first user watching a movie, the first user may share the user interface element through which s/he is accessing the move, and permit the another user not only to watch the movie, but to take up the movie at the same point in time, so in essence, they get to enjoy the movie together. Content and context retention by user interface elements that can be shared provides unique advantages to the users of the streamlined devices.

According to another aspect, various operations provides on conventional systems are adapted for streamlined processing. In on example, operations that require large amounts of computer storage are transformed in remote storage requests. In one embodiment, a streamlined device is configured to identify local storage request and transform them into a storage request to an on-line service provider identified in a user and/or device profile. In another embodiment, the system prompts a user to identify a service provider in response to a local request. Various operations may be transformed, including download and print operations, among others.

It is to be appreciated that embodiments of the methods and apparatus discussed herein are not limited in application to the details of construction and the arrangement of components set forth in the following description or illustrated in the accompanying figures. The methods and apparatus are capable of implementation in other embodiments and of being practiced or of being carried out in various ways. Examples of specific implementations are provided herein for illustrative purposes only and are not intended to be limiting. In particular, acts, elements and features discussed in connection with any one or more embodiments are not intended to be excluded from a similar role in any other embodiments.

Also, the phraseology and terminology used herein is for the purpose of description and should not be regarded as limiting. Any references to embodiments or elements or acts of the systems and methods herein referred to in the singular may also embrace embodiments including a plurality of these elements, and any references in plural to any embodiment or element or act herein may also embrace embodiments including only a single element. References in the singular or plural form are not intended to limit the presently disclosed systems or methods, their components, acts, or elements. The use herein of "including," "comprising," "having," "containing," "involving," and variations thereof is meant to encompass the items listed thereafter and equivalents thereof as well as additional items. References to "or" may be construed as inclusive so that any terms described using "or" may indicate any of a single, more than one, and all of the described terms. Any references to front and back, left and right, top and bottom, and upper and lower are intended for convenience of description, not to limit the present systems and methods or their components to any one positional or spatial orientation.

Device Examples and Configuration Options

Various aspects, including the integration between the user interface, its views, and navigation options are further illustrated in the user device itself. According to one embodiment, the user interface and the visual representations that comprise the interface are configured to be responsive to the physical configuration of the user device. In one example, the view presented to user is configured to be responsive to the mode/configuration of the device.

According to one aspect, systems and methods are provided for simplifying the presentation of multi-media features and options into an integrated and streamlined presentation format. Streamlining presentation includes reducing the number of options that a user must navigate/configure in order to take advantage of new systems and features, simplifying the process of adoption and education. In one embodiment a system is provided with only the physical components necessary to achieve streamlined presentation of both operating system features and integration of third party services. For example, a streamlined hardware device provides for (in comparison to typical desktop and laptop systems) a reduced user input platform as a first I/O profile, comprising in one configuration a scroll wheel and a button interface. Other I/O profiles are available for user selection by manipulation of the device itself. In one embodiment, an easel mode presents the user with the first I/O profile and by rotating the computer device about a longitudinal axis; the user may select a second I/O profile, including a keyboard. The transition from one I/O profile to another may also cause the computer device to alter its display. In one example, the user interface provided to the user is responsive to selection of device mode and/or selection of I/O profile.

It is to be appreciated that reducing the number of I/O device achieves simplicity of design and ease of operation by the user, and at the same time may increase the complexity of the graphical user interfaces needed to support interaction with systems and third parties that anticipate, rely on, or expect additional I/O devices. Streamlining device operation by the user is balanced against sophistication of user the interface required to enable user interaction with the same features used with additional I/O devices. According to one embodiment, the user interface layer provides simplified accessibility based on the device's I/O platform, and for some embodiments, the user interface layer is responsive to device configurations that change the device's I/O capabilities. In other embodiments, the user interface is responsive to changes in the device's mode. In some examples, changes in device mode and changes I/O profile will occur together, however, in other examples a change in mode or a change in I/O profile will not require a corresponding change in profile or mode respectively.

One example of a streamlined device includes a portable computer that is configurable between a laptop mode (in which the portable computer has a conventional laptop appearance) and an easel mode in which the base of the computer and its display component stand upright forming an inverted "V," as discussed further herein. Certain aspects and embodiments are directed to a portable computer that is configurable between different operating modes, including a laptop mode (in which the portable computer has a conventional laptop appearance), a flat mode, a frame mode, and an easel mode in which the base of the computer and its display component stand vertically forming an inverted "V," as discussed further herein. Reference to modes of the computer, modes of the device and intended to include the physical configuration of the portable computer/device.

The portable computer is capable of different display formats and functionality in the different modes, and includes a graphical user interface that may work seamlessly with the computer hardware to provide a unified, comfort-

able, holistic user experience. In particular, the portable computer may provide access to a wide array of functions, both those traditionally provided by computing devices and those traditionally provided by other passive information devices. For example, the hardware and software, including the graphical user interface, of the portable computer may be focused toward providing access to entertainment media, such as audio and video (e.g., playing music, streaming video, viewing photographs, etc.), email, and internet, while also providing state-of-the-art computer processing capability.

Referring to FIG. **1**, there is illustrated one example of a portable computer according to aspects of the invention. In FIG. **1**, the portable computer **100** is illustrated in the "laptop" mode, with the display component **102** inclined at a viewing angle from the base **104**. The display component **102** is pivotably coupled to the base **104** by a hinge assembly (not shown) that allows the display component to be rotated with respect to the base. The hinge assembly may include a single or multiple hinges, which may be any of a variety of hinge types, including, but not limited, to single-axis hinges, multiple-axis hinges, geared hinges, etc. In one example, the hinge assembly allows the display component **102** to be rotated (or tilted) about a longitudinal axis **101** running along an interface between the display component and the base **104**, as illustrated in FIG. **1** and discussed further below. The base **104** includes a keyboard **106** and internal electronic components (not shown), such as a central processing unit, memory, and other components necessary to operate the portable computer, as known to those skilled in the art. In some embodiments, the base **104** may also include a touch pad **108** or trackball (not shown) for receiving user commands, as known to those skilled in the art.

Still referring to FIG. **1**, the display component **102** includes a display screen **110**, and may also include a camera **112**, microphone **114**, and infrared receiver **116**, as discussed further below. It is to be appreciated that the locations of the camera **112**, microphone **114** and infrared receiver **114** are not limited to the example illustrated in FIG. **1**, and may be placed in other locations on the display component **102** and/or base **104**, as would be recognized by those skilled in the art. The display component **102** may also include cushions **118** that provide soft contact points between the base **104** and the display component **102** when the portable computer is closed. In one example, the cushions **118** are made of rubber. However, it is to be appreciated that the invention is not so limited, and the cushions **118** may comprise materials other than rubber, including, for example, a polymer, felt, or other suitable materials as would be recognized by those skilled in the art.

Referring to FIG. **4**, there is illustrated an example of the portable computer **100** configured into the easel mode. To convert the portable computer **100** from the laptop mode (or closed position) into the easel mode, the display component **102** may be folded away from the base **104**, in the same direction as to open the computer (i.e., to configure the computer from the closed position into the laptop mode) such that the base **104** and the display component **102** form an inverted "V" shape with the bottom of the base and the back of the display component face another, as illustrated in FIG. **4**. In the easel mode, the display screen **110** is visible and accessible on one side of the portable computer **100** and the keyboard **106** (not shown in FIG. **4**) is visible and accessible on the other side.

As illustrated in FIG. **4**, in one embodiment, the portable computer may comprise integrated hardware volume controls, including a volume control button **294** and a mute button **296**. In one example, the volume control button **294** may be a rocker switch that allows a user to easily increase or decrease the volume of audio played through the speakers **128**. When the user presses the volume control button **294**, a volume indicator may temporarily appear on the display screen **110**, to provide a visual indication of the amount by which the volume is being increased or decreased. Similarly, pressing the mute button **296** may cause a visual indication that the volume is muted to appear on the display screen **110**.

According to one embodiment, when the portable computer **100** is configured into the easel mode, the visual display on the display screen **110** is automatically rotated 180 degrees such that the information appears "right-way-up," even through the display screen is upside-down compared to when the portable computer is in the laptop mode. Thus, a user may simply "flip" the portable computer **100** into the easel mode and immediately be able to comfortably view information on the display screen **110**, without having to access display screen controls to adjust the orientation of the visual display. In one embodiment, the portable computer **100** includes an orientation (or mode) sensor that is configured to detect whether the portable computer is in the laptop mode or the easel mode, and to adjust the display accordingly. The orientation sensor may be incorporated into the base component **104**, for example, underneath the keyboard **106**, or into the display component. In one example, locating the orientation sensor in the display component **102**, rather than the base **104**, may provide more robust detection and therefore, may be presently preferred in some embodiments. The orientation sensor may be used to determine a precise relative orientation of the base component **104** with respect to the display component **102**, or vice versa, for example, to determine whether the device is in the laptop mode, easel mode, or some point in between the two modes. In one example, the orientation sensor includes an accelerometer whose output is fed to the computer operating system (or to dedicated logic circuitry) which then triggers a display inversion as appropriate.

According to one embodiment an accelerometer is used to detect a configuration of the portable computer, although, it is to be appreciated that other sensors and devices may be used to determine a configuration. According to another embodiment, the portable computer may include integrated "navigation" hardware that allows a user to easily and comfortably control various features and functions of the portable computer, to manipulate content displayed on the portable computer, and to interact with visual representations of content display in a user interface. For example, as discussed above, the portable computer **100** may comprise a scroll wheel **132** that allows a user to control, adjust and/or select various functionality of the portable computer. According to another embodiment, the scroll wheel **132** may be used to provide "hardware navigation" through information, such as menus, icons, etc., displayed on the display screen **110**, as discussed further below with reference to FIG. **17**. A common display configuration used in conventional computers is a "desktop" view in which multiple icons representing links to various programs or applications are displayed over a background image. Navigation may be conventionally performed using a mouse, touch pad or trackball, as known to those skilled in the art.

According to another embodiment, the portable computer **100** includes a streamlined graphical user interface that supports "map" navigation. The map user interface provides a clear overview of the entire computing environment and searching capability within the environment that may be accessed using the scroll wheel **132** and, optionally, one or

navigation buttons **166**, **168** that may be provided on the base **104** of the portable computer **100** (button **166**) and/or in the keyboard **106** (button **168**), illustrated in FIG. **17**. In one embodiment, the map mode of navigation is a hierarchical mode that reduces the number of items to select amongst at any stage of navigation, thereby facilitating user access with the scroll wheel **132** and, optionally, the navigation button(s) **166**, **168**. Of course, it is to be appreciated that the map user interface may also be navigated using conventional tools, such as a trackball, touchpad, mouse or arrow keys.

Referring to FIG. **11**, there is illustrated a block diagram of one example of an architecture of the portable computer including a map user interface. The user interface "home" screen **170** that displays a plurality of modes of content **172**. In the illustrated example, the home screen **170** contains five modes of content **172**; however, it is to be appreciated that the home screen may include more or fewer than five modes of content and that the modes of content may differ from the examples discussed below. According to one example, the modes of content **172** accessible via the home screen **170** may include "media" **172***a*, "connect" **172***b*, "web" **172***c*, "applications" **172***d*, and "channels" **172***e*. Using the map user interface, information, programs, features and applications may be grouped into the various modes of content **172**. By selecting any mode of content **172**, for example, by using the scroll wheel **132** and/or navigation buttons **166**, **168**, as discussed further below, the user may access the content organized within that mode.

For example, the media mode **172***a* may provide access to a medial player to play, view, search and organize media such as music, video, photos, etc. The connect mode **172***b* may provide access to features such as, for example, email, voice-over-IP, instant messaging, etc., and the web mode **172***c* may provide access to internet browsing and searching. The application mode **172***d* may provide access to, for example, computer applications or programs, such as word processor, spreadsheet, calculator, etc. In one example, these applications or programs may be provided as web-based services rather than programs or applications residing on the portable computer **100**. The channels mode **172***e* may provide access to different functionality of the portable computer, with the different functions or features defined as different channels. For example, a channel may include an alarm clock channel in which the portable computer is configured to display a clock and can be programmed to activate an alarm, e.g., a sound, piece of music, etc., at a predetermined time. Another example of a channel may include a "photo frame" channel in which the portable computer may be configured to display a pre-selected image or set of images, etc. Another example of a channel is a "television" channel, in which the portable computer is configured to stream Internet television. In one example, a user may configure particular Internet television channels (e.g., a news channel, a movie channel, a home and garden channel, etc.) into sub-channels within the channels mode of content **172**(*e*). Some or all of the modes of content **172** may access, retrieve and/or store information on the Internet **174**.

Typically streamlined devices are integrated with remote content storage and/or access, shown at **174**. The integration may be provided through third party service providers, in one example photo service FLICKR is integrated with various aspects of the device and/or the device's user interface to provide seamless access to photo content stored by the third party provider. The integration with remote storage services permits reduced storage capacity on the user device, for example, a portable computer. Other services may be integrated including for example GOOGLE DOCS, for word processing and other office related applications provided on-line. Reducing and/or eliminating the need for non volatile memory in the computer system is advantageous in that the device itself may be reduced in complexity and any associated cost. In some embodiments, a streamlined device doe not incorporate a hard disk drive for storage, providing for any local storage requirement through RAM and Flash memory.

According to one embodiment, the different modes of content **172** may be displayed as a series of bars across the display screen **110**, as illustrated in FIG. **12**. The following discussion of various features, including hardware navigation through the map user interface may refer primarily to the display configuration illustrated in FIG. **12**. However, it is to be appreciated that the invention is not so limited, and the modes of content may be displayed in other configurations, including, for example, a "desktop" and icon configuration, a "dashboard" type display, as illustrated in FIG. **13**, or another configuration, as would be recognized by those skilled in the art. Similarly, navigation is discussed below primarily with reference to the scroll wheel **132** and navigation buttons **166**, **168**; however, it is to be appreciation that navigation may also be accomplished using any of the conventional tools discussed above or known to those skilled in the art.

As discussed above, according to one embodiment, the scroll wheel **132** and, optionally, the navigation buttons **166**, **168** may be used to navigate the user interface. Referring again to FIG. **12**, scrolling the scroll wheel may sequentially highlight different ones of the modes of content **172**. In one example, the highlighting may be achieved by changing the color of the selected mode, and/or by providing a visual indicator, such as a colored bar **176**. A highlighted mode **172** may be selected by pressing the scroll wheel, thereby bringing up a new "page" or screen on the user interface corresponding to the selected mode. Once within a selected mode of content **172**, the scroll wheel may similarly be used to select particular functions, features or applications within that mode. In one embodiment, the default action for the scroll wheel **132** may vary depending on whether the portable computer **100** is in the laptop mode or the easel mode. For example, in easel mode, the default action for the scroll wheel may be channel selection within the channels mode **172**(*e*). In one embodiment, the scroll wheel **132** may be depressible as well as scrollable. Thus, pressing the scroll wheel **132**, as illustrated in FIG. **4**, may allow further control, such as, for example, selecting a channel onto which the user has scrolled, or "play" and "pause" of audio or video being played through the portable computer **100**.

As discussed above, according to one embodiment, one or more navigation buttons may be used in conjunction with the scroll wheel. In particular, in one embodiment, the navigation button(s) may be used to change the action of the scroll wheel. As discussed above, in one example, the default action of the scroll wheel is volume control. This action may be changed by pressing the navigation button **166**, as illustrated in FIG. **4**, for example, from volume control to menu navigation in the user interface, and vice versa.

According to one embodiment, the effect of pressing the navigation button **166** may vary depending on active the mode of content of the portable computer **100**. For example, if a user is in the media mode using a photo viewing application, pressing the navigation button **166** may change the action of the scroll wheel **132** from mode navigation to slideshow controls for the photos. When the navigation

button **166** is pressed, an control indicator box (similar to the volume indicator box **162** discussed above with reference to FIG. **14**) may appear containing different actions for the photo slideshow, such as "play," "next," "back," "skip," "full screen view," etc., and scrolling the scroll wheel **132** may allow a user to select one of these actions. Pressing the navigation button **166** again may return the scroll wheel action to menu navigation, to allow the user to, for example, move to a different feature or application within the active mode, or to select a different mode.

As can be seen in FIG. **4**, the navigation button **166** may be easily accessed when the portable computer **100** is in the easel mode, providing a convenient navigation tool for this configuration. A similar navigation button **168** may be provided on the keyboard **106**, as illustrated in FIG. **17**. In one example, the functionality of the two navigation buttons **166**, **168** may be the same, with the different locations providing easy, comfortable access in the different configuration modes (i.e., laptop or easel) of the portable computer **100**. Thus, a user may use either navigation button **166** or navigation button **168**, depending on personal preference. In another example, the two navigation buttons may have different functionality. For example, the navigation button **166** may be used to alter the action of the scroll wheel **132**, as discussed above, while the navigation button **168** is used to navigate "up" or "down" a level within the map user interface. For example, pressing the navigation button **168** while within a given mode of content may allow the user to "back up" to the home screen; or pressing the navigation button **168** while within a selected channel (in the channel mode of the content **172***e*) may allow the user to "back-up" to the channel mode main page.

It is to be appreciated that numerous variations on the functionality of the navigation buttons **166**, **168** is possible, as would be recognized by those skilled in the art, and the above examples are given for illustration only and are not intended to be limiting. In addition, any functions described with reference to one navigation button (**166** or **168**) to may be instead (or additionally) implemented with the other navigation button. In one example, the function of the navigation buttons **166**, **168** may vary depending on whether the portable computer **100** is configured into the laptop mode or the easel mode. For example, only the navigation button **166** may be active in the easel mode, and only the navigation button **168** may be active in the laptop mode. Alternatively, both navigation buttons **166**, **168** may be usable in either the laptop mode or the easel mode, but their functionality may vary. For example, when the portable computer **100** is in the easel mode, the default action for the navigation button **166** may be channel selection whereas the default action for the navigation button **168** is to access the "home" screen. Furthermore, the portable computer **100** is not limited to the use of two navigation buttons and may instead comprise only a single navigation button or more than two navigation buttons, any of which may be disposed in the locations described above (e.g., on the rounded portion **120** of the base **104** or on the keyboard **106**), or in other locations on the portable computer.

As discussed above, according to one embodiment, the function or display content and/or display orientation of the portable computer may vary when the portable computer is configured from the laptop mode into the easel mode, or vice versa. For example, as discussed above, when the portable computer **100** is configured into the easel mode, the visual display on the display screen **110** is automatically rotated 180 degrees such that the information appears "right-way-up," even through the display screen is upside-down compared to when the portable computer is in the laptop mode. In another example, for at least some activities within at least some modes of content (e.g., viewing a photograph or video), when the portable computer **100** is configured into the easel mode, the display may automatically adjust to "full screen view" (i.e., the displayed image or video is displayed on the full screen size, rather than in a window) to allow for comfortable viewing.

In addition, as discussed above, the ability to configure the portable computer **100** into either the laptop mode or the easel mode provides enhanced functionality. For example, when the portable computer **100** is not being actively used, the user may configure the portable computer into the easel mode, and program the portable computer to act as a digital photo frame, displaying one or more photos of the user's choice. In the easel mode, the portable computer **100** may occupy a smaller footprint on a surface than in the laptop or closed modes because the base **104** and display component **102** are upright, as illustrated in FIGS. **4** and **5**. In addition, because the portable computer can act as a passive information and/or entertainment device, such as a photo frame or clock, as discussed above, the portable computer may provide a useful function even when not being actively used by the user, and may do so (in the easel mode) without taking up much surface area.

It is to be appreciated that although the portable computer **100** is often referred to as being in either the laptop mode or easel mode, other modes or configurations are also possible. For example, as discussed above, because the portable computer **100** can be configured from the closed position, through the laptop mode into the easel mode by rotating the display component **102**, a number of configurations are possible in between "true" laptop mode and "true" easel mode. Each different configuration may invoke different functionality and provide a user with a different aspect of a graphical user interface.

In another example, the portable computer **100** may be configured into a "frame" mode, as illustrated in FIG. **26**, in which the portable computer is placed on a surface **212** with the keyboard **106** "face down" on the surface **212** and the display **110** facing upward. In the frame mode, the display component **102** may be at a similar orientation, and angle **134**, with respect to the base component **104** as in the easel mode. However, rather than the base component **104** and display component **102** being oriented vertically with respect to the surface **212**, as in the easel mode (in which the portable computer forms an inverted "V" as discussed above), in the frame mode, the base component **104** may lie flat on the surface **212**, as shown in FIG. **26**. In one example, software and/or hardware protection may be provided for the keyboard to prevent keys from being pressed (or to prevent the portable computer from responding to pressed keys) when the portable computer is in the frame mode.

Similarly, referring to FIG. **27**, there is illustrated another configuration of the portable computer **100**, referring to as the "flat" mode. In the flat mode, the display component **102** may be rotated (or opened) to approximately 180 degrees with respect to the base component **104**, such that the base component and display component lay flat on a surface, with the keyboard **106** and display screen **110** exposed, as shown in FIG. **27**. Unlike the easel and frame modes, in which the keyboard may be concealed and not easily accessible, in the flat mode, the keyboard is accessible and usable. In addition, as discussed above, the visual display on the display screen **110** may be automatically rotated to accommodate comfortable viewing of information by persons located in different positions relative to the base component **104** or display

component **102**. The visual display on the display screen **110** may also be manually adjusted by a user using, for example, the keyboard **106**, touch pad **108** or mouse (not shown), scroll wheel **132** or navigation buttons (not shown). For example, if a user (located at position A) wishes to display information for a person located opposite the user (at position B), the visual display may be rotated (automatically or manually) 180 degrees such that the information appears "right-way-up," to the person at location B, even through the display screen **110** is upside-down for that person. Similarly, in another example, the visual display may be rotated (automatically or manually) 90 degrees such that the information appears "right-way-up," for a person at location C. In one example, a user can "toggle" the visual display among various orientations. For example, a user at location A may have the visual display facing themselves while using the keyboard **106** or other controls to change or access information on the display, then toggle the display orientation 180 or 90 degrees to display the information for persons at locations B or C.

According to another aspect, system and interface streamlining may be employed with devices of multiple configurations. In some embodiments, multiple configurations include a traditional configuration, for example, a configuration similar to a laptop device, and also include new configurations, for example, an easel mode. Some examples of streamlined devices have the ability to change between traditional configurations and other configurations. The change between configurations may change the I/O profile of the device and hence impact the user's interaction with the device itself and any content displayed on the device. In one embodiment, the user interface is responsive to changes in configuration. In another embodiment, the user interface is responsive to changes in I/O profile.

According to another aspect, the streamlining of the user's multi-media experience incorporates the device the user uses to interact with multi-media sources, whether the sources are on-line or provided by the device itself. Streamlining of the device includes developing consistent user interfaces for the user to access all features presented. The device's graphical user interface layer is customized to the I/O interfaces provided. In one example a device is provided in the form of a portable computer configurable between a laptop mode (in which the portable computer has a conventional laptop appearance) and an easel mode in which the base of the computer and its display component stand upright forming an inverted "V," a closed mode, a laptop mode, an easel mode, a flat mode and a frame mode. According to one embodiment, each of the display modes may employ different I/O profiles.

Some of the aspects may be better understood through the use of examples demonstrating the interactions between a system, the system user, the interfaces provided, and the accessed content. The user experience is improved through simplification of the interactions with the user device—depending on the device's configuration the only activity required by the user may be to use a scroll wheel to identify selection and a button to execute the selection. Moreover, the user experience is enhanced by permitting the user to select the I/O profile s/he is most comfortable with and even select multiple I/O profiles or device configurations depending upon the context presented to the user. It is to be appreciated that adaptations to the user interface layer that maintain consistency while permitting different I/O profiles should be viewed as part of the invention.

The examples of user interactions are provided for the purposes of illustration and should not be viewed as limiting the invention to the interactions described, nor the specific presentations discussed, and it is to be appreciated that other interactions are appropriate and even desired in different circumstances. Additionally, different configurations of the device itself will provide for different user interactions, for example, based on additional hardware not available in another configuration.

Examples of User Experience

In one example, some typical user interactions with electronic content are illustrated. The user interactions occur in accordance with various aspects of the systems and methods for streamlining user interaction with electronic content. In some embodiments, the streamlined device is adapted to accommodate multiple users. In one embodiment, the user identifies him/herself to the device by entering a user name and password. Once the user name and password is accepted the user may begin interacting with the device, and if desired through the device to other content. According to another embodiment, the device may display a "users" screen, incorporating a visual representation for each user. In response to selection by the user of the visual representation the user is identified. Identification may optionally include a password challenge/response after selection of the visual representation. In some embodiments, a camera is available through the user device, and the user's visual representation may be generated by taking a snapshot of the user.

In one embodiment, that act of identifying includes access to remote storage associated with the device and/or the user. Remote storage is accessed to retrieve any global profiles that may exist for the user, and more specifically, any changes that may have been made to the user's global profile. In some embodiments, a local copy of any profile is stored on the device, and the remotely stored profile is used to identify any changes. Changes to profiles may be copied to the remote location or changes in the profile may be retrieved from the remote location. In one example, the local and remote profiles are associated with a revision date. The most recently revised profile may be used as the most up to date profile, with a different version receiving modification as necessary to correspond.

In one alternative, a remote profile may be maintained for the device itself. In another, the device profile may contain information on a number of users. In some embodiments, remote access is used to retrieve configurations and/or settings maintained for any of the device, the user, and groups of users, alone or in combination. According to one aspect, remote storage and/or remote access to user configuration comprises one element of an example system for streamlining user interaction with electronic content.

Once a user is identified (identification may occur by default if only one user has accessed a particular device) the graphical user interface presents a default view of the electronic content available on the device. In one embodiment, the view presented is responsive to the configuration of the device. According to some embodiments, device configurations may be determined using a sensor embedded in the device. In one example, a sensor is used to provide a signal and from the signal the device's orientation is determined. Alternative methodologies are employed in other embodiments for detecting and determining a device's configuration. In one alternative example, I/O devices may be enabled/disabled based on the physical configuration of the device. For example, during a transition from laptop mode to easel mode, various I/O devices that become inaccessible may be deactivated. Determining what I/O devices are still active and/or available permits identification of the device's configuration. In other embodiments, an accelerometer may

be used to detect a device configuration. In one example, a device may be a portable laptop computer. The portable laptop computer may have multiple configurations, including a laptop mode, an easel mode, a frame mode, a flat mode and a closed mode.

In the illustrated example, FIG. **1**, the user device is configured in a laptop mode, and has an I/O profile (a set of I/O devices) that one would normally associate with a laptop computer. In this example, the I/O profile includes, in some embodiments, a keyboard, a touch pad, buttons, web cam, and a scroll wheel. The graphical user interface is configured to present a default view that provides the user with contextual options. In this example the present context for the user includes "lean forward" viewing and the computer operations one would typically associate with user of a laptop. Other contexts arise based on configuration of the device (for example in Easel mode) and the computer tasks the user wishes to perform. For an indentified context a default is provided for the user eliminating the requirement of making configuration choices, however, the user is still permitted to accesses the configuration directly to customize it.

Shown in FIG. **2**, is an example of a page of the device's home view (**200**). The home view organizes user interface elements into a mapped based presentation and separates the presentation into logical units based on a single displayed screen, i.e. a page. One function provided by the home view is to serve as an organization of interface elements and/or navigation tools that maps visual representations of available content into a plurality of views of the available content. The home view is also configured to present summarized views of information to the user, so as to reduce the volume of information that a user needs to process in order to access content. In some embodiments, the mapped based interface is also configured to group like computer operations into a section of the map. Typically, grouped selectable computer content includes mappings to other groupings of lower level functionality. For example, high level navigation options are, typically, first presented to the user. The high level navigation options provide a summarized view of the available content, making content based selections easy to appreciate and accomplish. A user selects a high level navigation operation to navigate to more detailed operations. In some embodiments, the more detailed operations are grouped based on a mode of content. Modes of content may include for example, media, channel, connection, application, and web, among other options.

According to one embodiment, high level functions and low level functions are to segregated based on proximity to displays of sources of digital content. For example, a visual representation that maps to the source of digital content is included in a lower level of functionality than the view that organizes the presentation of the visual representation. A view that presents the digital content source itself, is grouped at a lower level than the visual representation that maps to the digital content source. In another embodiment, interfaces that provide navigation operations to digital content form a layer of the graphical user interface, and interfaces that provide interaction options to digital content form a lower layer. In one embodiment, the home view includes maximal display thresholds configured to improve the ability of the user to absorb the information presented. In some embodiments, a maximal number of visual representations per screen is set. In one example, the maximal number of visual representations is used to define a GUI page. In another example, the maximal number of visual representations is associated with a maximal number of full view visual representations, and the page is configured to include portions of views of other visual representations available on adjacent pages. A computer operation that would cause the computer device to exceed the maximal number results in the creation of a new display page. The home view is organized into as many pages are required in order to maintain the maximal threshold of display items.

Typically, the home view is configurable by the user. New items may be added, existing items may be moved and/or removed based on user selection. The home view further comprises some visual representations that can not be removed. Commonly requested system operations have visual representation displayed on the home view that can not be deleted. According to one embodiment, a user may reorganize the display but not remove system operations. For example, visual representations that map to system operations (e.g. communication configuration and hardware configuration) cannot be remove from the home view. Additionally, some system operations will always be displayed through the home view regardless of frequency of use. Positioning of visual representation is also organized and managed in the home view. Preferably, organization and/or management occurs automatically based on default settings selected for the user. Alternatively, organization and/or management may occur dynamically. For example, a user may make changes to organization and/or management settings on the fly. In another embodiment, default settings control organization and/or management, and an interface is provided to permits a user to makes any changes to the default settings. And in another embodiment, a user may be queried on preferences, the responses are used to establish defaults for operation.

In some embodiments, frequency of use of the visual representations is used to sort the presentation of visual representations on the home view. More frequently accessed visual representations are displayed at a higher position on a page and less frequently accessed representations are displayed at a lower position on the page, and may cause the computer device to display the visual representation on another page.

In a typically configuration, visual representations are organized based upon creation time, although certain visual representations take precedence in the display. According to one aspect, display precedence is established from left to right and from top to bottom. In one embodiment, the visual representation displayed in the upper left portion of the display screen is associated with the highest precedence. Precedence in the display may be influenced and even ignored with respect to certain system operations and the visual representations that map to them. For example, a visual representation mapping to display for a user's bookmarks may appear in the upper left corner. According to one embodiment, the positioning of the familiar option relating to bookmarks as the visual representation of the highest precedence provides users with an option familiar to traditional use of computer systems. Although presented as a streamlined interface element, the bookmark visual representation is configured to evoke familiarity in the typical computer user.

According to another embodiment, the visual representation that maps to the computer functionality for creating interacting with a new web page is the only representation that has a fixed position, relative to the display precedence. In one example, the element for triggering interaction with a new web page is always display in the bottom right corner. The other visual representation may be reshuffled based on frequency of use, and in other embodiments a user may also

reshuffle the visual representation by drag and drop procedures, however the element for triggering interaction with a new web page remains in the bottom right corner, and in one example, will move to a new page in response to a request to display an new web page element when the element is already displayed in the bottom right corner of a page. Drag and drop operations may be associated with a drag threshold. In one example, a drag threshold is applied to require a small movement of the identified card before the device executes the drag operation. The drag threshold may be measure on the order of pixels, and may be any number of pixels that prevent accidental dragging in response to the user attempting to click on a card. In one embodiment, the drag threshold is set to 5 pixels. Other thresholds may be used, 2, 3, 4, 6, . . . pixels as examples.

Other display precedence may be employed. For example, display precedence may be configured based on user location and language convention for the user location. The en English language is read from left to right and from top to bottom; however, other languages are not. According to some embodiments, display precedence and any corresponding animations are configured to correspond with the conventions of the local language, for example displaying from right to left.

Referring again to FIG. **2**, shown is an example of a page of the home view, with user interface elements organized to present the user with summary information of available content. Shown in FIG. **2**, at **202**, is a representation of picture and video content available to the user. At **204**, a visual representation of customized content is available. The customized content (discussed further herein) comprises rss items from a web location distributing via an rss feed. In example shown, **204**, comprises a channel card. The channel card is configured to allow easy interaction with a plurality of rss items, and further configured to be responsive to both lean forward interactions and lean backward modes of interaction. The other user interface elements include, for example, visual representations of web based content, specialized user interface elements for providing customized interaction with web based content in the form of channels, and system elements.

A typical activity for any user includes reading his/her email. The user may observe an e-mail from for example, the user's credit card company, Chase. The home view (**200**) is the default vehicle through which a user interacts with the device and with electronic content displayed on the device. The home view presents an organization of other interactive elements (**202-216**). Accessing e-mail occurs in response to selecting the visual representation (**208**) that maps to YAHOO! MAIL content. Upon selecting (**208**) the device executes a mapping from the visual representation to the content and in response the device presents a first view of the mapped content. According to one embodiment, in response to selection of a visual representation mapping to content of web page a web page view is displayed. The web page view is a zoomed in expression of the web based content mapped by the visual representation.

Once a user reaches the web page view (**300**) FIG. **3**A, the user may interact with the content shown. Although it is to be appreciated that other representations may mapped to different views, and different view may be used to map to further views. (**302**) shows an e-mail being reviewed by the user, and more specifically an e-mail from Chase Bank indicating that the user's credit card statement has issued. The body of the e-mail (**304**) includes a link (**306**) for accessing Chase's website. Selecting the link invokes an open new page view operation by default, and in response to selection of (**306**) the user sees an animation returning the user to the home view (**200**). The visual representation for "Browse the web" (**214**) reveals the creation of a new visual representation for accessing web content (**216**) by sliding away from a new visual representation the takes the former place of (**214**). The computer system displays an animation that shows the computer display zooming into the page view (**300**) of element (**214**), shown in FIG. **3**B. The user logs in and reviews his/her balance, shown in FIG. **3**C at (**350**). The web page view further comprises navigation element (**352**). The user selects (**352**) to return the home view (**200**), selects (**216**) to access a new web page and in response a new web content visual representation is created, further the device shows the display zooming into the new content.

FIG. **5** displays a quick access view (**500**). As the new card has not yet been mapped to content, the device displays content options in order to generate a mapping. In one example, the content options may be based on frequency of access. Shown at (**502**) are visual representations generated from the most frequently visited content. Selecting any of the visual representations in the body (**502**) causes the device to associate the mapping with the new card and zoom into the selected content display. At (**504**) provided as an element of the view's header (**506**) is a bookmarks control. Through (**504**) bookmarks control a user may access content not display in the frequency list (although a user may also enter a uniform resource identifier at (**508**).

In response to the selection of bookmarks a list of bookmarked content is displayed for selection, FIG. **6**, **600**. Upon selecting (**602**) a mapping to the bookmarked content is associated with the new visual representation. In one alternative, a user may enter a uri for a online source to associated with a new visual representation. The computer zooms into the selected content and in this example, displays the web page view for (**602**). Bank of America's (BOA) web site, shown in FIG. **7**A at (**700**). The user logs in at (**702**) and is able to pay the Chase bill just reviewed, shown at FIG. **7**B, (**700**). Having visual representations mapped to content available, improves the user's ability to transition between content views. By selecting the navigation element (**752**) the user is returned to the home view, FIG. **8**, (**800**), showing the visual representation (**802**) mapped to Chase's web page content and the newly created visual representation (**804**) mapped to Bank of America's web site content. Selecting (**802**) returns the user to the Chase content with the user's state preserved from the last visit, FIG. **3**C, (**350**). The user is able to immediately review the statement balance, and by selecting navigation element (**352**) return to the home view (**800**) select (**804**) and enter the amount due for the Chase credit card at (**754**).

It is to be appreciated that visual representations mapped to computer content facilitate transitions between content, and further by providing state preserving representations a user is able to quickly retrieve and employ information learned from content.

According to another aspect, the selection of a new visual representation is configured to employ a timer. According to some embodiments, the timer is configurable based on user selection, so that the animation may take longer, shorter, and in some embodiments the user is permitted to disable the animation entirely—in one example this is accomplished by setting the timer to allow 0 seconds for the animation, in another example the animation is simply disabled. In some embodiments, the timer is configurable by the system. Over the course of use, the allotted time may be reduced by the system automatically. Once a user has reached a certain time on the streamlined device, the animation may be automati-

cally disabled by the system. For some embodiments where the timer may be configured based on time of use, different timers may be employed for different user profiles. Thus an experienced user may no longer see the animation, whereas a novice user on the same device would see an extended version of the animation.

Graphical User Interface

Referring again to FIG. **11**, there is illustrated a block diagram of one example of an architecture of the portable computer including a map user interface. The user interface "home" screen **170** that displays a plurality of modes of content **172**. In the illustrated example, the home screen **170** contains five modes of content **172**; however, it is to be appreciated that the home screen may include more or fewer than five modes of content and that the modes of content may differ from the examples discussed. It should also be appreciated that different architectures may be invoked in response to different device modes. For example, a portable computer in laptop mode may display a home view as discussed with respect to FIG. **11**, when configured in Easel mode, user is presented with a Channel View. Shown with respect to FIG. **23** is an example of a portable computer set in Easel mode, displaying a channel view. The Channel view may also display a plurality of modes of content. In FIG. **23** shown are visual representations of content (**2304-2308**) with associated mappings.

According to another aspect, streamlining the presentation and integration of features and services includes simplifying the I/O devices that a user needs to operate in order to access features of the computer system and the features of any available service. According to another aspect, streamlining includes developing consistent visual representations of available content (whether on the computer system itself or from service providers). In another aspect, the organization of interactive elements and responsiveness of the organization to navigation options, device configurations, and user preferences improves the user's ability to interact with the computer system and its content. In one embodiment, system features and web features are consistently presented as cards for the user to interact with to achieve their computer objectives. In some embodiments, cards comprise part of an interface layer between a computer user and a user's computer based objective and/or computer operation. In some embodiments, the number and type of cards are presented in as few as three classes and/or types. Each card for example may be similar in aspect to the other, but each performing a different class of function on the computer system.

Referring to FIG. **9**, shown is a conceptual model **900** of an example graphical user interface. As shown, in FIG. **9**, through a streamlined device **901** a user will interact will a number of views of computer based content. In example model **900**, depending on the device's configuration a user will be presented a home view **912** or a channel card view **914**. Conceptually **910** forms a layer of the mapped based user interface, wherein the layer is configured to organize, manage and display streamlined views to the device's user. Layer **910** organizes, manages and displays objects of layer **920**. Layer **920**, according to some embodiments includes cards **921** which are selectable visual representations that are mapped either to computer functions or available computer content. Cards further comprise web cards **922**, that map to views of web content including web pages; channel cards **924** that map to customized views of content including web based content and picture and video content; nascent cards **926** that map to system functionality; system cards **928** that map to system functionality; and shared cards **929** that can be any of the former discussed cards shared from another user and/or streamlined device. The card layer **920** maps either to computer functionality executed upon selection or additional views to provide interactive displays to the device' user, for example, the views illustrated in layer **930**. Page view **932**, according to one example, is a zoomed in expression of a web page. At **940** shown is another layer which includes a screen saver view, **942**. In one embodiment, the screen saver view is a passive view. In one example, the screen saver view may be activated by the computer system remaining idle for a period of time. In one embodiment, the screen saver view displays content from channel cards designated by a user in an options menu. In another embodiment, the screen saver view displays content from a pictures and video card. In another embodiment, the screen saver view displays content from a shared card.

According to one embodiment, channel card view **914** comprises a view of the channel cards that are available to a user, and in another embodiment includes a channel selector (not shown). The channel selector is a selectable display configured to be responsive to manipulation of a scroll wheel. In one example, the channel selector is configured to display a rolodex of available channel cards and manipulation of a scroll wheel flips through the visual rolodex. Selection of one of the channel cards invokes any of a channel page view **934**, content menu, and a channel card full view, depending upon the device's configuration, and in some examples the result is responsive to where on the card a selection was made. Various cards, depending on the content mapped to, may also provide other views for rendering and providing for user interaction with content, for example, time, **939**, album, **936**, and lens, **938** views. It is to be appreciated that the conceptual model illustrated in FIG. **9** is only one example of a conceptual model of the graphical user interface for streamlining user interaction with electronic content. Other conceptual models may be employed, for example only some of the layers may be employed, additional layers may be used, and different segmentations of the layers may be to provided.

According to one embodiment, a method of presenting a streamlined graphical user interface for a streamlined device includes an example process **5000**, FIG. **50**. Process **5000** provides for organizing a plurality of views and GUI elements into a consistent presentation for user interaction. At **5002** provided is a first visual representation for displaying multiple content modes mapped to a view of computer content. At **5004**, a plurality of visual representations are organized by type of computer operation. At **5006**, the graphical user interface presents higher level operations to users as a view including a group of visual representations. AT **5008**, a user is permitted to select from the group of visual representations to navigate to lower level functions provided by different views of computer content. At optional step **5010**, a user may be permitted to select from within different groups of visual representations to navigate to further lower level views of computer content.

According to another aspect, layers of the conceptual model are configured to respond to device configurations by defaulting and/or transitioning to different views based on device configuration. Typically a device configured in a laptop mode displays a home view, **912**, to a user as the default view. In response to a transition in mode between laptop and easel the computer transitions the computer display from the home view, **912**, to the channel view, **914**, as the default. A user may elect to change the default view, for example by selecting a navigation button that executes a return to the home view. In one example, **168**, FIG. **17**, is

configured to return a user to a home view in response to selection of **168**, when the computer display is not on the home view. In the home view, a user may invoke a channel card view, **914**, by manipulating scroll wheel, **132**.

Home View Embodiments

Referring again to FIG. **2**, shown is an example page of a home view, **200**. Home views according to various embodiments are configured to render consistent organization of elements of the graphical user interface. Each page rendered in home view comprises a home navigation tool **250**, a header **252**, and a web search box **254**. For home views which include multiple pages, a hint or cut out of adjacent displays are rendered at **256**, for example. Hint or cut outs of adjacent displays may also occur at the bottom of the display screen, the top of the display screen, and both top and bottom, where multiple adjacent pages are present. **250**, home navigation tool is responsive to the context in which it is executed. For example, the home navigation tool, **250**, when selected causes the computer to display the last accessed view before the computer displayed the home view. Where a user navigates to the home view, **200**, from a web page view, the selection of the home navigation tool **250** caused the computer to display the previous web page view. In other examples, the home navigation tool permits, toggling between other views and the home view, as illustrated in FIG. **9**, at **932-939** and/or **914**.

According to some embodiments, the web page view includes a navigation tool, **350**, FIG. **3**C, and in response to selection, causes the computer to display the home view, **200**. Other elements included in the home view, for example, header **252** are configured to provide consistency in the home view across pages and in some embodiments across the user interface. Each page of the home view, **200**, further comprises a body, **258**, in which cards **202-216** are displayed. The body is associated with a maximal display threshold. The maximal display threshold governs the number of GUI elements displayed per home view page. In one embodiment, the displayed elements may comprise cards, and the maximal display threshold is set to display twelve cards. In addition to the maximal number of displayed elements, the home view may also comprise indicators of adjacent content at **256**. The device generates a new page display for the home view, **2000**, in response to exceeding the maximal display threshold.

Home view **200** is the default view in laptop mode, and may be implemented as the default view in other device modes (e.g. frame, easel, flat modes). According to some embodiments, the home view is the primary mechanism for permitting users to access cards and navigation through content viewed on the device. In the home view a user can access open web sessions, view and manage their channels, initiate new web sessions, and launch other activities.

Cards, e.g. **202-216**, form comprises a plurality of types. Some card types are organized by function, some by content. The home view is comprised of various cards, each card providing access to computer based content. According to one aspect, cards can be thought of as the building blocks of the user interface, providing access to a plurality of views and/or content. Indeed, cards as elements of the GUI, are configured to be shared across users and across other streamlined devices. The ability to employ the features and functions of card based elements may be limited to streamlined devices, although cards to and settings may be shared with traditional devices.

Shown in home view **200**, are web cards **206**, **208**, and **216**, channel cards **204**, and **210**, further shown in home view **200** are special system cards that map to content and system operations, for example bookmark card **212**. The bookmark card **212** is configured to provide traditional computer operations associated with conventional systems and browsing methods. The bookmark card serves as learning tool, to provide features with which user are familiar in a new format that encourages further integration of card based interactions. According to one aspect, card interfaces are generated by a user for each web based interaction, eliminating the need for convention navigation in the form of bookmarks. Another example of a system card appears at **214**. **214** maps to functionality that when selected causes the computer system to execute a web card generation process. FIG.**10** illustrates an example generation process, **1000**. Example processes, **1000**, begins at **1002**, in response to selection of a card or embedded web link (e.g. **214** of FIG. **2**) that is associated with a mapping to functionality that generates a new web card. For example process **1000**, may be initiated from a page view of a web card in response to selection of link. According to one embodiment, the behavior of the streamlined device depends on instruction embedded within a selected link. In particular, the device in response to selection of a navigation link navigates to the identified location in the same page view. If the link encodes an instruction for open in new window and/or open in new tab, the device in response to selection generates a new card and displays the page view of the new card. Alternatively, defaults may be established for link handling, including a default for selection of a link contained inside an e-mail, which may default to a "new card" mapping, whereas in some embodiments, links directed to the same domain as the current view default to navigation functionality within the same window. In other words, in response to a selection of a link within a certain web-page, directing navigation to another location with in the same web page, the default functionality executed, caused the device to navigate to the selected location within the same window.

According to another embodiment, handling of web links may also be governed entirely by the settings contained in the selected link. For example, the device may execute process **1000** in response to execution of a link including the instruction to open in new window. The device may also execute process **1000** in response to execution of a link including an instruction to open in a new tab. In one embodiment, links without such references are processed by the web page view navigating to the linked location without invoking process **1000**, for example.

At **1002**, the mapping is executed and the computer device determines its state at **1004**. The state determination is configured to identify a current view setting for the device. Current view setting may be limited to an indication that the device is current showing the home view. At **1006**Yes, the device is currently showing the home view, and the device executes a card generation animation, at **1008**. In one example, the animation causes the device to display a browse the web card **214**, FIG. **2**, sliding away from a new visual representation the takes the former place of **214**. One the new card image is shown the computer display renders an animation the causes the user to perceive zooming into the newly created card at **1010**. Alternatively, it is determined that the device's current display is not the home view at **1006**NO. At **1012**, apparent motion relative to the user is rendered by the device to provide the appearing of zooming to the home display. Other animations may be employed to establish for the user the perception of motion to the home view. Once at the home view, process **1000**, proceeds as before.

According to one embodiment, the home view, FIG. **2**. **200**, is configured to manage and organize cards. The home view provides a simple and convenient mode of navigating through the features and content accessible through the device by organizing and managing cards.

Card Examples

According to some embodiments of systems and methods for streamlining user interaction with electronic content, visual representation that render computer operation and/or content in a consistent manner further comprise cards. According to one embodiment, cards may further comprise types, including web cards, which map to active web pages. In some embodiments, device configuration sensitive displays are provided through a graphical user interface. In some embodiments the device configuration sensitive displays include cards. Cards may come in a number of forms. In some embodiments cards may be classified according to the functionality that they provide to a particular user. For example, system cards provide and display computer system functionality that maybe frequently accessed during ordinary computer user and/or may be required for computer use. In some embodiments, web cards provide a user interface for web based content and/or web based activity. In some embodiments, channel cards provide additional features that enable a user to better interact with web based content, and in another example, channel cards provide interactive views by utilizing different content presentations provided by a web source. Consistent user interfaces provide an access layer to system and web based content. Consistent user interfaces are used to access web based content, and even content and applications provided by third parties.

In one example, a web card presents a thumbnail view of the current state of the web page. In another example, the web page card presents a cut out view of the web page based on computer focus within the page at the time the web page view was exited. FIG. **14** illustrates, according to one embodiment, the behavior and rendered display of certain cards responsive to computer focus and selection by a user. A card may be in a number of states based on computer focus. One example of computer focus would include "hover" **1404**—hover indicates the movement of a pointer, typically represented by a white arrow on the computer system display, over a card. A card may be in a normal state **1402** when not in focus.

Focus is intended to include any identification by the computer system of the card, short of execution of the mapping associated with it. For example, focus should include identification by tabbing through available cards, identification by using hotkeys, among other options that result in computer focus resolving on the card. The terms computer focus and focus should be read to include hovering over a screen element, tool, or other visual representation displayed on a computer system display. In one example, focus follows a displayed pointer, and movement of the pointer with, for example, a mouse causes the computer system to resolve computer focus on the visual object under the pointer display. Selection by a user or a computer system may include focus and visual objects displayed on a computer system display may be selected by moving a displayed pointer. In some embodiments, selection may be accomplished by clicking on a visual object using a pointer displayed on the computer screen. A second "click" may then cause the computer system to execute functionality associated with the visual object. Execution should be read to include initiating an operation associated with a visual object, in one example execution will include clicking on a visual object (single or multiple "clicks"), by positioning a pointer display over the visual object and depressing a button to initiate the operation.

Focus may be resolved on a computer system by analyzing content intended to be displayed before its display on the computer system, additionally focus may be responsive to actions taken on the display through for example pointing devices.

According to one embodiment, when a web card or channel card appears is in a hover state **1404**, additional options are display in the card header, for example at **1450**. The additional tools displayed in the card header permit a user to select the options associated with the card. The options view for a card **1406**, displays available selections contained in the options. For a web card **1410**, the options include make a channel **1452**. The selection of make a channel at **1452** causes the device to execute functionality that transforms the web card into a channel card. The transformation from web card to channel card includes transforming the display image of the card element on any corresponding view.

Typically the transformation may only be made for a web card that references a content including a rss feed. The items in the rss feed are configured into a customized presentation—as for example a channel card **1412** (discussed further herein). For a channel card **1412**, additional options are include show in screens aver, for example. Other states may impact the display of web card including a drag and drop state. Upon focus, the additional tools will resolve in the header section of the card, the additional tools may be displayed as icons, as shown in FIG. **14**, and may also be rendered as selectable text options include "bookmark," "share," "options," and "close." If a user depresses the button control and does not release, the user may user drag and drop the card within the home view. The card may be dragged across pages of the home view, and the user may reorder the presentation of cards in the home view using multiple drag and drop operations. According to one embodiment, as a card is dragged across the home view, all displaced cards will appear to move into new places.

According to another aspect, computer content and interactive functionality is recast into cards. In one embodiment, the card comprises a visual representation of web content that simplify the user's interaction with even the most sophistication on-line tools. Cards are configured to present a summarized view of available content and/or present a visual indication of available functions. According to one embodiment, cards form a part of the structure of the graphical user interface between the system and the user. In various embodiments, cards are configured to be context and/or content sensitive. Some cards are configured to be persistent. Persistent card may be removed by an affirmative act of the user

With cards, content can be easily and visually absorbed by a user. In some embodiments, cards serve to maintain a current state of the user's activity. And in some embodiments, cards also serve to focus the displayed content on contextual information. Cards may be configurable by the users. Configurations options are presented to the user consistently. In some examples, this includes displaying consistent animations designed to draw the user's focus to the particular activity and to provide comfort level for the activity being displayed.

Shown in FIG. **43** is an example process **4300** for streamlining user interactions with computer content. The process includes presenting a consistent look and feel for user access to computer operations and computer content for user interface elements that also provide for a reduction in decision

making requirements imposed on a user during conventional computer use. At **4302**, a user is presented with a first visual representation in a computer display, the visual representation is responsive to computer focus and at **4304**, and the user is permitted to resolve computer focus by selecting the visual representation. Selection and focus can be thought of in terms of a visual pointer display on the computer system display, by moving the pointer over an object displayed on the computer display, computer focus may be resolved on the visual object. Alternatively, a user may have to indicate a selection of the object by clicking on a mouse button for example.

According to one embodiment clicking is not required. In another embodiment, the pointer being displayed above a visual object activates a "hover" state. In response to hovering, computer focus is resolved on the visual object. At **4306**, a focus visual representation is displayed to the user. According to one embodiment, the visual representation and the focus representation are configured to have common elements, and in particular, a header and body display for rendering computer content associated with the visual representations. The focus visual representation including a header and body display summarizing at least one of computer content and computer operations are shown at **4308**. The visual representations present a multitude of computer content in a streamlined form, in other words, the visual representation forms an indirection layer of functionality that provides a window into digital content, and/or computer operations linked to the visual representation. In particular, a visual representation mapped to a web page for example, provides a view of the web page in the body of the visual representation and provides additional information about the web page in the header display. The header display may also include tools for providing easy access to computer functionality associated with the web page and/or its content. In one example the header display only display the tools in the focus visual representation so the initial view of the content is not cluttered with tools that are not needed. Further, in one embodiment, the tools only display in response to focus, in other words, only when a user indicates they are necessary by moving a display pointer over the visual representation. Further computer logic may be embodied in process **4300**, responsive to a display position of a pointer displayed on the computer screen. In response to the display position of the pointer occupying the same location as another visual object, computer focus is resolved on that object, causing the computer system to determine functionality associated with the object.

In one example, the object is a visual representation, and in response to moving the pointer over the visual representation, the computer is caused to display a focus visual representation associated with the visual representation. In one example, computer focus remains with the focus representation and functionality associated with the focus representation is made available for execution. Other operations including display of a header responsive to focus may be executed. At **4310**, a mapping associated with at least one of the focus visual representation and the visual representation is executed causing the computer system to navigate to a content view. The content view may include a display of computer operations. In one alternative, the content view provides an interactive view of computer content. In one example the computer content, comprises online content viewed through a web browser. In another example, the content view is presented in a similar format as the visual representation used to navigate to the content. In one particular example, the content view includes a header display and a body display, and the content is displayed in the body portion. The header portion provides additional information on the content, for example a title, and may further provide additional tools that are responsive to focus. Again providing tools that resolve when needed and disappear when not reduces the amount of information a computer user need to assimilate in order to use a computer system.

All computer content and operations can be configured to display in visual representations and respective focus visual representations, providing a user with a streamlined presentation of computer content and operations. According to another example, different content types are presented through visual representation of a similar format. In one embodiment, the visual representations comprise cards as discussed herein.

A process **4400** may be invoked by streamlined computer system as part of process **4300**. Additionally, process **4400** may operate independently or be called from other processes. Shown in FIG. **44** is a process **4400**, for permitting a user to interact with computer content. At **4402**, a computer system displays a first content view. The first content view is configured to display in a similar format as a visual representation selected by the user to navigate to the content view. In one embodiment, the first content view includes a header and body display. In another embodiment the content view is a zoomed in view of the visual representation used to navigate to the content view. At **4404**, an enlarged view of the first visual representation is displayed. In one example, the content view comprises a web browser view of a web page displayed in the body of the content view. The visual representation used to navigate to the content view displays a portion of the web browser in the body of the visual representation. At **4406**, a user is permitted to interact with the content displayed in the body of the content view. The user is further permitting to access options associated with the content through the header display. Optionally, further computer logic may be included in process **4400** for presenting focus and unfocused views of the header in the content view.

According to another aspect, cards types should be clearly defined by color scheme and appearance, while at the same time maintaining a similar format. For example the similar format should include header placement and sizing, display of tools, title and frame size. In one embodiment, a color scheme configured to differentiate card types provides for web cards with white headers with the content displayed on the web card showing as a thumbnail of the current state of the page. Channel cards are configured with black headers, and the content presented in the channel card comprises a simplified representation of web content based on RSS feeds or custom visualizations of some non-RSS websites. Customized visualizations may be pre-loaded on the device for specific websites, or may be provided as part of a remotely stored device profile and/or global profile. Updates to the device profile and/or a global profile would include development of customized visualizations of non-RSS websites, and access to remote storage trigger delivery of the customized visualizations. According to one embodiment, only sites for which RSS or custom visualizations are available can be displayed as channel cards.

System cards are shown either with blue headers or grey headers. System cards may be further classified to include nascent cards. "Browse the Web" card, FIG. **2**, **214** is an example of a nascent card. The nascent card may be configured so it position is not configurable, nor is a user able to remove the card from the home view, or any view. The nascent card maps to functionality necessary to operation of

the streamlined device, and thus no option to close and/or remove it is available. Other system cards are configured to represent activities that have been specifically designed such as for example, photos & video card(s). The other system cards map to functionality also regarded as necessary so that the other system cards can not be deleted, however, the other system cards can be reorganized in for example the home view. Functionality mapped to by the other system cards include communications card, for configuring wireless access of the device, bookmarks for presenting conventional styled web page bookmarks, camera for providing for configuration and operation of a camera, either embedded in the device upon construction, or incorporated through for example a USB port.

In one embodiment, a system card is mapped to functionality to provide a user with streamlined access to web bookmarks. In one example, a bookmark card is provided that is always accessible from the home view. As with other system cards, the bookmark card comprises a header and a body. According to one embodiment, the body display for the bookmark card is unique to the bookmark card. Bookmarks are retrieved and displayed in the bookmark card one at a time. In one example, the bookmark card indicates in the body display the number of the bookmark in the list and the total number of bookmarks available.

According to some embodiments, the interactivity of individual cards is limited to navigation to a page view. For example, a user can not change the content of a card by interacting only with the card. In other embodiments, channel cards, for example, provide a user with the option of interacting directly with the card. Upon hover, channel cards presenting news feeds may resolve navigation tools configured to step through individual rss items displayed in the channel card. Additionally, selection within a channel card presenting a news feed causes the device to execute different mappings depending on what part of the channel card was selected for execution. Clicking directly on an rss feed headline for example, caused the device to execute a mapping to the web page view for that article. Selecting the body of the channel card causes the device to execute a mapping to the channel full view. Selection within the channel full view causes the device to display a content menu, responsive to manipulation of a scroll wheel.

In an embodiment employing a three card presentation, the cards that are presented provide the user with the ability to interact with system specific features. System features may be invoked and display using consistent presentation and/or animation. Consistent presentation of like features may engender a comfort level in the user for new features that appear using the same and/or similar presentation. Additionally, where a user invokes features in a similar or consistent manner, access of new features is facilitated and user comfort level may be increased. For example, a nascent card, is a system card that provides for consistent implementation of user activity and/or a computer objective desired by the user. In one embodiment, the "new card" card is a visual representation of a system placeholder for generation and presentation of new card that a user may created during the course of ordinary activity. By selecting the new card (for example, creating a web card used to interact with web content) a consistent animation may be employed to display to the user the creation of the new web card utilizing the nascent "new card" card. Other system features may be presented through system cards. Typically, system cards will represent functionality used most frequently and/or functionality that should always be available and not subject to removal by a user. Other card types, include web cards that are used to present web content, and channel cards that are used to provide to a user easy and/or consistent access to additional features.

According to another aspect, features of cards may include consistent navigation tools, consistent content display—including limiting the ability to alter content of a card through user interaction with the card, state representative images of content, state and context representative images of content, customized visualization of content, and in some examples customized visualizations include information derived from rss content. In one embodiment, user interactions with cards are also streamlined. In another embodiment, when card configurations and/or card options are selected by a user (if available) a consistent animation is presented to the user. For example, selection of a card's options may cause an animation displaying the flipping of the card and the revelation of user selectable options. Options, for example, may include permitting the content reflected in the card to be displayed as a screen saver. Certain features may only be available for certain cards types. In one embodiment for example only channel cards (discussed in greater detail herein) may be displayed in the screensaver mode, thus only channel cards will display the option to permit display in screensaver. In another embodiment, certain card types may be converted through user selection. In one embodiment, web cards may be converted into channel cards. It is realized that the segregation of functions between the card types may improve user interaction and adoption of the different feature sets available to each.

According to another embodiment, systems and methods for streamlining user interaction with electronic content may include a process for generating new visual representations mapped to computer content. Shown in FIG. **47**A is an example process **4700**, for generating a user interface element. At **4702**, a visual representation associated with a computer operation for creating a new visual representation is displayed on a computer system display. The visual representation may comprise a nascent card. Nascent cards are configured to always be available to a user, that is, they are configured so a user can not remove them. In some embodiments, the position of the display of nascent cards cannot be changed by the user. In one embodiment, the nascent card is always displayed in a home view, at the bottom right corner of a home view page. For a new page this may include the nascent card appearing in the upper left corner of the page, when no other cards are displayed on the same page. At **4704**, execution of the functionality associated with the visual representation occurs. At **4706**, a first animation is displayed to the computer system user showing the visual representation sliding away from its present location to reveal a new visual representation. At **4708**, a second animation is displayed to a user showing the computer system zoom into the new visual representation to present a quick access view at **4710**.

The quick access view is configured to permit a user to select computer content to associate with the new visual representation. In one example, this includes presenting a display of frequently accessed web content (e.g. web pages) to the user in the quick access display. It is likely that the user will intend to return to a page frequently accessed, in which case, the display will meet the users needs, however, the quick access view is further configured to permit entry of a uniform resource indicator (e.g. a url), and further configured to allow a user to request display of bookmarked locations. At **4712**, a user is permitted to select computer content to associate with the new visual representation, and in response to selection of the computer content, the com-

puter system displays an animation to the user depicting the computer system zooming into a first view of the selected content at **4714**.

In one alternative, new visual representation may be generated without selecting a nascent card, in process **4750**, FIG. **47**B. For example, a web card may include a hyperlink directing a computer system to display the linked web page in a new window. At **4752**, a user selects an open in new window link. In one alternative, the link may include instruction to open an new tab. In response to a request to display a web page in a new window, a new visual representation is generated and associated with a mapping to the web page. The computer system displays a transition from the current web card view to the home view, **4754**, displaying the nascent card. In an optional step, the process zooms out the home view so that the nascent card is rendered on one page. The system presents an animation to the user, **4756**, similar to step **4706**, showing the nascent card sliding away from its position, revealing a new visual representation. The system then zooms in on the new representation, **4758**, displaying a first view of the mapped content, **4760**.

Common Card Configurations

According to one aspect, cards should have common features to promote user acceptance and improve adoption of different cards, while providing familiar a form. According to some embodiments, most cards are configured with a similar anatomy. According to some embodiments, cards comprise certain common elements described with reference to illustrated examples.

With reference to FIG. **15**A shown is an example of a web card when not in focus, however, the common features among the cards are discussed in greater detail. Header **1502** run along the top of the card. The color depends on the color scheme employed to differentiation the type of card: in one example white is used for web cards, black for channel cards, and blue and grey for system cards. Optionally the header includes a favicon **1504** (the favicon may be retrieved from the site being view in the case of web and channel cards and a custom favicon is employed for system cards). The header further comprises a title **1506** for the site or activity conducted, and a body **1508**. In response to focus on a card the display of the card becomes a little larger relative to its display when out of focus and the card controls **1552-1556**, FIG. **15**B, are revealed on the header, when in a focused state.

Card options **1552**, reveals the card options, and may in some embodiments invoke an animation of the card flipping to reveal selectable options. Share, **1554**, is configured to permit a user to share the card with other user. Delete, **1556**, removes the card from the home view. Card controls, such as **1552-1556** are typically not available for system cards, which typically can not be shared or deleted. According to one embodiment, the photos & video system card is configured to display the card options (in one example the photo & video system card permits selection of "Show in screensaver"). **1508**, FIG. **15**A, card body varies by the type of card displayed. In one embodiment, a web card body **1508** comprises a thumbnail of the current state of the web page. The current state thumbnail may be updated. Updates may occur in conjunction with a timer. Typically the timer is set for default operation, and is not configurable by a user, although in some embodiments a user may access and modify an update interval for web cards through system configurations.

The body of a channel card (not shown) comprises a visualization of the rss feed from the web site source. Sites that do not have rss feeds, typically, will not be able to be displayed as channel cards. However, customized visualizations for some static sites are preloaded and for the preloaded static sites an rss feed is not used to display the web site content in a channel card. System card body (not shown) comprises a custom image configured to represent the system activity mapped to by the system card.

Options and Information Associated with Various Card Embodiments

According to one embodiment, selection of the card options icon causes the device to display a visualization of the card turning over. The "back side" of the card, FIG. **16** (showing a plurality of examples of the backs of various card types) comprises the following options: Show as channel **1602**, which transforms a web card into a channel card, and vice-versa, based either upon checking or unchecking box **1604**. If the channel is a photo and video channel, this control reads "Show as channel using [lens]." A lens is a customized visualization for computer content. Shown in FIG. **16** is an example lens "Slideshow" at **1606**.

According to another embodiment, the option for show as channel is either shown to as permanently checked for system cards that are always available as a channel (e.g. the photos and video card), or as absent for system cards that are not available as a channel (e.g. a system settings card or communications card). Show in screensaver, **1608**, is an available option for channel cards. Typically **1608** is not an available option for other card types, however, the photo and video system card does permit its content to be displayed in the screensaver. According to one example, new channel cards are configured to not display in screensaver mode by default and this option is not checked for new channel cards. Shared from, **1610**, provides information on the user or device from which the card was shared. According to one embodiment, system cards cannot be shared, and do not display "shared from" information. Additionally, shared from **1610**, does not display for card generated by a present user. In one example, shared from **1610** is responsive to computer focus (e.g. hover). Hovering over the Shared From line, **1610**, causes the device to display an informational bubble with a list of people to whom the card was shared. Other options may be employed for displaying shared from information. Other options may include linking to a display list for share from information, and in some embodiments may include displaying the shared entities on the back of the card without selecting **1610**, Shared From. In such embodiments a maximum number of shared entities may be displayed before requiring selection of a more control. The more control expands on the list of shared entities to provide for listings that do not fit within the space provided on the back of a card.

Shared to, **1612**, provides information about whether and to whom the card has been shared. According to one embodiment, system cards can not be shared, thus no shared to information is displayed. By default shared to, **1612**, does not display until a card has been shared. According to some embodiments, the "shared to" field is responsive to focus. In one example, hovering over the shared to line causes the device to display an informational bubble with the list of people to whom the card has been shared. Other options may be employed for displaying shared to information. Other options may include linking to a display list for share to information, and in some embodiments may include displaying the shared entities on the back of the card without selecting **1612**, shared to. In such embodiments a maximum number of shared entities may be displayed before requiring selection of a more control (not shown). The more control expands on the list of shared entities to provide for listings

that do not fit within the space provided on the back of a card. Optionally the more control may cause the device to display an information bubble containing the remaining shared entities and/or all the shared entities.

Organization of the Home View

Typically, the home view is configurable by the user. New items may be added, existing items may be moved and/or removed based on user selection. The home view further comprises some visual representations that can not be removed. Commonly requested system operations have visual representation displayed on the home view that can not be deleted. According to one embodiment, a user may reorganize the display but not remove representations for system operations. For example, visual representations that map to system operations (e.g. a communication card and a camera card) cannot be remove from the home view. Nascent cards, for example, the Browse the web card, can not be removed from the home view. According to some embodiments, the Browse the web card is further limited in configurability, in that, the positioning of the card will not change relative to the other cards. For example, the Browse the web card will always be displayed last. In other examples, nascent cards may have other positions that do not change, first to be displayed, last displayed on first page of the home view, etc. In some embodiments, even nascent cards may be reorganized in the home view display.

The user interface may include default settings for organization. For example, a default organization for the home view comprises an arrangement roughly based on order of creation, from left to right, top to bottom. Other organization may be employed right to left, top to bottom. In one example, the user of the streamline device is located in China, and the default organization is presented from right to left.

One example default setting for the home view establishes a number of cards to display per page of the home view. In one example the default caused the computer to render twelve cards on a page. In another example, the display of the twelve cards further comprises the tops of the cards on the next page or the bottoms of the cards on the previous page, as appropriate. In one embodiment, the home view includes maximal display thresholds configured to improve the ability of the user to absorb the information presented. In some embodiments, a maximal number of visual representations per screen is set. In one example, the maximal number of visual representations is used to define a GUI page. In another example, the maximal number of visual representations is associated with a maximal number of full view visual representations, and the page is configured to include portions of views of other visual representations available on adjacent pages. A computer operation that would cause the computer device to exceed the maximal number results in the creation of a new display page. The home view is organized into as many pages are required in order to maintain the maximal threshold of display items.

It is to be appreciated the different organization options may be employed for the home view. In one alternative, frequency of use may be employed to organize the cards displayed in a home view. The most frequently accessed content may be display first with the least frequently accessed content being display last. Another option includes the use of last accessed information associated with a particular card. The most recently accessed card may be displayed first and the card with oldest use would be displayed last.

Creating New Cards

An example process **1040**, FIG. **10**B may be executed to generate a new card. Process **1040** is executed in response to a user clicking the Browse the Web card on the home view at step **1042**. In response to the execution of the Browse the Web card, the devices displays the card sliding to the right (or down to the far left on the next row if it is already on the far right) as a new web card is created in its place at **1044**. At **1046** the system renders apparent motion in the display, showing the system zooming into the new web card. At **1048**, the system displays a quick access view configured to generate a mapping between the new card and web based content. According to some embodiments, newly added cards (whether created by the user or received as a shared card from another user) always appear at the bottom of the home view next to the Browse the Web card. In other embodiments, the Browser the Web card may display a different title, for example, "New Card." It is to be appreciated that the title is not particularly relevant to the nascent card, but rather, the functionality for generating new card is.

New cards may also be created on the fly during a browsing session as part of process **1080**, FIG. **10**C. Process **1080** begins at **1082** in response to either a user clicking an "open in new window" link on a web page, or in response to a user executing a keyboard shortcut (e.g. Shift-click) to perform the same function. Additionally links that contain computer instructions to open link in new tab will invoke the same functionality at **1082**. In these cases, the system shows an animation zooming out of the current card to the home view at **1084**, optional step **1086** cause the system to display movement to the last page of the home view (if not there already), at **1088** the Browse the Web card slides out of the way, revealing the new card in its place at **1090**, and finally zooming into the new card, **1092**. Process **1080**, may be implement in association with a timer to govern the overall execution time of process **1080**. In one example, the process and animations should take no more than about half a second.

According to one embodiment, selection of the Browse the Web system card causes the system to execute a process for generating a new web card. As part of the process for generating a new card, the system presents a quick access view to the user. Referring again to FIG. **5**, shown is an example of a quick access view. As discussed earlier, the body **502** of the quick access view may display a frequently accessed list of content. A user may select from the displayed content to generate a mapping for the new cards, and enter the web page view for that content. Additional at **510**, the quick access view presents news from, for example, the device manufacturer. At **510**, news regarding operation of a streamlined device may be shared with the streamlined device user community. Advice on new features may be provided, **512**. And awareness drawn to new features. Hints and suggestions may also be displayed, for example, **514**, referring users to GOOGLE DOCS, and on-line word processing/office suite solution.

According to another embodiment, creation of a channel card is available for sites with rss feeds or sites for which customized visualizations are available. From the home view any web card with rss feeds or with customized visualizations can be used to generate a channel card. From a web page view, hovering over the option add channel caused the system to display a preview of the channel card. In one embodiment a channel card includes features not observed in web or system card. For example, channel card **204**, includes a display, **280**, for an individual rss item received from the online source. In this case the rss item is a headline that permits direct access to an article (typically through a web card). Channel card, **204**, will display a plurality of rss items one at a time through the channel card, thus the content in a channel card periodically changes, until al content items have been displayed. At that time the

channel cards starts again from the beginning displaying each one of the plurality of source items.

Removing Cards

According to one embodiment, the home view may be configured by a user. A user may remove visual representations from the home view. In a card example, a user may access card option by providing focus on the card. As discussed above, card options are revealed in response to focus. Options may comprise a delete option. In one example, a delete option is display as an "X" in the upper right corner of a hover view of a card. To delete a card from the home view, a user executes the delete option by clicking on the "X." In response to removal of a card from the home the view, the remaining cards on the home view are reordered by the device. In one example, the reordering comprises shifting of the displayed cards to rearrange them into the organizational schemes discussed above. In order to ensure a close/delete selection was intended and to provide the user with the ability to change their mind, an information display bubble may be generated in response to the delete execution. The information display bubble maps to functionality that causes the device to undo the delete operation in response to selection by the user.

According to one embodiment, a dialog bubble is displayed off of the header of the home view. The dialogue bubble displays a message confirming the delete operation and further comprising a mapping to functionality provided, the causes the device to undo the delete operation in response to selection. According to another embodiment, hot-key functionality is provided that cause the device to undo that last activity performed by the device. In one example, ctrl-z, is mapped to functionality that permits the last activity to be undone.

Home View Navigation

According to one embodiment, the home view in configured to display a maximum number of visual representations. For embodiments employing cards that map to computer content and/or operations the maximal number of visual representations will restrict the number of cards displayed per page of the home view. In one example the display number is set to twelve. In response to exceed the display number, the device executes operations designed to render a new page for the excess. In response to multiple pages, the device is configured to display indications of content (e.g. cards) on adjacent pages. In response to movement of a pointer, visual representation displayed on the screen tracking computer focus, new pages may be displayed. In one example, multiple pages are provided by the view. The display rendered by the device give a user the impression that adjacent pages appear above and below the current page view. For example, indications of adjacent card content appear at the top and bottom of the home view body. By scrolling to the pointer towards the bottom of the screen the user causes the device to display the next page of the home view, further by scrolling the pointer towards the top of the screen the user causes the device to display the previous page of the home view. Additionally, according to one embodiment, arrow keys provided on the device's keyboard may be used to navigate pages of the home view. In one alternative, keyboard shortcuts mapped to navigation functionality. In one example, keys with mapped navigation functionality include shift-arrow, crtl-arrow, alt-arrow to provide further navigation options.

One may navigate away from the home view at any time by selecting a visual representation and causing the device to execute the mapping associated with the representation. In one embodiment, a user selects a card and in response the device renders a page view appropriate for the selected card (e.g. web page view for a web card). In one embodiment, an integrated scroll wheel provides navigation functionality from the home view. Scroll wheel functionality may be dependent on state of the device, and may also be dependent on configuration of the device. In one example, the device's present state is its home view and manipulation of the scroll wheel causes the device to display the channel card view. According to one embodiment, returning to the home view is streamlined for the user. This may be accomplished through navigation buttons on the keyboard, for example **168**, FIG. **17**. The navigation button operates as a toggle between present view and home view, returning a user to the home view when the present view is elsewhere, and returning the user to the previous view when the present view is the home view. A navigation element provided in visual representation of computer content may also provide the same functionality. For example, navigation button **250**, in home view **200**. In another example, a navigation button, **352**, FIG. **3**C is provided in a web page view.

Reorganization of visual elements in the home view may implicate navigation with the home view. In one example where the home view presents cards to a user through multiple pages, moving cards across the pages requires navigation within the home view. According to one embodiment, specialized navigation options are provide to render sufficient context for the relocation across pages. In one example, a user drags a card across pages within a home view. The device in response to the drag across pages modifies the display of the home view to show a zoomed out display of the home view. The zoomed out display is permitted to violate any associated threshold with respect to number of displayed items on a page of the home view. The zoomed out display in a view of multiple pages with each element of the pages being reduced in size to allow them to be displayed in one screen. For long lists of cards, or other visual representations, this may result in extremely small visual representations or cards. It is realized that even thought the result may be visual representations so small that they cannot be fully appreciated, the user goal is to relocate a card, and the temporary loss of interactivity to the user will not impact the user operation. Once a card is relocated, the device caused the display to "zoom" back out to conform to management and organization scheme discussed, including maximal display thresholds, for example.

Navigation away from the home view may also occur through selection of the visual representations that map to computer content and/or functionality. In one embodiment, clicking on a card will zoom into that card, revealing the page view for that card. In one example, clicking on a web card caused the device to display the web page view for that card's content. In another, clicking on a channel card may invoke different behavior. In a channel card example, the navigation behavior depends on the location within the card that is clicked.

Some channel card embodiments, display items from rss feeds one at a time, scrolling through the rss items based on a timer, and in one embodiment, based on selection of navigation tools within the card. If a user clicks on the body of the channel card for example, the device causes the channel page view to be displayed for that card. If a user clicks on an rss item displayed in the channel card, the device causes a web page view for the specific content to be displayed. In one embodiment, a channel card maps to a content feed from the NEW YORK TIMES. Clicking on an article title in the channel cards causes the system to execute a mapping to the content by opening a new web card and

zooming into the new card's web page view of the selected article. Clicking elsewhere the channel card causes the system will zoom in to the channel page view for that card.

According to one embodiment, searching from the home view causes the user interface to navigate away from the home view. For example, entering search terms into search box **254**, FIG. **2**, cause the device to execute a process for generating a new web card and navigating to the page view of the newly created web card. The device in creating the new web card automatically creates a mapping to web content based on default settings. In one example, the default settings provide for searching to occur through the well known search tool GOOGLE. Other search tools may be established as the default. By accessing a system card for settings, in one example, displayed as a Settings card, a user may change the default for the search tool. Further default operations are provided by the user interface. While in the home view, any typing that occurs on the keyboard (except for hot keys and keyboard shortcuts) will be default populate the search box of the home view. Pressing return or clinking on the search tool **255**, will execute the process for a new card and pass the search terms to the default search tools, and the device displays the web page view of the default search tool and its response to the search terms.

Example Page Views

According to one aspect a streamlined user interface is provided, that permits a user to access electronic content on a device responsive to context and responsive to device configuration. According to one embodiment, an element of a graphical user interface that provides streamlined access includes a plurality of views of computer content. Another element of the GUI, includes visual representations of computer functionality and/or content that are associated with a mapping to at least one of the plurality of views. In one example, the visual representations comprise cards, as discussed above. The various types of cards can each be associated with one of the plurality of views, and may also be associated with multiple views. A high level view may be provided to manage and organize the (for example in a home view). The card may be associated with a lower level view which permits more direct interaction with the viewed content. In one example, a web page view permits a user to interact with displayed web content for a web page. Other views including a channel page view, provide lower level views that permit interaction with content specific to channel cards, and system page views provide, for example, a lower level view of system functions mapped to by the system cards. System cards may be further classified into nascent cards, and different page view provided according to classification.

According to one aspect, methods and systems for streamlining user interaction with computer content and operations may include a process for providing consistent feature accessibility across a plurality of views and a plurality of visual representations of computer content. FIG. **45** illustrates one example process, **4500**, for providing consistent accessibility to computer content across a plurality of views and a plurality of visual representations of computer content and/or operations. At **4502**, a view of computer content is provided. The view is configured to include visual elements responsive to computer focus, however achieved. The view of computer content includes a header display further comprising a focus header display and an unfocused header display. In response to focus, the focus header display reveals additional controls associated with the computer content, **4504**. At **4506**, focus is removed from the focus header display and the computer system transitions the view of content to an unfocused header display, concealing the additional controls at **4506**. In one embodiment, responsiveness to focus provides for user consistency in accessing a plurality of views and with respect to visual representations of computer content, and at **4508** a plurality of representations and views provide additional focus responsive displays, which are configured to include focused and unfocused presentations.

According to another aspect, methods and systems for streamlining user interaction with computer content and operations may include a process for providing consistent feature accessibility by providing a primary means for navigation to computer content and computer operations to occur through a consistent view. FIG. **46**, shows an example process, **4600**, for providing consistent navigation operations to a user. At **4602**, a home view is presented to a computer user. The home view presents an organization of a plurality of visual representations of computer content, **4604**. The visual representations form the building blocks of the home view. Each visual representation is mapped to computer content and/or operations that a user may select by, for example, hovering on the visual representation, by clicking on it, and by using hot keys—among other options. At **4606**, a user executes the mapping to the computer content and/or operations. In one example, execution of the mapping causes the computer to navigate to a first view of the content. In some embodiments, process **4600**, comprises further computer logic executed by a processor to access a stored mapping, and to generate the rendered presentation on the computer display of the first view.

Typically the first view comprises a navigational elements displayed in a portion of the first view. The navigational element is mapped to the home view. In one example, the home view also comprises a navigational element, and a user may toggle between the first view and the home view by executing the navigational element. In process **4600**, a user executes the navigational element to return to the home view at **4608**. In one alternative, a button, a sequence of keyboard keys, a hot key may also cause a computer system to execute a transition to a home view. In another alternative, the same button, sequence, of keyboard keys, and hot key may cause the computer to return to the first view upon a subsequent execution. Returning to the home view at **4608**, presents the user with a consistent view of content options, and the user may select a new first visual representation mapped to other computer content at **4610**. Execution of the new first visual representation caused the computer to navigate to a first view of the mapped computer content, returning process **4600**, to step **4606**. Again the user may select a navigational element to return the home view at **4608** to select yet another first visual representation. In some embodiments, process **4600**, represents a resident process that runs in the background throughout operation of a computer device. In other examples, process **4600** may be exited by powering down the computer system (not shown). And in one alternative, a user may exit process **4600** by selecting different navigational tools that execute mappings to other views. In another alternative, (not shown) a view selector may be invoked by changing a configuration of a streamlined device. Invoking the view selector can cause the computer system to execute a transition to a different view without a return the home view. In one example, invocation of the view selector by changing the device configuration from laptop to easel, causes the computer system to transition from a home view to a channel view.

Example Web Page View

According to one embodiment, a web page view is the computer implemented expression of a selected web card. The web page view is configured to present a consistent view of web based content to a user. The web page view comprise a number of elements that are maintained across the web page view of different content, although in some examples additional features may be provided to address

unique aspects of the content being viewed. In one embodiment, the web page view includes a header, **354**, FIG. **3**C, a body, **356**, optionally a scroll bar **358**, and a navigation element, **352**. It is to be appreciated that individual web page views may comprise additional elements, and should not be read as limited to elements discussed with respect to this example. The Header **354**, is responsive to focus of the device. In another embodiment, the header is responsive to the type of content being displayed. In one example, the header is further to responsive to the communication protocol user to access the web based content. The header portion may also be responsive to the state of the device, and state of the computer operation being performed (e.g. loading content).

Accordingly, in one embodiment the header **354** element of the display appears differently based on focus, content, and context of the web site being viewed. When the header is out of focus, for example, the header may be rendered in an out of focus display, shown by example in FIG. **18**A. The header display comprises navigation element, **1802**, page title **1804**, optionally a visual element associated with the web page is displayed **1806**, the visual element may be a favicon (reduced scale image associated with a website), and where appropriate the header displays a lock symbol **1808** to indicate a secure site. For secure sites, hovering over the security symbol **1808**, caused the device to display additional information regarding the security of the site. In one example, a dialogue box appears including information on the security signature for the site.

Page title provides the user the name of the page s/he is on in human-readable form. In some embodiments, when the header is out of focus, the title of the page extends to the right as far as possible. How far the title is display is dependent on what other elements are included in the header. For example, when the header is out of focus the title has the most room in the display. Upon focus, the device causes the header display to change. In one example, FIG. **18**B illustrates a header, **1850**, in focus, and device now displays additional tools in the header. Additional tools may comprise a share tool, **1852** (for sharing the web card mapping to the view), bookmark tool, **1854** (adds web page to bookmark list), more tool, **1856** (permits revelation of additional tools), search tool, **1858**, and close tool, **1860**. Additional tools may be displayed in the header on focus, including, for example, back and forward buttons, **1864** that may be used to access other pages in browsing history. Additionally, the title display from unfocused view, **1804**, FIG. **18**A, may be transformed into a web address box **1862**, FIG. **18**B. In one embodiment, focus on the header display **1850**, causes the device to transform the title display into an address box, **1862**. The address box maintains the title of the web site, until a user interacts with the address box, by for example typing into it. Once the system detects interaction with the address box, the display in the address box will indicate a url and/or uri for the current site (or whatever the user is typing). Other options may be made available through the header by display and selection of a more tool, **1856**. For example, the device displays a toolbar, **1904**, in response to user selection of the more tool **1902**, FIG. **19**. The toolbar supports operations, **1906**, provided by conventional browser of other known systems. The toolbar **1904** may also be revealed in response to keyboard short-cuts, for example, crtl-f opens a search box, **1908**, permitting the user to specify terms to find within the web page view. The toolbar display may be responsive to the content appearing in the web page view. For example, the device will display zoom tools instead of −text size and +text size in response to .pdf content.

Other standard operations and options may be supported in the toolbar. In one embodiment, the toolbar supports, find in page, find in page Next/Prev, for scrolling through hits within the page, save photos, −text size/+text size, to increase or decrease the size of the text (text sizing may be implemented globally so that changes in text size for one web page view will affect all web page views—alternatively the setting may be local to the present web page view), refresh, cut, paste copy, and print. Print and save behavior for a streamlined device does depart from conventional operation.

According to one embodiment, the header may also display additional tools whether the header is in focus or out of focus, responsive to the content of the page. In one embodiment, the header, **1890**-**1891**, FIG. **18**C, displays an add a channel tool, **1892**, regardless of focus (**1890** out of focus, **1891** in focus). In one example, the device determines that the accessed content has either a rss feed, or a custom view for the static web-page, and in response reveals the add a channel feature in the header. Selecting the add a channel causes the device to execute a process for generating a new channel card as discussed further herein.

According to another embodiment, the state of the content in the view may impact the tools displayed. For example, when a user is interacting with the address box (e.g. to enter a URL or URI) or when a page is not fully loaded, possible actions are limited. The device causes the header display to adjust to remove options that are unavailable (e.g. namely Share, Add channel, Bookmarks, and More), and adds the following elements Go/Stop tool **1895**, FIG. **18**D, and a status indicator **1896**. Selecting Go causes the device to initiate navigation and start loading a URL or URI listed in the address box. The stop button appears while a page is loading—clicking the button will stop the page from loading. The Go/Stop tool toggles between a presentation of Go when a page ahs not yet been loaded and Stop when a content is being accessed, for example. The status indicator may include a customized visualization. The customized visualization may be configured to tie various functions and features together. In one example, the status indicator is configured to display as a "loading spring," **1896**. **1896**, is animated to show that the device is actively downloading content. It is to be appreciated that although the Go/Stop tool is display in the same space on the header in the described example, the display for either function may also be rendered separately, or display above and below, among other options.

The header display may be further responsive to focus and selection. In FIG. **18**E, shown is a header after selection of the search tool **1858**. In response to selection of the search tool, the device alters the heading display to include an search box **1898**, for entry of search terms. Once the search is initiated the device alters the header to eliminate search box **1898**.

Navigation within Web Page View

According to one aspect, navigating web pages within the web page view is similar to existing browsers on other systems. For most links, when a user clicks the link, the device executes a process to load a new web page into the body of the current web page view, replacing the contents of the current page. The device operates different in response to links that request a new window. For new window links or new tab links the device executes a process to generate a new web card, and further the new card is mapped to the link destination. The device executes functionality that causes the display to "zoom" into the new card and present the content from the link destination.

According to one aspect, transitions between active web page views occurs through the home view. The user selects a navigation element (e.g. **352** FIG. **3**C) to return to the home view, alternatively, a navigation button (e.g. **168**, FIG. **17**) will return the user to the home view. In another embodiment, hot keys and/or shortcut keys may be employed to cause the system to return to a home view. In response to selection of the shortcut and/or hot keys, the device executes a transition to the home view. From the home view a user may select any other card or generate new cards, as discussed above.

Creation of channel cards occurs differently from a web page view, than when done in a home view. In one embodiment, in response to selection of add channel in a web page view, the system returns to the home view, displays the creation of the new card, and presents the creation of the new card so that both the new card and the web card from which add channel was selected is displayed. In this example process any maximal display threshold may be ignored in order to display both the originating card and the new channel card. Once the card generation is complete the system zooms back into the original web page view for continued browsing. Alternatively, a system may enter a channel view of the newly created channel creation. In one embodiment, the behavior of the system may be altered according to settings accessed through a system card, and in one example a settings card.

Channel Page View

According to one embodiment, the channel page view is the zoomed-in computer implemented expression of a channel card. A channel page view presents a unique view into content made available through a website. The channel page view employs visualizations similar to corresponding visualization on channel cards but the large format of the view allows for a better display of content, and provides for increased interaction with users. The channel page view also comprises a mapping from the display content to the source from which the content is derived. Typically, content displayed in the channel page view is derived from an rss feed associated with a web-site. Additionally, some non-rss sites have customized visualizations that can be accessed through a channel page view.

According to one embodiment, the channel page view configured to present a consistent framework for user interaction with rss style content. The channel page view comprises a number of elements that are maintained across the channel page views of different content, although in some examples additional features may be provided to address unique aspects of the content being viewed. An example channel page view is illustrated in FIG. **20**A, **2000**. The channel page view shown includes a header **2002**, which includes a display for the title of the channel page view, **2006**, a share tool, **2006**, web link **2008**, and status indicator **2010**. The header may also include navigation element **2012** for returning to a home view among other functionality. The channel page view also includes a body **2014**, for displaying available rss items **2016-2022**. Selection of the displayed rss items **2016-2022**, caused the system to display the web page view of the selected article, web link **2008**, shown as "go to web page" in FIG. **20**, creates a new web card for the page from which the channel was created.

Other channel page views may also be employed. FIG. **20**B, illustrates another example of a channel page view, **2050**. Shown in **2050** is a specialized channel view for a news channel. Example view **2050** is separated into two scrollable columns, providing a headline column **2052**, for displaying individual rss items and a content column Content column, **2054**, presents the details of rss items (if the content does not require additional space other than the displayed screen a scroll bard will not be displayed). The content column shows the headline, **2056**, includes the time the item was posted **2058** (in one example relative to current time), the author, **2060**, and the item's description, **2061**, in its entirety. According to one embodiment, images and/or script (html, xml, etc.) may also be displayed in the content column (not shown). The content column may also comprise a navigation element, **2062**. In one example the navigation element is labeled "full story." The system launches the item's url as a new web card, and transitions to a web page view of that url in response to selection of **2062**. Optionally, focus and/or hovering over the full story button causes the system to generate a preview view of the new card that would be created in response to selection of full story.

Selection of one of the content items, e.g. **2070-2076**, causes the system to display the headline, author, posting time, and full description for the selected rss item. Scroll bar, **2080**, is displayed if the number of items in the headline column, **2052**, require additional pages of display. A scroll bar may be display in the content column as well, if the content display requires additional pages. According to one embodiment, channel page views are configured to retain current state. The system accesses retained state when revisiting a channel view. According to one embodiment, a process for accessing a channel page view determines if any state information is retained for the channel page view. In response to a determination that state information exists, the system presents the last accessed content item in the content column If the last content item is no longer available, the system selects the first content item by default.

An alternative view of channel content comprises a full screen view of rss items. In one example a channel full view comprises a headline display center in the screen.

According to another embodiment, preview text is displayed in conjunction with the rss item. In one example, the channel full view includes displays configured to identify the source of the rss feed. In another example, a logo for the source feed is captured and displayed as part of the channel full view. In response to selection within the channel full view, the system displays a content menu permitting selection of any of the rss items for the content source. In one embodiment, the content menu appears as a list of rss items displayed at the lower portion of the channel full view. The content menu is configured to be responsive to manipulation of the embedded scroll wheel. Manipulation of the scroll wheel progress through the displayed content menu, and in response the system displays the selected content in the full view with preview text appearing below. Shown in FIG. **21** is an example of a channel full view **2100**, with content menu **2102** activated by selection. Manipulation of the scroll wheel causes the system to scroll through the items in the content menu. In one embodiment, the content menu transitions between selections by rendering the apparent movement of the entire content menu either to the left of the right depending upon the orientation of the manipulation of the scroll wheel. Alternatively, the content menu is also responsive to arrow keys on the keyboard. Depressing an arrow key cause the system to display the apparent movement of the content menu to the next item.

According to some embodiments, the various channel views, for example, page and full view may also include animations of transitions between available rss feed items. Default operation of the streamlined computer system and streamlined user interfaces cause the system to display transitions from one rss item to the next in association with

a time period. Transitions may include animations that cause the system to display new rss items sliding into position as the previous rss item slides out of view. In one example, an rss headline item slides out of view in response to the next headline item sliding into view. The device and user interfaces may also be responsive to manipulation of the scroll wheel. For example, manipulation of the scroll may by default invoke a transition to a channel card view.

System Page View

According to one embodiment, the system page view is the zoomed-in computer implemented expression of a system card. The system cards provide a user with the ability to interact with the device's settings and other computer operations. System cards also enable a user to access customized functionality, for example, photo and video interactions. According to one aspect, certain interactions with computer content are identified as special. The identification of special interactions is reflected in render those operations as system cards. System cards have the property, that they cannot be removed by a user. This insures that identified functionality remains available regarding of user intention. Additionally, the number of system cards can be limited, providing a distinctive interface element for system operation and important interactions even within the streamlined GUI. In one embodiment, system cards are limited to a photo and video card (controlling photo and video operations), a settings card (permitting access to device settings), a bookmark card (discussed herein), a camera card (permitting set and interaction with a camera), and a browse the web card (discussed herein). Although it is to be appreciated that other system card may be implemented and the invention is not limited to the system cards provide as example above.

The anatomy of the system card is similar to the anatomy of other cards. For example, an embodiment of the system card includes a header, **2202**, FIG. **22**, a navigation element, **2204**, a title **2206**, and a body **2208**. As discussed herein, nascent cards may be categorized as a type of system card. Alternatively, nascent cards may comprise their own category. While nascent cards share a similar format as the other cards, nascent cards do not have a page view. Nascent cards map directly to system functionality, that is executed upon selection or as part of a call from another process.

Channel Card View

According to one aspect, a channel card view is provided to display high level navigation options to a user, to enable streamlines selection of content and operations by making selections within a streamlines view. Similar to the home view the channel card view is configured to render a consistent organization of navigational elements of a streamlined graphical user interface. Unlike the home view, the channel card view is not based on pages of display, rather the channel card view is organized to display only one type of content, that is content that may be rendered in a channel (i.e. having an rss feed or customized visualization, and for special system cards). The channel card view is available in both laptop and easel modes of the streamlined device. In response to configuration of the device into easel mode, the channel card view is rendered by default. The content displayed in the channel card view is dependent on the channel cards displayed in the home view. Alternatively the channel card view may be invoked by operating the scroll wheel embedded in the device.

In response to operation of the scroll wheel, the system displays the channel card view, FIG. **23**, illustrates an example of a channel card view, **2300**. According to one embodiment, the channel card view comprises selector display **2302**. In another embodiment, the channel card view includes a selector display, **2302**. The selector view is invoke upon the first click of the scroll wheel while in easel mode, in laptop mode, additional clicks may be required to invoke the channel card view and selector. In one example, the three clicks are necessary to invoke the channel card view while the device is in a laptop mode. In another example two clicks are required. Upon invocation the channel card view comprises a visualization of the channel cards available for selection. In one example, the visualization resembles and behaves like a rolodex. As the user moves the scroll wheel individual channels **2304-2310** appear to flip around the hinge of the device. In response to selection, the foremost channel card displayed is selected and displayed full screen. In one example, selection includes activation of button **168**, FIG. **17**, from the easel mode of the device, although in laptop mode selection can occur in a number of ways including by operation of button **168**. In another example, a different button may be selected or short cut keys selection, among other options.

In response to selection from the channel selector view, the system displays a channel page view. On example of a channel page view for photo content is shown in FIG. **24**. According to one embodiment, the channel page view of the photo content automatically scans though each photo by default in the channel page view. The photo display restarts again at the begin when the end of the photo content is reached. In another embodiment, the default operation is to display only the selected content item (e.g. photo). FIG. **25**A, illustrates an example logical diagram of the behavior for the channel view. From channel page view **2502**, selection of the menu button (e.g. FIG. **4**, **166**), caused the device to display the content menu, **2504**, over the present channel page view. Selection of the menu button from the content menu, causes the device to display the selected content item in a channel page view **2502**. From channel page view **2502**, operation of the scroll wheel (e.g. FIG. **4**, **132**), causes the device to display channel selector view **2506**.

According to one embodiment, photo content displayed as a channel in the user interface, can be accessed similarly. Shown is an example of channel functionality, in logical diagram **2550**, FIG. **25**B. From channel page view **2552**, of the photo channel, selection of the menu button (e.g. FIG. **4**, **166**), causes the device to display the content menu, **2554**, over the present channel page view. Selection of the menu button from the content menu, causes the device to display the selected content item in a channel page view **2552**. From channel page view **2552**, operation of the scroll wheel (e.g. FIG. **4**, **132**), causes the device to display channel selector view **2556**.

According to one embodiment, channels for displaying video content and/or audio content operate with a different logical flow. In one example, additional interactivity is required to allow a user to, for example, stop a video, start a video from the middle, among other options. According to one embodiment, the streamlined device must be able to accommodate routine operations through manipulation of only a scroll wheel and a mouse, for example when the device is in an easel mode. It is to be appreciated that in other configurations the logical flow for the behavior of the channel view may be different, and may take advantage of addition input/output devices available in other device modes. Shown in FIG. **28**, is an example of a logical flow for device/UI functionality, during the normal operation of a channel view of video content. At **2802** shown is a channel page view of video content, select of button (e.g. FIG. **4**, **132**), causes the device to display contextual menu **2804**. Contextual menu, includes a visual representation of select-

able options, **2806**. The selectable options rendered include at least a rewind/fast forward selector, resume selection, other episodes. Selection of rewind/fast forward selector invokes a timeline controller **2809** shown in the content page view, **2808**. The time line controller is responsive to rotation of the scroll wheel, providing fast forward in one direction and rewind in the other. From **2808**, selection of button **132** causes the device to return the view to channel page view **2802**. Selection of resume form **2804**, also causes the device to return the view to channel page view **2802**. Selection of other episodes from **2804** causes the device to invoke content menu **2810**, which provides a selector view of available content for the channel. Selection of content, **2811**, from the selector view causes the system to play the selected content in channel page view **2802**. From channel page view **2802**, the devices displays channel selector **2812**, in response to operation of the scroll wheel. The logical flow illustrated may be used for interactions with audio content as well, for example, to control playing of .mp**3** or other audio file.

Selecting Device Configurations

According to one aspect, systems and method for streamlining user interaction with electronic content include a plurality of physical configurations for a streamlined device, the streamlined device may be, for example, a portable computer. As discussed above the plurality of configurations may represent modes of operation of the device, and include for example laptop mode, easel mode, among others. According to another aspect the user interface that governs interactions between the user the device and accessed content is responsive the selected mode and/or configuration of the streamlined device.

According to one embodiment, the streamlined device retains information on device configuration and/or mode. In on example, information is maintained as a state variable in a systems register. In another example, the system may obtain state from signals provide by an embedded sensor, as discussed above. The state information may be used to generate a system response, when the device detects a change in configuration and/or mode.

In a typical setting a user interacts with a streamlined device in one of two viewing modes. The two viewing modes reflect a level of interactivity with the device being viewed. A lean forward view encompasses interactions between a user and conventional computer systems. One example includes a user typing at the keyboard of their laptop computer, in essence, the user leans into the computer device and display to perform interactions and view content. Similarly a user's interaction with desktop computers are conducted through a forward mode of interaction. It is realized that traditional computer devices and systems are notorious bad at permitting interaction with content and the device from greater distances.

Interactions with content and other device for example a television are included in the second type of viewing mode. A lean back mode of viewing is meant to encompass ordinary television viewing, and the interactions a viewer has with their DVR for example. Television and their associated devices and configured to provide for lean back styled interactions. It is realized that conventional system and methods fail to provide for the transition from lean forward to lean back interactions. As discussed above, streamlined devices can accommodate a plurality of configurations, and individual configurations may be designed to accommodate the different viewing modes. Additionally, the streamlines user interface is configured to be responsive to the configurations. For example, transitions from a laptop mode of the device may trigger changes in the user interface. According to one embodiment, a transition from laptop mode to easel mode, causes the device to transition from either a home view or web page view to a channel selector view. The transition from laptop to easel, may also trigger a transition from a channel page view to channel selector view. In one alternative, the transition causes the device to display a channel full view for that channel card. The transition from easel to laptop may also cause the device to alter the view displayed to a user. In one example, if a new card has been shared, the device causes the home view to be displayed. The last page of the home view is displayed where the new card is rendered.

According to another embodiment, methods and systems for streamlining user interactions may include a process for transitioning between different user viewing positions. Shown in FIG. **48**, is an example process **4800**, for permitting a user to select a viewing mode for a streamlined device, and in response displaying a user interface view configured for the selected viewing mode. At **4802**, a streamline computer system presents computer content using visual representation optimized for different viewing modes. In particular, ones of the visual representations are configured to display in a "lean forward" user viewing mode and a "lean backward" viewing mode. In one example, a lean forward user viewing mode includes a user typing at a keyboard of a laptop computer. In another example, a lean backward user viewing mode includes a user viewing a television from a distance. One should appreciate that the examples provided are illustrative and are not intended to be limiting. A streamlined device permits a user to select a device configuration most suited to a particular user viewing mode. For example, a user may rotate a streamlined device's display relative to its based about an longitudinal axis, transitioning the device from a laptop mode to an easel mode. According to one embodiment, the easel mode of the device permits improved "lean back" interactions with computer content. In other words, the easel mode makes it easier to view the streamlined device's display from distances greater than conventionally used with laptop computers. Selection of a lean backward user viewing mode at **4804**, triggers the streamlined device to transition to a content display that improves user interaction. On one example, in response to the user selection at **4804**, the computer system display transitions to a channel viewing mode at **4806**. The channel viewing mode is configured to present computer content, in large footprint displays, and further is designed to streamline user interaction with the streamlined device by permitting access through a first I/O profile associated with the streamlined device in easel mode. The first I/O profile in easel mode may consist of a scroll wheel and a selector button. In some embodiments, the first I/O profile may include a volume control.

Other processes may be invoked to cause a user interface to transition between views in response to changes in device configuration. Shown in FIG. **49**A, is an example process **4900**, for transitioning between a lean forward view to a lean backward view. At **4902**, a user changes the streamlined device configuration from laptop to easel mode. In response the computer system switches view from its current view to a channel view. In some examples, the computer system is already in a channel view, and no transition is implemented. The easel mode of the streamlined device is associated with a first I/O profile including an integrated scroll wheel and a selector button. Upon manipulation of the scroll wheel, a view selector causes the computer system to display a progression through a sequence of channel cards as the

scroll wheel is rotated, at **4906**. Optionally the sequence may include other customized cards (in one example a photo and video card). Upon selection of a displayed channel card, a channel full view is invoked at **4908**. The channel full view displays the content of the selected channel card in the entirety of the computer system display screen. The system returns to the channel view in response to further rotation of the scroll wheel.

Shown in FIG. **49**B, is another example process, **4950**, for transitioning between user views. At **4952**, a user changes a device configuration from an easel mode to a laptop mode. In response to the change in mode, the device displays a home view of available content, at **4954**. In some examples, the system may already be in a home view and no transition occurs. The user may interact with the streamlined device through a second I/O profile at **4956**. In some embodiments, the second I/O profile includes a keyboard, a touch pad, buttons, web cam, and a scroll wheel.

Streamlined Device Community

According to one aspect, a common experience may be created for multiple users, fostering a community experience. According to another aspect, the common experience may also include a community aspect. The community aspect includes sharing of content between users, sharing of content and configurations, sharing of content, configurations, and customizations, among many other options. In particular, sharing may involve the transmission of user interface elements to other users. The visual representations that map to content and/or computer operations on one device may be transmitted to another device or another user. In one example, a user may share a card and any of its configurations with another user. Access to the shared user interface elements, in some embodiments, facilitates communal computer usage. In one example, a first user may be watching media on their streamlined device, another user known to the first user, may receive a user interface element that retains information related to the accessed content and information related to the present context. That is for the first user watching a movie, the first user may share the user interface element (e.g. a channel card mapped to video content) through which s/he is accessing the move, and permit the another user not only to watch the movie, but to take up the movie at the same point in time, so in essence, they get to enjoy the movie together. Content and context retention by user interface elements that can be shared provides unique advantages to the users of the streamlined devices.

In some embodiments, the community aspect incorporates formation of groups. In one example, groups are formed based on at least one of a social relationship, familial relations, work relationship, etc. Different groups may share different content and even different context for the same content through for example, shared user interface elements. Groups may be further organized into nodes or a node may comprise the group. In some examples, a family forms a node regardless of the family's location relative to each other. As part of the configurations that may also occur as part of the device's purchase, at least one of the users identifies his/her family members. The family members are configured into a node. The node may be used to permit sharing of content. The node may be used to permit sharing of cards. Further updates to configurations on device in the node may be propagated automatically to other devices in the node.

Communication between groups members may take place over the internet. In one embodiment, a sub-network utilizes the internet or other communication network to communicate between streamlined device users. In another embodiment, a service is hosted for streamlined device users to facilitate communication. The service may also be connected to the internet and in one example functions as a gateway between users, their devices, content, sharing, and communicating. The service facilitates real time sharing, in one example a user may share a movie s/he is viewing with another. Not only may the user share the information that s/he is watching a movie, but the user may allow another to watch the movie starting at the same place, allowing the users to perceive they are watching the movie together.

FIG. **29**A, illustrates an example interaction between a user, the device, and the user interface, where the device causes a web card to be shared to other users. Shown is web page view, **2900**, in response to user selection of share **2902**, the device displays a share interface **2904**. The device accesses the user profile to determine any groups or to nodes that the user has created. In example view, **2900**, the user has only one group, family members **2906**. Each entry listed in family members represents another streamlined device/user. Box **2908** permits sharing of the card with other users of conventional systems. Comment may be included. For example, a user may type any comment on the card being share into box **2910**. Comments entered on a shared card are display with the card on receipt by another streamlined device user. The user selects any one or more of the listed members **2914-2920**, or the user selects **2912** to share the card with all the listed members. Once the selections have been made and any comments entered the user selects **2924** Share! And the card is transmitted. By selecting Never Mind **2924**, the device closes the share interface. In FIG. **29**B, shown is an example of a web page view after a share operation has been completed. At **2950**, the device notifies the user that the selected item has been shared. For other streamlined device users share content is received by their streamlined device as a web card. For other users, an e-mail with a link to the content is delivered. It is to be appreciated that FIG. **29**A, illustrates a user with one group or node. In other embodiments, a user may be permitted to generate a plurality of groups or nodes. Box **2926** may first display a list of groups, that a user may select from, in order to show the members of the selected groups. In one embodiment, box **2926** lists more members that can be accommodated in the space provide by the interface. An optional scroll bar may be displayed into to permitting display of additional group members.

FIG. **30** illustrates an example of a received shared card, **3000**. The state of the streamlined device may impact behavior of the device in response to receipt of a shared card. In screensaver mode, a streamlined device presents received shared cards as part of the screen saver view, **3000**. Comments included with the shared card, are presented in an overlay box **3002**, and any text that does not display is a first screen is scrolled into view **3004**, while the content of the shared card is displayed. The overlay box **3002**, may include an image of the user who shared the card and/or content, at **3006**. Shared display **3000**, may also include an indicator regarding the number of content items in the shared card. For example at **3008**, the number of content items in the photo set being displayed indicates 1 of 4. Other information associated with individual content items may also be displayed at **3010**. In the screen saver mode, the shared content items are each display, a timer controls the length of time each item is display before continuing on to the next item. The device then returns to any screen saver content that was being displayed when the shared card came in.

For users receiving shared content while in an active view (e.g. non-screensaver views), the system may provide a notification message to indicate shared content. From the home view, for example, the system generates notification message to display in a message bubble. An visual indicator is employed to notify the user that a system message is present. In one example, the navigation item displayed in the home view (e.g. FIG. **2**, **250**), is animated to indicate a message. An example notification is illustrated in FIG. **31**. Navigation element **3102** may be animated, the device displays message bubble **3104** upon focus resolving on element **3102**. The user may select **3106** or **3108**. Upon selection the device displays the shared card of **3106**, or the device returns to the home view **3108**.

Similar notifications may be employed in conjunction with other views. Further similar notifications may be used for other contexts. In response to displaying a web page view of a web page with stored user name information, a device may present a notification message regarding the availability of account information. FIG. **32** illustrates an example message for a site with two stored accounts. By default the system displays the content without using the stored account information. The device causes the message to disappear if a selection is not made, or if browsing activity continues without selection of an account. According to some embodiment, notifications can either require a response/action or the notification may disappear if no action is taken. Typically, notifications that do not require an action are used to convey information.

In one embodiment, from channel view in laptop mode, the notification of the arrival of new cards is the same as in home or page view. Typically navigation element **3302**, FIG. **33**, does not appear in the channel view. In response to a new card, the device displays **3302** and may animate its display. In response to focus on the **3302**, a notification bubble **3304** appears. The system displays the home view for the page containing the first new card in response to selection of **3302** or **3306**.

When a notification is available in channel view, moving the scroll wheel invokes the Channel Selector view, but the system displays the first new card default (instead of the current channel). When in channel view in easel mode, the notification of the arrival of new cards is similar as above, except that both the navigation element and the notification bubble may appear at once. Shown in FIG. **34**, is an example of a notification message from a channel view while in easel mode. The system displays both **3302** navigation element and **3404** message bubble together in response to shared content.

In one embodiment of a streamlined device, the user interface is configured to provide for passive viewing of selected content through a screensaver mode. The device enters screensaver mode in response to the expiration of a idle timer expiring. Any interaction with the device causes the device to exit screensaver mode. In screensaver mode, channel cards and content are display in order. An idle time out period may be established to force a transition to a new channel in the event the idle time out period is exceeded before all the content of the channel is displayed.

According to some embodiments, the community experience is enhanced through particular features and functions facilitated by the device, the user interface layer, and/or configurations designed to facilitate interaction among users (either with the device features themselves or also with third party services). According to another aspect, community experience and/or community learning furthers adoption and/or integration of new computer features into a particular user's routine. It is realized that facilitation of communication and/or content sharing across users improves introduction of features and increases the likelihood of their adoption. Context and content sharing are provided for and through streamlined interfaces. The sharing opportunities may be device sensitive, that is, a user with a same/similar device can be identified by a specific user. The users with identical devices may have the most options for how to share, what content to share, context settings, and may also include the ability to share features associated with the content. In one embodiment, a user may enable features associated with a card based interface and through sharing the card make another user aware of features of the card interface that the receiving user was unaware of. In another embodiment, the shared card provides all of the configurations established for the originating card. In one alternative, security features may be invoke to clear certain settings of a card to insure that for example, banking information is not shared to another user. In another alternative, the user selecting share is prompted to confirm the share request. In response to a security identifier, the prompt to confirm includes a warning banner regarding the identified security issue. In one example, a user receives a warning that sharing a card including banking content may compromise the bank accounts referenced. In another embodiment, a share request with an identified security issue is denied.

In some embodiments, the community aspect incorporates formation of groups. In one example, groups are formed based on social relationship, familial relations, work relationship, etc. Different groups may share different content and even different context for the same content through for example, shared user interface elements. Groups may be further organized into nodes or a node may comprise the group. In some examples, a family forms a node regardless of the family's location relative to each other. As part of the configurations that may also occur as part of the device's purchase, at least one of the users identifies his/her family members. The family members are configured into a node. The node may be used to permit sharing of content. The node may be used to permit sharing of cards. Further updates to configurations on device in the node may be propagated automatically to other devices in the node.

According to another embodiment, sharing options may also be adapted to different devices being operated by sharing users. For example, certain features may be disabled when a card or content is shared outside of a streamlined device community. In some embodiments, communities may be based on the device being employed, membership in a group, and/or membership in a node. Additionally communities may be based on social interactions, familial relationships, etc. Examples of communities include name lists of user identified by the device operator. In one example, community lists and/or community groups are pre-generated in response to questions asked of a potential purchaser. User names may also be added and maintained by the user. Additionally, the system may create community lists on behalf of a user based on the user's activity.

For example, when composing and sending an e-mail, the system may query the user to determine if the recipient should be within the user's community. In one alternative, the system may add the recipient to a potential community and make the addition subject to a later confirmation. In another option, the e-mail recipient is added by default to a group with minimal sharing options. The user is provided the option of changing the group associated with the recipient. Additions to community list may require additional configurations to become effective. For example, the device

user may be required to accept additions, a device user may be required to identify if the added name corresponds to another user of a similar/same type of device, among other configurations options.

Specialized Operations

According to another aspect, certain features of convention computer interactions have been specially configured to present streamlined interaction between a device, a user, and content. In one embodiment, the device does not incorporate mass storage (i.e. a hard drives), instead the system is configured to employ RAM and Flash memory storage. The capacity of the flash memory is significantly less than traditional mass storage options. Thus in some embodiments, traditional features such a download, have been configured to operate differently for a streamlined device.

In one example, download links do not cause a streamlined device to download content. Instead, a download link is interpreted by the device, which initiates a process for handling download links. An example process includes accessing a third party provider of remote storage to retain the content identified in the download link. According to one embodiment, the purchase of a streamlined device, include creation of an account with access to on-line storage. In one example, remote storage for a device is provided in conjunction with user information stored to customize the device and configure its operation to the particular user.

In one embodiment, customized configuration files supply information required for integration for known third party providers. In some embodiments, customized configuration files are used to establish default interactions with for example, Shutterfly, an on-line third party photo management and sharing service. In other examples, customized configuration files are used with other third party on-line service providers. Other third party provides include GMAIL, HOTMAIL, YAHOO! MAIL to provide examples of e-mail service providers. Other provides include, for example, on line banking providers, financial system providers, university systems, web site development providers, dating services, and social networking sites. One should appreciate that the integration of an on-line service need not depend on a predetermined configuration file or settings, rather, various embodiments of the systems and methods are adapted to learn from user interaction and develop appropriate configurations. Certain embodiments are further configured to take advantage of configurations developed by other users of such systems and methods, permitting sharing of content, sharing of configurations, etc. According to one aspect, by using input from the users, learning from user interactions, permitting content sharing, permitting sharing of configurations, and by providing default configurations for more popular services almost any on-line service can be integrated.

Still other embodiments, may query the user upon entry/access into a new service for any information necessary to configure the device to provide streamlined presentation and integration of the third party service. In some embodiments, the process of streamlining user interactions with electronic content includes querying the user regarding subscribed services and/or functions the user would like to use on their computer. For example, during processing of a purchase of a streamlined device a prospective purchaser receives a query form, or the user may receive individual questions regarding the purchaser's present computer use. In one example, the questions will generate a profile of subscribed services, whether pay or free, and customize the user interface to permit streamlined interaction with those services out of the box. In one example, default configurations and/or questions designed to elicit required configurations, allow the user to interact with GUI elements customized to his/her current use and preferences.

A process for handling download links may be responsive to the particular content selected for download. In one example, the system analyzes the selected download link to determine the type of content selected for downloading. In response, the system identifies accounts held by the user for processing the selected content. If multiple accounts exists that handle the selected content, the account first created is used by default. A user may alter default operation through use of system settings. For photo content, as one example, the system identifies the content as a picture (.jpg, .gif, .tif, etc.). The user's profile contains information for accessing FLICKR, a third party provider of photo access and management services. The download link is interpreted into an operation to transfer the file into the user's FLICKR gallery. Other services may be used to host the content, for example, the download link may be interpreted to cause the system to upload the photo to the well known MYSPACE or FACEBOOK services. For content that cannot be identified, the streamlined device causes the download request to be interpreted as a delivery request to a generic remote storage service. The remote storage service may be one provided through a third party provider, or may be the remote storage space provided by a seller of the streamlined device.

An example process, **4200**, is shown in FIG. **42** for streamlining user interactions with digital content. The user interaction with digital content is streamlined by enhancing features for simplifying user decisions by providing access information associated with multiple user accounts for a particular online source. Multiple account profiles can be retained and presented to a user of a streamlined device. Example process **4200** begins at step **4202**, permitting a user to access electronic content through the streamlined device. At **4204** the source of the electronic content is determined and matched against available access information. Access information may be stored in a device profile or in another example in a user profile. These profiles may be loaded at startup of the device or may be accessed in real time when a content source is determined. At **4204**(NO) no access information is available for the content source, and the electronic content is display at **4206**. Example electronic content includes web pages and other online resources. At **4204**(YES) the content source is matched against available access information. At **4208**, access information is displayed to a user in a user interface. The access information typically identifies a user account available to access the content source. In one example, for an e-mail service this will include the e-mail address displayed in the interface. A plurality of access accounts may be available for a given service. The streamlined device is configured to handle multiple users with multiple account to any given services. The user interface permits the user to identify which access account is desired. At **4210**(NO) the user does not identify an access account, and at **4212** a default access account is used. The default access account does not provide any account information, and the content source page is display, at **4216**, not including any sign-on information. At **4210** (YES) a user selects an access account and at **4214** the access information is passed to the content source, and the displayed content at **4216** will return content after the sign-on process has been completed.

In another embodiment, a process for handling download operations is provided. The process includes causing the device to display a download interface, for example interface, **3500**, FIG. **35**. The interface presents the user with

options for processing the download request. Box **3502**, lists members of the user's group to whom the user may send the file. Box **3504**, permits a user to enter e-mail addresses to send the file as an attachment or as a link if a size threshold is exceeded. For a user who has configured third party service capable of handling the file content, Box, **3506**, displays the configured providers (e.g. Shutterfly **3508**, Flickr **3510**, DropBox, **3512**). Each configured service displays with the account name configured for the service, for example at **3514**.

In one example, process, for interpreting download operations also includes displaying the interface in response to computer focus on the download link. In another example, hovering over the link causes the system to display a download interface. For files sent by e-mail the system may be configured with a maximal file size for particular e-mail services. Typically files sizes of less than 5 MB are not filtered, thus is the e-mail domain address is not recognized, a default threshold of 5 MB may be used. For services with known size constraints the system will transmit the file to the e-mail address. If the constraint is exceed, the system transmits a link to the file instead of the actual file.

Another to another embodiment, selection of print operations may be handled in a similar fashion as to downloads. When a printing device is attached to a streamlined device, printing proceed as known conventionally. When a printer is not attached, a process for interpreting print operations may be invoked. The process for interpreting print operations, includes causing the device to display a print interface **4102**, FIG. **41**A. The print interface provides box **4104** listing group members, **4106** listing configured services, and box **4108**, for entering destination e-mail addresses. Selection of **4110** sends the item in a print format, in this example a .pdf file. In other examples, different file formats will be displayed as part of **4110** (e.g. word, doc, txt, wpd, xls, etc.). in some embodiments, file size limitations will be employed on delivery of print format files. FIG. **41**B illustrates in greater detail examples of print **4150** and download interfaces **4152**. Print and download operations may invoke a progress bar displayed over the current view, with the option of canceling transmission.

In another embodiment, a streamlined system includes the following features:

- Employs remote mechanisms to access and/or deliver files
- Mechanisms include indentifying a remote action in response to file type
- Web Content Support for system that does not utilize local memory for storage
- In response to download selection (i.e. request to locally store content) display message regarding new functionality (transfer or remote store)
- Maintain user profile—associate web service providers for a particular user
- web services—remote storage, email, photo sharing, custom web page info, storage accts (e.g. Drop Box and Google Docs)
- In response to mouse over/selection/hover/indication of selection display interface to enable remote delivery of content/file
- Providing for selection of remote delivery to a domain (including home network) including an act of verifying the content/file's size does not exceed a threshold value
- In response to passing site check deliver content/file as attachment
- In response to fail, store in provided remote storage, generate link, and deliver link to content/file

According to one embodiment, a method for streamlining user interaction with electronic content includes a process for interpreting online executable operations into streamlined operations. One example process, **3600**, FIG. **36**, for interpreting online executable operations into streamlined operations includes the step of permitting a user to access digital content online, at **3602**. The online digital content is presented to a user through a graphical user interface at **3604**. The GUI permits a user to select executable operations in the presentation of the online digital content, at **3606**. In response to selection of the executable operation, the computer system determines if the executable operation requires local access. In one example, the executable operation includes a download operation that would cause a conventional computer system to store a file on a local mass storage device such as a hard drive. In response to the determination that the executable operation requires local storage, a streamlined computer device transforms the executable operation's local access request into a remote access operation, at **3608**.

In one example, the remote access operation includes a storage request to a online service provider. Various online service providers permits remote storage of various computer files. Certain service providers optimize the provided service for specific file types, such photo management and sharing services. Other examples include e-mail access providers, video and audio media management and presentation services. In other examples, a service provider may offer generic data storage not specific to any file type. In one embodiment, step **3608** includes transforming a download request to a local mass storage device into a storage request to a remote service. The example process can include acts of identifying the file type associated with the download request, and selecting a service provider based on the identified file type.

In another example, the executable operation that requests local access to storage on the streamlined device may include a print operation, a save operation, a copy operation, a paste operation. Typically the streamlined device is configured to transform save, download, and print operations into remote storage operations. According to one embodiment, a print operation may be streamlined to permit the print operation without an attached printer. According to one embodiment, in the absence of an attached printer, a print request generates a print file in response to execution. Conventionally the print file would be stored locally on a computer hard drive. In some embodiments, a streamlined device does not employ local mass storage devices such as hard drives. Such streamlined devices are configured to transform local storage request into remote storage operations. In one example the print file may be directed to a generic storage provider, and the file stored in the remote memory associated with the generic storage provider. In another embodiment, the system checks the resulting file size for the print file. If the size of the file exceeds a threshold, then the system may further streamline the operation. For example, by providing a link to the file and transmitting the link to a destination. A link may be transmitted through an e-mail instead of transmitting the file itself, for example.

Another example process may be used in conjunction with **3600**. In one example, a sub-process, **3700**, FIG. **37**, for permitting selection of executable operations in online content can be employed. At **3702**, computer focus is resolved on an executable operation embedded in online content. Executable operations can include download, print, save, transfer, retrieve, get, fget, and generally comprise opera-

tions that require a large memory block of nonvolatile storage, and in particular hard drive space. A streamlined computer device includes logic stored in memory and executed by a processor to analyze a focused executable operation, and at **3704**, the executable operation is analyzed. The logic may include programming to trap download request for example. Once a request is trapped the streamlined device can determine what action is appropriate based on the type of request. At **3706**, it is determined whether the executable operation requires local storage. At **3706**(No) local storage is not required and the executable operation is performed at **3708**. At **3706**(Yes) it is determined that local storage is required and the operation is transformed into a remote access operation at **3710**.

Example process **3600** may include additional sub-processes and/or individual steps performed in process **3600** may also comprise other processes. In one example sub-process **3800**, FIG. **38**, for transforming online executable operations associated with local storage into remote storage operations may be employed as part of a larger process, for example, process **3600**. At **3802**, a streamlined computer system identifies a result of an executable operation identified in a web browser displayed on the system. At **3804**, a file type associated with the operation is identified. At **3806**, at least one of a device profile and a user profile is accessed, to retrieve available services, **3808**, that may be appropriate for the particular file type. Various services for a particular user may be associated with the device itself, and a plurality of users may have access to multiple services or even more than one account for an individual service. Logic stored in memory and executed by a processor may determine matched services at **3810** by accessing information stored in at least one of a device profile and a user profile. The access information may contain records on available services, their access information, and the access information may include a file type designation for a particular service.

In one example, executed logic matches a file type associated with the executable operation to a file type associated with a remote service **3810** (YES), and in response the computer system retrieves access information for that remote service at **3812**, the local access operation can be redirected into a remote service operation at **3814**. For example, the computer system may access the remote service using the obtained access information, and provide an interface to transmit the object (data) of the local access to a location within the remote service. In one embodiment, a default service may be configured for any streamlined device. In the absence of matched services at **3810** (NO), the computer system may invoke a default remote service at **3816**, obtain the default service access information at **3812** and redirect the local access operation into a remote service operation at **3814**.

In another example, process **3800** may be coupled with an interface display presented to a user of the streamlined device. And step **3812** may be used to populate a user interface with a plurality of matched services. The interface may also display additional information associated with the service, for example an account name may be display to permit a user to distinguish between an account s/he set up as opposed to another user. The system may permit the user to designate the remote service appropriate for use in the interface and step **3814** occurs to redirect the local access operation into the user selected remote service.

In another embodiment, an example sub-process, **3900**, FIG. **39**, for obtaining service access information may be employed to retrieve remote service information. Example process **3900**, includes an act of accessing at least one of a device profile and user profile to obtain matched services at **3904**. Obtaining matched services may include filtering from the available services, or it may include retrieving all available services listed in the at least one of a device and user profile. In one example, filtering is performed based on a file type that is the subject of a local access operation, in another example, filtering may be performed to return only remote services of the current system user, although it is to be appreciated that other filtering operations may be performed. Once available services are matched **3904**, with or without filtering, the matched services are displayed to a system user at **3906** in a user interface. The user interface permits the user to select from the remote services at **3908**. Selection may include clicking on a visual indicator shown in a computer display (e.g. a check box), other options include links to the service, other visual indicators may be used, including drop down boxes and other html, xml, and human readable computer displayed forms. In one alternative (not shown), if the user does not select a service within a predetermined period of time, the system may cancel the operation entirely, or alternatively select a default remote service automatically. At **3910**, the object of the local access operation is delivered to the remote service.

Configuring Streamlined Devices

According to one aspect, streamlining user interaction with computer content includes improving user interfaces display, permitting configuration of streamlined device ruing operations. Streamlining user interaction may also include providing for the pre-configuration of a streamlined device with content customized to a particular user.

In one embodiment, a potential user may purchase a streamlined device on-line. During an order process, the user may establish an interactive session with an order management system. the order management system may be operatively connected to device management systems, including for example remote storage space, remote profiles, among other information. The order management system is configured to retrieve information on the potential user during a purchase session. The potential user is asked for permission to retrieve information from the computer system on which they are order from. The interactive session may also inquire if the user is ordering from home (and thus their home computer), or form another location. In response to granting permission, an executable object is downloaded to the potential user's home computer. The executable object may be encoded use any language, the specific coding language/environment is not important rather the operations performed by execution of the object on computer hardware is.

The executable object mines the home computer of the potential user for web usage information. Web usage information may include for example, browser history (IE and FireFox), favorites, stored accounts, bookmarks, access frequency information. The web usage information is retrieved from the home computer and processed either by the order management system or a streamlined device management system to generate visual representations associated with mappings to computer content. The content that is mapped to, is determined for example, be determined the most frequently accessed site for the potential user. In one embodiment, web cards are generated for the potential user. Each web card is pre-loaded on the device that will be shipped upon completion of the order. Further, for the web cards capable of being display as a channel card—both types may be pre-loaded. Other specialized cards may be generated and pre-loaded for the user based off of information obtained from their home computer. For example a bookmark card is generated from the retrieved bookmarks—The

retrieved bookmarks may be passed through a filter to remove bookmarks that have not been accessed in for example 6 months. Although other time periods may be used to filter bookmark information. Web cards may also be created from the most frequently access bookmarks.

Additional information may be mined from the potential user's computer. In particular, communication settings for the home computer may be detected. Any wireless communication setting may be retrieved and preconfigured. After pre-configuration the streamlined device may be considered fully operations out-of-the-box.

The interactive session may also be used to supplement any retrieved data, for example, if the executable object detects frequent access to third party providers—Flickr and Google Docs for example but cannot detect account name and other access information, the interactive session may query the user to provide the required information.

In other embodiments, the user may be sent executable code via an e-mail during or after a purchase. For example, a user not on his/her own computer during the ordering process may be sent an e-mail containing an executable file, to be run when the user is on their home computer. In another example, a party may purchase a streamlined device for another. The purchaser may provide an e-mail address for the intended recipient, who may execute the file to transmit customization information for the streamlined device.

According to one embodiment an example process, **4000**, FIG. **40**, for pre-configuring a streamlined device is shown. Process **4000**, beings at **4002** in response to a request to purchase a streamlined device. The request is accepted at **4002**, and in response a management system requests permission to perform a data mining operation on a recipients computer. Typically the person/entitiy ordering the streamlined device is the same as the recipient, in which case an executable file can be transmitted at the same time a online request to purchase a streamlined device occurs. In one alternative, the request may be entered offline. During an offline request an e-mail address may be requested and the executable file deliver to the recipient's email, notifying him/her of the file and it use to pre-configure their computer. In another alternative, the party ordering the streamlined device intends it for another. When the purchaser and recipient are different, the e-mail address is requested for the intended recipient. At **4006** (YES), permission is obtained and the executable file retrieves information associated with online use of the recipient's computer at **4008**. Additional information may be collected including configuration options on the recipient's computer. System settings such as network communication configurations may also be retrieved. In one example, wireless network data is retrieve to permit the streamlined device to connect immediately to a recipient's home network.

During an order for a streamlined device, demographic information is collected on the recipient at **4010**. This often includes at a minimum a name and destination address for a recipient of a streamlined device. Thus even if permission is not granted **4006**(NO) information can be collected to pre-configured a streamlined device at **4010**, in this case the information is constrained to what is provider by the purchaser during the transaction. At **4012**, accumulated information is used to pre-configure the streamlined device. Pre-configuration includes establishing wireless network settings for the streamlined device, and may include generating visual representations of online content that are mapped to for example the most frequently accessed sites on the recipient's home computer. Other configuration can include generating visual representations that map to services configured on the recipient's computer (online banking, photo management services, file sharing services, media management services, e-mail providers, etc.). The visual representations may be configured with access information including user names and passwords so that a recipient can switch over the streamlined device seamlessly.

Special Purpose Computer

FIG. **51** shows a block diagram of a computer system **5100** in which various aspects of the present invention may be practiced. For example, various aspects of the invention may be implemented as specialized software executing in one or more computer systems including multiple computer systems communicating over network. Computer system **5100** may include a processor **5106** connected to one or more memory devices **5110**, for storing data. Typically computer system **5100** is implemented without hard drive devices. Memory **5110** is typically used for storing programs and data during operation of the computer system **5100**, and typically comprises Flash memory. Components of computer system **5100** may be coupled by an interconnection mechanism **5108**, which may include one or more busses (e.g., between components that are integrated within a same machine) and/or a network (e.g., between components that reside on separate discrete machines). The interconnection mechanism enables communications (e.g., data, instructions) to be exchanged between system components of system **5100**.

Computer system **5100** may also include one or more input **5104**/output (I/O) devices **5102**, for example, a keyboard, mouse, trackball, microphone, touch screen, a printing device, display screen, speaker, etc. Output devices may include video cards and separate video memory for improved processing performance. Storage **5112**, typically includes a computer readable and writeable nonvolatile recording medium in which signals are stored that define a program to be executed by the processor or information stored on or in the medium to be processed by the program. The medium may, for example, be a flash memory. Typically, in operation, the processor causes data to be read from the nonvolatile recording medium into another memory that allows for faster access to the information by the processor than does the medium. This memory is typically a volatile, random access memory such as a dynamic random access memory (DRAM) or static memory (SRAM).

Referring again to FIG. **51**, the memory may be located in storage **5112** as shown, or in memory system **5110**. The processor **5106** generally manipulates the data within the memory **5110**, and then copies the data to the medium associated with storage **5112** after processing is completed. A variety of mechanisms are known for managing data movement between the medium and integrated circuit memory element and the invention is not limited thereto. The invention is not limited to a particular memory system or storage system.

The computer system may include specially-programmed, special-purpose hardware, for example, an application-specific integrated circuit (ASIC). Aspects of the invention may be implemented in software executing on hardware, hardware or firmware, or any combination thereof. Further, such methods, acts, systems, system elements and components thereof may be implemented as part of the computer system described above or as an independent component.

Although computer system **5100** is shown by way of example as one type of computer system upon which various aspects of the invention may be practiced, it should be

appreciated that aspects of the invention are not limited to being implemented on the computer system as shown in FIG. **51**. Various aspects of the invention may be practiced on one or more computers having a different architectures or components that that shown in FIG. **51**.

Computer system **5100** may programmable using a high-level computer programming language. Computer system **5100** may be also implemented using specially programmed, special purpose hardware. In computer system **5100**, processor **5106** is typically a commercially available processor such as the well-known Pentium class processor available from the Intel Corporation. Many other processors are available, including multi-core processors. Such a processor usually executes an operating system which may be, for example, the Windows-based operating systems (e.g., Windows Vista, Windows NT, Windows 2000 (Windows ME), Windows XP operating systems) available from the Microsoft Corporation, MAC OS System X operating system available from Apple Computer, one or more of the Linux-based operating system distributions (e.g., the Enterprise Linux operating system available from Red Hat Inc.), the Solaris operating system available from Sun Microsystems, or UNIX operating systems available from various sources. Many other operating systems may be used, and the invention is not limited to any particular operating system.

The processor and operating system together define a computer platform for which application programs in high-level programming languages are written. It should be understood that the invention is not limited to a particular computer system platform, processor, operating system, or network. Also, it should be apparent to those skilled in the art that the present invention is not limited to a specific programming language or computer system. Further, it should be appreciated that other appropriate programming languages and other appropriate computer systems could also be used.

One or more portions of the computer system may be distributed across one or more computer systems coupled to a communications network. For example, various aspects of the invention may be distributed among one or more computer systems (e.g., servers) configured to provide a service to one or more client computers, or to perform an overall task as part of a distributed system. For example, various aspects of the invention may be performed on a client-server or multi-tier system that includes components distributed among one or more server systems that perform various functions according to various embodiments of the invention. In one embodiment, the Litl cloud is maintained on server systems accessible from a plurality of devices. These components may be executable, intermediate (e.g., IL) or interpreted (e.g., Java) code which communicate over a communication network (e.g., the Internet) using a communication protocol (e.g., TCP/IP).

It should be appreciated that the invention is not limited to executing on any particular system or group of systems. Also, it should be appreciated that the invention is not limited to any particular distributed architecture, network, or communication protocol.

Physical Configurations

Referring to FIG. **52**C, when the portable computer **100** is in the easel mode, the base is disposed at an angle **134** to the display component. This angle **134** is adjustable, for example, to allow a comfortable viewing angle to the display screen to be maintained for different positions of a user **136** and of the portable computer **100**, as illustrated in FIGS. **52**A, **52**B and **52**C. For example, when the user **136** is further from the portable computer, the angle **134***a* (FIG. **52**A) may be made smaller than the angle **134***b* when the user is closer to the portable computer (FIG. **52**B). As discussed above, in one example, the orientation sensor (not shown) may be used to detect, either approximately or precisely, the angle **134** and to provide the information to the computer operating system.

Referring to FIGS. **53**A and **53**B, there is illustrated a portion of the portable computer **100** illustrating a hinge assembly **138** that allows the portable computer to be configured into either the laptop mode (FIG. **53**A) or the easel mode (FIG. **53**B), according to aspects of the invention. According to one embodiment, the hinge assembly **138** accommodates 0-320 degrees of rotation, allowing a minimum angle **134** (see e.g. FIG. **52**C) of 40 degrees. However, it is to be appreciated that the hinge assembly **138** may allow greater or fewer degrees of rotation, provided only that sufficient rotation is allowed so as to configure the portable computer **100** into either the laptop mode or the easel mode. As discussed above, in one embodiment the portable computer **100** includes an orientation sensor (not shown) that is configured to detect a relative orientation of the display component **102** and the base component **104**. In one example, the orientation sensor may be an accelerometer incorporated into the base component **104**, as discussed above. Alternatively, the orientation sensor may be incorporated into the hinge assembly **138** and may be used to detect movement of the hinge assembly, and to translate that movement into an information about the relative orientation of the display component **102** and the base component **104** (for example, a size of the angle **134**). It is also to be appreciated that the orientation sensor may include electronic or mechanical components, or a combination thereof. For example, the hinge assembly may be provide with detents that provide an indication of the mode of the portable computer.

As discussed above, and also illustrated in FIGS. **53**A and **53**B, the portable computer may also comprise a scroll wheel **132** that allows a user to adjust, control and/or select various aspects of the portable computer (e.g., wireless capability or speaker volume) or items displayed on the display screen **110**. A housing **160** may contain or support various mechanical and/or electronic components (not shown) that are coupled to the scroll wheel **132** and are configured to convert physical movement of the scroll wheel into electrical signals. These electrical signals may be provided to the central processing unit of the portable computer **100** which processes the electrical signals so as to translate movement of the scroll wheel into control of a selected feature, for example, adjusting the volume of the speaker(s) or selecting a particular item displayed on the display screen.

Having thus described several aspects of at least one embodiment, it is to be appreciated various alterations, modifications, and improvements will readily occur to those skilled in the art. Such alterations, modifications, and improvements are intended to be part of this disclosure and are intended to be within the scope of the invention. Accordingly, the foregoing description and drawings are by way of example only, and the scope of the invention should be determined from proper construction of the appended claims, and their equivalents.

The invention claimed is:

1. A customized user interface to display computer content on a display component of a computer system including a keyboard, the user interface comprising:

at least one processor operatively connected to a memory of the computer system;

a graphical user interface, executing on the at least one processor, configured to display the computer content on the display component of the computer system, the graphical user interface configured to:

display a plurality of views of a plurality of visual representations of computer content, wherein the computer content includes at least one of selectable digital content, selectable computer operations and passive digital content;

an execution component, executing on the at least one processor, configured to:

detect a current computer system configuration from at least a first computer system configuration where the keyboard is operable to receive input from an operator of the computer system to control the computer system and a second computer system configuration where the keyboard is inoperable to receive input from the operator of the computer system to control the computer system;

select one of the plurality of views for display on the computer system in response to the detected current computer system configuration; and

transition the display component to the selected one of the plurality of views.

2. The user interface of claim **1**, wherein in the plurality of views includes a home view configured to organize a plurality of content modes and a channel view configured to organize at least one of a single content mode and two content modes.

3. The user interface of claim **1**, wherein the plurality of views includes a screen saver view configured to organize selected content modes for passive viewing.

4. The user interface of claim **1**, wherein the plurality of views includes a home view organizing a plurality of visual representations of digital content, wherein the home view comprises a header display and a body display, and wherein the header display comprises a lateral frame extending from the left of the display component to the right of the display component, wherein the body display is rendered below the header display in the display component of the computer system.

5. The user interface of claim **4**, wherein the computer system configuration comprises a physical positioning of a computer system display relative to a base of the computer system that includes the keyboard about a longitudinal axis of rotation.

6. The user interface of claim **4**, wherein the graphical user interface is further configured to display a search tool displayed in the header display, wherein the search tool is configured to accept search terms entered by a user and in response to execution, causes the computer system to navigate to a view of a first visual representation of digital content, wherein the digital content includes a search engine, and the search engine presents results for the search terms.

7. The user interface of claim **1**, further comprising a storage component configured to retain a previous view state.

8. The user interface of claim **7**, wherein the execution component is further configured to cause the computer system to transition to a previous view in response to execution of a navigation element by a user.

9. The user interface of claim **7**, further comprising the navigation element displayed in a header display.

10. The user interface of claim **4**, wherein the body display comprises an organization of the plurality of visual representations of computer content rendered on the computer display, and the home view further comprises display pages in response to a display threshold establishing a maximal number of visual representations displayed per display page.

11. The user interface of claim **10**, wherein the home view further comprises an indication of visual representations displayed on adjacent display pages of the home view, wherein the indication is displayed within the body of the home view.

12. The user interface of claim **4**, wherein the graphical user interface is further configured to display a nascent card in the home view, wherein the nascent card is configured to permit generation of additional visual representations of digital content.

13. The user interface of claim **12**, wherein the execution component is further configured to execute a process for creating a visual representation in response to execution of the nascent card, wherein the process for creating a visual representation includes acts of:

transitioning to a quick access view;

generating a mapping to online digital content;

executing the mapping; and

displaying a first view of the mapped digital content.

14. The user interface of claim **1**, wherein the plurality of views includes a quick access view configured to permit user generation of a mapping between digital content and a visual representation.

15. The user interface of claim **1**, wherein the plurality of views includes a channel view including a channel selector that displays a sequence of visual representations.

16. The user interface of claim **15**, wherein the execution component is further configured to transition the computer system to the channel view in response to receiving user input via at least one input device integral to or operatively connected with the computer system.

17. A customized user interface to display computer content on a display component of a computer system including a keyboard, the user interface comprising:

at least one processor operatively coupled to a memory of the computer system;

a graphical user interface, executing on at least one processor, configured to display a plurality of views of a plurality of visual representations of the computer content;

an execution component, executing on the at least one processor, configured to:

identify at least a first computer system configuration where the keyboard is operable to receive input from an operator of the computer system to control the computer system and a second computer system configuration where the keyboard is inoperable to receive input from the operator of the computer system to control the computer system based on sensor input indicating a position of the display component;

select, responsive to the sensor input, a first content view from the plurality of views for the first computer system configuration;

transition, automatically in response to the sensor input, the display component between at least the first content view of the plurality of views and a second content view of the plurality of views;

receive user input via at least one input device integral to or operatively connected with the computer system; and

transition, automatically in response to receiving the user input, the display component from one of the first content view and the second content view to a

channel view including a channel selector that displays a sequence of visual representations.

18. The user interface of claim **17**, wherein the at least one input device includes at least one of a scroll wheel, a touchpad, and a mouse.

19. The user interface of claim **1**, wherein the first mode is a laptop mode where the keyboard is oriented to be accessible to the operator and wherein the second mode is an easel mode or a frame mode where the keyboard is oriented to be inaccessible to the operator.

20. A customized user interface to display computer content on a display component of a computer system including a keyboard, the user interface comprising:

at least one processor operatively connected to a memory of the computer system;

a graphical user interface, executing on the at least one processor, configured to display the computer content on the display component of the computer system, the graphical user interface configured to:

display a plurality of views of a plurality of visual representations of computer content, wherein the computer content includes at least one of selectable digital content, selectable computer operations and passive digital content;

an execution component, executing on the at least one processor, configured to:

detect a current computer system configuration from at least a first computer system configuration where the keyboard is positioned to receive input from an operator of the computer system and a second computer system configuration where the keyboard is not positioned to receive input from the operator of the computer system;

select one of the plurality of views for display on the computer system in response to the detected current computer system configuration; and

transition the display component to the selected one of the plurality of views.

* * * * *

UNITED STATES PATENT AND TRADEMARK OFFICE

CERTIFICATE OF CORRECTION

PATENT NO.	: 9,880,715 B2
APPLICATION NO.	: 14/680422
DATED	: January 30, 2018
INVENTOR(S)	: Yves Behar et al.

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

On the Title Page

At Item (72) Inventors: "Noah Bruce Guyot, Mill Valey, CA (US)" should read ""Noah Bruce Guyot, Mill Valley, CA (US)".

At Item (72) Inventors: "Chris Bambacus, Framington, MA (US)" should read ""Chris Bambacus, Framingham, MA (US)".

Signed and Sealed this
First Day of May, 2018

Andrei Iancu
Director of the United States Patent and Trademark Office

Exhibit 1005

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(54) **MULTIPLE POSITION COMPUTER DISPLAY ARM**

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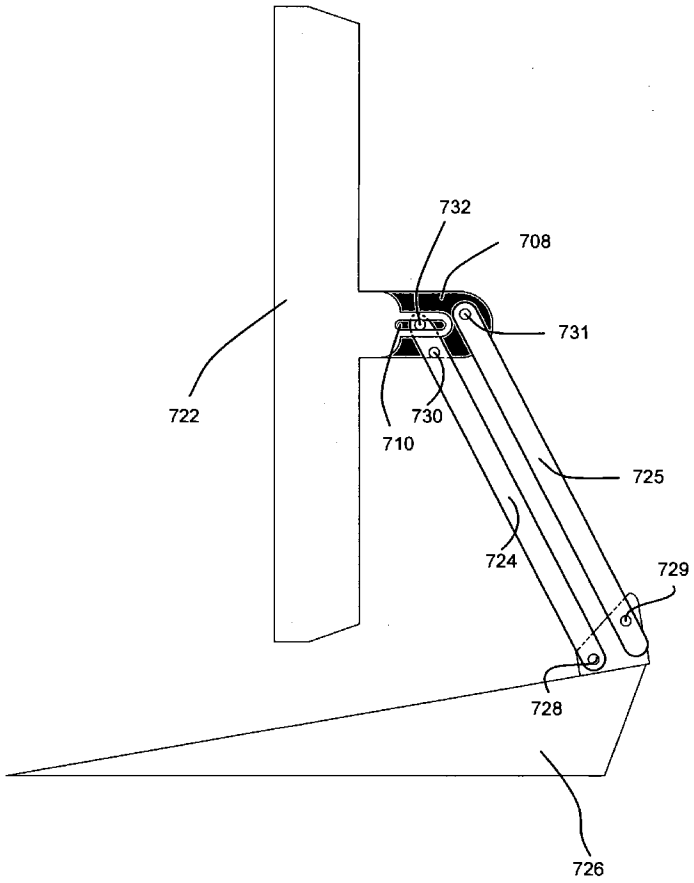
(57) **ABSTRACT**

Described is a computer display arm that couples a monitor to a base in a manner facilitates display monitor movement between various positions, including preset positions that may be generally optimized to match typical computer usage modes. In one implementation, an arm, which may be an articulating arm, includes or is otherwise associated with a mechanism that guides the user, if desired, to convenient stopping positions for different types of interaction. For example, preset stopping positions may be provided for conventional (e.g., mouse and keyboard) workstation-like interaction, video (e.g., DVD movie) playback, stand-up (walk-up) touch-screen interaction, and/or for pen input, similar to a tablet computing device. Users are able to position the monitor display screen between the preset positions if desired, and also may vary the positioning at the preset and/or other stopping points, to an extent. Software such as user interface code can change to match the current position.



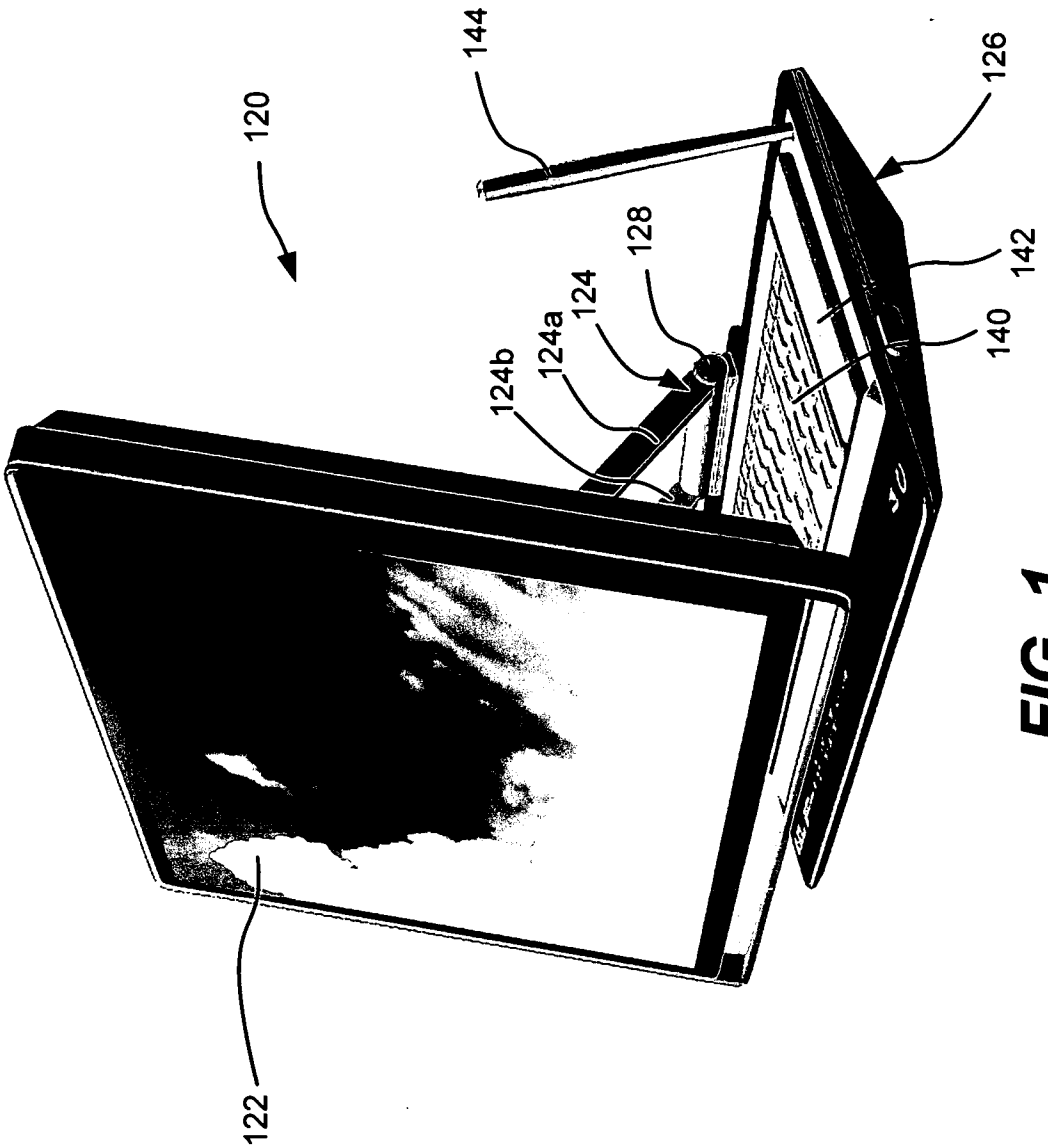


FIG. 1

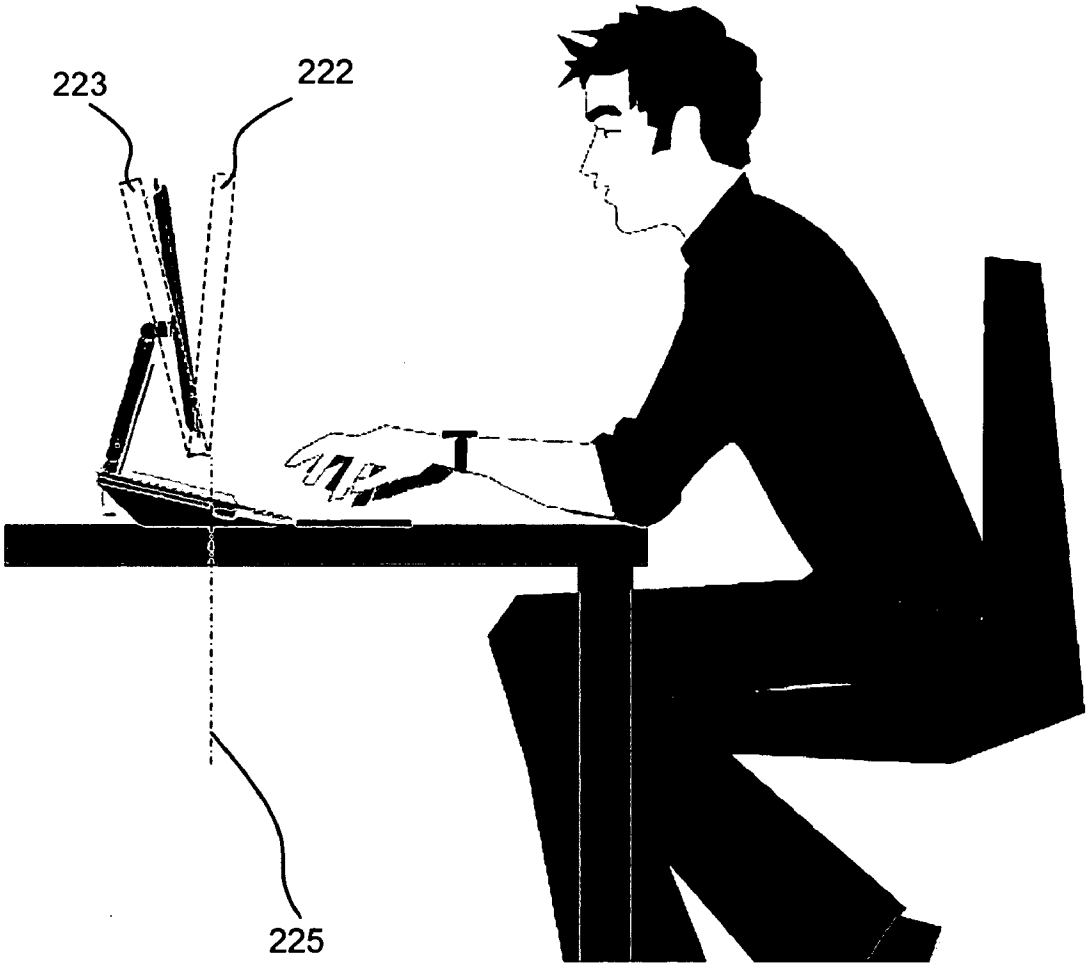


FIG. 2

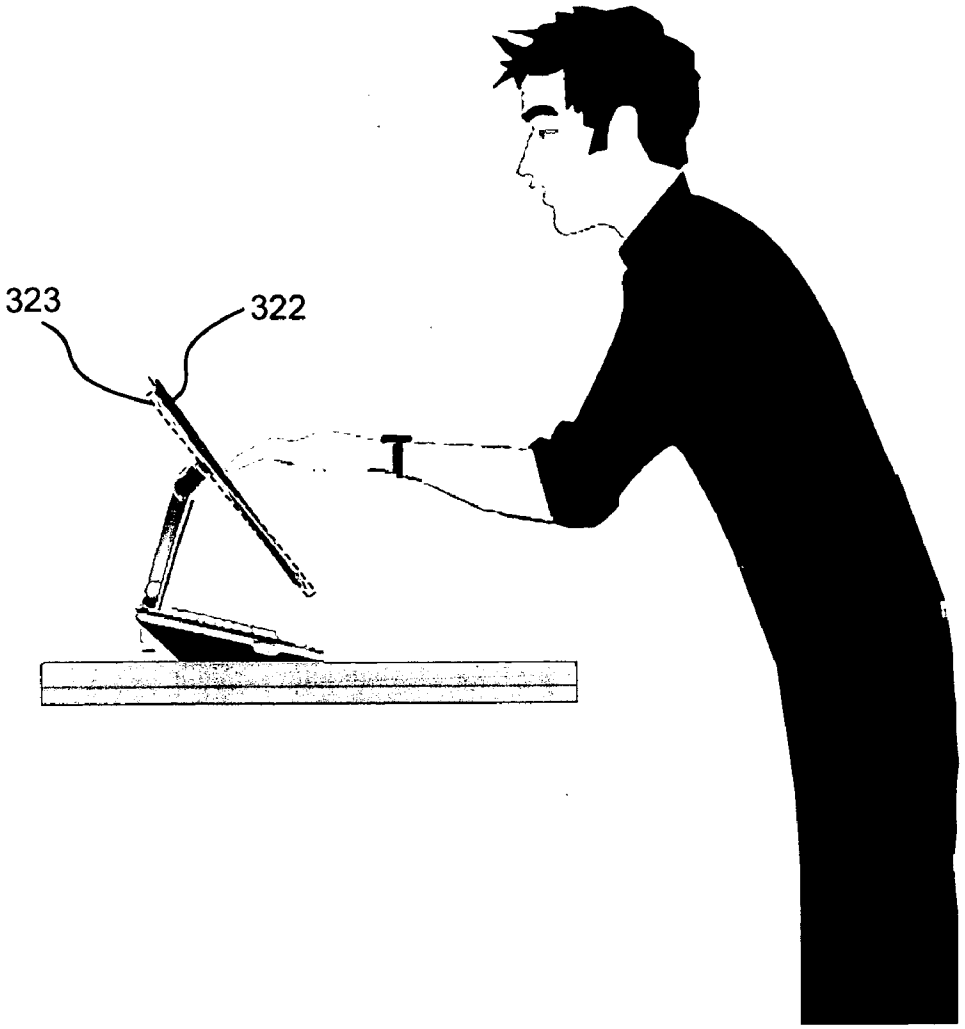


FIG. 3

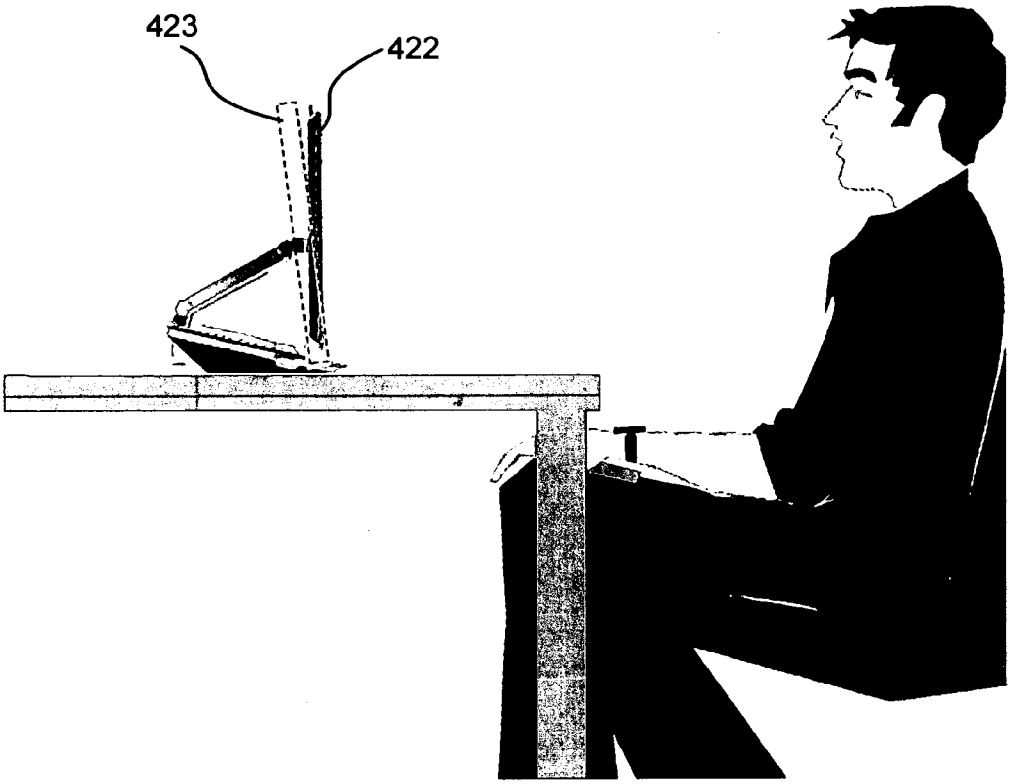


FIG. 4

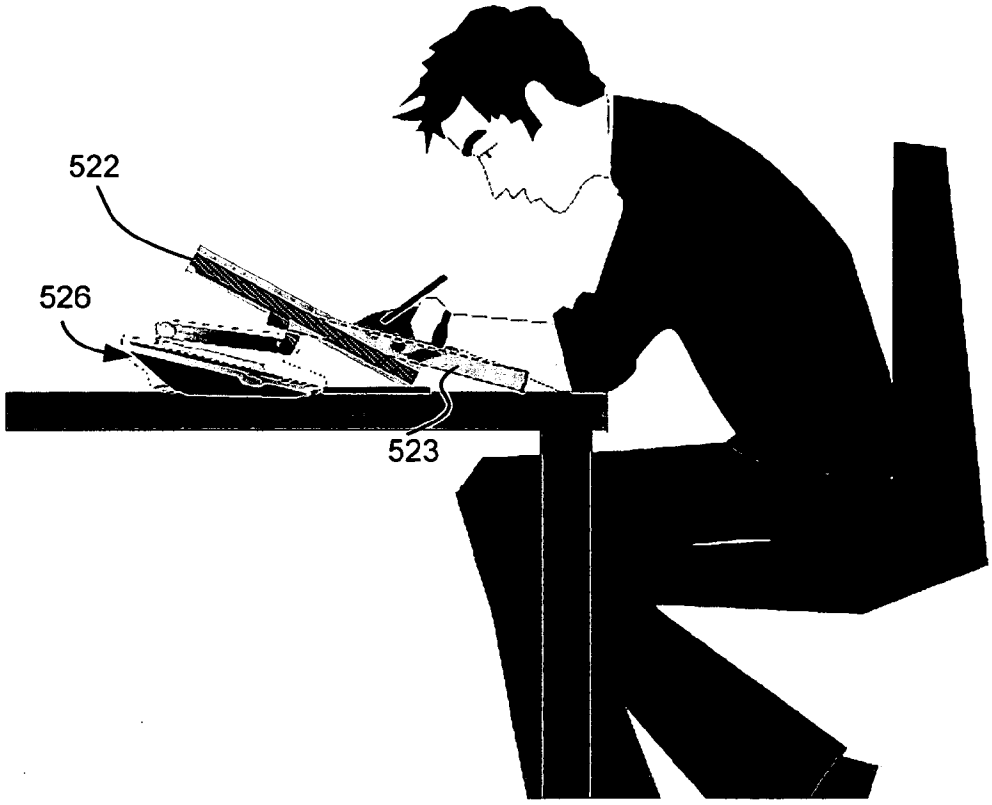


FIG. 5

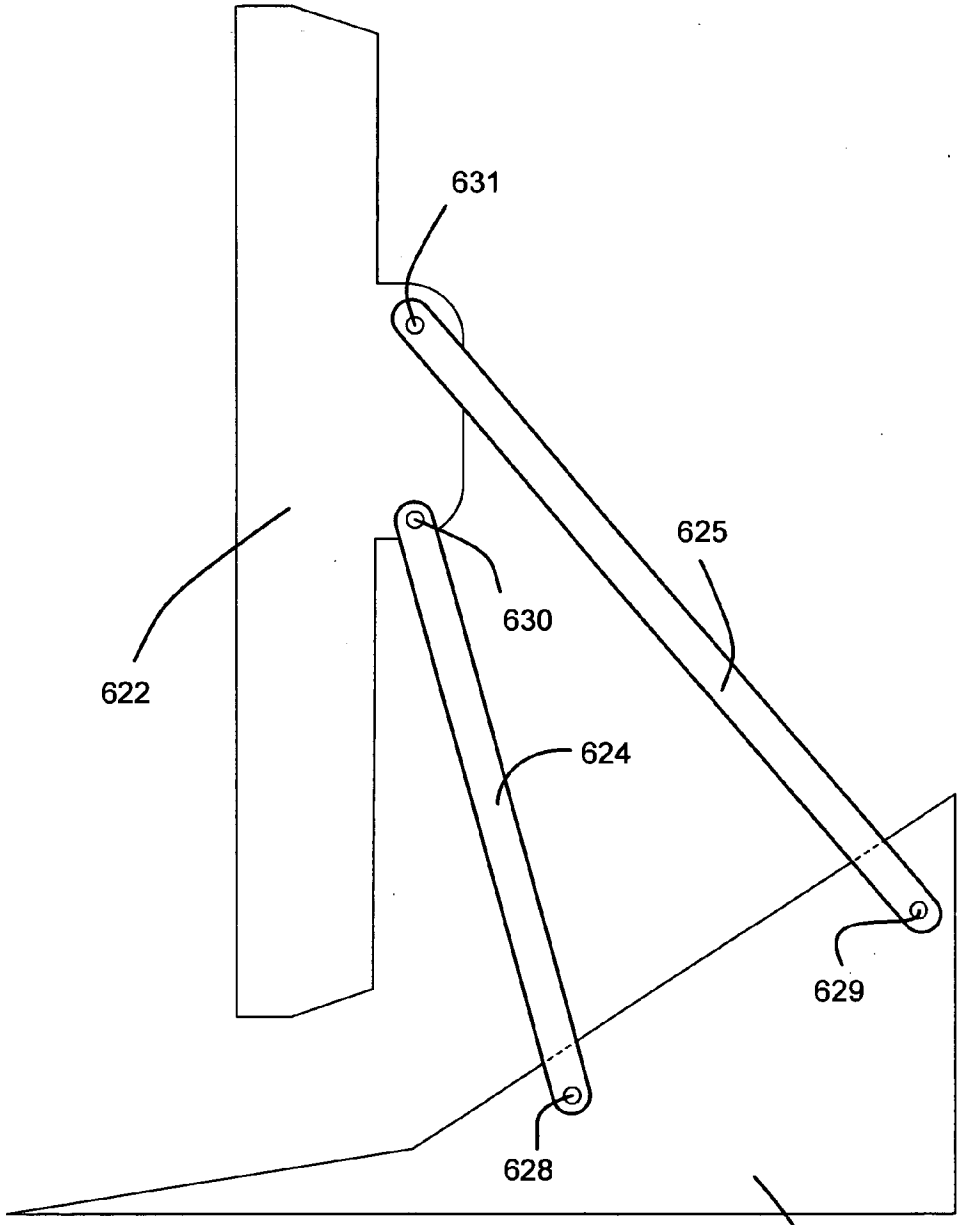


FIG. 6A

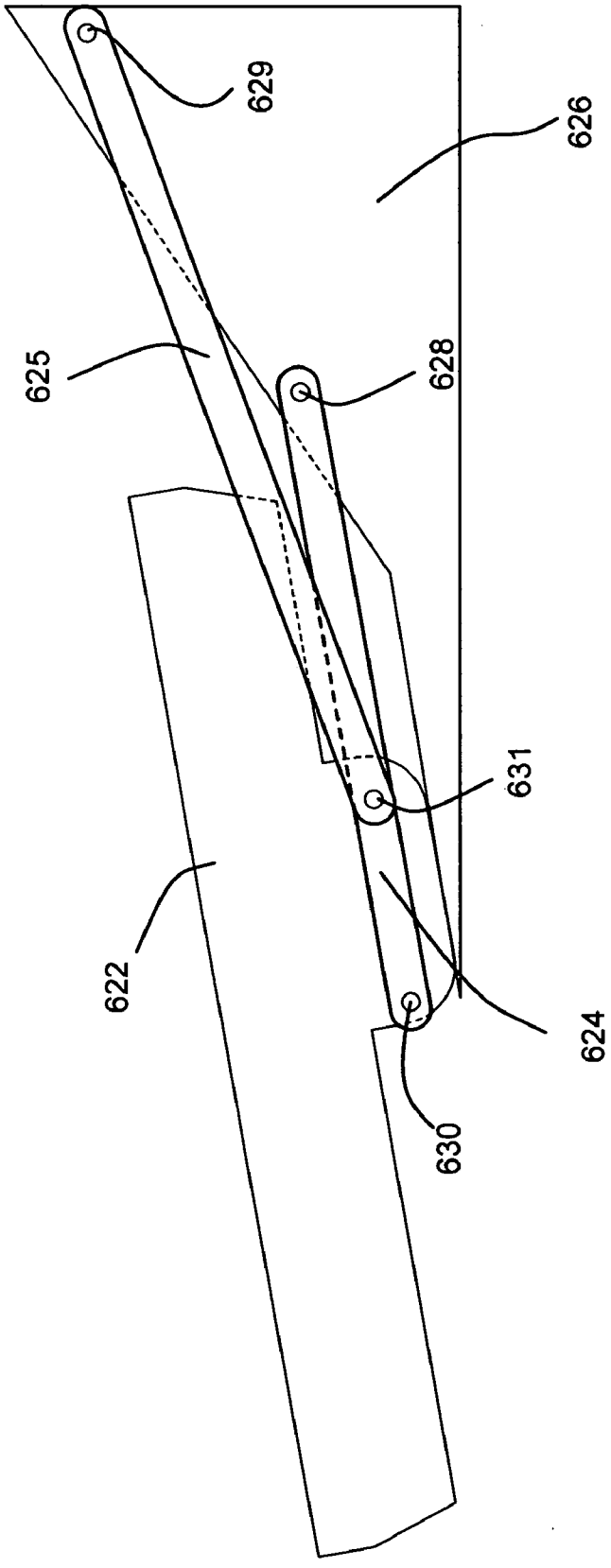


FIG. 6B

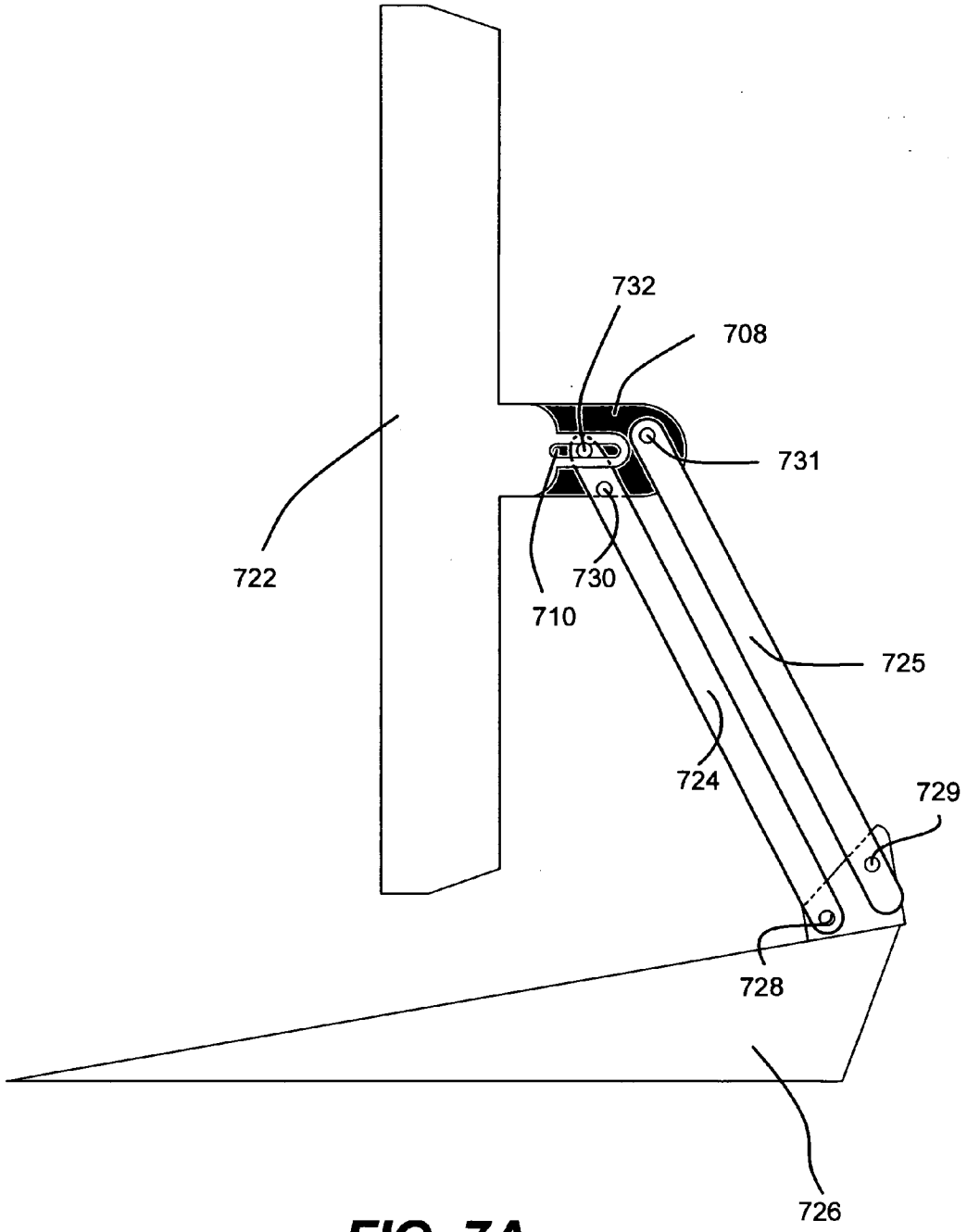


FIG. 7A

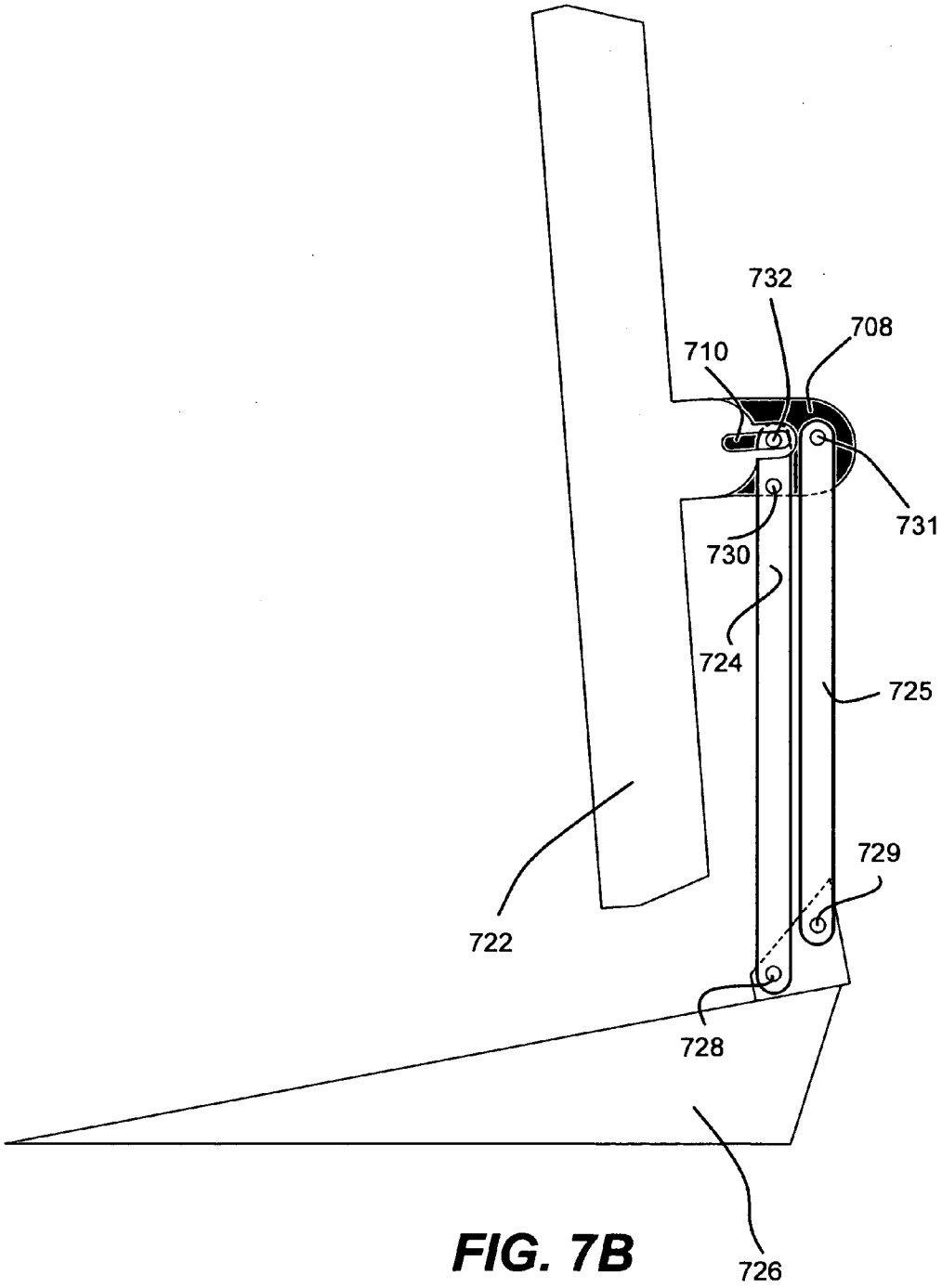


FIG. 7B

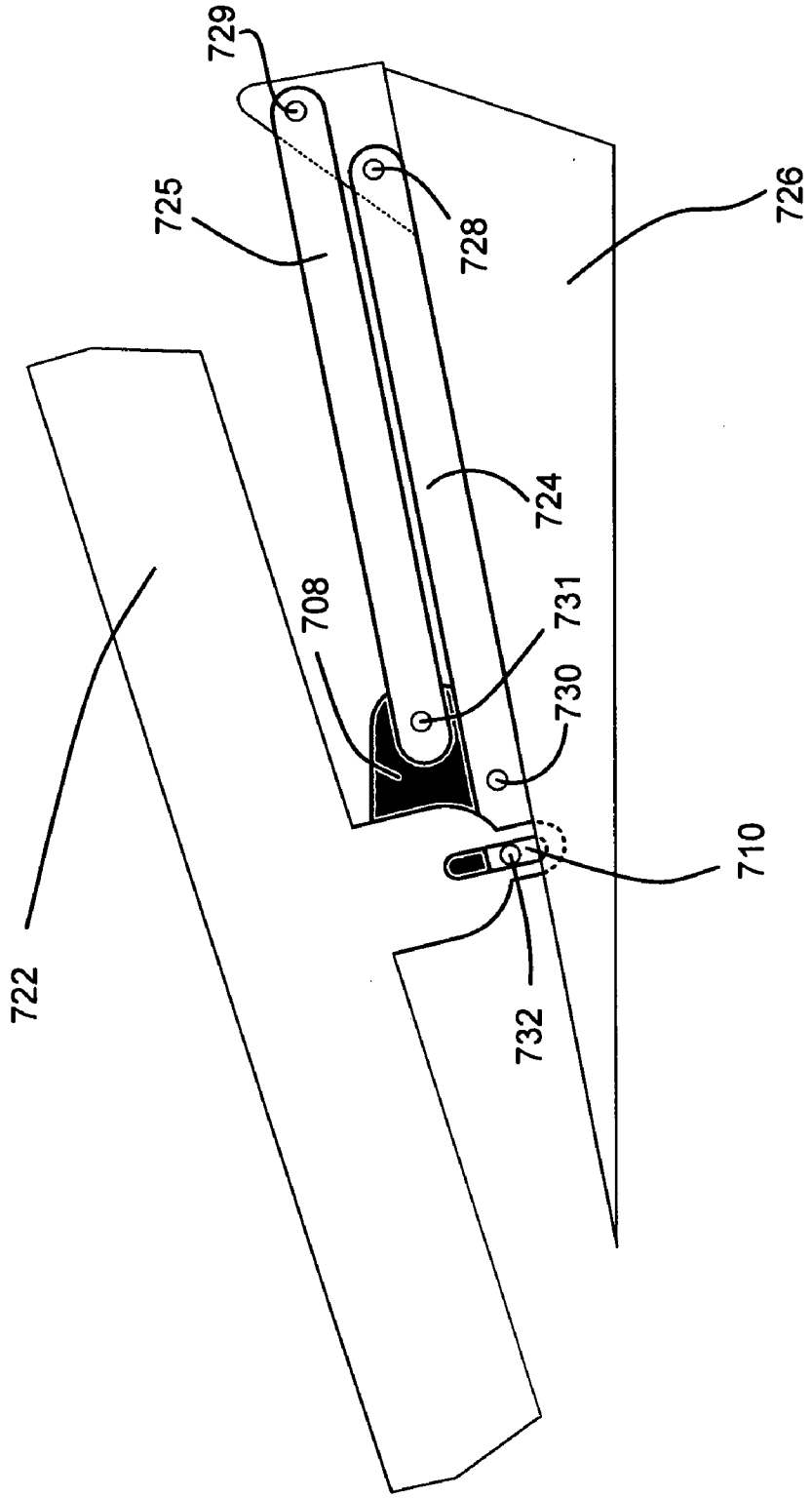


FIG. 7C

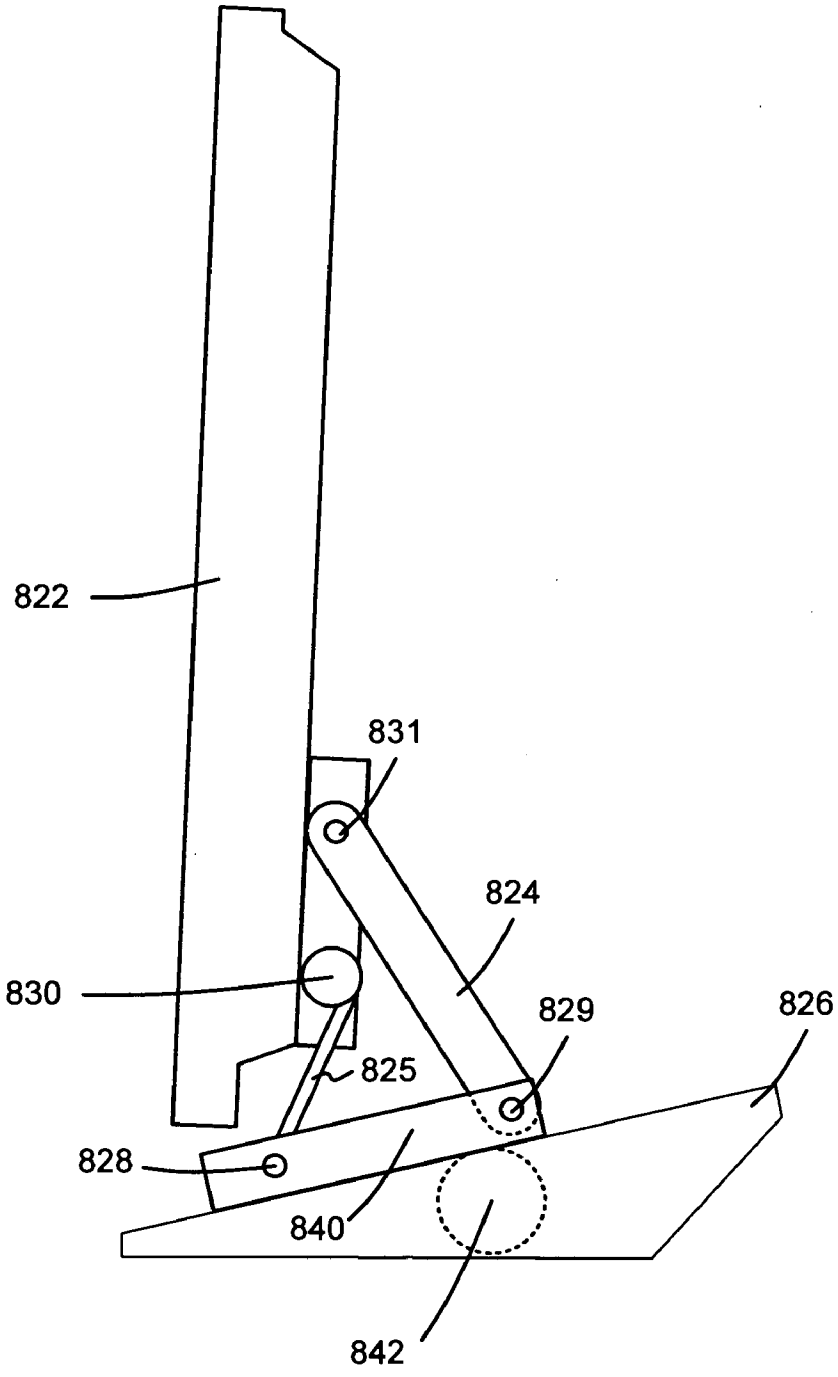


FIG. 8A

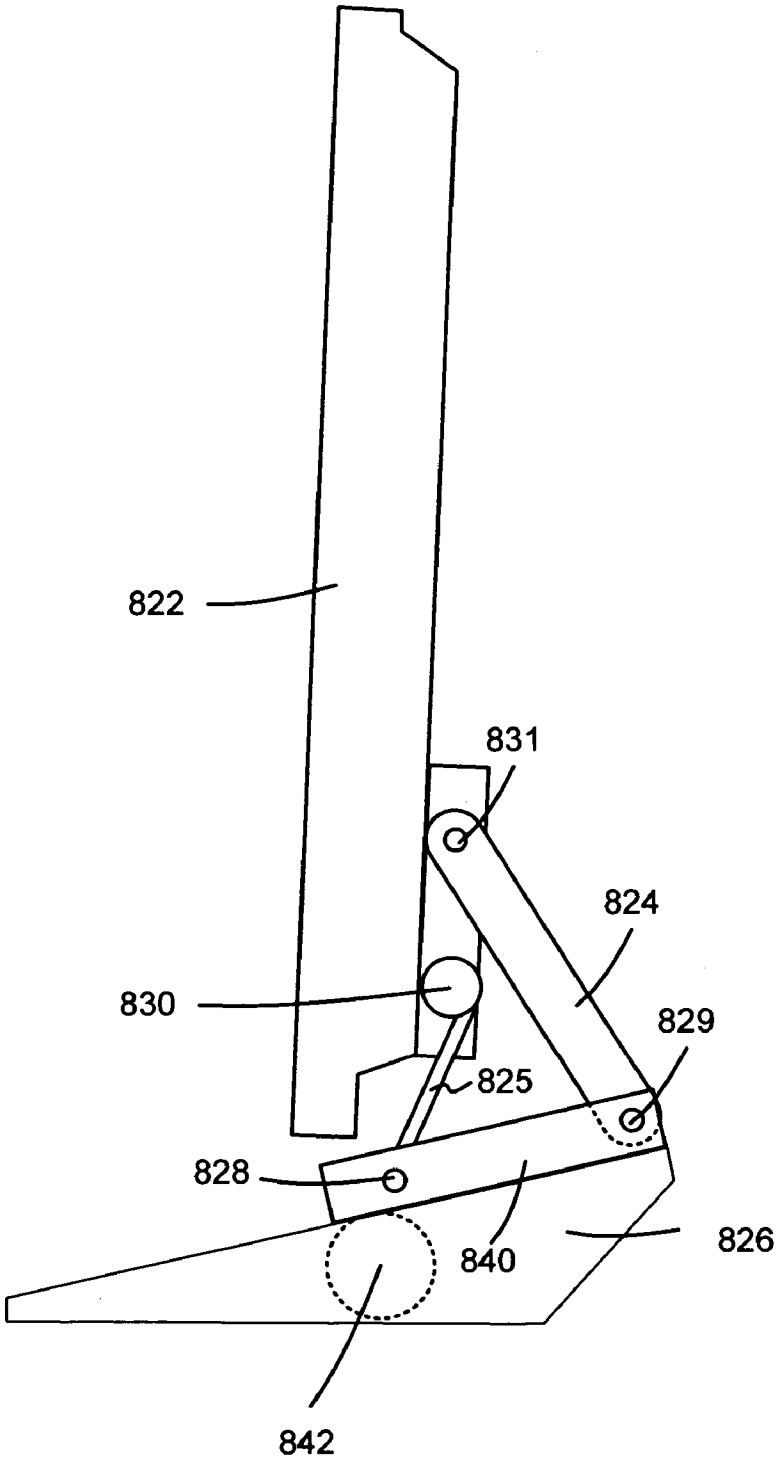


FIG. 8B

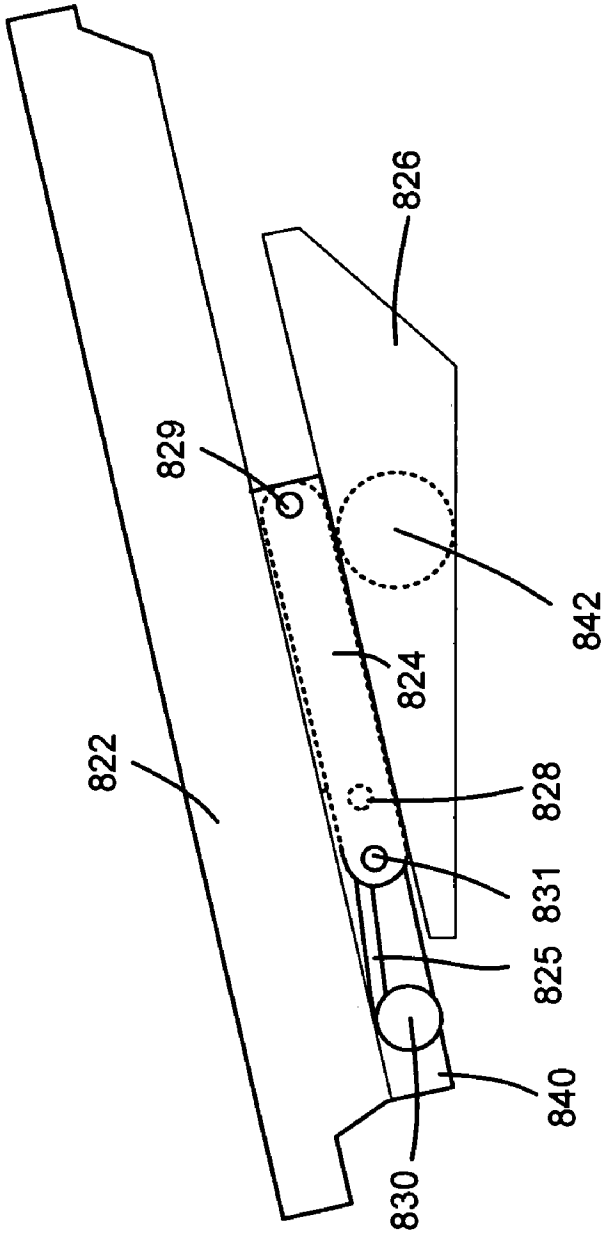


FIG. 8C

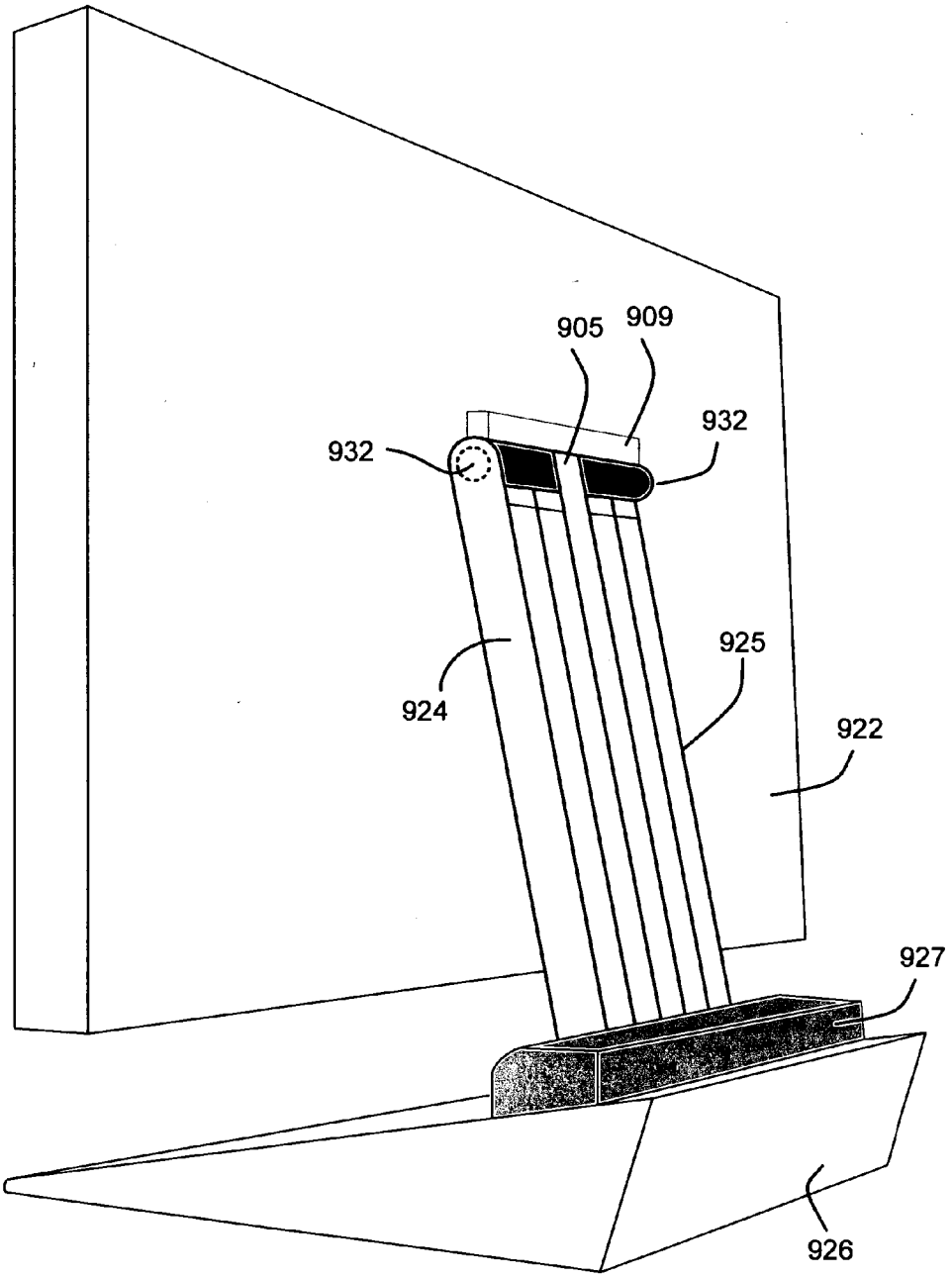


FIG. 9A

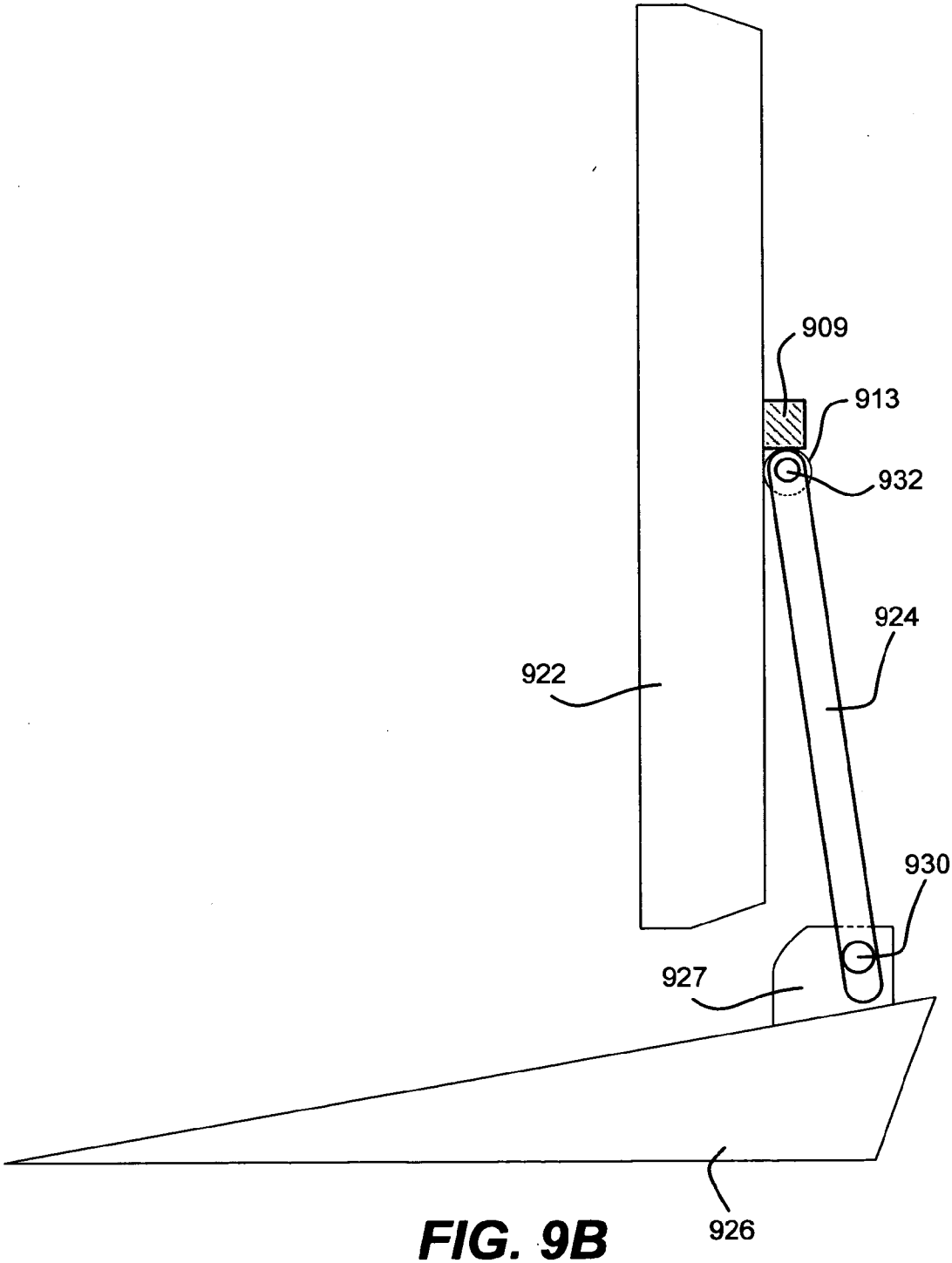


FIG. 9B

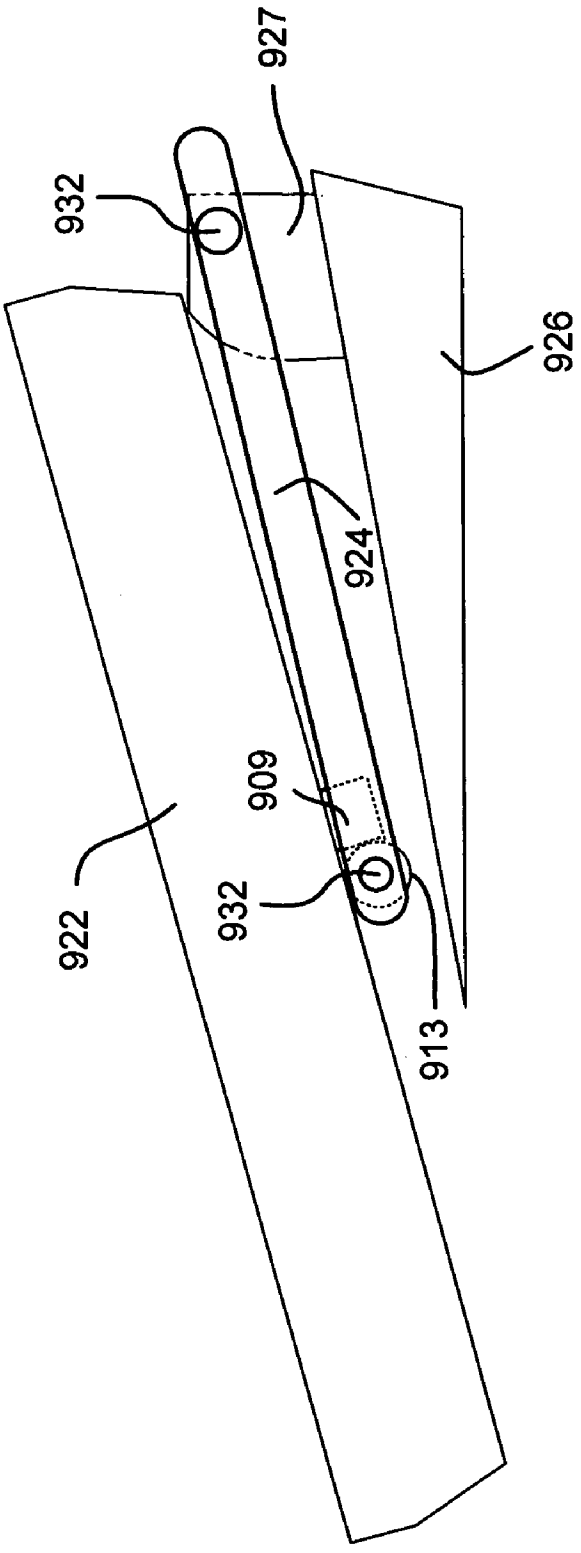


FIG. 9C

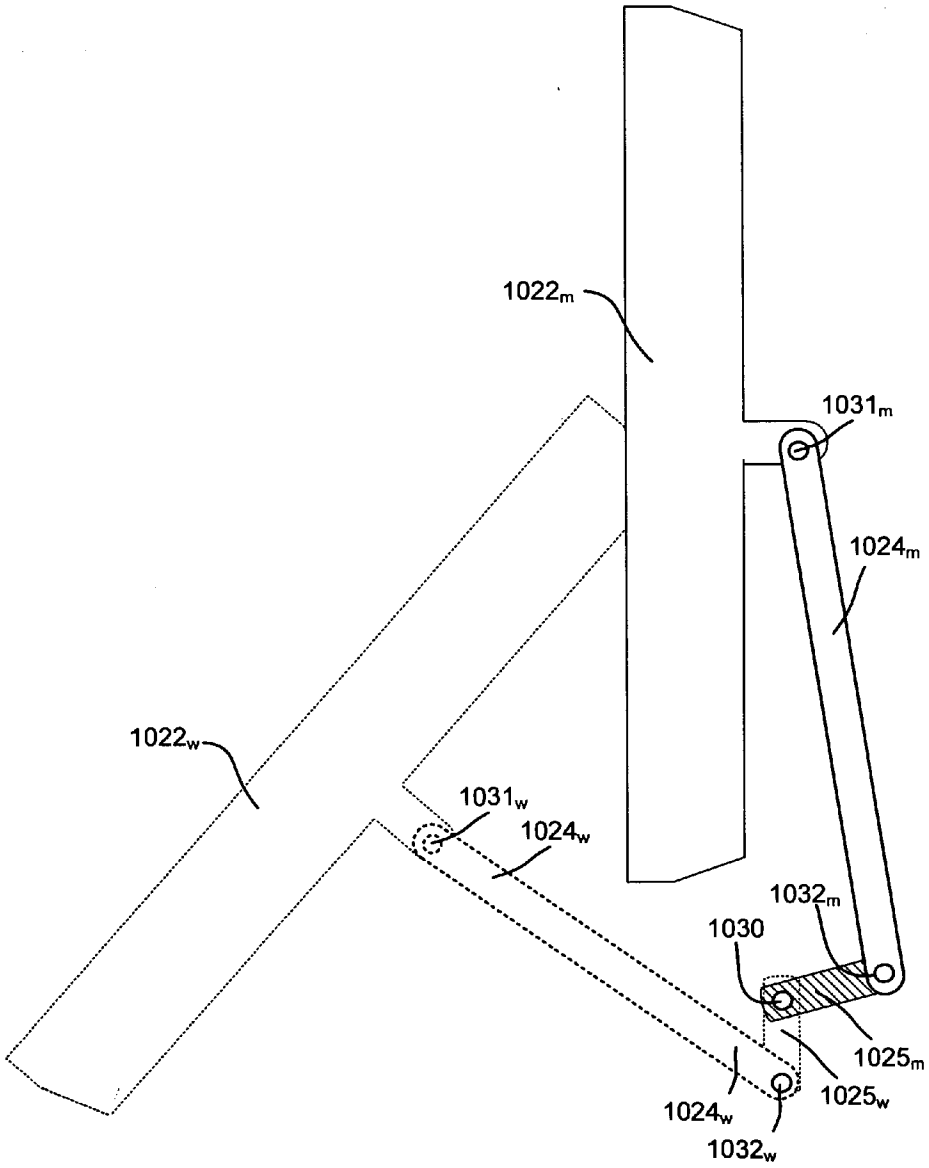

1022m
1031m
1024m
1022w
1031w
1024w
1032m
1030
1025m
1025w
1024w
1032w

FIG. 10A

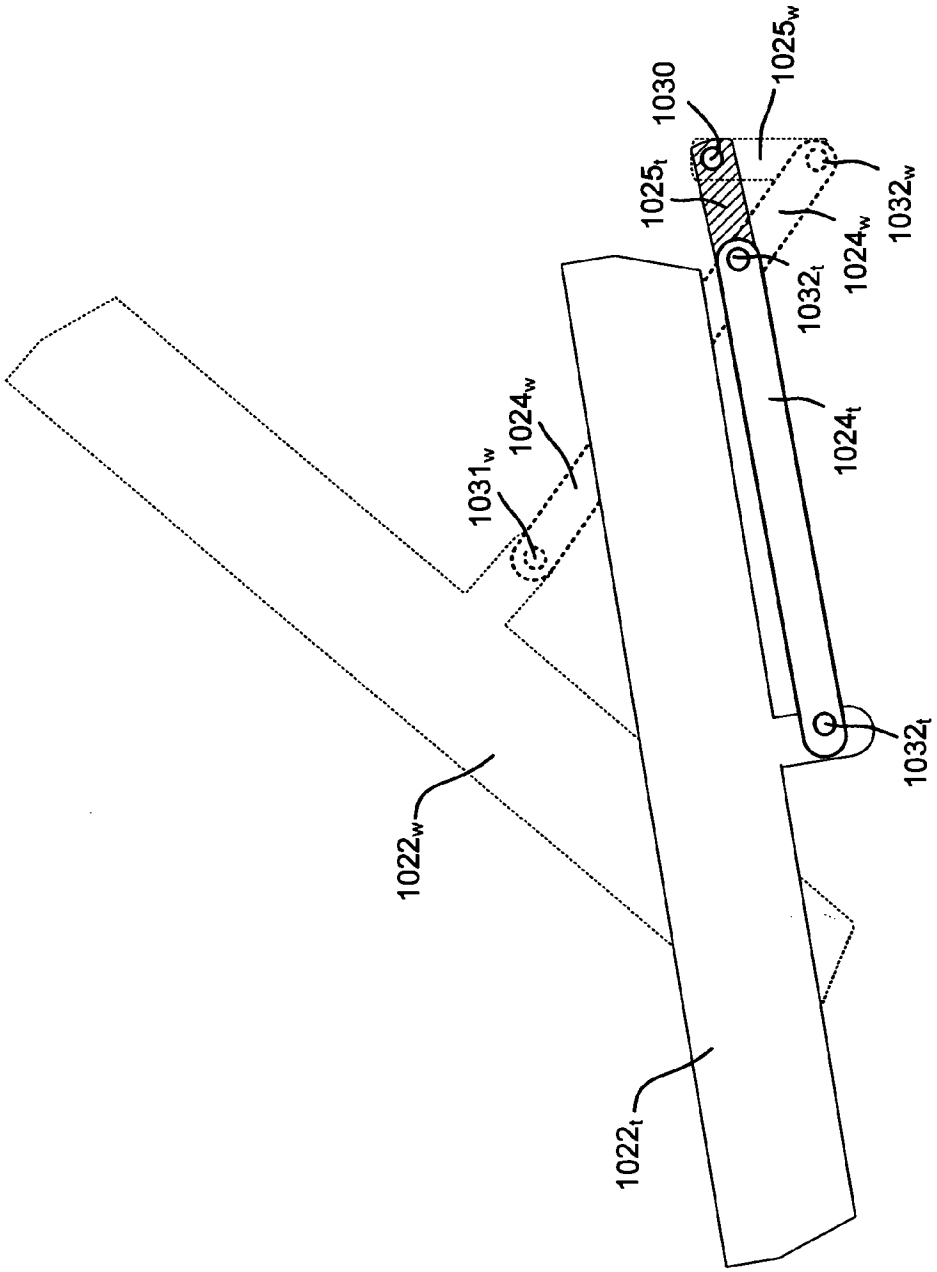

1025w
1030
1025t
1032w
1024w
1032t
1024t
1024w
1031w
1032t
1022w
1022t

FIG. 10B

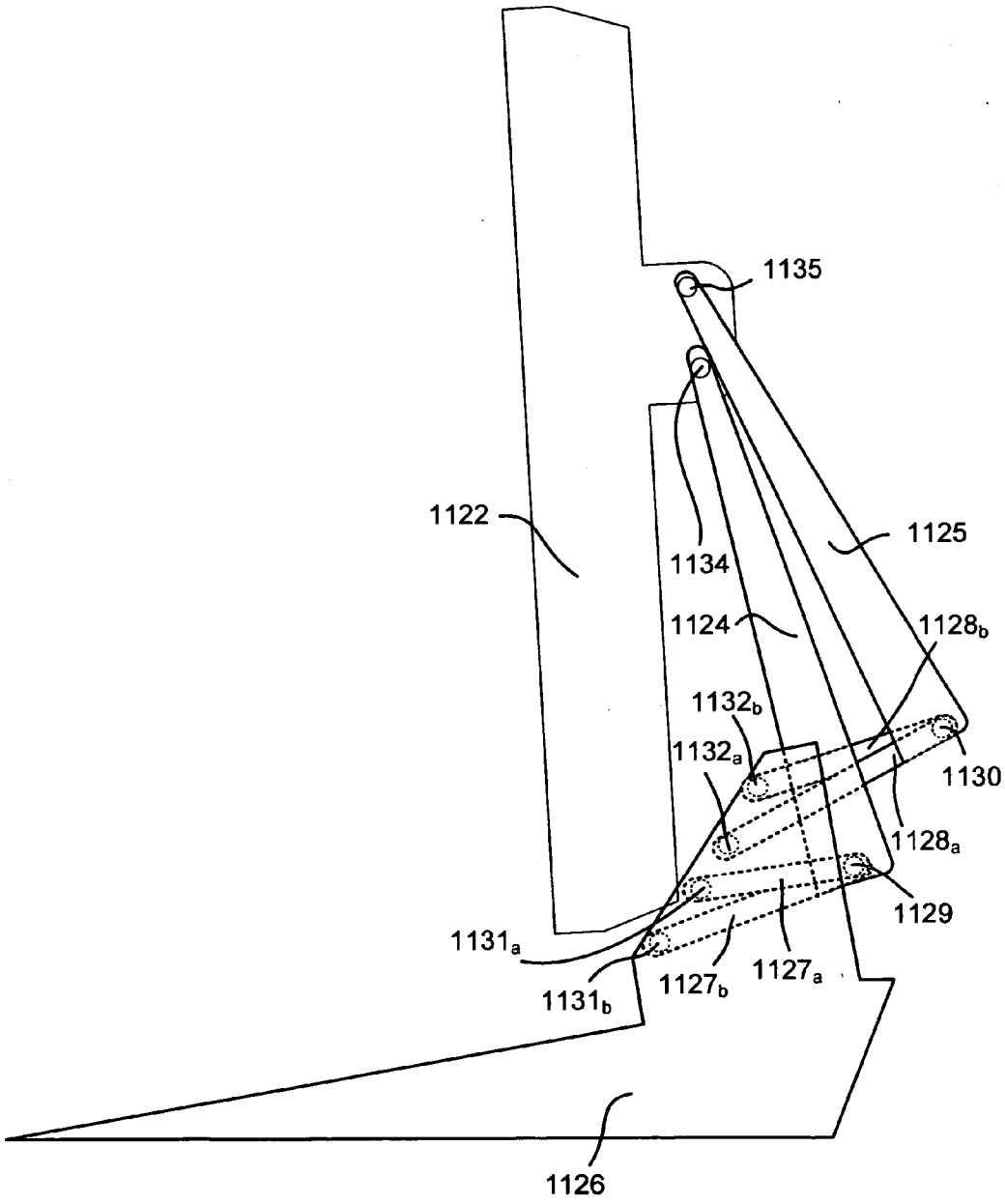

1135
1122
1125
1134
1124
1128b
1132b
1132a
1130
1128a
1129
1131a
1127b
1127a
1131b
1126

FIG. 11A

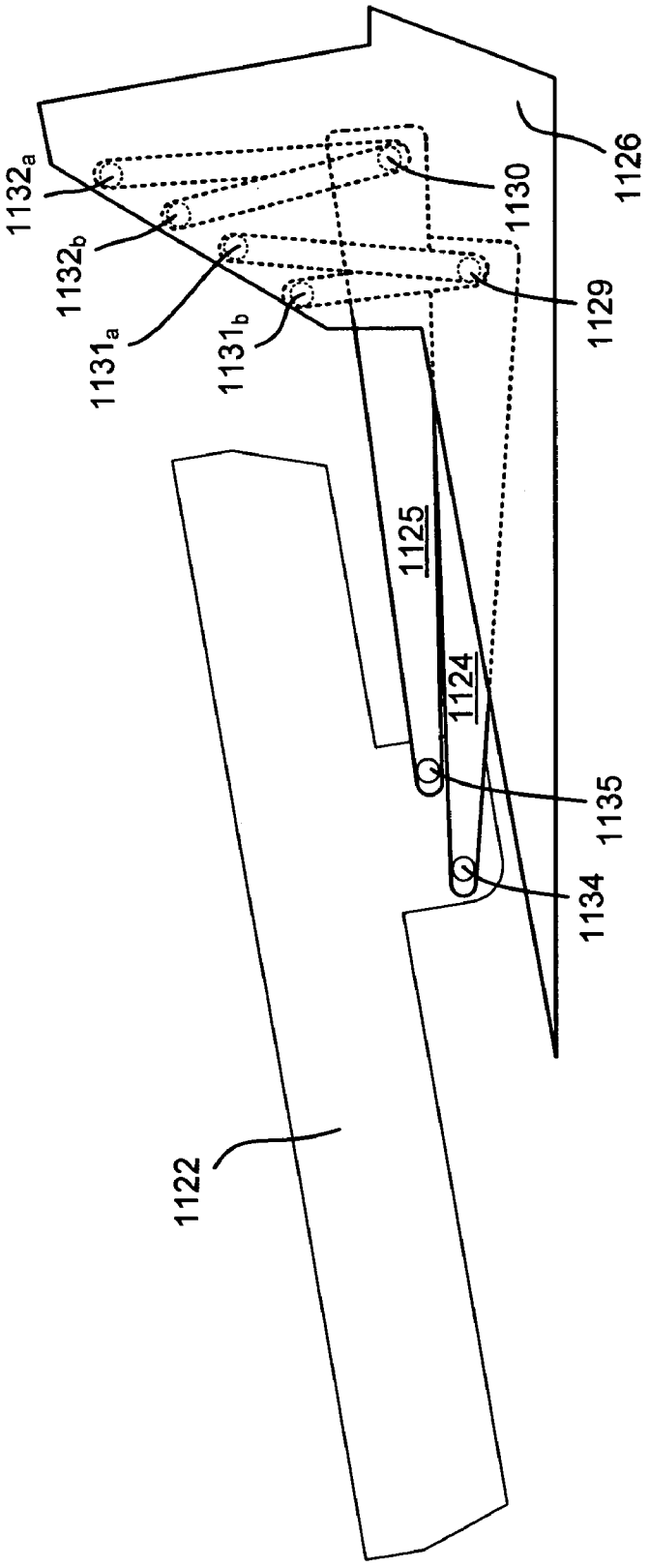

1132a
1132b
1131a
1131b
1130
1126
1129
1125
1124
1135
1134
1122

FIG. 11B

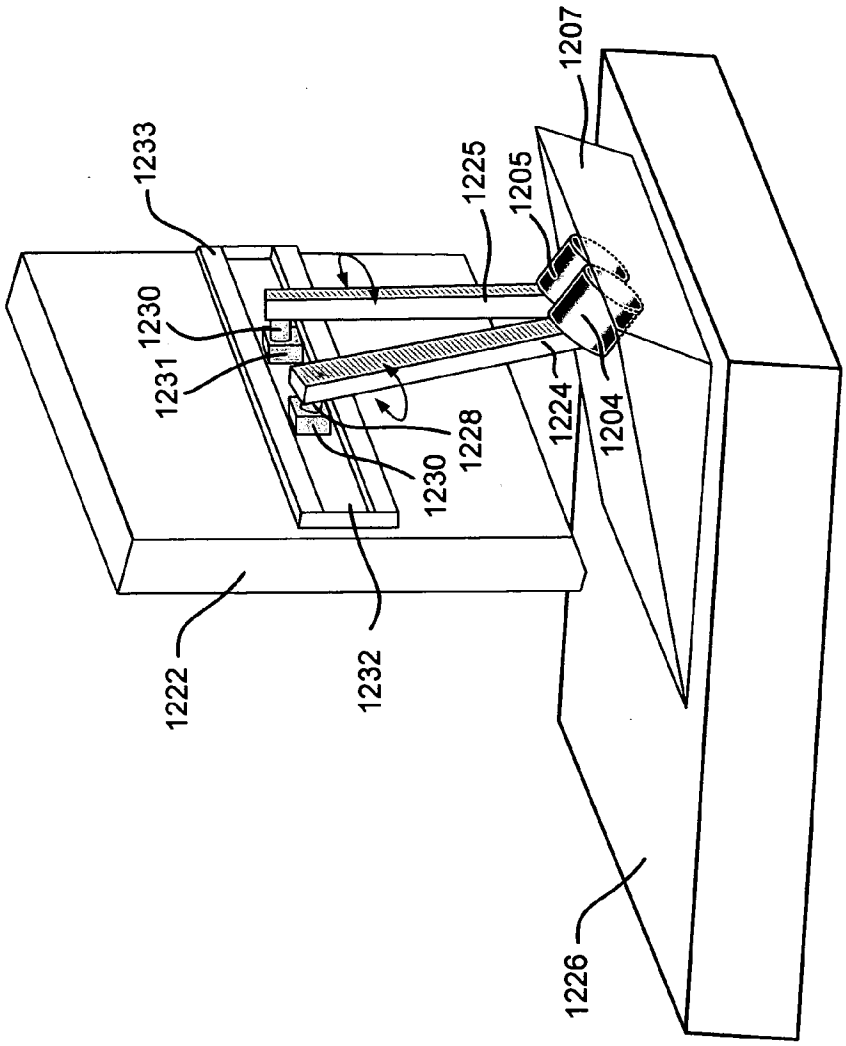

1207
1233
1225
1205
1230
1231
1228
1224
1204
1230
1222
1232
1226

FIG. 12A

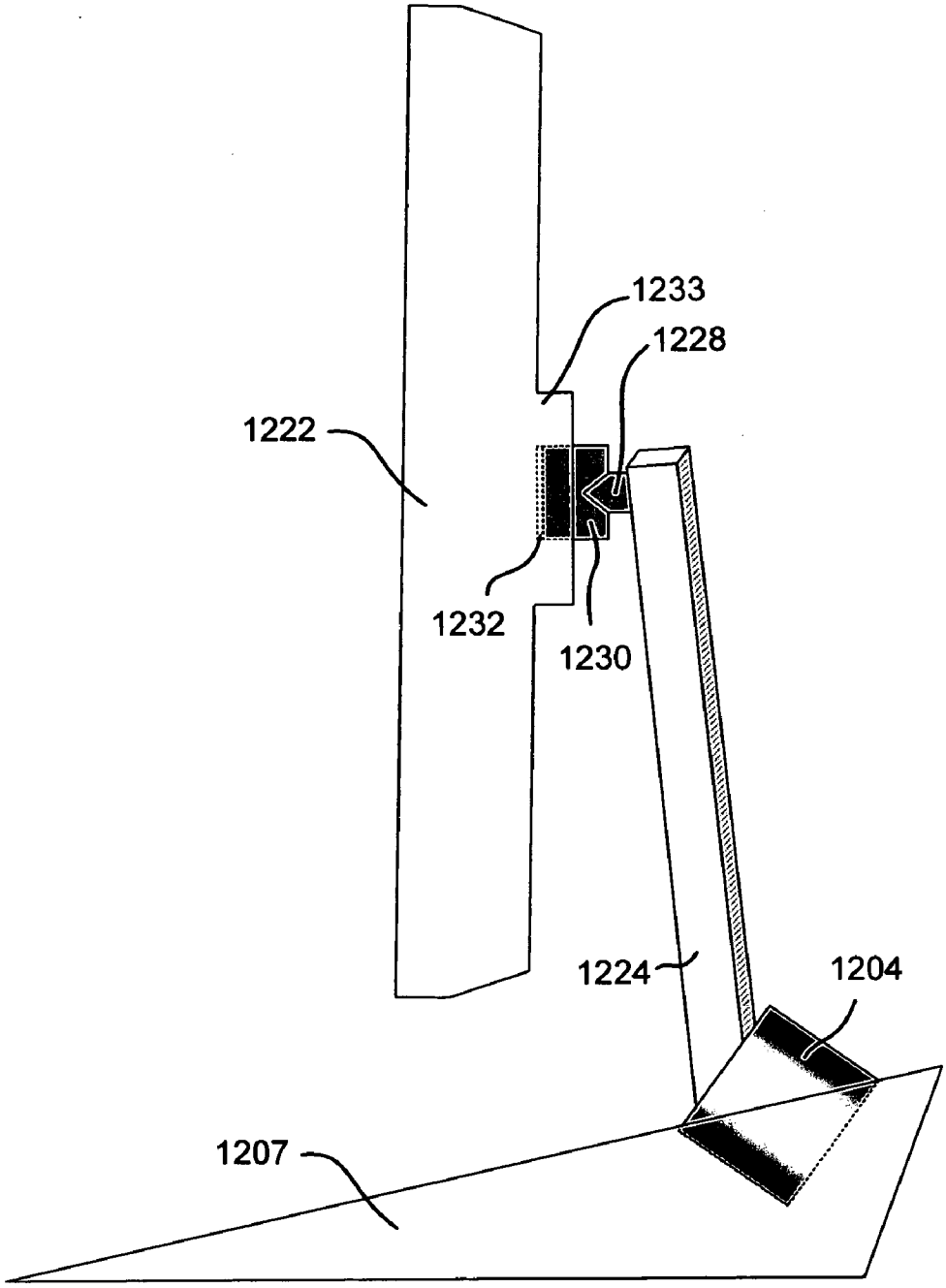


FIG. 12B

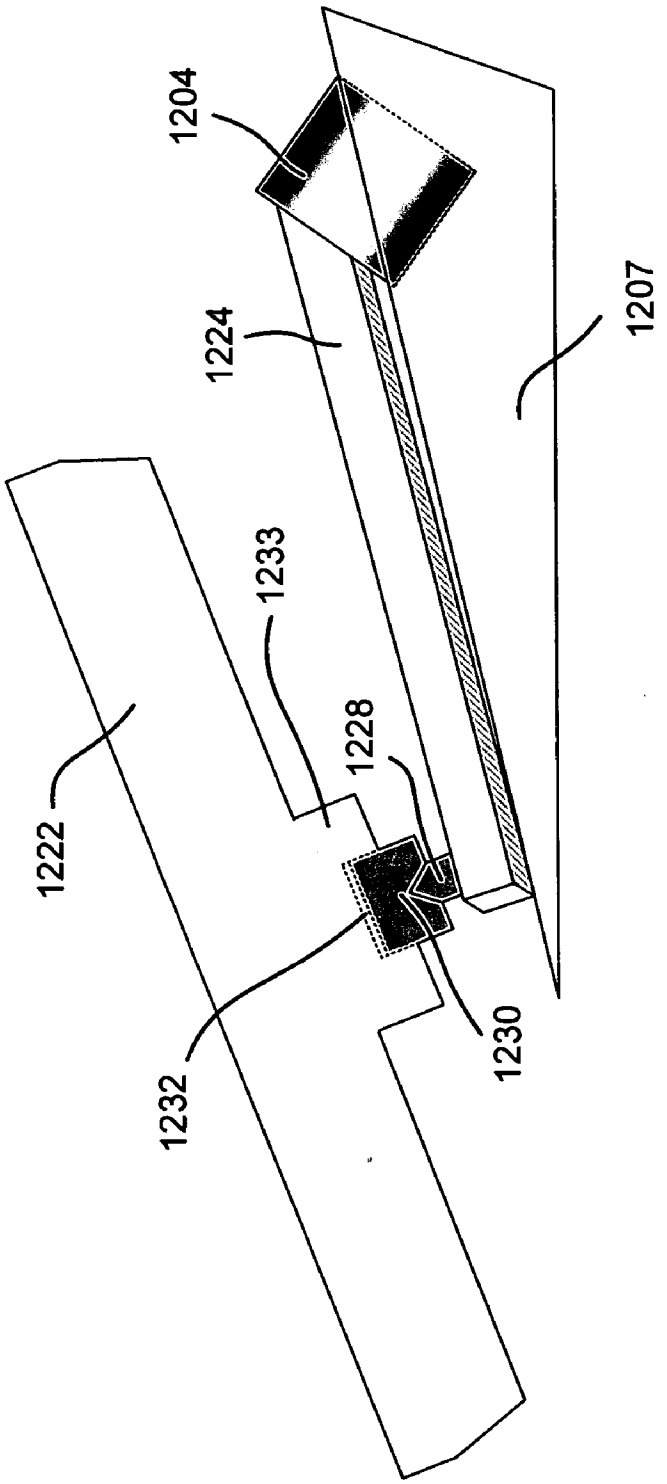


FIG. 12C

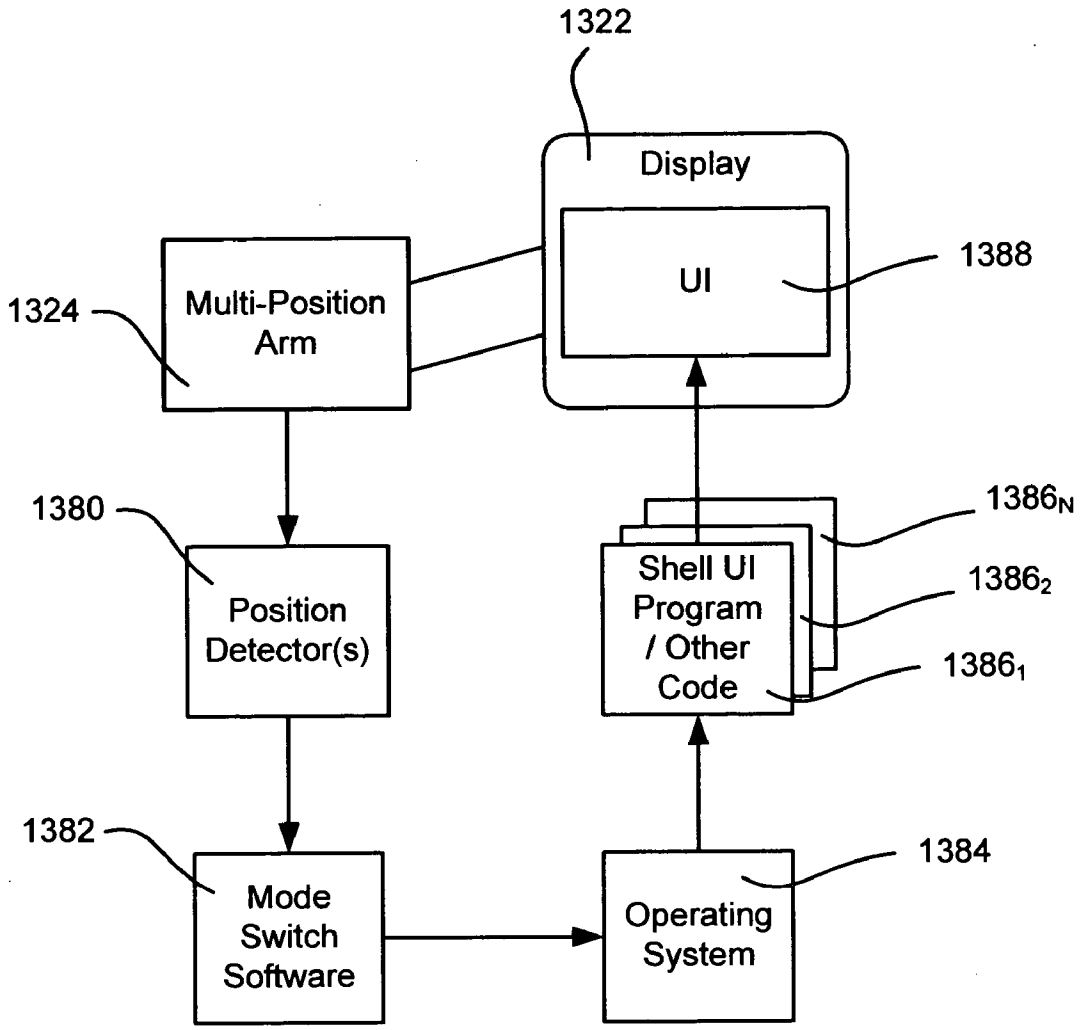

1322
Display
UI
1388
1324
Multi-Position Arm
1380
Position Detector(s)
1386N
Shell UI Program / Other Code
1386₂
1386₁
1382
Mode Switch Software
1384
Operating System

FIG. 13

MULTIPLE POSITION COMPUTER DISPLAY ARM

BACKGROUND

[0001] Computer users interact with computer systems in various ways and for various purposes. One way users interact is visually, through a display monitor. At present, the display monitor screens of many computer systems are frequently positioned at approximately a two-foot operating distance from the user's face.

[0002] While display monitors are sometimes adjustable in height, and generally provide a limited tilt/viewing angle, they do not offer flexibility for usage beyond traditional viewing posture and angles. For example, in addition to displaying visible output, many contemporary display monitors are configured for touch and/or pen input via an LCD digitizer screen. However, standalone display monitors (and even those physically coupled to a desktop computer or laptop computer) are typically positioned for workstation-like interaction, and, for example, are not capable of being readily positioned for touch and/or pen input.

SUMMARY

[0003] Briefly, various aspects of the present invention are directed towards a computer display arm that couples a monitor to a base in a manner facilitates display monitor movement between various positions, may include preset positions that may be generally optimized to match typical computer usage modes. In one implementation, an arm, which may be an articulating arm, includes or is otherwise associated with a mechanism that guides the user, if desired, to convenient stopping positions for different types of interaction. For example, preset stopping positions may be provided for conventional (e.g., mouse and keyboard) workstation-like interaction, video (e.g., DVD movie) playback, stand-up (walk-up) touch-screen interaction, and/or for pen input, similar to a tablet computing device. Users are able to position the monitor display screen between the preset positions if desired, and also may vary the positioning at the preset and/or other stopping points, to an extent.

[0004] The software that is currently loaded and executing on the computer system that is providing output to the display monitor, including the current user interface shell code, can be automatically changed to match the current display monitor position, including a preset position that corresponds to a current user interaction mode.

[0005] Other advantages will become apparent from the following detailed description when taken in conjunction with the drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

[0006] The present invention is illustrated by way of example and not limited in the accompanying figures in which like reference numerals indicate similar elements and in which:

[0007] FIG. **1** shows an illustrative example of general-purpose computing system components including an arm that positions a computer monitor into one example usage mode.

[0008] FIG. **2** is a representation of a workstation mode in which a monitor is substantially upright and positioned to provide access to input devices.

[0009] FIG. **3** is a representation of a walk-up mode in which a monitor is positioned to facilitate touch or pen input without requiring the user to sit down, or adjust the display for direct use.

[0010] FIG. **4** is a representation of a media consumption mode in which a monitor is positioned to facilitate viewing while concealing input devices to an extent.

[0011] FIG. **5** is a representation of a walk-up mode in which a monitor is positioned to facilitate pen input.

[0012] FIGS. **6**A and **6**B are side view representations of a four bar arm for positioning a monitor between a substantially upright position and a substantially flat (e.g., tablet mode) position, respectively.

[0013] FIGS. **7**A-**7**C are side view representations of a four bar arm with a slot for positioning a monitor between a substantially upright (e.g., media consumption) position to a forward-leaning (e.g., workstation) position and a substantially flat (e.g., tablet mode) position, respectively.

[0014] FIGS. **8**A-**8**C are side view representations of a four bar arm with a sliding rack and pinion mechanism for positioning a monitor between a substantially forward (e.g., media consumption) position to a pushed-back (e.g., workstation) position and a substantially flat (e.g., tablet mode) position, respectively.

[0015] FIG. **9**A is a perspective view of an arm based mechanism with a cable for positioning a monitor;

[0016] FIGS. **9**B and **9**C are side view representations of a monitor using the mechanism of FIG. **9**A for positioning a monitor between a substantially upright position and a substantially flat (e.g., tablet mode) position, respectively.

[0017] FIGS. **10**A and **10**B are side view representations of a monitor using an articulating arm mechanism for positioning a monitor between a substantially upright (e.g., workstation or media consumption) position to a leaned-back (e.g., walk-up) position and a substantially flat (e.g., tablet mode) position.

[0018] FIGS. **11**A and **11**B are side view representations of a monitor using an articulating arm mechanism for positioning a monitor between a substantially upright (e.g., workstation or media consumption) position to a substantially flat (e.g., tablet mode) position, respectively.

[0019] FIG. **12**A is a perspective view of an arm based mechanism with twin arms that move within a slot and turn for positioning a monitor.

[0020] FIGS. **12**B and **12**C are side view representations of a monitor using the mechanism of FIG. **12**A for positioning a monitor between a substantially upright position and a substantially flat (e.g., tablet mode) position, respectively.

[0021] FIG. **13** is a block diagram representing how a computer system may change operating modes based on a current position of a display (e.g., corresponding to a current interaction mode) coupled to a multiple position arm.

DETAILED DESCRIPTION

[0022] Various aspects of the technology described herein are directed towards a computer display arm that positions a computer display monitor among multiple positions,

including preset positions that match typical usage modes. Various mechanical and electromechanical means are described as examples for implementing the present invention, and it will be readily appreciated that the examples herein are non-limiting. Further, computer monitors/displays are described herein as examples, however it is understood that any device capable of displaying visible output is equivalent. As such, any of the description set forth herein are non-limiting examples, and the present invention may be used various ways that provide benefits and advantages in computing and viewing in general.

[0023] Turning to FIG. **1** of the drawings, there is shown a perspective view of an example computer system **120**. As represented in FIG. **1**, a display monitor **122** is connected to a display arm **124** which is currently positioned such that the top of the display monitor **122** is tilted slightly back relative to the bottom of the display monitor **122**. In this particular example, the display arm **124** comprises two arms **124***a* and **124***b* attached to the display monitor **122**. Although not explicitly shown in FIG. **1**, the arm's attachment to the display monitor **122** may be in virtually any practical way, typically one in which the monitor screen **122** may tilt at least to some extent relative to the arm angle.

[0024] A base **126** supports the display arm **124** in a manner that allows the display arm to pivot around an axis **128**. The base **126** may include computer components such as a processor and memory, or some or all of such components may be provided elsewhere, including in the housing of the monitor **122**. As will be understood, the arm **124** and its pivoting coupling (at least at one end) allows the monitor **122** to be positioned in a number of ways relative to the base **126**. The positioning may be stabilized in virtually any way, including by friction, stops (e.g., detents), contact with the underlying surface (e.g., table or desk), braking, springs, counterweights and so forth, including any combination of these and other mechanisms.

[0025] Also represented in the example of FIG. **1** is a keyboard **140** and remote control device **142**, shown in a retracted position. For example, a user may desire such positioning for viewing audiovisual content, and may control such operation by removing the remote control **142**. In the event that the screen is touch and/or pen-sensitive, the user also may interact with the computer system via the display monitor **122** using a pen **142** or the like.

[0026] FIGS. **2-5** provide examples of typical usage modes for user interaction with a computer system, and in particular the computer system's display monitor. As will become readily apparent, a combination of hinge points and arm extensions designed to work together create a smooth movement of the display across a range of multiple positions. Some of the positions are preset, such as a mostly upright (productivity or workstation) position, a walk-up (touch screen) position, a forward (entertainment/media viewing) position, and a table level (pen interaction/tablet) position. Each preset position of the display may provide the user with one or more noticeable "stops" that are integrated into the hinge mechanism. When at a stop, additional tilt and the like may allow further fine-tuning within a range. Stops may be sensed in any way, such as physically and/or audibly sensed by a user or device, optically sensed, and/or may be controlled by motorized settings, and so forth. The stops aid in the ability of the user to maneuver the monitor into the optimized positions for viewing and/or touch/pen interaction. The arm mechanism may also provide smooth and intuitive movement for users as it transitions between the stops, and may allow for intermediate positions. Note that the display arm may be customized for a given monitor, or may provide for coupling to multiple sizes of monitors, such as relatively lightweight LCD flat panel displays.

[0027] FIG. **2** provides an example of a workstation mode, such as in a position with the monitor having a backward tilt angle from −5 degrees (dashed box **222**) to +15 degrees (dashed box **223**) from vertical (dashed line **225**), although another range such as plus or minus fifteen degrees or more is also configurable. The actual angle may be user configurable; for example, the user may set up the mechanism such that the arm has a stop when the monitor is at a backward tilt angle of +10 degrees to vertical.

[0028] In the example of FIG. **2**, this user's workstation position is also set such that the bottom of display is approximately four inches off of the desk, with access to input devices, e.g., a keyboard and pointing device. If present, an auxiliary display is also likely visible in such a mode.

[0029] FIG. **3** provides an example of the arm being hinged to provide a walk-up mode, such as in a position with the monitor **322** having a backward tilt angle of −45 degrees, which may be adjustable to an extent (e.g., dashed box **323**). In the example of FIG. **3**, the walk-up mode typically provides user interaction via a touch-screen interface. Such a mode is useful in environments where users need quick access to information, such as in a family's kitchen where users can leave messages for one another, quickly check the weather or traffic, look up phone numbers, and so forth.

[0030] In one implementation of the walk-up mode wherein the display is used primarily for touch-screen operation and/or distance viewing, one or more interactive mechanisms such as the transport (media) controls, power on/off button and auxiliary display information remain easily accessible. This is a result of the physical location provided by the design, namely at the front edge. The location of these mechanisms facilitates interaction with the computer system, including when the keyboard does not exist or is stored behind the display and is therefore not easily accessible.

[0031] FIG. **4** provides an example of a media consumption mode, typically for viewing video where the bulk of user interaction is simply viewing. In FIG. **4**, the arm is hinged such that the monitor screen **422** has been positioned forward, resulting in the input devices barely visible, if at all. The represented monitor screen **422** has zero vertical tilt, but the tilt may be adjustable within a reasonable range (dashed box **423**). As described above with reference to FIG. **1**, any necessary interaction, such as to get a movie started, may be accomplished in the modes of FIG. **2** or **3**, or via remote control and/or touch-screen operation while in the media consumption mode exemplified in FIG. **4**.

[0032] FIG. **5** provides another example mode, e.g., referred to as a pen/stylus or tablet mode, in which a user interacts with the display monitor screen **522** using a pen or the like. In this mode, to facilitate writing, the tablet-type monitor screen is at an acute angle with its underlying table or desk, for example ten degrees (dashed box **523**) to twenty

degrees (box **22**) from horizontal. For stability, any tilt is limited, as in this example the front edge of the display monitor is in contact with the underlying table or desk, and there is no substantial left-right rotation. If the base **526** provides an apparatus (e.g., a receptacle) for holding a pen/stylus for tablet input, as does the base **126** in the example of FIG. **1**, easy access to the pen/stylus may be provided when in this mode.

[**0033**] Between the various modes the user may be able to set the display screen to any angle, such as counterbalanced by friction. Springs, lever-released latching mechanism, and other suitable mechanisms may help position the display screen as desired at the stops or at any location between the stops.

[**0034**] As can be seen, via a set of arms, one of which may be an articulating arm, multiple preset modes (which may be user configurable, at least to an extent) may be provided. The number of modes may depend on a particular type of monitor, e.g., a touch/pen sensitive monitor may have tablet and walk-up modes, while display-only monitors may not. Less than all modes may be provided, e.g., another system may include preset stops corresponding to workstation, media consumption and tablet modes, but not a preset stop corresponding to a walk-up mode. Still other modes are feasible, e.g., a cleaning/maintenance mode, a protective storage mode, and so forth. Depending on the type of mechanism, e.g., a motor-driven mechanism, a user may be able to set the modes and stop positions exactly as desired, or if not fully user-configurable, may choose to ignore certain stops that are not desired.

[**0035**] Various examples of articulating arm implementations have been configured and are represented in FIGS. **6**A-**12**C. For example, FIGS. **6**A and **6**B are side views of a four-bar implementation for positioning a monitor **622** (only two bars, or arms **624** and **625** are visible in FIGS. **6**A and **6**B due to the side view) between multiple positions. As can be seen, FIG. **6**A represents a media consumption mode, and FIG. **6**B a tablet mode. As will be apparent, a workstation mode (not shown) can be provided by moving the monitor backwards relative to the base.

[**0036**] In general, in FIGS. **6**A and **6**B the bars **624** and **625** pivot on the base **626** via pivot points **628** and **629**. The opposite end of the bars **624** and **625** are coupled to the monitor **622** (or a bracket or the like fixed to the monitor) at pivot points **630** and **631**. The monitor **622** may be moved between these and other positions by manual or motor-driven operation. Various stopping mechanisms such as detents may be used to signify to the user, and to an extent hold the monitor **622**, when the monitor **622** is in one of the preset modes.

[**0037**] As another example, FIGS. **7**A-**7**C are side views of a four-bar implementation with a cam **708** and slot **710** for positioning a monitor **722** between multiple positions. Again only two bars **724** and **725** are visible because of the side view. As can be seen, FIG. **7**A represents a media consumption mode, FIG. **7**B a workstation mode and FIG. **7**C a tablet mode.

[**0038**] In general, as represented in FIGS. **7**A-**7**C the bars **724** and **725** pivot on the base **726** via pivot points **728** and **729**. The monitor **722** is coupled to the bars **724** and **725** via the cam **708**. More particularly, the opposite end of the bars **724** and **725** are coupled to the cam **708** at pivot points **730**, **731** and **732**, and the distal end of the bar **724** moves within the slot **710**.

[**0039**] As is readily apparent from FIGS. **7**A-**7**C, the cam **708** rotates relative to the bars **724**, **725** and the monitor **722**. Again, any suitable mechanism may be used as a stop among the preset stopping positions that provide the different usage modes. Note that a walk-up mode is not shown, however it is readily apparent in FIGS. **7**A-**7**C that the monitor **722** can be positioned at approximately a forty-five degree angle, with a stop present if a preset walk-up mode is desired.

[**0040**] FIGS. **8**A-**8**C represent an alternative arm mechanism that facilitates positioning a monitor **822** in multiple positions, including positions corresponding to preset modes. In this example implementation, there is a four bar arrangement with a linear slide, using a sliding rack **840** with a pinion **842** to provide smooth linear movement back and forward relative to a base **826**. The bars **824** and **825** provide rotation, as they are coupled to the sliding rack **840** at pivot points **828** and **829**, and are coupled to the monitor (directly or indirectly via a coupling such as a bracket or frame fixed to the monitor) at pivot points **830** and **831**.

[**0041**] FIG. **8**A generally corresponds to a media consumption mode, with the monitor slid forward on the pinion. Although not specifically shown in FIG. **8**A, a more vertical tilt may be accomplished by rotating the top of the monitor forward. FIG. **8**B corresponds to a workstation mode, with the monitor slid back on the pinion, thereby exposing more of the base to facilitate access to a keyboard, for example.

[**0042**] FIG. **8**C corresponds to a tablet mode, and is accomplished by the four bars rotating to a position that is essentially parallel with the monitor and base. As apparent from FIG. **8**C, the monitor (or coupling) may contact the underlying supporting surface to enhance stability.

[**0043**] FIGS. **9**A-**9**C show another alternative implementation, in which a rotating cable, belt or band **905**, works with two arms **924** and **925** to achieve various positions for a monitor **926**, including positions corresponding to preset modes. FIG. **9**A provides a perspective view, while FIG. **9**B is demonstrates the workstation mode and FIG. **9**C demonstrates the tablet view.

[**0044**] The cable, belt or band **905** may be motorized, or may otherwise provide a guide/friction that helps the monitor maintain a desired positioned between modes or other positions. In FIGS. **9**B and **9**C, the arm **924** (only one is visible due to the side view) is shown coupled to a mounting **927** on the base **926** at pivot point **930**. The opposite end of the arm **925** is coupled to the monitor **922** via a bracket **909** and cylinder **913** or the like to provide rotation at pivot point **932**.

[**0045**] FIG. **10**A shows another alternative example implementation, in which a monitor transitions between a substantially upright mode (e.g., a media consumption mode shown in solid figures) and a walk-up mode (shown in dashed representations). FIG. **10**B the monitor transitioning between walk-up mode (shown in dashed representations) and a tablet mode (shown in solid figures). In FIGS. **10**A and **10**B, each component is labeled with a subscript indicative of the mode, e.g., the arm **1024** is labeled $\mathbf{1024}_m$ for the media consumption mode, $\mathbf{1024}_w$ for the walk-up mode, and $\mathbf{1024}_t$ for the tablet mode. The only exception is the pivot

point **1030**, which remains fixed regardless of the monitor's mode and corresponding position. For purposes of simplicity, when referring to a component independent of a particular position, each component may be referred to herein without its subscript.

[**0046**] In FIGS. **10**A and **10**B, only one set of arms **1024** and **1025** is visible. The longer arm **1024** is coupled to the monitor **1022** via pivot point **1031**. The shorter arm **1025** is coupled to the longer arm at pivot point **1032**, and coupled to a base or other support surface at the pivot point **1030**. As can be seen in FIGS. **10**A and **10**B, the arms **1024** and **1025** rotate relative to one another, relative to the monitor and relative to the fixed pivot point **1030**.

[**0047**] The upright mode in FIG. **10**A is shown with long arm $\mathbf{1024}_m$ being rotated to a somewhat vertical position, with the short arm $\mathbf{1025}_m$ extending rearward from the fixed point **1030** at roughly a right angle to the long arm $\mathbf{1024}_m$. The walk-up mode is shown in FIGS. **10**A and **10**B with the long arm $\mathbf{1024}_w$ being rotated to a somewhat perpendicular position relative to the monitor $\mathbf{1022}_w$ and the short arm $\mathbf{1025}_w$ descending generally vertically from the fixed pivot point **1030**.

[**0048**] The tablet mode in FIG. **10**B is shown as being achieved by having the long and short arms $\mathbf{1024}_t$ and $\mathbf{1025}_t$, respectively, extending from the fixed pivot point **1030** somewhat parallel to the monitor $\mathbf{1022}_t$. Rotation may be manual or motor driven.

[**0049**] FIGS. **11**A and **11**B show a somewhat similar implementation, with two long arms **1124** and **1125** per side and each arm coupled to a base **1126** via two short arms **1127***a*, **1127***b*, **1128***a* and **1128***b*. The short arms **1127***a*, **1127***b*, **1128***a* and **1128***b* couple to the long arms at pivot points **1129** and **1130**, and are coupled for rotation to the base **1126** at fixed pivot points **1131***a*, **1131***b*, **1132***a* and **1132***b*. The long arms couple to the monitor **1122** at points **1134** and **1135**.

[**0050**] As can be seen, the monitor transition from the workstation mode of FIG. **11**A to the tablet mode of FIG. **11**B, with other positions in between, which may correspond to preset modes. To this end, the long arms **1124** and **1125** and short arms **1127***a*, **1127***b*, **1128***a* and **1128***b* pivot such that the bottom of the monitor **1122** rotates forwards and downwards relative to the base **1126** and the base's fixed pivot points **1131***a*, **1131***b*, **1132***a* and **1132***b*.

[**0051**] Yet another example implementation is represented in FIGS. **12**A-**12**C. In this implementation, two arms **1224** and **1225** rotate inwardly and outwardly, and turn/spin (as represented by the double-headed arrows around the arms) relative to a base **1226** at the arm's distal ends. To this end, rotors **1204** and **1205**, which may be motorized, respectively couple the arms **1224** and **1225** to a ramped part **1207** of the base **1226**. The rotors may be motorized.

[**0052**] The opposite ends of the arms **1224** and **1225** are fixed to cylinders **1228** and **1229**, which in turn pivotally couple to guides **1230** and **1231** that laterally slide along a slot **1232** of a frame **1233** mounted to the back of the monitor **1222**.

[**0053**] As seen in FIGS. **12**A-**12**C, the rotation and turning of the arms **1224** and **1225** slide the guides **1230** and **1231** in the slot **1232**, causing the monitor to rotate. In these examples, the rotation is from the monitor being in a substantially upright position (FIG. **12**B) to a mostly flattened (e.g., tablet mode) position (FIG. **12**C). Note that the turning of the arms may be seen in FIGS. **12**B and **12**C by the shaded side of the arm **1224** turning over relative to the rotor **1204**.

[**0054**] As can be seen from the above examples, there are numerous ways to implement an arm or set of arms to position a monitor to correspond to desirable usage modes.

[**0055**] In addition to providing the various positions corresponding to interaction modes, the computer providing the content to display can change software operating modes to match the corresponding monitor position. By way of example, FIG. **13** shows a multiple-position arm **1324** coupled to a position detection means **1380**, such as one or more switches, a counter (such as motor rotations), an optical sensor or sensors and/or essentially any equivalent mechanism or mechanisms that can report a signal indicative of the current position (at least once movement has stopped) to a computer system. Note that the exact position need not be known, e.g., the display monitor may be known to be positioned between two preset stops, thereby providing information from which software can be loaded, even though the exact location between those stops may not be detectable in a given system.

[**0056**] The position detector means **1380** is coupled (e.g., via a hardware to software interface) to mode switch software **1382** running on the computer system. In general, the mode switch software **1382** comprises policy or the like, which may be user configurable preference data, as to what shell user interface and/or other software should be operational in each position, including positions between preset modes. The mode switch software **1382**, which may be any program such as an application and/or operating system component, reports the position-based decision to the operating system **1384**, which in turn loads a corresponding shell user interface and/or other program or programs (e.g., $\mathbf{1386}_1$) as necessary to configure the computer system user interface display **1388** and running programs to match the current mode. Some delay may be provided to avoid loading and changing software until it is likely that a user has settled on a particular position and/or interaction mode rather than transitioning between modes.

[**0057**] By way of example, when the arm is positioned such that the display monitor is in the media consumption mode, media player software may be loaded and automatically executed. In the tablet mode, tablet operating system components such as including handwriting recognition software may be loaded and automatically executed. In the walk-up mode, a touch-screen shell program configured to provide convenient access to walk-up types of information (e.g., weather, messages, the internet and so forth) may be loaded. In the workstation mode, typical shortcuts and other information used for working/productivity or other computer usage (e.g., gaming) may be displayed.

[**0058**] Note that any of the software modes may be per user or group, e.g., the workstation mode may display different user accounts from which to select, optionally enter a password and so forth so that multiple users can share a computer. Moreover, the various modes that are available to each user can match that particular user's preference, and

there is no need to provide an option to switch user accounts when the same user has transitioned from one position to another.

[0059] The system may persist personal settings for the display; e.g., once the system identifies the user, or a change in the user, the system may automatically switch to that user's default display position. This can happen automatically, e.g., through biometric sensors, or other sensing technologies such as face recognition and/or proximity sensors. Such settings also may be application specific. For example, if the system detects the user is launching a television or other media application program, the system may automatically switch to the user's media consumption mode, e.g., a vertical flat position. The positions can also be manually changed, such as triggered from a button on the display or keyboard.

[0060] The system may include animation software or provide other output describing the positioning mechanism. This software can automatically run during position switching, or can be manually triggered.

[0061] While the invention is susceptible to various modifications and alternative constructions, certain illustrated embodiments thereof are shown in the drawings and have been described above in detail. It should be understood, however, that there is no intention to limit the invention to the specific forms disclosed, but on the contrary, the intention is to cover all modifications, alternative constructions, and equivalents falling within the spirit and scope of the invention.

What is claimed is:

1. A system, comprising:

a mechanism that couples a display monitor to a base, the mechanism including at least one arm having a set of at least two stops, the arm moveable between positions corresponding to each of the stops, each stop corresponding to an operating mode of operation.

2. The system of claim 1 further comprising means for adjusting the monitor an additional amount relative to at least one position corresponding to a stop.

3. The system of claim 1 wherein one operating mode of operation corresponds to a workstation mode that facilitates access to at least one input device.

4. The system of claim 2 wherein the workstation mode corresponds to a range of tilt angles between negative fifteen degrees vertical to positive fifteen degrees vertical.

5. The system of claim 1 wherein one operating mode of operation corresponds to a mode optimized for media consumption.

6. The system of claim 1 wherein the media consumption mode conceals at least part of an input device or other controls and/or displays that are unnecessary for media viewing.

7. The system of claim 1 wherein one operating mode of operation corresponds to a walk-up mode that facilitates touch and/or pen input, and wherein the walk-up mode corresponds to a range of tilt angles between negative sixty degrees vertical to negative thirty degrees vertical.

8. The system of claim 1 wherein one operating mode of operation corresponds to a tablet mode that facilitates pen input.

9. The system of claim 8 wherein the tablet mode corresponds to a position in which the bottom of the monitor is stabilized by a fixed surface.

10. The system of claim 1 wherein the stops correspond to at least one of visible, audible and/or tactile feedback.

11. The system of claim 1 wherein the mechanism that couples the display monitor to the base includes a pair of arms that each extend from the base and couple to the display monitor for sliding in a lateral direction relative to the display monitor, and rotate relative to the display monitor.

12. The system of claim 1 wherein the mechanism comprises an articulating arm having at least two fixed members that are pivotally coupled to one another.

13. The system of claim 1 wherein the mechanism comprises a four-bar arm mechanism having two pairs of bars apart from one another.

14. The system of claim 1 wherein the mechanism that couples the display monitor to the base includes a sliding rack and pinion mechanism.

15. The system of claim 1 further comprising software change means for changing software corresponding to the operating mode.

16. In a computing environment including a computer system and monitor, a method comprising:

detecting a current position of a monitor coupled to a movable arm; and

changing a software mode to correspond to the current position.

17. The method of claim 16 wherein the current position corresponds to a current user interaction mode of a set of possible modes, the set containing a workstation mode, a media consumption mode, a walk-up mode, and a tablet mode, and wherein changing the software mode to correspond to the current position comprises changing a user interface based on the current interaction mode.

18. A system, comprising:

a mechanism that couples a display monitor to a base, the mechanism including at least one arm having at least two stops, the arm moveable between positions corresponding to each of the stops, each stop corresponding to an operating mode of a set of possible modes, the set containing a workstation mode, a media consumption mode, a walk-up mode, and a tablet mode.

19. The system of claim 18 further comprising a computing device that outputs data to the display monitor, a detection mechanism that detects a current position of the display monitor, and software change means coupled to the detection mechanism for changing at least some software running in the computing device based upon the current position.

20. The system of claim 18 wherein the mechanism that couples the display monitor to the base comprises at least one type of positioning means of a set, the set containing, an articulating arm having at least two fixed members that are pivotally coupled to one another, a four-bar arm mechanism having two pairs of bars apart from one another, a pair of arms that each extend from the base and couple to the display monitor for sliding in a lateral direction relative to the display monitor and rotate relative to the display monitor, and/or an arm mechanism coupled to a base via a sliding rack and pinion mechanism.

* * * * *

Exhibit 1007

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		7165－5B		３１２　Ｆ	

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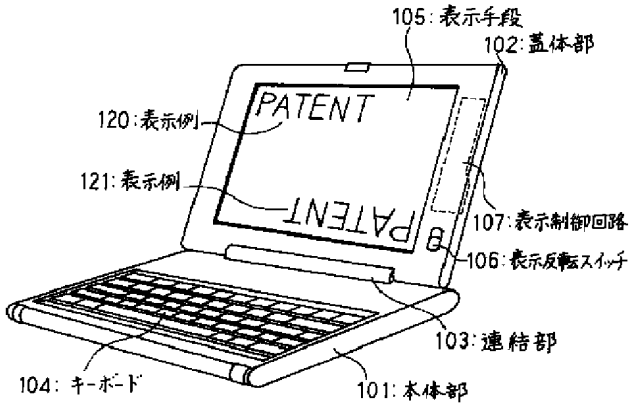
最終頁に続く

(54)【発明の名称】　電子機器装置及びパーソナルコンピュータ

(57)【要約】
【目的】キーボードを使用できる形態を保持しながら、ペン入力操作やマウス操作主体の利用環境に適した形態を採ることのできるパーソナルコンピュータを提供すること。
【構成】前面にキーボード１０４を有する本体部１０１と、前面に表示手段１０５を有する蓋体部１０２と、両者の前面を向かい合わせる状態で、本体部の一端と蓋体部の一端とを連結し、かつ両者を開閉可能とする連結機構１０３とからなり、この連結機構１０３は、本体部１０１に対して蓋体部１０２を１８０度を越えた角度に開き得る構造であるパーソナルコンピュータ。表示手段１０５の表示を天地逆にするための表示反転スイッチ１０６があることが好ましい。

図１



【特許請求の範囲】
【請求項１】前面にキーボードを有する本体部と、前面に表示手段を有する蓋体部と、該本体部の前面と該蓋体部の前面とを向かい合わせる状態で、本体部の一端と蓋体部の一端とを連結し、かつ両者を開閉可能とする連結機構とからなる電子機器装置において、上記連結機構は、上記本体部に対して上記蓋体部を１８０度を越えた角度に開き得る構造であることを特徴とする電子機器装置。
【請求項２】請求項１記載の電子機器装置において、上記表示手段は、表示される記号が天地逆に表示されるための切替手段を備えたことを特徴とする電子機器装置。
【請求項３】請求項１記載の電子機器装置において、上記連結機構は、上記本体部に対して上記蓋体部を実質的に０度から３６０度の範囲の任意の角度にし得る構造であることを特徴とする電子機器装置。
【請求項４】請求項３記載の電子機器装置において、上記表示手段は、表示される記号が天地逆に表示されるための切替手段を備えたことを特徴とする電子機器装置。
【請求項５】請求項１から４のいずれかーに記載の電子機器装置において、上記キーボードは、キーボードからの入力を無効とするための第２の切替手段を備えたことを特徴とする電子機器装置。
【請求項６】請求項１から４のいずれかーに記載の電子機器装置において、上記本体部は、本体部が鉛直線に対して所定の範囲の角度にあることを検出する検出手段を有し、上記キーボードは、該検出手段の検出した値に基づいて、キーボードからの入力を無効とするための第３の切替手段を備えたことを特徴とする電子機器装置。
【請求項７】前面にキーボードを有し、電子回路を格納する本体部と、前面に表示手段を有する蓋体部と、該本体部の前面と該蓋体部の前面とを向かい合わせる状態で、本体部の一端と蓋体部の一端とを連結し、かつ両者を開閉可能とする連結機構とからなるパーソナルコンピュータにおいて、上記連結機構は、上記本体部に対して上記蓋体部を１８０度を越えた角度に開き得る構造であることを特徴とするパーソナルコンピュータ。
【請求項８】請求項７記載のパーソナルコンピュータにおいて、上記表示手段は、表示される記号が天地逆に表示されるための切替手段を備えたことを特徴とするパーソナルコンピュータ。
【請求項９】請求項７記載のパーソナルコンピュータにおいて、上記連結機構は、上記本体部に対して上記蓋体部を実質的に０度から３６０度の範囲の任意の角度にし得る構造であることを特徴とするパーソナルコンピュータ。
【請求項１０】請求項９記載のパーソナルコンピュータにおいて、上記表示手段は、表示される記号が天地逆に表示されるための切替手段を備えたことを特徴とするパーソナルコンピュータ。
【請求項１１】請求項７から１０のいずれかーに記載のパーソナルコンピュータにおいて、上記キーボードは、キーボードからの入力を無効とするための第２の切替手段を備えたことを特徴とするパーソナルコンピュータ。
【請求項１２】請求項７から１０のいずれかーに記載のパーソナルコンピュータにおいて、上記本体部は、本体部が鉛直線に対して所定の範囲の角度にあることを検出する検出手段を有し、上記キーボードは、該検出手段の検出した値に基づいて、キーボードからの入力を無効とするための第３の切替手段を備えたことを特徴とするパーソナルコンピュータ。
【発明の詳細な説明】
【０００１】
【産業上の利用分野】本発明は、小型化により可搬性を高めた電子機器装置及びパーソナルコンピュータに関する。
【０００２】
【従来の技術】近年、情報処理装置等の電子機器装置の小型化の進展は著しく、とりわけ、パーソナルコンピュータは、その大きさ、重量の点で、携帯可能なまでに小型化されてきた。
【０００３】この様な従来の携帯型パーソナルコンピュータの一般的な形態は、（１）操作部を有する本体部と、（２）表示部を有する蓋体部と、（３）上記本体部と蓋体部とを連結すると共に、連結部を軸として蓋体を回動させて開閉可能にする構構とで構成される匡体構造を持つ。通常、携帯時等の未使用時には本体部と蓋体部とは向かい合わさる形で閉じられている。使用時にはこの蓋体部を１２０度程度に開けて操作するようになっている。この様な携帯型パーソナルコンピュータは、俗にラップトップ型コンピュータとも呼ばれ、近年省スペースの卓上型コンピュータとして数多く商品化され、利用されている。なお、この種の電子機器装置に関連するものには、例えば、特開平３－１０９６２２、特開平３－２９２５２０等がある。
【０００４】
【発明が解決しようとする課題】上記従来技術は、ペン入力操作やマウス操作主体のユーザーインターフェースを有する利用形態には適した形態でないという問題があった。近年、パーソナルコンピュータの利用環境が変わりつつあり、そのひとつは、マウス操作を主体とする操作環境の提供であり、さらには、ペン入力による操作環境の提供である。上記従来技術は、あくまでもキーボード入力による操作環境に適したものであった。なお、このような問題は、携帯型ワードプロセッサ等のパーソナルコンピュータ以外の電子機器装置においても同様である。
【０００５】本発明の目的は、キーボードを使用できる形態を保持しながら、ペン入力操作やマウス操作主体の利用環境に適した形態を採ることのできる電子機器装置

及びパーソナルコンピュータを提供することにある。
【０００６】
【課題を解決するための手段】上記目的を達成するために、本発明の電子機器装置は、前面にキーボードを有する本体部と、前面に表示手段を有する蓋体部と、この本体部の前面とこの蓋体部の前面とを向かい合わせる状態で、本体部の一端と蓋体部の一端とを連結し、かつ両者を開閉可能とする連結機構とからなり、本体部に対して蓋体部が１８０度を越えた角度に開き得るように、連結機構の構造を構成したものである。
【０００７】また、本発明のパーソナルコンピュータは、前面にキーボードを有し、電子回路を格納する本体部と、前面に表示手段を有する蓋体部と、この本体部の前面とこの蓋体部の前面とを向かい合わせる状態で、本体部の一端と蓋体部の一端とを連結し、かつ両者を開閉可能とする連結機構とからなり、本体部に対して蓋体部が１８０度を越えた角度に開き得るように、連結機構の構造を構成したものである。
【０００８】いずれの装置においても、上記連結機構は、本体部に対して蓋体部を実質的に０度から３６０度の範囲の任意の角度にし得る構造であることが好ましい。また、上記表示手段は、表示される記号が天地逆に表示されるための切替手段を備えることが好ましい。さらに、本体部に対して蓋体部を３６０度開き、蓋体部を表側にして用いる等のとき、蓋体部になんらかの力が加わると、裏側になっている本体部のキーボードから意図しないデータが誤って入力される場合があり得る。それを防止するためキーボードからの入力を無効とするための第２の切替手段を備えることが好ましい。また、この切替手段は、本体部の鉛直線に対してなす角度から自動的に切り替わるようにしてもよい。
【０００９】
【作用】上記のように構成することでキーボードを有する本体部と表示手段を有する蓋体部とをほぼ３６０度開き、キーボードと表示手段とが背中合わせとなるようにすることが出来る。そのような、ほぼ３６０度開いた状態では、キーボードも表示手段も機器の表面に露出する形となるので、表示手段を利用者に対面するように手で持てば、ペン入力環境にまさに好適な形態となる。しかも、必要とあれば、機器を裏返すことにより、利用者は、キーボードを操作することもできる。
【００１０】あるいはまた、本体部と蓋体部とを約３４０度に開くことが出来る。この状態だと、連結部分を上に、本体部の一端と蓋体部の一端とを下にした形で、机上に立てることが出きる。このとき、表示手段に表示される文字・図形等は、上下及び左右が逆となるため、利用者が表示内容を即座に読みとることは難しい。そこで、表示を天地逆にする。このようにして机上に立てて用いればマウス操作に好適な形態となる。
【００１１】
【実施例】本発明の一実施例を図面を用いて説明する。図１は、本発明を適用した携帯用パーソナルコンピュータの斜視図である。本体部１０１は、コンピュータ本体の電子回路を格納している。蓋体部１０２は、コンピュータの表示手段１０５をその全面に備え、使用時には、引き起こして表示手段が利用する人に対面するようになっている。表示手段１０５は、本コンピュータの表示部であり、ペン入力環境時には、入力手段ともなる。キーボード１０４は、コンピュータの入力部で、従来の使用においては中心となる入力部である。
【００１２】連結部１０３は、本体部１０１の一端とヒンジで繋がれている。また一方で、連結部１０３は、蓋体部１０２の一端ともヒンジで繋がれている。表示反転スイッチ１０６は、利用者によって操作されるスイッチで、ノーマル状態とリバース状態の２状態をとることが出来る。その状態は、表示制御回路１０７に入力されている。表示制御回路１０７は、本体部１０１に格納されているコンピュータ本体回路の制御により、表示手段１０５への出力を制御する電子回路である。表示制御回路１０７は、表示反転スイッチ１０６の状態により、表示手段への表示を天地逆にできる。つまり、表示反転スイッチ１０６がノーマル状態にあるときは、その表示は表示例１２０の如くに行われる。一方、表示反転スイッチ１０６がリバース状態にあるときは、その表示は表示例１２１の如く天地逆に、すなわち、表示面中心の鉛直線を中心として１８０度回転して行われる。
【００１３】次に、本発明で重要な役割を果たす連結機構の詳細を図２を用いて説明する。連結機構は、連結部１０３、本体支持軸１１０及び蓋体支持軸１１１を有する。本体支持軸１１０は、本体部１０１に設けられた本体支持部１１２と連結される。本体部１０１は、軸１５０を中心に自由に回転することが出来る。蓋体支持軸１１１は、蓋体部１０２に設けられた蓋体支持部１１３と連結される。蓋体部１０２は、軸１５１を中心に自由に回転することが出来る。
【００１４】次に、図２で説明した連結機構の働きにより、本体部１０１及び蓋体部１０２がどの様に回転するかを図３を用いて説明する。通常、携帯時等の未使用時には、本体部１０１と蓋体部１０２は図２を用いて説明した連結機構の働きによりキーボード１０４と表示手段１０５が向かい合うようにして閉じることが出来る。一方、使用時には蓋体部１０２は軸１５１を中心に回転させることにより、本体部１０１より起きあがらせて開けることが出来る。適当な角度、例えば回転１５２により蓋体部１０２を約１２０度開けるならば、蓋体部１０２は蓋体部位置１５５に位置する。これは、図１に示した形態であり、利用者はキーボード１０４と表示手段１０５とに自然な形で対面しながら本コンピュータを操作できる。
【００１５】いま、蓋体部１０２を回転１５３により１

８０度開けるならば、蓋体部１０２は蓋体部位置１５６に位置する。さらにそこで、連結部１０３を軸１５０を中心とする回転１５４により１８０度回転させ、軸１５１を軸位置１５７に移動させると、蓋体部１０２は、蓋体部位置１５８に位置する。このようにして、蓋体部１０２は図２を用いて説明した連結機構の働きによりほぼ３６０度回転させることが出来る。この状態では、表示手段１０５は表示手段位置１５９に位置する。すなわち、キーボード１０４も表示手段１０５も、コンピュータの表面に出ているので、必要とあれば利用者はキーボード１０４を操作することもできるし、表示手段１０５を使用することもできる。

【００１６】図３を用いて説明したように、本発明のパーソナルコンピュータは、本体部１０１と蓋体部１０２とをほぼ３６０度開けた状態にすることが出来る。図４は、このときの状態を示した斜視図であり、ペン入力によるコンピュータ利用に適した形態になっている。本図では、利用者に対して連結部１０３が手前側になっている。この時は表示手段１０５の表示向きは表示例１２０の如くで問題ない。しかしながら、利用者によっては、利用者に対して連結部１０３が向こう側になっていたほうが好まれる場合もある。その場合、表示反転スイッチ１０６をリバース状態にすることにより、表示手段１０５の表示向きを表示例１２１の如くにすれば良い。

【００１７】すでに説明してきたように、本発明によれば、本体部１０１と蓋体部１０２とをほぼ０度から３６０度の範囲で任意の角度に開けることが出来る。図５は、本体部１０１と蓋体部１０２とをおよそ３４０度開けた状態の利用形態を示すものである。この場合、表示反転スイッチ１０６をリバース状態に設定することにより表示手段１０５の表示向きを表示例１２１の如くにする。そして、連結部１０３を上方向にして机上に設置する。この時、キーボード１０４は利用者からみて完全に裏側になってしまうので、利用者は簡単にキーボード１０４を操作することは出来ないが、マウス１３０を接続して、マウス主体操作環境ならば大きな問題ではない。この様にして机上に設置した場合、コンピュータの占める机上面積は、図１に示した設置方法と比べて大幅に少なくすることが出来る。

【００１８】なお、図４に示した状態でパーソナルコンピュータを用い、表の表示手段１０５に多少強い力が加えられたときなど、裏側になっているキーボードから意図しないデータが誤って入力される場合があり得る。それを防止するためキーボードからの入力を無効とするための切替手段（図示せず）を設けておくことが好ましい。

【００１９】また、この切替手段は自動的に作動するようにしてもよい。例えば、本体部が鉛直線に対して所定の範囲の角度にあることを検出する検出手段を本体部に設け、この検出手段の検出した値に基づいて、キーボードからの入力を無効とするような構成としてもよい。

【００２０】

【発明の効果】本発明は、以上述べたように構成されているので次のような効果がある。

（１）従来通りのキーボード主体の利用形態と、ペン入力主体、マウス操作主体の利用形態に適した形態とのすべてを実現することができた。

（２）マウス操作主体で利用する場合、より少ない机上占有面積で済むようにできた。

（３）外部表示手段を利用する場合、利用者の正面に外部表示手段を無理なく設置できた。

【図面の簡単な説明】

【図１】本発明の一実施例のパーソナルコンピュータの斜視図である。

【図２】本発明の一実施例のパーソナルコンピュータの連結機構の構成図である。

【図３】図３に示した連結機構の動作説明図である。

【図４】本発明の一実施例のパーソナルコンピュータの一利用形態を説明する斜視図である。

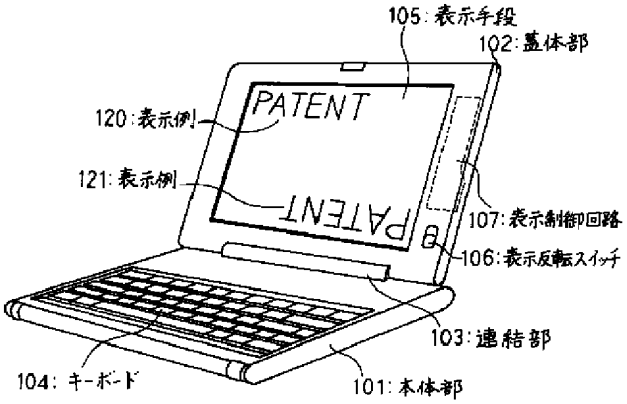
【図５】本発明の一実施例のパーソナルコンピュータの他の利用形態を説明する斜視図である。

【符号の説明】

１０１…本体部
１０２…蓋体部
１０３…連結部
１０４…キーボード
１０５…表示手段
１０６…表示反転スイッチ
１０７…表示制御回路
１１０…本体支持軸
１１１…蓋体支持軸
１１２…本体支持部
１１３…蓋体支持部
１２０、１２１…表示例
１３０…マウス
１５０、１５１…軸
１５２、１５３、１５４…回転
１５５、１５６、１５８…蓋体部位置
１５７…軸位置
１５９…表示手段位置

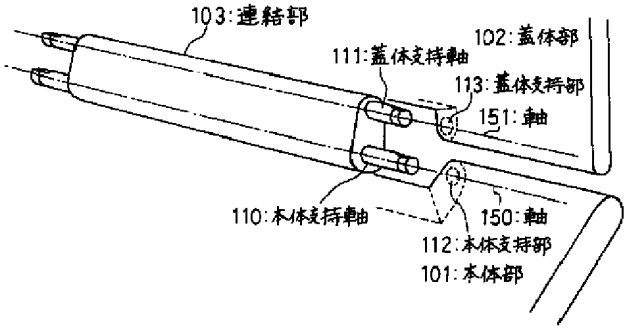
【図１】

図１



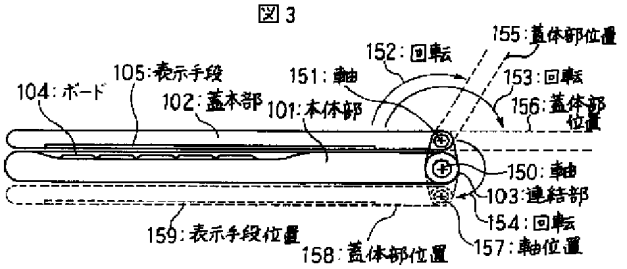
【図２】

図２



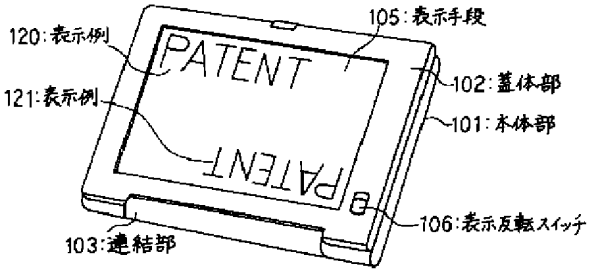
【図３】

図３



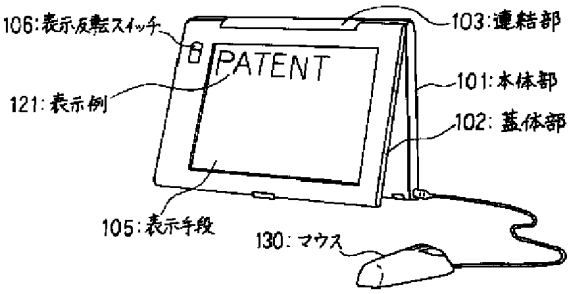
【図４】

図４



【図５】

図５



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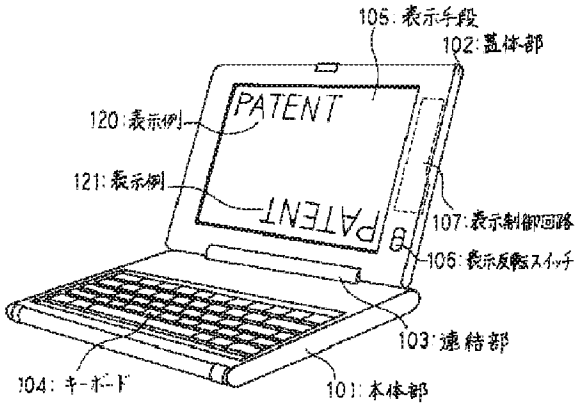
Continued on last page:

(57) [Abstract]

[Purpose] To provide a personal computer which can adopt a mode suitable for a user environment centered on a pen input operation and a mouse input operation while retaining a mode which can use a keyboard.

[Configuration] It is a personal computer made up of a main part 101 provided with a keyboard 104 on the front, a cover part 102 provided with a display means 105 on the front and a coupling mechanism 103 used to couple one end of the main part and one end of the cover part with both the display device 105 and the cover part 102 facing main part 101 and which can open and close both of these. This coupling mechanism 103 is structured so that it can open the cover part 102 so that it exceeds 180° relative to main part 101. It should have a display reverse switch 106 so that display means 105 can be switched upside down.

図1



[Claims]

[Claim 1] An electronic machine and device characterized as being in a state wherein a main part having a keyboard on the front side, a cover part having a display means on the front side and a front side of said main part and the front side of said cover part facing each other; made up of a coupling mechanism wherein one end of the main part and one end of the cover part are coupled; the invention characterized as said coupling mechanism being a structure wherein it can open said cover part to an angle relative to said main part which exceeds 180°.

[Claim 2] The electronic machine and device described in Claim 1 wherein said display means is provided with a switching means used so that the symbols displayed can be displayed at the top and then turned upside down.

[Claim 3] The electronic machine and device described in Claim 1 wherein said coupling mechanism is a structure which can essentially place the abovementioned cover part relative to the abovementioned main part within a range from 0° to 360°c.

[Claim 4] The electronic machine and device described in Claim 3 wherein said display means is provided with a switching device which makes it possible for the symbols displayed to be displayed at the top and then turned upside down.

[Claim 5] The electronic machine and device described in any of Claims 1 through 4 wherein said keyboard is provided with a second keyboard which invalidates input from the keyboard.

[Claim 6] The electronic machine and device as described in any of Claims 1 through 4 wherein it is provided with a detection means used to detect when the main part is at an angle within a predetermined range relative to a perpendicular line and the abovementioned keyboard is provided with a third switching means used to invalidate the input from the keyboard based on the value detected by said detection means.

[Claim 7] A personal computer characteristic in that it is provided with a keyboard on the front, a coupling mechanism which couples one end of the main part and one end of the cover part in a state wherein the main part which stores the electronic circuit, the cover part which is provided with a display means on the front and the front of said main part and the front of said cover part are facing one another so that both can be opened and closed; said coupling mechanism consists of a structure which can open the cover part at an angle relative to the cover part which exceeds 180°.

[Claim 8] The personal computer as described in Claim 7 wherein said display means is provided with a switching means used so that the symbols displayed can displayed at the top and then turned upside down.

[Claim 9] The personal computer described in Claim 7 wherein the abovementioned linking mechanism is a structure which is made so that it places the abovementioned cover part essentially at any angle relative to the main part within 0° to 360°.

[Claim 10] The personal computer described in Claim 9 wherein the display means is provided with a switching means used so that the symbols displayed can be displayed at the top and then turned upside down.

[Claim 11] The personal computer as described in any of Claims 7 through 10 wherein the abovementioned keyboard is provided with a second switching means which invalidates input from the keyboard.

[Claim 12] The personal computer as described in any of Claims 7 through 10 wherein the abovementioned main part is provided with a detection means used to detect when the main part is at an angle within a predetermined range relative to a perpendicular line. The abovementioned keyboard is provided with a third switching means used to invalidate input from the keyboard based on the value detected by the detection means.

[Detailed Description of Invention]

[0001]

[Field of Industrial Use] The present invention relates to an electronic machine and device and a personal computer with enhanced portability as it has been miniaturized.

[0002]

[Prior Art] In recent years, there has been outstanding miniaturization of information processing machines and other electronic machines and devices and especially personal computers which are large and heavy. These have been miniaturized so that they can be carried around.

[0003] The general mode of this type of prior art portable personal computer features (1) a main part which is provided with an operating part; (2) a cover part which is provided with a display part; and (3) a box-like structure which couples said main part and cover part and at the same time rotates the cover with the coupling part as a shaft and structured so that it can open and close. When not in use, it is usually carried about closed so that the main part and the cover part face one another. When it is used, the cover part can be opened to approximately 120° and operated. This type of portable personal computer is popularly known as a lap-top computer and in recent years many of these have been brought to market and used as a space-saving table-top computer. Further, Laid-Open Patent Application H3-109622 and Laid-Open Patent Application H3-292520 and the like.

[0004] [Problems Which the Present Invention is Intended to Resolve] The above-mentioned prior art was problematical in that it was not a shape which is suitable for use which has a user interface which is based on pen input operation and mouse input operations. In recent years, the usage environment of the personal computer has been changing. One of those changes involves an operating environment based on mouse input. Another change involves an operating environment based on pen input. The abovementioned prior art was persistently suitable for a keyboard-based operating environment. Furthermore, this problem was the same for electronic machines and devices other than portable word-processors and other personal computers.

[0005] It is the objective of the present invention to provide an electronic machine and device and a personal computer which adopt a shape which is suitable for a user environment centered on pen input operations and mouse operations while maintaining a shape which can used as a keyboard.

[0006]

[Means Used to Resolve the Problems] In order to attain the abovementioned objective, the electronic machine and device in the present invention are made up of a coupling mechanism which couples a main part which is provided with a keyboard on the front, a cover part which is provided with a display means on the front and couples one end of the main part and one end of the cover part so that the front of this main part and the front of this cover part and is configured of a coupling mechanism structure so that the cover part can be opened relative to the main part which exceeds 180°.

[0007] The personal computer in the present invention is configured of a coupling mechanism structure which is made up of a main part used to store the electronic circuit, a cover part which is provided with a display means on the front and a coupling mechanism which couples one end of the main part and one end of the cover part with the front of this main part and the front of this cover part facing one another so that both of these can be opened and closed and so that the cover main part can be opened to an angle relative to the main part which exceeds 180°.

[0008] In both of the devices, the abovementioned coupling mechanism should have a structure such that the cover part can essentially assume any angle relative to the main part within a range of 0° to 360°. The abovementioned display means should also be provided with a switching means which makes it possible for the symbols displayed to be displayed at the top and then switch to the bottom. It also opens the cover part 360° relative to the main part. When the cover part is used on the front, when some force is exerted on the cover part, unintended data from the keyboard of the main part which is on the back side may sometimes be inputted by mistake. A second switching means should be provided in order to invalidate the input from the keyboard in order to prevent that. This switching means is set so that it switches automatically from an angle relative to the vertical line of the main part.

[0009]

[Actions] The main part which has a keyboard and the cover part which has a display means open approximately 360° by virtue of this configuration and the keyboard and the display means can be joined together at the back. In this type of state where it is approximately 360° open, the keyboard and the display device can protrude to the front of the machine. As a result, when the display means is grasped with the hand so that it faces the user, it is further suitable for a pen-based input environment. Moreover, should the need arise, the user can manipulate the keyboard by turning the machine over.

[0010] Also, the main part and the cover part can be opened to approximately 340°. In this state, with the linking part on the top and one end of the main part and one end of the cover part on the bottom, can be placed so that it stands on the table. At this time, the characters and diagrams which are displayed on the display device are such that the top and bottom and left and right can be reversed so that it is difficult for the user to immediately read the display details. Therefore, the display can be turned upside down. Thus, if used by placing on top of a table, it is in a state where it is suitable for operating with a mouse.

[0011]

[Practical Embodiment] A practical embodiment of the present invention will be explained based on figures. Figure 1 is an inclined view of the portable personal computer which applies the present invention. Main part 101 is used to store the electronic circuit of the computer. Cover part 102 is provided with computer display means 105 around the entire surface. When in use, the display means which is pulled up faces the user. Display means 105 is the display part of the computer. It is also an input means when used in a pen input environment. Keyboard 104 is a computer input part and serves as an input part which is the center when used in the prior art.

[0012]

Coupling part 103 is fastened by a hinge and one end of main part 101. Meanwhile, coupling part 103 is fastened by a hinge and one end of cover part 102. Display reverse switch 106 is a switch which is operated by the user and can be placed in two states, a normal state and a reverse state. This state is inputted to display control circuit 107. Display control circuit 107 is an electronic circuit used to control output to display means 105 by controlling the computer circuit which is stored in main part 101. Display control circuit 107 can turn the display upside down to the display means by using the mode of display reverse switch 106. This means that when display reverse switch 106 is in normal mode, the display is carried out as indicated in display example 120. Meanwhile, when display reverse switch 106 is in reverse mode, it can be turned upside

down as indicated in display example 121, that is, it can be rotated 180° centered on the vertical line of the display surface.

[0013] Next, the coupling mechanism which carries out an important role in the present invention will be explained in detail based on Figure 2. The coupling mechanism is provided with coupling part 103, support shaft 110 and support part 112 which is placed on main part 101. Main part 101 can rotate freely around shaft 150. Cover support shaft 111 is coupled to cover support part 113 which is placed on cover part 102. Cover part 102 can rotate freely around shaft 151.

[0014] Next, how main part 101 and cover part 102 rotate thanks to the movement of the coupling mechanism explained in Figure 2 will be explained based on Figure 3. Usually when they are not being used for the portable computer, main part 101 and cover part 102 can close so that keyboard 104 and display means 105 face each other thanks to the movement of the coupling mechanism explained based on Figure 2. Meanwhile, when it is being used, cover part 102 rotates around shaft 151 so that it is lifted up from main part 101 and can be opened. When cover part 102 is opened at a suitable angle, for example, 120°, by rotation 152, cover part 102 is positioned at cover part position 155. This is the mode indicated in Figure 1. The user can operate the computer while facing keyboard 104 and display means 105 in a natural mode.

[0015] Now, when cover part 102 is opened 180° thanks to rotation 153 [sic], cover part 102 is positioned at cover part position 156. Then, when coupling part 103 is rotated 180° thanks to rotation 154 [sic] centered on shaft 150 and shaft 151 is moved to shaft position 157, cover part 102 is positioned at cover part position 158. Thus, cover part 102 can rotate nearly 360° thanks to the movement of the coupling mechanism explained based on Figure 2. In this state, display means 105 is positioned in display means position 159. This means that keyboard 104 and display means 105 protrude onto the surface of the computer so that the user can operate keyboard 104 and can use display means 105 if necessary.

[0016] As was explained based on Figure 3, the personal computer in the present invention can place main part 101 and cover part 102 in a state where they can be opened to nearly 360°. Figure 4 is an inclined view indicating the state at this time which enables pen input for the user of the computer. In this figure, coupling part 103 is in a forward position so that it faces the user. At this time, the display orientation of display means 105 is that indicated in display example 120 and presents no problems. However, some users prefer coupling part 103 to be facing them from a distance. In this case, by placing display rotation switch in reverse mode, the display orientation of display means 105 should be that indicated in display example 121.

[0017] As has already been explained, according to the process of the present invention, main part 101 and cover part 102 can be opened to any angle within a range of nearly 0° to 360°. Figure 5 indicates the user mode of the state of opening of main part 101 and cover part 102 at approximately 340°. In this case, display reverse switch 106 is set to reverse mode so that the display orientation of display means 105 is set as in display example 121. Then, coupling part 103 is placed upward and placed on the table. At this time, keyboard 104 is completely on the back side when seen by the user. The user cannot easily operate keyboard 104, however, if mouse 130 is connected and it is a mouse centered operating environment, it does not present any great problems. Thus, when placed on top of a table, the area taken up by the computer on the table can be greatly reduced. This contrasts to the placement method indicated in Figure 1.

[0018] Furthermore, when some force is exerted on display means 105 of the chart using the personal computer in the state indicated in Figure 4, there are cases in which unintended data are mistakenly inputted from the keyboard which is on the back side. A switching means (not shown in figure) should be set in place to invalidate input from the keyboard to prevent this.

[0019] This switching means may also be devised so that it operates automatically. For example, it may be configured so that a detection means used to detect that the main part is at an angle within a predetermined range is placed on the main part and so that input from the keyboard is invalidated based on a value which has been detected by this detection means.

[0020]

[Effect of Invention] The present invention is configured as indicated above so that it has the following effects.

(1) The usage configurations of the prior art keyboard main core, the configuration which is suitable for the usage configuration of the pen-entry main core and the mouse operation main core have all be realized.

(2) When used with the mouse operation main core, one can get by with a smaller space taken up on a tabletop.

(3) When the external display means is used, the external display means can be easily placed in front of the user.

[Brief Explanation of Figures]

[Figure 1] An inclined view of the personal computer in the preferred embodiment of the present invention.

[Figure 2] A diagram of the coupling mechanism of the personal computer in the preferred embodiment of the present invention.

[Figure 3] A figure explaining the action of the coupling

mechanism indicated in Figure 3.

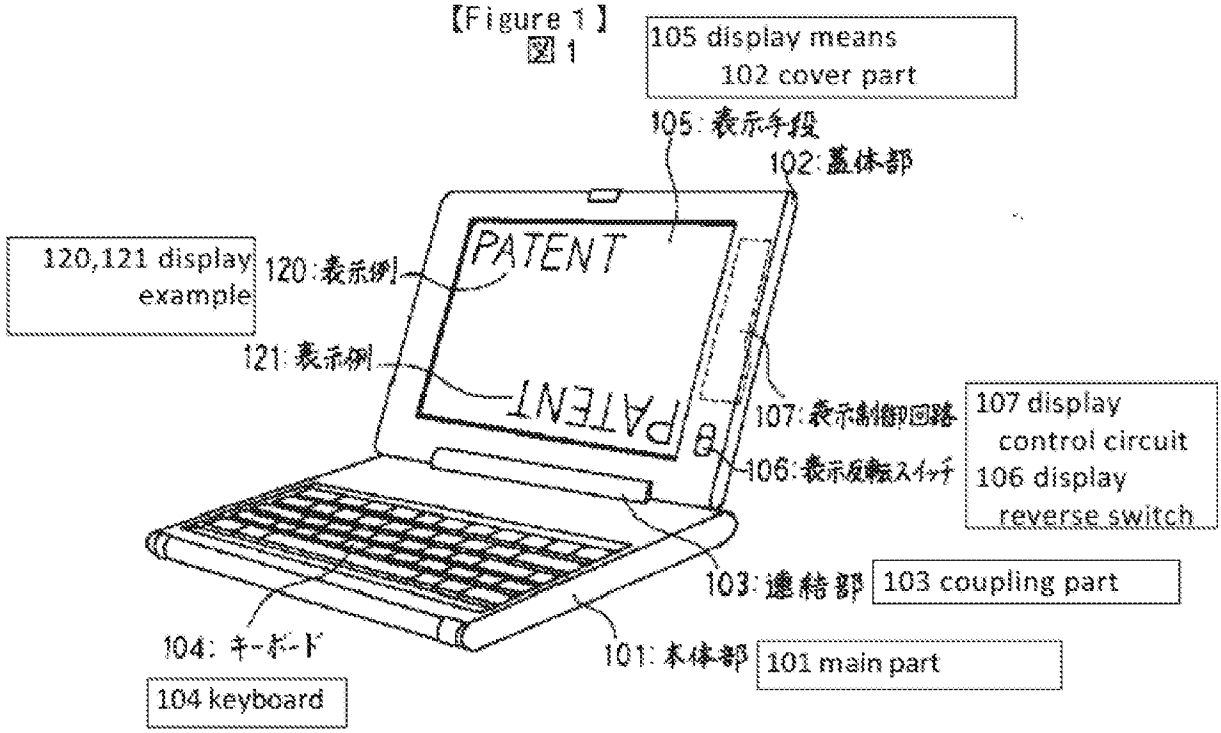
[Figure 4] An inclined view which explains how the personal computer in the preferred embodiment of the present invention.

[Figure 5] An inclined view which explains another way of using the personal computer in the preferred embodiment of the present invention.

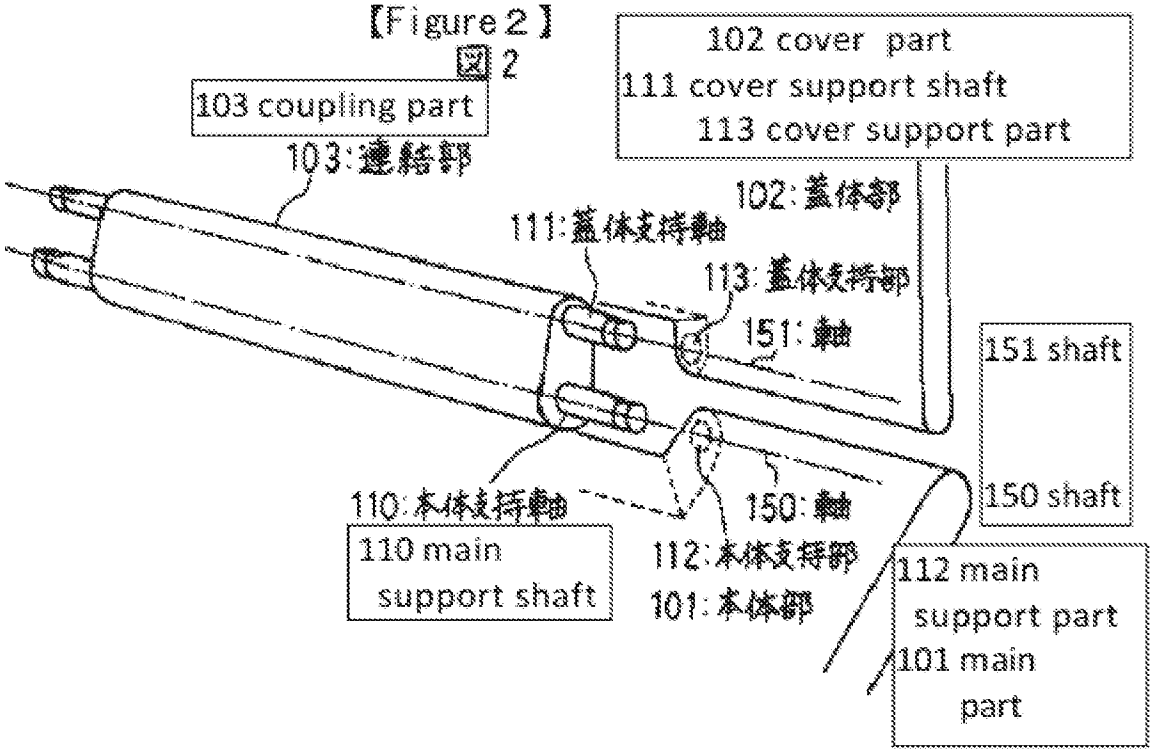
[Explanation of Symbols]

101....main part
102...cover part
103...coupling part
104....keyboard
105...display means
106..display reverse switch
107..display control circuit
110...main support shaft
111...cover support shaft
112..main support part
113..cover support part
120, 121...display example
130...mouse
150, 151...shaft
152, 153, 154..rotation
155, 156, 158...cover part position
157...shaft position
159...display means position

【Figure 1】
図 1

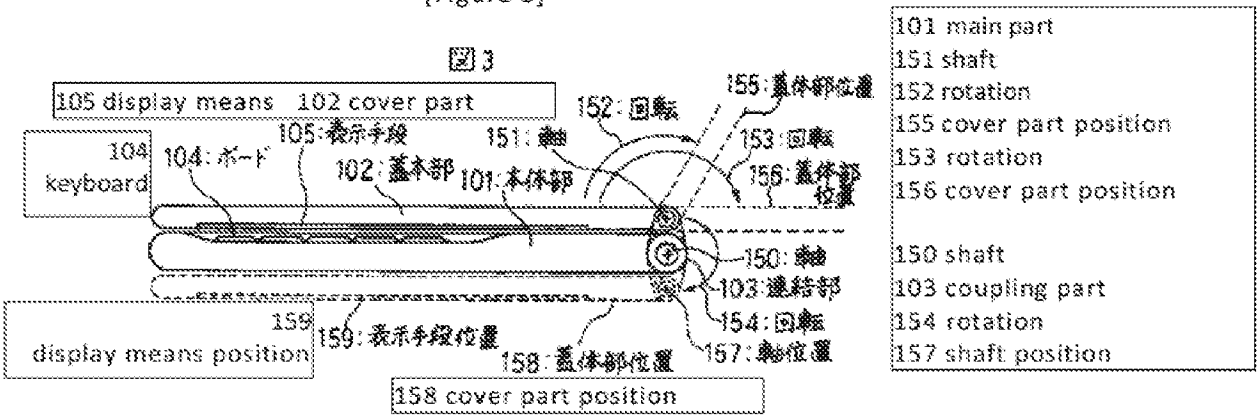


【Figure 2】
図 2



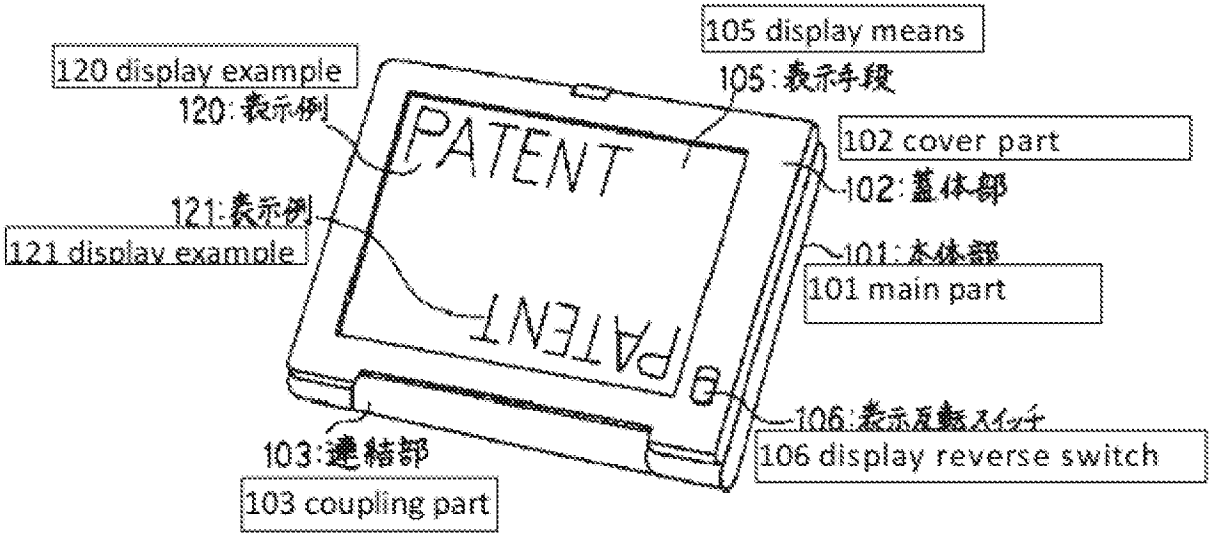
[Figure 3]

図3



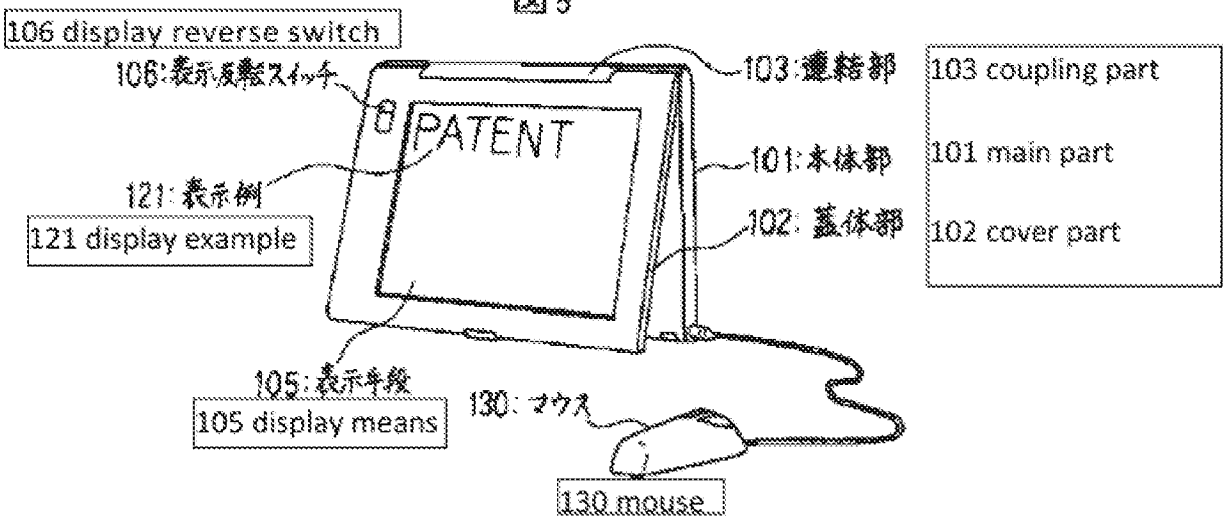
[Figure 4]

図4



[Figure 5]

図5



Continued from front page
(72) Inventor Hideyuki Koguri
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Certificate of Translation

1. I, Michael Newton, hereby certify that I am a professional translator with over 10 years of experience, am fluent in both Japanese and English, and am competent to translate from Japanese into English.

2. I hereby certify that I prepared the foregoing translation of the Patent Application No. H5-25126 – (Filed on Feb. 15, 1993) Regarding pen & mouse input while using a keyboard - JP1994-242853 (JP '853) (10).

3. I acknowledge that willful false statements and the like are punishable by fine and/or imprisonment.

4. All statements made herein of my own knowledge are true and all statements made on information and belief are believed to be true.

5. I declare under penalty of perjury that all statements made herein of my own knowledge are true and all statements made on information and belief are believed to be true, and further that these statements were made with the knowledge that willful false statements and the like are punishable by fine or imprisonment, or both, under 18 U.S.C. § 1001.

Executed on: 1/14/2021

Signed: Michael Newton

Mr. Michael Newton

Exhibit 1004

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent of:	Behar et al.
U.S. Patent No.:	9,880,715 B2
Issue Date:	January 30, 2018
Filed:	April 7, 2015
Entitled:	System and method for streamlining user interaction with electronic content

DECLARATION OF CHRISTOPHER SCHMANDT

EFS Web Filed
Central Reexamination Unit
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

TABLE OF CONTENTS

Page(s)

I. INTRODUCTION AND ENGAGEMENT

A. Engagement

1. I have been retained by counsel for Lenovo as an expert witness in the above-captioned Request for *Ex Parte* Reexamination ("Request"). I have been asked to provide my opinion about the state of the art of the technology described in U.S. Patent No. 9,880,715 ("the '715 Patent") (Exhibit 1001) and on the patentability of the claims of this patent. My opinions are described below.

B. Background and Qualifications

2. In 2019, I retired as a Principal Research Scientist at the Media Laboratory at M.I.T. In that role I also served as faculty for the M.I.T. Media Arts and Sciences academic program. I have more than 35 years of experience in the field of Media Technology, and was a founder of the M.I.T. Media Laboratory.

3. I received my BS degree in Electrical Engineering and Computer Science from M.I.T in 1978, and my MS in Visual Studies (Computer Graphics) also from M.I.T. I was employed at M.I.T. from 1980 - 2018, initially at the Architecture Machine Group which was an early computer graphics research Lab. In 1985, I helped found the Media Laboratory and continue to work there to date. I currently run a research group titled "Living Mobile." My research spans distributed communication and collaborative systems, with an emphasis on multi-media and user interfaces; I have over 70 published conference and journal papers and one book in these fields.

4. In my faculty position, I taught courses and directly supervise student research and theses at the Bachelor's, Master's, and Ph.D. level. I oversaw the Master's and Ph.D. thesis programs for the entire Media Arts and Sciences academic program. I also served on the Media Laboratory intellectual property committee.

5. In the course of my research on human computer interaction, my students and I built a number of computer input configurations and user interfaces that resembled the various physical device modes and associated software configurations to access computer media data described in the specification of the '715 Patent. In terms of flat screen displays with touch style interfaces, as early as 1978 I used such for my Bachelor's thesis, which was a pioneering ebook reader. I used similar hardware to access voice and text messages shortly thereafter (The Intelligent Ear in 1983, and Phone Slave in 1985, for example). I used easel-like configurations in Clique Here (2003, for images), TalkBack (also 2003, for voice messages) and GlobeToddler (2008, laptop style interface to images and games for adult, tablet style interface for child). I used tablet like two dimensional as well as fully three dimensional modes in a Stereoscopic Workspace (1982), and again with handheld tablet classroom aids in 2011. I also built user interactions using a watch (WatchMe, 2004) and a coffee mug (Mug Shots, 2014). Although none of these projects precisely mimics the claimed material, in toto they demonstrate familiarity with a range of non-traditional computer interaction configurations and interfaces.

6. Based on the above experience and qualifications, I have a solid understanding of the knowledge and perspective of a person of ordinary skill in this technical field since at least 1990.

7. My Curriculum Vitae is submitted herewith as Appendix A.

8. During my time at the Media Lab, I worked with many graduate students who would have been considered POSITAs, as described below, and thus I have good knowledge of what a POSITA would have known and been capable of during the relevant time period.

9. I am being compensated at a rate of $500 per hour for my study and other work in this matter. I am also being reimbursed for reasonable and customary expenses associated with my

work in this investigation. My compensation is not contingent on the outcome of this matter or the specifics of my testimony. In the last five years, I have provided deposition or trial testimony in the following matters:

- *Facebook* v. Windy City, IPR expert, 2017
- *Facebook* v. EVERMD.COM LLC, IPR expert, 2017
- Express Mobile v. *Big Commerce*, litigation expert, 2017
- *Comcast* v. Promptu, IPR expert, 2017
- *Facebook* v. Hypermedia, IPR expert, 2018
- *Microsoft* v. Speakware, IPR expert, 2019
- *Bumble Trading LCC* v Match Group LLC, IPR expert, 2019
- *Tile Inc.* v. Cellwitch Inc., IPR expert 2019
- Blackberry Ltd v. *Facebook, Inc.*, IPR expert 2020
- *Snap, Inc.* v. SRK Technology LLC, IPR expert 2020
- *Shopify Inc.* v. Express Mobile Inc., litigation expert 2020
- Express Mobile Inc., v. *GoDaddy Inc.*, litigation expert 2021
- Quantum Metric, Inc. v. *Content Square Israel, LLC*, IPR expert 2022

II. STANDARDS

10. As part of my work in connection with this matter, I have studied the '715 Patent and the U.S. Patent and Trademark Office ("USPTO") file history of the '715 Patent. I have also reviewed the prior art references cited herein, as well as additional background references.

11. My opinions are based on my years of education, research and experience, as well as my investigation and study of relevant materials. In forming my opinions, I have considered the materials referred to herein.

12. I understand that an inventor is not entitled to a patent if his or her invention would have been obvious to a person of ordinary skill in the art at the time the invention was made. The following standards govern the determination of whether a claim in a patent is obvious. I have applied these standards in my evaluation of whether the claims in the '715 Patent would have been obvious.

13. A claim in a patent is obvious when the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which the subject matter pertains.

14. I understand that an obviousness analysis requires an understanding of the scope and content of the prior art, any differences between the alleged invention and the prior art, and the level of ordinary skill in evaluating the pertinent art.

15. I further understand that a claim would have been obvious if it unites old elements with no change to their respective functions, or alters prior art by mere substitution of one element for another known in the field and that combination yields predictable results. While it may be helpful to identify a reason for this combination, I understand that there is no rigid requirement of finding an express teaching, suggestion, or motivation to combine within the references. When a product is available, design incentives and other market forces can prompt variations of it, either in the same field or different one. If a POSITA can implement a predictable variation, obviousness likely bars its patentability. For the same reason, if a technique has been used to improve one

device and a POSITA would recognize that it would improve similar devices in the same way, using the technique would have been obvious. I understand that a claim would have been obvious if common sense directs one to combine multiple prior art references or add missing features to reproduce the alleged invention recited in the claims.

16. In determining the differences between the invention covered by the patent claims and the prior art, I understand that the prior art references are not looked at in isolation. Rather, the claimed invention as a whole must be considered, and it must be determined whether or not it would have been obvious in light of all of the prior art.

17. I further understand that certain factors may support or rebut the obviousness of a claim. I understand that such secondary considerations include, among other things, commercial success of the patented invention, skepticism of those having ordinary skill in the art at the time of invention, unexpected results of the invention, any long-felt but unsolved need in the art that was satisfied by the alleged invention, the failure of others to make the alleged invention, praise of the alleged invention by those having ordinary skill in the art, and copying of the alleged invention by others in the field. I understand that there must be a nexus-a connection-between any such secondary considerations and the alleged invention.

18. I am not aware of any secondary considerations that would tend to rebut the obviousness of any claim of the '715 Patent.

19. I understand that in considering obviousness, it is important not to determine obviousness using the benefit of hindsight derived from the patent being considered.

III. MATERIALS CONSIDERED

20. My opinions are based on my years of education, research, and experience, as well as my investigation and study of relevant materials.

21. In preparing this declaration, I have reviewed the following materials bearing Exhibit Nos. that I understand are being referenced in the Request to which my declaration accompanies:

LIST OF EXHIBITS

No.	Description
1001	U.S. Patent No. 9,880,715 ("**the '715 Patent**")
1002	File History of U.S. Patent No. 9,880,715
1003	Information Disclosure Statement by Third Party Requestor
1004	Declaration of Chris Schmandt ("**Schmandt**")
1005	U.S. Patent Application Publication No. US 2007/0058329 A1, published March 15, 2007 ("**Ledbetter**")
1006	David Pogue, *Windows Vista: The Missing Manual, 1st edition, 2nd printing* published February 2007 ("**Pogue**")
1007	Japan Patent Application Publication No. JP H06-242853 to Shimura et al. published September 2, 1994
1008	Certified English Translation of Japan Patent Application Publication No. H6-242853 ("**Shimura**")
1009	Petition for Inter Partes Review, IPR2021-00786 ("**Pet.**")
1010	Patent Owner Preliminary Response, IPR2021-00786 ("**POPR**")
1011	Patent Trial & Appeal Board Decision Denying Institution, IPR2021-00786 ("**Decision**")
1012	Provisional Patent Application No. 61/041,365
1013	PCT International Patent Application Publication No. WO 95/24007 to Lane ("**Lane**") published September 8, 1995
1014	Declaration of Dan Fauxsmith, VP of Publishing Operations at O'Reilly Media, Inc. ("**Fauxsmith**")
1015	Affidavit of Nathaniel E. Frank-White, Records Request Processor at the Internet Archive ("**Frank-White**")
1016	[No Author Listed], Litl Webbook Beats ChromeOS, Becomes First Cloud Computer. CoolThings. November 16, 2009.

No.	Description
	URL:https://www.coolthings.com/litl-webbook-beats-chromeosbecomes-first-cloud-computer/ [last accessed June 25, 2021]
1017	McDonald, LiTL Webbook Review. Little Tech Girl. August 31, 2010. URL:https://littletechgirl.com/2010/08/31/litl-webbook-review/ [last accessed June 25, 2021]
1018	Strauss, Litl Webbook Re-Defines Computing. ABC News. December 14, 2009. URL:https://abcnews.go.com/Technology/GadgetGuide/litlwebbook-defines-computing/story?id=9311095 [last accessed June 25, 2021]
1019	Murph, Litl Webbook plummets from $699 to $399, still can't catch an eye. Engadget. May 16, 2010. URL: https://www.engadget.com/2010-05-16-litl-webbook-plummets-from-699-to-399-still-cant-catch-an-ey.html [last accessed February 7, 2022]

IV. THE '715 PATENT

22. I have read and reviewed the '715 Patent. I understand the '715 Patent, titled "System And Method For Streamlining User Interaction With Electronic Content," issued on January 30, 2018, from an application filed April 7, 2015, and alleges priority to an application filed July 10, 2008, now Patent No. 8,624,844, and also to Provisional Application No. 61/041,365, filed on April 1, 2008. For purposes of this testimony, I have assumed the alleged "invention" date to be early 2008 and, unless otherwise noted, my opinions on the state of the art and level of ordinary skill are as of that date unless otherwise noted.

23. The '715 Patent generally relates to a graphical user interface with different views that organize computer content for presentation to a user, where those different views are provided in response to different physical computer system configurations with a keyboard.

24. From my review, the '715 Patent purports to address a need for "streamlining user interaction with computer content." (Ex. 1001 at Abstract, 1:60–2:2.) The '715 Patent's alleged invention is "directed to a graphical user interface that organizes interface elements into modes of

content for presentation to a user." (*Id.* at 2:24–46.) The '715 Patent states that its claimed invention provides "different views of the modes of content [that] are responsive to the configuration of the device." (*Id.* at 2:46–51.) Each claim of '715 Patent includes, directly or indirectly, a limitation of an "execution component" configured to detect computer configurations where a keyboard is either operable / positioned to receive input or inoperable / not positioned to receive input, in connection to a responsive view. (*Id.* at claims 1–20.)

25. I understand that the '715 Patent admits that the following were known or conventional: computers with processors, memory, keyboards (*id.* at 19:27–33); operating systems such as Windows Vista (*id.* at 69:9–25); web browsers such as IE and FireFox (*id.* at 49:59–61, 50:56–58); search tools such as Google (*id.* at 47:11–13); and summarization of web-based content (*id.* at 16:20–25).

26. I note the '715 Patent discloses a computer displaying different views of computer content in response to keyboard configurations.

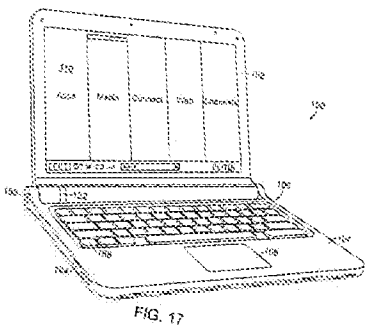


FIG. 17

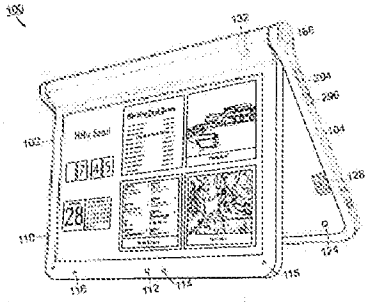


FIG. 4

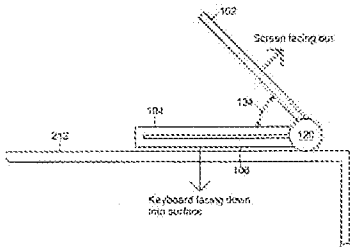


FIG. 26

(Ex. 1001 at FIGs. 4, 17, 26.)

27. I further note the '715 Patent includes several images of summarized web-based content views:

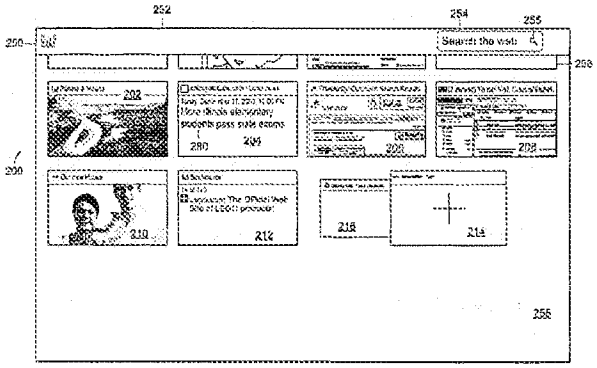


FIG. 2

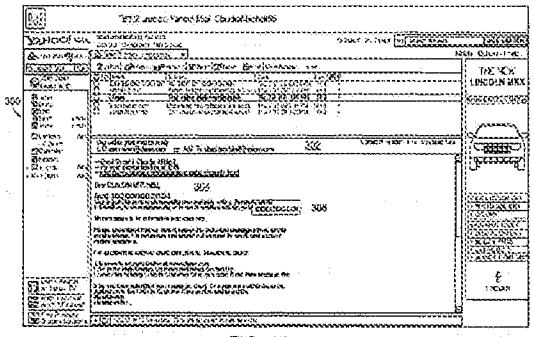


FIG. 3A

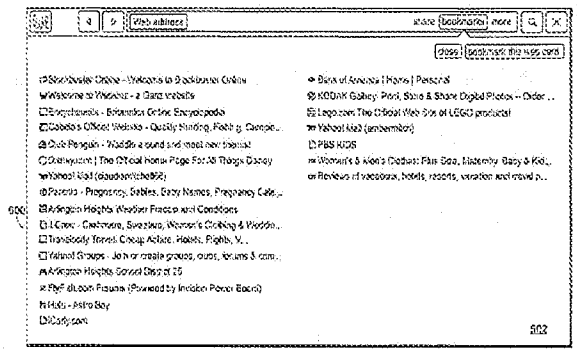


FIG. 6

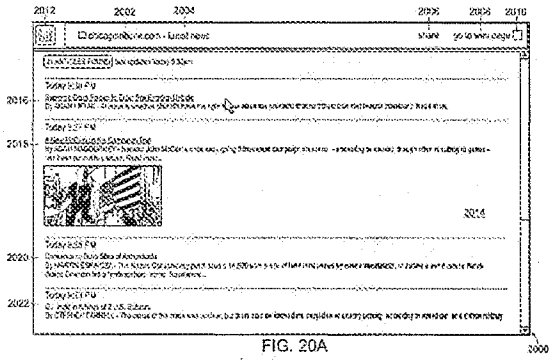


FIG. 20A

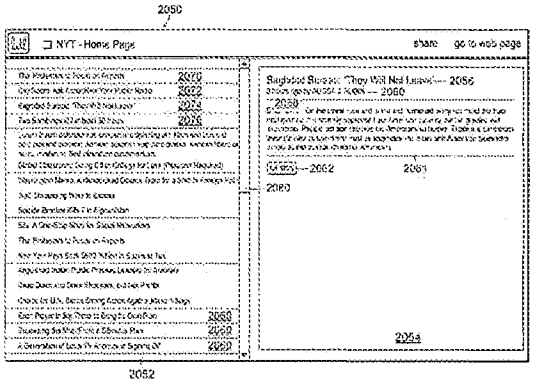


FIG. 20B

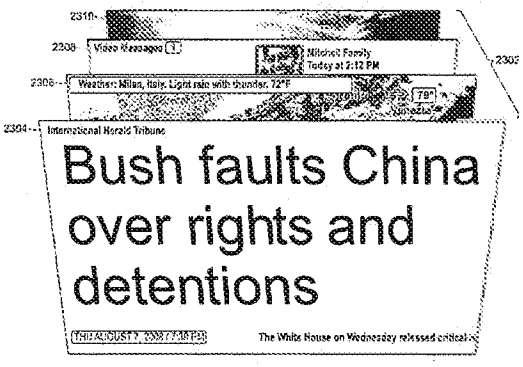


FIG. 23

(Ex. 1001 at FIGs. 2, 3A, 6, 20A, 20b, 23.)

A. The Prosecution History

28. I have read and reviewed relevant excerpts from the prosecution history of the '715 Patent. (Ex. 1002.)

29. I understand that, during prosecution of the patent, the Examiner found that the prior art references Miller, Dunko, Filner, Mattox, Oakley and Nishiyama rendered the claims obvious. (Ex. 1002 at 336-360.)

30. I understand that the applicant amended all pending claims to recite one of these elements in independent claims 1, 17, and 20:

> a first computer system configuration where the ***keyboard is operable to receive input*** from an operator of the computer system to control the computer system and a second computer system configuration where the ***keyboard is inoperable to receive input*** from the operator of the computer system to control the computer system

or

> an execution component, executing on the at least one processor, configured to: detect a current computer system configuration from at least a first computer system configuration where the ***keyboard is positioned to receive input*** from an operator of the computer system and a second computer system configuration where the ***keyboard is not positioned to receive input*** from the operator of the computer system.

(Ex. 1002 at 398, 409.) I understand the remaining claims depend, directly or indirectly, on claims 1, 17, and 20, and thus incorporate the limitations added by applicant.

31. In allowing the claims after the amendment, I understand the Examiner included a statement of reasons for the indication of allowable subject matter, and correlating certain claim elements in the '715 patent with disclosures in the prior art.

32. Of particular relevance here, the Examiner correlated the following:

- "plurality of visual representations of computer [or, "digital"] content" from claims 1, 4, 10, 17, 20 with Miller's Windows Media Center. (Ex. 1002 at 349–350, 347);
- "home view" from claims 2, 4, 10, 11, 12 with Miller's Windows Media Center's start page (*id.* at 351–353);
- "channel view" and "channel view configured to organize at least one of a single content mode and two content modes" from claims 2 and 17 with Miller's Window Media Center's TV player, video clips player, picture viewer, and news video player (*id.*);
- "screen saver" from claim 3 with Miller's photo slide show (*id.* at 352);
- "quick access view" from claim 13 with Miller's thumbnail overview of pictures, movies, games (*id.*);
- "display threshold establishing a maximal number" and "an indication of visual representations displayed on adjacent display page" from claims 10 and 11, respectively, with Miller's showing of multiple pages with an indicator (*id.* at 354);
- "channel view including a channel selector" from claim 17 with Miller's list of online games, movies, TV, and music (*id.* at 3360);
- "navigation element" from claims 8-9 with Mattox's toolbar's backward and forward buttons (*id.* at 357–358);
- "nascent card" and "nascent card configured to execute a process" from claims 12-13 with Mattox's "Create Site" or "Create Page" list items (*id.* at 360); and
- "channel selector" from claims 15 and 17 with Nishiyama's scroll wheel (*id.* at 353).

33. Moreover, I understand the Examiner correlated "execution component, executing on the at least one processor" from claims 1, 17, and 20 with Dunko's processor on a mobile communications device. (*Id.* at 350–351.) I understand the Examiner correlated the functions of

"detect," "identify," "select," "transition," and "receive user input" with Dunko's orientation sensor and GUI reconfiguration, either automatically or in response to manual mode. (*Id.*)

V. CLAIM CONSTRUCTION

34. I have been informed that, for purposes of my analysis, the terms appearing in the patent claims should be interpreted in accordance with 37 C.F.R. § 1.555(b) and MPEP § 2111. Specifically, I have been informed that each term of the claims is to be given its "broadest reasonable interpretation" consistent with the specification.

35. I have been informed that the USPTO applies to the verbiage of the proposed claims the broadest reasonable meaning of the words in their ordinary usage, as one of ordinary skill in the art would have understood them. I have been further informed that the rationale underlying the "broadest reasonable interpretation" standard is that it reduces the possibility that a claim, after issue or certificate of reexamination, will be interpreted more broadly than is justified.

A. "Execution Component, Executing On The At Least One Processor, Configured To ..."

36. I understand that, for purposes of this Request for *Ex Parte* Reexamination only, in which the BRI applies, Requester has adopted the position that this term does not invoke means-plus-function analysis in any of the claims. As the term does not recite "means for," "step for," or similar languages, there is a rebuttable presumption that it does not invoke pre-AIA 35 U.S.C. § 112, ¶ 6.

37. I understand that, in IPR2021-00786, Petitioner proposed that "execution component" be construed as a means-plus-function limitation under 35 U.S.C. §112, ¶ 6. (*See* Pet. (Ex. 1009) at 15–19; *see also* Decision (Ex. 1011) at 12.) I understand that Patent Owner did "not concede" that this limitation is a means-plus-function limitation. (POPR (Ex. 1010) at 17), and in

its decision denying institution, the PTAB determined that it need not explicitly construe "execution component." (Decision at 13.)

38. I further understand that Patent Owner may argue, or the Office may find, that "execution component, executing on the at least one processor ..." is a nonce phrase that denotes insufficient structure and thus invokes means-plus-function analysis under pre-AIA 35 U.S.C. § 112, ¶ 6. If this is the case, and to the extent the Examiner finds these terms have adequate linked structure and that the linked structure is a processor programmed with an algorithm for carrying out certain steps, I provide my opinion in the alternative on how the prior art meets each of these claim limitations under such a construction.

B. "Plurality of Views of a Plurality of Visual Representations"

39. I understand that, in the Board's preliminary claim construction in IPR2021-00786, the Board construed "plurality of views of a plurality of visual representations of computer content" as "a plurality of ways of organizing visual representations of computer content." (Decision at 16.) The Board noted this construction is distinct from merely providing a plurality of ways of displaying content by changing display orientation, color, and resolution. (Decision at 16.)

40. I understand that the Requester is not challenging the Board's previous claim construction of "plurality of views of a plurality of visual representations of computer content" because claims 1–20 are obvious over the prior art either under the Board's preliminary construction in IPR2021-00786, or under a broader construction.

41. I agree that claims 1–20 are obvious over the prior art either under the Board's preliminary construction in IPR2021-00786, or under a broader construction, and thus have used the Board's preliminary claim construction from IPR2021-00786.

42. Moreover, I understand that the Examiner during prosecution of the '715 Patent correlated features in the prior art that satisfy this construction. (*See* Ex. 1002 at 3425-426 (citing Miller at 3–6) ("***Windows Media Center presents a plurality of views of content: the Start screen displays all the categories (page 3), whereas other views display one category like "Online Spotlight", which displays online content (page 6)***") (emphasis in original).) I discuss specific relevant correlations in Section IV.A. In my opinion, the Examiner's correlations are helpful to understand the views and modes of content described in the '715 Patent.

C. "Frame Mode"

43. I understand that in IPR2021-00786, though it never offered a formal claim construction, Patent Owner stated "The '715 Patent explains "frame mode":

> Fig. 26 is an illustration of the portable computer configured into a 'frame' mode." Ex. 1001, 13:56-57. As shown in Figure 26 (reproduced below), the frame mode is characterized by (i) the keyboard is face-down on a surface, (ii) the screen faces up, and (iii) the display component forms a non-zero angle 134 with respect to the base component 104, like easel mode's inverted "V." *Id.*, 24:37-49.

(POPR at 50.)

44. I understand that the Requester is not challenging the Board's previous claim construction of "frame mode" because claim 19 (the only claim where this term appears in the '715 Patent) is obvious over the prior art either under the Board's preliminary construction in IPR2021-00786, or under a broader construction.

45. I agree that claim 19 is obvious over the prior art either under the Board's preliminary construction in IPR2021-00786, or under a broader construction, and thus have used the Board's preliminary claim construction from IPR2021-00786.

VI. PERSON OF ORDINARY SKILL IN THE ART

46. I understand that patentability must be analyzed from the perspective of one of ordinary skill in the art in the same field as the patents-in-suit at the time of the invention. I am also informed that several factors are considered in assessing the level of ordinary skill in the art, including (1) the types of problems encountered in the art; (2) the prior art solutions to those problems; (3) the rapidity with which innovations are made; (4) the sophistication of the technology; and (5) the educational level of active workers in the field.

47. In my opinion, the person of ordinary skill in the art in April 2008 ("POSITA") would have had a Bachelor's degree in Electrical Engineering, Computer Engineering, or Computer Science, plus two to three years' experience designing configurable computing devices and their associated user interfaces, including the organization of user interface content and functionality in different device modes. The POSITA may have had less design experience with a higher level of education, such as a Master's or Ph.D. degree, and vice versa.

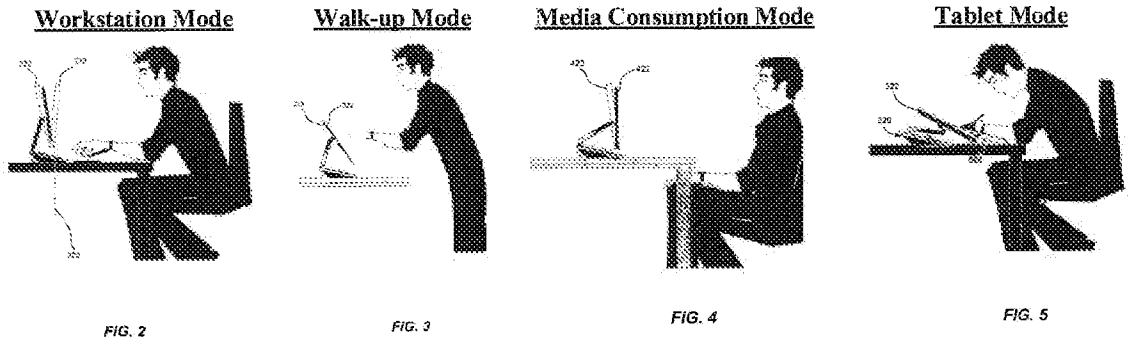
VII. SUMMARY OF THE PRIOR ART

A. Overview Of Ledbetter (EX 1005)

48. I have read and reviewed Ledbetter, titled "Multiple Position Computer Display Arm," published as U.S. Patent Application Publication No. 2007/0058329 on March 15, 2007. (Ex. 1004, Cover.) I understand that Ledbetter was not considered during prosecution of the '715 Patent. ('715 Patent at Cover.)

49. I understand that Ledbetter is a published U.S. patent application assigned to Microsoft Corporation. Ledbetter published on March 15, 2007, from an application filed September 9, 2005, and thus qualifies as prior art at least under pre-AIA 35 U.S.C. §§ 102(a) and (b).

50. I understand that Ledbetter describes a computer system with a monitor and a base that can be placed in various configurations relative to one another, with their relative positions corresponding to different device operating modes. (Ledbetter, Abstract, claim 1.) The computer system disclosed by Ledbetter provides different base/monitor configurations with different modes such as Workstation Mode, Walk-up Mode, Media Consumption Mode (touch-screen), and Tablet Mode (pen input). (Ledbetter, Abstract; FIGs. 2-5.) Ledbetter provides images of each mode with a user:



(*Id.* at FIG. 2-5.) Ledbetter FIGS. 7A–C show different system configurations for the different modes, such as Media Consumption Mode (FIG. 7A), Workstation Mode (FIG. 7B), and Tablet Mode (FIG. 7C):

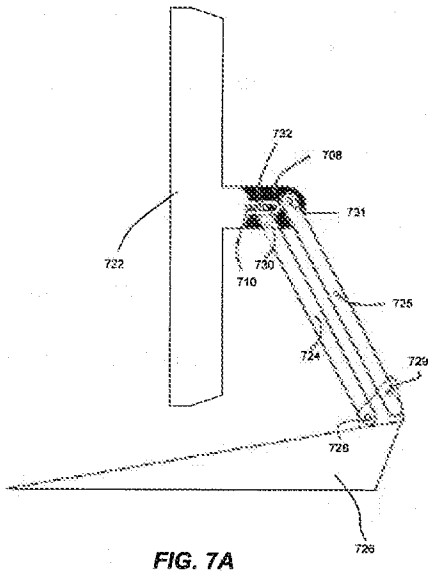


FIG. 7A

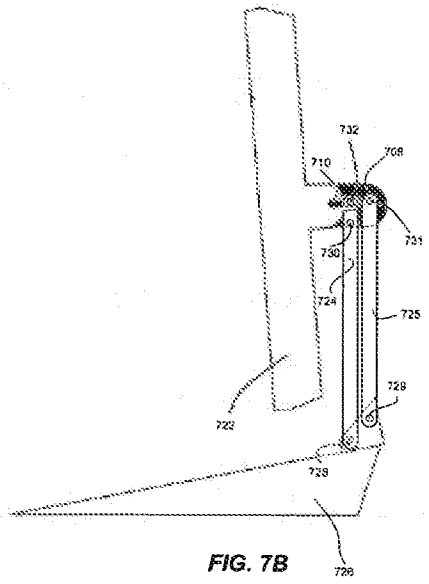


FIG. 7B

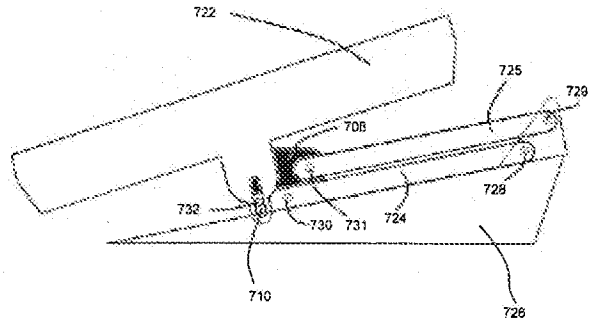


FIG. 7C

(Ledbetter at FIGs. 7A-C.) Ledbetter describes FIGs. 7A-7C as follows:

> FIGS. 7A-7C are side view representations of a four bar arm with a slot for positioning a monitor between a substantially upright (e.g., media consumption) position to a forward-leaning (e.g., workstation) position and a substantially flat (e.g., tablet mode) position, respectively.

(*Id.* at ¶ [0013].) Ledbetter also provides an image of a keyboard shown in a retracted, inaccessible position:

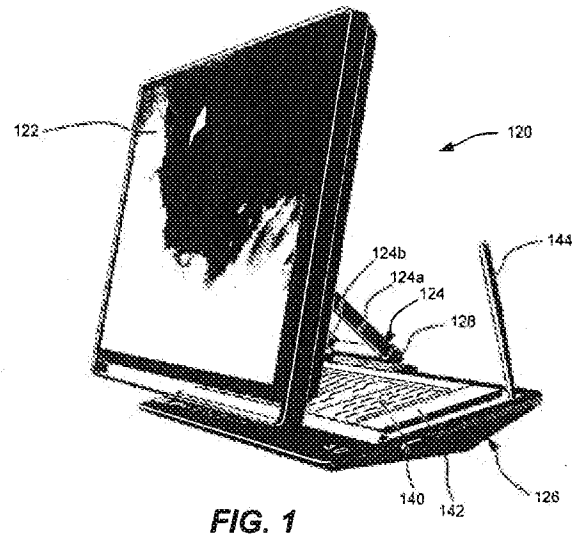


FIG. 1

(*Id.* at FIG. 1.) Ledbetter explains that:

> the example of FIG. 1 is a keyboard 140 and remote control device 142, shown in a retracted position. For example, a user may desire such positioning for viewing audiovisual content, and may control such operation by removing the remote control 142. In the event that the screen is touch and/or pen-sensitive, the user also may interact with the computer system via the display monitor 122 using a pen 142 or the like.

(*Id.* at ¶ [0025].)

51. Ledbetter further teaches a computer system that includes a position detector that switches software modes based on system configurations of the computer system:

> The position detector means 1380 is coupled (e.g., via a hardware to software interface) to mode switch software 1382 running on the computer system. In general, the mode switch software 1382 comprises policy or the like, which may be user configurable preference data, as to what shell user interface and/or other software should be operational in each position, including positions between preset modes. The mode switch software 1382, which may be any

> program such as an application and/or operating system component, reports the position-based decision to the operating system 1384, which in turn loads a corresponding shell user interface and/or other program or programs (e.g., 1386_1) as necessary to configure the computer system user interface display 1388 and running programs to match the current mode. Some delay may be provided to avoid loading and changing software until it is likely that a user has settled on a particular position and/or interaction mode rather than transitioning between modes.

(Ledbetter at ¶ [0056].)

52. I understand that Ledbetter provides examples of automated system configurations such as a media consumption mode, which may cause media software to be loaded and automatically executed, and a tablet mode, which may cause handwriting recognition software to be loaded and automatically executed:

> By way of example, when the arm is positioned such that the display monitor is in the media consumption mode, media player software may be loaded and automatically executed. In the tablet mode, tablet operating system components such as including handwriting recognition software may be loaded and automatically executed. In the walk-up mode, a touch-screen shell program configured to provide convenient access to walk-up types of information (e.g., weather, messages, the internet and so forth) may be loaded. In the workstation mode, typical shortcuts and other information used for working/productivity or other computer usage (e.g., gaming) may be displayed.

(Ledbetter at ¶ [0057].)

53. I note that Ledbetter also explains that different software modes can be configered for different user profiles, to match each user's preferences:

> Note that any of the software modes may be per user or group, e.g., the workstation mode may display different user accounts from which to select, optionally enter a password and so forth so that multiple users can share a computer. Moreover, the various modes that are available to each user can match that particular user's preference, and there is no need to provide an option to switch user accounts when the same user has transitioned from one position to another.

(Ledbetter at ¶ [0058].) Ledbetter explains its switching software can also be manually triggered. (*Id.* at ¶ [0059].)

54. I understand that Ledbetter also teaches a system that may store personal settings for the display, and then may automatically switch to that user's default display position:

> The system may persist personal settings for the display; e.g., once the system identifies the user, or a change in the user, the system may automatically switch to that user's default display position. This can happen automatically, e.g., through biometric sensors, or other sensing technologies such as face recognition and/or proximity sensors. Such settings also may be application specific. For example, if the system detects the user is launching a television or other media application program, the system may automatically switch to the user's media consumption mode, e.g., a vertical flat position. The positions can also be manually changed, such as triggered from a button on the display or keyboard.

(Ledbetter at ¶ [0059].)

55. Moreover, I note that Ledbetter provides block diagram, FIG. 13, which it describes as:

> a block diagram representing how a computer system may change operating modes based on a current position of a display (e.g.,

corresponding to a current interaction mode) coupled to a multiple position arm.

(Ledbetter at ¶ [0021]). FIG. 13 is reproduced below:

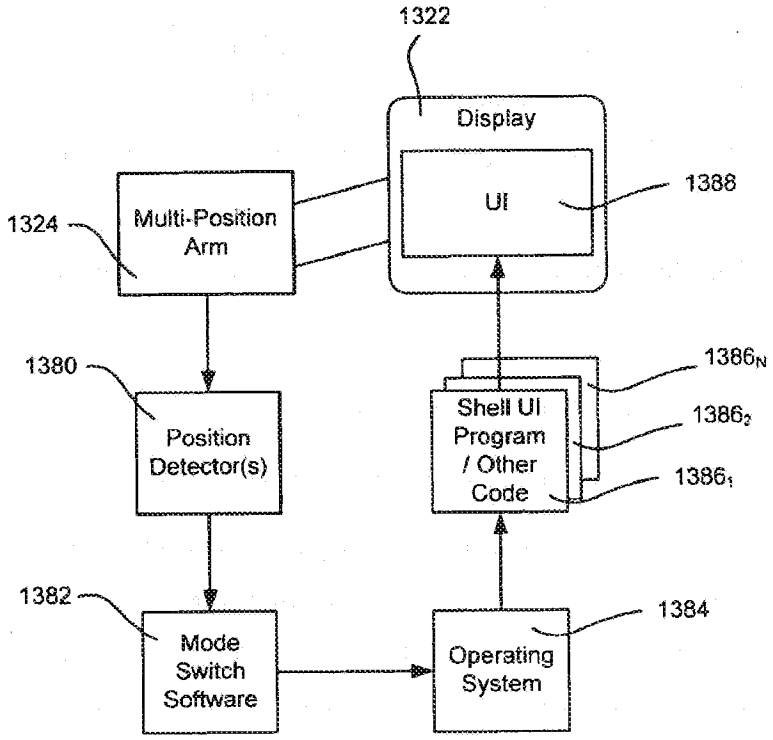


FIG. 13

(Ledbetter, FIG. 13.)

B. Overview of Pogue (EX 1006)

56. I have read and reviewed Pogue. Pogue is a manual for the Windows Vista Operating System (OS). In discussing the various features of this well-known and commonly used prior art operating system, Pogue confirms that it displayed the same kinds of views, content, navigation elements, and nascent cards described in the '715 patent. These include views and

functions of web browsers (*e.g.*, Pogue, 367-390), word processors (*e.g.*, Pogue, 263), media players (*e.g.*, Pogue, 463-482), among other things.

57. As explained in the following paragraphs, Pogue is a printed publication that was published, known, and readily available at least by March 2007. It thus qualifies as prior art at least under Sections 102(a) and 102(b) (pre-AIA), notwithstanding whether the '715 Patent is actually entitled to an April 1, 2008 priority date based on its provisional application.

58. I understand that Pogue was published by a well-known commercial publisher (O'Reilly Media, Inc.) and bears conventional markers of publication that predate the alleged priority date, including: a copyright notice from 2007, ISBN numbers[1], two printing dates (January 2007 edition and February 2007 second printing), a library stamp, and a library call number from 2007.[2] I understand this makes out more than a *prima facie* case that Pogue was a "printed publication" available to skilled artisans no later than March 2007, and likely before. *See Ex parte Grillo-Lopez,* Appeal 2018-006082 (PTAB Jan. 31, 2020) (precedential) (holding that in the examination context, once the Office makes a *prima facie* case of publication date, the burden shifts to applicant to "come forward with rebuttal evidence or argument to overcome a prima facie case"). *Id.* at 2. I have been informed that the Board's precedential *Grillo-Lopez* decision cited earlier Board decisions where the "examiner met his burden of proof by setting forth the nominal publication date." *Id.* (citing *Ex Parte Albert*, 18 USPQ 2d 1325 (B.P.A.I. 1984); *see also FLIR Sys., Inc. v. Leak Surveys, Inc.*, IPR2014-00411, Paper 9 at 19 (P.T.A.B. Sept. 5, 2014) (finding that a "Copyright notice prima facie establishes a prior art date").

[1] ISBN-10: 0-596-52827-2, ISBN-13: 978-0-596-52827-0

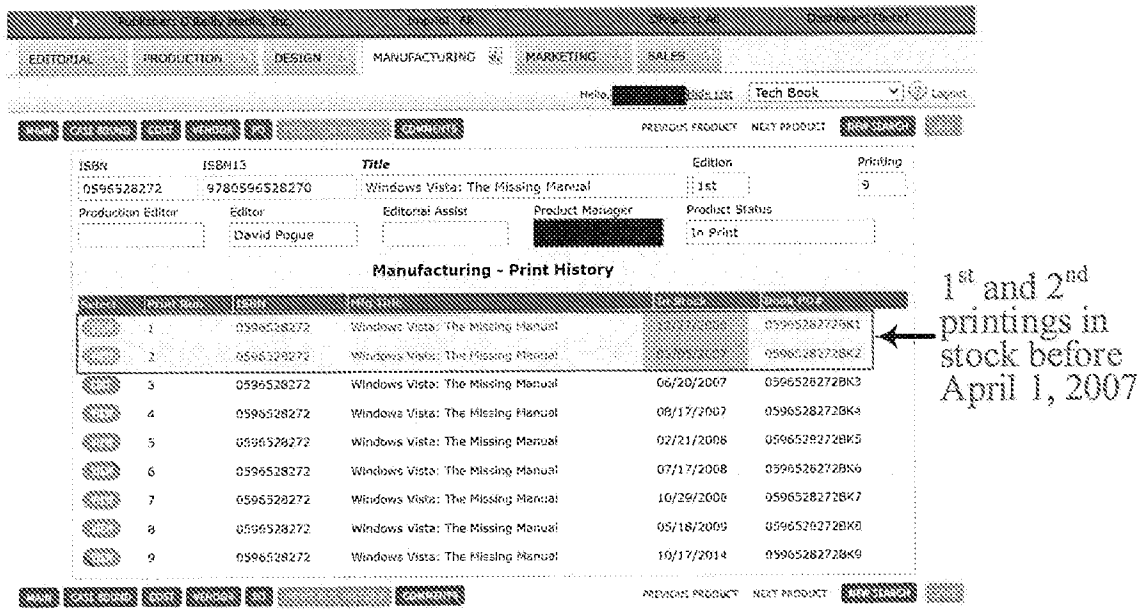
[2] The call number—QA 76.76.063 P63525—appears on page v (1st page in the Table of Contents) and on the spine of the hard copy of Pogue being relied on herein, and bears a 2007 date.

59. I understand that the evidence establishes Pogue as prior art even under the higher standard imposed by the Board in *inter partes* review proceedings. *See Hulu, LLC v. Sound View Innovations,* LLC, IPR2018-01039, Paper 29 at 17–20 (P.T.A.B. Dec. 10, 2019) (precedential) (finding a reasonable likelihood that the reference in question was a printed publication because it bore conventional markers of publication and was published by an established publisher, O'Reilly Media, Inc). I understand that Pogue not only bears the same conventional markers of publication as in *Hulu* (copyright notice, ISBN numbers, library stamp, and printing dates), but also was published ***by the same established publisher*** (O'Reilly Media).

60. While the above-noted evidence establishes public availability of Pogue sufficient to qualify it as prior art, I note the following additional evidence that leaves no doubt.

61. **I understand that Pogue was for sale on the publisher's (O'Reilly's) website more than one year before the alleged priority date.** I note that authenticated internal records from Pogue's publisher (O'Reilly Media, Inc.) show that Pogue was available for sale, and sold, to the public before April 1, 2007, thus confirming that Pogue was publicly accessible more than one year before the alleged priority date of the '715 Patent. (*See* Fauxsmith (Ex. 1014).) Specifically, O'Reilly's internal records show that the 1st and 2nd printings of the 1st Edition were in stock before April 1, 2007 and that ***17,014 copies of this 1st Edition had been sold before April 1, 2007***. (*See* Fauxsmith, Exhibit B.)

O'Reilly's Print Run Records



(Fauxsmith, Exhibit A (with annotations).)

O'Reilly's Sales Records

9780596528270 : Windows Vista: The Missing Manual (Edition 1)

Sequential View | Crosstab View | Lifetime Valuation

Summary

Metadata		Inventory		Lifetime Value		Average After Sell In	
Pub Date	2006-12-27	Current QOH	0	Gross Units	58,267	Gross Units	382
Page Count	648	BO Qty	0	Return Units	(5,837)	Return Units	(51)
Price	$39.99	Committed Qty	0	Net Units	52,409	Net Units	332
Unit Cost	$7.77	Avail Qty	0	Comp Units	2,478	Comp Units	2
				Gross Dollars	$936,625.30	Gross Dollars	$6,233.61
				Return Dollars	($ 101,157.80)	Return Dollars	($ 878.37)
				Net Dollars	$835,020.42	Net Dollars	$5,353.31

Sales

Month	2006				2007				2008			
January	0	0	0	0	2,714	583	(7)	2,707	1,341	0	(98)	1,292
February	0	0	0	0	4,021	1,412	(15)	4,006	1,220	0	(52)	1,168
March	0	0	0	0	2,715	54	(32)	2,683	965	0	(123)	842
April	0	0	0	0	1,575	13	(281)	1,294	1,772	0	(41)	1,731
May	0	0	0	0	1,938	55	(62)	1,875	1,012	1	(130)	882
June	0	0	0	0	2,184	18	(272)	1,912	634	0	(202)	432
July	0	0	0	0	3,426	15	(42)	3,384	1,199	0	(204)	995
August	0	0	0	0	1,854	11	(142)	1,723	3,729	0	(166)	3,563
September	0	0	0	0	1,399	32	(82)	1,335	843	1	(64)	779
October	0	0	0	0	1,792	0	(68)	1,724	1,119	0	(92)	1,027
November	0	0	0	0	2,223	0	(52)	2,171	614	1	(61)	553
December	7,564	279	0	7,564	1,046	0	(68)	978	1,309	0	(79)	1,230
Totals:	7,564	279	0	7,564	26,887	2,193	(1,074)	25,792	15,752	3	(1,258)	14,494

17,014 copies sold before April 1, 2007

(Fauxsmith, Exhibit B (with annotations).)

62. Moreover, I understand that O'Reilly itself confirms that the substantive content of all copies of the 1st and 2nd printings are identical. (Fauxsmith, ¶ 12.) Thus, although the copy of Pogue being relied on in this Request is from the 2nd printing, it contains the same substantive content as the copies of the earlier 1st printing that were sold as early as December of 2006. (*Id.*)

63. I note that the Internet Archive's Wayback Machine® corroborates the publisher's records. Specifically, the Wayback Machine® confirms that Pogue was available for sale on both O'Reilly's and Amazon's websites before April 1, 2008, including more than one year before April 1, 2008. (Frank-White (Ex. 1015), Exhibit A.) Further, although the earliest date that the Wayback Machine archived the Amazon webpage where Pogue was offered for sale was March 29, 2007 (still more than one year before the alleged priority date of the '715 Patent), the Amazon reviews

shown on this archived webpage date all the way back to January 12, 2007, confirming that Pogue was available on Amazon even earlier than this earliest archived date. *Id.*

64. Thus, it is my opinion that Pogue was publicly available, and readily accessible to a POSITA, before the alleged priority date of the '715 Patent for at the least the reasons that: 1) it bears conventional markers of publication that predate the alleged priority date; 2) it was published by an established publisher in O'Reilly Media, Inc.; and 3) as confirmed by the publisher's internal records and the Wayback Machine®, was available for sale—and was actually sold—more than one year before the alleged priority date. Based on my experience, O'Reilly was and remains a well-known publisher of books on various computing technologies, and its publications would have been known to those working in the relevant field.

65. **Teachings of Pogue.** In my opinion, Pogue confirms that Windows Vista displayed and organized the same kinds of views and modes of content disclosed by the '715 Patent, including views and modes of content of: Windows Photo Gallery, Internet Explorer 7, Window Media Center, Sidebar. (*See* Pogue at inside cover, 211, 367, 423, 501.)

66. I note that Pogue explains that "[t]he purpose of this book . . . is to serve as the manual that should have accompanied Windows Vista" and to provide "step-by-step instructions for using almost every Windows feature." (Pogue at 8.) I note that Pogue explains that Windows Vista is an operating system, which is software that controls your computer. (Pogue at 11.) Pogue describes Windows Vista on PCs, Laptops, Tablets, Windows Mobile Devices, and Palmtops. Pogue at 571–589. Pogue describes Vista on laptops:

> In Windows Vista, Microsoft makes its biggest nod yet to a raging trend in computing: portability. Laptop sales are trouncing desktop PC sales. … That's why Vista is crammed with special features for the peripatetic PC. For example, it has new features for laptops,

> including a way to change your power-consumption configuration with a quick click on the battery icon in the Notification Area, and a new Mobility Center that lets you switch quickly among networks and workplaces.
>
> Working with a Tablet PC (a touch-screen laptop or slate) is now easier than ever, too, thanks to new or beefed-up features like pen control, digital ink text input, handwriting recognition, and more.

(*Id.*)

67. *Windows Vista desktop.* I note that Pogue teaches several aspects of Windows Vista, including its views of a desktop, its taskbar, a start menu, a notification area, and side gadgets:

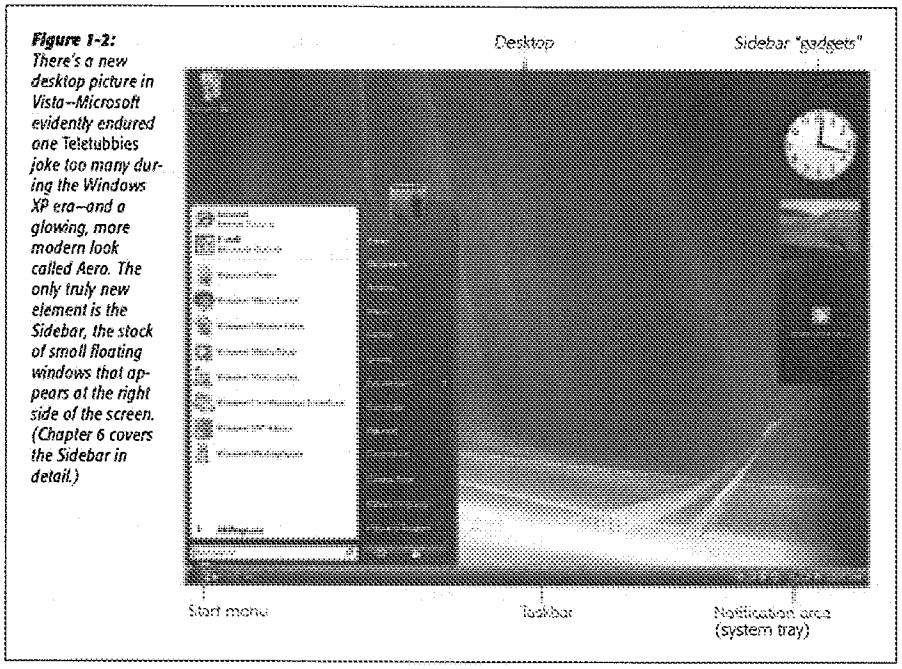


Figure 1-2: *There's a new desktop picture in Vista—Microsoft evidently endured one Teletubbies joke too many during the Windows XP era—and a glowing, more modern look called Aero. The only truly new element is the Sidebar, the stock of small floating windows that appears at the right side of the screen. (Chapter 6 covers the Sidebar in detail.)*

(Pogue at 23.)

68. *Windows Photo Gallery.* I note that Pogue also teaches Windows Photo Gallery and its associated views and slideshows:

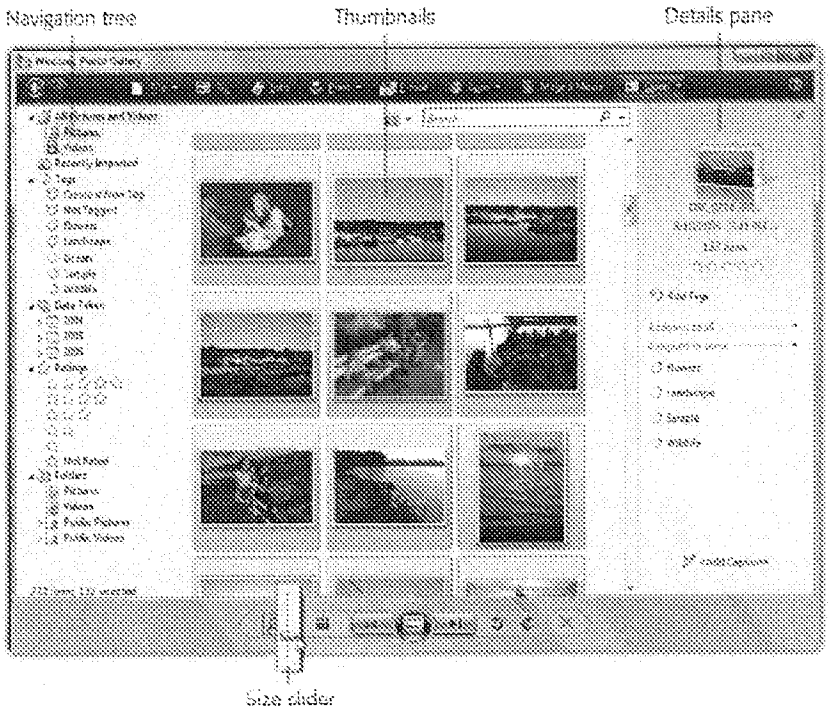


Figure 13-1: *Here's what Photo Gallery looks like when you first open it. The large photo-viewing area is where thumbnails of your imported photos appear. The icons at the top of the window represent all the stuff you can do with your photos. To adjust the size of the photo thumbnails (miniatures), click the magnifying-glass icon. Don't release the mouse button yet. Instead, drag the vertical slider up or down. All the thumbnails expand or contract simultaneously. Cool!*

(Pogue at 424.)

69. *Windows Media Player.* I note that Pogue also teaches Windows Media Player, and its associated views of organized digital content:

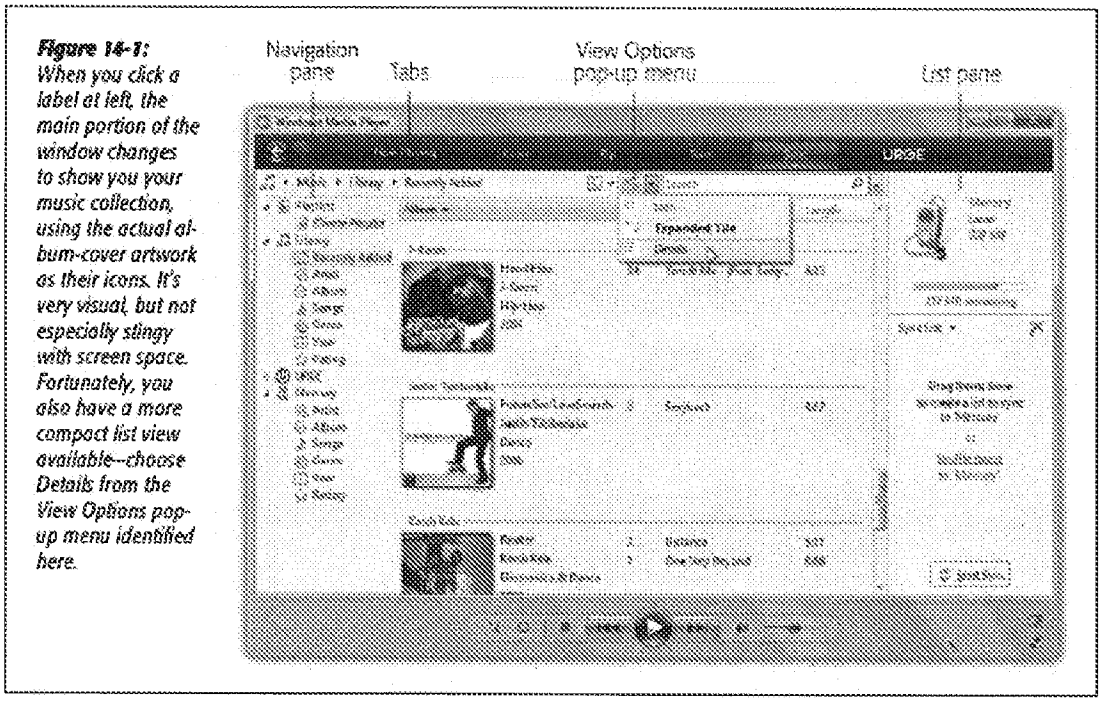


Figure 16-1: *When you click a label at left, the main portion of the window changes to show you your music collection, using the actual album-cover artwork as their icons. It's very visual, but not especially stingy with screen space. Fortunately, you also have a more compact list view available--choose Details from the View Options pop-up menu identified here.*

(Pogue at 465.)

70. *Windows Media Center.* I note that Pogue also teaches a view of Windows Media Center, which has a home view of a Start screen that displays and organizes categories of user-selectable computer content such as Music, TV + Movies, Guide, Online Media, Pictures + Video:

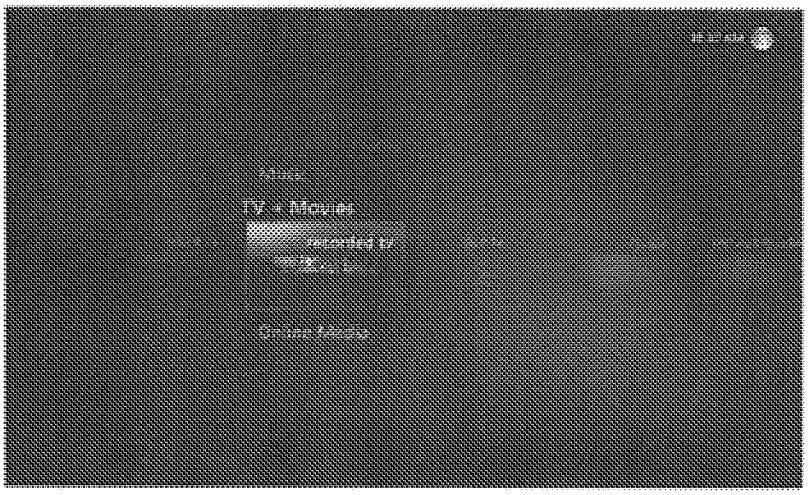


Figure 16-1: *This is what you see once Media Center is set up. You can now buy music online and organize your existing music library, burn a CD of your favorite pictures, pause and rewind live TV, or schedule a program to record weekly.*

(Pogue at 501, 503, 519.)

71. *Internet Explorer 7.* I note that Pogue also teaches Internet Explorer 7 and its associated views of opening a new tab, Quick Tabs, Favorites, and RSS Feeds. For example, Pogue shows a search bar, a navigation tool, tabs on an Internet Explorer window:

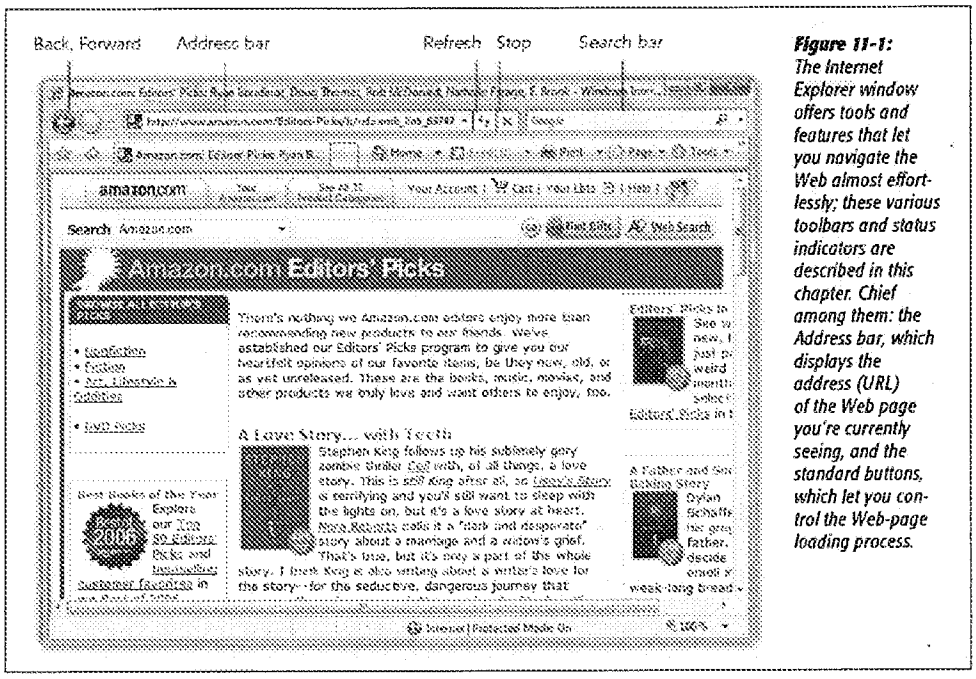


Figure 11-1: *The Internet Explorer window offers tools and features that let you navigate the Web almost effortlessly; these various toolbars and status indicators are described in this chapter. Chief among them: the Address bar, which displays the address (URL) of the Web page you're currently seeing, and the standard buttons, which let you control the Web-page loading process.*

(Pogue at 368.)

72. *Windows Explorer.* I note that Pogue also teaches a basic Windows Explorer window showing contents of a folder:

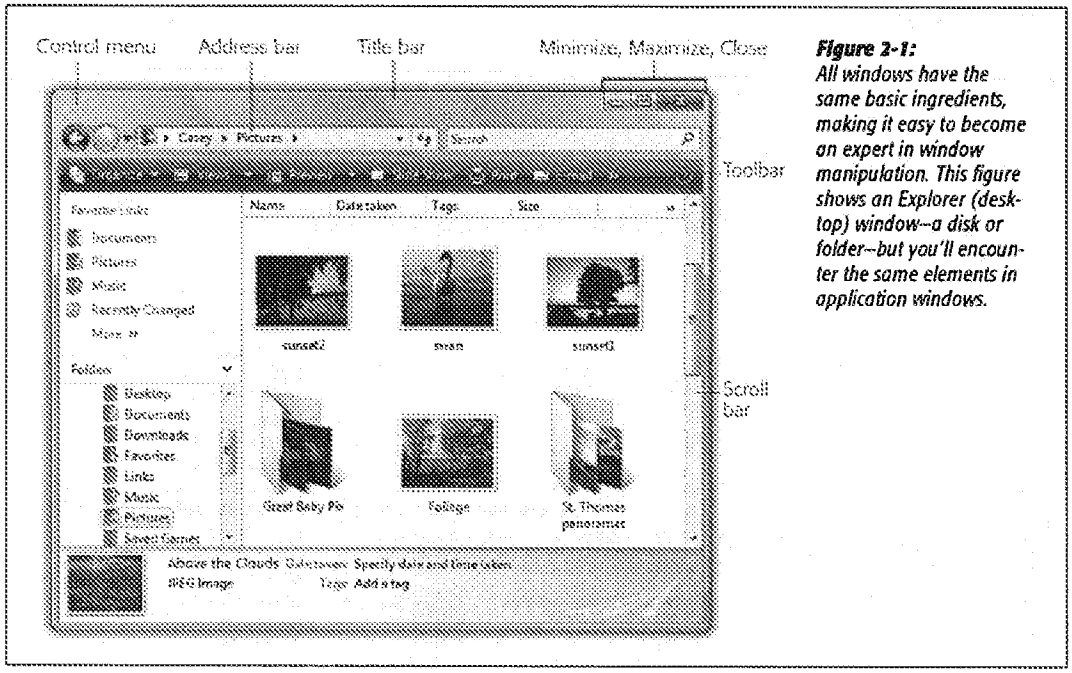


Figure 2-1: *All windows have the same basic ingredients, making it easy to become an expert in window manipulation. This figure shows an Explorer (desktop) window—a disk or folder—but you'll encounter the same elements in application windows.*

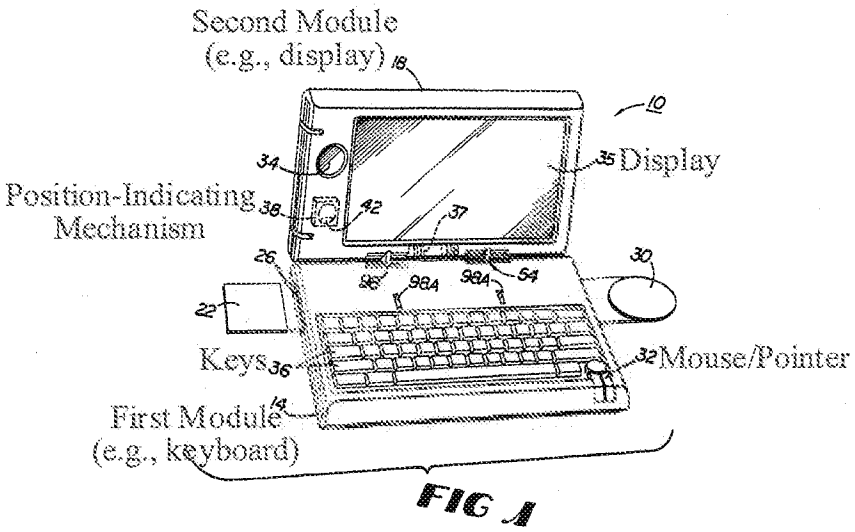
(Pogue at 58–60.)

C. Overview Of Lane (EX 1013)

73. I have read and reviewed Lane. I note that Lane (WO 95/24007) is a publication of a PCT international patent application that published on September 8, 1995—more than 12 years before the alleged priority date of the '715 Patent (April 1, 2008)—and thus qualifies as prior art at least under Sections 102(a) and 102(b) (pre-AIA). I understand that Lane was not relied on by the Examiner during prosecution of the '715 patent and also was not relied on by Petitioner in the related IPR proceeding.

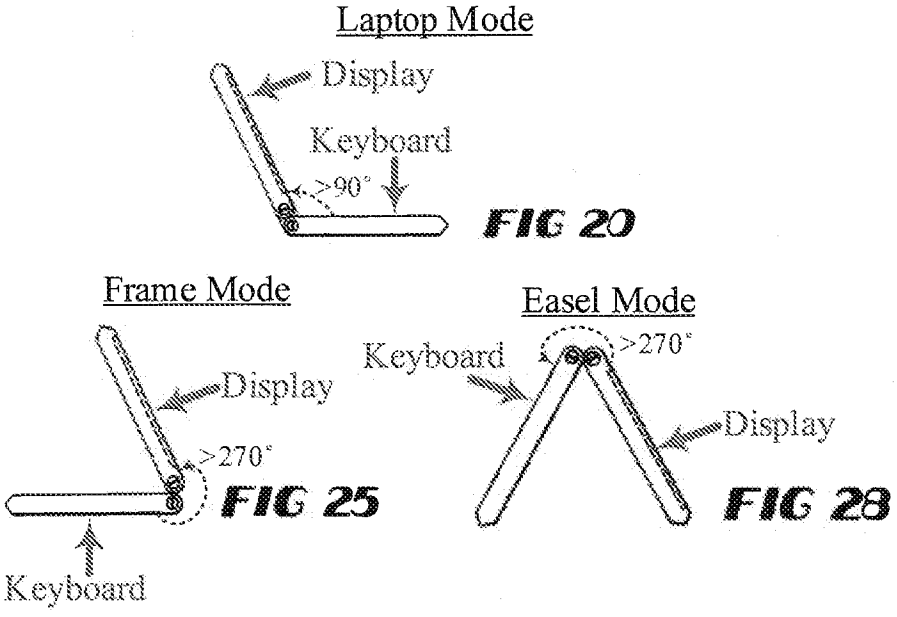
74. I understand Lane discloses a portable computer having a first module 14 (base) and a second module 18 (display component) that are rotatable relative to one another by up to 360° to configure the computer into various modes, including configurations where the keyboard is operable and not operable, and configurations where the keyboard is positioned to receive user input and not positioned to receive user input. (*E.g.*, Lane, 3:5–14, 10:24–31, FIGS. 20, 25, 28.)

Lane's Primary Components



(Lane, FIG. 1 (with annotations).)

Lane's Display Modes



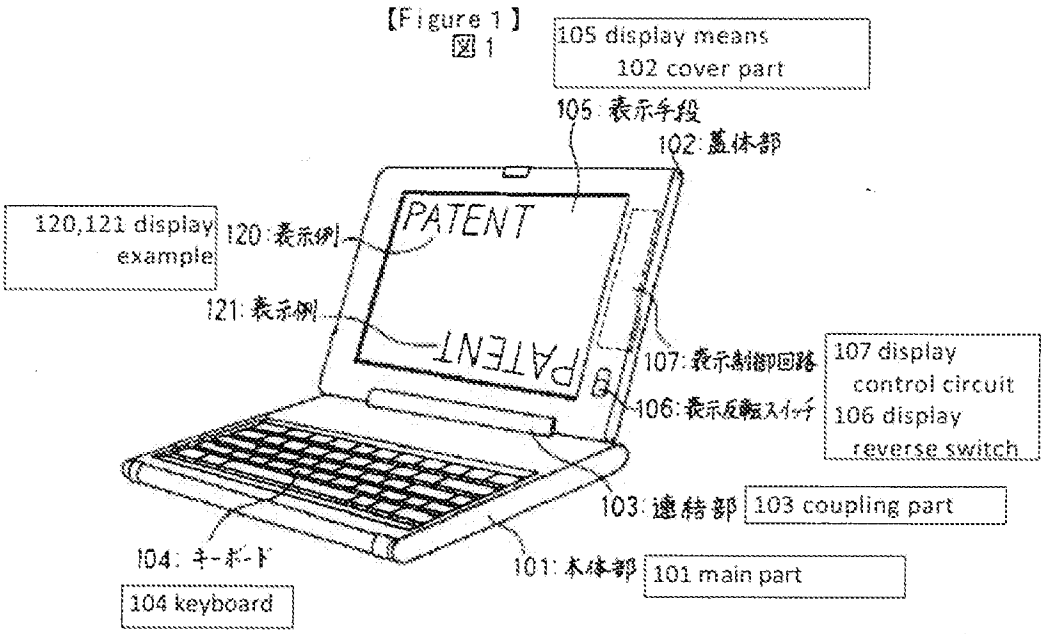
(Lane, FIGS. 20, 25, 28 (with annotations).)

75. I note Lane also teaches that the computer includes software for automatically reorienting displayed content based on an indication of the spatial orientation of the first and/or second modules 14, 18 provided by a position-indicating mechanism 38. (*E.g.*, Lane, 5:23–6:6.) Further, Lane teaches rendering the keyboard "inoperable when unused" such as in the easel and frame modes. (*Id.*)

D. Overview Of Shimura (EX 1007; EX 1008 – English Translation)

76. I have read and reviewed Shimura. I understand Shimura published as Japanese Patent No. 1994-242853 on September 2, 1994, from an application filed on February 15, 1993. Notwithstanding whether the '715 Patent is actually entitled to an April 1, 2008 priority date based on its provisional application, I note Shimura published more than one year before even that earliest date—Shimura therefore qualifies as prior art under at least pre-AIA 35 U.S.C. §§ 102(a) and (b). I understand that the Shimura reference was published in Japanese (Ex. 1007), and a certified English translation is provided herein (Ex. 1008). Reference will be made to the certified English translation for simplicity.

77. I understand Shimura relates to a personal computer "which can adopt a mode suitable for a user environment centered on a pen input operation and a mouse input operation while retaining a mode which can use a keyboard." (Shimura at [Abstract].) Figure 1 of Shimura, reproduced below, illustrates an example of its personal computer. *Id.*

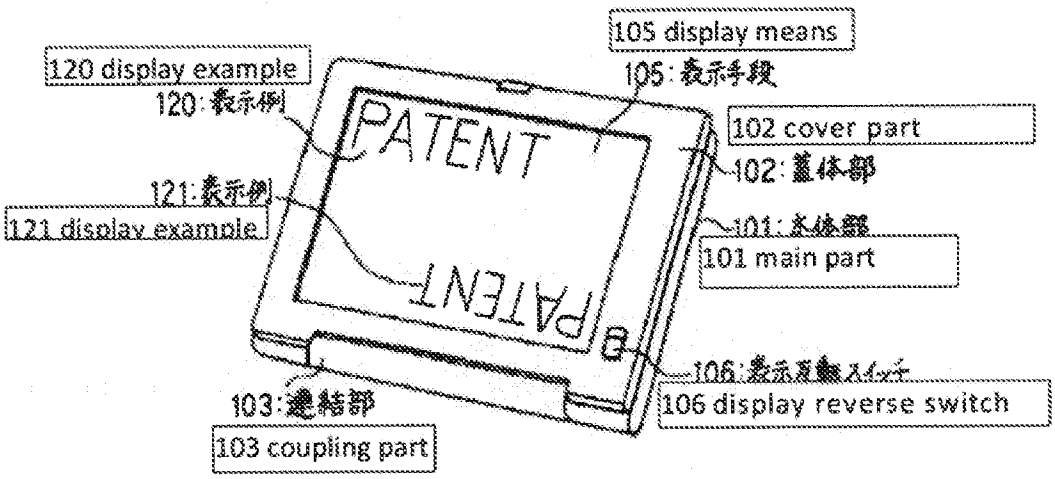


(Shimura at FIG. 1)

78. As shown in Figure 1, the personal computer includes main part 101 provided with keyboard 104 on the front, cover part 102 provided with display 105 on the front, and coupling mechanism 103 used to couple one end of main part 101 and one end of cover part 102 with display 105 such that cover part 102 faces main part 101, and coupling mechanism 103 enables the opening and closing of computer parts 101 and 102. *Id.* Coupling mechanism 103 is structured so that it can also open cover part 102 so that the orientation of cover part 102 exceeds 180° relative to main part 101. *Id.* Figures 4 and 5 of Shimura, reproduced below, show inclined views of the personal computer, with main part 101 rotated nearly 360° with respect to cover part 102 (Figure 4), and main part 101 and cover part 102 opened to an angle of approximately 340° (Figure 5). (*Id.* ¶¶ [0016–17], Figs. 4 and 5.)

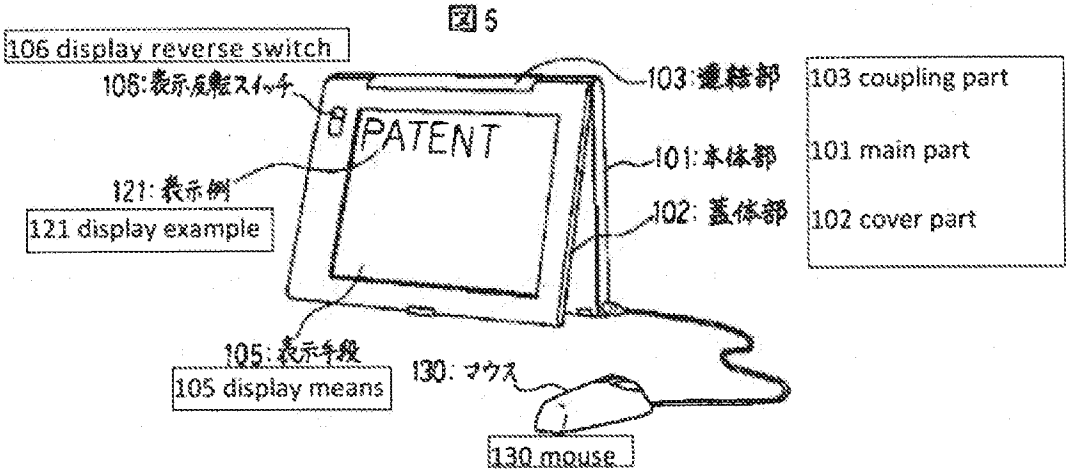
[Figure 4]

図4



[Figure 5]

図5



Shimura's Figures 4 and 5 show inclined views of the personal computer in which main part 101 has been rotated by more than 180° with respect to cover part 102. (*Id.* ¶¶ [0006–7], [0012], [0016–17].)

79. Coupling mechanism 103 enables the rotation of cover part 102 with respect to main part 101. (*Id.* ¶¶ [0012–13].) Coupling mechanism 103 is fastened by hinges to main part 101

and cover part 102. (*Id.* ¶ [0012].) A display reverse switch 106 enables display 105 to be switched upside down. (*Id.* ¶¶ [0012], [0017].) A user may place display reverse switch 106 in a normal state and a reverse state. (*Id.* ¶ [0012].) For example, a user may set display reverse switch 106 to a normal mode so that the display orientation of display 105 has orientation 120 (as shown in Figure 1). (*Id.* ¶ [0012].) A user may also set display reverse switch 106 to a reverse mode so that a display orientation of display 105 has orientation 121 (e.g., upside down, as shown in Figure 5). (*Id.* ¶¶ [0012], [0017].) Display control circuit 107 of the personal computer controls the output to display 105 by controlling a computer circuit stored in main part 101. (*Id.* ¶ [0012].) Display control circuit 107 turns the display upside down (to orientation 121) based on the state of display reverse switch 106. (*Id.*)

VIII. GROUND 1: CLAIMS 1, 20 ARE UNPATENTABLE AS OBVIOUS BY LEDBETTER

A. Claim-By-Claim Analysis

80. In my opinion, Ledbetter discloses each claim limitation in claims 1 and 20 of the '715 Patent.

1. Claim 1

[1.1[3]] A customized user interface to display computer content on a display component of a computer system including a keyboard, the user interface comprising:

81. In my opinion, to the extent the preamble is limiting, Ledbetter discloses it. Ledbetter teaches a user interface that is customized to display different computer content depending on the position of the display component of a computer system including a keyboard:

[3] Reference numbers in the format of [claim#.limitation#] are added throughout for ease of reference.

> For example, preset stopping positions may be provided for conventional (e.g., mouse and **keyboard**) workstation-like interaction, video (e.g., DVD movie) playback, stand-up (walk-up) touch-screen interaction, and/or for pen input, similar to a tablet **computer system**. Users are able to position the **monitor display screen** between the preset positions if desired, and also may vary the positioning at the preset and/or other stopping points, to an extent. Software such as **user interface code can change to match the current position**.

(Ledbetter at Abstract (emphases added), ¶ [0003].) Ledbetter explains that software executes on the computer system and changes to display computer content on the monitor to provide a corresponding user interface:

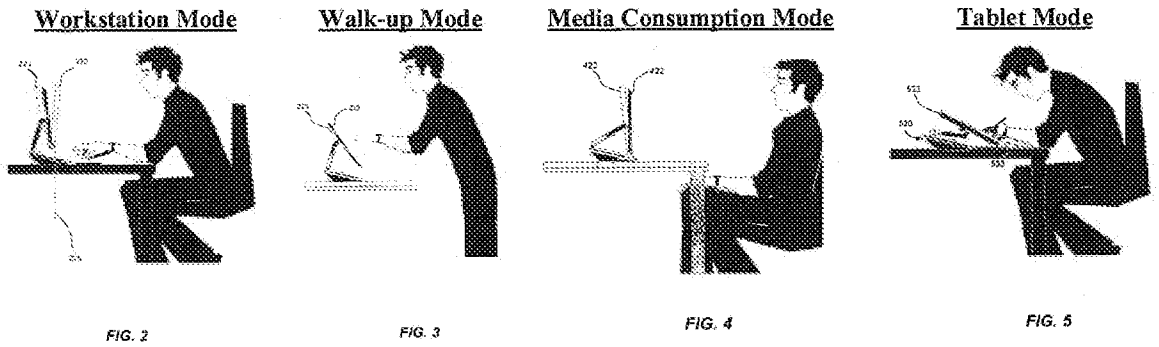
> The **software** that is currently loaded and **executing** on the computer system that is providing output to the **display monitor**, including the **current user interface shell code**, can be automatically **changed** to match the **current display monitor** position, including a preset position that corresponds to a **current user interaction mode**.

(*Id.* at ¶ [0004] (emphases added).) Examples of this content include video (*id.* at ¶¶ [0003], [0031], Abstract), "television or other media" (*id.* at ¶ [0059]); "weather, messages, the internet" (*id.* at ¶¶ [0029], [0057]); and games (*id.*). Ledbetter further teaches that the system has a user interface customized, i.e. configured, to the current mode:

> The mode switch software 1382, which may be any program such as an application and/or operating system component, reports the position-based decision to the operating system 1384, which in turn **loads a corresponding shell user interface and/or other program or programs (e.g., 1386_1) as necessary to configure the computer**

system user interface display 1388 and running programs to match the current mode.

(*Id.* at ¶ [0056] (emphasis added).) Ledbetter includes several images of a user interfacing a computer system with a display component and a keyboard:



(*Id.* at FIGs. 2–5.)

82. In addition to user interfaces customized to a given mode, Ledbetter also teaches modes customized to a particular user's preferences. (*Id.* at ¶ [0058].) Ledbetter explains that "[t]he system may persist personal settings for the display; e.g., once the system identifies the user, or a change in the user, the system may automatically switch to that user's default display position." (*Id.* at ¶ [0059].)

[1.2] at least one processor operatively connected to a memory of the computer system;

83. In my opinion, Ledbetter discloses this limitation. Ledbetter teaches a computer system that includes a processor and memory. (Ledbetter at ¶ [0024].) In my opinion, a POSITA would have understood that the Ledbetter processor was operatively connected to its memory such that the processor utilizes the memory for various storage and access operations, as was well-known in the art.

84. I note that the '715 Patent itself confirms that such processors and memories were well-known in the relevant time period, as it provides little detail on the processor and memory, and describes their usage as typical and "known." (*E.g.*, '715 Patent at 68:18–19 (explaining how memory "is typically used for storing programs and data during operation of the computer system"), 68:46–55 ("The processor **5106** generally manipulates the data within the memory **5110**, and then copies the data to the medium associated with storage **5112** after processing is completed. ***A variety of mechanisms are known for managing data movement between the medium and integrated circuit memory element*** and the invention is not limited thereto. The invention is not limited to a particular memory system or storage system.") (emphases added).)

[1.3] a graphical user interface, executing on the at least one processor, configured to display the computer content on the display component of the computer system, the graphical user interface configured to;

85. In my opinion, Ledbetter discloses this limitation. Ledbetter discloses a graphical user interface, e.g., a "shell user interface and/or other program or programs (e.g., 1386_1)" that displays computer content on the computer display by "configur[ing] the computer system user interface display 1388 and running programs to match the current mode." (*E.g.*, Ledbetter at ¶ [0056].) FIG. 13 shows how the operating system calls the user interface and related programs (1386_1, 1386_2, 1386_N) in order to configure the user interface display (1388):

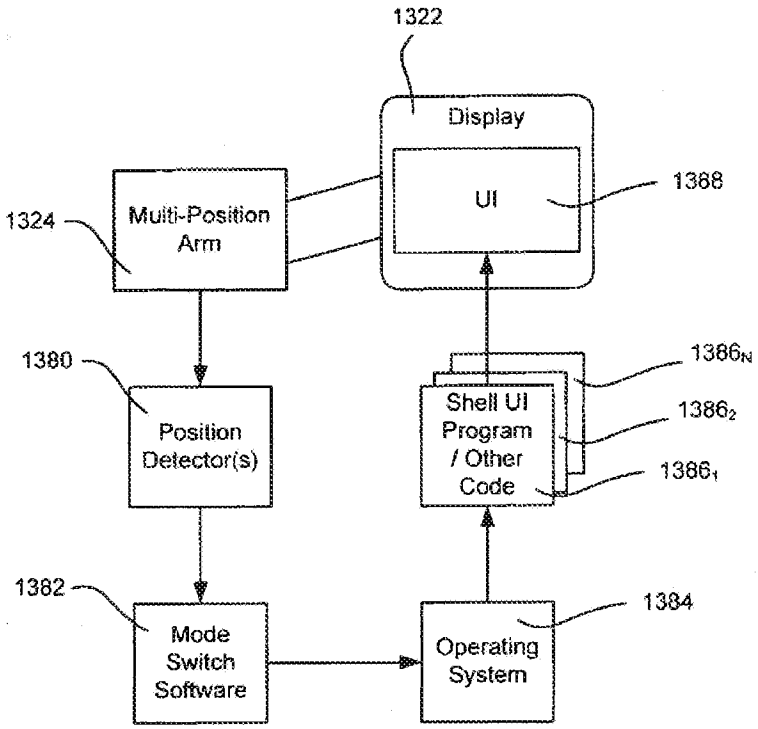


FIG. 13

(Ledbetter at FIG. 13; *see also id.* ¶ [0056] (describing "user interface and/or other program or programs (e.g., 1386$_1$)" that "configure the computer system user interface display 1388 … to match the current mode"). (*Id.*) The computer content displayed by the user interface depends on the various modes of Ledbetter, such as the keyboard-based workstation mode (*e.g.*, *id.* at ¶ [0004]), as well as modes with a touch-screen interface (*e.g.*, *id.* at ¶ [0029] ("walk-up mode typically provides user interaction via a touch-screen interface") or pen / stylus based tablet mode (*e.g.*, *id.* at ¶ [0032] ("tablet mode, in which a user interacts with the display monitor screen 522 using a pen or the like").

86. Ledbetter describes the user interface program and related programs as "software" (*e.g.*, *id.* at ¶ [0056]) and provides examples describing how the software is "loaded and automatically executed" (*e.g.*, *id.* at ¶ [0057]). In my opinion, a POSITA would have thus understood that the user interface and related programs were software executing on the system processor, which causes the user interface to display computer content such as video (*id.* at ¶¶ [0003], [0031], Abstract), "television or other media" (*id.* at ¶ [0059]); "weather, messages, the internet" (*id.* at ¶ [0057]); and games (*id.*) and productivity programs (*id.*) on the Ledbetter monitor / display.

87. I note that the '715 Patent itself confirms that graphical user interfaces configured to display computer content on the display component of the computer system (such as a desktop view on a computer) were common and conventional:

> A common display configuration used in conventional computers is a "desktop" view in which multiple icons representing links to various programs or applications are displayed over a background image.

('715 Patent at 20:56–59.) In my opinion, a POSITA would have understood that a desktop view on a conventional computer is "configured to display the computer content on the display component of the computer system."

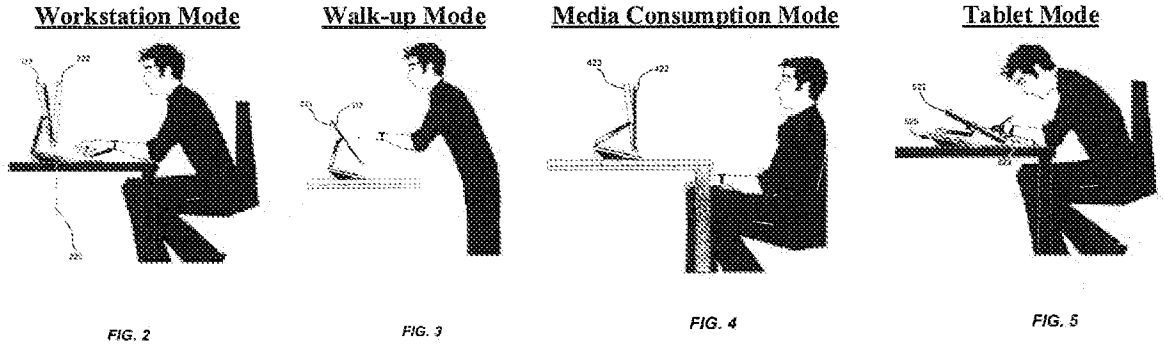
[1.4] display a plurality of views of a plurality of visual representations of computer content,

88. In my opinion, Ledbetter discloses this limitation, either under the Board's preliminary construction in IPR2021-00786, or under a broader construction. As discussed in the claim construction section above, the Board construed "plurality of views of a plurality of visual representations of [the] computer content" as:

> a plurality of ways of organizing visual representations of computer content. The recitation is distinct from merely providing a plurality of ways of displaying content (by, for example, changing display orientation, color, resolution, etc.).

(*See* Section V.B; *see also* Decision at 16.)

89. I note that Ledbetter discloses at least four different ways of displaying and organizing visual representations of computer content, namely its four different "modes," corresponding to "different types of [user] interaction." (*E.g.*, Ledbetter at Abstract, ¶¶ [0003], [0004], [0055].) Each "mode" provides a different "view" or "way of organizing visual representations of computer content," corresponding to the user "interaction mode." (*Id.* at ¶ [0056]; Section V.B.) These include a workstation mode / view, a walk-up mode / view, a media consumption mode / view, and a tablet mode/ view. (*E.g.*, Ledbetter at Abstract, ¶ [0056].) Ledbetter shows users positioning for these four modes:



(*Id.* at FIGs. 2–5.)

90. In my opinion, the Ledbetter workstation mode organizes visual representations of computer content for working and productivity, with links to gaming content. (*E.g.*, Ledbetter, ¶ [0057].) The walk-up mode organizes visual representations of computer content such as weather, messages, internet. (*E.g.*, *id.*) The media consumption mode organizes visual representations of

content such as media play software (*e.g.*, *id.*), including videos (Abstract, ¶ [0004], ¶ [0031]). The tablet mode organizes visual representations of "tablet" components such as handwriting recognition software. (*E.g.*, *id.*, ¶ [0057].) As such, it is my opinion that Ledbetter discloses four modes (i.e., a plurality of ways / plurality of views), each with a unique manner of displaying and organizing multiple types of computer content. (*Id.*)

91. In my opinion, Ledbetter describes the re-organization of computer content, which may be automatic, as well:

> By way of example, when the arm is positioned such that the display monitor is in the media consumption mode, media player software may be loaded and automatically executed. In the tablet mode, tablet operating system components such as including handwriting recognition software may be loaded and automatically executed. In the walk-up mode, a touch-screen shell program configured to provide convenient access to walk-up types of information (e.g., weather, messages, the internet and so forth) may be loaded. In the workstation mode, typical shortcuts and other information used for working/productivity or other computer usage (e.g., gaming) may be displayed.

(Ledbetter at ¶ [0057].) For example, Ledbetter's tablet mode re-organizes computer content for handwriting / pen input (Ledbetter at Abstract ("Software such as user interface code can change to match the current position."), ¶ [0057] ("In the tablet mode, tablet operating system components such as including handwriting recognition software may be loaded and automatically executed.")); Ledbetter's walk-up mode re-organizes content for touch-screen input (*id.* ("In the walk-up mode, a touch-screen shell program configured to provide convenient access to walk-up types of information (e.g., weather, messages, the internet and so forth) may be loaded.")); Ledbetter's media consumption mode automatically turns on a media / video player (*id.* ("in the media

consumption mode, media player software may be loaded and automatically executed); and Ledbetter's conventional workstation mode re-organizes computer content for emphasis on work / productivity and gaming with mouse and keyboard (*id.* ("In the workstation mode, typical shortcuts and other information used for working / productivity or other computer usage (e.g., gaming) may be displayed.").

92. In my opinion, at least because each different mode displayed different content organized for different types of user interaction (e.g., keyboard, mouse, touchscreen), it is my opinion that a POSITA would have understood that, in each Ledbetter mode, the graphical user interface displayed different computer content, organized in a different way. Indeed, it is my opinion that Ledbetter confirms this by explaining that, in each different mode, "the computer providing the content to display can change software operating modes." (Ledbetter ¶ [0055].) Ledbetter further explains that for each mode, the system "loads a corresponding shell user interface" (*id.*, ¶ [0057]), which in my opinion, confirms that there is a different user interface for each mode

93. In my opinion, the Ledbetter user interface software thus provides a plurality of ways of organizing and displaying visual representations of computer content. It is my opinion that different user interfaces presented to a user in the different Ledbetter modes do far more than simply, "changing display orientation, color or resolution," and therefore satisfy this element. (Section V.B.)

[1.5] wherein the computer content includes at least one of selectable digital content, selectable computer operations and passive digital content

94. In my opinion, Ledbetter teaches this limitation, as it teaches that its different modes organize visual representations of each type of recited digital content.

95. **In my opinion, Ledbetter discloses visual representations of *selectable digital content.*** For example, Ledbetter explains how its walk-up mode provides access to several types of digital content such as weather, messages, and the internet. (Ledbetter at ¶ [0057] ("In the walk-up mode, a touch-screen shell program configured to provide convenient access to walk-up types of information (e.g., weather, messages, the internet and so forth) may be loaded.").) Given that this digital content is accessed through user selection on a "touch-screen," in my opinion, a POSITA would have understood that it was "selectable digital content." I note that the '715 Patent does not expressly define "selectable digital content," but suggests that, generally, selectable digital content is any user-selectable source of digital content. (*E.g.*, '715 Patent at 8:42–48 ("[T]he method further comprises acts of displaying a quick access view, *permitting a user to select a source of digital content* in the quick access view, and generating a mapping between *the source of digital content* and a visual representation in response to an *act of selecting a source of digital content.*") (emphases added). In my opinion, the '715 patent describes "digital content" as including online digital content and computer functionality such as through a "search engine." ('715 Patent at 4:65–66, 71:47–54, claim 6.) Thus, regardless of the exact scope of "selectable digital content," in my opinion, a POSITA would have understood the Ledbetter user-selectable weather, messages, and internet as types of "selectable digital content."

96. **In my opinion, Ledbetter also discloses visual representations of *selectable computer operations.*** For example, Ledbetter discloses that "[i]n the workstation mode, typical shortcuts and other information used for working / productivity or other computer usage (e.g., gaming) may be displayed.").) (Ledbetter at ¶ [0057].) In my opinion, a POSITA would have understood that these user-selectable "shortcuts" provided "navigation operations" or "bookmark cards" that allowed the user to access programs and other content for further computer operations.

It is my opinion that a POSITA would have understood that the information/content displayed for "working/productivity" included computer operations for interacting with computer content, such as editing files and writing emails. I note that the '715 Patent itself describes that "computer operations" includes such "navigation operations" and other "computer operations for interacting with content" ('715 Patent at 4:23–36 (discussing "computer operations, including navigation operations," grouped "based on similar functional operation," and also "computer operations for interacting with computer content" and also "operations that navigate to lower level operations that permit interaction with computer content").).

97. **In my opinion, Ledbetter also discloses visual representations of *passive digital content*.** For example, Ledbetter explains how its media consumption mode permits users to view digital content passively when "the display monitor is in the media consumption mode, media player software may be loaded and automatically executed." (Ledbetter at ¶ [0057].) It is my opinion that a POSITA would have understood that the visual representations of media, such as video playback of DVD movies (Ledbetter at ¶ [0003]), were passive digital content as the visual representations themselves could not be selected during playback. I note that the '715 Patent does not define "passive digital content," but states that "a passive content mode" can be configured or optimized "to display web based content for non-proximal viewing ***without user interaction***." ('715 Patent at 4:10–19, 7:2–40, 10:1–2 (emphasis added).) It is my opinion that the '715 Patent thus confirms that "passive content" means content that once activated or played, does not involve user interaction, like watching a movie on Ledbetter's media player, as opposed to a video game or Word document, which involves user interaction.[4] In my opinion, this understanding of "passive

[4] In my opinion, the visual representations of the control buttons (i.e., play, rewind, fast forward, pause, delete, record) for the media player, however, would have been understood as selectable computer operations. And it is my opinion that the media player's depiction of available content,

content" as not involving user interaction is further confirmed by the '715 Patent's disclosure that "the screen saver view is a passive view." ('715 Patent at 32:9; *see also id.* at 4:19–22, 7:47–49 ("the method further comprises an act of organizing selected content modes for passive viewing in the screen saver view"), 59:50–59 (same), 71:30–32, claim 3 (reciting "a screen saver view configured to organize selected content modes for passive viewing."); *see also* Ex. 1002 at 350, 352 (Examiner identifying "slide show" as an example of passive digital content).)

[1.6] an execution component, executing on the at least one processor, configured to:

98. In my opinion, Ledbetter teaches this limitation. Ledbetter teaches software executing on a computer system. (Ledbetter at ¶¶ [0004] ("The software that is currently loaded and executing on the computer system ..."); [0056] ("mode switch software 1382 running on the computer system").) Ledbetter explains that its "mode switch software 1382" may be "any program such as an application and/or operating system component." (*Id.* at ¶ [0056].) Ledbetter further explains that "the mode switch software 1382 comprises policy or the like, which may be user configurable preference data, as to what shell user interface and/or other software should be operational in each position." (*Id.*) Ledbetter also provides a block diagram showing mode switch software executing on an operating system with a position detector, thus showing the functions of "detect / identify" (i.e., 1380), "select" (i.e., 1832) and "transition" (i.e., 1384, 1386_1, 1386_2, 1386_N, 1388):

such as a list of movies or pictures thumbnails, would have been understood to disclose selectable digital content, as selection of such a visual representation of available content would have led to display of that content.

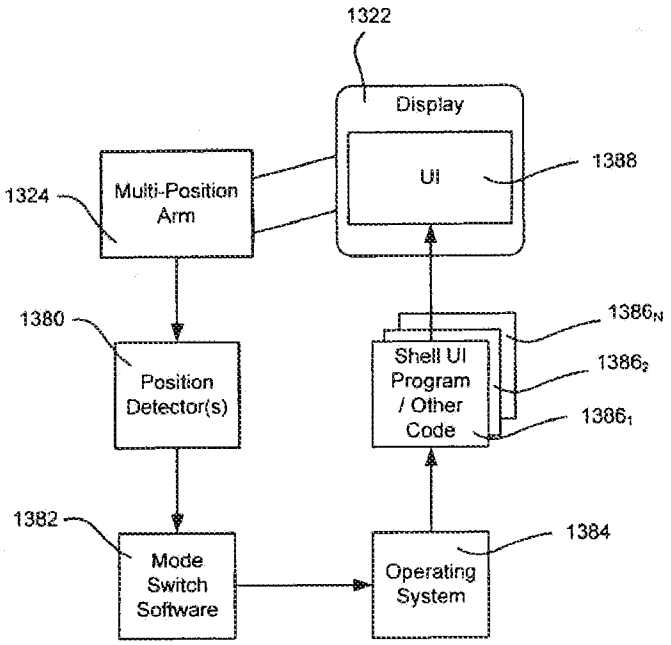


FIG. 13

(*Id.* at FIG. 13.)

99. In my opinion, this limitation is also satisfied to the extent the Examiner finds, or Patent Owner argues, that these terms invoke Section 112(6), have adequate linked structure, and that the linked structure is a processor programmed with an algorithm that:

- detects a current computer system configuration from at least a first computer system configuration where the keyboard is operable to receive input from an operator of the computer system to control the computer system and a second computer system configuration where the keyboard is inoperable to receive input from the operator of the computer system to control the computer system by monitoring signals from a mode sensor, an orientation sensor, an accelerometer, a connection that responds to when an I/O

device is enabled or active (*see, e.g.*, '715 Patent at 3:13–20, 11:66–12:3, 20:20–38, 26:50–67, 70:19–35);

- selects one of the plurality of views for display on the computer system in response to the detected current computer system configuration (*see, e.g.*, *id.* at 3:13–14, 5:43–60, 11:9–13, 14:59–61, 48:56–59, 55:21–57:18); and
- transitions the display component to the selected one of the plurality of views, i.e., generates signals that cause the display component to change from one of the plurality of views to another (*see, e.g.*, *id.*, 3:10–3:12, 3:17–22, 6:19–22, 8:67–9:3, 9:36–37, 9:43–45, 11:26–28).

100. As I just explained, and I explain further below with respect to limitations [1.7] – [1.9], Ledbetter teaches and discloses a processor running computer software for carrying out the recited functions. It is my opinion that a POSITA would have understood that this involved, or at least rendered obvious, a processor programmed to carry out an algorithm (the software running on the computer) performing the claimed functions in the above-noted manner, or equivalents thereof.

[1.7] detect a current computer system configuration from at least a first computer system configuration where the keyboard is operable to receive input from an operator of the computer system to control the computer system and a second computer system configuration where the keyboard is inoperable to receive input from the operator of the computer system to control the computer system;

101. In my opinion, Ledbetter teaches this limitation.

102. First, Ledbetter describes a first system configuration where the keyboard is operable, i.e., its conventional "workstation" mode. (Ledbetter at ¶ [0003] ("For example, preset stopping positions may be provided for conventional (e.g., mouse and keyboard) workstation-like interaction …").) Ledbetter FIG. 2 shows this "workstation" mode, with the keyboard operable to receive input from an operator:

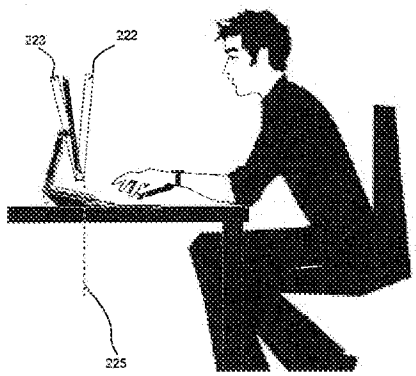


FIG. 2

(*Id.* at FIG. 2.) It is my opinion that a POSITA would have thus understood that Ledbetter teaches a workstation mode, as illustrated in FIG. 2, with a computer system configuration where a keyboard is operable to receive input from an operator.

103. Second, Ledbetter describes a second system configuration where the keyboard is inoperable to receive operator input to control the computer system. (*Id.* at ¶ [0030] ("The location of these mechanisms facilitates interaction with the computer system, including when the ***keyboard does not exist*** or is stored behind the display and is therefore ***not easily accessible***.") (emphases added).) Ledbetter FIGs. 3--5 show these system configurations where the keyboard is inoperable to receive input from an operator:

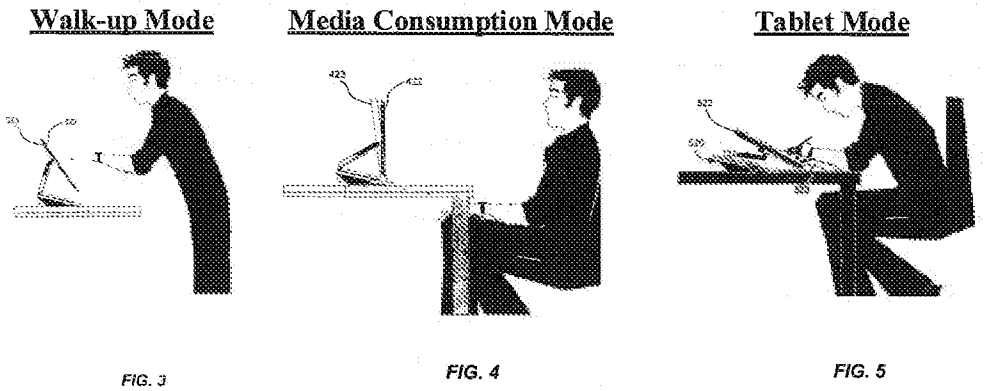


FIG. 3 FIG. 4 FIG. 5

(*Id.* at FIGs. 3–5.) Ledbetter also provides another figure showing an system configuration where the keyboard is inoperable to receive input from an operator to control the computer system, in a "retracted position." (*Id.* at ¶ [0025].)

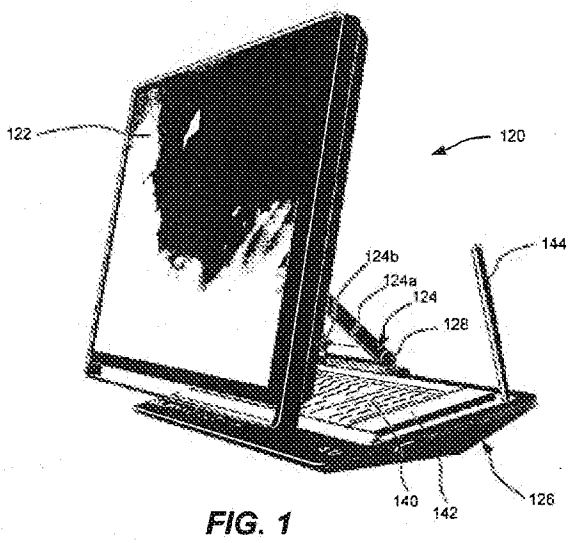


FIG. 1

(*Id.* at FIG. 1.) Ledbetter explains that:

> the example of FIG. 1 is a keyboard 140 and remote control device 142, shown in a retracted position. For example, a user may desire such positioning for viewing audiovisual content, and may control such operation by removing the remote control 142. In the event that the screen is touch and/or pen-sensitive, the user also may interact

> with the computer system via the display monitor 122 using a pen 142 or the like.

(*Id.* at ¶ [0025].) In my opinion, a POSITA would thus have understood that Ledbetter teaches a Walk-up Mode, Media Consumption Mode, Tablet Mode, as illustrated in FIGs. 3–5, with a computer system configuration where a keyboard is inoperable to receive input from an operator. It is further my opinion that a POSITA would further have understood the "retracted position" shown in FIG. 1 is a computer system configuration where the keyboard is inoperable to receive input from an operator.[5]

104. Third, Ledbetter teaches how its mode switch software detects a current computer system configuration from a first and a second system configuration (described below) through a "position detector means 1380 [that] is coupled (e.g., via a hard to software interface) to mode switch software 1382 running on the computer system." (Ledbetter at ¶ [0056].) Ledbetter describes several "position detector means 1380" and "position detection means 1380" including "one or more switches, a counter (such as motor rotations), an optical sensor or sensors and/or essentially any equivalent mechanism or mechanisms that can report a signal indicative of the current position (at least once movement has stopped) to a computer system." (*Id.* at ¶ [0055].)[6] In my opinion, a POSITA would have understood that the "position detector means" and "position detection means" of Ledbetter provided the "signal indicative of the current position" to the Ledbetter processor running its "mode switch software." In my opinion, a POSITA would

[5] I understand that Requester is not conceding that "where the keyboard is inoperable to receive input from the operator of the computer system to control the computer system" limitations of claims 1 and 17 is identical to "where the keyboard is not positioned to receive input from an operator of the computer system" limitation of claim 20.

[6] To the extent Patent Owner argues that this or another related claim element requires a sensor or switch, it is my opinion that Ledbetter still satisfies the claims through this disclosure of a position detection means.

understand the mode switch software would use the position signal to detect the current computer system configuration from among the plurality of Ledbetter configurations.

105. Further, in my opinion, Ledbetter explains how the current system configuration detected corresponds with one of the interaction modes described above by teaching that its "computer system may change operating modes based on a current position of a display (e.g., **corresponding to a current interaction mode**) coupled to a multiple position arm." (Ledbetter at ¶ [0021] (emphasis added).) In my opinion, Ledbetter thus correlates the "current position" (i.e., configuration) with the known "interaction mode" (i.e., workstation, media consumption, walk-up, tablet). Moreover, Ledbetter claim 17 recites that the "interaction modes" are the modes described above and correspond with "current position":

> 17. The method of claim 16 wherein the current position corresponds to a current user interaction mode of a set of possible modes, the set containing **a workstation mode, a media consumption mode, a walk-up mode, and a tablet mode**, and wherein changing the software mode to correspond to the current position comprises changing a user interface based on the current interaction mode.

(Ledbetter at claim 17 (emphasis added).) Ledbetter's specification also teaches examples of how a system configuration (detected by arm position) corresponds with a mode:

> By way of example, when the arm is positioned such that the display monitor is in the media consumption mode, media player software may be loaded and automatically executed. In the tablet mode, tablet operating system components such as including handwriting recognition software may be loaded and automatically executed. In the walk-up mode, a touch-screen shell program configured to provide convenient access to walk-up types of information (e.g., weather, messages, the internet and so forth) may be loaded. In the

> workstation mode, typical shortcuts and other information used for working/productivity or other computer usage (e.g., gaming) may be displayed.

(Ledbetter at ¶ [0057].)

106. To the extent Patent Owner argues that limitation [1.7] requires the computer system contain software and / or hardware that actively prevents the computer system from responding to any pressed keys, it is my opinion that a POSITA would have been motivated to modify Ledbetter with software and / or hardware protection to prevent keys from being pressed (or to prevent the Ledbetter computer system from responding to pressed keys) when the Ledbetter computer system is in, for example, the Media Consumption or Tablet Mode. ('715 Patent at 24:49–53.) Otherwise, use of Ledbetter's Tablet Mode, for example, would risk inadvertent keystrokes resulting from the back of the display applying pressure to the keyboard when the user presses against the screen with handwriting or pen input, in my opinion. Ledbetter provides several figures indicating this possibility of the screen pressing against the keyboard in Ledbetter's Tablet Mode:

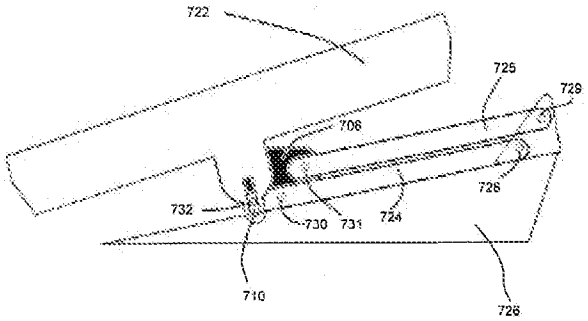


FIG. 7C

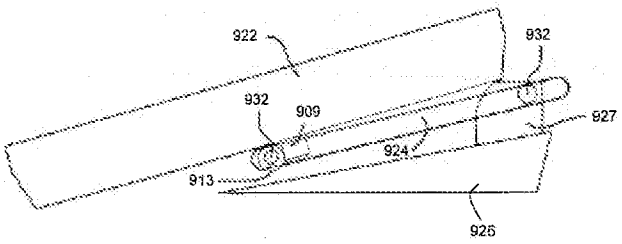


FIG. 9C

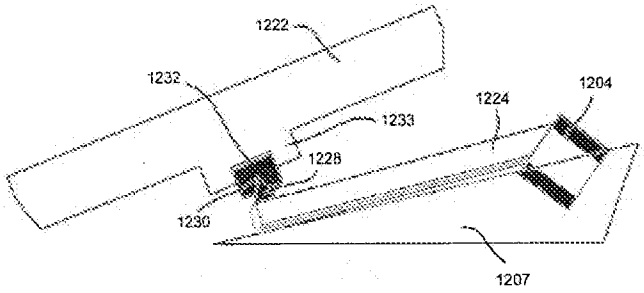


FIG. 12C

(Ledbetter at FIGS. 7C, 9C, 12C.)

107. In my opinion, a POSITA would have had a reasonable expectation of success, and required no undue experimentation in implementing such software and / or hardware to deactivate the keyboard. It is my opinion that the ease with which a POSITA would have implemented such a feature is confirmed by the '715 patent itself, which lacks any implementation details, and merely states generally that "software and/or hardware protection may be provided for the keyboard to prevent keys from being pressed (or to prevent the portable computer from responding to pressed keys)." ('715 Patent at 24:48–53.) This lack of implementation details confirms the POSITA could have easily incorporated such features into Ledbetter, in my opinion. That use of such features was well within the skill of a POSITA is further confirmed, in my opinion, by other prior art such as Shimura and Lane, which teaches "means used to invalidate the input from the keyboard based on the value detected by said detection means." (*See, e.g.*, Shimura (Ex. 1008) at ¶¶ [0008], [0019],

Claims 6, 11–12 (discussed in more detail in Section X below); Lane at 5:23–6:6 (discussed in more detail in Section IX below.)

108. In sum, in my opinion, a POSITA would have understood that Ledbetter teaches an "execution component" (i.e., Ledbetter's mode switch software receiving a signal from the "position detector means 1380 [that] is coupled (e.g., via a hard to software interface) to mode switch software 1382 running on the computer system" (Ledbetter at ¶ [0056])) that is configured to detect computer system configurations where a keyboard is operable to receive input from an operator and computer system configurations where a keyboard is inoperable to receive input from an operator.

[1.8] select one of the plurality of views for display on the computer system in response to the detected current computer system configuration; and

109. In my opinion, Ledbetter teaches this limitation.

110. First, I note how Ledbetter teaches how its mode switch software selects a corresponding user interface or program(s) to display in response to a detected computer system configuration (i.e., mode):

> The mode switch software 1382 … reports the position-based decision to the operating system 1384, which in turn loads a corresponding shell user interface and/or other program or programs (e.g., 1386_1) as necessary to configure the computer system user interface display 1388 and running programs to match the current mode.

(Ledbetter at ¶ [0056].) Upon the mode switch software reporting the position-based decision to the operating system, the operating system would match the computer system user interface display and running programs to match the current configuration mode. Ledbetter gives examples

of its computer system selecting specific programs (i.e., a view with re-organized computer content) that matches with a corresponding configuration and explains that the selection is in response to a detected current computer configuration can occur automatically as well:

> By way of example, when the arm is positioned such that the display monitor is in the media consumption mode, media player software may be loaded and automatically executed. In the tablet mode, tablet operating system components such as including handwriting recognition software may be loaded and automatically executed. In the walk-up mode, a touch-screen shell program configured to provide convenient access to walk-up types of information (e.g., weather, messages, the internet and so forth) may be loaded. In the workstation mode, typical shortcuts and other information used for working/productivity or other computer usage (e.g., gaming) may be displayed.

(Ledbetter at ¶ [0057].) A POSITA would understand that Ledbetter's examples are re-organized computer content, in my opinion.

111. Second, I note how Ledbetter FIG. 13 illustrates how the mode switch software, executing on the operating system, causes the selection of one out of many shell user interface ("UI") programs or other codes (1386_1, 1386_2... indicating multiple UI programs) in response to the position detector(s):

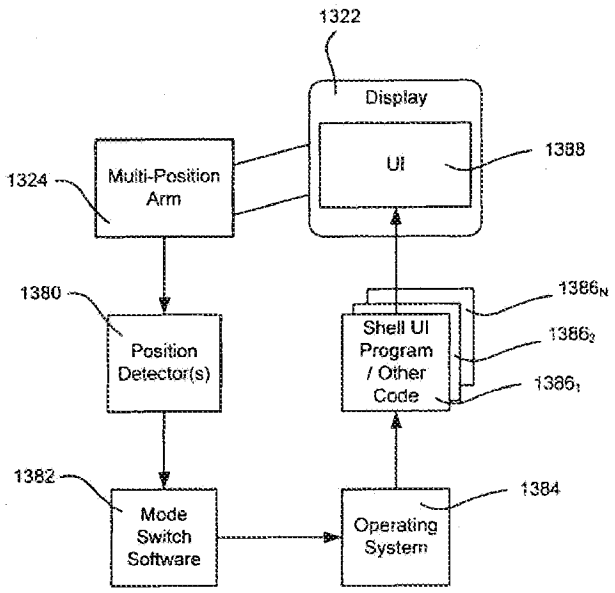


FIG. 13

(Ledbetter at FIG. 13.)

112. Third, I note that Ledbetter teaches that software executing on the computer system matches the output to display monitor with the current display monitor position, including a position that corresponds to a current user interaction mode. (Ledbetter at ¶¶ [0004], [0055] ("the computer providing the content to display can change software operating modes to match the corresponding monitor position").)

113. In sum, in my opinion, a POSITA would have understood that Ledbetter teaches an "execution component" (i.e., Ledbetter's mode switch software, "which may be any program such as an application and/or operating system component") that is configured to select one of the plurality of views (i.e., 1386_1, 1386_2, 1386_n) for display on the computer system in response to the detected current computer system configuration.

[1.9] transition the display component to the selected one of the plurality of views.

114. In my opinion, Ledbetter teaches this limitation.

115. For example, I note that Ledbetter teaches how its mode switch software and associated software causes a corresponding user interface or program to transition the display to a view corresponding to the current mode:

> [t]he mode switch software 1382, which may be any program such as an application and/or operating system component, reports the position-based decision to the operating system 1384, which in turn loads a corresponding shell user interface and/or other program or programs (e.g., 1386$_1$) as necessary to ***configure the computer system user interface display 1388*** and running ***programs to match the current mode***. Some delay may be provided to avoid loading and changing software until it is likely that a user has settled on a particular position and/or interaction mode rather than transitioning between modes.

(*Id.* at ¶ [0056] (emphases added).) In my opinion, this disclosure of mode switch and associated software changing the display between modes to "match the current mode" once "a user has settled on a particular position and/or interaction mode" satisfies the claimed "transition the display component to the selected one of the plurality of views." It is my opinion that a POSITA would have understood that the adding a delay to loading and changing of software further indicates a transitioning step to display a selected view.

116. I note that Ledbetter further teaches that "the computer providing the content to display can change software operating modes to match the corresponding monitor position." (*Id.* at ¶ [0055].) It is thus my opinion that a POSITA would have understood that Ledbetter's disclosure corresponds with a transitioning of a display component to a selected view.

117. In sum, it is my opinion that a POSITA would have understood that Ledbetter teaches an "execution component" (i.e., Ledbetter's mode switch software, "which may be any program such as an application and/or operating system component") that is configured to transition the display component to the selected one of the plurality of views.

2. Claim 20

[20.1] A customized user interface to display computer content on a display component of a computer system including a keyboard, the user interface comprising:

118. As discussed regarding preamble [1.1], it is my opinion that Ledbetter discloses it, to the extent the preamble is limiting.

[20.2] at least one processor operatively connected to a memory of the computer system;

119. As discussed regarding limitation [1.2], it is my opinion that Ledbetter discloses this limitation.

[20.3] a graphical user interface, executing on the at least one processor, configured to display the computer content on the display component of the computer system, the graphical user interface configured to;

120. As discussed regarding limitation [1.3], it is my opinion that Ledbetter discloses this limitation.

[20.4] display a plurality of views of a plurality of visual representations of computer content;

121. As discussed regarding limitation [1.4], it is my opinion that Ledbetter discloses this limitation.

[20.5] wherein the computer content includes at least one of selectable digital content, selectable computer operations and passive digital content

122. As discussed regarding limitation [1.5], it is my opinion that Ledbetter discloses this limitation.

[20.6] an execution component, executing on the at least one processor, configured to:

123. As discussed regarding limitation [1.6], it is my opinion that Ledbetter discloses this limitation and functions.

[20.7] detect a current computer system configuration from at least a first computer system configuration where the keyboard is positioned to receive input from an operator of the computer system and a second computer system configuration where the keyboard is not positioned to receive input from the operator of the computer system;

124. In my opinion, Ledbetter teaches this limitation. For the same reasons as discussed for limitation [1.7], which recites where the keyboard "is operable to receive input" and "is inoperable to receive input," it is my opinion that Ledbetter discloses limitation [20.7], which recites where the keyboard "is positioned to receive input" and "is not positioned to receive input."

[20.8] select one of the plurality of views for display on the computer system in response to the detected current computer system configuration; and

125. As discussed regarding limitation [1.8], it is my opinion that Ledbetter discloses this limitation.

[20.9] transition the display component to the selected one of the plurality of views.

126. As discussed regarding limitation [1.9], it is my opinion that Ledbetter discloses this limitation.

VIII. GROUND 2: LEDBETTER IN VIEW OF POGUE RENDER OBVIOUS CLAIMS 1-20 OF THE '715 PATENT

A. Motivation to Combine Ledbetter and Pogue

127. I understand that Ledbetter, which published in March 2007, is assigned to Microsoft and describes workstations, media consumption, touch screens, and pen input. (Ledbetter at Abstract.) I note that Ledbetter discusses the use of an operating system:

> The mode switch software **1382**, which may be any program such as an application and/or operating system component, reports the position-based decision to the operating system **1384**, which in turn loads a corresponding shell user interface and/or other program or programs (e.g., **1386**$_1$) as necessary to configure the computer system user interface display **1388** and running programs to match the current mode.

(Ledbetter at ¶ [0056].)

128. I note that Pogue, which also published in March 2007, describes Windows Vista, a Microsoft operating system, and describes workstations, media consumption, touch screens, and pen input. (Pogue at 463, 503, 571.) By April 1, 2008, it is my opinion that POSITAs implementing a Microsoft computer system such as that in Ledbetter, would have been motivated to do so using an operating system with features such as that described in Pogue, namely Windows Vista. Moreover, it is my opinion that a POSITA viewing Ledbetter, which describes a workstation mode,

media consumption mode, a touch screen mode, and a handwriting / pen-stylus recognition tablet mode (including handwriting recognition), would have been motivated to turn to references such as Pogue—which describes common operating system features—for details on the various operating system modes; especially so since the Windows Vista operating system described in Pogue supports a workstation mode (Pogue at 8–9, 25), media consumption mode (*id.* at 9, 423, 463, 501), a touch screen mode (*id.* at 9, 100, 313, 571, 575) and a handwriting / pen-stylus recognition tablet mode (*id.*). Additionally, it is my opinion that a POSITA viewing Ledbetter's disclosure of the accessing information from the internet (Ledbetter at ¶ [0057]) would have sought an operating system capable of accessing the internet, such as the Windows Vista operating system and its included Internet Explorer 7 (Pogue at 367).

129. Moreover, it is my opinion that a POSITA would have had a reasonable expectation of success combining Ledbetter with Pogue because a POSITA would have expected that Windows Vista, a Microsoft operating system would run properly on a Microsoft computer system such as that in Ledbetter, with no undue experimentation.

B. Claim-By-Claim Analysis

1. Claim 1

130. For the reasons as discussed above, it is my opinion claim 1 would have been obvious to a POSITA over Ledbetter.

131. To the extent Patent Owner argues that Ledbetter alone does not sufficiently disclose limitation [1.4] ("display a plurality of views of a plurality of visual representations of computer content") or limitation [1.5] ("wherein the computer content includes at least one of selectable digital content, selectable computer operations and passive digital content"), it is my

opinion that Pogue provides further teachings showing these limitations were well-known in the art, thus confirming the obviousness of a system that meets all claim limitations.

[1.4] display a plurality of views of a plurality of visual representations of computer content,

132. It is my opinino that Pogue teaches details on different operating system views, which when implemented in Ledbetter, further meet this limitation.

133. I note that Pogue teaches Windows Vista, an operating system with a customizable graphical user interface that executes on a processor, which presents several views of visual representations of computer content, including such views as Windows Vista desktop (Pogue at 23), a Windows Explorer window (*id.* at 58), Internet Explorer 7 (*id.* at 368), Windows Photo Gallery (*id.* at 423), Windows Media Player (*id.* at 463), Windows Media Center (*id.* at 501). I note that Pogue further discloses that Windows Vista has views for touch screens, i.e., views of "programs that are especially (or exclusively) useful to people who use PCs with touch screens" such as "Sticky Notes, Table PC Input Panel, and Windows Journal." (Pogue at 273). Pogue also discloses that Windows Vista has views for handwriting / pen input, such as Windows Journal and Flicks. (*Id.* at 583.)

134. I note that Pogue also teaches that Windows Media Center itself presents a plurality of views of computer content, such as a view of the Start screen which displays categories of computer content:

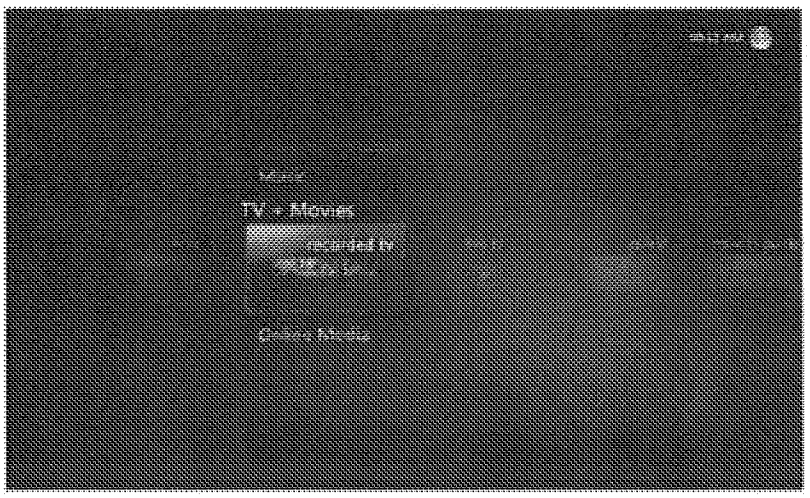


Figure 16-1: *This is what you see once Media Center is set up. You can now buy music online and organize your existing music library, burn a CD of your favorite pictures, pause and rewind live TV, or schedule a program to record weekly.*

(Pogue at 503.) Pogue also teaches that other views within Windows Media Center include views that display different visual representations of computer content for a single category like Online Media (Figure 16-10) and TV Guide (Figure 16-5):

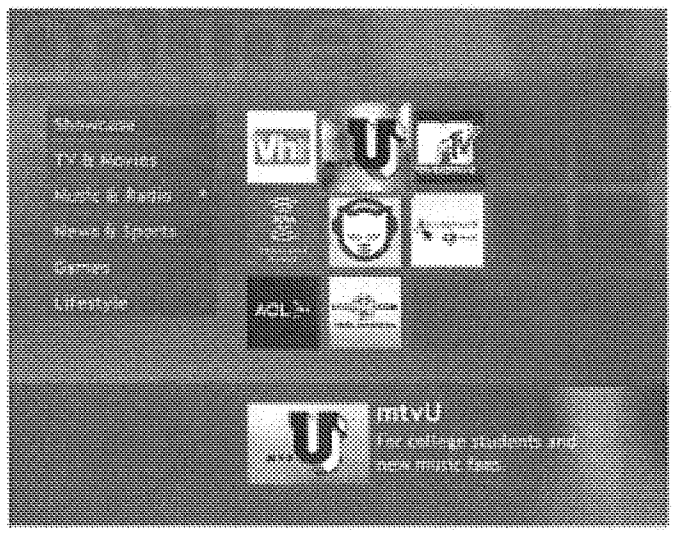


Figure 16-10: *To see what's available in the way of online media, open Media Center, select Music, and select More Music. Now choose Music & Radio. There are lots of choices, including VH1, MTV Overdrive, XM Satellite Radio, Napster, Musicmatch, AOL Music, and Live365.com. To obtain music from any of them, click the one you like best and work through the subscription process. Once you've done that, follow the directions from the media's Web site to select and download music. Many of these music services also give you access to Internet radio.*

(Pogue at 520 (view of visual presentations of Music and Radio content).)

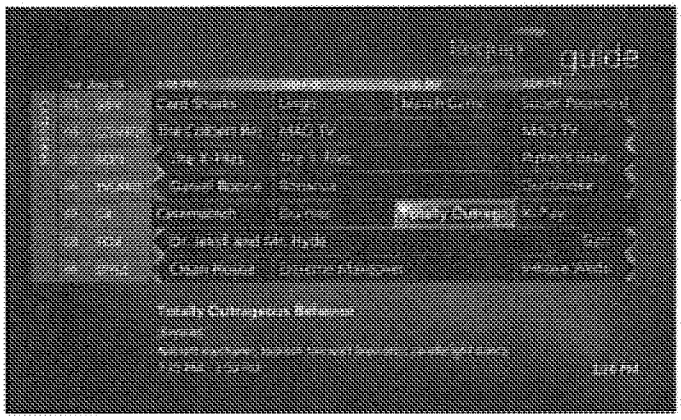


Figure 16-5: *Use your remote control, mouse, or keyboard to navigate through the guide. Type a number into the remote's keypad to change channels. Click Skip (or something similar) to move forward in the Guide. Run the mouse over a show's title to read a short synopsis of the show. Right-click any show title (or use the remote's Info button) to get more program info, record the program, or record the series.*

(Pogue at 510 (view of visual representations of TV channels).)

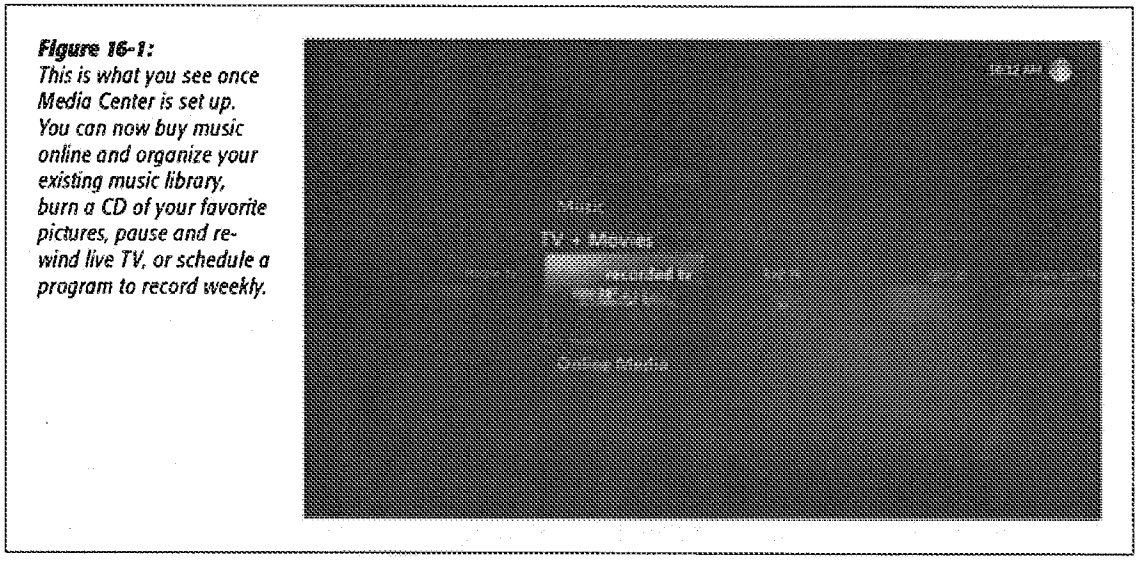
135. *Other Pogue Teachings.* Similarly, I note that Pogue teaches that Windows Explorer (*id.* at 58), Internet Explorer 7 (*id.* at 368), Windows Photo Gallery (*id.* at 423), and Windows Media Player (*id.* at 463) each alone provide an initial view and other views that display and organize categories of computer content such as photos, media, files, folders, and web content, respectively, in my opinion.

136. Confirming my opinion that Pogue teaches limitation [1.4], during prosecution of the '715 Patent, the Examiner correlated "a plurality of views of a plurality of visual representations of computer content" with Miller's teaching of a "***Windows Media Center presents a plurality of views of content: the Start screen displays all the categories (page 3), whereas other views display one category like "Online Spotlight", which displays online content (page 6).***" (*See* Ex. 1002 at 349–350, 361, 425–426 (citing Miller at 3–11).)

[1.5] wherein the computer content includes at least one of selectable digital content, selectable computer operations and passive digital content

137. It is my opinion that Pogue teaches additional details that further meet this limitation, as it teaches that Windows Vista has different views that organize visual representations of each type of recited content, as discussed below.

138. **In my opinion, Pogue discloses visual representations of *selectable digital content.*** For example, Pogue Figure 16-1 teaches that Windows Media Center has a Start screen with visual representations of selectable digital content such TV+Movies, Music, Pictures+Video, Online Media, More TV, Live TV, Guide, and Movies Guide:



(Pogue at 503.)

139. Pogue Figure 16-10 also shows visual representations of selectable digital content such as TV & Movies, Music & Radio, News & Sports, Games, and Lifestyle:

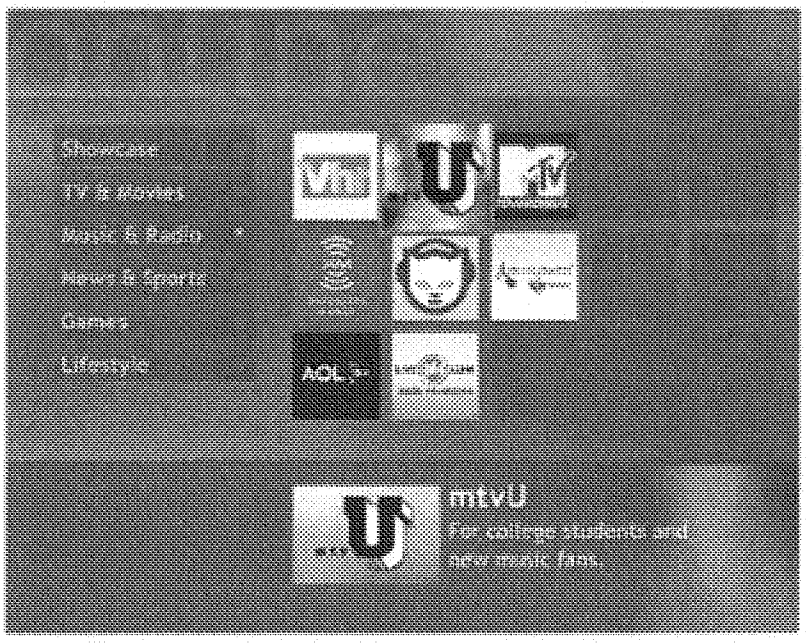


Figure 16-10: *To see what's available in the way of online media, open Media Center, select Music, and select More Music. Now choose Music & Radio. There are lots of choices, including VH1, MTV Overdrive, XM Satellite Radio, Napster, Musicmatch, AOL Music, and Live365.com. To obtain music from any of them, click the one you like best and work through the subscription process. Once you've done that, follow the directions from the media's Web site to select and download music. Many of these music services also give you access to Internet radio.*

(Pogue at 520.)

140. As another example, Pogue teaches that Windows Photo Gallery shows visual representations of selectable digital content such as folders, tagged photos, and thumbnails. (*Id.* at 431–432.) An image of the start screen is shown below:

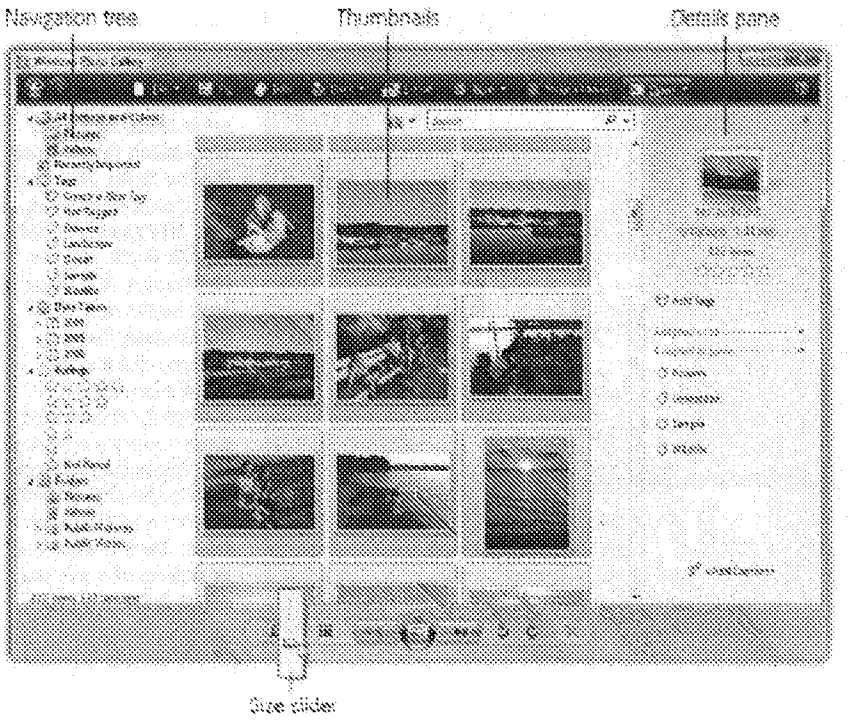


Figure 13-1: *Here's what Photo Gallery looks like when you first open it. The large photo-viewing area is where thumbnails of your imported photos appear. The icons at the top of the window represent all the stuff you can do with your photos. To adjust the size of the photo thumbnails (miniatures), click the magnifying-glass icon. Don't release the mouse button yet. Instead, drag the vertical slider up or down. All the thumbnails expand or contract simultaneously. Cool!*

(*Id.* at 424.)

141. As another example, Pogue teaches that Windows Media Player has visual representations of selectable digital content, such as music and playlists:

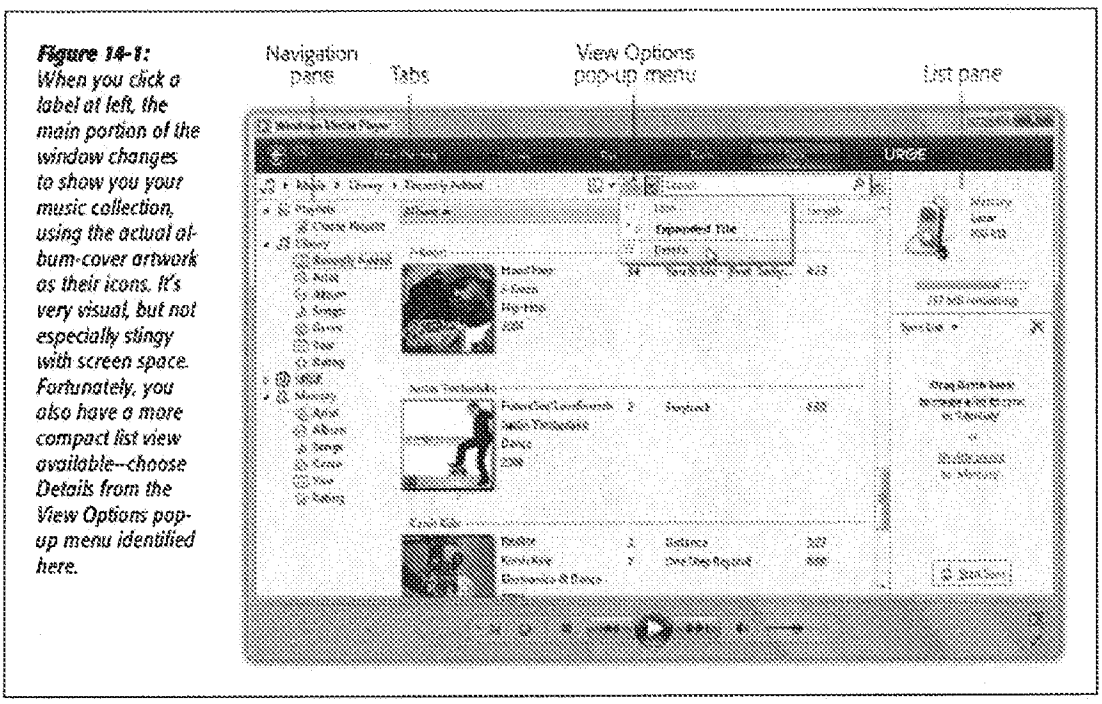


Figure 14-1: *When you click a label at left, the main portion of the window changes to show you your music collection, using the actual album-cover artwork as their icons. It's very visual, but not especially stingy with screen space. Fortunately, you also have a more compact list view available--choose Details from the View Options pop-up menu identified here.*

(*id.* at 465).

142. Likewise, Pogue teaches that a Windows Explorer window providing visual representations of different folders that display and organize categories of selectable digital content such as photos, media, files, and web content:

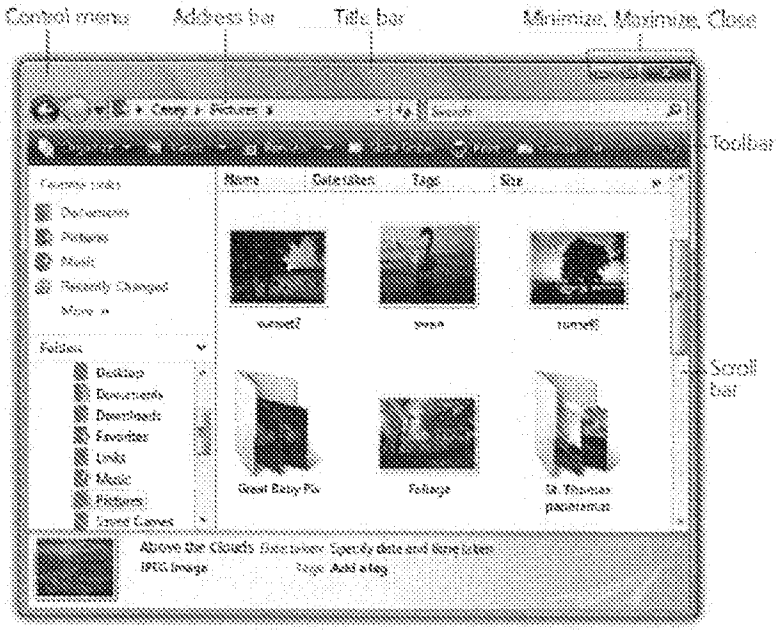


Figure 2-1: *All windows have the same basic ingredients, making it easy to become an expert in window manipulation. This figure shows an Explorer (desktop) window—a disk or folder—but you'll encounter the same elements in application windows.*

(Pogue at 58.)

143. Additionally, Pogue teaches that Internet Explorer 7 has a view with selectable digital contents, such as web page links, tabs, and favorites:

Figure 11-1: *The Internet Explorer window offers tools and features that let you navigate the Web almost effortlessly; these various toolbars and status indicators are described in this chapter. Chief among them: the Address bar, which displays the address (URL) of the Web page you're currently seeing, and the standard buttons, which let you control the Web-page loading process.*

(*Id.* at 368.)

144. **In my opinion, Pogue discloses visual representations of *selectable computer operations*.** For example, Pogue teaches how use of Windows Media Center to select computer operations such as record a show or a season of shows, *id.* at 512–513, save a show, *id.* at 515, burn a DVD, *id.*, rent or buy a movie, *id.* at 516, rip a CD, *id.* 517, create and edit a slide show of pictures and videos, *id.* at 515. Pogue Figure 16-8 shows a visual representation of selectable computer operations such as "Copy CD" or "Visualize" or "Buy Music":

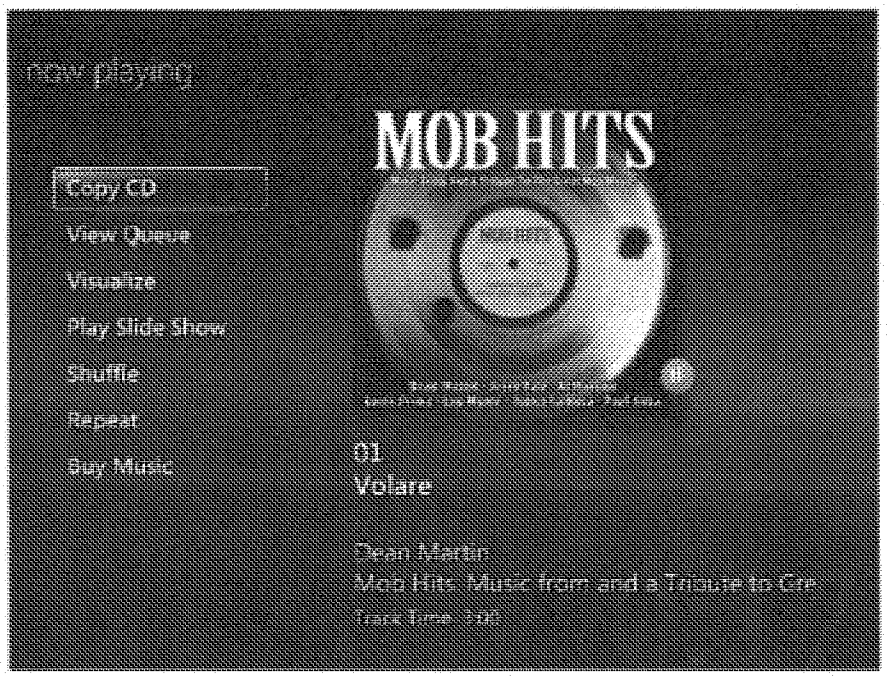


Figure 16-8: *When you insert a CD while Media Center is on, the CD plays automatically. Several choices are then displayed on the left side: Copy CD, View Queue, Visualize, Play Slide Show, Shuffle, Repeat, and Buy Music. To rip the CD to your PC, select Copy CD.*

(Pogue at 518.)

145. Pogue Figure 16-12 also shows visual representations of selectable computer operations, such as selecting pictures to add to a Picture Library subfolder:

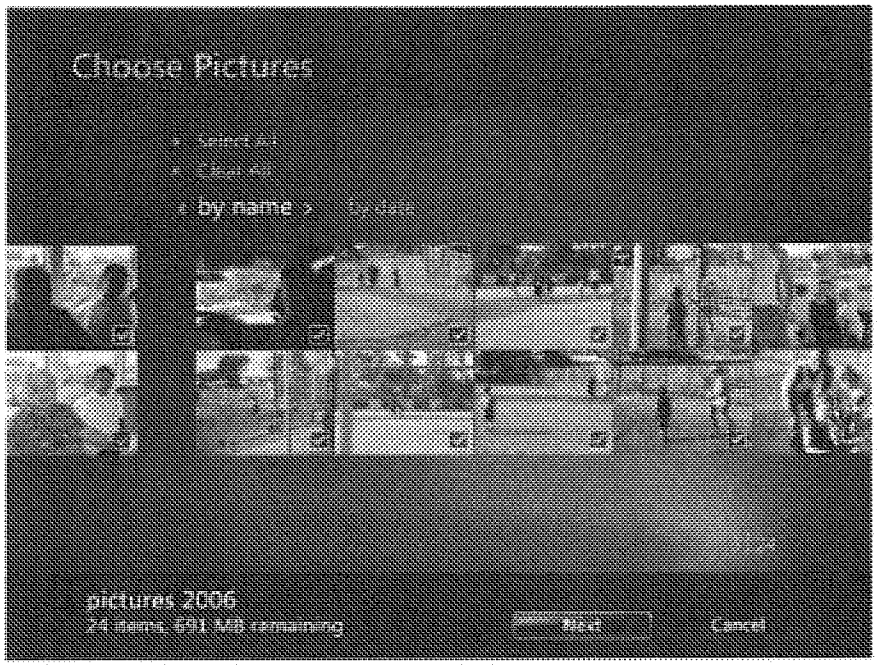


Figure 16-12: *Drill down into the Picture Library subfolders to select pictures you want to add. You can select entire folders or single images. Once you've selected a picture, a folder of pictures, or a mish-mash of pictures in any one subfolder, click Next.*

(Pogue at 526.)

146. As another example, Pogue teaches that Windows Photo Gallery shows visual representations of selectable computer operations such as "Creating a New Tag," "Fix," "Print," and "E-mail" :

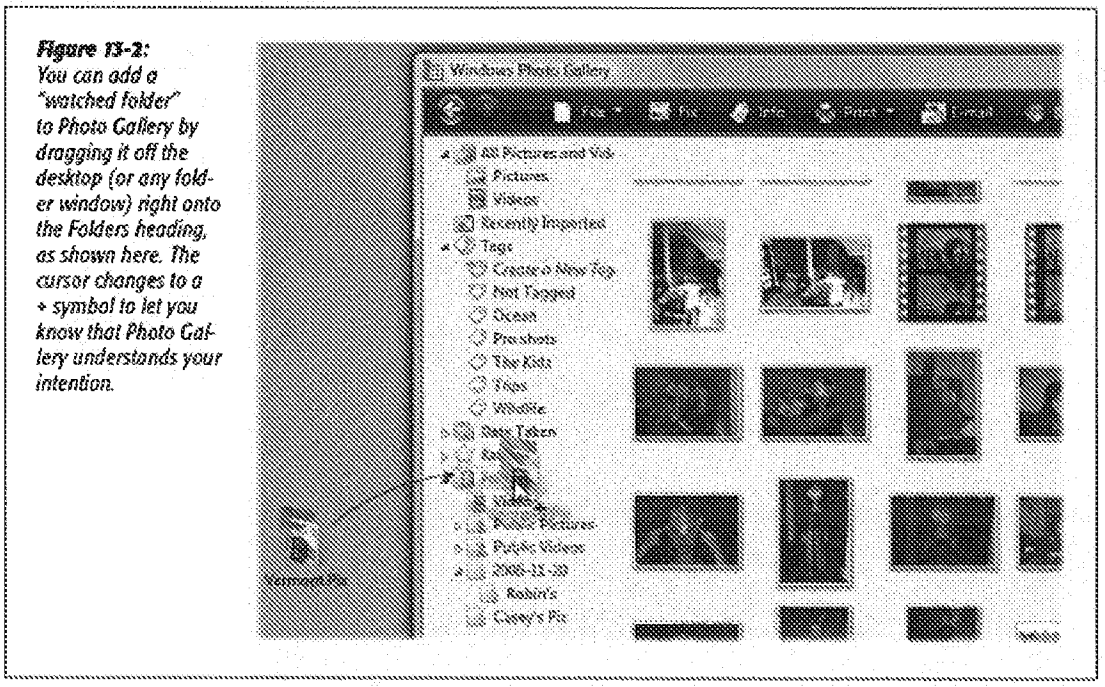


Figure 13-2: *You can add a "watched folder" to Photo Gallery by dragging it off the desktop (or any folder window) right onto the Folders heading, as shown here. The cursor changes to a + symbol to let you know that Photo Gallery understands your intention.*

(Pogue at 425.)

147. Similarly, Pogue teaches that Windows Media Player has visual representations of selectable computer operations such as "Create Playlist," "Burn," "Rip," and "Sync":

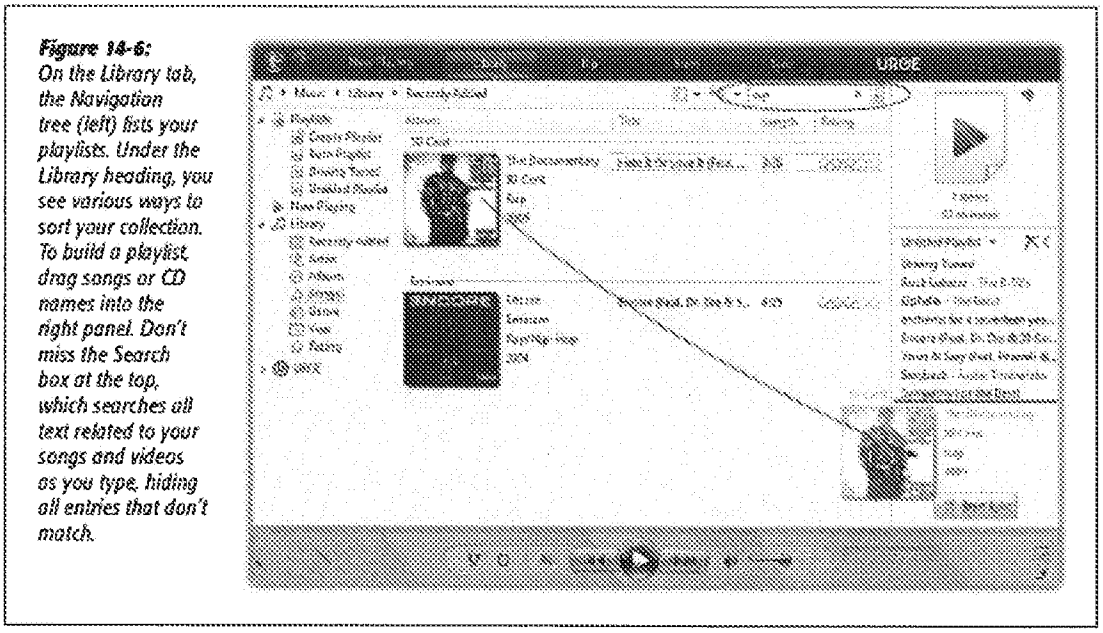


Figure 14-6: *On the Library tab, the Navigation tree (left) lists your playlists. Under the Library heading, you see various ways to sort your collection. To build a playlist, drag songs or CD names into the right panel. Don't miss the Search box at the top, which searches all text related to your songs and videos as you type, hiding all entries that don't match.*

(Pogue at 474 (showing selection of computer operation of modifying a playlist to add a 50 Cent song).)

148. Likewise, Pogue teaches that a Windows Explorer window shows visual representations of selectable computer operations such as "Organize," "View," "Preview," "Print," and "E-mail":

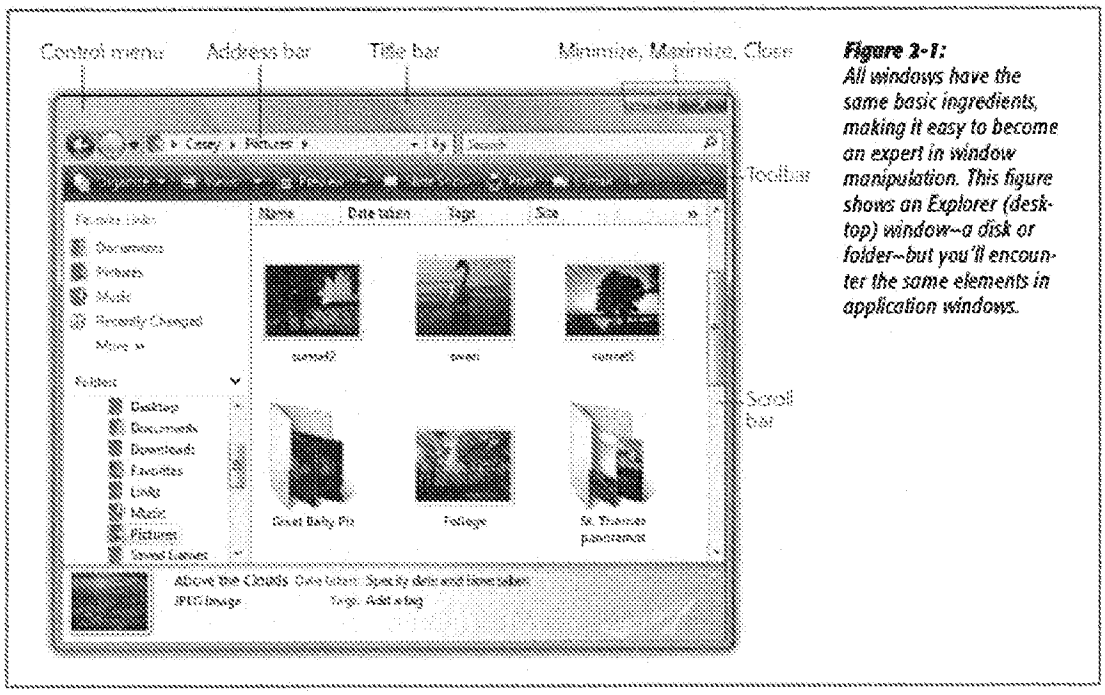


Figure 2-1: *All windows have the same basic ingredients, making it easy to become an expert in window manipulation. This figure shows an Explorer (desktop) window—a disk or folder—but you'll encounter the same elements in application windows.*

(Pogue at 58.)

149. Additionally, Pogue teaches that Internet Explorer 7 shows visual representations of selectable computer operations such as refreshing a web page, printing a webpage, or storing a web content as a "Favorite":

Figure 11-1: *The Internet Explorer window offers tools and features that let you navigate the Web almost effortlessly; these various toolbars and status indicators are described in this chapter. Chief among them: the Address bar, which displays the address (URL) of the Web page you're currently seeing, and the standard buttons, which let you control the Web-page loading process.*

(Pogue at 368.)

150. **In my opinion, Pogue discloses visual representations of *passive digital content.*** For example, Pogue describes how Windows Media Center has a TV player, photo viewer, a video clips player, a DVD player, and a slideshow viewer, among other things. (Pogue at 501, 503, 519, 524, 527, 529.) Pogue 16-6 shows a live TV view with controls:

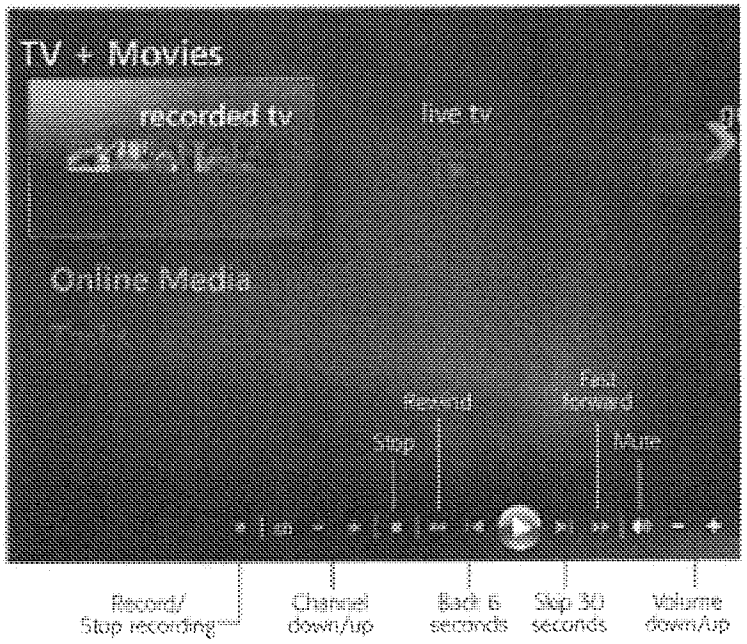


Figure 16-6:
If you're remoteless, move your mouse to the lower-right corner of the screen to summon these TV controls—everything you need for your DVR (digital video recorder) enjoyment. If course, if you have a remote control, you can use it instead.

Either way, the controls here all pertain to a show that's on the air right now.

(Pogue at 512.) It is my opinion that Pogue also teaches that at least one of Windows Vista's views is a screen saver view configured to organize user-selected photos for passive viewing. (Pogue at 460 ("You can turn any random batch of photos into your PC's very own screen saver.").)

Similarly, it is my opinion that Pogue teaches that:

- Windows Photo Gallery has a slideshow for passive viewing (*id.* at 431);
- Windows Media Player has a visualizer for music playing (*id.* at 465–468), a viewer for playing a DVD (*id.* at 463, 467), and a presentation of a video or photo slideshow (*id.* at 482), all for passive viewing;
- Windows Explorer also provides a slideshow (*id.* at 70, 80) for passive viewing; and
- Internet Explorer 7 provides access to YouTube, a popular website for passive viewing of videos (*id.* 379).

151. In my opinion, a POSITA would have understood that each of the above examples constitute visual representations of passive digitial content.

152. As confirmation of my opinion that Pogue teaches the "computer content" recited in limitation [1.5], during prosecution of the '715 Patent, the Examiner correlated each type of computer content in limitation [1.5] with computer content disclosed in Miller's description of Windows Media Center:

> wherein the computer content includes at least one of selectable digital content ***(i.e. songs, movies (pages 9-11))***, selectable computer operations ***(i.e. games (pages 7-8), photo editing (page 4))*** and passive digital content ***(i.e. slide show (page 5))***.

(*See* Ex. 1002 at 349–350, 361–362 (emphasis in original) (citing Miller at 4–11).) As explained above for Ledbetter and limitation [1.5], it is my opinion that the playback of movies using any of Pogue's disclosures of a media player (e.g., Windows Media Player or Windows Media Center) would constitute passive digital content. It is my opinion that the visual representations of the control buttons (i.e., play, rewind, fast forward, pause, delete, record) for the media player, however, would constitute selectable computer operations. And it is my opinion that the media player's depiction of available content, such as a list of movies or pictures thumbnails, would have been understood to disclose selectable digital content, as selection of such a visual representation of available content would have led to display of that content.

2. Claim 2

153. Claim 2 depends from claim 1. For the reasons discussed above, it is my opinion that claim 1 would have been obvious to a POSITA over Ledbetter or Ledbetter and Pogue.

[2.1] The user interface of claim 1, wherein in the plurality of views includes a home view configured to organize a plurality of content modes

154. As discussed regarding limitation [1.4], it is my opinion that both Ledbetter and Pogue disclose a plurality of views. Ledbetter and Pogue further teach the added limitation of limitation [2.1].

155. **Ledbetter.** In my opinion, Ledbetter discloses that at least one of its views is a home view configured to organize a plurality of content modes. For example, Ledbetter teaches home views in at least its walk-up/touch screen and workstation modes:

> In the walk-up mode, a touch-screen shell program configured to provide convenient access to walk-up types of information (e.g., weather, messages, the internet and so forth) may be loaded. … In the workstation mode, typical shortcuts and other information used for working/productivity or other computer usage (e.g., gaming) may be displayed.").)

(Ledbetter at ¶ [0057].) It is my opinion that a POSITA would have thus understood that the workstation mode included a home view. It is also my opinion that a POSITA would have further understood that the walk-up/touch-screen view included a home view. In my opinion, a POSITA would have understood that both of these Ledbetter home views are configured to organize "weather, messages, the internet," and "working/productivity or other computer usage (e.g., gaming)." In my opinion, a POSITA would have understood that weather, messages, the internet, gaming, and working / productivity are "content modes." Indeed, the '715 patent itself states that "the home view presents … 'interactive elements'" that allow a user to select different types of content or applications. ('715 Patent at 29:47–48.) This confirms my opinion that Ledbetter meets this claim limitation.

156. **Pogue.** In my opinion, Pogue also discloses that at least one of its views is a home view configured to organize a plurality of content modes. For example, Pogue teaches the home views of Windows Vista's desktop, Windows Media Center's start page, Windows Photo Gallery's start page, Windows Media Player's library screen, Internet Explorer 7's home page, and Windows Explorer's basic window. As explained in detail below, it is my opinion that Pogue teaches how these home views are configured to organize a plurality of content modes.

157. *Windows Vista.* Pogue teaches the view of Windows Vista's desktop, which in my opinion is a home view configured to organize a plurality of content modes (i.e., the desktop is configured to organize different content modes). (Pogue at 23.) In my opinion, Pogue teaches that Window Vista's desktop has content modes such as icons and Gadgets displayed on its user interface. (*Id.*) As shown in Figure 1-2 below, the Sidebar Gadgets shows multiple content modes such as photos, news headlines, and time. (*Id.*) Other Gadgets on Sidebar include stocks, weather, RSS feeds, email, local movie listings, regional gas prices, comic strips, etc. (*Id.* at 213–221.) The home view also organizes content modes on a start menu, which is configured to show content modes through Windows Media Center, a Windows Media Player, Internet Explorer 7, and Windows Photo Gallery. It is my opinion that a POSITA would have understood that desktop icons, the items on the start menu, the taskbar, the notification area, and the sidebar gadgets all represent "content modes."

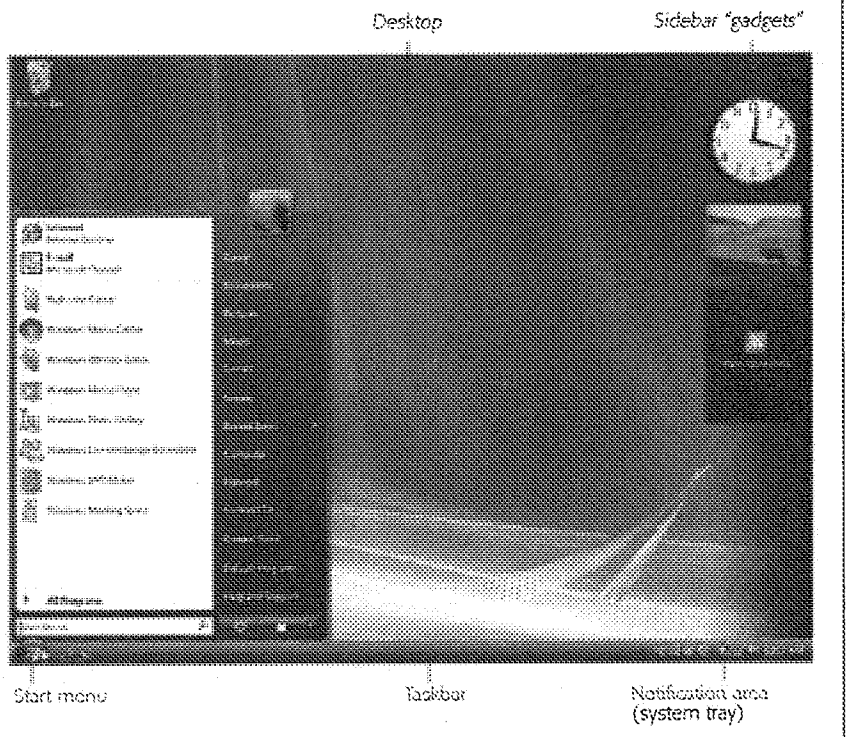


Figure 1-2: *There's a new desktop picture in Vista—Microsoft evidently endured one* Teletubbies *joke too many during the Windows XP era—and a glowing, more modern look called Aero. The only truly new element is the Sidebar, the stack of small floating windows that appears at the right side of the screen. (Chapter 6 covers the Sidebar in detail.)*

(Pogue at 23.) Pogue further describes how desktop icons representing computer content are configured to organize computer content (e.g., My Document, Internet Explorer, shortcuts, User's Files) on Vista's desktop through a "Personalization dialog." (Pogue at 22.)

158. *Windows Photo Gallery.* I note that Pogue also teaches the view of Windows Photo Gallery, which in my opinion has a home view configured to organize different content modes such as Photos and Videos, as shown in in Figure 13-1, reproduced below. It is my opinion that a POSITA would have understood that thumbnails, folders, and tags represent "user selectable element(s) displayed on a user interface that, when selected, allows the user to access the content organized therein."

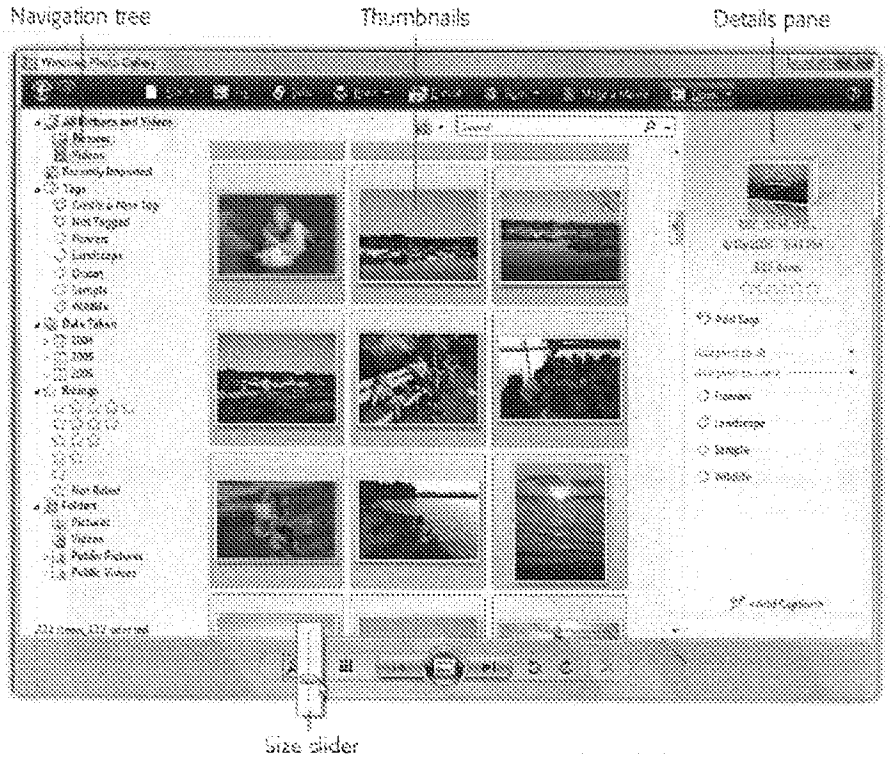


Figure 13-1: *Here's what Photo Gallery looks like when you first open it. The large photo-viewing area is where thumbnails of your imported photos appear. The icons at the top of the window represent all the stuff you can do with your photos. To adjust the size of the photo thumbnails (miniatures), click the magnifying-glass icon. Don't release the mouse button yet. Instead, drag the vertical slider up or down. All the thumbnails expand or contract simultaneously. Cool!*

(Pogue at 424.)

159. *Windows Media Center*. I note that Pogue also teaches a view of Windows Media Center, which in my opinion has a home view of a Start screen that displays and organizes categories of user-selectable computer content such as Music, TV + Movies, Guide, Online Media, Pictures + Video:

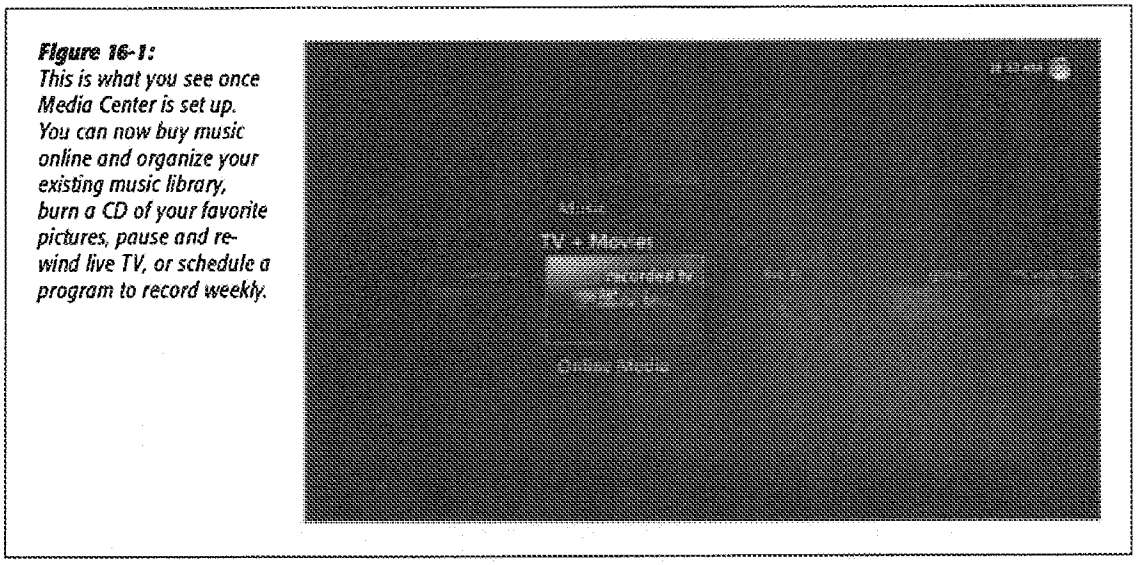


Figure 16-1: *This is what you see once Media Center is set up. You can now buy music online and organize your existing music library, burn a CD of your favorite pictures, pause and rewind live TV, or schedule a program to record weekly.*

(Pogue at 501, 503, 519.)

160. *Windows Media Player.* I note that Pogue teaches a view of Windows Media Player, which in my opinion has a home view, an organizable "screen [that] lists every piece of music or video your copy of Media Player 'knows about' on your hard drive":

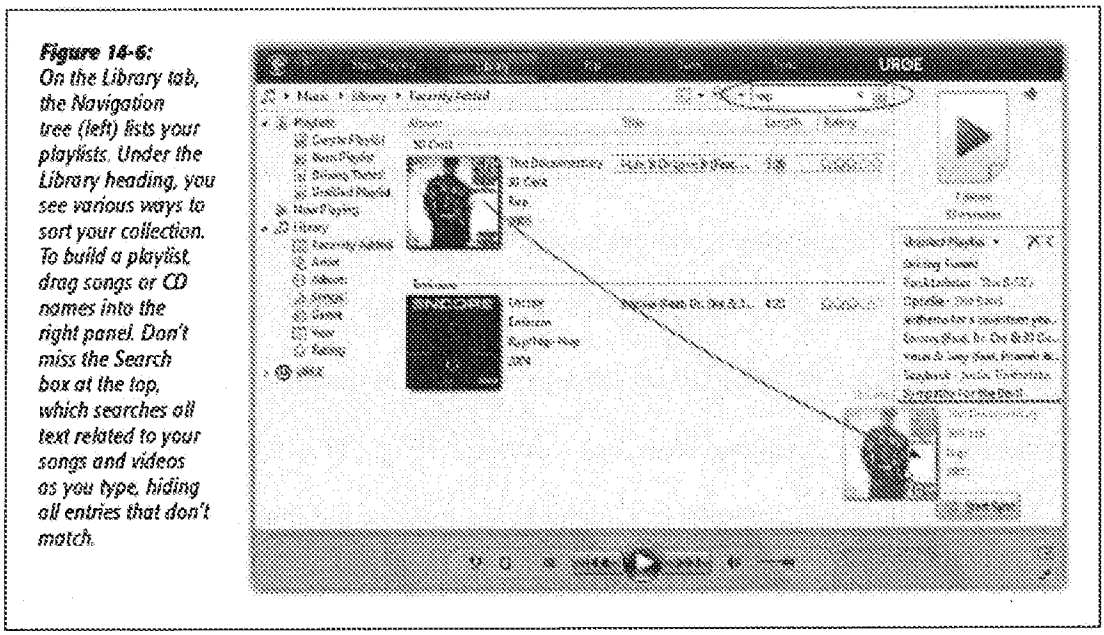
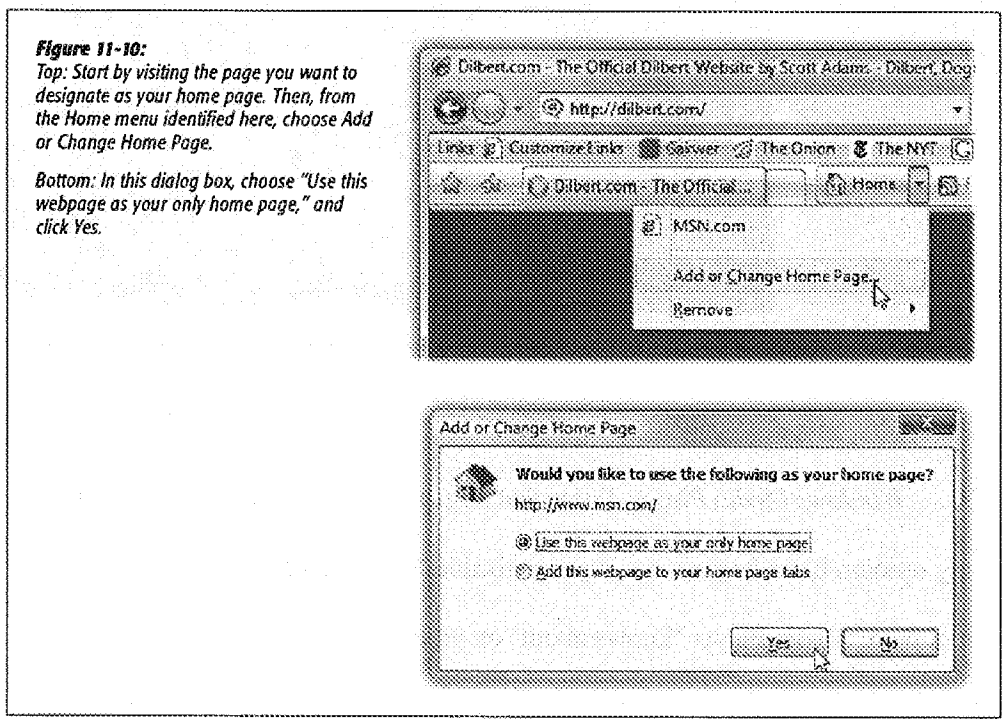


Figure 14-6: *On the Library tab, the Navigation tree (left) lists your playlists. Under the Library heading, you see various ways to sort your collection. To build a playlist, drag songs or CD names into the right panel. Don't miss the Search box at the top, which searches all text related to your songs and videos as you type, hiding all entries that don't match.*

(Pogue at 465.)

161. *Internet Explorer 7.* I note that Pogue teaches a view of Internet Explorer 7, which in my opinion has a home view, i.e., a customizable home page, which is configured to organize content modes:



(Pogue at 371, 383.) For example, Pogue explains user designation of a "Web page" as a starter page. (*Id.*) It is my opinion that a POSITA would have understood that web pages contain user-selectable links, which in turn point to various content modes, such as images, videos, music, and documents. I note that Pogue suggests Google, NYTimes.com, Dilbert.com, and msn.com as home pages, and in my opinion a POSITA would have understood that each is a website configured to organize content modes (i.e., images, videos, news, comics). (Pogue at 371, 383.) I note that Pogue also teaches configuring Internet Explorer 7's home page to show multiple tabs, thus organizing multiple web pages of digital content. (Pogue at 376.) Regardless of the selected home page, however, it is my opinion that Pogue teaches the home views of Internet Explorer 7 to show

bookmarks, favorites, quick tabs and an RSS reader, each configurable to organize digital content. (*Id.* at 376, 381)

162. *Windows Explorer*. I note that Pogue teaches a basic Windows Explorer window showing contents of a folder:

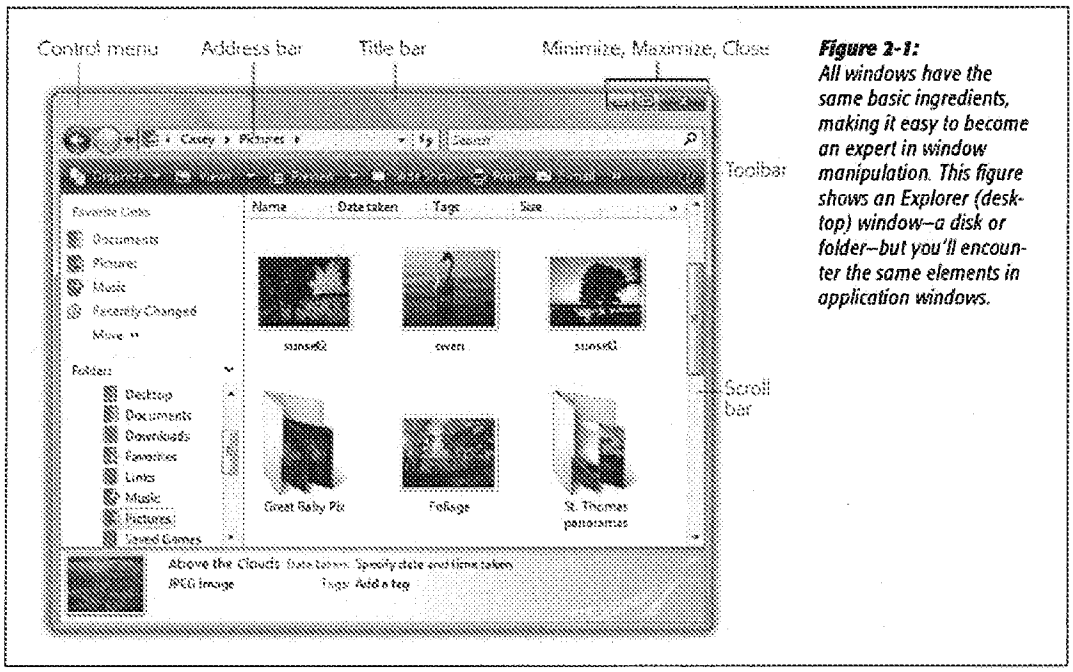


Figure 2-1: *All windows have the same basic ingredients, making it easy to become an expert in window manipulation. This figure shows an Explorer (desktop) window—a disk or folder—but you'll encounter the same elements in application windows.*

(Pogue at 58–60.) In my opinion, a POSITA would have understood that a basic Windows Explorer window is a home view that contains user-selectable content.

163. As confirmation of my opinion that Pogue teaches limitation [2.1], during prosecution of the '715 Patent, the Examiner correlated "a home view configured to organize a plurality of content modes" with Miller's teaching that "the Media Center Start page displays multiple categories of content such as videos, pictures, movies, radio and TV (FIG. 8.2, page 3))." (See Ex. 1002 at 351, 352–353 (citing Miller at 3) (emphasis in original).) As shown by Examiner's statement, it is my opinion that a POSITA would have understood that an example of a "home view" is a "Media Center Start page" and that examples of "a plurality of content modes" are

"displays multiple categories of content such as videos, pictures, movies, radio and TV." I note that Patent Owner did not dispute Examiner's understanding of this claim limitation. (*Id.* at 399.)

[2.2] a channel view configured to organize at least one of a single content mode and two content modes.

164. In my opinion, Ledbetter and Pogue further teach the added limitation of limitation [2.1].

165. **Ledbetter.** It is my opinion that Ledbetter teaches a channel view configured to organize at least one of a single content mode and two content modes. For example, Ledbetter teaches channel views such as "media consumption mode" where media player software is automatically executed, and (Ledbetter at FIG. 4, ¶ [0057]). Ledbetter expressly teaches at least three content modes in channel view such as television, video, and DVD movies. (Ledbetter at Abstract, ¶¶ [0003], [0059].)

166. To confirm my opinion that Ledbetter's media consumption mode is a channel view, during IPR2021-00786, Patent Owner stated that channel view is "configured to present computer content, in large footprint displays, and further is designed to streamline user interaction with the streamlined device." (POPR at 43 (citing '715 Patent at 56:45–48).) Moreover, the '715 Patent provides an example of a channel as a television channel. (Ex. 1001 at 21:51–53 ("Another example of a channel is a 'television' channel, in which the portable computer is configured to stream Internet television.").) It is my opinion that POSITA would have understood that Ledbetter's television, video, and DVD movie examples would be presented "in large footprint displays" and thus satisfy this limitation under Patent Owner's previous description of channel view. Moreover, in my opinion, a POSITA would have that understood that Ledbetter's

conventional workstation's examples of gaming and working / productivity programs would have permitted large footprint displays, and were well-known by 2008.

167. To confirm my opinion that Ledbetter's television, video, DVD movie player, gaming, and working / productivity programs are different content modes, I note the '715 Patent states that "modes of content" may include media, connect, web, applications, and channels. The '715 Patent lists examples of each "mode of content":

- "**media mode** 172*a* may provide access to a media player to play, view, search and organize media such as music, video, photos, etc."
- "**connect mode** 172*b* may provide access to features such as, for example, email, voice-over-IP, instant messaging, etc., and the web mode 172 c may provide access to internet browsing and searching."
- "**application mode** 172*d* may provide access to, for example, computer applications or programs, such as word processor, spreadsheet, calculator, etc."
- "**channels mode** 172*e* may provide access to different functionality of the portable computer, with the different functions or features defined as different channels. For example, a channel may include an alarm clock channel in which the portable computer is configured to display a clock and can be programmed to activate an alarm, e.g., a sound, piece of music, etc., at a predetermined time. "Another example of a channel may include a 'photo frame' channel in which the portable computer may be configured to display a pre-selected image or set of images, etc. Another example of a channel is a 'television' channel, in which the portable computer is configured to stream Internet television."

(Ex. 1001 at 21:12–58.) As such, in my opinion, a POSITA would have understood that Ledbetter's television example is one type of content mode (i.e., "channels mode") and Ledbetter's DVD

movie example is another type of content mode (i.e., "media mode") under the '715 Patent's terminology. Similarly, in my opinion, a POSITA would have further understood that a program responsive to Ledbetter's pen / stylus (such as the handwriting recognition software (Ledbetter at ¶ [0057])) would constitute an "application mode." Likewise, it is my opinion a POSITA would have understood that Ledbetter's "work / productivity" and "gaming" examples would constitute content modes of "application." Moreover, it is my opinion that a POSITA would have understood that Ledbetter's walk-up mode provided access to weather, messages, and the internet and would thus constitute a "connect mode" according to the '715 Patent.

168. **Pogue.** It is my opinion that Pogue also teaches a channel view configured to organize at least one of a single content mode and two content modes. For example, Pogue teaches a channel view in at least Windows Vista in general, and in Windows Media Center, Windows Photo Gallery, Windows Media Player, and Internet Explorer 7, specifically. As explained below, it is my opinion that Pogue teaches these views as "maximized" or shown in "full screen" (i.e. channel view) and configured to organize at least one of a single content mode and two content modes.

169. *Windows Vista.* It is my opinion that Pogue teaches that Windows Vista has channel views configured to organize at least one of a single content mode and two content modes. I note that Pogue teaches that applications, web browsers, and email clients in Windows Vista viewed in a maximized or full screen view (i.e., in large footprint displays). (*Id. at* 86, 383.) As I explained above, during IPR2021-00786, I note that Patent Owner stated that a channel view is "configured to present computer content, in large footprint displays, and further is designed to streamline user interaction with the streamlined device." (POPR at 43(citing '715 Patent at 56:45–48).) It is my opinion that a POSITA would have understood that Windows Vista's maximized or full screen

windows present computer content in large footprint displays designed to streamline user interaction. I note that Pogue also teaches that Windows Vista has numerous content modes in its descriptions of Microsoft programs such as Word, PowerPoint, Excel, Windows Mail, and Internet Explorer 7. (*See, e.g.*, Pogue at 29, 41, 73, 222, 367, 391.) In my opinion, a POSITA would have understood that Word, PowerPoint, and Excel are applications; that Windows Mail is an email client; and that Internet Explorer 7 is a web browser. It is my opinion that a POSITA would thus have also understood that Microsoft Word, PowerPoint, and Excel would be one content mode (i.e., application content), Windows Mail is another content mode (i.e., communication content); and Internet Explorer 7 is another content mode (i.e., web content). Thus, in my opinion, Pogue's description of Windows Vista discloses at least three content modes. As confirmation of my understanding, the '715 Patent describes communication content, web content, and application content as different modes of content:

> the plurality of modes of content comprise at least one of a web content mode, a channel content mode, a media content mode, an application content mode, a communication content mode, and a passive content mode.

(the '715 Patent at 3:29–34.) I note that the '715 Patent explains "Modes of content may include for example, media, channel, connection, application, and web, among other options." (*Id.* at 27:45–47.)

170. Moreover, I note that Pogue teaches an Alt-Tab view, which in my opinion permits a user to "jump back and forth" between windows of content modes. (Pogue at 89–90.) Pogue provides an image of Alt-Tab view in Figure 2-19:

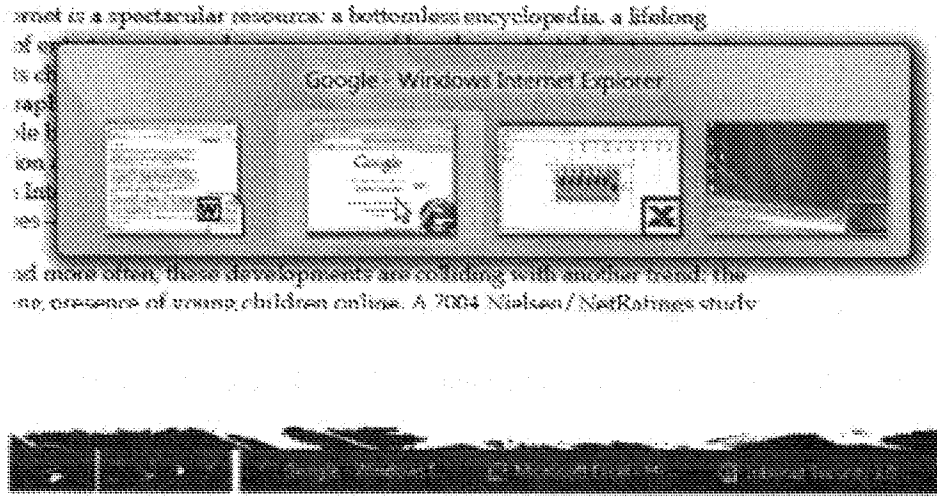


Figure 2-19: *Alt+Tab highlights successive icons; add Shift to move backward. (Add the Ctrl key to lock the display, so you don't have to keep Alt down. Tab to the icon you want, then press Space or Enter.)*

(Pogue at 90.) It is my opinion that a POSITA would have understood that this Alt-Tab view organizes "at least one of a single content mode and two content modes." As seen above, Pogue Figure 2-19 shows content modes of Microsoft Word, Excel, and Internet Explorer, which in my opinion would allow the user to select and access the content organized therein.

171. *Windows Media Center.* It is my opinion that Pogue also teaches that Windows Media Center has a channel view configured to organize different content modes such as TV & Movies, Music & Radio, News & Sports, Games, and Lifestyle:

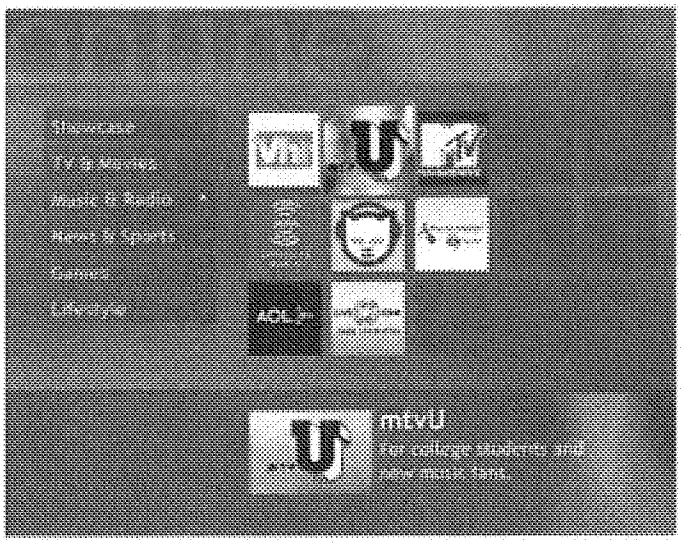


Figure 16-10: *To see what's available in the way of online media, open Media Center, select Music, and select More Music. Now choose Music & Radio. There are lots of choices, including VH1, MTV Overdrive, XM Satellite Radio, Napster, Musicmatch, AOL Music, and Live365.com. To obtain music from any of them, click the one you like best and work through the subscription process. Once you've done that, follow the directions from the media's Web site to select and download music. Many of these music services also give you access to Internet radio.*

(Pogue at 520.) Pogue also teaches that selecting Guide would result in a page with TV programs, another channel view with each channel representing a user selectable content mode:

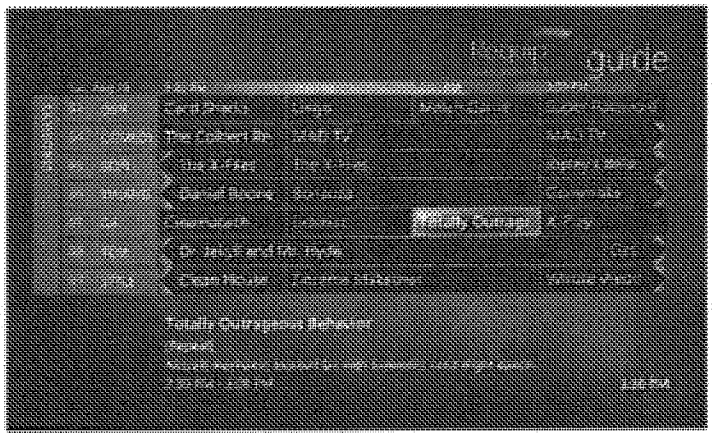


Figure 16-5: *Use your remote control, mouse, or keyboard to navigate through the guide. Type a number into the remote's keypad to change channels. Click Skip (or something similar) to move forward in the Guide. Run the mouse over a show's title to read a short synopsis of the show. Right-click any show title (or use the remote's Info button) to get more program info, record the program, or record the series.*

(Pogue at 510.) It is my opinion that Pogue describes how Windows Media Center has a channel view for content modes such as TV player, photo viewer, a video clips player, a DVD player, among other things. (Pogue at 501, 503, 519, 524, 527, 529.) For example, Pogue Figure 16-6

teaches a TV view with controls, with "recorded tv," "live tv," "Online Media," and "Tasks" visible:

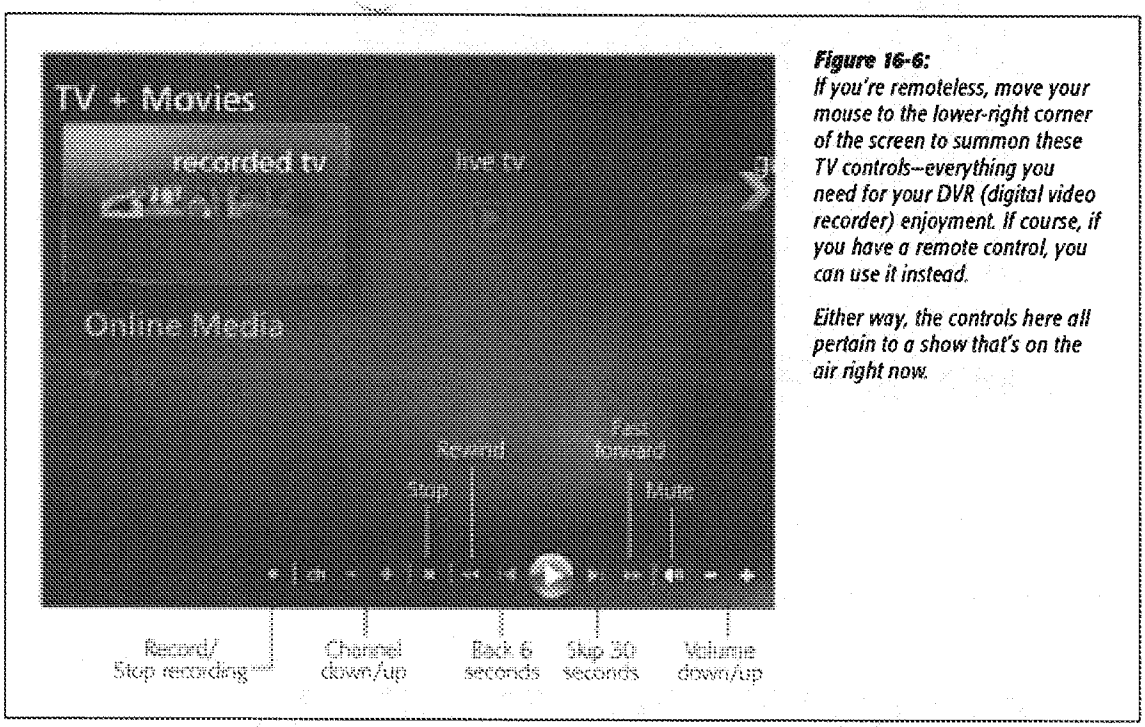


Figure 16-6:
If you're remoteless, move your mouse to the lower-right corner of the screen to summon these TV controls--everything you need for your DVR (digital video recorder) enjoyment. If course, if you have a remote control, you can use it instead.

Either way, the controls here all pertain to a show that's on the air right now.

(Pogue at 512.)

172. *Internet Explorer 7.* It is my opinion that Pogue teaches Internet Explorer 7 has a channel view such as RSS Feeds. (Pogue at 380–382.) Internet Explorer 7's RSS Feeds view corresponds with the '715 Patent's description of a channel view, as shown in the '715 Patent's FIG. 20A and 20B equating RSS views as channel views:

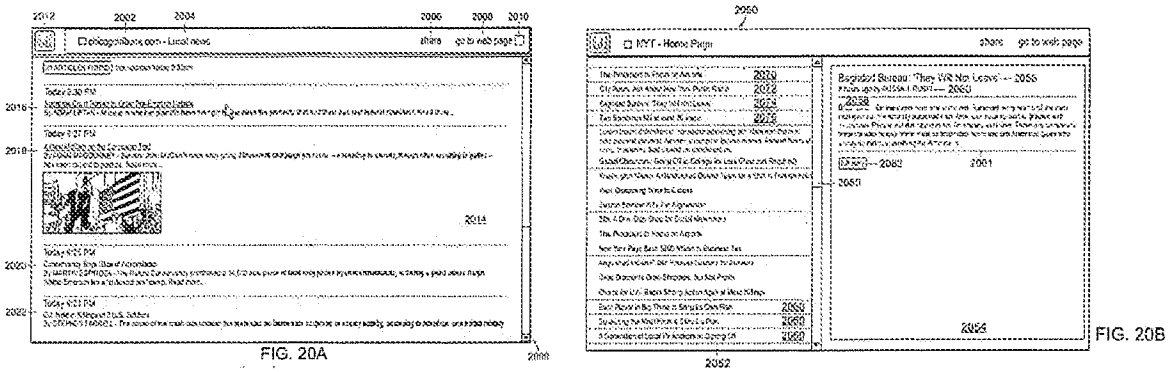
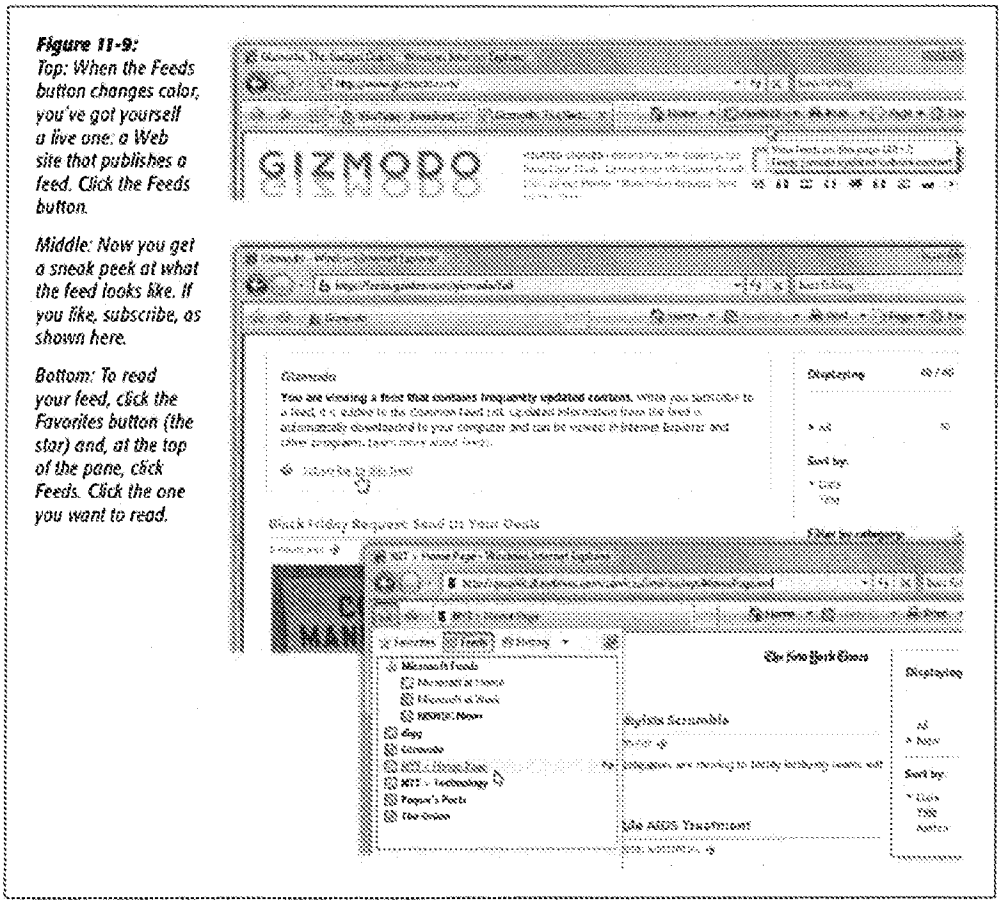


FIG. 20A FIG. 20B

(Ex. 1001 at 13:38–39.) Similarly, Pogue teaches RSS Feeds views, and thus in my opinion teaches channel views.



(Pogue at 381.) As seen in Figure 11-9 above, these channel views display one content mode (i.e., middle figure showing Gizmodo) and several content modes (i.e., bottom figure showing a list of

favorite feeds). As described by Pogue, selection of the feeds button allows the user to access the content mode organized therein. (*Id.*) Pogue teaches a variety of content modes available in Internet Explorer 7 through RSS Feeds:

> Enter RSS, a technology that lets you subscribe to feeds—summary blurbs provided by thousands of sources around the world, from Reuters to Microsoft to your nerdy next-door neighbor. ***News and blog sites*** usually publish RSS feeds, but RSS can also bring you ***podcasts (recorded audio broadcasts), photos, and even videos***.

(Pogue at 380 (emphases added).)

173. Again, it is my opinion that Pogue also teaches that Internet Explorer 7 has channel views such as a "Maximized" view where web content is displayed within the Internet Explorer 7 frame and a "Full-Screen Browsing" view where web content is displayed in full screen without a frame. (Pogue at 86, 383.) It is my opinion that a POSITA would have understood that Pogue's "Maximized" or "Full-Screen" viewing is applicable to a variety of content modes available on websites, such as TV, movies, video clips, pictures, news, music, and games.

174. *Windows Photo Gallery.* As discussed above, it is my opinion that Pogue teaches that Windows Photo Gallery has user-selectable content modes such as a "media mode of content" to "play, view, search, and organize media such as … video, photos" (*id.* at 423, 429) and a "channel mode of content" such as showing a slideshow to "display a pre-selected image or set of images" (*id.* at 431). Pogue teaches that both of these modes of content are viewable in a maximized or full-screen view (i.e., channel view) (*id. at* 86, 383). Pogue teaches how to edit slideshows by adding music, themes, and cross-fades, and zooms. (*Id.* at 431–432.)

175. *Windows Media Player.* Pogue also teaches that Windows Media Gallery plays several user-selectable content modes such as "media mode of content" like music (*id.* at 464),

playlists (*id.* at 474); CDs (*id.* at 466), DVDs (*id.* at 480), "connect mode of content" such as online music (*id.* at 477–478), and a "channel mode of content" such as internet radio (*id.* at 479) or a slideshow to "display a pre-selected image or set of images" or video clips (*id.* at 482). As explained above, Pogue teaches maximization of any of these views to a channel view (id. at 86, 383).

176. *Windows Explorer.* I note that Pogue also teaches that a Windows Explorer window can:

- provide a slide show of photos and video (i.e., a channel mode of content) (*id.* at 70, 80);
- play, view, search and organize media such as music, video, photos, etc. (i.e., a media mode of content (*id.* at 66); and
- provide access to computer applications suchs a word processor or spreadsheet (i.e., an application mode of content (*id.* at 57).

Of course, Pogue teaches that these modes of content viewed in a maximized or full-screen view (i.e., channel view) (*id. at* 86, 383). Pogue also teaches that Windows Explorer provides visual representation with a pane organizing various folders and computer content:

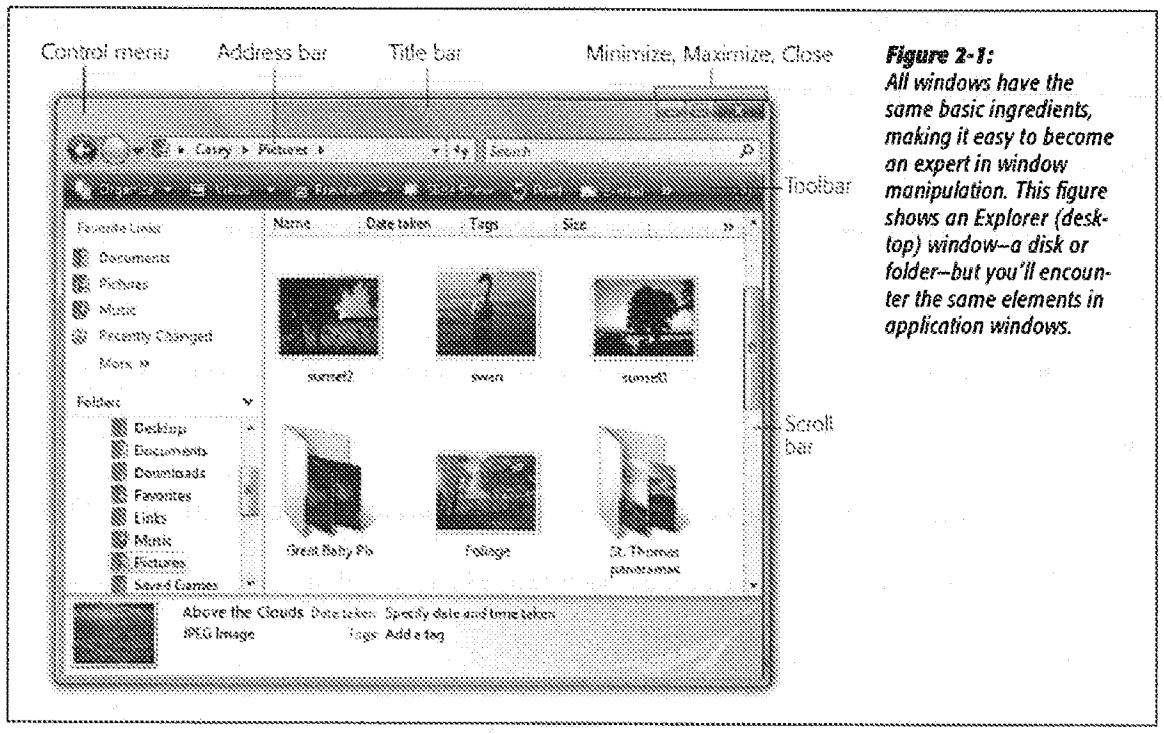


Figure 2-1: *All windows have the same basic ingredients, making it easy to become an expert in window manipulation. This figure shows an Explorer (desktop) window—a disk or folder—but you'll encounter the same elements in application windows.*

(Pogue at 58.)

177. As confirmation of my opinion that Pogue teaches limitation [2.2], I note the Examiner correlated "a channel view configured to organize at least one of a single content mode and two content modes" with Miller's "***TV player (FIG. 10.13 page 21), video clips player (FIG. 11.18-11.19 page 22–23), picture viewer (Fig. 12.11 page 4), news video player (FIG. 15.22 page 15)***." (*See* Ex. 1002 at 351–352 (citing Miller at 4, 15, 21–23, FIG. 10.13, FIG. 11.18–11.19, FIG. 12.11, and FIG. 15.22).) I understand that Patent Owner did not dispute Examiner's understanding of this claim limitation. (*Id.* at 404–408.)

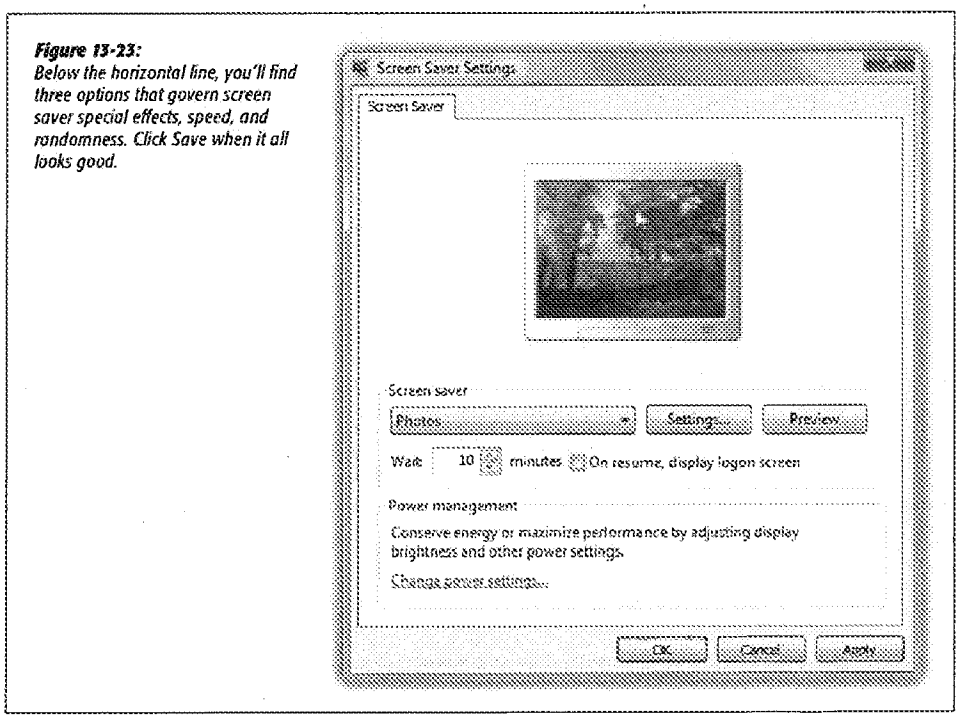
3. Claim 3

Claim 3 depends from claim 1. For the reasons discussed above, it is my opinion that claim 1 would have been obvious to a POSITA over Ledbetter.

[3.1] The user interface of claim 1, wherein the plurality of views includes a screen saver view configured to organize selected content modes for passive viewing.

178. As discussed regarding limitation [1.4], it is my opinion that both Ledbetter and Pogue disclose a plurality of views. It is my opinion that Pogue also teaches the added limitation of limitation [3.1].

179. Pogue teaches that at least one of Windows Vista's views is a screen saver view configured to organize user-selected photos for passive viewing, in my opinion. (Pogue at 460 ("You can turn any random batch of photos into your PC's very own screen saver.").) Pogue provides an image of the screen saver view, and teaches the settings available to organize the content mode for passive viewing:



(Pogue at 459; *id.* at 461 (Pogue explaining that the screen savers include "pictures and videos").)

180. I note that Pogue also teaches that Windows Photo Gallery is configurable for a slideshow view:

> Photo Gallery approaches digital photo management as a four-step process: importing the photos to your Pictures folder; organizing, tagging, and rating them; editing them; and sharing them (via prints, onscreen slideshows, design DVD slideshows, email, screen saver, and so on).

(*Id.* at 423.)

181. I note that Pogue also teaches that Windows Media Center has a view of a photo slide show that organizes user-selected photos and videos for passive viewing as a screen saver view, in my opinion. (*Id.* at 529.)

182. As confirmation of my opinion that slide shows satisfy this limitation, during prosecution of the '715 Patent, I note the Examiner correlated Miller's photo slide show with this limitation. (*See* Ex. 1002 at 352 ("Miller further teaches wherein the plurality of views includes a screen saver view configured to organize selected content modes for passive viewing ***(i.e. photo slide show (page 5)***.") (emphasis in original).)

4. Claim 4

183. Claim 4 depends from claim 1. For the reasons discussed above, it is my opinion that claim 1 would have been obvious to a POSITA over Ledbetter.

[4.1] The user interface of claim 1, wherein the plurality of views includes a home view organizing a plurality of visual representations of digital content

184. As discussed regarding limitation [1.4], it is my opinion that both Ledbetter and Pogue disclose a plurality of views. As discussed for limitation [2.1], it is my opinion that Ledbetter and Pogue each teach that at least one of its views is a home view configured to organize

a plurality of content modes. For the same reasons as discussed for limitation [2.1], which recites "wherein in the plurality of views includes a home view configured to organize a plurality of content modes," it is my opinion that Ledbetter and Pogue disclose limitation [4.1], which recites "visual representations of digital content."

[4.2] wherein the home view comprises a **header display and a body display**, and

185. It is my opinion that Pogue teaches this limitation in at least Windows Vista desktop, Windows Photo Gallery, Internet Explorer 7, and Windows Media Player, as explained below.

186. *Windows Vista.* In my opinion, Pogue teaches that in the home view of Windows Vista, the task bar (header display) of Windows Vista is movable to the top of the monitor with the desktop (body display) beneath the task bar. (Pogue at 23, 97).

187. *Windows Photo Gallery.* In my opinion, Pogue also teaches Photo Gallery, which has home view which includes a toolbar with a search box and icons at the top (header display in red) and a view of thumbnails beneath (body display in blue):

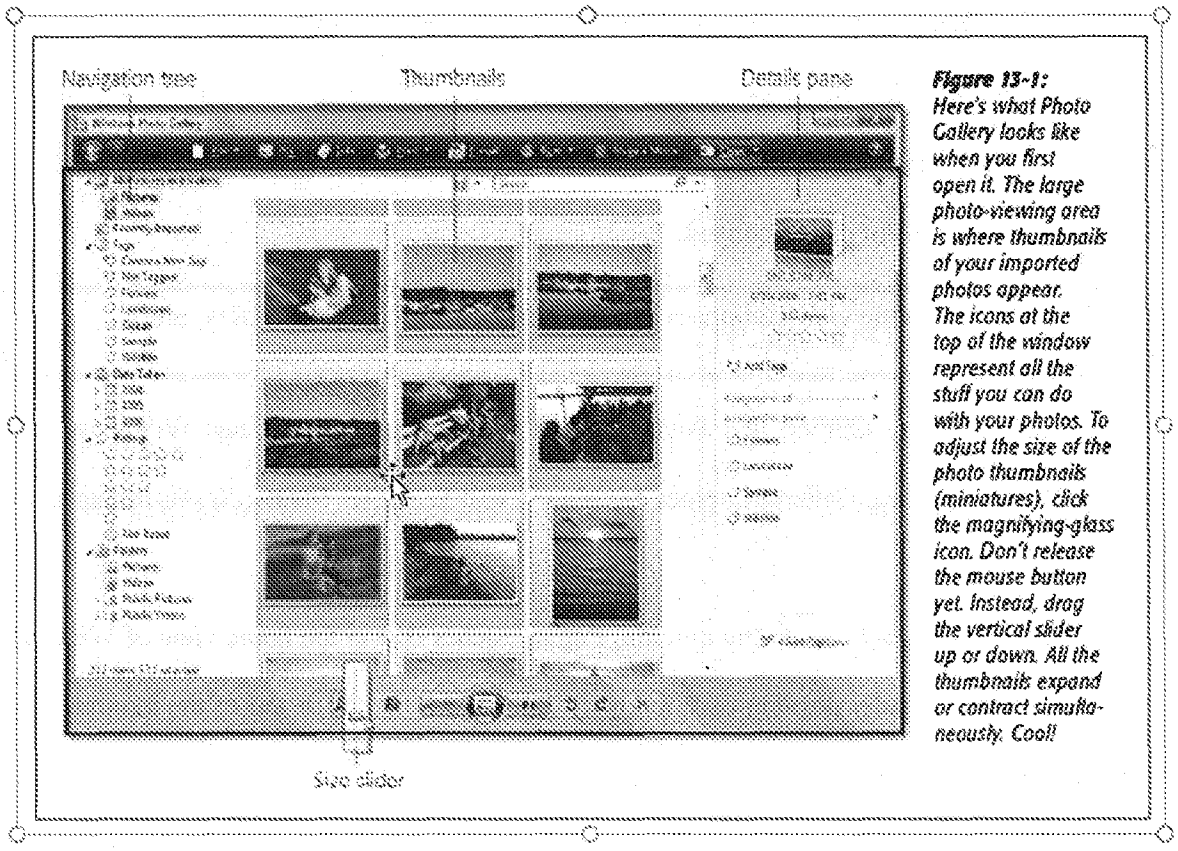


Figure 13-1: *Here's what Photo Gallery looks like when you first open it. The large photo-viewing area is where thumbnails of your imported photos appear. The icons at the top of the window represent all the stuff you can do with your photos. To adjust the size of the photo thumbnails (miniatures), click the magnifying-glass icon. Don't release the mouse button yet. Instead, drag the vertical slider up or down. All the thumbnails expand or contract simultaneously. Cool!*

(Pogue at 424 ("Here's what Photo Gallery looks like when you first open it.") (annotated header in red, body in blue).)

188. *Internet Explorer 7.* Pogue also teaches Internet Explorer 7, which in my opinion has a toolbar (header display) at the top and home web page (body display) beneath. (Pogue at 367.)

189. *Windows Explorer.* Pogue also teaches Windows Explorer, which in my opinion has a home view showing a title bar, address bar, and toolbar (header display) showing, e.g., the file folder address at the top and beneath it a folder view (body display) showing the list of favorites, subfolders, files, photos, etc. within a folder:

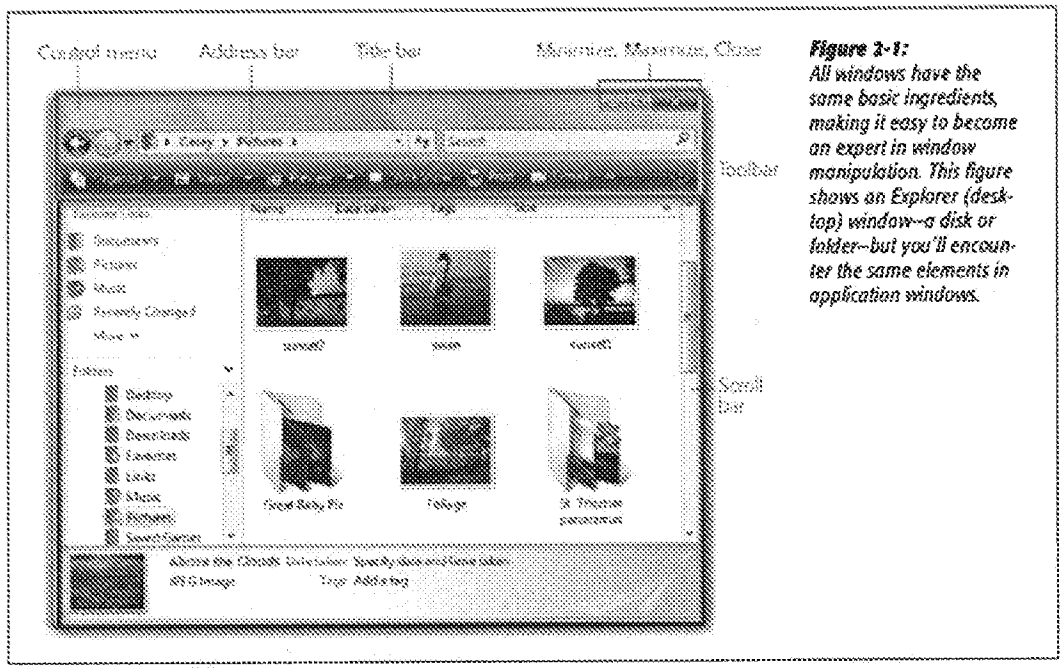


Figure 2-1: *All windows have the same basic ingredients, making it easy to become an expert in window manipulation. This figure shows an Explorer (desktop) window—a disk or folder—but you'll encounter the same elements in application windows.*

(Pogue at 58 (annotated header in red, body in blue).)

190. *Windows Media Player*. Pogue also teaches Windows Media Player, which in my opinion has home view that includes a toolbar with a search box and computer operations at the top (header display) and beneath it a detailed view of the library contents, including thumbnails (body display):

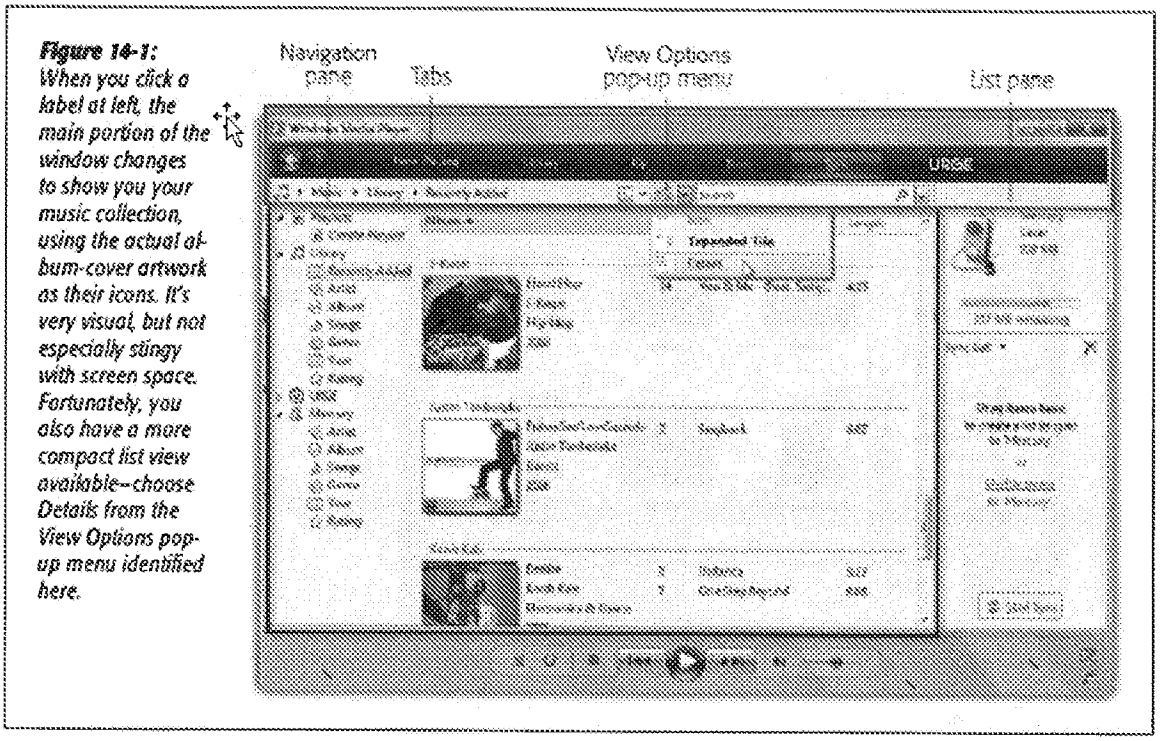
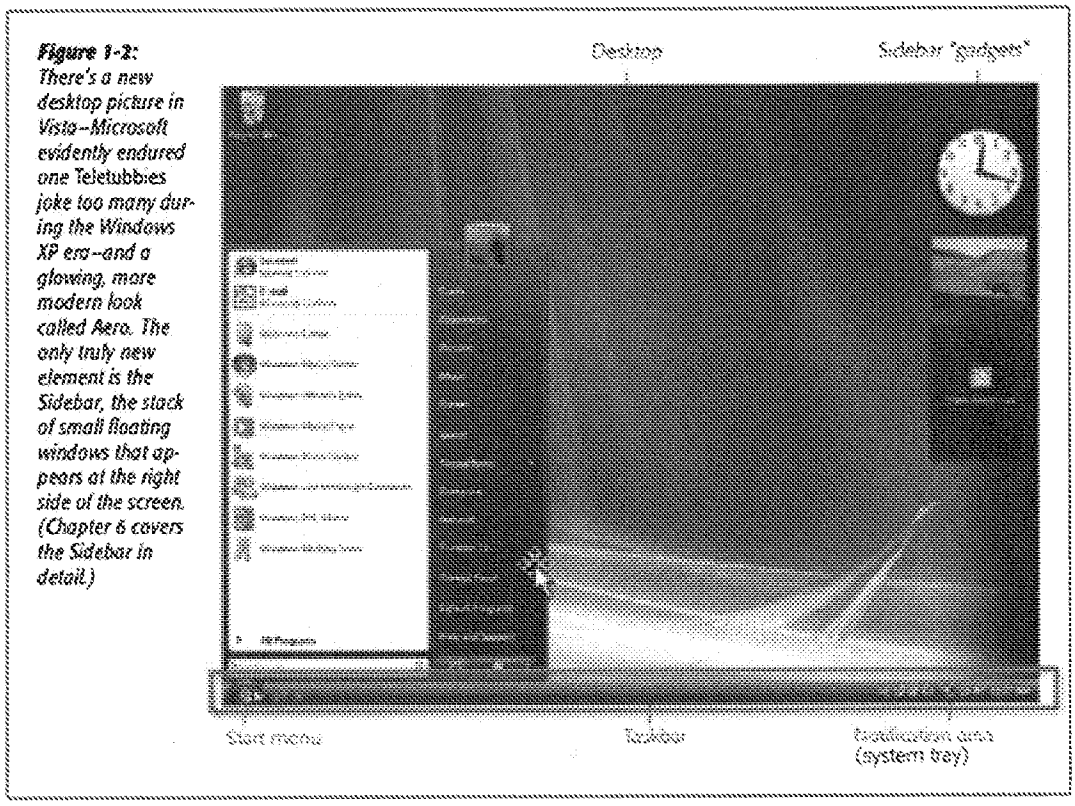


Figure 14-1: *When you click a label at left, the main portion of the window changes to show you your music collection, using the actual album-cover artwork as their icons. It's very visual, but not especially stingy with screen space. Fortunately, you also have a more compact list view available—choose Details from the View Options pop-up menu identified here.*

(Pogue at 465 (annotated header in red, body in blue).)

[4.3] wherein the header display comprises a lateral frame extending from the left of the display component to the right of the display component,

191. In my opinion, Pogue teaches this limitation. The taskbar of Windows Vista is a lateral frame extending from the left of the monitor to the right of the monitor.



(Pogue at 23 (annotated header in red, movable to top of screen).)

192. Similarly, Pogue teaches the toolbar of Internet Explorer 7, and how to maximize Internet Explorer 7, which in my opinion results in a lateral frame extending from the left of the monitor to the right of the monitor when "maximized":

> Maximized means that the window fills the screen; its edges are glued to the boundaries of your monitor, and you can't see anything behind it. It gets that way when you click its Maximize button (see Figure 2-1)—***an ideal arrangement when you're surfing the Web*** or working on a document for hours at a stretch, since the largest possible window means the least possible scrolling.

(Pogue at 86 (emphasis added).) I note that Pogue provides an image of Internet Explorer's header display in Figure 11-1:

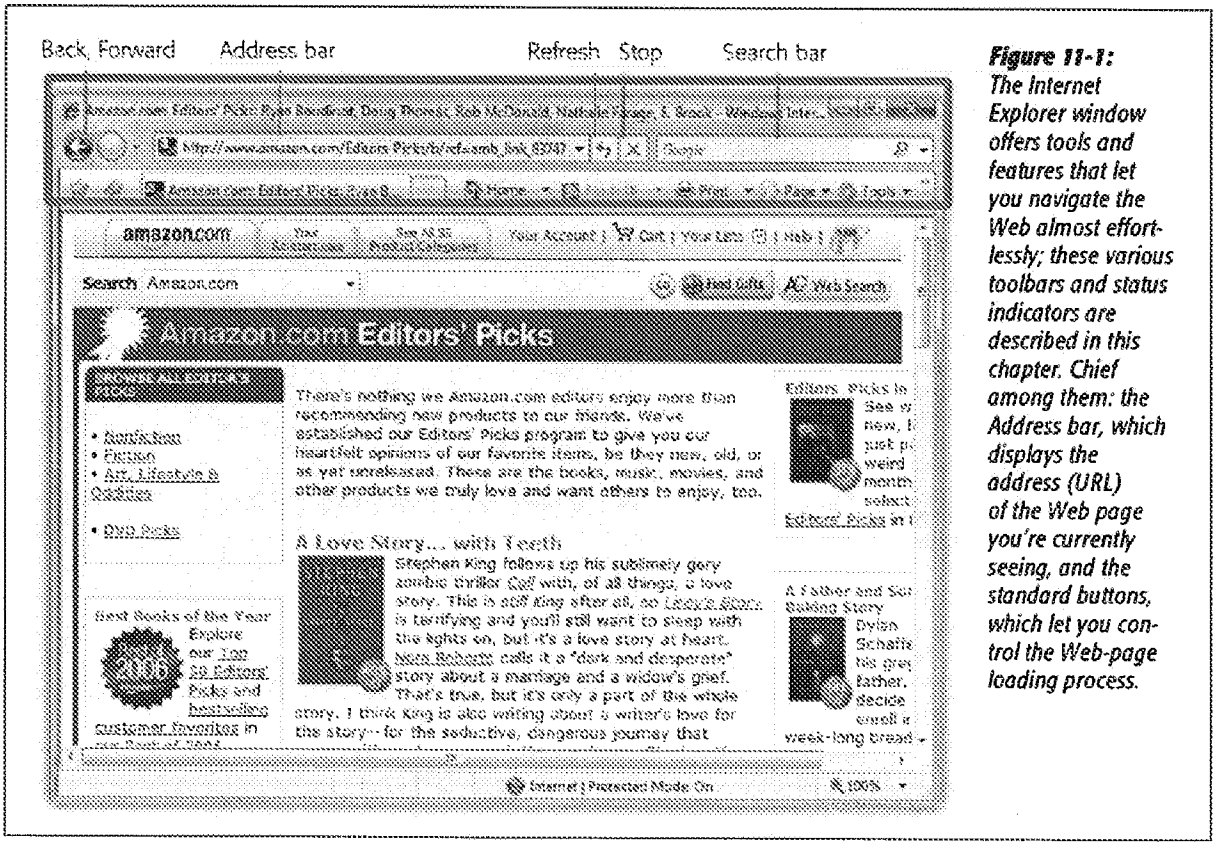


Figure 11-1: *The Internet Explorer window offers tools and features that let you navigate the Web almost effortlessly; these various toolbars and status indicators are described in this chapter. Chief among them: the Address bar, which displays the address (URL) of the Web page you're currently seeing, and the standard buttons, which let you control the Web-page loading process.*

(Pogue at 368 (annotated header display in red).)

193. In my opinion, Pogue also teaches the header display of an Explorer window, and how to maximize the Explorer window, which results in a lateral frame extending from the left of the monitor to the right of the monitor when the Maximize button is clicked or the title bar is double-clicked:

> Tip: If you double-click the title bar area, you maximize the window, making it expand to fill your entire screen exactly as though you had clicked the Maximize button described below. Double-click the title bar again to restore the window to its original size.

(Pogue at 58.) Pogue provides an image of Explorer's header display in Figure 2-1:

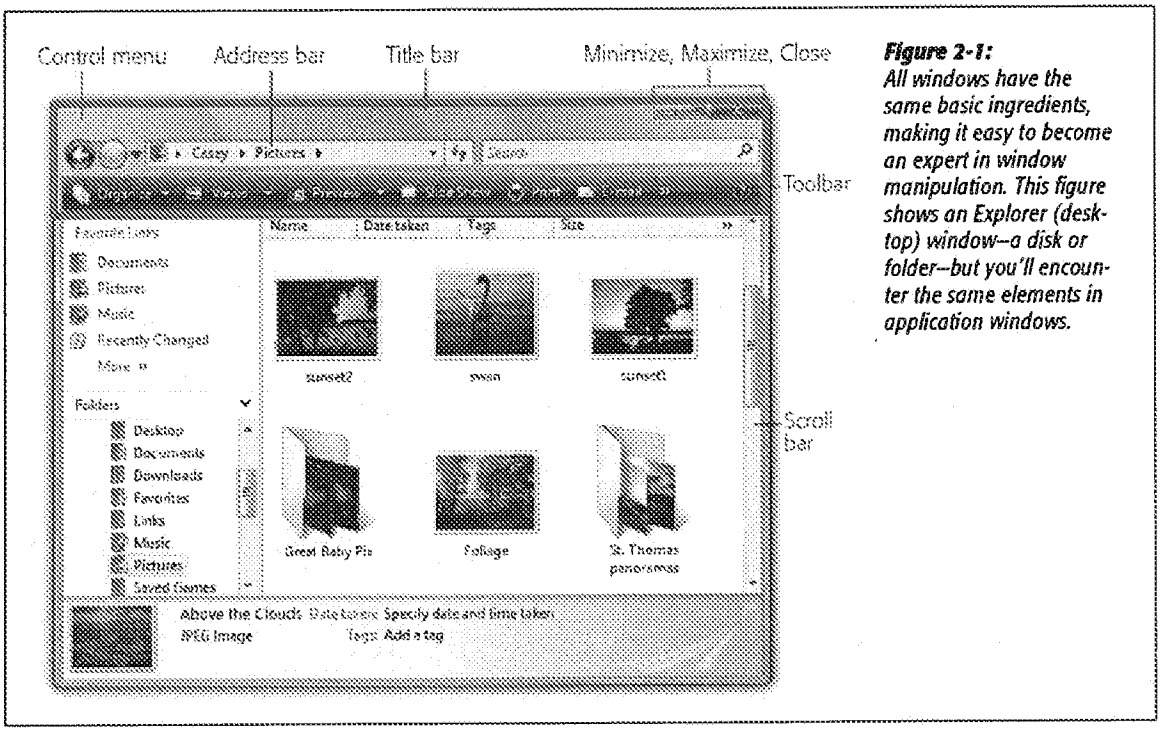


Figure 2-1: *All windows have the same basic ingredients, making it easy to become an expert in window manipulation. This figure shows an Explorer (desktop) window—a disk or folder—but you'll encounter the same elements in application windows.*

(Pogue at 58 (annotated header display in red).)

194. Similarly, it is my opinion that a POSITA would have understood that Pogue teaches maximization of Windows Vista's programs such as Windows Photo Gallery, Windows Media Player, and Windows Media Center, thus satisfying this limitation.

[4.4] wherein the body display is rendered below the header display in the display component of the computer system.

195. In my opinion, Pogue teaches this limitation. When the desktop taskbar of Windows Vista is moved to the top of the monitor, the body display (showing shortcuts and icons) is rendered below it. (Pogue at 23.) Pogue also teaches Internet Explorer 7, which in my opinion has a body display (showing web content) rendered below the header display.

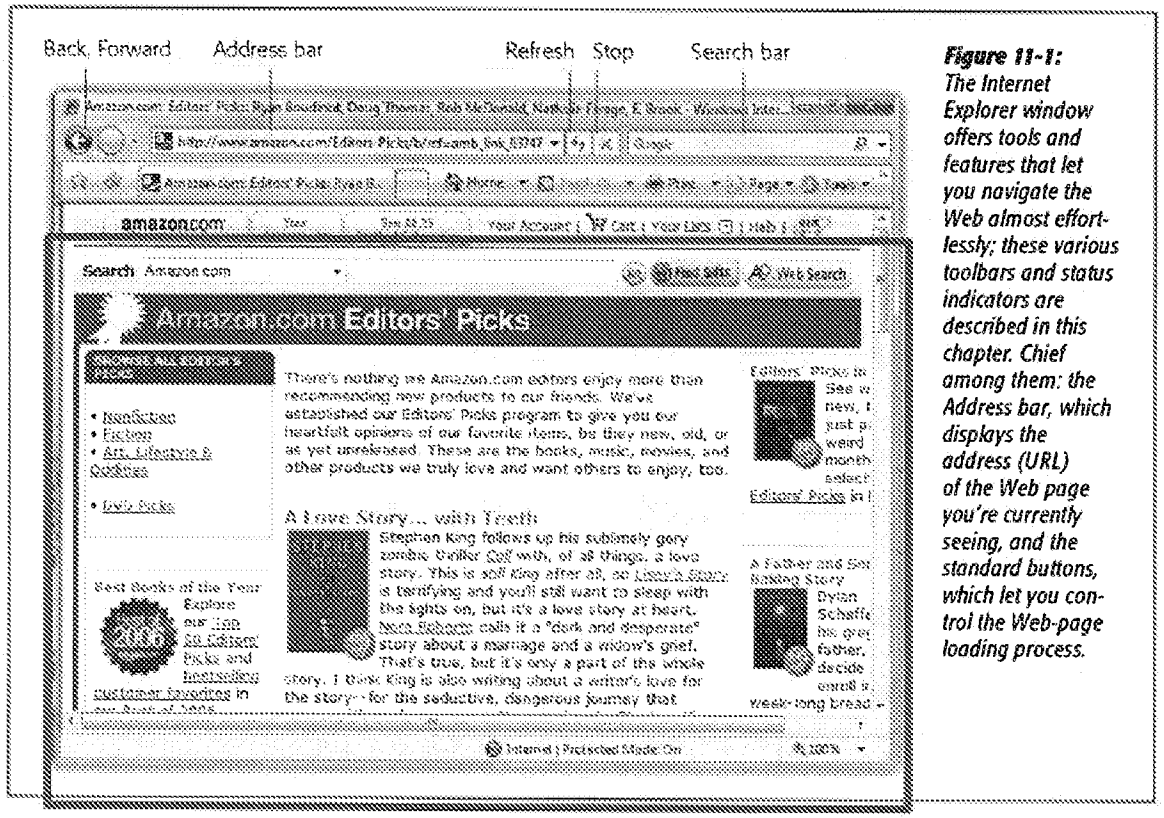


Figure 11-1: *The Internet Explorer window offers tools and features that let you navigate the Web almost effortlessly; these various toolbars and status indicators are described in this chapter. Chief among them: the Address bar, which displays the address (URL) of the Web page you're currently seeing, and the standard buttons, which let you control the Web-page loading process.*

(Pogue at 368 (annotated body display in blue).) Pogue also teaches Windows Explorer, which in my opinion has a body display (showing contents of a folder) rendered below the header display (showing the file address):

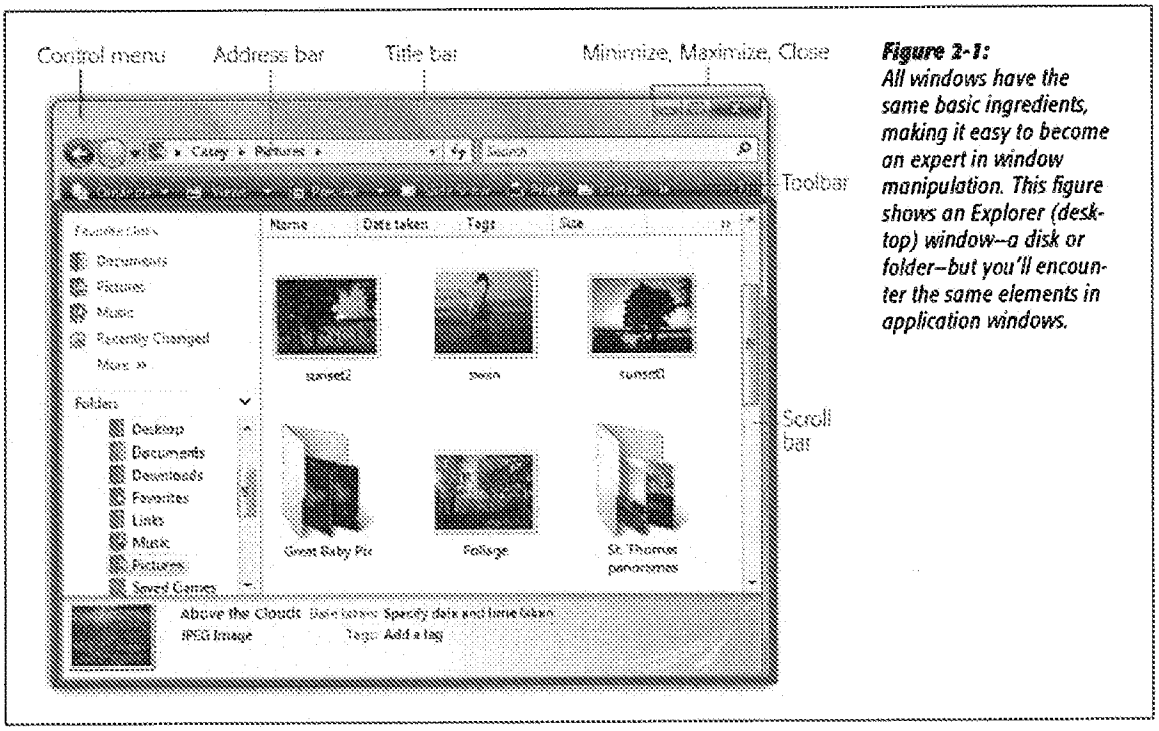


Figure 2-1: *All windows have the same basic ingredients, making it easy to become an expert in window manipulation. This figure shows an Explorer (desktop) window--a disk or folder--but you'll encounter the same elements in application windows.*

(Pogue at 58 (annotated body display in blue).) In my opinion, Pogue also teaches that Windows Photo Gallery has a body display (showing photos or thumbnails rendered below the header display. (Pogue at 424.) In my opinion, Pogue's disclosure of Windows Media Player also shows a body display of content such as music, radio, and movies rendered below its header display:

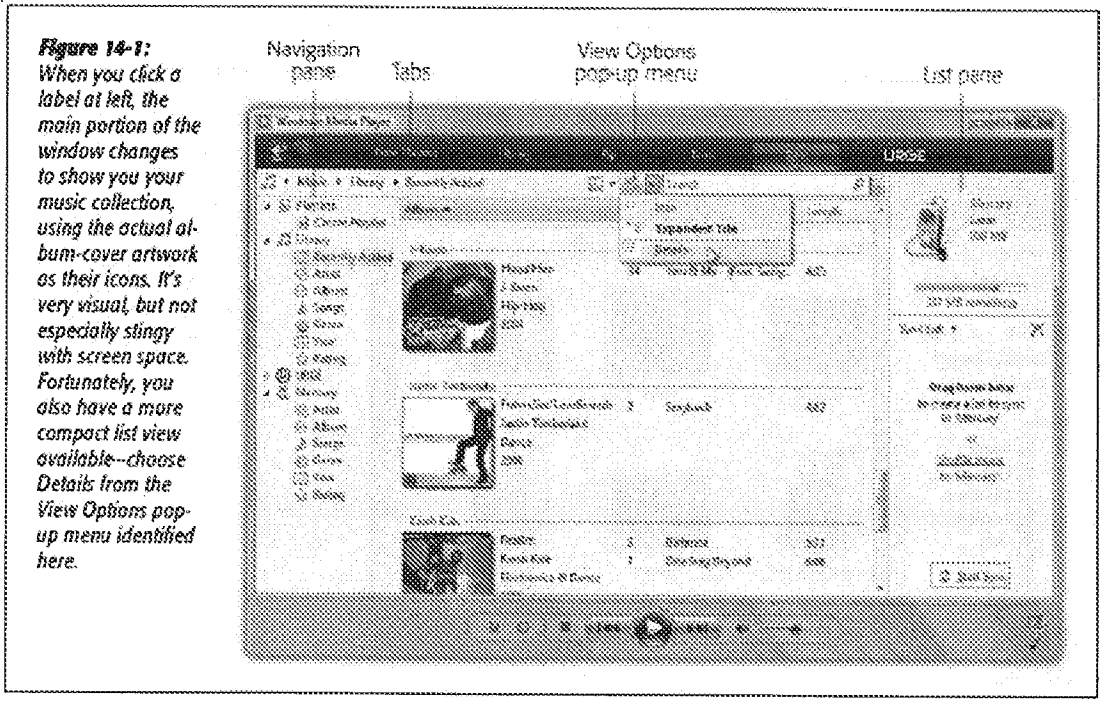


Figure 14-1: *When you click a label at left, the main portion of the window changes to show you your music collection, using the actual album-cover artwork as their icons. It's very visual, but not especially stingy with screen space. Fortunately, you also have a more compact list view available--choose Details from the View Options pop-up menu identified here.*

(Pogue at 465.)

5. Claim 5

196. Claim 5 depends from claim 4. For the reasons discussed above, it is my opinion that claim 4 would have been obvious to a POSITA over Ledbetter and Pogue.

[5.1] The user interface of claim 4, wherein the computer system configuration comprises a physical positioning of a computer system display relative to a base of the computer system that includes the keyboard about a longitudinal axis of rotation.

197. In my opinion, Ledbetter teaches this limitation. Ledbetter teaches a computer system configuration where a display 122 is physically positioned relative to a base 126 that includes a keyboard 140 with axis 128 that pivots on "longitudinal" axis of rotation. In my opinion, a POSITA would have understood that a "longitudinal axis" here runs from the left and right dimensions of the base part (i.e. roughly parallel to the spacebar on the keyboard).

198. Ledbetter provides FIG. 1, reproduced below:

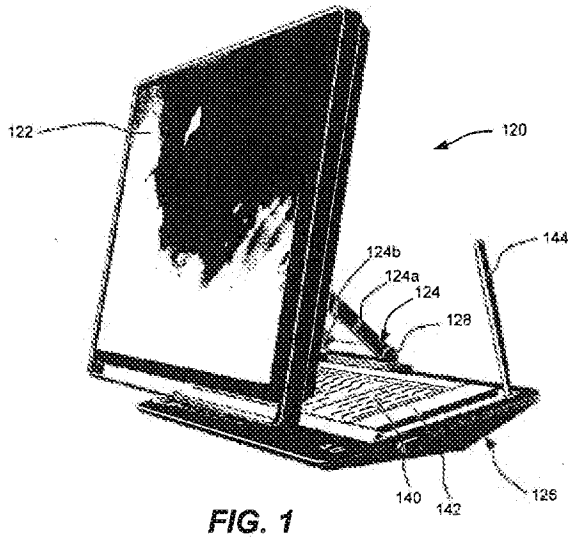


FIG. 1

(*Id.* at FIG. 1.) Ledbetter describes:

> A **base 126** supports the display arm 124 in a manner that allows the display arm to **pivot around an axis 128**. The **base 126 may include computer components such as a processor and memory**, or some or all of such components may be provided elsewhere, including in the housing of the monitor 122. As will be understood, the arm 124 and its **pivoting coupling (at least at one end) allows the monitor 122 to be positioned in a number of ways relative to the base 126**.

(*Id.* at ¶ [0024] (emphases added).) Ledbetter further describes the "pivot such that the bottom of the monitor 1122 rotates forwards and downwards relative to the base 1126 and the base's fixed pivot points 1131a, 1131b, 1132a and 1132b." In my opinion, a POSITA would have understood that forward and downward rotation on a pivot would be along a "longitudinal axis."

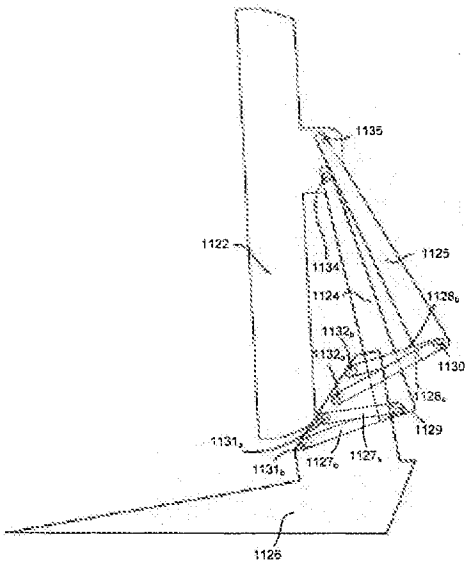


FIG. 11A

199. As confirmation for my opinion that "longitudinal axis" runs from the left and right dimensions of the base part (roughly parallel with the spacebar on the keyboard), the '715 Patent identifies a dashed line in FIG. 1 as a longitudinal axis 101:

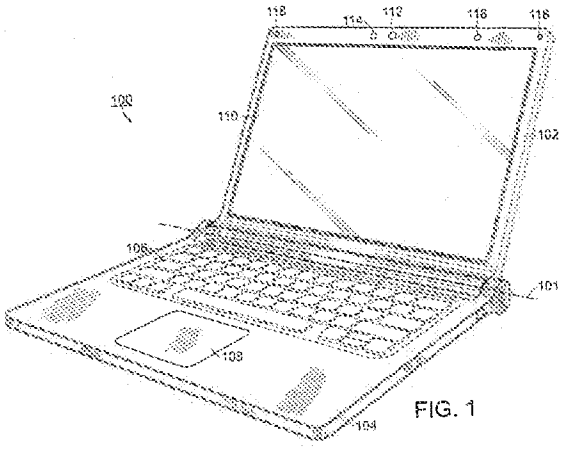


FIG. 1

(Ex. 1001 at FIG. 1.)

200. Additionally, I note that Pogue also discloses an image of a laptop computer system configuration where a display is physically positioned relative to a base that includes a keyboard with axis that pivots on a "longitudinal" axis of rotation:

GEM IN THE ROUGH

Windows SideShow

Laptop lovers, take note—the best is yet to come.

SideShow, a new Vista feature, is a tiny screen built right into the lids or undersides of certain new laptop, tablet, and palmtop models. The cool thing is that it shows you certain kinds of important information—your calendar, new email, the time or weather, your address book—even if the laptop is turned off or asleep.

This external screen uses practically no battery power; it's like having a little PalmPilot built into the laptop. When SideShow machines arrive on the market, you'll be able to specify which gadget (mini-program) you want to see. It can serve as an alarm that notifies you about an imminent meeting, play songs from your Media Player collection, check a flight time, and so on—without ever having to open the laptop lid.

Will Microsoft's master SideShow plan find acceptance in the marketplace? Let's meet back on this page in two years and discuss.

(Pogue at 590 (annotated longitudinal axis shown in orange.) Pogue thus teaches this limitation, in my opinion.

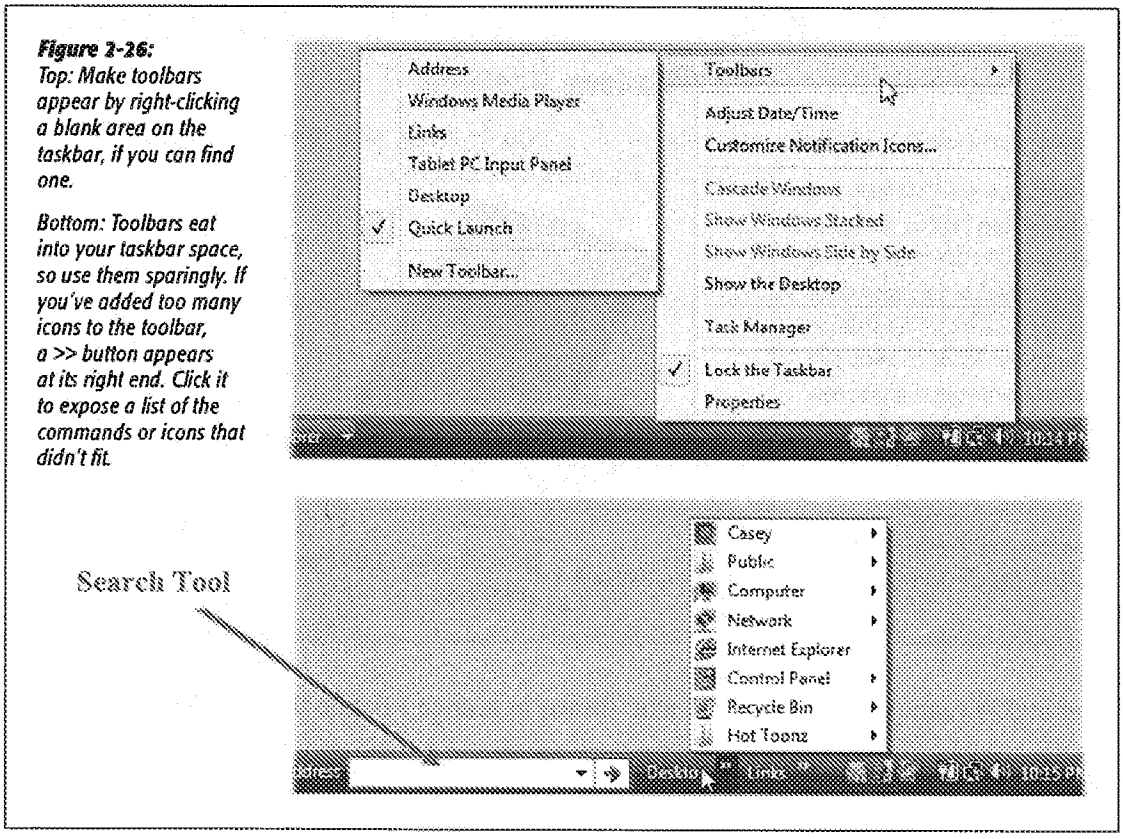
6. Claim 6

201. Claim 6 depends from claim 4. For the reasons discussed above, claim 4 would have been obvious to a POSITA over Ledbetter and Pogue.

[6.1] The user interface of claim 4, wherein the graphical user interface is further configured to display **a search tool** displayed in the header display,

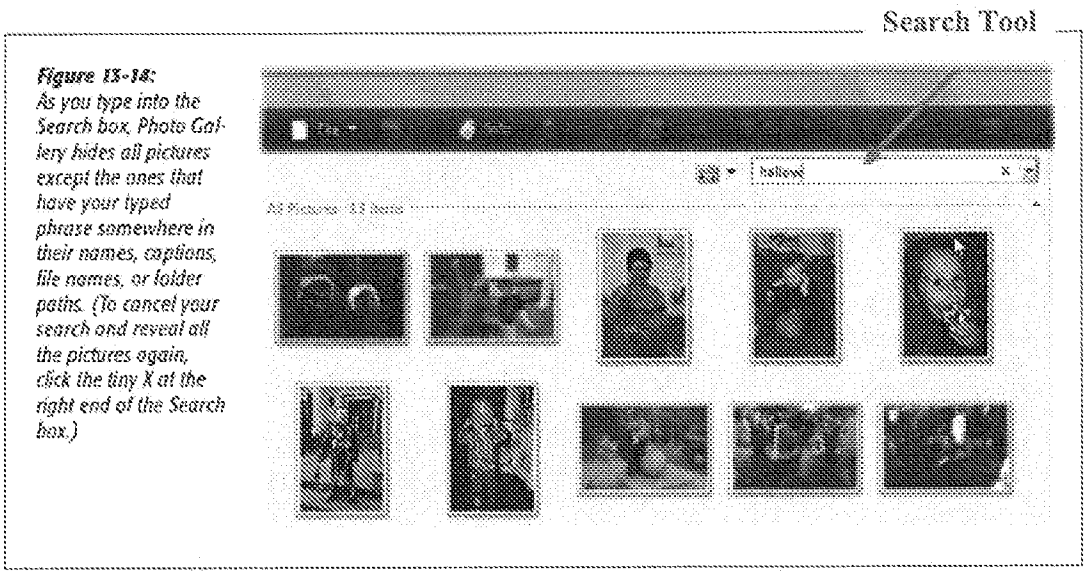
202. In my opinion, Pogue teaches this limitation in at least Windows Vista desktop, Internet Explorer 7, Windows Photo Gallery, and a Windows Explorer window.

203. *Windows Vista*. Pogue teaches that a search tool called the "Address Toolbar" displayed in the desktop taskbar (which is movable to the top of the monitor as a "header display") of Windows Vista at all times:



(Pogue at 99 (annotated).) Pogue explains moving the task bar of Windows Vista to the top of the monitor. (Pogue at 97 ("You can move the taskbar to the top of your monitor.").). In my opinion, a POSITA would have understood moving the task bar of Windows Vista would move the "Address Toolbar" to the header display. Pogue explains that the referenced "Address Toolbar" on the desktop taskbar is a "duplicate copy of the Address bar that appears in every Explorer window." (Pogue at 99.) The search tool in the header display of Explorer windows is described further below.

204. *Windows Photo Gallery*. I note that Pogue also teaches a search tool displayed in the header display of Windows Photo Gallery:



(Pogue at 445 (annotated).)

205. *Windows Media Player*. I note that Pogue also discloses a search tool in the header display of Windows Media Player.

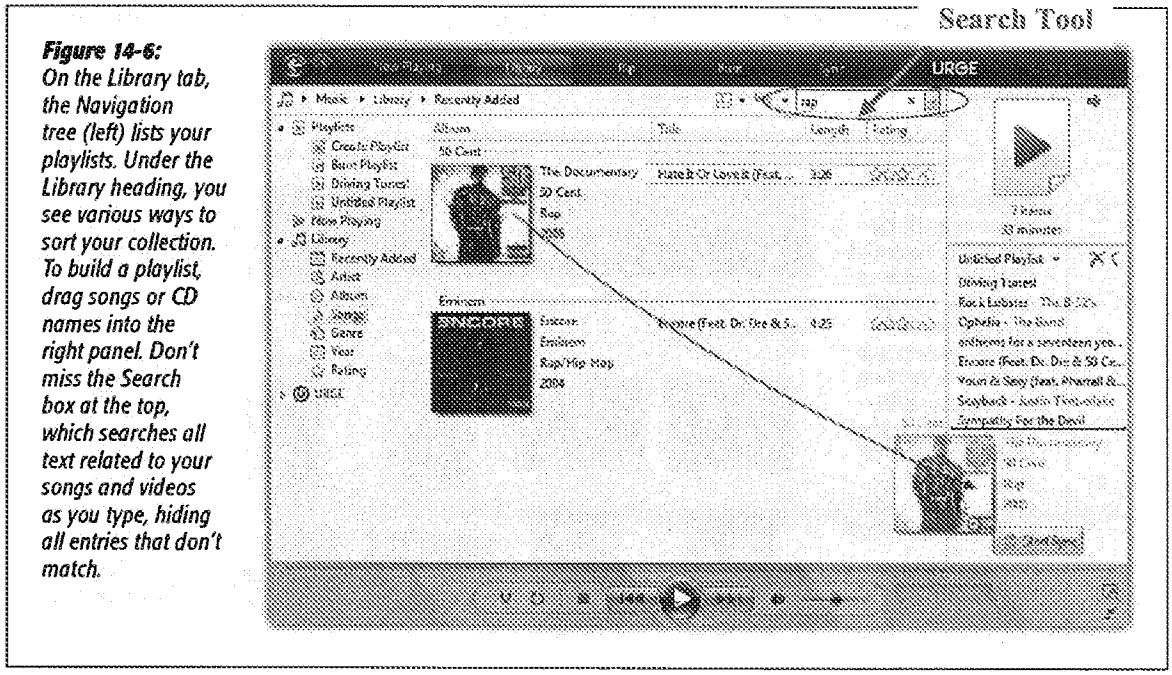
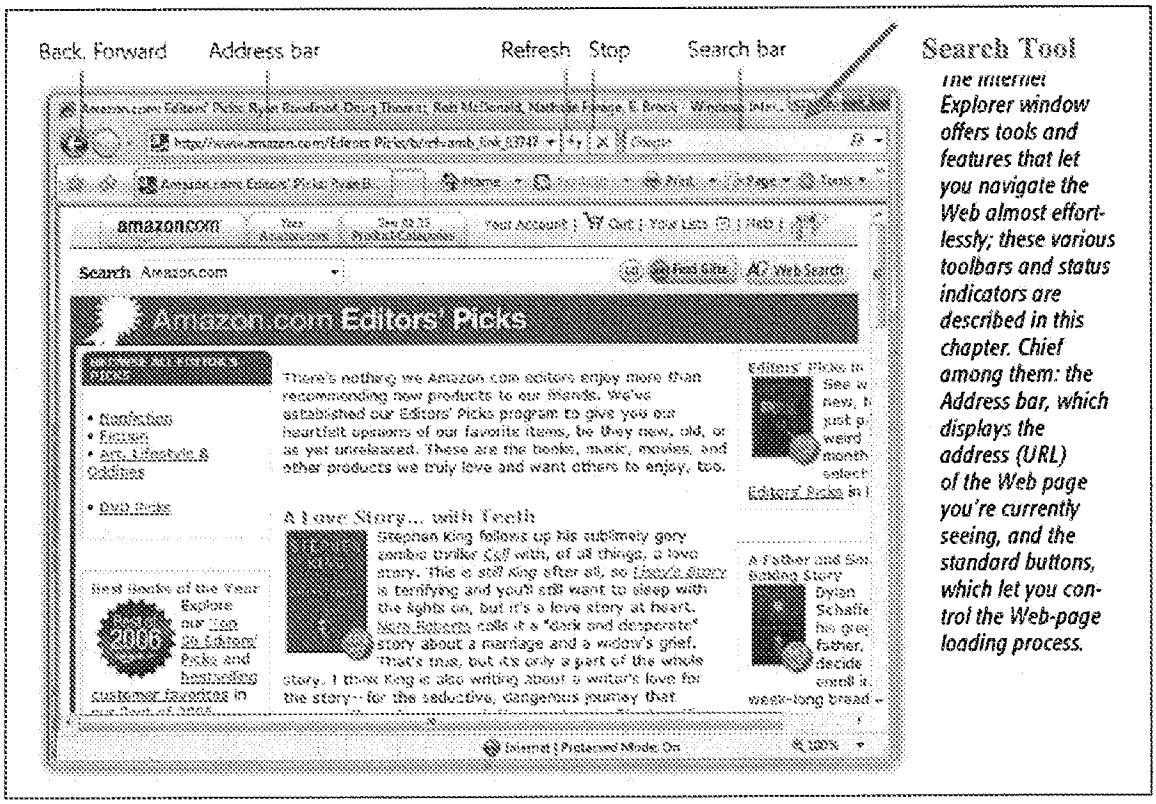


Figure 14-6: *On the Library tab, the Navigation tree (left) lists your playlists. Under the Library heading, you see various ways to sort your collection. To build a playlist, drag songs or CD names into the right panel. Don't miss the Search box at the top, which searches all text related to your songs and videos as you type, hiding all entries that don't match.*

(Pogue at 472 (annotated).)

206. *Internet Explorer 7.* Pogue also provides an image of Internet Explorer 7 with search bar displayed in the header display:



(Pogue at 368 (annotated).)

207. *Windows Explorer.* Similarly, Pogue teaches a search tool displayed in the header of a basic Windows Explorer window:

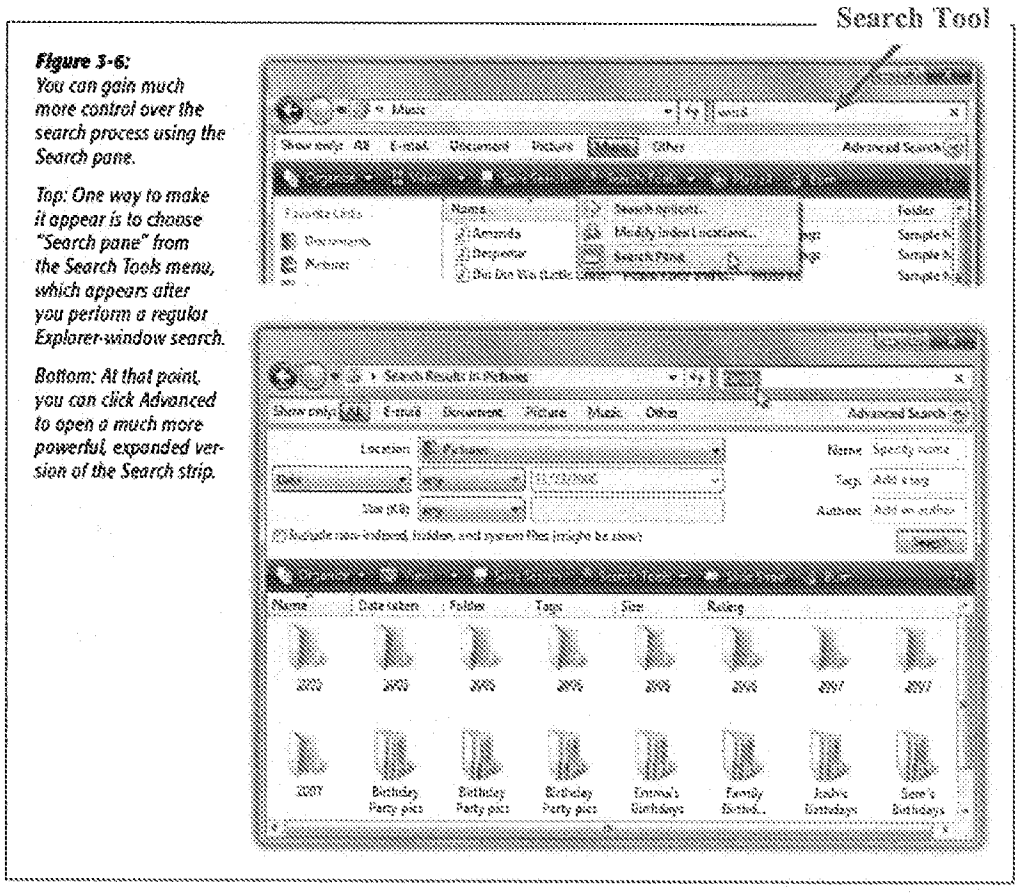


Figure 3-6: *You can gain much more control over the search process using the Search pane.*

Top: One way to make it appear is to choose "Search pane" from the Search Tools menu, which appears after you perform a regular Explorer-window search.

Bottom: At that point, you can click Advanced to open a much more powerful, expanded version of the Search strip.

Pog

(Pogue at 120–121 (annotated).) Pogue explains, a search box "appears in every Explorer window, next to the Address Bar." (Pogue at 64, 106.) Pogue further explains that "The Search box at the top of every desktop window searches only *that window* (including folders within it)" (Pogue at 106). Pogue explains that the Address Bar itself also searches the web:

> If you type some text into this strip that isn't obviously a Web address, Windows assumes that you're telling it, "Go online and search for this phrase." From here, it works exactly as though you've used the Internet search ….

(Pogue at 62.) Pogue also describes a "Search pane" that appears at the top of the Explorer window. (Pogue at 120–121.)

[6.2] wherein the search tool is configured to accept search terms entered by a user and in response to execution, causes the computer system to navigate to a view of a first visual representation of digital content,

208. In my opinion, Pogue teaches this limitation. Pogue explains search terms entered by a user in the "Address Toolbar" box in the Windows Vista desktop taskbar or the search tool that appears in every Windows Explorer window, which in response to a user entering a search term, causes the computer system to navigate to a view of a visual representation of digital content, either digital content on the computer system or web content from the internet. (Pogue at 62, 64, 99, 106.) In my opinion, a POSITA would have understood that the Address Toolbar in Windows Vista's taskbar or the search box in Windows Explorer's tool bar functions to accept search terms and, once entered by a user, would cause an internal search results page to result. Pogue provides an image showing how to use the search tool in an Explorer window:

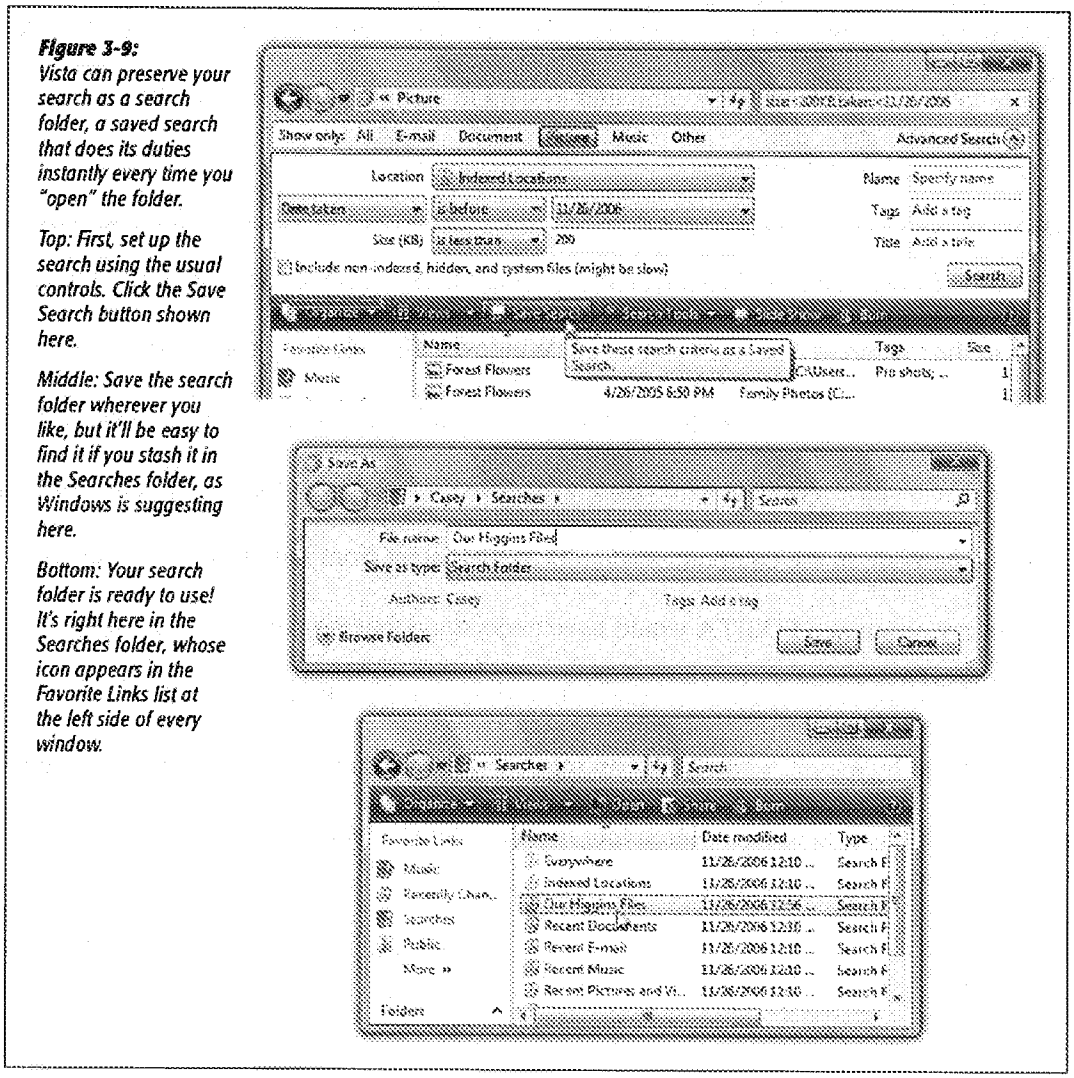


Figure 3-9: *Vista can preserve your search as a search folder, a saved search that does its duties instantly every time you "open" the folder.*

Top: First, set up the search using the usual controls. Click the Save Search button shown here.

Middle: Save the search folder wherever you like, but it'll be easy to find it if you stash it in the Searches folder, as Windows is suggesting here.

Bottom: Your search folder is ready to use! It's right here in the Searches folder, whose icon appears in the Favorite Links list at the left side of every window.

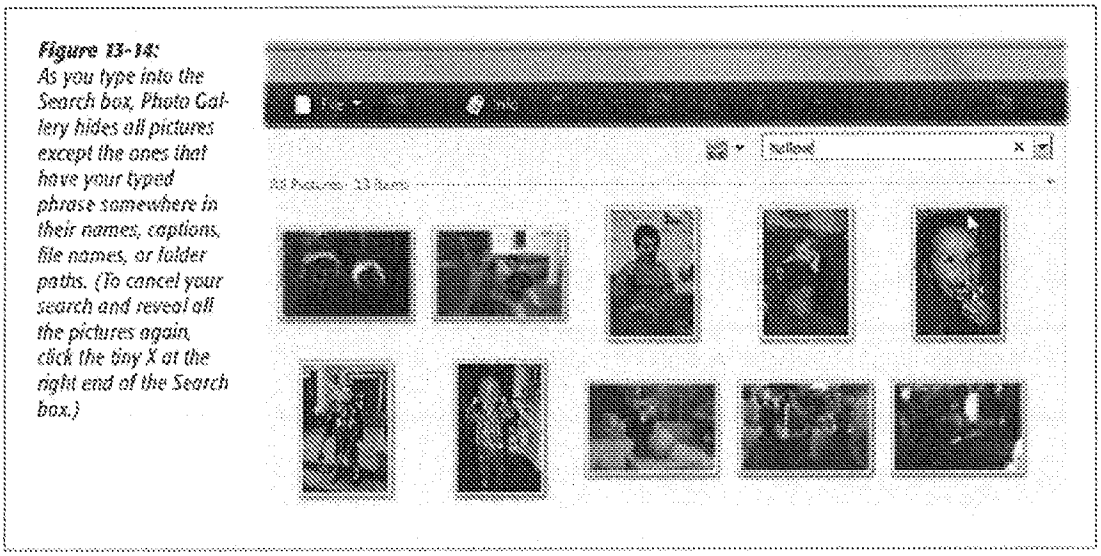
(Pogue at 125.)

209. In my opinion, Pogue also teaches this limitation when describing the search bar in Internet Explorer 7:

> Here's one of Internet Explorer's most profoundly useful features—a Search box that accesses Google automatically—or any other search page you like. Type something you're looking for into this box—electric drapes, say—and then press Enter. You go straight to the Google results page.

(Pogue at 371.) Pogue also explains that the Address bar of Internet Explorer also functions as a search tool. (*Id.* ("Truth is, it's often faster to type your search phrase into the Address bar itself .... When you press Enter, IE does a Web search for that term, using the same search service you've set up for the Search box.").)

210. Pogue also teaches how the search box works in Photo Gallery, which results in a visual representation of digital content as search terms are entered by a user:



(Pogue at 445 (showing Halloween pictures while "hallow" is entered into the search box).)

211. Pogue also teaches how the search box works in Windows Media Player, which results in a visual representation of digital content upon having search terms entered by a user:

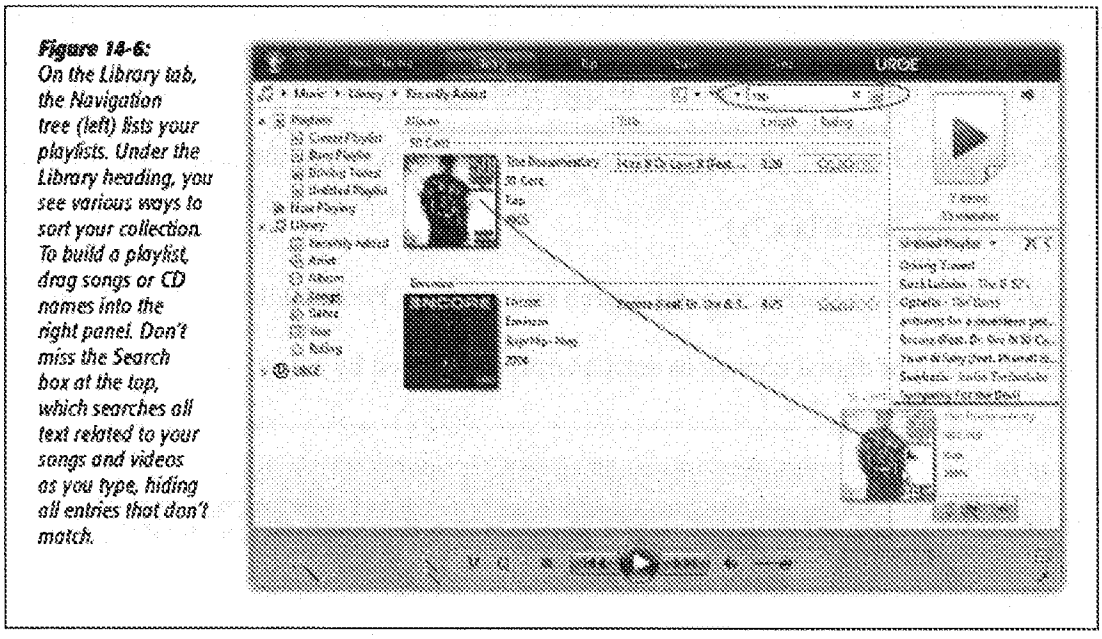


Figure 14-6: *On the Library tab, the Navigation tree (left) lists your playlists. Under the Library heading, you see various ways to sort your collection. To build a playlist, drag songs or CD names into the right panel. Don't miss the Search box at the top, which searches all text related to your songs and videos as you type, hiding all entries that don't match.*

(Pogue at 473 (showing 50 Cent and Eminem rap albums with "rap" in search box).)

[6.3] wherein the digital content includes a search engine, and

212. In my opinion, Pogue teaches this limitation.

213. Pogue explains that "Search, a star feature of Vista … finds files *as you type* what you're looking for" and that the Search box is at the top of every Windows Explorer window. (Pogue at 106 (also noting that this teaching works like Google Desktop and Macintosh's Spotlight); *id.* at 112–113 (describing how Search in Vista uses an index).) In my opinion, a POSITA would have understood that Search finding files "as you type" necessarily means that the view of the visual representation of digital content, includes the search engine itself. As discussed above, Pogue also explains that the Address Toolbar on the Windows Vista desktop taskbar is a "duplicate copy" of the search box on every Windows Explorer window (Pogue at 99, 106.)

214. Moreover, I note that Pogue describes how the Search Bar in Internet Explorer 7 can be set to Google. (*Id.* at 368, 371.) Pogue also describes the Google results page. (Pogue at

371 ("Type something you're looking for into this box—electric drapes, say—and then press Enter. You go straight to the Google results page.").) In my opinion, a POSITA would have understood that a Google results page would have been populated after a search phrase is entered into the various search bars discussed for limitations [6.1] and [6.2], and that the results page would include the search engine itself. Moreover, it is my opinion that a POSITA would have understood that executing a search in the Search box or Address box of Internet Explorer 7 would still include a view of the visual representation of digital content that includes the search engine itself (i.e., the Search box and Address box do not disappear). As confirmation of my opinion that an internet search using Google satisfies this limitation, the '715 Patent expressly recites Google as an example of a search tool: "In one example, the default settings provide for searching to occur through the well known search tool GOOGLE." ('715 Patent at 47:11-13.)

215. Moreover, as seen in the images above for limitation [6.2], for Windows Media Player and Windows Photo Gallery, Pogue discloses a view of digital content that includes a search engine (i.e., the search box remains) when a user executes the search tool. (Pogue at 445 (view presenting Halloween pictures while "hallow" is entered into the search box, and search box remaining); *id.* at 473 (presenting 50 Cent and Eminem rap albums with "rap" in search box, and search box remaining).)

[6.4] the search engine presents results for the search terms.

216. In my opinion, Pogue teaches this limitation.

217. Pogue teaches that Windows Vista's Search tool (available on the desktop taskbar or at the top of every Windows Explorer window) presents results for the search terms:

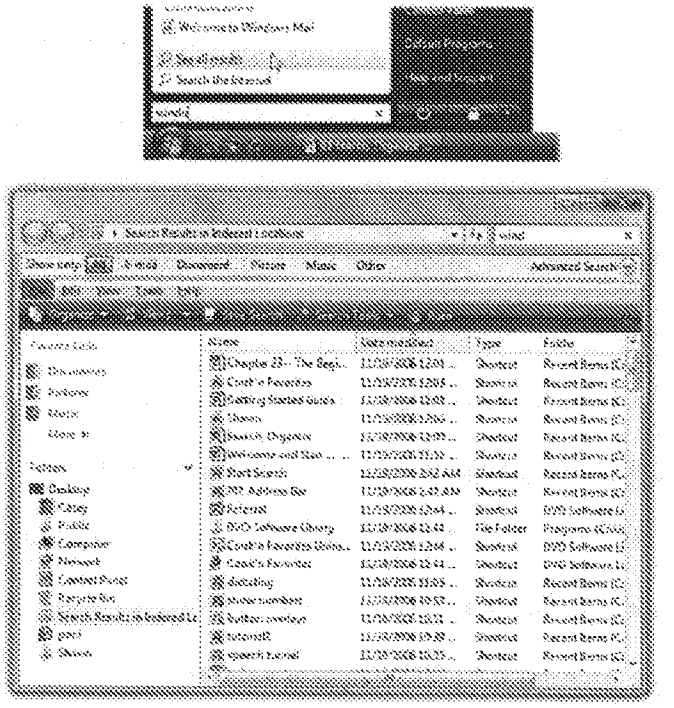


Figure 3-2: You can open this window (bottom) by clicking a link called "See all results" in the Start menu's results list (top). (If Vista found no matches for your search, you don't get a "See all results" link—instead, you get a "Search Everywhere" link that expands the scope of your search.)

(Pogue at 113–114 (presenting results with "wind" in the search box).)

218. Moreover, as explained above, Pogue describes the Google results page. In my opinion, a POSITA would have understood that executing a search in a Google search box would present results for the search terms.

219. Moreover, as seen in the images above for limitation [6.2], for Windows Media Player and Windows Photo Gallery, Pogue teaches a view of digital content that presents results for the search terms when a user executes the search tool. (Pogue at 445 (presenting Halloween pictures as "hallow" is entered into the search box); *id.* at 473 (presenting 50 Cent and Eminem rap albums with "rap" in search box).)

7. Claim 7

220. Claim 7 depends from claim 1. For the reasons discussed above, it is my opinion that claim 1 would have been obvious to a POSITA over Ledbetter.

[7.1] The user interface of claim 1, further comprising a storage component configured to retain a previous view state.

221. In my opinion, Ledbetter teaches this limitation. Ledbetter describes that its system may "persist personal settings for the display." (Ledbetter at ¶ [0059].)

222. In my opinion, Pogue also teaches this limitation. Pogue explains that "Internet Explorer can *store* certain Web pages on your hard drive so that you can peruse it later." (Pogue at 665.) Pogue describes other storage components in Internet Explorer 7 configured to retain a previous view state, including an internet cache and history. (Pogue at 379.) It is my opinion that a POSITA would have understood that a hard drive, internet cache and history are storage components.

223. In my opinion, Pogue also describes a storage component that retains a previous view state in Windows Vista when describing Standby mode where "whatever programs or documents you were working on remained in memory." (Pogue at 31.) It is my opinion that a POSITA would have understood that memory or hard drive are storage components. Pogue explains that Standby mode puts the computer in "suspended animation until you use[ ] the mouse or keyboard to be working again." (*Id.*) In my opinion, a POSITA would have understood that this mode would retain a previous view state.

224. In my opinion, Pogue also describes a storage component that retains a previous view state with Windows Vista's Sleep mode where "the instant you put the computer to sleep, Vista quietly transfers a copy of everything in memory into an invisible file on the hard drive." (*Id.*) Pogue explains that Windows Vista's Hibernate mode is similar to Sleep mode because it retains a previous view state, but the storage component is RAM instead of a hard drive. (*Id.* at 34.)

225. In my opinion, Pogue also describes yet another example where the computer retains a previous view state in its Screen Saver. (Pogue at 165–166 ("The idea is simple: A few minutes after you leave your computer, whatever work you were doing is hidden behind the screen saver; passers-by can't see what's on the screen. To exit the screen saver, move the mouse, click a mouse button, or press a key.").)

226. Similarly, Pogue teaches how to save searches in a Windows Explorer window:

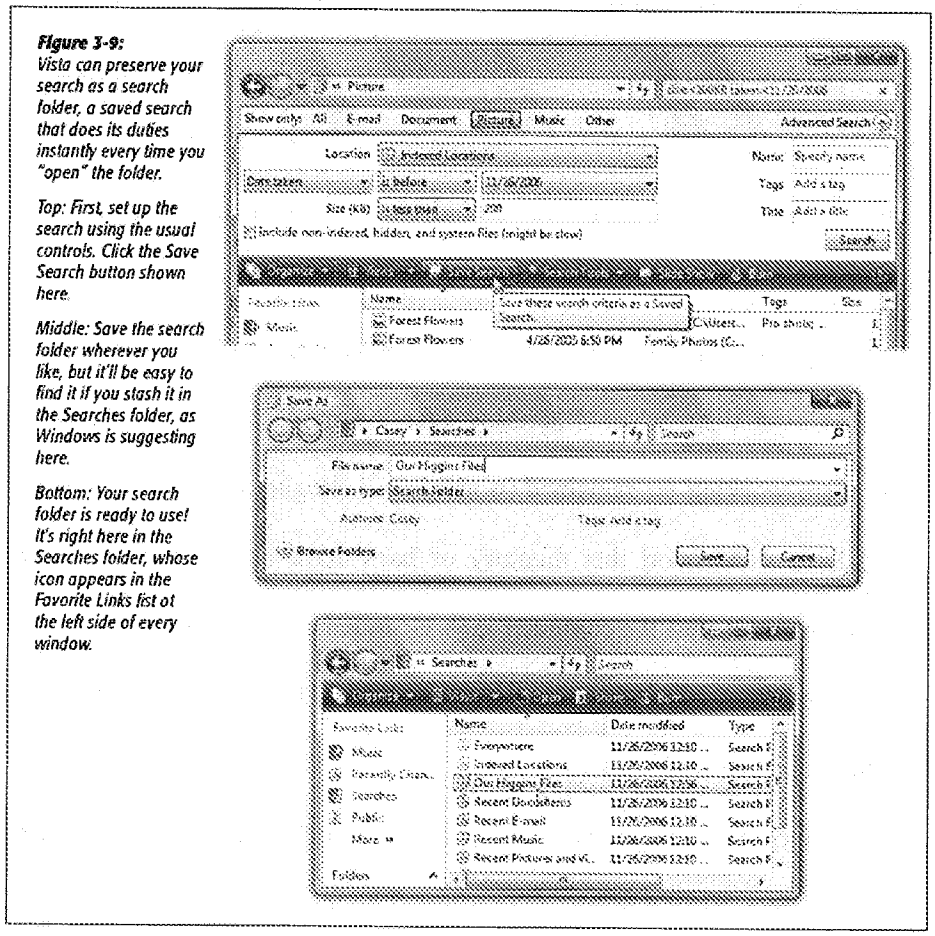


Figure 3-9: *Vista can preserve your search as a search folder, a saved search that does its duties instantly every time you "open" the folder.*

Top: First, set up the search using the usual controls. Click the Save Search button shown here.

Middle: Save the search folder wherever you like, but it'll be easy to find it if you stash it in the Searches folder, as Windows is suggesting here.

Bottom: Your search folder is ready to use! It's right here in the Searches folder, whose icon appears in the Favorite Links list at the left side of every window.

(Pogue at 125.) In my opinion, a POSITA would have understood that the preserved searches are previous view states.

227. Moreover, Pogue teaches that Windows Explorer windows and Internet Explorer 7 have toolbars that include back and forward buttons, used for navigating to states visited previously, which are saved. (Pogue at 61, 370.) Similarly Pogue teaches back buttons for Windows Media Center. (*Id.* at 518–519, 525).

228. As confirmation for my opinion that Pogue teaches a storage component configured to retain a previous view state, during prosecution of the '715 Patent, I note the Examiner also explained how Mattox's backward and forward buttons met this limitation:

> Mattox et al teaches a storage component configured to retain a previous view state ***(i.e. the toolbar 304 includes backward and forward buttons, used for navigating to states visited previously, which are saved (FIG. 3A))***.

(Ex. 1002 at 356 (emphasis in original.) Patent Owner did not dispute Examiner's understanding of this claim limitation. (*Id.* at 404–408.)

8. Claim 8

229. Claim 8 depends from claim 7. For the reasons discussed above, it is my opinion that claim 7 would have been obvious to a POSITA over Ledbetter and Pogue.

[8.1] The user interface of claim 7, wherein the execution component is further configured to cause the computer system to transition to a previous view in response to execution of a navigation element by a user.

230. As discussed regarding limitation [1.6], it is my opinion that Ledbetter discloses an execution component. In my opinion, Pogue discloses the remainder of this limitation.

231. For example, Pogue also teaches how clicking either the "Back button" or "Forward button" (i.e., executing a navigation element) in Internet Explorer 7 transitions the web browser to

a previous view. (Pogue at 370 ("Click the Back button to revisit the page you were just on. … click the Forward button … to return to the page you were on *before* you clicked the Back button.") Pogue also describes execution of keyboard navigation elements using keyboard shortcuts to transition to previous views. (*Id.* (describing Backspace and Shift+Backspace, or Alt+left arrow and Alt+right arrow).) Pogue also describes how clicking the navigation element called the "Home button" brings up a view of a Web page previously "designated as a home page—your starter page." (*Id.* at 371.)

232. Similarly, Pogue teaches user selection of controls to reach saved searches in a Windows Explorer window:

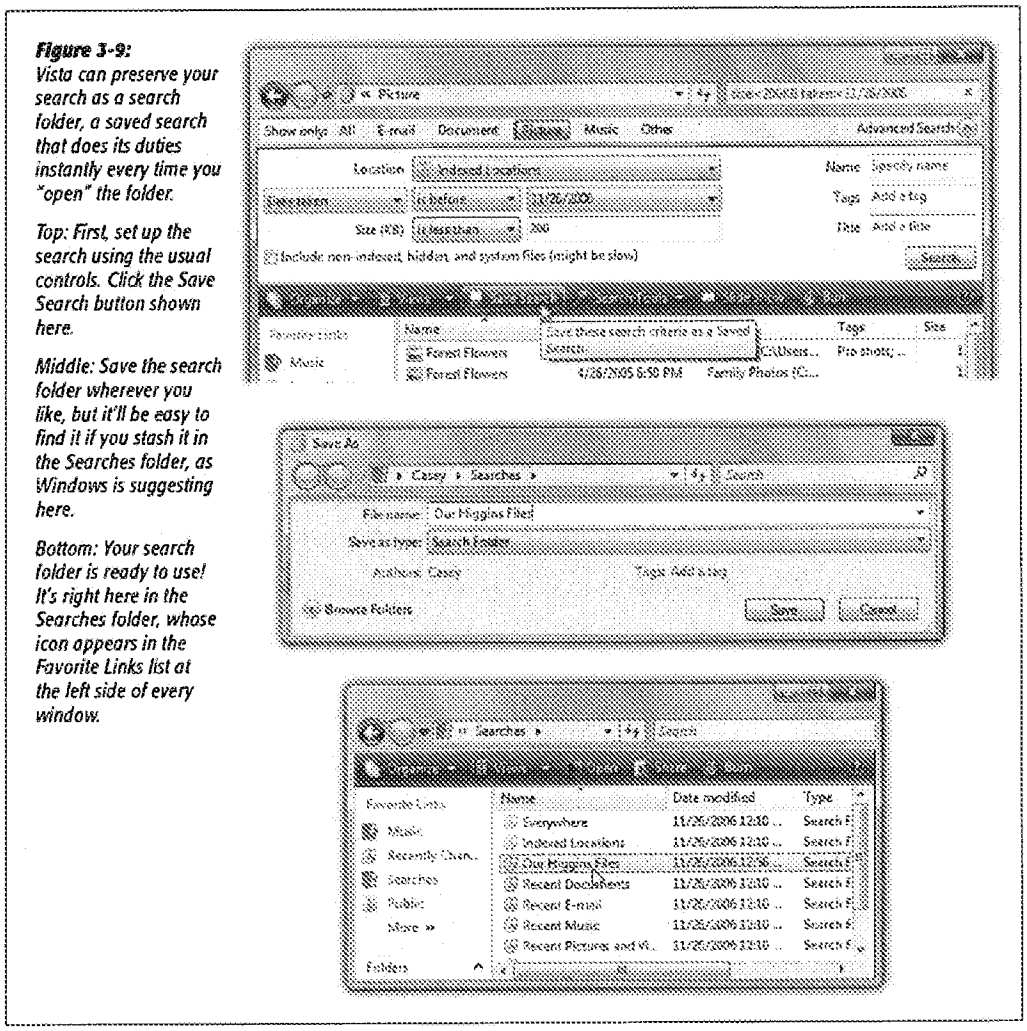


Figure 3-9: *Vista can preserve your search as a search folder, a saved search that does its duties instantly every time you "open" the folder.*

Top: First, set up the search using the usual controls. Click the Save Search button shown here.

Middle: Save the search folder wherever you like, but it'll be easy to find it if you stash it in the Searches folder, as Windows is suggesting here.

Bottom: Your search folder is ready to use! It's right here in the Searches folder, whose icon appears in the Favorite Links list at the left side of every window.

(Pogue at 125.) In my opinion, a POSITA would have understood that the Windows Explorer taskbar has multiple navigation elements that return a user to a previous view state. For example, Pogue teaches use of the "Back button" and "Forward button" in a Windows Explorer window (i.e., executing a navigation element) to return to a previous winow. (Pogue at 61 ("Just as in a Web browser, the Back button opens whatever window you opened just before this one. Once you've used the Back button, you can then use the Forward button to return to the window where you started.").)

233. In my opinion, Pogue teaches that the limitations above are executed by the Windows Vista operating system and the included software (such as Internet Explorer) operating on a processor. (Pogue at 11 ("Windows is an operating system, the software that controls your computer."); *see also* Pogue at 311 (explaining view of processor functions in Windows Vista).)

234. As confirmation of my opinion that Pogue teaches this limitation, I note that during prosecution, the Examiner also explained how Mattox taught limitations of the pending claims:

> Mattox et al teaches transition to a previous view in response to execution of a navigation element by a user ***(i.e. upon selecting backward arrow in toolbar 304 in FIG. 3A, the user is taken to the previous Web page, this is typical Web browser behavior, which is well known in the art).***

(Ex. 1002 at 356 (emphasis in original.) I understand Patent Owner did not dispute Examiner's understanding of this claim limitation. (*Id.* at 404–408.) Similarly, the '715 Patent identifies 352 and 168 as a navigation element to return to a home view for its embodiments: The user selects a navigation element (e.g. 352 FIG. 3C) to return to the home view, alternatively, a navigation button (e.g. 168, FIG. 17) will return the user to the home view. ('715 Patent at 51:2–5.)

235. In my opinion, this limitation is also satisfied to the extent the Examiner finds, or Patent Owner argues, that these terms invoke Section 112(6), have adequate linked structure, and that the linked structure is a processor programmed with an algorithm that, after the functions described in limitations [1.7] – [1.9], performs this additional function:

- [4] "cause the computer system to transition to a previous view in response to execution of a navigation element by a user." ('715 Patent at 5:3–7, 10:38–43 (describing "cause … previous view state" configuration), claim 8.)

236. As I explained above, it is my opinion that Ledbetter and Pogue teach and disclose a processor running computer software such as Windows Vista for carrying out the function of limitation [8.1]. It is my opinion that a POSITA would have understood that Ledbetter and Pogue involved, or at least rendered obvious, a processor programmed to carry out an algorithm (the software running on the computer) performing the claimed function of transitioning to a previous view in response to execution of a navigation element by a user in the above-noted manner, or equivalents thereof.

9. Claim 9

237. Claim 9 depends from claim 7. For the reasons discussed above, it is my opinion claim 7 would have been obvious to a POSITA over Ledbetter and Pogue.

[9.1] The user interface of claim 7, further comprising the navigation element displayed in a header display.

238. As discussed regarding limitation [8.1], Pogue discloses a navigation element, in my opinion.

239. Pogue also teaches how the desktop taskbar (moved to the top of the monitor) of Windows Vista has navigation elements to return a user to a previous state, such as the home view of the desktop with all windows minimized. (Pogue at 97 (".) Moreover, Pogue teaches how to minimize all windows (i.e., return to a retained state) in "one fell swoop" by right-clicking a blank spot on the taskbar and choosing Show the Desktop. (Pogue at 97.) In my opinion, a POSITA would have understood that the blank spot on the taskbar and choosing Show the Desktop is execution of a navigation element in the header display.

240. Pogue further teaches that a navigation element is displayed in a header display such as the toolbar of Internet Explorer 7 (see Back button):

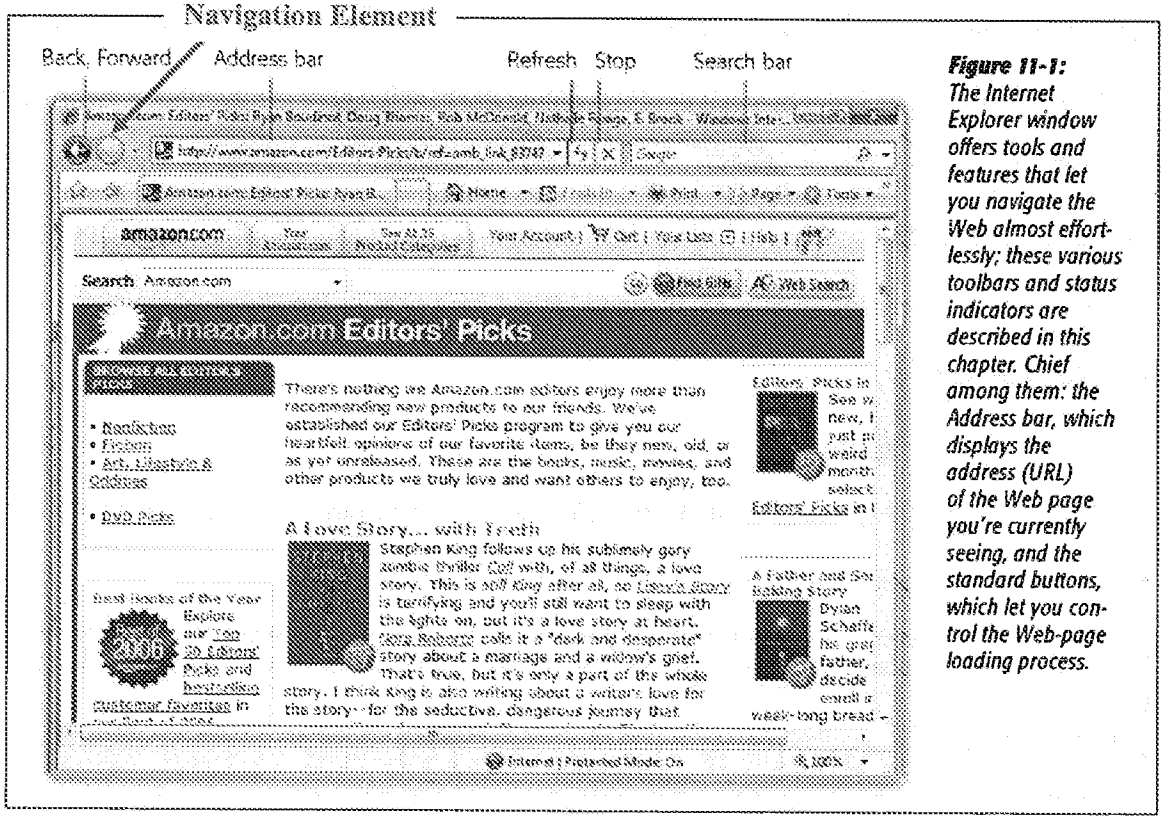


Figure 11-1: *The Internet Explorer window offers tools and features that let you navigate the Web almost effortlessly; these various toolbars and status indicators are described in this chapter. Chief among them: the Address bar, which displays the address (URL) of the Web page you're currently seeing, and the standard buttons, which let you control the Web-page loading process.*

(Pogue at 368 (annotated).) In my opinion, a POSITA would have understood that clicking the home button in the Internet Explorer 7 toolbar (i.e., header display) would return a user to the home page and that clicking the back arrow button in the toolbar would return a user to the previous page.

241. In my opinion, Pogue also teaches the toolbar (i.e. header display) of a Windows Explorer window displays navigation elements such as "Back button" and "Forward button." (Pogue at 61.)

242. As confirmation of my opinion that Pogue teaches this limitation, during prosecution, the Examiner also explained how Mattox taught limitations of the pending claims:

> Mattox et al teaches the navigation element displayed in a header display ***(i.e. the toolbar 304 includes backward and forward buttons (FIG. 3A)).***

(Ex. 1002 at 357 (emphasis in original.) I understand that Patent Owner did not dispute Examiner's understanding of this claim limitation. (*Id.* at 404–408.)

10. Claim 10

243. Claim 10 depends from claim 4. For the reasons discussed above, it is my opinion claim 4 would have been obvious to a POSITA over Ledbetter and Pogue.

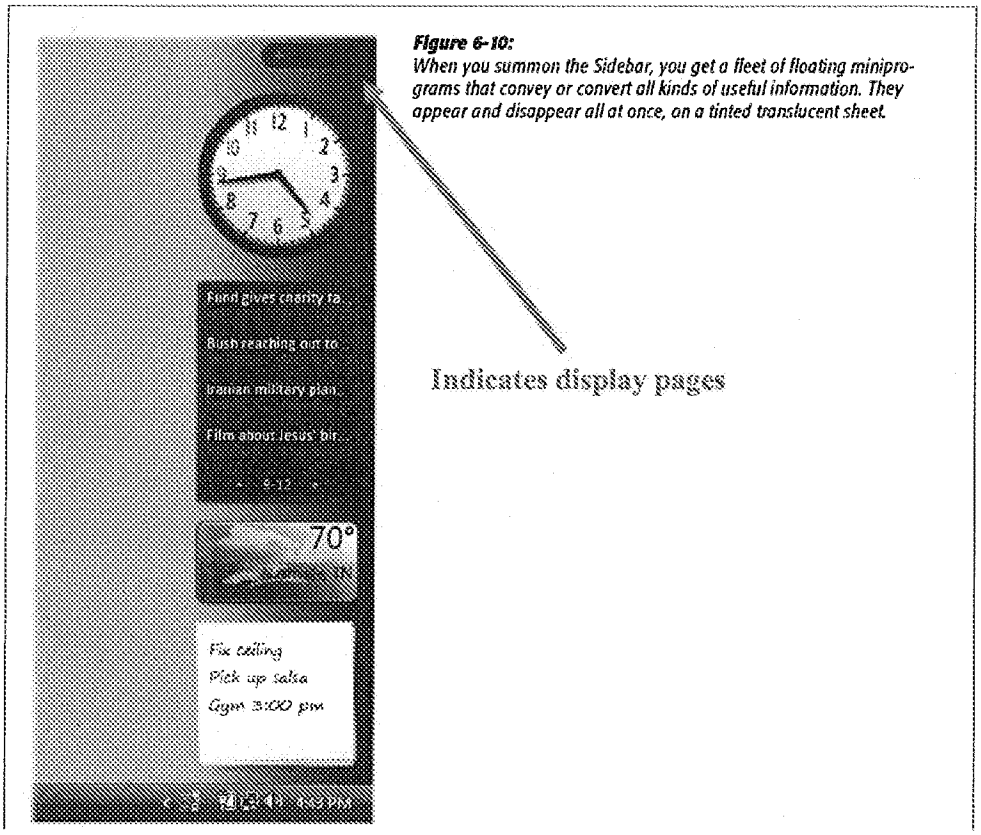
[10.1] The user interface of claim 4, wherein the body display comprises an organization of the plurality of visual representations of computer content rendered on the computer display, and the home view further comprises display pages in response to a display threshold establishing a maximal number of visual representations displayed per display page.

244. As discussed regarding limitation [4.1], it is my opinion that Pogue discloses a body display. As seen in the discussion of limitation [4.4], it is my opinion that Pogue teaches that the body display organizes a plurality of visual representations of computer content rendered on the computer display. (*Id.*) Specifically, it is my opinion that the body display of Internet Explorer 7 displays and organizes visual representations of web content (Pogue at 368). In my opinion, the body display of a Windows Explorer window displays and organizes visual representations of files and folders. (Pogue at 58, Figure 2-1.). In my opinion, the body display of Windows Photo Gallery shows an organization of photos or videos, or thumbnails. (Pogue at 424, Figure 13-1.) In my opinion, the body display of Windows Media Player displays and organizes media. (Pogue at 465, Figure 14-1.) And, in my opinion, when Windows Vista's desktop taskbar is moved to the top of

the screen, the body display shows an organization of desktop icons or Start menu icons (i.e., visual representations of computer content). (Pogue at 23, Figure 1-2.)

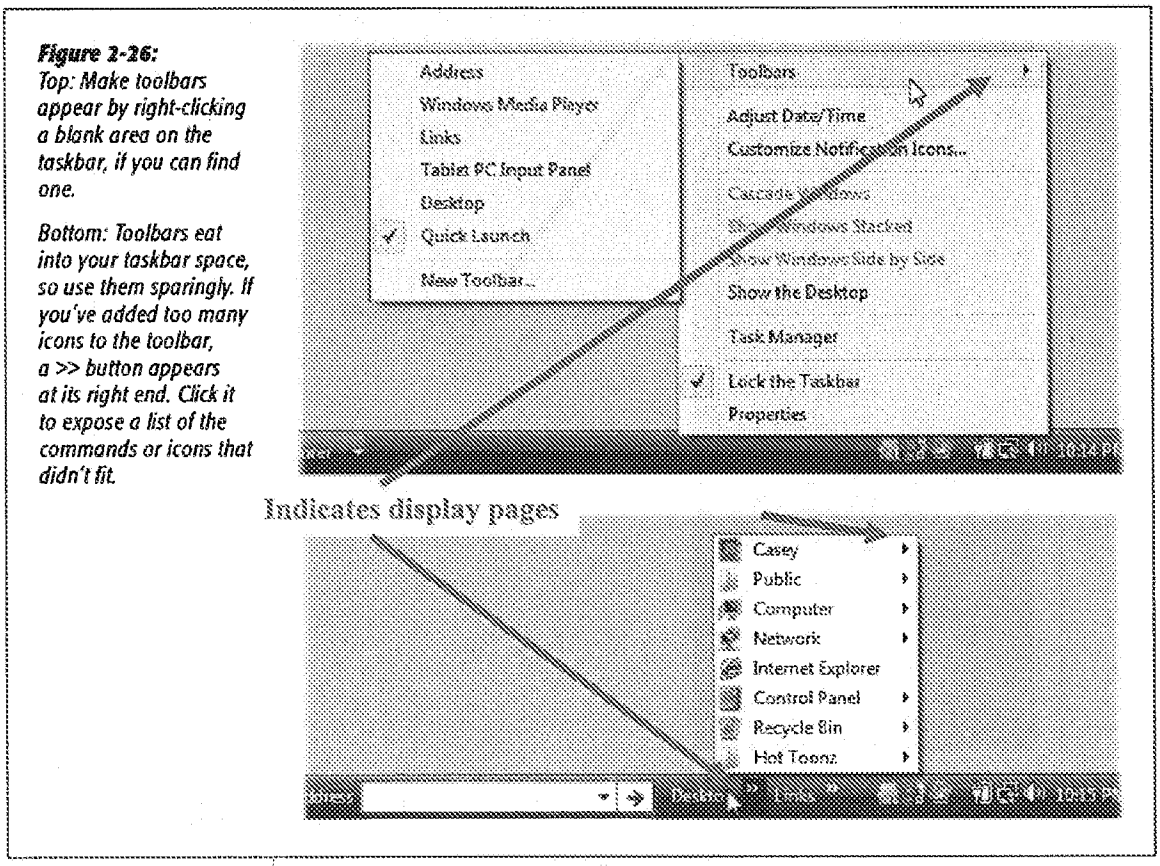
245. In my opinion, Pogue also teaches the additional limitation of limitation [10.1], "the home view further comprises display pages in response to a display threshold establishing a maximal number of visual representations displayed per display page," in Windows Vista, Windows Photo Gallery, Windows Media Player, Internet Explorer, and Windows Explorer.

246. *Windows Vista.* In my opinion, Pogue teaches how Windows Vista's desktop (i.e., home view) has display pages (i.e., more than one page) in the Sidebar which contain visual representations called Gadgets. (Pogue at 212.) When a display threshold of a maximum of visual representations has been reached (i.e., too many Gadgets to fit on one display page), then another display page is created as indicated by a small arrow at the top of Sidebar, as explained by Pogue. (*Id.* ("If you add more gadgets than can fit on the Sidebar, a tiny ▶ appears at the top of the Sidebar.").) Pogue Figure 6-10 shows a maximum of four visual representations of Gadgets on display page on the home view of the desktop:



(Pogue at 212–213 (annotated).) In my opinion, a POSITA reading Pogue would have understood that, in response to reaching the threshold maximum number of Gadgets on Sidebar, another display page in Sidebar would be created.

247. Similarly, Pogue teaches Figure 2-26, which shows various menu pages, when a maximal threshold is reached (i.e. "too many icons"), then a >> button is shown, indicating another display page, in my opinion:



(Pogue at 99 (annotated).)

248. *Windows Photo Gallery*. Similarly, it is my opinion that Pogue shows a home view of Windows Photo Gallery with display pages when an adjustable threshold maximum number of pictures per display page is reached. (Pogue at 424.) In my opinion, Pogue Figure 13-1 shows a home view of Photo Gallery with display pages (more than one display page as indicated by scrollbar) with a maximum of nine visual representations a display page:

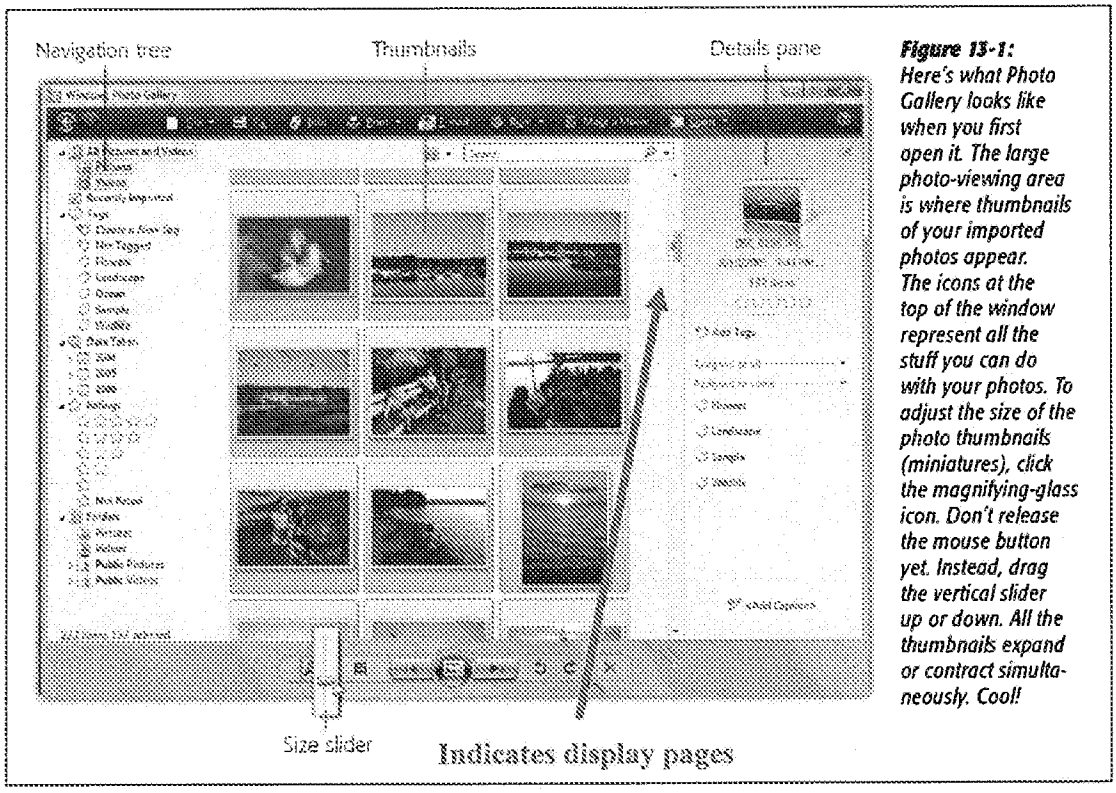


Figure 13-1: *Here's what Photo Gallery looks like when you first open it. The large photo-viewing area is where thumbnails of your imported photos appear. The icons at the top of the window represent all the stuff you can do with your photos. To adjust the size of the photo thumbnails (miniatures), click the magnifying-glass icon. Don't release the mouse button yet. Instead, drag the vertical slider up or down. All the thumbnails expand or contract simultaneously. Cool!*

(Pogue at 424 (annotated).) I note that in addition to continuous scroll motions, the scroll bar also, as is typical, has vertical "up" and "down" arrows at the top and bottom of the vertical bar; these move forward or backward by whole pages of displayed content. Further, it is apparent that the number of content items on each of these pages is in response to a display threshold establishing a maximal number of visual representations displayed per display page. As seen in Figure 13-1, the "Size slider" changes the size of the thumbnails (i.e., visual representations) which changes the maximum number of thumbnail displays on a display page.

249. *Windows Media Player*. In my opinion, Pogue also teaches Windows Media Player's Library view (i.e., a home view) with display pages (more than one display page as indicated by the scrollbar) with a maximum of three icons per a display page:

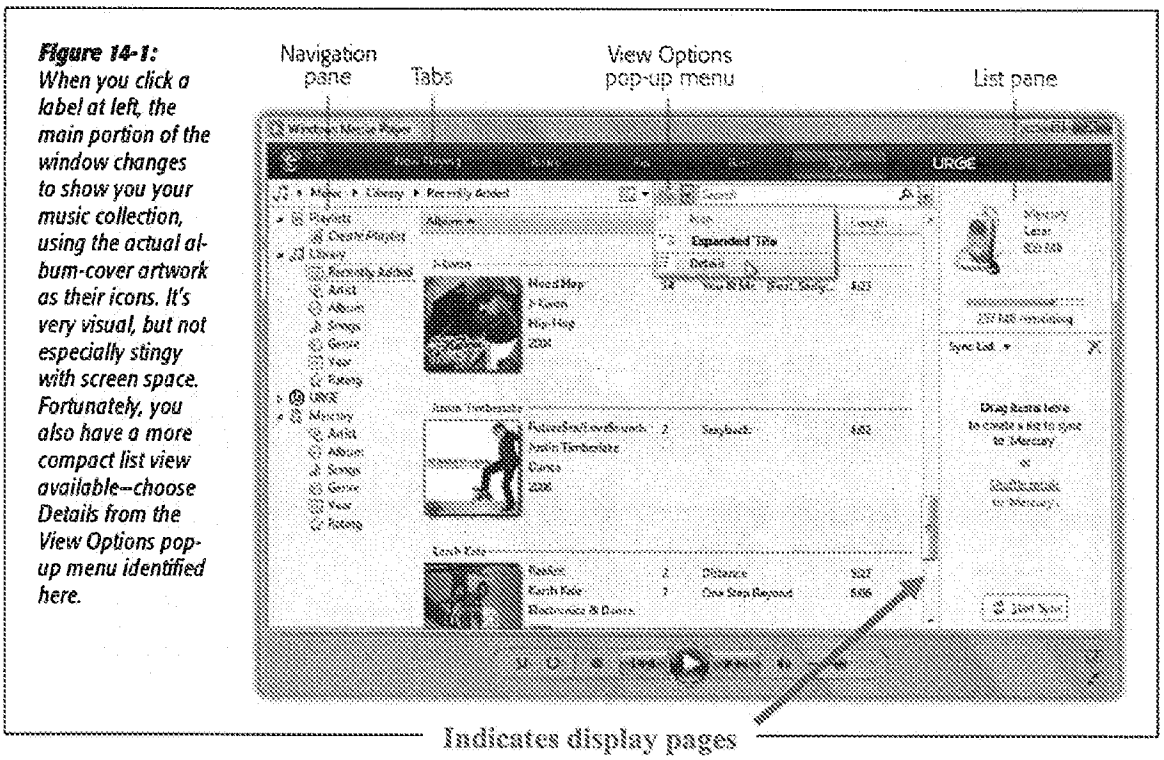


Figure 14-1: *When you click a label at left, the main portion of the window changes to show you your music collection, using the actual album-cover artwork as their icons. It's very visual, but not especially stingy with screen space. Fortunately, you also have a more compact list view available—choose Details from the View Options pop-up menu identified here.*

(Pogue at 476 (annotated).)

250. *Internet Explorer 7.* In my opinion, Pogue teaches a home view of Internet Explorer 7 with display pages when a maximum number of visual representations on a display page is reached. For example, Pogue shows in Figure 11-4, a home view with display pages with a maximum of 6 images:

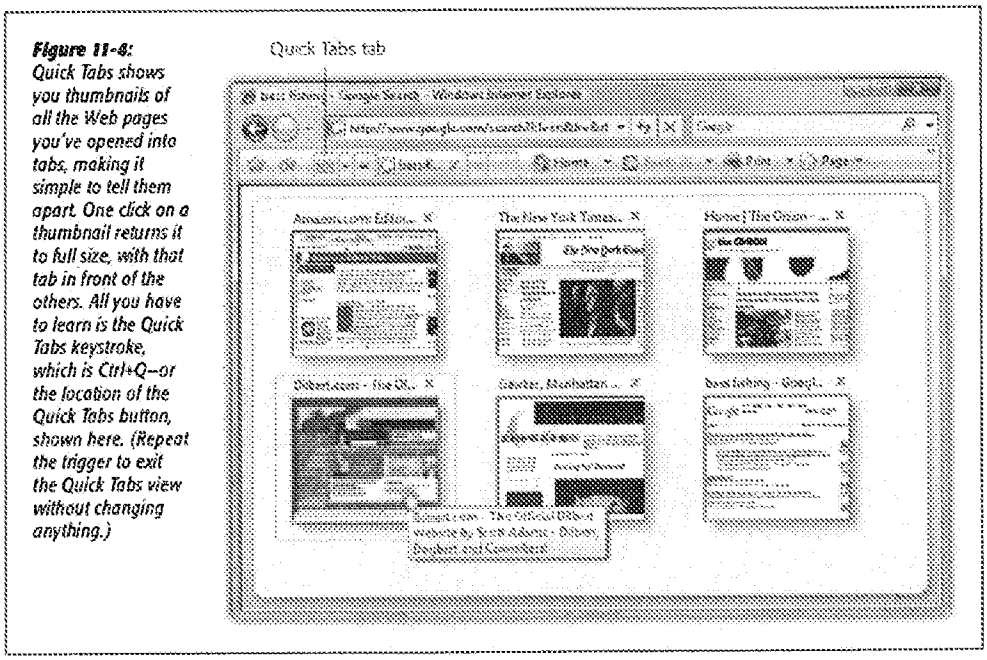


Figure 11-8: *Quick Tabs shows you thumbnails of all the Web pages you've opened into tabs, making it simple to tell them apart. One click on a thumbnail returns it to full size, with that tab in front of the others. All you have to learn is the Quick Tabs keystroke, which is Ctrl+Q—or the location of the Quick Tabs button, shown here. (Repeat the trigger to exit the Quick Tabs view without changing anything.)*

(Pogue at 375 (annotated) (Internet Explorer 7 Quick Tabs showing maximum of six visual representations per display page).) Though not explicitly shown as an image for Internet Explorer, in my opinion, a POSITA would have understood that exceeding the maximum of six visual representations per display page in Quick Tabs would result in an additional display page.

251. *Windows Explorer.* Pogue also provides an image of a Windows Explorer window, where in my opinion a maximum number of thumbnails are shown according to the threshold maximal number that would fit in the window:

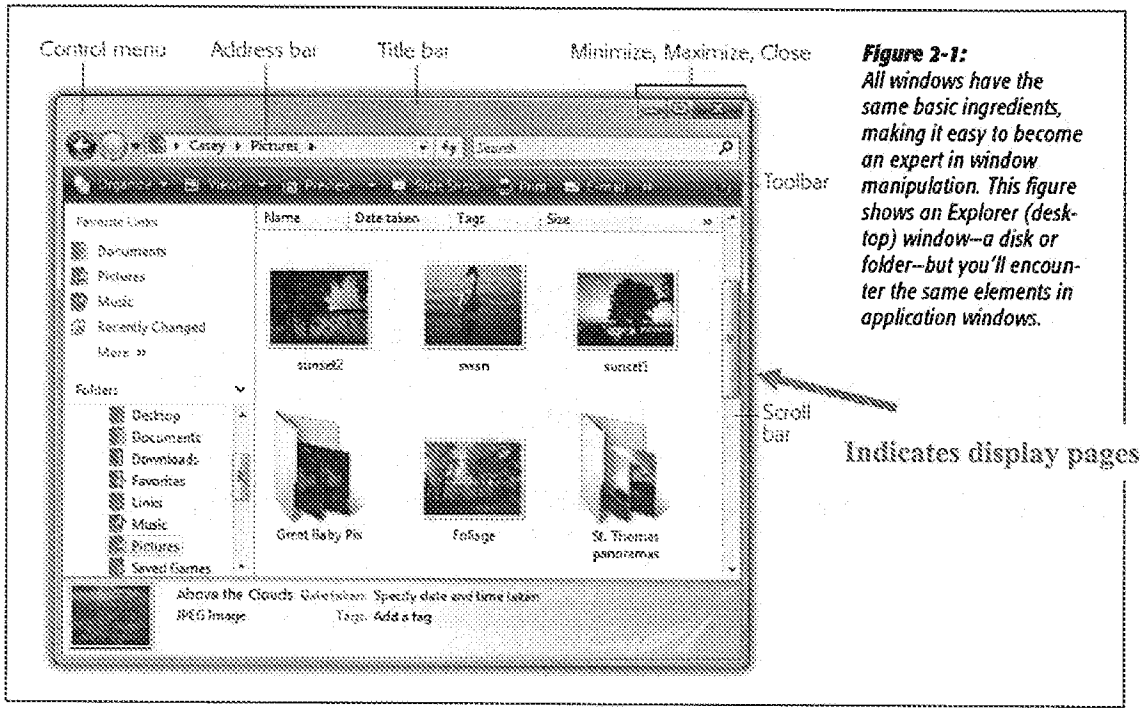


Figure 2-1: *All windows have the same basic ingredients, making it easy to become an expert in window manipulation. This figure shows an Explorer (desktop) window--a disk or folder--but you'll encounter the same elements in application windows.*

(Pogue at 58 (annotated) (a Windows Explorer window showing maximum of six visual representations in the body display).)

252. As confirmation of my opinion that Pogue teaches this limitation, during prosecution of the '715 Patent, I note the Examiner correlated "body display comprises an organization of the plurality of visual representations of computer content . . . rendered on the computer display, and the home view further comprises display pages in response to a display threshold establishing a maximal number of visual representations displayed per display page" with Miller's teaching:

> Miller further teaches wherein the body display comprises an organization of the plurality of visual representations of computer content rendered on the computer display ***(i.e. showing multiple visual representations of content per page, like games (page 8) or movies (page 11))***, and the home view further comprises display pages in response to a display threshold establishing a maximal

number of visual representations displayed per display page ***(i.e. the number of pieces of content per page has a limit, for example 9 games per page (page 8), or 12 movies per page (page 11))***.

(Ex. 1002 at 354 (emphases in original).) I understand that Patent Owner did not dispute Examiner's understanding of this claim limitation. (*Id.* at 404–408.)

11. Claim 11

253. Claim 11 depends from claim 10. For the reasons discussed above, it is my opinion that claim 10 would have been obvious to a POSITA over Ledbetter and Pogue.

[11.1] The user interface of claim 10, wherein the home view further comprises an indication of visual representations displayed on adjacent display pages of the home view,

254. In my opinion, Pogue also teaches this additional limitation.

255. *Windows Vista.* For example, as seen in Figure 6-10 shown above in the discussion of limitation [10.1], Pogue teaches a tiny triangle (i.e., an indication) that appears at the top of the Sidebar when there are more Gadgets than fit on a single display page of Sidebar on the home view of Windows Vista's desktop. (Pogue at 375 ("If you add more gadgets than can fit on the Sidebar, a tiny ▶ appears at the top of the Sidebar.").) Similarly, as shown in Pogue Figure 2-26, in which a >> button is shown, this is an indication of additional visual representations on adjacent display pages on the home view. (Pogue at 99.)

256. *Windows Photo Gallery.* Similarly, as seen in Figure 6-10 shown above in the discussion of limitation [10.1], Pogue describes a home view of Windows Photo Gallery where a scrollbar with arrows appears, indicating visual representations displays on adjacent display pages. (Pogue at 424 (home view of Photo Gallery showing scrollbar indicating more thumbnails).)

257. *Windows Media Player.* Likewise, as seen in Figure 6-10 shown above in the discussion of limitation [10.1], Pogue also teaches a home view of Windows Media Player library, which includes a scroll bar indicating additional visual representation of music content are available on adjacent display pages. (Pogue at 465 (home view of Windows Media Player showing scrollbar.)

258. *Windows Explorer.* Likewise, as seen in Figure 6-10 shown above in the discussion of limitation [10.1], Pogue also teaches a home view of a Windows Explorer window, which shows a scroll bar with arrows indicating indicating additional visual representation of digital content is available on adjacent display pages. (Pogue at 58 (home view of Windows Explorer window with scrollbar indicating more items).)

259. As confirmation of my opinion that Pogue teaches this limitation, during prosecution of the '715 Patent, I note the Examiner correlated this limitation with Miller's teaching:

> Miller further teaches wherein the home view further comprises an indication of visual representations displayed on adjacent display pages of the home view, wherein the indication is displayed within the body of the home view ***(i.e. showing indications of more pages of games: "5 of 9" (page 8), or more pages of movies: "View More ... " (page 9), or "1 of 14" (page 11), together with up and down navigation arrows to navigate to those pages)***.

(Ex. 1002 at 357 (emphasis in original).) I understand Patent Owner did not dispute Examiner's understanding of this claim limitation. (*Id.* at 404–408.)

[11.2] wherein the indication is displayed within the body of the home view.

260. While claim 11 does not provide an antecedent basis for "the body," to the extent I correctly understand that Patent Owner intended claim 11's antecedent basis for "the body" to correspond with claim 4's "a body display," it is my opinion that Pogue discloses this limitation. As explained for limitation [11.1] above, the indication of adjacent pages is indicated in the body display (i.e., below the header display) of the home views of Windows Vista desktop with Sidebar activated (when taskbar is moved to top of screen), Windows Photo Gallery, Windows Media Player, and Windows Explorer. (Pogue at 58, 375, 424.) This understanding is confirmed by the Examiner statement correlated this limitation with Miller's teachings. (Ex. 1002 at 354.)

12. Claim 12

261. Claim 12 depends from claim 4. For the reasons discussed above, it is my opinion that claim 4 would have been obvious to a POSITA over Ledbetter and Pogue.

[12.1] The user interface of claim 4, wherein the graphical user interface is further configured to display a nascent card in the home view,

262. Pogue teaches this limitation, in my opinion.

263. *Windows Vista.* I note Pogue teaches that Windows Vista desktop (i.e., home view) configured to display a "Create Shortcuts Here" card (i.e. a nascent card):

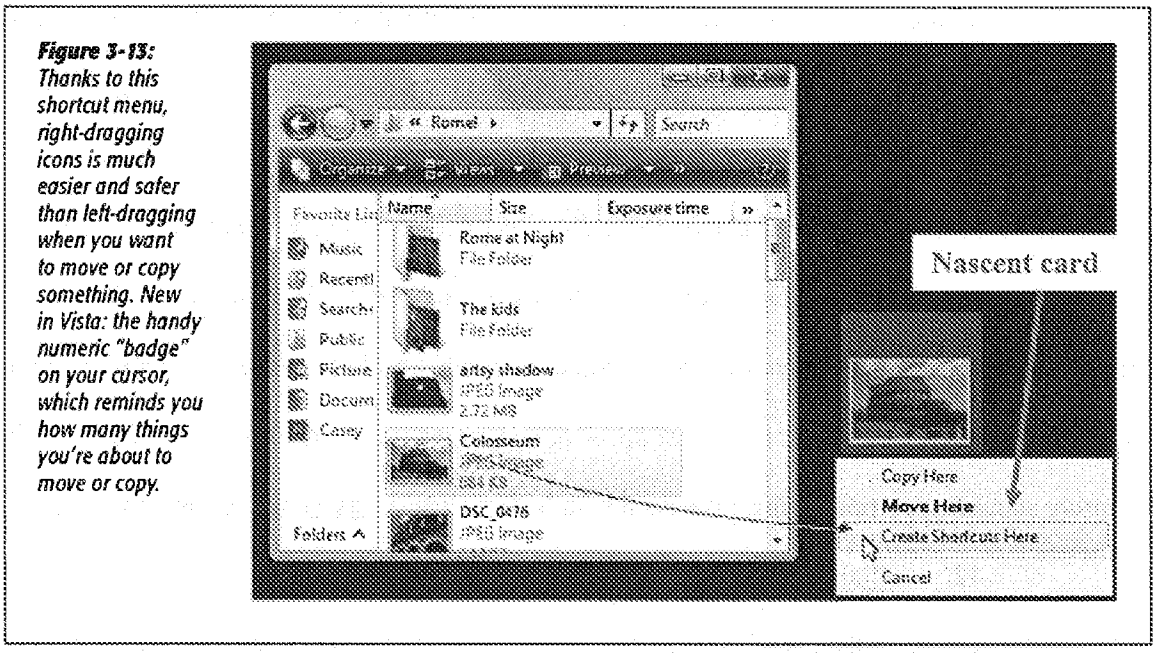


Figure 3-13: *Thanks to this shortcut menu, right-dragging icons is much easier and safer than left-dragging when you want to move or copy something. New in Vista: the handy numeric "badge" on your cursor, which reminds you how many things you're about to move or copy.*

(Pogue at 139 (annotated).) In my opinion, a POSITA would have understood the resulting created shortcut would be mapped to digital content.

264. Moreover, it is my opinion that Pogue teaches Windows Vista desktop (i.e., home view) configured to show an autostarting "Sidebar" of "Gadgets." (*Id.* at 211–213.) The Sidebar, which can remain permanently on the home view of the Windows Vista desktop, includes a plus sign "card" as a "nascent card" in my opinion:

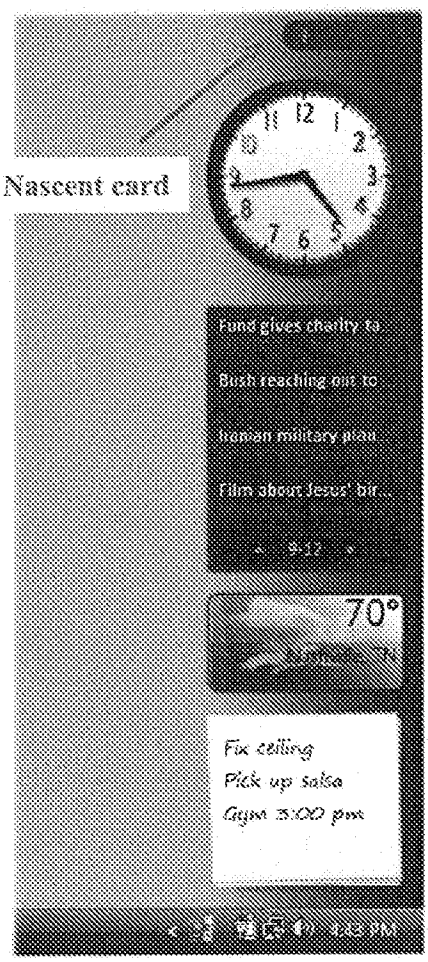


Figure 6-10:
When you summon the Sidebar, you get a fleet of floating miniprograms that convey or convert all kinds of useful information. They appear and disappear all at once, on a tinted translucent sheet.

(Pogue at 212 (annotated).) Pogue explains that clicking the plus sign permits a user to add a gadget. (*Id.*) In my opinion, a POSITA would have understood that that the resulting gadget maps to digital content, including internet content.

265. In my opinion, Pogue also teaches that a home view of Internet Explorer 7 includes an empty tab (i.e., a "nascent card") for creating a new Internet Explorer window:

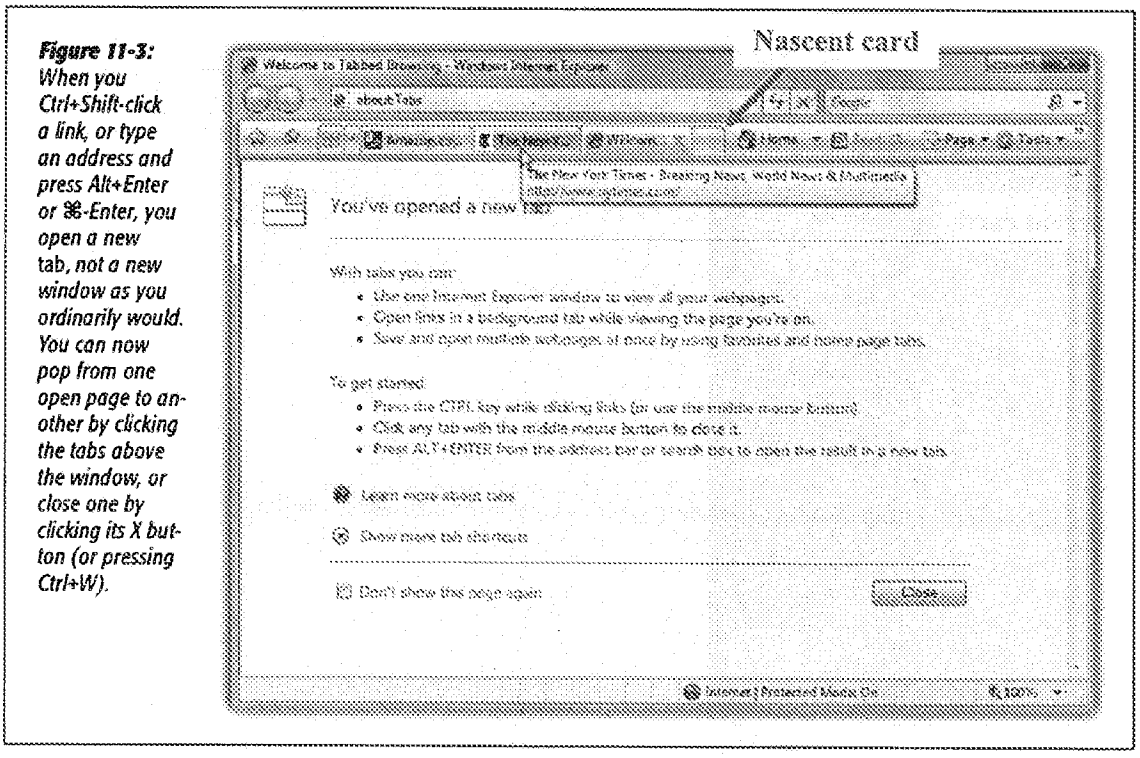


Figure 11-3: *When you Ctrl+Shift-click a link, or type an address and press Alt+Enter or ⌘-Enter, you open a new tab, not a new window as you ordinarily would. You can now pop from one open page to another by clicking the tabs above the window, or close one by clicking its X button (or pressing Ctrl+W).*

(Pogue at 373 (annotated) (stating "You've opened a new tab" after clicking blank tab).) Pogue also explains that an "Open in New Tab" card to open a link. (*Id.*) In my opinion, a POSITA would have understood that the blank tab and the "Open in New Tab" card in Internet Explorer 7 are both examples of a "nascent card" for mapping to web content.

266. Moreover, it is my opinion that Pogue teaches that a home view of Internet Explorer 7 includes a toolbar that shows a visual representation with a start and plus sign (i.e., a nascent card) on the toolbar, which permits the addition of web content to the "Favorites Center":

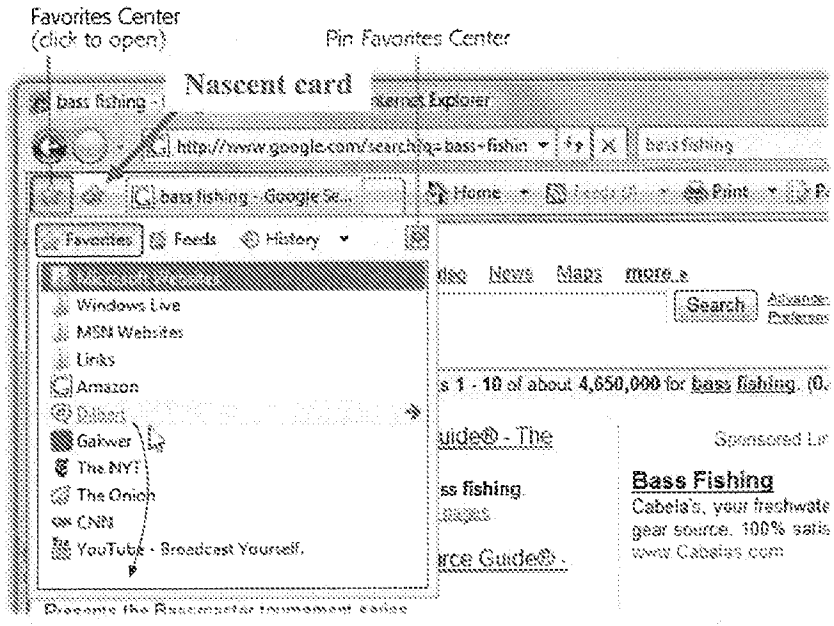
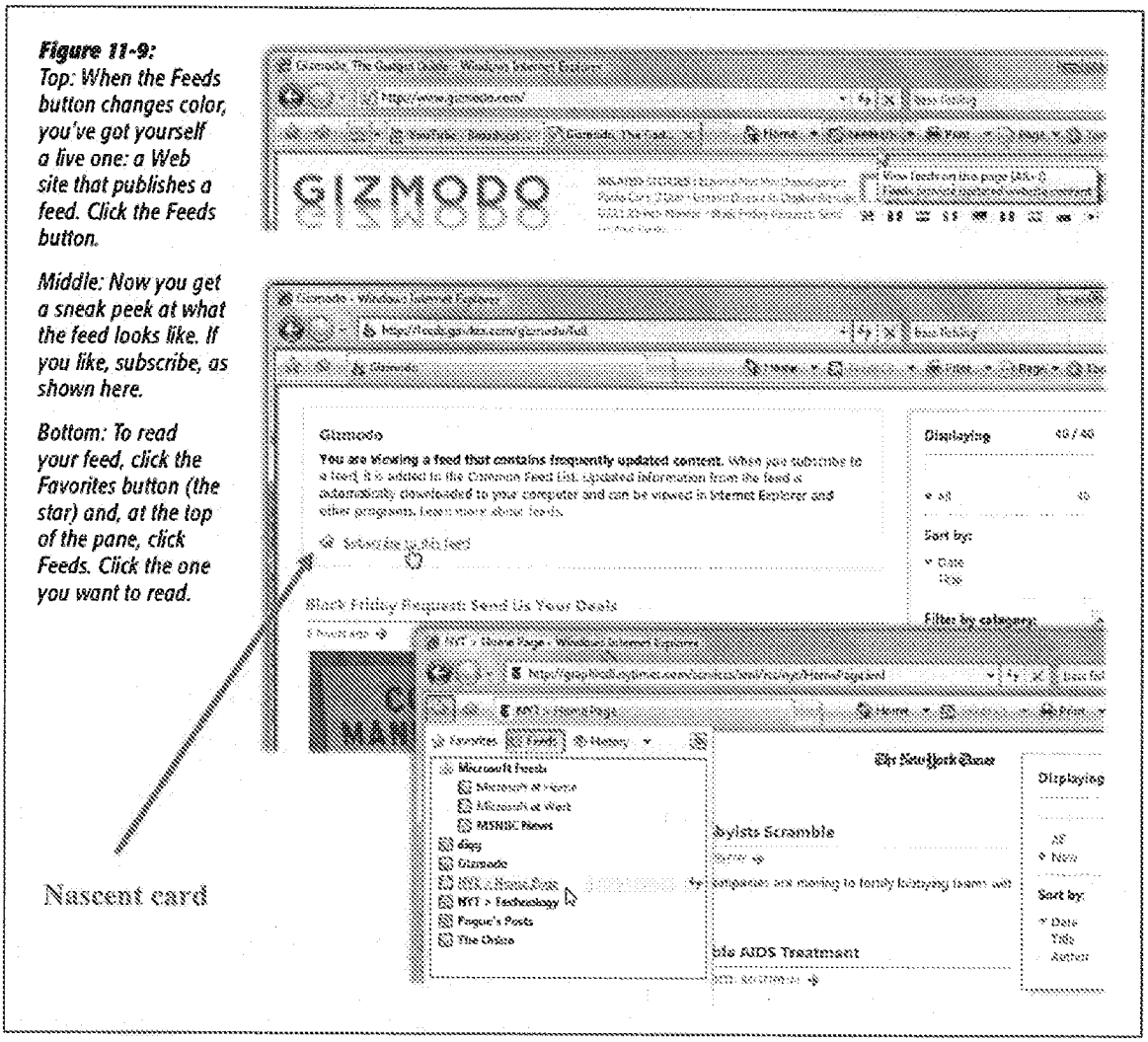


Figure 11-6: *When the Favorites menu opens, you can drag names up or down to rearrange the list, as shown. Or right-click one to access the commands that rename, delete, or file a favorite into a folder. (Unfortunately, the Favorites menu covers up part of the Web page you're reading. It hides itself soon enough, but you might also want to freeze the Favorites Center open so that it doesn't cover the page. To do that, click the Pin the Favorites Center button shown here.)*

(Pogue at 378 (annotated).) In my opinion, a POSITA would have understood that the star and plus sign in Internet Explorer 7 is an example of a "nascent card" and that the new "Favorites" visual representation is mapped to web content.

267. Similarly, Pogue teaches Internet Explorer 7 configured to show an RSS Feed as a home page (i.e., home view) which also includes a star and plus sign (i.e., a nascent card) for addition of RSS Feeds:



(Pogue at 381 (annotated) (Middle showing star and plus sign for "Subscribe to this feed").)

268. Moreover, it is my opinion that Pogue also teaches another form of "nascent card" because it teaches that Internet Explorer 7 has a "tiny page icon" (i.e. a nascent card) in the address bar, which dragged onto the Links toolbar maps to web content:

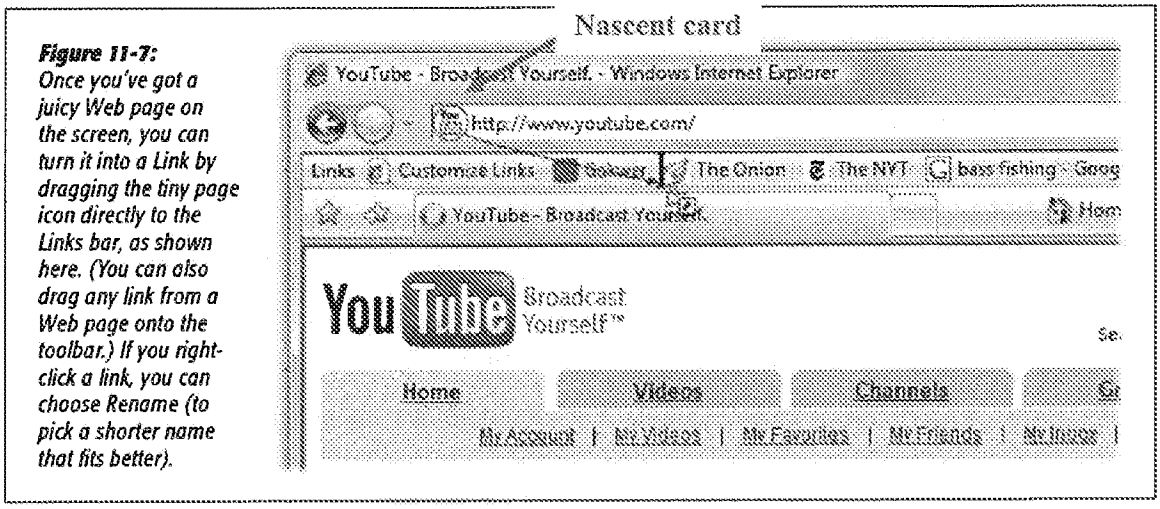


Figure 11-7: *Once you've got a juicy Web page on the screen, you can turn it into a Link by dragging the tiny page icon directly to the Links bar, as shown here. (You can also drag any link from a Web page onto the toolbar.) If you right-click a link, you can choose Rename (to pick a shorter name that fits better).*

(Pogue at 379.)

269. *Windows Media Player.* I note that Pogue also teaches that the library tab (i.e., home view) of Windows Media Player shows visual representations of music content, which when dragged into a playlist creates a mapping to that particular song, such as 50 Cent's "Hate It or Love It":

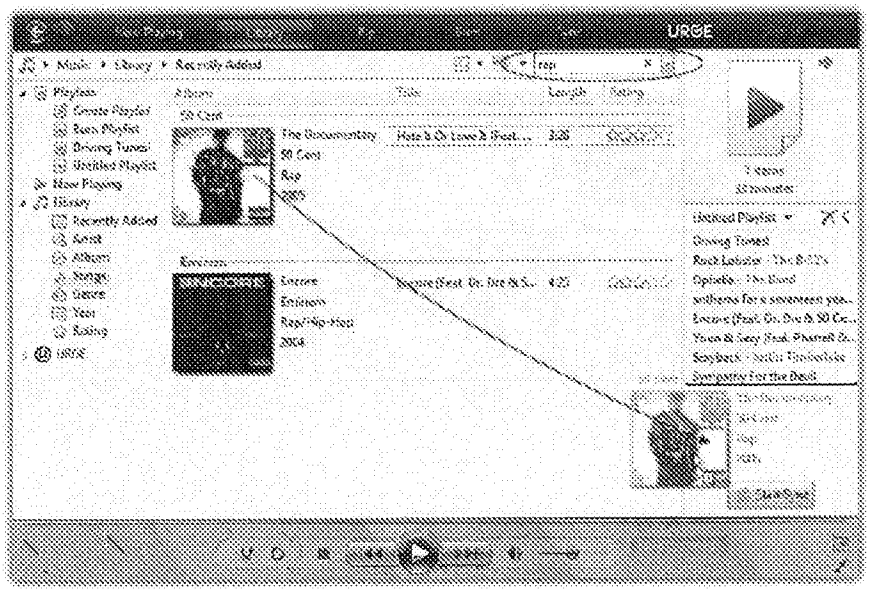


Figure 14-6: *On the Library tab, the Navigation tree (left) lists your playlists. Under the Library heading, you see various ways to sort your collection. To build a playlist, drag songs or CD names into the right panel. Don't miss the Search box at the top, which searches all text related to your songs and videos as you type, hiding all entries that don't match.*

(Pogue at 473.)

270. As confirmation of my opinion that Pogue's examples of nascent cards for creating a shortcut, adding a gadget, opening a new tab, adding a favorite, subscribing to an RSS feed, among other things, teaches this limitation, during prosecution of the '715 Patent, I note the Examiner correlated "nascent card" with Mattox's teachings:

> Mattox et al teaches display a nascent card in the home view, wherein the nascent card is configured to permit generation of additional visual representations of digital content ***(i.e. the user can select "Create Site" or "Create Page" list item 316, to create a new page or a new site (Fig. 3A and column 6 lines 32–41))***.

(Ex. 1002 at 358 (emphasis in original).) I understand that Patent Owner did not dispute Examiner's understanding of this claim limitation. (*Id.* at 404–408.) As further confirmation of my opinion, I note the '715 Patent provides an example of a nascent card 214 in FIG. 2:

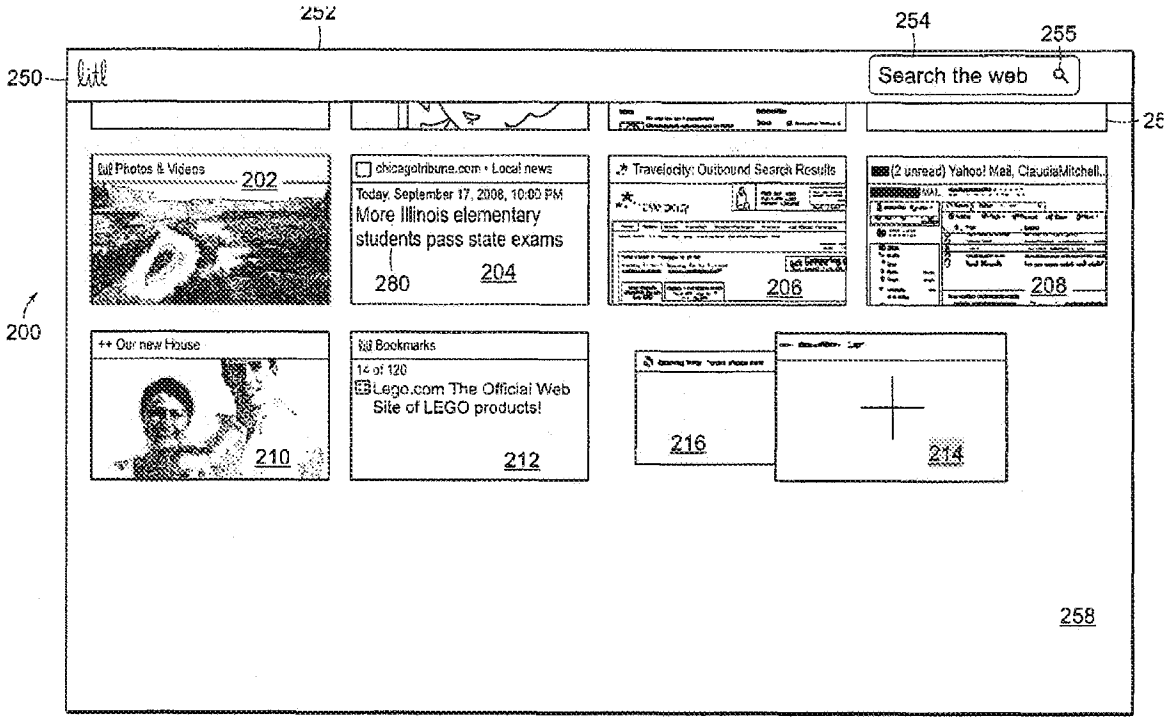


FIG. 2

(the '715 Patent at FIG. 2.) The '715 Patent explains "System cards may be further classified to include nascent cards. "Browse the Web" card, FIG. 2, 214 is an example of a nascent card." (*Id.* at 38:62–64.) In my opinion, a POSITA would have understood that the '715 Patent's example of "Browse the Web" card as a "nascent card" would be functionally the same as Internet Explorer's "New Tab" button.

[12.2] wherein the nascent card is configured to permit generation of additional visual representations of digital content.

271. Pogue teaches this limitation.

272. *Windows Vista.* In my opinion, Pogue teaches how to use the nascent card of "Create Shortcuts Here" on the Windows Vista desktop to generate a visual representation (i.e., icon) of digital content on the desktop. (Pogue at 146.) In my opinion, a POSITA would have understood that the described actions would generate a visible shortcut icon mapped to the file from which it was created.

273. In my opinion, Pogue also teaches how to use the nascent card of the plus sign in Sidebar to create a visual representation (i.e., a Gadget) of digital content on Windows Vista's desktop's Sidebar. (Pogue at 212.) In my opinion, a POSITA would have understood that the described actions would generate a visible Gadget mapped to user-selected digital content such as a clock, news feeds, weather, or notes.

274. *Windows Media Player.* In my opinion, Pogue teaches the generation of additional visual representations of digital content, in the form of a playlist mapped to particular songs, in Windows Media Player, when a nascent card is dragged into a playlist panel to create a mapping to a particular song. (Pogue at 473.)

275. *Internet Explorer 7.* It is my opinion that Pogue teaches how to use the nascent cards of the blank tab, the "Open in New Tab," and star with plus signs (i.e., add to Favorites or subscribe to an RSS feed) in Internet Explorer 7 permit generation of visual representations of web content. (Pogue at 373, 378, 379.) In my opinion, a POSITA would have understood that the described actions on the nascent card would generate a visible display of user-selected web content.

276. As confirmation of my opinion that Pogue teaches this limitation, during prosecution, I note the Examiner also explained how Mattox taught limitations of claim 12:

> Mattox et al teaches display a nascent card in the home view, wherein the nascent card is configured to permit generation of additional visual representations of digital content ***(i.e. the user can select "Create Site" or "Create Page" list item 316, to create a new page or a new site (Fig. 3A and column 6 lines 32–41)).***

(Ex. 1002 at 381 (emphasis in original.) Patent Owner did not dispute Examiner's understanding of this claim limitation. (*Id.* at 404–408.)

13. Claim 13

277. Claim 13 depends from claim 12. For the reasons discussed above, it is my opinion that claim 12 would have been obvious to a POSITA over Ledbetter and Pogue.

[13.1] The user interface of claim 12, wherein the execution component is further configured to execute a process for creating a visual representation in response to execution of the nascent card, wherein the process for creating a visual representation includes acts of:

278. As discussed regarding limitation [1.6], it is my opinion that Ledbetter discloses an execution component. In my opinion, Pogue teaches the additional limitation of [13.1].

279. As explained above for claim 12, it is my opinion that Pogue teaches how execution of the nascent cards disclosed in Pogue executes a process that creates visual representations in response. (*See, e.g.*, Pogue at 139, (Windows Vista Desktop), 211–213 (Sidebar), 373, 378, 379 (Internet Explorer), 473 (Windows Media Player.) In my opinion, a POSITA would have understood that execution of any of the nascent cards generates a visual representation.

280. As discussed for the "execution component" of limitation [1.6], it is my opinion that Pogue teaches that the above "execute a process" limitation would be executed by Windows Vista and included programs such as Internet Explorer 7, i.e., software operating on a processor. (Pogue at 11 ("Windows is an operating system, the software that controls your computer.").)

281. In my opinion, this limitation is also satisfied to the extent the Examiner finds, or Patent Owner argues, that these terms invoke Section 112(6), have adequate linked structure, and that the linked structure is a processor programmed with an algorithm that, after the steps described in limitations [1.7] – [1.9]:

- execute[s] a process for creating a visual representation in response to execution of the nascent card …. (*see, e.g.*, '715 Patent at 5:33–41, 8:34–36, 10:60–65, claim 13).

282. As just explained, and as explained further below with respect to limitations [13.2] – [13.5], it is my opinion that Pogue teaches and discloses a processor running computer software for carrying out the recited functions. It is my opinion that a POSITA would have understood that this involved, or at least rendered obvious, a processor programmed to carry out an algorithm (the software running on the computer) performing the claimed functions in the above-noted manner, or equivalents thereof.

[13.2] transitioning to a quick access view;

283. In my opinion, Pogue teaches this limitation.

284. *Windows Vista.* Pogue teaches that created shortcut icons appear on Windows Vista's desktop. (Pogue at 22, 139.) In my opinion, a POSITA would have understood that the desktop view of Windows Vista is a "quick access view" allowing access to every desktop shortcut. It is my opinion that Pogue also teaches that the Sidebar view of "all your gadgets" appears on Windows Vista's desktop upon clicking the plus sign (i.e., nascent card) transitions to a quick access view. (Pogue at 211–213 (describing how clicking the plus sign in the Sidebar: "You've just opened the Gadget Gallery, a semi-transparent catalog of all your gadgets, even the ones that aren't currently on the screen.").)

285. *Internet Explorer 7.* In my opinion, Pogue teaches that Internet Explorer 7 has a visual representation of "Quick Tabs" which when executed transitions to a view of all open tabs for quick access. (Pogue at 375.) The transition to the Quick Tabs view also occurs when the user types Ctrl+Q (from Pogue Figure 11.4 caption). Pogue provides an image of Internet Explorer 7's quick access view:

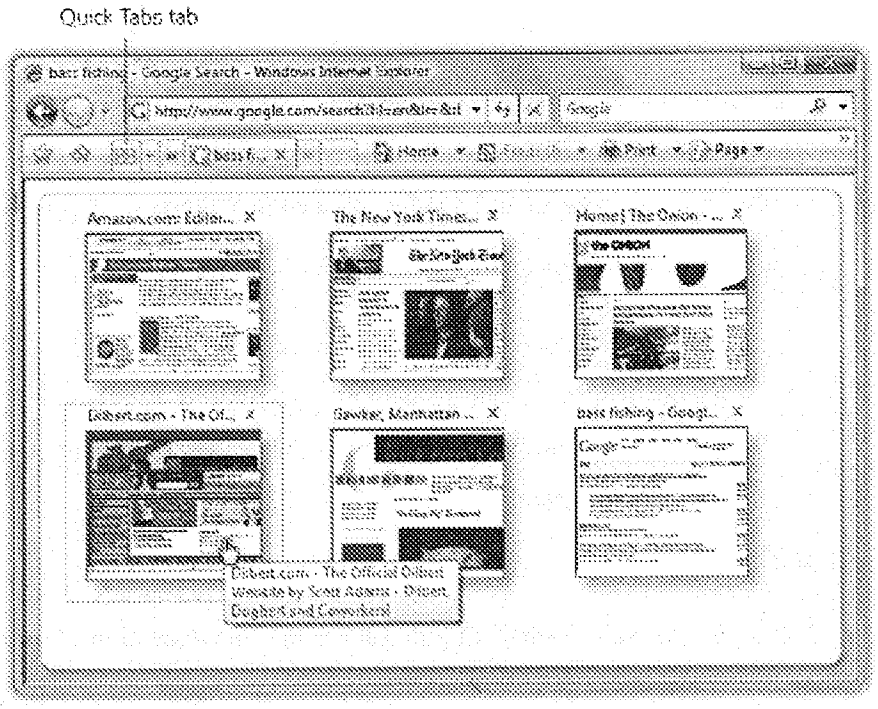


Figure 11-4: *Quick Tabs shows you thumbnails of all the Web pages you've opened into tabs, making it simple to tell them apart. One click on a thumbnail returns it to full size, with that tab in front of the others. All you have to learn is the Quick Tabs keystroke, which is Ctrl+Q—or the location of the Quick Tabs button, shown here. (Repeat the trigger to exit the Quick Tabs view without changing anything.)*

(Pogue at 375.) Moreover, as seen in Figure 11-9 (bottom figure) shown above for limitation [12.1], it is my opinion that Internet Explorer 7 shows a panel of all RSS Feeds, another view of quick access, in my opinion.

286. *Windows Media Player.* In my opinion, Pogue teaches that the Library tab of Windows Media Player shows a list of all the songs added to a playlist (i.e., a quick access view). (Pogue at 473.)

[13.3] generating a mapping to online digital content;

287. In my opinion, Pogue teaches this limitation.

288. *Windows Vista.* Pogue teaches Windows Vista's desktop linked (i.e., a mapping) to a specific Web page (i.e., online digital content):

> Dragging a Web link from the Links toolbar to the desktop or an Explorer window creates an Internet shortcut file. When double-clicked, this special document connects to the Internet and opens the specified Web page.

(Pogue at 100.) Pogue also teaches a Gadget created in Sidebar on Windows Vista's desktop linked to online digital content such as the weather or news feeds.

> What they [i.e., Gadgets] *most* resemble, actually, is little Web pages. They're meant to display information, much of it from the Internet, and they're written using Web programming languages like DHTML, Javascript, VBScript, and XML.

(Pogue at 211.)

289. *Internet Explorer 7.* Pogue teaches that the execution of nascent cards of the blank tab, the "Open in New Tab," and star with plus signs (i.e., add to Favorites or subscribe to an RSS Feed) in Internet Explorer 7 are mapped to web content (i.e., online digital content). (Pogue at 373, 378, 379, 381.) For example, the Quick Tabs thumbnails, Favorite page, and RSS Feeds panel are all visual representations linked (i.e., a mapping) to web pages. (*Id.*)

[13.4] executing the mapping;

290. In my opinion, Pogue teaches this limitation.

291. *Windows Vista.* Pogue teaches how to execute a Windows Vista desktop shortcut mapped to a specified web page. (Pogue at 100 ("When double-clicked, this special document connects to the Internet and opens the specified Web page.").) Pogue also explains how the Gadgets on Sidebar execute mapping, as the Gadgets are "meant to display information, much of it from the Internet." (Pogue at 211; *see also id.* at 217 (describing the Feeds Headlines gadget, "in which headlines from various Web sites are sent to you automatically"); *id.* at 218 (describing how

the Stocks gadget allows a user to "watch it rise and fall throughout the day"); *id.* at 219 (describing how the Weather gadget "goes online to retrieve the latest Weather.com info").) In my opinion, a POSITA would have understood that the above Gadgets would be executing mapping to the internet.

292. *Internet Explorer 7.* Pogue teaches how clicking quick tabs thumbnails or clicking Favorites web site's name executes the mapping (i.e. opening the web page through execution of a web link). (Pogue at 373, 378, 379, 381.) Moreover, Pogue teaches that RSS Feeds automatically execute mapping to web content. (Pogue at 381.) In my opinion, a POSITA would have understood these Internet Explorer 7 features would be executing mapping to the internet.

[13.5] and displaying a first view of the mapped digital content.

293. In my opinion, Pogue teaches this limitation.

294. *Windows Vista.* In my opinion, Pogue teaches that execution of a shortcut displays the mapped digital content. (Pogue at 100 ("When double-clicked, this special document connects to the Internet and opens the specified Web page.").) Pogue also explains how the Gadgets on Sidebar automatically "display information, much of it from the Internet." (Pogue at 211; *see also id.* at 217 (describing how the Feeds Headlines gadget display mapped "headlines from various Web sites are sent to you automatically"); *id.* at 218 (describing how the Stocks gadget displays stock prices "throughout the day"); *id.* at 219 (describing how the Weather gadget displays "the latest Weather.com info" mapped to the specified city).) In my opinion, a POSITA would have understood that the above Gadgets are displaying a view of the mapped digital content (i.e. internet information).

295. *Internet Explorer 7.* In my opinion, Pogue teaches that once the quick tab card is executed (i.e., clicked), it displays the mapped digital content (i.e., the web page mapped to the

thumbnail) by returning the thumbnail to full size. (Pogue at 375.) Moreover, Pogue teaches that RSS Feeds display the mapped internet content. (Pogue at 381.) Similarly, Pogue teaches that clicking Favorites web site's name will display the designated web page. (Pogue at 373, 378, 379, 381.) In my opinion, a POSITA would have understood these Internet Explorer 7 features would be executing mapping to the internet.

296. As confirmation of my opinion that Pogue teaches this limitation, I note that during prosecution, the Examiner also explained how Mattox taught limitations of claim 12:

> Mattox et al teaches wherein the execution component is further configured to execute a process for creating a visual representation in response to execution of the nascent card, wherein the process for creating a visual representation includes acts of:
>
> transitioning to a quick access view ***(i.e. selecting the Create Page list item in FIG. 3A to create a new page, which displays the configuration page of FIG. 3B)***;
>
> generating a mapping to online digital content ***(i.e. configuring or designing the portal (FIG. 3B, 3E, 3F and column 6 lines 55–64))***;
>
> executing the mapping; and displaying a first view of the mapped digital content ***(i.e. displaying the new page (FIG. 3C, 3D, 3G, 3H, 31, 3J and column 7 lines 5–7)).***

(Ex. 1002 at 359 (emphases in original.)

14. Claim 14

297. Claim 14 depends from claim 1. For the reasons discussed above, it is my opinion that claim 1 would have been obvious to a POSITA over Ledbetter.

[14.1] The user interface of claim 1, wherein the plurality of views includes a quick access view configured to permit user generation of a mapping between digital content and a visual representation.

298. As discussed regarding limitation [1.4], it is my opinion that both Ledbetter and Pogue disclose a plurality of views. In my opinion, Pogue also teaches the added limitation of limitation [14.1].

299. *Windows Vista.* As explained above, it is my opinion that Pogue teaches that one of its views is a view of Windows Vista's Start Menu, which provides quick access to user-configurable icons (i.e. visual representations) mapped to digital content:

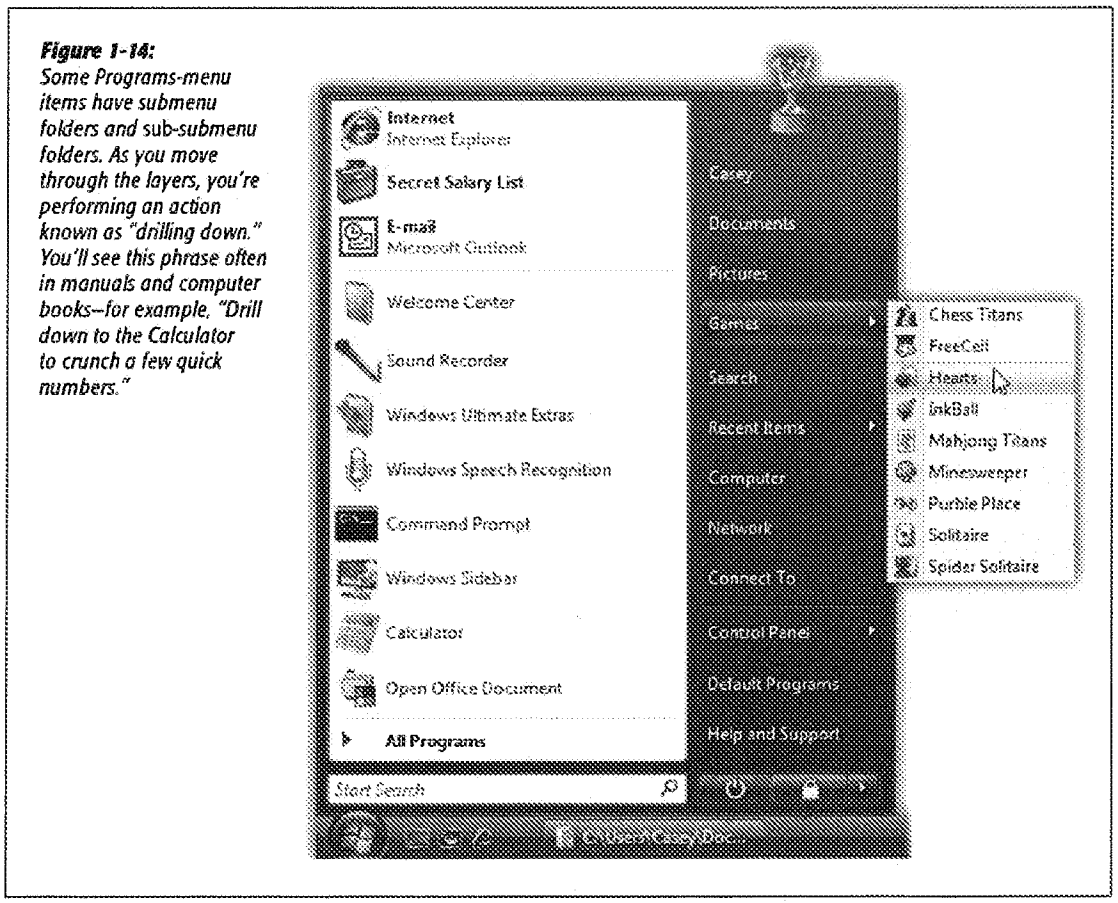


Figure 1-14: *Some Programs-menu items have submenu folders and sub-submenu folders. As you move through the layers, you're performing an action known as "drilling down." You'll see this phrase often in manuals and computer books—for example, "Drill down to the Calculator to crunch a few quick numbers."*

(Pogue at 53 (displaying icons listing Internet, Secret Salary List, Games, etc.).) In my opinion, a POSITA would have understood that the icons in the Start Menu are user generated, such as the "Secret Salary List" icon shown above. Pogue further explains that the taskbar of Windows Vista has a "Quick Launch" area where a user creates icons for different projects. (Pogue at 103.)

300. *Windows Photo Gallery.* In my opinion, Pogue teaches how Windows Photo Gallery has a view displaying an overview of pictures and video as thumbnails:

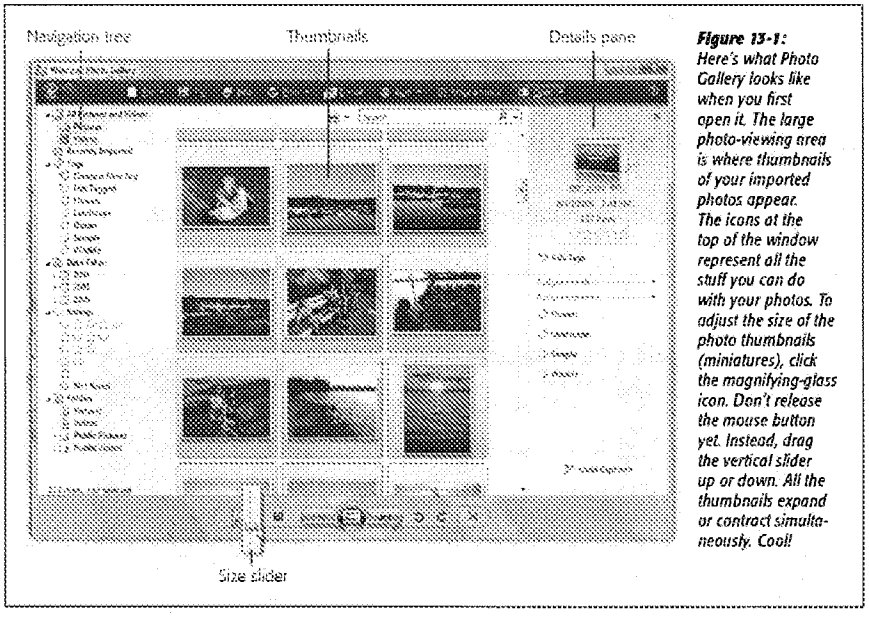


Figure 13-1: *Here's what Photo Gallery looks like when you first open it. The large photo-viewing area is where thumbnails of your imported photos appear. The icons at the top of the window represent all the stuff you can do with your photos. To adjust the size of the photo thumbnails (miniatures), click the magnifying-glass icon. Don't release the mouse button yet. Instead, drag the vertical slider up or down. All the thumbnails expand or contract simultaneously. Cool!*

(Pogue at 424 (photos), 432–433 (video clips); *see also* Pogue at 83 (documents).) In my opinion, a POSITA would have understood that the user generates each of these thumbnails by dragging photos or video content into Photo Gallery. In my opinion, a POSITA would understand that the Size slider controls the number of thumbnails on a display page, and potentially provide an overview and access to all contents of a folder.

301. *Internet Explorer 7.* In my opinion, Pogue teaches that one of the views of Internet Explorer 7 is a "Quick Tabs tab" view, which transitions to a quick access view showing an overview of all open Internet Explorer 7 tabs, where each thumbnail maps between the Quick Tab

and user-selected online digital content. (Pogue at 374–375.) This quick access view provides an overview of user-generated mapping between digital content and visual representations, such as Quick Tabs. (*Id.*) Moreover, Pogue teaches Internet Explorer 7's user-generated Favorites and RSS Feed Pages, where each are user generated mappings between the web page and the visual representation of a Favorites (i.e., a bookmark) or an RSS Feed. (Pogue at 377–378, 380–381.). Both Favorites and RSS Feeds are accessed through a dedicated page or panel showing an overview of the Favorites and subscribed RSS feeds (i.e., a quick access view). (*Id.*) In my opinion, a POSITA would have understood that Favorites and RSS Feeds are a form of quick access view.

302. As confirmation of my opinion that Pogue teaches this limitation, I note that during prosecution of the '715 Patent, the Examiner also explained how Miller's overview taught this addition limitation:

> Miller further teaches wherein the plurality of views includes a quick access view configured to permit user generation of a mapping between digital content and a visual representation ***(i.e. displaying an overview of pictures (FIG. 15.30 page 17), movies (FIG. 15.3 page 9, FIG. 16.5 page 11), games (FIG. 15.28 page 8) as thumbnails).***

(Ex. 1002 at 352 (emphasis in original).) I understand that Patent Owner did not dispute Examiner's understanding of this claim limitation. (*Id.* at 404–408.)

15. Claim 15

303. Claim 15 depends from claim 1. For the reasons discussed above, it is my opinion that claim 1 would have been obvious to a POSITA over Ledbetter.

[15.1] The user interface of claim 1, wherein the plurality of views includes a channel view including a channel selector that displays a sequence of visual representations.

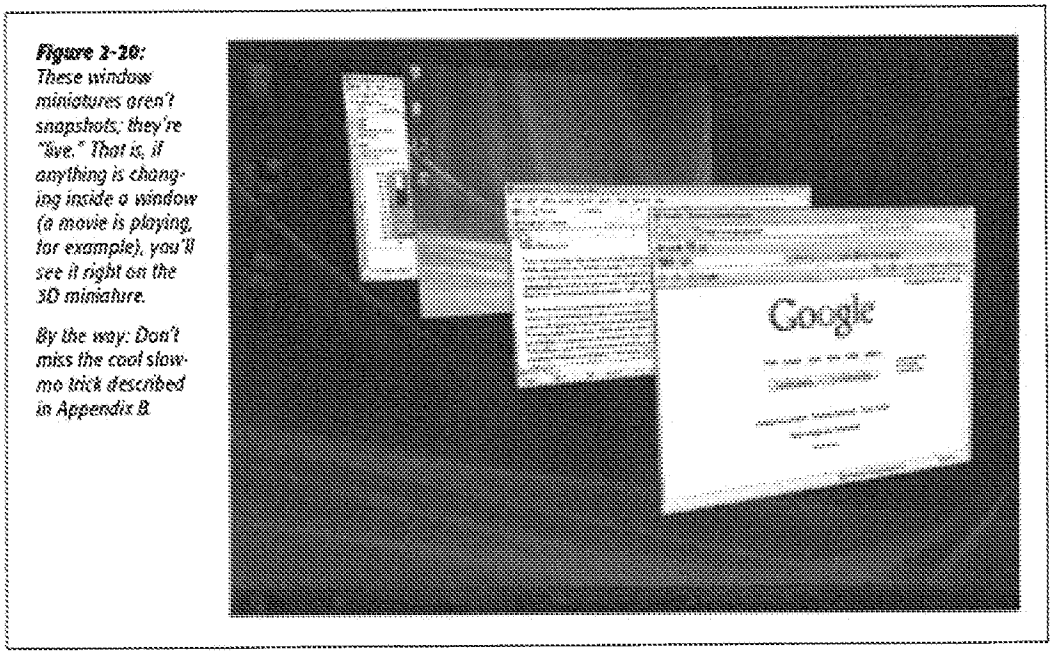
304. As discussed regarding limitation [1.4], it is my opinion that both Ledbetter and Pogue disclose a plurality of views. And as explained above for limitation [2.2], it is my opinion that both Ledbetter and Pogue teach a channel view. In my opinion, Ledbetter and Pogue further teach the added elements of limitation [15.1].

305. **Ledbetter.** In my opinion, Ledbetter teaches a channel selector. Ledbetter teaches that its view for audiovisual content may be controlled with a remote control. (Ledbetter at ¶ [0025].) Ledbetter says "interaction, such as to get a movie started, may be accomplished in the modes of FIG. 2 or 3, or via remote control and/or touch-screen operation while in the media consumption mode correlated in FIG. 4." (*Id.* at ¶ [0031].) In my opinion, a POSITA would have understood that a remote control and / or touch-screen would require a channel view with a "channel selector" (e.g., a television guide view or a list of media) for media consumption mode (i.e., Ledbetter's FIG. 4). While Ledbetter does not expressly use the words "a sequence of visual representations" to describe the channel selector, it is my opinion that a POSITA would have understood that Ledbetter's descriptions of remote control or touch-screen operation in Ledbetter's media consumption mode would require also the selection of content from a displayed list (i.e., a sequence of visual representations), such as choosing a TV channel, or selecting a TV show from a list of shows on a menu, or playing a song from a playlist. Otherwise, a user would not be able to select the media the user wanted to view, stream, record, skip, pause, or delete. In my opinion, a POSITA reading Ledbetter's description of a television on a computer system would have understood that typical well known computer functions such as view, stream, record, skip, pause, or delete, would be available on a menu (i.e. a sequence of visual representations).

306. To the extent the Examiner finds, or Patent Owner argues, that the claimed "channel selector" requires a device in addition to a display of a sequence of visual representations, then it is my opinion Ledbetter's remote control still satisfies this limitation.

307. **Pogue.** In my opinion, Pogue also teaches a channel selector and expressly describes a sequence of visual representations for its channel selector.

308. *Windows Vista.* Pogue teaches the Flip 3D feature in Windows Vista. (Pogue at 91.) Pogue teaches that Flip 3D permits the selection of "live" channels ("a movie is playing, for example") using "the arrow keys or your mouse's scroll wheel." (*Id.*) Pogue teaches the Flip 3D feature displays a sequence of visual representations. (*Id.*) Pogue shows an image of Flip 3D in Figure 2-20, which is reproduced below:



Any of these tactics triggers the 3-D floating-windows effect shown in Figure 2-20. At this point, you can use the arrow keys or your mouse's scroll wheel to flip through the open windows *without* having to hold down any keys. When you see the one you want, press the Esc key to choose it and bring it to the front.

(Pogue at 91.) In my opinion, a POSITA would have understood that the visual representations comprise several choices of channel views, as discussed for limitation [2.2] For example, a POSITA, in my opinion, would have understood that a user uses Windows Vista's channel selector of Flip 3D to select between channels of music, movies, video clips, television, photos and web content. As confirmation of my understanding that Windows Vista Flip 3D discloses a channel selector view, the '715 Patent FIG. 25B provides an example of channel selector view 2556 and a channel of a photo 2552:

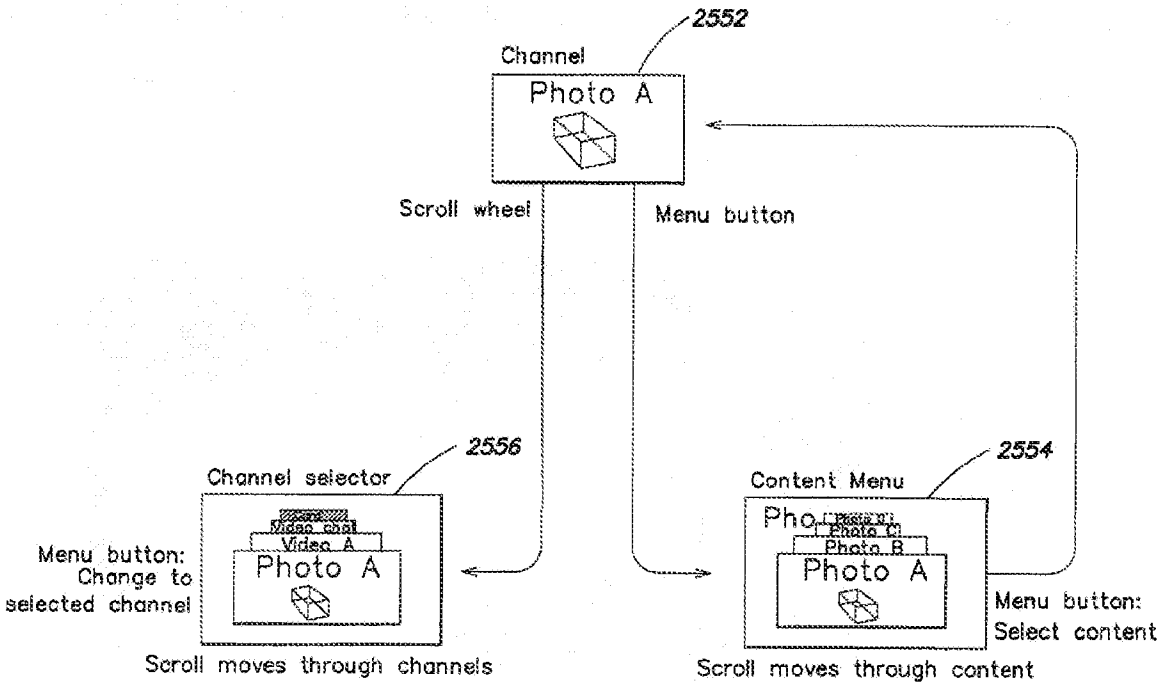


FIG. 25B

(Ex. 1001, FIG. 25B.)

309. Additionally, Pogue teaches Alt-Tab on Windows Vista, which offers another channel selector that displays a sequence of visual representations, in my opinion:

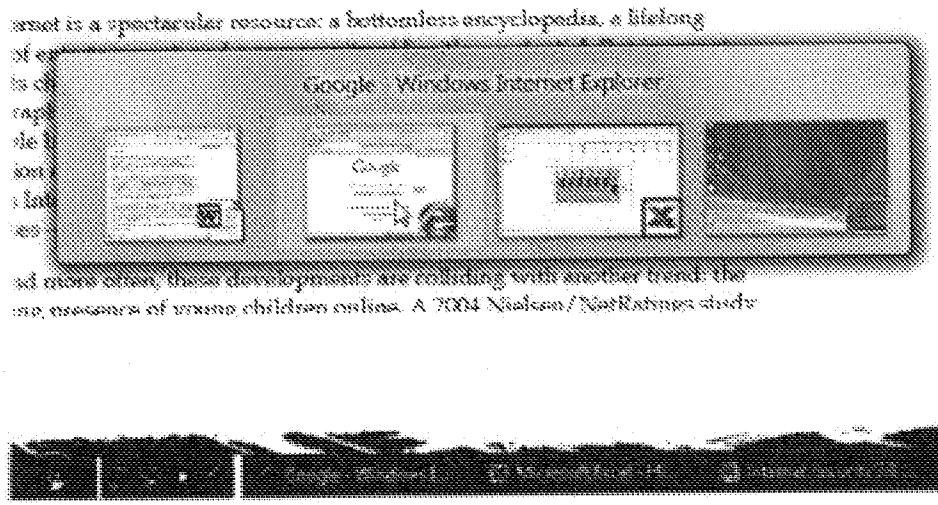


Figure 2-19: Alt+Tab highlights successive icons; add Shift to move backward. (Add the Ctrl key to lock the display, so you don't have to keep Alt down. Tab to the icon you want, then press Space or Enter.)

(Pogue at 89–90.) In my opinion, a POSITA would have understood that Alt-Tab function uses a keyboard.

310. In addition to the sequence of visual representation taught by Pogue with Windows Vista, it is my opinion that Pogue also teaches more conventional displays of a sequence of visual representations, such as visual lists of online content, lists of TV shows, lists of music, and lists of games, lists of movies, lists of RSS feeds, lists of web pages, in Windows Media Center, Windows Photo Gallery, Windows Explorer and Internet Explorer 7.

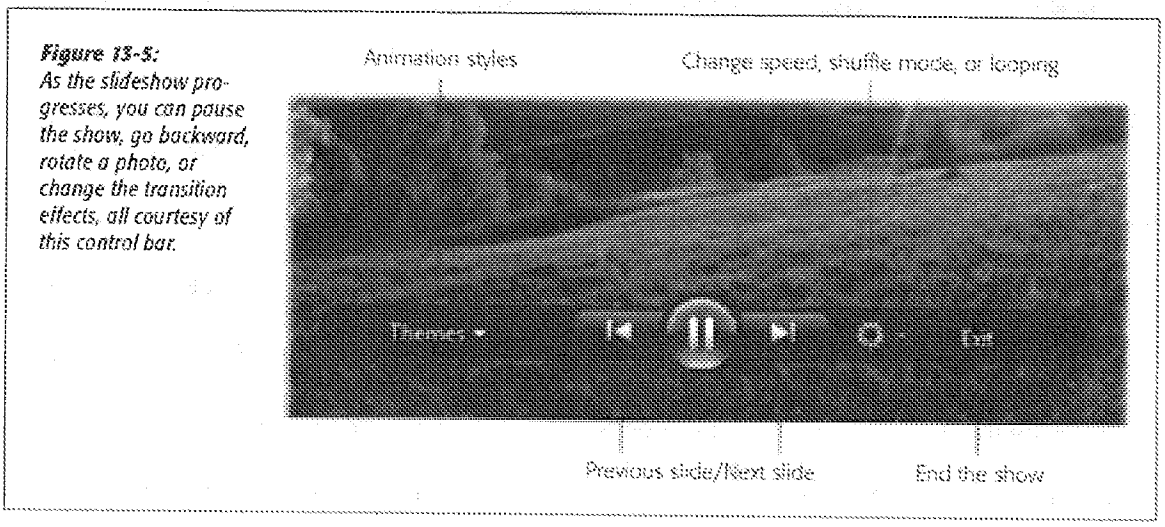
311. *Windows Media Center.* Pogue Figure 16-5 teaches Windows Media Center's TV guide for TV channel view. (*Pogue* at 510.) In my opinion, Pogue teaches multiple ways to select channels from the visual representation of a list of show titles:

> Use your remote control, mouse, or keyboard to navigate through the guide. Type a number into the remote's keypad to change channels. Click Skip (or something similar) to move forward in the Guide. Run the mouse over a show's title to read a short synopsis of the show. Right-click any show title (or use the remote's Info

button) to get more program info, record the program, or record the series.

(*Id.*; *see also id.* at 512, Figure 16-6 (showing Windows Media Center's channel selector of channels of recorded tv, live tv, online media, tasks); *id.* at 478 (showing Windows Media Player channel selector music).) In my opinion, a POSITA would have understood that selection of a show would have transitioned to a large footprint display of the show itself.

312. *Windows Photo Gallery*. In my opinion, Pogue Figure 13-5 also choses a channel view (i.e., a photo slideshow) with a channel selector (i.e., previous slide / next slide control bar):



(Pogue at 431 (also describing keyboard use to control the channel selector).)

313. *Windows Media Player*. In my opinion, Pogue also teaches a channel view (i.e., a Media Guide) and how to use a mouse to select the channel (i.e., Internet Radio station):

Figure 14-9: *Top: In the list at the right side of Media Guide, click Internet Radio.*

Bottom: Click through the music genres to find what you're up for. Click a station that looks interesting, and then click the little Play button beneath its listing. (The higher the number in the Speed column, the better the sound quality. Note, though, that 128 Kbps is generally too rich for dial-up modems, and may sputter.) Wait for your PC to connect to the Internet site, and then let the music begin!

(Pogue at 478 (teaching user to how to select a channel to play music).)

314. *Internet Explorer 7.* In my opinion, Pogue also teaches RSS Feeds which shows a channel view that includes a channel selector that displays a sequence of visual representations. (Pogue at 380.) As explained for limitation [2.2], it is my opinion that Internet Explorer 7's RSS Feeds view corresponds with the '715 Patent's description of a channel view, as shown in the '715 Patent's FIG. 20A and 20B equating RSS views as channel views. In my opinion, Pogue teaches how to select a channel using mouse clicks. (*See, e.g.*, Pogue at 380, Figure 11-9 ("To read your feed … click Feeds. Click the one you want to read.").)

315. To the extent the Examiner finds, or Patent Owner argues, that the claimed "channel selector" requires a device in addition to a view that displays a sequence of visual representations, it is my opinion that Pogue also teaches a device to select channels. For example, Pogue explains how a scroll wheel on a mouse is used to "zoom through Web pages, email lists, and documents" or "navigate through your thumbnails." (Pogue at 297, 370–371, 434.) Pogue also teaches use of a remote control to control Windows Media Center. (Pogue at 502, 507.) Pogue also teaches use of a keyboard to select channels. (*See, e.g.*, Pogue at 431, 510.)

316. As confirmation of my understanding that Pogue's disclosure of a list of games, movies, TV, and music teaches this limitation, during prosecution of the '715 Patent, I note the Examiner also explained how Miller taught the "channel view that displays a sequence of visual representations" limitation:

> Miller further teaches wherein the plurality of views includes a channel view that displays a sequence of visual representations ***(i.e. presenting a list of online games (page 8), online content like streaming movies, TV and music (page 9–11). The user can select any of the games or movies in the list (page 8, 9))***.

(Ex. 1002 at 360 (emphasis in original).) I note the Examiner also explained how Nishiyama teaches a channel selector:

> Nishiyama et al teaches a channel selector ***(i.e. a scroll wheel that can select between functions (FIG. 8 and abstract, par. 29)).***

(*Id.* at 360 (emphasis in original).) I note Patent Owner did not dispute Examiner's understanding of this claim limitation. (*Id.* at 404–408.)

16. Claim 16

317. Claim 16 depends from claim 15. For the reasons discussed above, it is my opinion that claim 15 would have been obvious to a POSITA over Ledbetter.

[16.1] The user interface of claim 15, wherein the execution component is further configured to transition the computer system to the channel view in response to receiving user input via at least one input device integral to or operatively connected with the computer system.

318. As discussed regarding limitation [1.6], it is my opinion that Ledbetter discloses an execution component. As explained above for limitation [2.2], it is my opinion that both Ledbetter and Pogue disclose a transition to a channel view. Ledbetter teaches the additional limitation of [16.1]. Ledbetter teaches "[t]he positions can also be manually changed, such as triggered from a button on the display or keyboard" (Ledbetter at ¶ [0059]) and that "[t]his software can automatically run during position switching, or can be manually triggered.") (*Id.* at ¶ [0060].) Ledbetter teaches viewing audiovisual content may be controlled with a remote control, which is user input via input device that is operatively connected to the Ledbetter computer system. (*Id.* at ¶ [0025].) Ledbetter teaches "interaction, such as to get a movie started, may be accomplished in the modes of FIG. 2 or 3, or via remote control and/or touch-screen operation while in the media consumption mode correlated in FIG. 4." (*Id.* at ¶ [0031].) In my opinion, a POSITA would have understood that Ledbetter's description of a transition to a channel view would have been in response to a remote control or keyboard.

319. As explained above for limitation [15.1], it is my opinion that Pogue teaches a channel view that includes a channel selector such as arrow keys on a keyboard or a scroll wheel with the Flip 3D feature in Windows Vista. (Pogue at 91, Figure 2-20.) Pogue teaches that user input on a keyboard of the windows key and tab brings forth Flip 3D. (*Id.* at 90.) Pogue also teaches how Alt-Tab brings forth a channel selector view. (*Id.*) Pogue also teaches how to control playback of video, photo slideshows, and DVD movies in Windows Media Center using a remote control or buttons on your mouse. (*Id.* at 523, 524, 529.)

320. As discussed for the "execution component" of limitation [1.6], it is my opinion that Pogue teaches that the above "transition" limitation would be executed by Windows Vista and included programs such as Internet Explorer 7, i.e., software operating on a processor. (Pogue at 11 ("Windows is an operating system, the software that controls your computer.").)

321. In my opinion, this limitation is also satisfied to the extent the Examiner finds, or Patent Owner argues, that these terms invoke Section 112(6), have adequate linked structure, and that the linked structure is a processor programmed with an algorithm that, after the steps described in limitations [1.7] – [1.9]:

- [4] "transition[s] the computer system to the channel view in response to receiving user input via at least one input device integral to or operatively connected with the computer system." ('715 Patent at 5:56–60, 11:9–12, claim 12.)

322. As just explained, it is my opinion that Ledbetter and Pogue teach and disclose a processor running computer software for carrying out the function of limitation [16.1]. In my opinion, a POSITA would have understood that this involved, or at least rendered obvious, a processor programmed to carry out an algorithm (the software running on the computer) performing the claimed functions in the above-noted manner, or equivalents thereof.

17. Claim 17

[17.1] A customized user interface to display computer content on a display component of a computer system including a keyboard, the user interface comprising:

323. As discussed regarding preamble [1.1], it is my opinion that Ledbetter discloses it, to the extent the preamble is limiting.

[17.2] at least one processor operatively connected to a memory of the computer system;

324. As discussed regarding limitation [1.2], it is my opinion that Ledbetter discloses this limitation.

[17.3] a graphical user interface, executing on the at least one processor, configured to;

325. As discussed regarding limitation [1.3], it is my opinion that discloses this limitation.

[17.4] display a plurality of views of a plurality of visual representations of computer content;

326. As discussed regarding limitation [1.4], it is my opinion that both Ledbetter and Pogue disclose a plurality of views of computer content.

[17.5] an execution component, executing on the at least one processor, configured to:

327. As discussed regarding limitation [1.6], it is my opinion that Ledbetter discloses this limitation.

[17.6] identify at least a first computer system configuration where the keyboard is operable to receive input from an operator of the computer system to control the computer system and a second computer system configuration where the keyboard is inoperable to receive input from the operator of the computer system to control the computer system based on sensor input indicating a position of the display component;

328. In my opinion, Ledbetter teaches this limitation.

329. First, it is my opinion that Ledbetter teaches how its mode switch software identifies a first and a second system configuration (described below) based on sensor input

indicating a display monitor position. (Ledbetter at ¶ [0055] ("the computer providing the content to display can change software operating modes to match the corresponding monitor position").). Ledbetter describes several "position detector means 1380," including "optical sensor or sensors and/or essentially any equivalent mechanism or mechanisms that can report a signal indicative of the current position (at least once movement has stopped) to a computer system." (*Id.*) Ledbetter describes an example where the "position detector means 1380" is coupled to a "multiple-position arm." (*Id.*) Ledbetter teaches that a "position detector means 1380 [that] is coupled (e.g., via a hard to software interface) to mode switch software 1382 running on the computer system." (Ledbetter at ¶ [0056].) In my opinion, such a "optical sensor" coupled to a "multiple-position arm" would indicate the position of the display component.

330. Second, it is my opinion that Ledbetter describes a first system ***configuration where the keyboard is operable***, such as its conventional workstation mode. (*Id.* at ¶ [0003] ("For example, preset stopping positions may be provided for conventional (e.g., mouse and keyboard) work station-like interaction …").) Ledbetter also provides FIG. 2 showing a computer system configuration where the keyboard is operable to receive input from an operator:

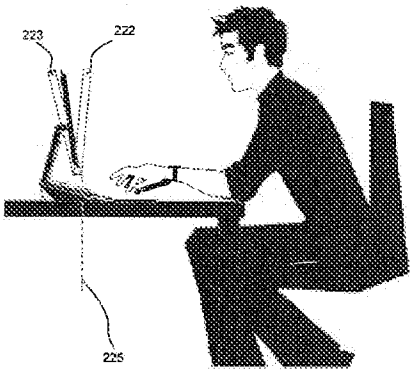
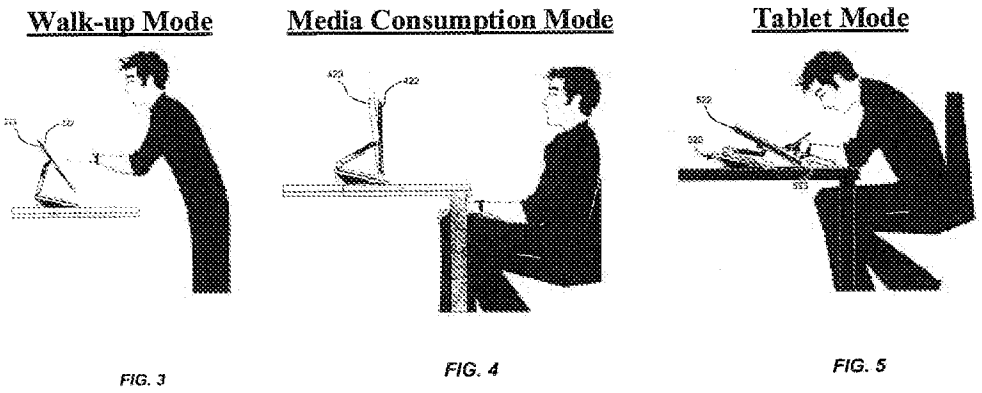


FIG. 2

(*Id.* at FIG. 2.) In my opinion, a POSITA would thus have understood that Ledbetter teaches a workstation mode, as illustrated in FIG. 2, with a computer system configuration where a keyboard is operable to receive input from an operator.

331. Third, it is my opinion that Ledbetter describes a second system ***configuration where the keyboard is inoperable*** to receive operator input. (Ledbetter at ¶ [0030] ("The location of these mechanisms facilitates interaction with the computer system, including when the keyboard does not exist or is stored behind the display and is therefore not easily accessible.").) Ledbetter also provides FIGs. 3–5 showing a computer system configuration where the keyboard is inoperable to receive input from an operator:



(*Id.* at FIGs. 3–4.) Ledbetter also provides another figure showing an inoperable keyboard in "retracted position." (*Id.* at ¶ [0025].)

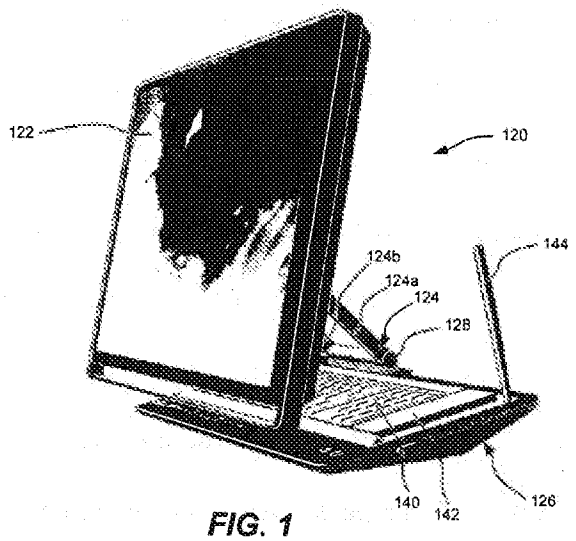


FIG. 1

(*Id.* at FIG. 1.) Ledbetter explains that:

> the example of FIG. 1 is a keyboard 140 and remote control device 142, shown in a retracted position. For example, a user may desire such positioning for viewing audiovisual content, and may control such operation by removing the remote control 142. In the event that the screen is touch and/or pen-sensitive, the user also may interact with the computer system via the display monitor 122 using a pen 142 or the like.

(*Id.* at ¶ [0025].) In my opinion, a POSITA would thus have understood that Ledbetter teaches a Walk-up Mode, Media Consumption Mode, Tablet Mode, as illustrated in FIGs. 3–5, with a computer system configuration where a keyboard is inoperable to receive input from an operator. In my opinion, a POSITA would further have understood the "retracted position" shown in FIG. 1 is a computer system configuration where the keyboard is inoperable to receive input from an operator.

332. In sum, in my opinion, a POSITA would thus have understood that the Ledbetter-Pogue combination teaches an "execution component" (i.e., Ledbetter's "position detector means 1380 [that] is coupled (e.g., via a hard to software interface) to mode switch software 1382 running

on the computer system" (Ledbetter at ¶ [0056])) that is configured to detect computer system configurations where a keyboard is operable to receive input from an operator and computer system configurations where a keyboard is inoperable to receive input from an operator, based on sensor input indicating a position of the display component.

[17.7] select, responsive to the sensor input, a first content view from the plurality of views for the first computer system configuration;

333. In my opinion, Ledbetter teaches this limitation. Ledbetter teaches that software executing on the computer system selects a content view for the matching computer system configuration (Ledbetter at ¶¶ [0004], [0055] ("change software modes to match the corresponding monitor position")). Ledbetter teaches this selection is in response to sensor input because Ledbetter discloses several "position detector means 1380," including "optical sensor or sensors and/or essentially any equivalent mechanism or mechanisms that can report a signal indicative of the current position (at least once movement has stopped) to a computer system." (*Id.* at ¶ [0055].) Ledbetter describes an example where the "position detector means 1380" is coupled to a "multiple-position arm." (*Id.*) Ledbetter teaches that a "position detector means 1380 [that] is coupled (e.g., via a hard to software interface) to mode switch software 1382 running on the computer system." (Ledbetter at ¶ [0056].) It is my opinion that such a "optical sensor" coupled to a "multiple-position arm" would indicate the position of the display component. In my opinion, Ledbetter describes software that selects one of many user interfaces or programs to display to match a computer system configuration (i.e., mode):

> The mode switch software 1382 … reports the **position-based decision** to the operating system 1384, which in turn loads a corresponding shell user interface and/or other program or

> programs (e.g., 1386_1) as necessary to configure the computer system user interface display 1388 and running programs to match the current mode.

(Ledbetter at ¶ [0056] (emphasis added).) Ledbetter explains how the mode switch software selects the content view from sensor input, which reports a signal about the computer system configuration:

> In addition to providing the various positions corresponding to interaction modes, the computer providing the content to display can change software operating modes to match the corresponding monitor position. By way of example, FIG. 13 shows a multiple-position arm 1324 coupled to ***a position detection means 1380, such as one or more switches, a counter (Such as motor rotations), an optical sensor or sensors and/or essentially any equivalent mechanism or mechanisms that can report a signal indicative of the current position*** (at least once movement has stopped) to a computer system.

(Ledbetter at ¶ [0055] (emphasis added).) Ledbetter also includes a block diagram illustrating the selection of one out of many shell user interface ("UI") programs (multiple UIs confirmed by the subscripted series 1386_1, 1386_2 … 1386_N) or other codes in response to the position detector via mode switch software executing on the operating system:

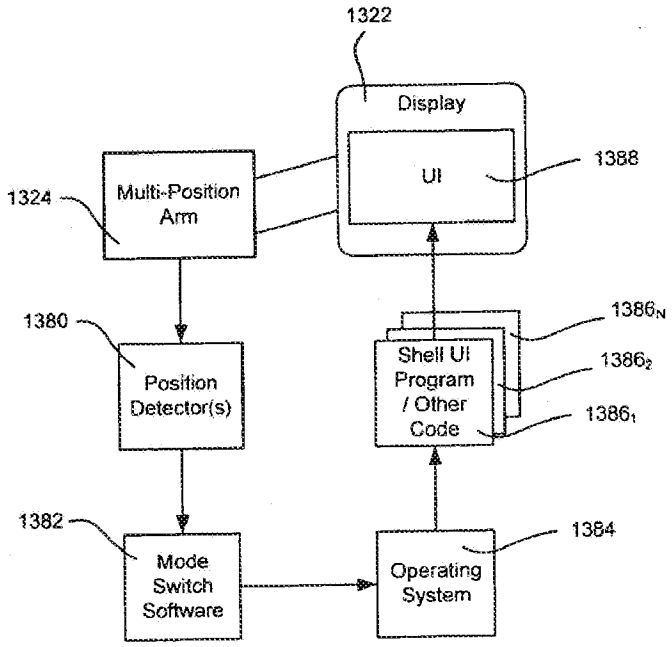


FIG. 13

(Ledbetter at FIG. 13).

334. Moreover, in my opinion, Pogue describes a first content view from the plurality of views for the same reasons as described for limitations [1.4] and [1.5] regarding "visual representations of computer content" and "computer content."

335. In sum, it is my opinion that a POSITA would have understood that the Ledbetter-Pogue combination teaches an "execution component" that is configured to select, responsive to the sensor input, a first content view.

[17.8] transition, automatically in response to the sensor input, the display component between at least the first content view of the plurality of views and a second content view of the plurality of views;

336. In my opinion, Ledbetter teaches this limitation. Ledbetter teaches transitions between a first content view (e.g., Ledbetter's workstation mode) to a second content view (e.g., Ledbetter's tablet mode), automatically in response to a sensor (i.e., Ledbetter's position detection means):

> In addition to providing the various positions corresponding to interaction modes, the computer providing the content to display can ***change software operating modes to match*** the corresponding monitor position. By way of example, FIG. 13 shows a multiple-position arm 1324 coupled to ***a position detection means 1380, such as one or more switches, a counter (Such as motor rotations), an optical sensor or sensors and/or essentially any equivalent mechanism or mechanisms that can report a signal indicative of the current position*** (at least once movement has stopped) to a computer system.

(Ledbetter at ¶ [0055] (emphases added).) Ledbetter teaches how this transition occurs automatically in response to the sensor input: "This software can automatically run during position switching, or can be manually triggered." (*Id.* at ¶ [0060].) Ledbetter further explains that transitions occurs when the software reports on a position-based decision (i.e., through the sensor) to the operating system to load a corresponding user interface or program (i.e., first and second content views):

> [t]he mode switch software 1382, which may be any program such as an application and/or operating system component, ***reports the position-based decision*** to the operating system 1384, which in turn loads a ***corresponding shell user interface and/or other program or programs*** (e.g., 1386_1) as necessary to configure the computer system user interface display 1388 and running programs ***to match the current mode.***

(*Id.* at ¶ [0056] (emphases added).)

337. Ledbetter teaches implementing transitions with a delay, further indicating that transition of modes matches a configuration in response to changing of a particular position, in my opinion:

> Some delay may be provided to avoid loading and changing software until it is likely that a user has settled on a particular position and/or interaction mode rather than transitioning between modes.

(*Id.*) In my opinion, a POSITA would further have understood that Ledbetter 's description of "some delay may be provided" indicates that the transition in Ledbetter typically occurs automatically in response to the sensor input.

338. Moreover, it is my opinion that Pogue describes a first content view and a second content view of the plurality of views for the same reasons as described for limitations [1.4] and [1.5] regarding "visual representations of computer content" and "computer content."

339. In sum, it is my opinion that a POSITA would have understood that the Ledbetter-Pogue combination teaches an "execution component" that is configured to transition, automatically in response to the sensor input, the display component between at least the first content view of the plurality of views and a second content view of the plurality of views.

[17.9] receive user input via at least one input device integral to or operatively connected with the computer system; and;

340. In my opinion, Ledbetter teaches this limitation. Ledbetter teaches "a workstation mode that facilitates access to at least one input device." (Ledbetter at claim 3, claim 6, ¶ [0008] ("a workstation mode … positioned to provide access to input devices."), ¶ [0028] ("workstation

position ... with access to input devices, e.g., a keyboard and pointing device").) Ledbetter expressly identifies input devices such as a keyboard, pen, stylus, and mouse, in addition to a touch-screen input. (*Id.* at Abstract, ¶ [0032].)

341. In my opinion, Pogue also teaches this limitation. Pogue teaches user input via use of a scroll wheel, a keyboard, a remote control, and a mouse as user input devices (*See, e.g.*, Pogue at 13, 90–91, 297, 380, 431, 478, 510, 523–524, 529).

342. In my opinion, a POSITA would have understood that the user input devices taught by Pogue and Ledbetter are integral or operatively connected with the computer system. Moreover, it is my opinion that a POSITA would have understood that the system received user input via these input devices, as that was the entire purpose of these input devices. At the very least this would have been obvious, in my opinion. *Id.*

343. In sum, it is my opinion that a POSITA would have understood that the Ledbetter-Pogue combination teaches an "execution component" that is configured to receive user input via at least one input device integral to or operatively connected with the computer system.

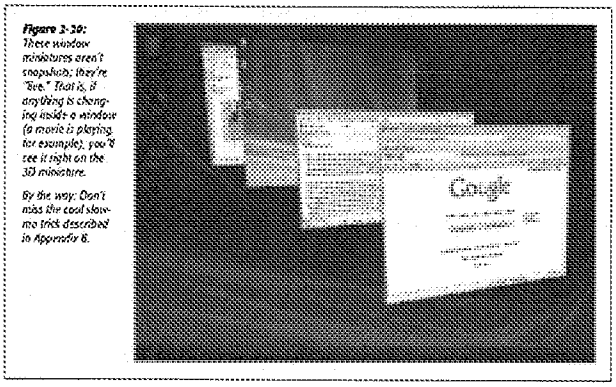
[17.10] transition, automatically in response to receiving the user input, the display component from one of the first content view and the second content view to a channel view including a channel selector that displays a sequence of visual representations.

344. As explained for limitation [15.1], it is my opinion that Ledbetter and Pogue teach the limitation of "a channel view including a channel selector that displays a sequence of visual representations." It is also my opinion that Ledbetter and Pogue further teach the added elements of limitation [17.10]. In my opinion, Ledbetter teaches transition to one type of channel view, i.e., its "media consumption mode," which allows viewing multiple channels. In my opinion, Pogue,

in turn, provides two additional and separate transitions that meets the claim element, namely user input-based transitions to (i) its 3-D floating windows and (ii) its alt-tab display.

345. **Ledbetter.** In my opinion, Ledbetter teaches how its computer system transitions a first or second content view (workstation or walk-up mode) to a channel view (e.g., media consumption mode) automatically in response to receiving user input. For example, Ledbetter discloses changing device "positions" in response to user input such as pushing "a button on the display or keyboard." (*E.g.*, Ledbetter at ¶ [0059] ("The positions can also be manually changed, such as triggered from a button on the display or keyboard"); ¶ [0060] ("This software can automatically run during position switching, or can be manually triggered"). Ledbetter further teaches controlling the display with a remote control (i.e., user input). (*Id.* at ¶ [0025].) Ledbetter says "interaction, such as to get a movie started, may be accomplished in the modes of FIG. 2 or 3, or via remote control and/or touch-screen operation while in the media consumption mode correlated in FIG. 4." (*Id.* at ¶ [0031].) In my opinion, a POSITA would have understood that Ledbetter disclosed a transition from a first content view (e.g., workstation mode) and second content view (e.g., walk up mode) to a channel view (i.e. media consumption mode) automatically in response to receiving user input (i.e., Ledbetter's remote control or "triggered from a button on the display or keyboard").

346. **Pogue.** In my opinion, Pogue teaches a different type of transition to a channel view automatically in response to receiving user input. For example, Pogue teaches that inputting the Windows key and Tab triggers a sequence of visual representations, permitting the selection of a channel using arrow keys or a scroll wheel of a mouse. (*Id.*) Pogue shows an image of Flip 3D in Figure 2-20, which is reproduced below:



Any of these tactics triggers the 3-D floating-windows effect shown in Figure 2-20. At this point, you can use the arrow keys or your mouse's scroll wheel to flip through the open windows *without* having to hold down any keys. When you see the one you want, press the Esc key to choose it and bring it to the front.

347. Similarly, Pogue teaches Alt-Tab on Windows Vista, which in my opinion is another channel selector that displays a sequence of visual representations that is triggered by user input on a keyboard:

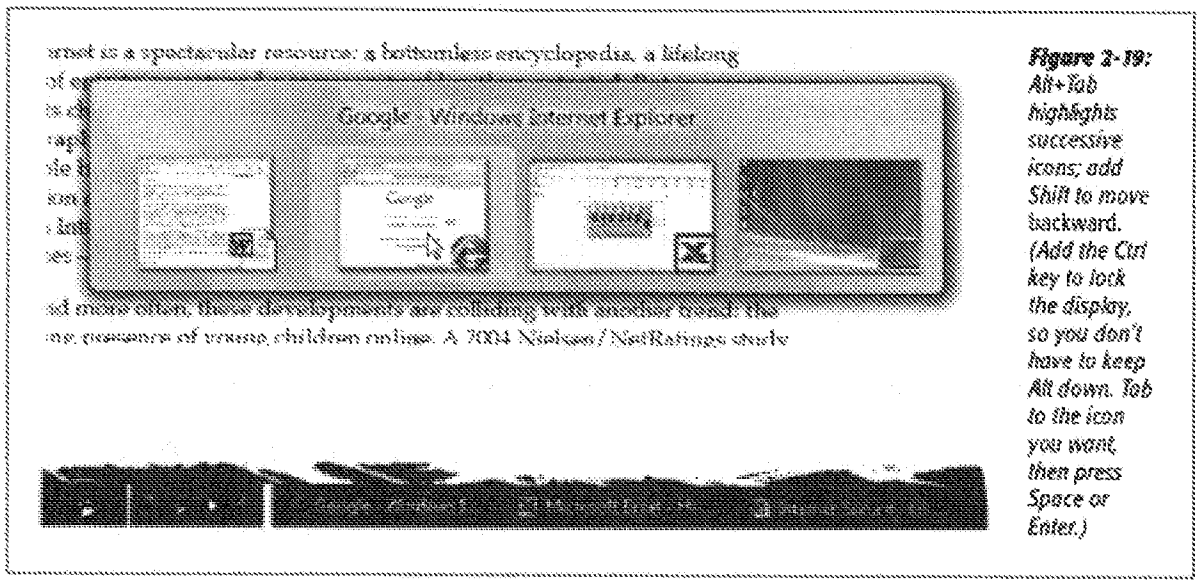


Figure 2-19: *Alt+Tab highlights successive icons; add Shift to move backward. (Add the Ctrl key to lock the display, so you don't have to keep Alt down. Tab to the icon you want, then press Space or Enter.)*

(Pogue at 89–90.)

348. Moreover, as described for limitation [2.2], it is my opinion that Pogue teaches several programs with a channel view such as Windows Vista in general, and in Windows Media

Center, Windows Photo Gallery, Windows Media Player, and Internet Explorer 7, each of which have a channel selector that displays a sequence of visual representations (i.e., a menu or list of content). (*See, e.g.*, Pogue at 381, 464, 510, 512, 520.)

349. In sum, it is my opinion that a POSITA would have implemented Ledbetter with the Pogue operating system such that the system included an "execution component" configured to transition, automatically in response to receiving the user input, the display component from one of the first content view and the second content view to a channel view including a channel selector that displays a sequence of visual representations.

18. Claim 18

350. Claim 18 depends from claim 17. For the reasons discussed above, it is my opinion that claim 17 would have been obvious to a POSITA over Ledbetter.

[18.1] The user interface of claim 17, wherein the at least one input device includes at least one of a scroll wheel, a touchpad, and a mouse.

351. Ledbetter and Pogue disclose this limitation. Ledbetter expressly identifies a mouse. (Ledbetter at Abstract.) Pogue also teaches the use of a mouse, along with a scroll wheel and a trackpad. (*See, e.g.*, Pogue at 13 ("Your mouse probably has a little wheel on the top. … Maybe you have an actual roller, or maybe the trackpad offers drag-here-to-scroll strips on the right side and across the bottom.").) A POSITA would have understood that Pogue's description of a wheel on a mouse and a trackpad are "scroll wheel" and "touch pad," respectively. Regardless, the '715 Patent admits that input devices such as a scroll wheel, touch pad, and mouse were known to those skill in the art or a conventional tool. ('715 Patent at 19:31–33, 20:59–61, 22:21–25.) In my opinion, a POSITA would have been aware of input devices such as a scroll wheel, touch pad, and a mouse to control computer systems described in Ledbetter and Pogue.

19. Claim 19

352. Claim 19 depends from claim 15. For the reasons discussed above, it is my opinion that claim 15 would have been obvious to a POSITA over Ledbetter and Pogue.

[19.1] The user interface of claim 15, wherein the first mode is a laptop mode where the keyboard is oriented to be accessible to the operator and wherein the second mode is an easel mode or a frame mode where the keyboard is oriented to be inaccessible to the operator.

353. While claim 19 does not provide an antecedent basis for "the first mode" and "the second mode," to the extent I correctly understand that Patent Owner intended claim 19's antecedent basis for "the first mode" and "the second mode" to correspond with claim 1's "a first computer system configuration" and "a second computer system configuration," it is my opinion Ledbetter and Pogue both disclose this limitation.

354. In my opinion, Ledbetter describes "a first computer system configuration" of a computer system with a display monitor physically coupled to a desktop computer that is "typically positioned for workstation like interaction." (Ledbetter at ¶ [0002].) Ledbetter FIG. 2 shows that its workstation mode (i.e., computer system configuration) has the keyboard is oriented to be accessible to the operator:

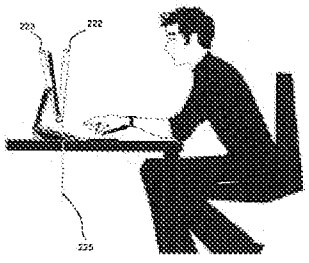


FIG. 2

(Ledbetter at FIG. 2; *id.* at ¶ [0003] ("preset stopping positions may be provided for conventional (e.g., mouse and keyboard) work station-like interaction"); *id.* at ¶ [0028] ("In the example of FIG. 2, this user's workstation position is also set such that the bottom of display is approximately four inches off of the desk, with access to input devices, e.g., a keyboard and pointing device."; *id.* at ¶ [0041] ("FIG. 8B corresponds to a workstation mode, with the monitor slid back on the pinion, thereby exposing more of the base to facilitate access to a keyboard, for example.").) In my opinion, a POSITA would understand that such a computer system configuration as shown in FIG. 2 is equivalent to "a laptop mode."

355. In my opinion, Ledbetter also discloses describes "a second computer system configuration" where the keyboard is oriented to be inaccessible to the operator.

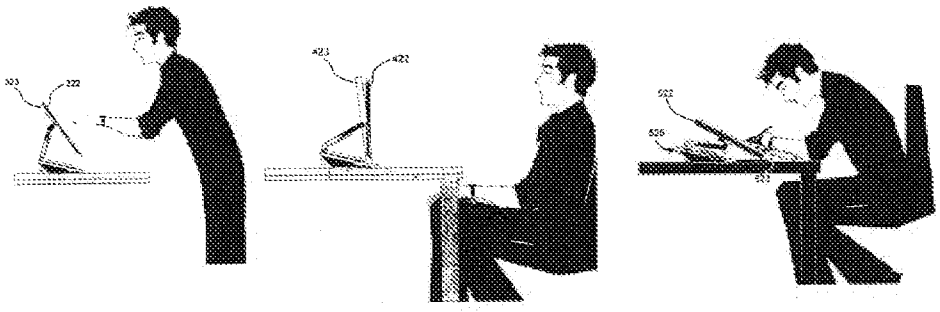


FIG. 3 FIG. 4 FIG. 5

(Ledbetter at FIGs. 3–5; *id.* at ¶ [0025] ("Also represented in the example of FIG. 1 is a keyboard 140 and remote control device 142, shown in a retracted position."); *id.* at ¶ [0030] ("The location of these mechanisms facilitates interaction with the computer system, including when the keyboard does not exist or is stored behind the display and is therefore not easily accessible.").)

356. In my opinion, a POSITA would have understood that Ledbetter teaches that FIG. 5 is equivalent to an "easel mode," and thus satisfies claim limitation [19.1] recitation of "the

second mode is an easel mode or a frame mode where the keyboard is oriented to be inaccessible to the operator."

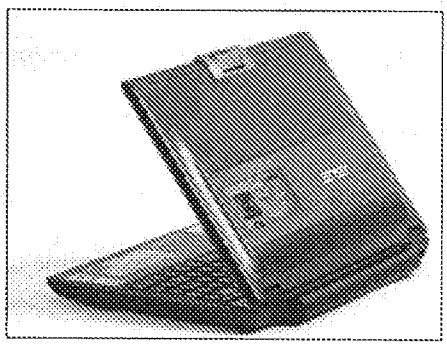
357. Pogue also describes laptops and provides an image:

GEM IN THE ROUGH

Windows SideShow

Laptop lovers, take note—the best is yet to come.

SideShow, a new Vista feature, is a tiny screen built right into the lids or undersides of certain new laptop, tablet, and palmtop models. The cool thing is that it shows you certain kinds of important information—your calendar, new email, the time or weather, your address book—even if the laptop is turned off or asleep.



This external screen uses practically no battery power; it's like having a little PalmPilot built into the laptop. When SideShow machines arrive on the market, you'll be able to specify which gadget (mini-program) you want to see. It can serve as an alarm that notifies you about an imminent meeting, play songs from your Media Player collection, check a flight time, and so on—without ever having to open the laptop lid.

Will Microsoft's master SideShow plan find acceptance in the marketplace? Let's meet back on this page in two years and discuss.

(Pogue at 590.) In my opinion, a POSITA would have understood that Pogue teaches a mode where the keyboard is accessible (i.e., where the keyboard is facing the user) and a mode where the keyboard is inaccessible (i.e., where the screen on the lid faces the user)

20. Claim 20

358. For the reasons discussed above for Ledbetter, it is my opinion that claim 20 would have been obvious to a POSITA over a Ledbetter-Pogue combination.

IX. GROUND 3: LANE IN COMBINATION WITH LEDBETTER AND POGUE RENDER OBVIOUS CLAIMS 1–20 OF THE '715 PATENT

A. Motivation to Combine Lane with Ledbetter and Pogue

359. In my opinion, a POSITA would have been motived to combine Lane with Ledbetter and Pogue for several reasons. First, all three references are contemporaneous patents

directed toward complementary solutions to highly analogous problems in the same field of endeavor. Lane is directed to reconfigurable portable computer with different system configurations for keyboards, pen input, touch input, and mouse input operations in "formats facilitating the use of the display" as a standard laptop computer, television, telecommunications monitor, and pen-based computing tablet. (Lane at 1:3-6, 3:5-14, 10:20, claims 12–13). In my opinion, a POSITA would thus have looked to analogous art such as Ledbetter which describes a reconfigurable personal computer systems with different system configurations that facilitate interaction with the computer system with keyboards, pen input, touch input, and mouse input operations for use in different modes such as workstation, media consumption, walk up mode, and tablet mode. (Ledbetter at Abstract, ¶¶ [0030], [0032].)

360. Moreover, I note that Lane and Ledbetter are directed to solving the same problem of providing a user with suitable computer configurations in the same system for different input operations (i.e., via touch, pen, stylus, mouse, or keyboard) and viewing (i.e., television or media consumption). For example, Lane explains that an object of its invention is a computer system reconfigurable from a "standard laptop computer" to a configuration that facilitates use of the display in formats such as television, telecommunications monitor, pen-based computer:

> the present invention permits components to be repositioned about each other throughout approximately 0-360°, allowing use of a 10 visual display not only in a standard laptop computer format but also in formats facilitating use of the display as, for example, a television or telecommunications monitor or a pen-based computing tablet.

(Lane at 3:5–14.)

361. Similarly, Ledbetter explains that the problem of prior art computer systems not being capable of being readily positioned for touch and/or pen input:

> in addition to displaying visible output, many contemporary display monitors are configured for touch and/or pen input via an LCD digitizer screen. However, standalone display monitors (and even those physically coupled to a desktop computer or laptop computer) are typically positioned for workstation like interaction, and, for example, are not capable of being readily positioned for touch and/or pen input.

(Ledbetter at ¶ [0002].)

362. In my opinion, a POSITA would have understood that Lane and Ledbetter disclosed similar solutions applying a "position-indicating mechanism" or "position detection means" to provide different user environments based on different user input. For example, I note Ledbetter teaches use of "position detection means" to detect a current configuration in a computer system resulting in a visible output that facilitate user input when in a workstation mode, media consumption mode, touch-screen mode, and a tablet mode. (Ledbetter at ¶¶ [0055–57].) Similarly, Lane describes a "position-indicating mechanism" to "indicate the spatial orientation" to provide a visual display for use as a tablet for pen-based computing. (Lane at 5:23–6:6, 8:15–24.)

363. Additionally, it is my opinion that a POSITA looking at Lane would have looked for an operating system compatible with keyboard, pen input, touch screens, and mouse input, and would thus have looked to operating system art such as Pogue which discusses a widely available and commonly used operating system (i.e., Windows Vista) that functions with keyboards, pen input, touch screens, and mouse input operations. (Pogue at 463, 503, 571.) In my opinion, a POSITA would have been motivated to combine Microsoft's Ledbetter computer system, which describes workstations with a keyboard and mouse, media consumption, touch screens, and pen input and display configurations with Pogue, which teaches Microsoft's Windows Vista and

describes workstations, media consumption, touch screens, handwriting recognition, and pen input. (*See, e.g.*, Pogue at cover, 253, 313, 463, 501, 517, 629, 719.)

364. Furthermore, it is my opinion that a POSITA would have also been motivated to combine Lane's portable personal computer with Ledbetter's and Pogue's teachings because such a combination would allow a user to enjoy the convenient form of the Lane's portable laptop computer with the different views and modes of Ledbetter-Pogue configurable computer system, especially with the then-newly-introduced features of Windows Vista and Internet Explorer 7. As explained in Pogue, Microsoft was eager to apply Windows Vista to a wide variety of computers systems and configurations, including portable computers, touch-screen PCs, palmtops, laptops with touch-screens, pen control, and handwriting recognition, and Tablet PCs:

> In Windows Vista, Microsoft makes its biggest nod yet to a raging trend in computing: portability. Laptop sales are trouncing desktop PC sales. In some industries, palmtops or touch-screen PCs are even replacing laptops. And for millions of people, the computing platform of choice isn't a computer at all—it's a cellphone.
>
> That's why Vista is crammed with special features for the peripatetic PC. For example, it has new features for laptops, including a way to change your power-consumption configuration with a quick click on the battery icon in the Notification Area, and a new Mobility Center that lets you switch quickly among networks and workplaces.
>
> Working with a Tablet PC (a touch-screen laptop or slate) is now easier than ever, too, thanks to new or beefed-up features like pen control, digital ink text input, handwriting recognition, and more. (This stuff used to be available only in a special Tablet PC edition of Windows; for the first time, it's part of the basic operating system.)

(Pogue at 571.) In my opinion, the fact that support for multiple types of configuration is built into the Windows Vista OS means that it was anticipated that the same Windows Vista OS would be used seamlessly across multiple configurations, making the motivation to combine Lane with Pogue even clearer, especially in such a popular and widely deployed OS such as Microsoft's Windows Vista.

365. Additionally, it is my opinion that a POSITA viewing the pen input of Lane on a portable computer would also look to art regarding touch input such as Ledbetter because a POSITA would have understood that pens and styluses get lost, unlike a fingertip. Moreover, it is my opinion that a POSITA would have understood that stylus and fingertip input are analogous with resolution being the main difference.

366. Moreover, it is my opinion that a POSITA would also have had a reasonable expectation of success in combining Lane's computer system with Ledbetter's teachings of different views for different system configurations because Lane and Ledbetter share the same hardware such as a configurable display component, a keyboard attached to a base computer, position detection means, and switching means. In my opinion, a POSITA would also have had a reasonable expectation of success in combining Lane's computer system with Pogue's teachings of Windows Vista and its associated programs because a computer system, such as Lane's laptop, typically includes a processor that executes an operating system, such as Windows Vista, as the '715 Patent itself notes:

> Such a processor usually executes an operating system which may be, for example, the Windows-based operating systems (e.g., Windows Vista, Windows NT, Windows 2000 (Windows ME), Windows XP operating systems) available from the Microsoft Corporation.

('715 Patent at 69:6–25; *see also id.* at 49:59–61, 66:51 (describing browsers as "conventional" and identifying Internet Explorer).) And, as discussed above, it is my opinion that a POSITA would have had a reasonable expectation of success combining Ledbetter with Pogue, particularly because both related to Microsoft systems.

367. In sum, it is my opinion that a POSITA would have been motivated to combine: (1) the portable computer of Lane, which describes four configurations (i.e., laptop, easel, frame, and tablet) and position-indicating mechanisms to detect these four configurations with (2) Ledbetter's selection of modes (i.e., workstation, touch screen, media consumption, and tablet) and (2) Pogue's operating system which describes views, content and applications in Windows Vista and its included programs.

B. Claim-By-Claim Analysis

1. Claim 1

[1.1] A customized user interface to display computer content on a display component of a computer system including a keyboard, the user interface comprising:

368. To the extent the preamble is limiting, it is my opinion that Lane discloses it. As shown in Figure 1 (below), Lane teaches a display component of a computer system including a keyboard. Specifically, Lane discloses that "device 10 may be a portable computer" with a "first module 14 (e.g., a keyboard) and second module 18 (e.g. a display)." (Lane at 5:3–5.) Lane provides FIG. 1 below:

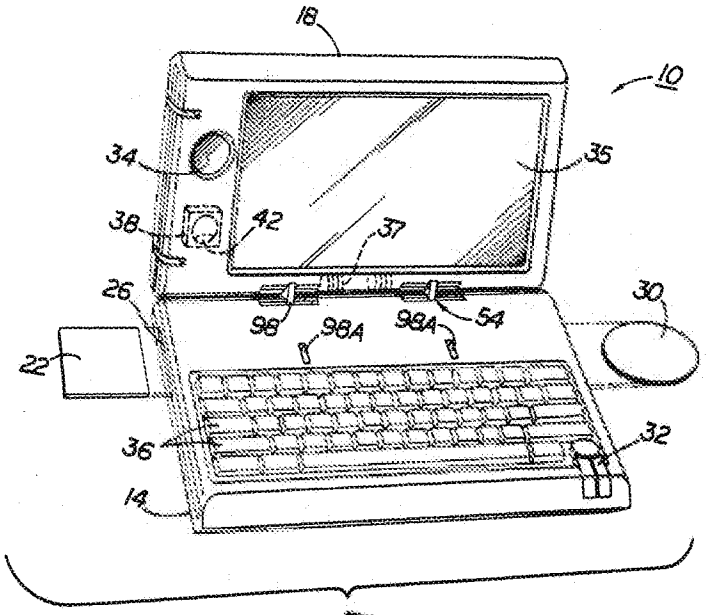


FIG. 1

(Lane at Figure 1.) Further, Lane teaches "a customized user interface to display computer content" because Lane discloses device 10 and its associated software which determines how the information appears on visual display 35:

> Doing so would also allow mechanism 38 to assist device 10 (and its associated software) in determining, for example, whether the information to appear on visual display 35 should be in "landscape" or "portrait" position as the visual display 35 is spatially configured, the direction in which to move a curser of second module 18 when a visual display, or whether to render keys 36 of first module 14 inoperable when unused.

(Lane at 5:35–6:6.)

369. To the extent Lane is insufficient to disclose a customized user interface, it is my opinion that a POSITA would have been motivated to combine Lane with an operating system such as the Windows Vista operating system disclosed in Pogue, which discloses a customized user interface on a display of a computer system. In my opinion, a POSITA would have also been

motivated to combine the configurable computer system of Lane with the configurable computer system of Ledbetter, which also discloses a customized user interface on a display of a computer system including a keyboard.

370. Moreover, it is my opinion that Ledbetter and Pogue describe all limitations of claim 1 as described above. As such, it is my opinion the Lane-Ledbetter-Pogue combination teaches this limitation.

[1.2] at least one processor operatively connected to a memory of the computer system;

371. In my opinion, Lane discloses this limitation. Lane explains how its invention relates to "portable computers" and explains that "device 10 may be a portable computer." (Lane at 5:4–5.) Lane discloses a processor connected to a memory of a computer system when it explains how "[i]ncreased memory capacities, processing speeds, and telecommunications capabilities of 'portable' computers, for example, have combined with decreased size and weight to contribute to greater use of these devices." (Lane at 1:12–16.) In my opinion, a POSITA would thus have understood that Lane's "portable computers" would include "at least one processor operatively connected to a memory of the computer system" as claimed in the '715 Patent, and as was well-known in the art.

372. I note the '715 Patent itself confirms that such processors and memories were well-known in the relevant time period, as it provides little detail on the processor and memory, and describes their usage as typical and "known." (*See, e.g.*, the '715 Patent at 68:18–19 (explaining how memory "is typically used for storing programs and data during operation of the computer system"); *id.*, 68:46–55 ("The processor **5106** generally manipulates the data within the memory **5110**, and then copies the data to the medium associated with storage **5112** after processing is completed. ***A variety of mechanisms are known for managing data movement***

between the medium and integrated circuit memory element and the invention is not limited thereto. The invention is not limited to a particular memory system or storage system.") (emphasis added).)

373. Moreover, it is my opinion that Ledbetter and Pogue describe all limitations of claim 1 as described above. As such, the Lane-Ledbetter-Pogue combination teaches this limitation.

[1.3] a graphical user interface, executing on the at least one processor, configured to display the computer content on the display component of the computer system, the graphical user interface configured to;

374. In my opinion, Lane discloses this limitation. Lane teaches that "device 10" may be a "portable computer," and with "its associated software," displays the information on a "visual display 35" in "landscape" or "portrait." (Lane at 5:4–15, 5:35–6:6.) Lane further explains that a "mouse or other pointer 32 adapted to convert manual pressure to electronic signals capable of moving a cursor about the visual display 35 provided by second module 18 may also be included." (*Id.* at 5:10–14.) In my opinion, a POSITA would have understood that use of a mouse to move a cursor on a visual display of a personal computer would be a form of a graphical user interface executing on a processor configured to display computer content on Lane's visual display 35. Moreover, Lane also discloses "a standard 'desktop' orientation," which in my opinion a POSITA would understand is a graphical user interface executing on a processor configured to display computer content on a display.

375. I note the '715 Patent itself confirms that graphical user interfaces configured to display computer content on the display component of the computer system (such as a desktop view on a computer) were common and conventional:

> A common display configuration used in conventional computers is a "desktop" view in which multiple icons representing links to various programs or applications are displayed over a background image.

('715 Patent at 20:56–59.) In my opinion, a POSITA would have understood that a desktop view on a conventional computer is "configured to display the computer content on the display component of the computer system."

376. To the extent Lane is insufficient to disclose a graphical user interface, it is my opinion that a POSITA would have been motivated to combine Lane with an operating system such as the Windows Vista operating system disclosed in Pogue, which discloses a graphical user interface executing on a processor configured to display computer content on the display component (i.e., monitor) of a computer system. In my opinion, a POSITA would have also been motivated to combine the configurable computer system of Lane with the configurable computer system of Ledbetter, which also discloses a graphical user interface, executing on a processor, configured to display computer content on the display component (i.e., monitor) of a computer system. Moreover, it is my opinion that Ledbetter and Pogue describe all other limitations of claim 1 above. As such, it is my opinion that the Lane-Ledbetter-Pogue combination teaches this limitation.

[1.4] display a plurality of views of a plurality of visual representations of computer content,

377. In my opinion, Lane discloses this limitation, either under the Board's preliminary construction in IPR2021-00786, or under a broader construction. As discussed in the claim construction section above, the Board preliminarily construed "plurality of views of a plurality of visual representations of [the] computer content":

> a plurality of ways of organizing visual representations of computer content. The recitation is distinct from merely providing a plurality of ways of displaying content (by, for example, changing display orientation, color, resolution, etc.).

(*See* Section V.B; *see also* Decision at 16.) As such, a construction of limitation [1.4] as a plurality of ways of changing display orientations is broader than the Board's preliminary construction of limitation [1.4] as a plurality of ways of organizing visual representations.

378. Under a broad construction, it is my opinion that Lane teaches this limitation with its disclosure of "determining, for example, whether the information to appear on visual display 35 should be in 'landscape' or 'portrait' position," which is at least two views of visual representations of computer content (i.e., views with different display orientations). (Lane at 5:35–6:6.) Indeed, the '715 Patent described "right-way-up" and "upside-down" views:

> According to one embodiment, when the portable computer 100 is configured into the easel mode, the visual display on the display screen 110 is automatically rotated 180 degrees such that the information appears "right-way-up," even through the display screen is upside-down compared to when the portable computer is in the laptop mode. … In one example, the orientation sensor includes an accelerometer whose output is fed to the computer operating system (or to dedicated logic circuitry) which then triggers a display inversion as appropriate.

('715 Patent at 20:10–38.) Lane also discloses three display modes, as described below:

> Other alternative positionings involving rotation of second module 18 about axis 62 are detailed in FIG. 20 (in which second module 18 is rotated more than 90° to provide a standard "desktop" orientation) and in FIGS. 25 and 28 (in which second module 18 is rotated more than 270°, when only the visual display 35 need be accessible).

(Lane at 10:24–31.) Figures 1, 20, 25, and 28 are shown below:

Lane's Display Modes

Frame Mode

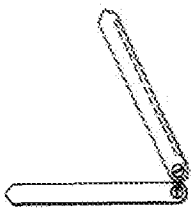


FIG 25

Easel Mode

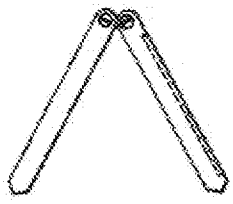


FIG 28

Laptop Mode

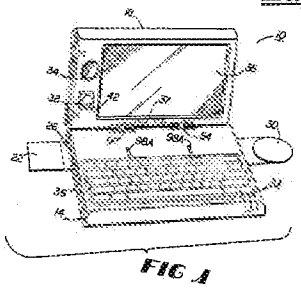


FIG 1

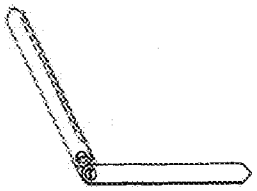


FIG 20

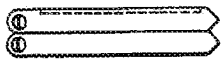


FIG 27

(Lane at FIG. 1, 20, 25, 27, 28). In my opinion, a POSITA would have understood each of these display modes would have required an associated view to be functional to a user.

379. Under a narrow construction of this limitation, it is my opinion that Lane teaches at least four "formats" (i.e., views) on a "visual display" by describing "use of a visual display not only in a standard laptop computer format but also in formats facilitating use of the display" and provides examples of television, telecommunications monitor, and a pen-based computing tablet, in addition to orientation views described above. (Lane at 3:5–14.) In my opinion, a POSITA would have understood that these different "formats" would be used to re-organize computer

content to be appropriate to the viewing mode. Moreover, Lane describes different types of user input environments using a pen (Lane at 3:13, 8:18–19, 10:20), using a mouse or other pointer (*id.* at 5:11), and a conventional laptop with a keyboard and display (*id.* at 8:2–8, FIG. 6). In my opinion, a POSITA reading Lane would have understood that different user input environments would correspond with views that re-organized computer content beyond changing the display orientation, in order to facilitate the different user inputs by offering content-appropriate user interfaces.

380. Additionally, it is my opinion that a POSITA reading Lane would have been motivated to look to art such as Ledbetter and Pogue which teach a plurality of ways of organizing visual representations of computer content beyond changing display orientation. And, as discussed above regarding limitation [1.4], both Ledbetter and Pogue disclose a plurality of views of a plurality of visual representations of computer content. Thus, it is my opinion that Lane combined with Ledbetter and Pogue meets this limitation even under the Board's narrow preliminary construction (*see* Section V.B) because the Lane-Ledbetter-Pogue combination teaches display views that re-organize computer content significantly more than "merely providing a plurality of ways of displaying content by changing display orientation, color, and resolution."

381. As such, it is my opinion that the Lane-Ledbetter-Pogue combination discloses this element under either construction.

[1.5] wherein the computer content includes at least one of selectable digital content, selectable computer operations and passive digital content

382. In my opinion, Lane teaches this limitation, as it teaches that its different modes organize visual representations of each type of recited digital content.

383. **In my opinion, Lane discloses visual representations of *selectable digital content.*** For example, Lane explains how its modules "could be electronic tablets, videotape or compact disc players, radios, television receivers, video game players, or other entertainment, educational, or scientific instrumentation modules." (Lane at 9:31–35.) In my opinion, a POSITA would have understood that the purpose of the modules would be to allow the user to select digital content from the modules such as video, music, radio, television, video games, which constitute "selectable digital content."

384. **In my opinion, Lane also discloses visual representations of *selectable computer operations.*** For example, Lane explains how its modules include "communications modules (including cellular telephones, portable facsimile, copying, scanning, and printing devices, digital dictaphones), digital still or video cameras, digital transducers and data recorders, bar-code readers, and other electronic equipment." (Lane at 9:37–10:5.) In my opinion, a POSITA would have understood that the purpose of the modules would be to allow the user to select computer operations, such as using the computer for copying, scanning, printing, communications, collecting digital stills, capturing video content, recording data, or reading bar-codes, all of which constitute "selectable computer operations."

385. **In my opinion, Lane also discloses visual representations of *passive digital content.*** For example, Lane explains that its visual display can be used as a television monitor. (Lane at 3:12–13.) In my opinion, a POSITA would have understood that the visual representations of media, as television or video playback from the video tape or compact disc players (Lane at

9:31–35), were passive digital content as the visual representations themselves could not be selected during playback.[7]

386. And, as discussed above regarding limitation [1.5], both Ledbetter and Pogue disclose this limitation, as it teaches that its different modes organize visual representations of each type of recited digital content. As discussed further above, regarding limitation [1.5], both Ledbetter and Pogue teach computer content which includes visual representations of selectable digital content, selectable computer operations, and passive digital content. As such, the Lane-Ledbetter-Pogue combination teaches this limitation.

[1.6] an execution component, executing on the at least one processor, configured to:

387. The Lane-Ledbetter-Pogue combination discloses this limitation. As discussed above regarding limitation [1.6], Ledbetter teaches software executing on a computer system. (Ledbetter at ¶¶ [0004], [0056].) Similarly, it is my opinion that Pogue teaches software executing on a computer system.

388. As discussed above for limitation [1.2], it is my opinion that Lane teaches device 10 may be a portable computer, and its associated software controls the visual display 35. (Lane at 5:4–15, 5:35–6:6.) In my opinion, Lane also teaches a position-indicating mechanism that responds to spatial orientation, which allows the computer system to determine how information should appear on the visual display:

[7] Similar to the media players discussed for claim 1, it is my opinion that control buttons (i.e., play, rewind, fast forward, pause, delete, record) for the modules like Lane's videotape or compact disc player, however, would have been understood as selectable computer operations. And it is my opinion that Lane's depiction of available content, such as a list of movies, songs, or pictures thumbnails, would have been understood to disclose selectable digital content, as selection of such a visual representation of available content would have led to display or playback of that content.

> Also shown in FIG. 1 (and FIG. 29) as part of second module 18 is position-indicating mechanism 38. Mechanism 38 includes **a moveable conductor 42 (such as liquid mercury)** in a spherical cavity 46 having contacts 50 spaced about its periphery. Conductor 42 responds via gravitational forces to spatial reorientation of mechanism 38 by moving relative to contacts 50 (to contact at least one contact 50 to close its respective circuit). Including mechanism 38 as a component of either first or second modules 14 or 18 would thus permit it to indicate the spatial orientation of that module. Doing so would also allow mechanism 38 to assist device 10 (and its associated software) in **determining, for example, whether the information to appear on visual display 35 should be in "landscape" or "portrait" position** as the visual display 35 is spatially configured, the direction in which to move a curser of second module 18 when a visual display, or whether to render keys 36 of first module 14 inoperable when unused.

(Lane at 5:23–6:6 (emphases added).)

389. In my opinion, a POSITA would have been motivated to arrive at the Lane-Ledbetter-Pogue combination, which detects the above computer system configurations using Lane's position-detecting mechanism or Ledbetter's position detector, select an associated view using Lane's device and its associated software or Ledbetter's mode switch software, and transition the display to the selected view in a computer system.

390. Also as explained above for claim 1 for Ledbetter, it is my opinion that this limitation is also satisfied to the extent the Examiner finds, or Patent Owner argues, that these terms invoke Section 112(6), have adequate linked structure, and that the linked structure is a processor programmed with an algorithm that:

- detects a current computer system configuration from at least a first computer system configuration where the keyboard is operable to receive input from an operator of the computer system to control the computer system and a second computer system configuration where the keyboard is inoperable to receive input from the operator of the computer system to control the computer system by monitoring signals from a mode sensor, an orientation sensor, an accelerometer, a connection that responds to when an I/O device is enabled or active (*see, e.g.*, '715 Patent at 3:13–20, 11:66–12:3, 20:20–38, 26:50–67, 70:19–35);
- selects one of the plurality of views for display on the computer system in response to the detected current computer system configuration (*id.* at 3:13–14, 5:43–60, 11:9–13, 14:59–61, 48:56–59, 55:21–57:18); and
- transitions the display component to the selected one of the plurality of views, i.e., generates signals that cause the display component to change from one of the plurality of views to another (*e.g.*, *id.*, 3:10–3:12, 3:17–22, 6:19–22, 8:67–9:3, 9:36–37, 9:43–45, 11:26–28).

391. As just explained, and as explained further below with respect to limitations [1.7] – [1.9], it is my opinion that the Lane-Ledbetter-Pogue combination teaches and discloses a processor running computer software for carrying out the recited functions. In my opinion, a POSITA would have understood that this involved, or at least rendered obvious, a processor programmed to carry out an algorithm (the software running on the computer) performing the claimed functions in the above-noted manner, or equivalents thereof. As such, it is my opinion that the Lane-Ledbetter-Pogue combination teaches this limitation.

392. As confirmation of my opinion that the Lane-Ledbetter-Pogue combination teaches limitation [1.6] – [1.9], I note that during prosecution of the '715 Patent, the Examiner correlated limitations [1.6] – [1.9] with Dunko's orientation sensing mechanism that senses whether the computer was in portrait or landscape orientation and changing the display to correspond with that orientation:

> Dunko teaches at least one processor operatively connected to a memory of the computer system ***(i.e. processor (FIG. 1 and par. 24))***;
>
> an execution component, executing on the at least one processor, configured to:
>
> detect a current computer system configuration from at least a first computer system configuration and a second computer system configuration ***(i.e. an orientation sensing mechanism senses whether the portable mobile communications device is currently in a portrait or landscape orientation (FIG. 9 step 910 and par. 8))***;
>
> select one of the plurality of views for display on the computer system in response to the detected current computer system configuration ***(i.e. and determines which mode of operation is the default mode for the sensed orientation of the portable mobile communications device (FIG. 9 step 915 and par. 8))***; and
>
> transition the display component to the selected one of the plurality of views ***(i.e. the GUI is then reconfigured for the default mode of operation (FIG. 9 step 915 and par. 8). Various modes of operation are phone mode (default for portrait orientation), gaming mode (default for landscape orientation), camera mode, music player mode, web browser mode and email mode (FIG. 8 and par. 10)).***

(*See* Ex. 1002 at 350–351 (emphases in original) (citing Dunko at FIG. 9 and par. 8).)

393. Moreover, it is my opinion that Ledbetter and Pogue describe all limitations of claim 1 as described above. As such, it is my opinion that the Lane-Ledbetter-Pogue combination teaches this limitation.

[1.7] detect a current computer system configuration from at least a first computer system configuration where the keyboard is operable to receive input from an operator of the computer system to control the computer system and a second computer system configuration where the keyboard is inoperable to receive input from the operator of the computer system to control the computer system;

394. In my opinion, Lane teaches this limitation.

395. First, it is my opinion that Lane teaches a first computer system configuration where the keyboard is operable to receive input (i.e., a "standard laptop computer format"):

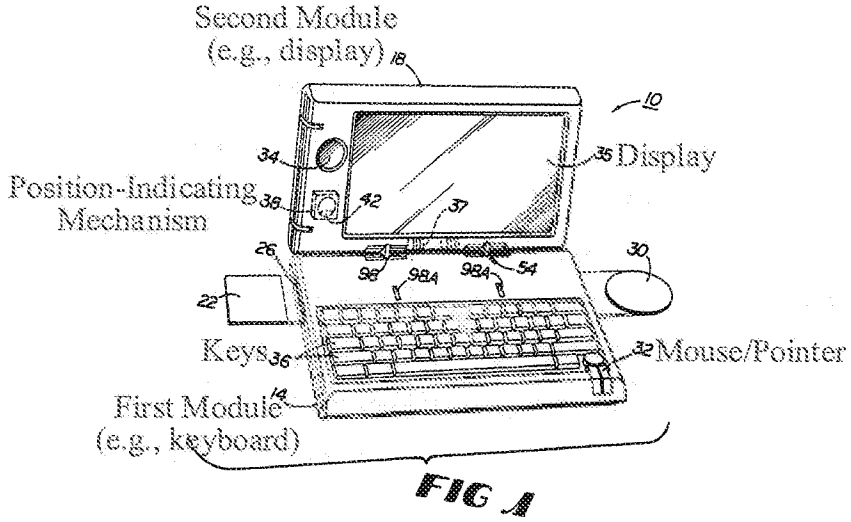


FIG 1

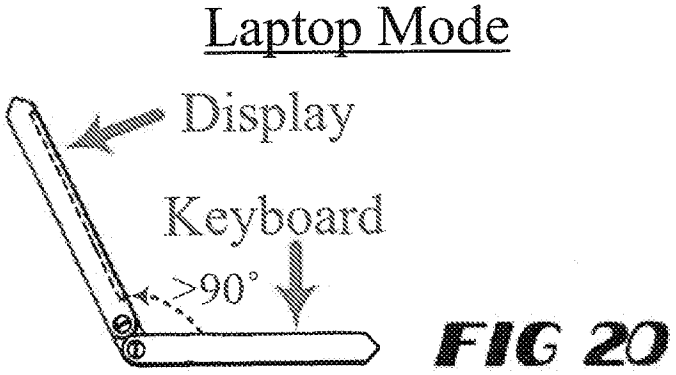


FIG 20

(Lane at FIG 1. and FIG. 20, 3:10–11, 5:4–6 (annotated) ("As shown in FIG. 1, device 10 may be a portable computer comprising first module 14 (e.g. a keyboard) and second module 18 (e.g. a display).").) Lane further explains that "FIG. 1 illustrates device 10 in a nominally 'open' position permitting **access both to visual display 35 and keys 36** . . ." (Lane at 5:15–17.) Lane's FIG. 6 illustrates "positions representative of those assumed by the displays and keyboards of many operating laptop computers." (Lane at 8:2–8.) FIG. 6 is provided below:

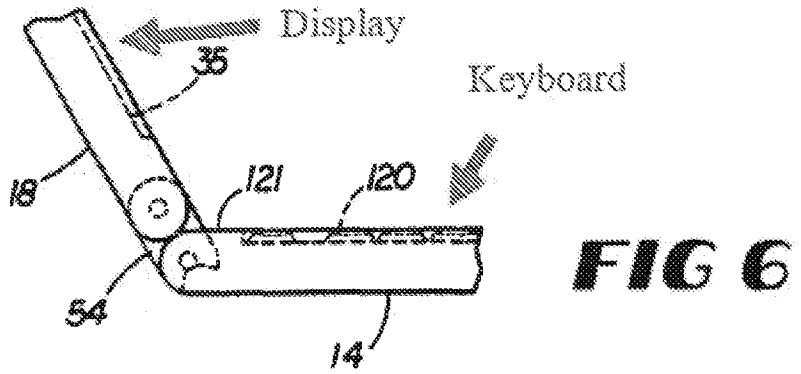


FIG 6

(Lane at FIG. 6, 8:2–8 (annotated).) In my opinion, a POSITA would have thus understood that Lane teaches a laptop mode, as illustrated in FIGs. 1, 6 and 20, with a computer system configuration where a keyboard is operable to receive input from an operator.

396. Second, it is my opinion that Lane teaches a computer configuration where the keyboard is inoperable to receive input from an operator of the computer system (i.e., frame mode or easel mode)

Lane's Frame Mode

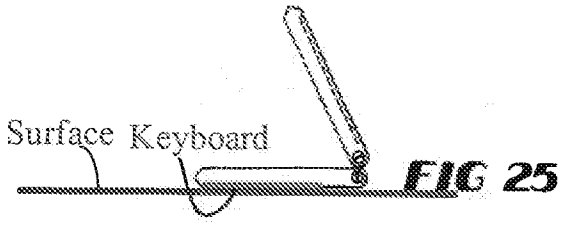


FIG 25

Easel Mode

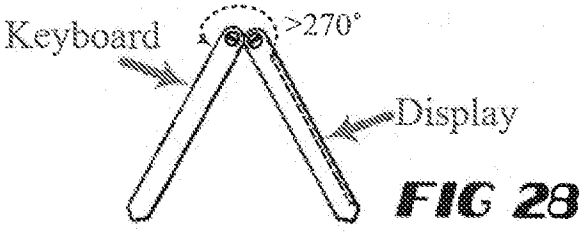


FIG 28

(Lane at FIG 25. and FIG. 28, 10:24–31 (annotated).) In my opinion, Lane also explicitly confirms that the keys 36 are inaccessible in the frame mode shown in FIG. 25 and in the easel mode shown in FIG. 28. (Lane at 10:24–31 ("Other alternative positionings involving rotation of second module 18 about axis 62 are detailed in FIG. 20 (in which second module 18 is rotated more than 90° to provide a standard 'desktop' orientation) and in FIGS. 25 and 28 (in which second module 18 is rotated more than 270°, when **only the visual display 35 need be accessible**).".) In my opinion, a POSITA would thus have understood that Lane teaches a frame mode and an easel mode, as illustrated in FIGs. 25 and 28, with a computer system configuration where a keyboard is inoperable to receive input from an operator. Moreover, Lane teaches another computer

configuration where the keyboard is inoperable to receive input from an operator of the computer system in its tablet mode in FIG. 27:

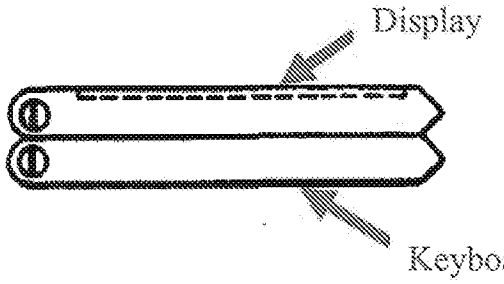


FIG 27

(Lane at FIG. 27 (annotated).) As Lane explains, "FIG. 27 shows second module 18 rotated approximately 360° relative to first module 14 (or vice-versa), exposing visual display 35 for use as, for example, a tablet for **pen-based** computing." (Lane at 10:17–20 (emphasis added).) In my opinion, a POSITA would have understood that Lane's tablet mode would be a computer system configuration where the keyboard is inoperable to receive input from an operator—otherwise holding the tablet for "pen-based computing" would result inadvertent keyboard input. As explained above for limitation [1.7], it is my opinion that a POSITA would have had a reasonable expectation of success, and required no undue experimentation in implementing such software and / or hardware to deactivate the keyboard. In my opinion, the ease with which a POSITA would have implemented such a feature is confirmed by the '715 patent itself, which lacks any implementation details, and merely states generally that "software and/or hardware protection may be provided for the keyboard to prevent keys from being pressed (or to prevent the portable computer from responding to pressed keys)." ('715 Patent at 24:48–53.) In my opinion, this lack of implementation details confirms the POSITA could have easily incorporated such features into Ledbetter. In my opinion, that use of such features was well within the skill of a POSITA is further confirmed by other prior art such as Shimura and Lane, which teaches "means used to invalidate

the input from the keyboard based on the value detected by said detection means." (*See, e.g.*, Shimura (Ex. 1008) at ¶¶ [0008], [0019], claims 6, 11–12.)

397. Third, it is my opinion that Lane teaches a "position-indicating mechanism 38" used for "indicating" (i.e., detecting) the "spatial orientation of that module" (i.e., a current configuration), including a configuration where keyboard input is inoperable:

> Also shown in FIG. 1 (and FIG. 29) as part of second module 18 is **position-indicating mechanism 38. Mechanism 38 includes a moveable conductor 42 (such as liquid mercury)** in a spherical cavity 46 having contacts 50 spaced about its periphery. Conductor 42 responds via gravitational forces to spatial reorientation of mechanism 38 by moving relative to contacts 50 (to contact at least one contact 50 to close its respective circuit). Including mechanism 38 as a component of either first or second modules 14 or 18 would thus **permit it to indicate the spatial orientation of that module**. Doing so would also allow mechanism 38 to assist device 10 (and its associated software) in determining, for example, whether the information to appear on visual display 35 should be in "landscape" or "portrait" position as the visual display 35 is spatially configured, the direction in which to move a curser of second module 18 when a visual display, or **whether to render keys 36 of first module 14 inoperable when unused**.

(Lane at 5:23–6:6 (emphases added).) Lane's FIG. 29 of position-indicating mechanism 38 is shown below:

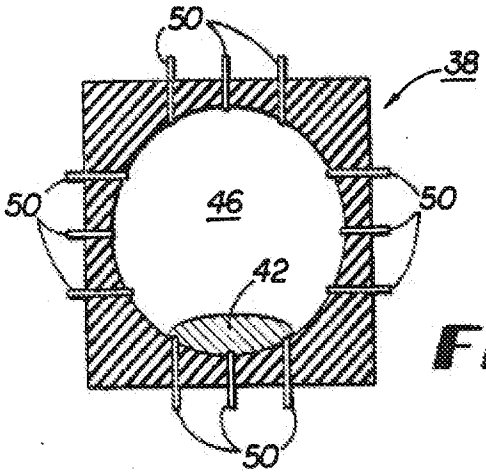


FIG 29

(Lane at FIG. 29.) In my opinion, a POSITA viewing FIG. 29 would have understood the position-indicating mechanism 38 shows at least twelve contacts 50, which can be touched in various combinations by a moveable conductor 42 (e.g., mercury) inside, and hence determine orientation with at least adequate resolution to accurately measure any of the disclosed modes of operation (e.g., laptop, frame, easel, tablet). While FIG. 29 shows the position-indicating mechanism with at least twelve contacts, it is my opinion that a POSITA would have understood Lane's disclosure of a "spherical cavity 46" indicates at least six more contacts in addition to the twelve contacts shown (i.e., along the Z-axis). Moreover, Lane teaches its position-indicating mechanism 38 can be included as a component in first or second modules 14 or 18 (i.e., a keyboard or a display). (Lane at 5:32–35.) In my opinion, a POSITA thus would have understood Lane taught that including the position-indicating mechanism in module 14 (i.e., a keyboard) permitted distinction between configurations such as laptop and frame mode (i.e., keyboard facing down rather than up, while display is the same as laptop mode). Since Lane teaches that its position-indicating mechanism is used to determine whether to render the keys 36 inoperable when unused (Lane at 6:5–6), it is my opinion that a POSITA would understand that the keys 36 are unused in frame mode because they cannot be accessed by the user (they are face down on surface). (Lane at FIG. 25.) Yet, the keys

36 are clearly usable and operable in laptop mode. (Lane at FIG. 1, 20;.) Thus in my opinion, Lane's position-indicating mechanism in the keyboard module 14 allows the computer system to distinguish (i.e., detect) configurations like the laptop and frame modes in order to perform its prescribed function. In my opinion, a POSITA would have further understood Lane taught that including the position-indicating mechanism in module 18 (i.e., display) permitted distinction between configurations such as laptop mode, easel mode, and tablet mode. In my opinion, a POSITA would have thus understood that Lane's disclosure of a position-indicating mechanism in either keyboard and/or display permits the device and its associated software to determine configurations that "render keys inoperable when unused," as opposed to a typical laptop configuration, which is the same as detecting a current computer system configuration from a first configuration where keyboard is operable to receive input from an operator and a second configuration where the keyboard is inoperable to receive input from an operator.

398. Moreover, it is my opinion that Ledbetter and Pogue describe all limitations of claim 1 as described above. In my opinion, a POSITA would have understood that by combining Lane's position-indicating mechanism with Ledbetter's position detector means (e.g., the motor rotation counter or optical sensor), configurations such as Lane's laptop mode (FIGs. 1, 20), frame mode (FIG. 25), tablet mode (FIG. 27), easel mode (FIG. 28) could be specifically and separately detected by Lane's additional detection means. Moreover, it is my opinion that a POSITA would have known that the keyboard is not intended for operation in configurations such as frame, easel, or tablet modes and the Lane-Ledbetter-Pogue system would therefore make the keys inoperable according to Lane's disclosure when those modes are detected.

399. In sum, it is my opinion that a POSITA would have understood that the Lane-Ledbetter-Pogue combination teaches an "execution component" that is configured to detect a

computer system configuration where a keyboard is operable to receive input from an operator and a computer system configuration where a keyboard is inoperable to receive input from an operator.

[1.8] select one of the plurality of views for display on the computer system in response to the detected current computer system configuration; and

400. In my opinion, the Lane-Ledbetter-Pogue combination discloses this limitation, either under the Board's preliminary construction in IPR2021-00786, or under a broader construction, of "plurality of views."

401. Under a broad construction, as explained for limitation [1.4] above, it is my opinion that Lane teaches at least two views of content (i.e., views with different display orientations), and Lane teaches that mechanism 38 signals the device and its associated software to select one of Lane's views in response to a position-indicating mechanism:

> Doing so would also allow mechanism 38 to assist device 10 (and its associated software) in **determining, for example, whether the information to appear on visual display 35 should be in "landscape" or "portrait" position** as the visual display 35 is spatially configured, the direction in which to move a curser of second module 18 when a visual display, or whether to render keys 36 of first module 14 inoperable when unused.

(Lane at 5:23–6:6 (emphasis added).) As explained above for limitation [1.7], it is my opinion that a POSITA viewing the position-indicating mechanism of FIG. 29 would have understood it shows at least twelve contacts, and its spherical shape indicates six additional contacts (along the Z-axis), thus providing at least adequate resolution to accurately detect any of the disclosed modes of operation (e.g., laptop, frame, easel, tablet), which Lane explains allows the device and associated software to select how information appears on the visual display. As such, a POSITA would have

understood that Lane teaches at least selection of views corresponding with different display orientations.

402. For a narrow construction, as explained for limitation [1.4] above, it is my opinion that Lane describes different types of user input environments corresponding with different configurations (e.g., for each of Lane's laptop mode (FIGs. 1, 20), frame mode (FIG. 25), tablet mode (FIG. 27), and easel mode (FIG. 28)), and a POSITA reading Lane would have been motivated to look to art such as Ledbetter and Pogue which teach a plurality of ways of organizing visual representations of computer content beyond changing display orientation. And, as discussed with Ledbetter regarding limitation [1.8], Ledbetter discloses selecting one of a plurality of views in response to the detected current computer configuration. Thus, it is my opinion that Lane combined with Ledbetter and Pogue meets limitation [1.8] even under the Board's narrow preliminary construction

403. Moreover, it is my opinion that Ledbetter and Pogue describe all limitations of claim 1 as described above. As such, the Lane-Ledbetter-Pogue combination would also teach this limitation. As an example, in my opinion, a POSITA would have understood that by combining Lane's position-indicating mechanism with Ledbetter's position detector means (e.g., the motor rotation counter or optical sensor), and further incorporating teachings from Ledbetter's mode switch software, then Ledbetter's selection of views could be in response to detection of each of Lane's configurations such as laptop mode (FIGs. 1, 20), frame mode (FIG. 25), tablet mode (FIG. 27), easel mode (FIG. 28). Moreover, as I explain above, it is my opinion that Pogue discloses a plurality of views of a plurality of visual representations of computer content.

404. In sum, in my opinion, a POSITA would have understood that the Lane-Ledbetter-Pogue combination teaches an "execution component" that is configured to select one of the

plurality of views for display on the computer system in response to the detected current computer system configuration.

[1.9] transition the display component to the selected one of the plurality of views.

405. In my opinion, the Lane-Ledbetter-Pogue combination discloses this limitation, either under the Board's preliminary construction in IPR2021-00786, or under a broader construction, of "plurality of views."

406. Under a broad construction, as explained for limitation [1.4] above, it is my opinion that Lane teaches at least two views of content (i.e., views with different display orientations) and Lane teaches that mechanism 38 signals the device and its associated software to transition the display to the selected views:

> Doing so would also allow mechanism 38 to assist device 10 (and its associated software) in **determining, for example, whether the information to appear on visual display 35 should be in "landscape" or "portrait" position** as the visual display 35 is spatially configured, the direction in which to move a curser of second module 18 when a visual display, or whether to render keys 36 of first module 14 inoperable when unused.

(Lane at 5:23--6:6 (emphasis added).)

407. For a narrow construction, as explained for limitation [1.4] above, it is my opinion that Lane describes different types of user input environments and a POSITA reading Lane would have been motivated to look to art such as Ledbetter and Pogue which teach a plurality of ways of organizing visual representations of computer content beyond changing display orientation. And, as discussed above with Ledbetter regarding limitation [1.9], it is my opinion that Ledbetter discloses transitioning the display component to the selected one of the plurality of views. Thus,

it is my opinion that Lane combined with Ledbetter and Pogue meets limitation [1.9] even under the Board's narrow preliminary construction.

408. In sum, it is my opinion a POSITA would have understood that the Lane-Ledbetter-Pogue combination teaches an "execution component" that is configured to transition the display component to the selected one of the plurality of views.

2. Claim 2

409. Claim 2 depends from claim 1. For the reasons discussed above, it is my opinion that claim 1 would have been obvious to a POSITA over the Lane-Ledbetter-Pogue combination.

[2.1] The user interface of claim 1, wherein in the plurality of views includes a home view configured to organize a plurality of content modes

410. In my opinion, Lane discloses this limitation. As discussed above for limitation [1.4], it is my opinion that Lane describes three environments which require different inputs (mouse input, keyboard-based, and pen-based input). (Lane at 5:6–11, 8:16–19.) Lane also teaches a touch screen. (Lane at claim 13 ("means for translating the fingertip pressure into motion of an electronic cursor").) In my opinion, a POSITA would have understood that the environments described in Lane would have a home view, such as a desktop view with icons representing content modes. Indeed, Lane expressly describes a standard desktop orientation. (Lane at 10:25–31.) In my opinion, a POSITA would have understood that, for example, if the Lane device was closed and in sleep mode, when it was opened up it would naturally first be in laptop mode, and it was well known for laptop computer operating systems to provide a default home view. (*See, e.g.*, Pogue at 31–34 (description of "Sleep" mode).) To the extent Lane alone is insufficient, it is my opinion that Ledbetter and Pogue teach limitation [2.1], as discussed above. Thus, it is my opinion that the Lane-Ledbetter-Pogue combination teaches this limitation.

[2.2] a channel view configured to organize at least one of a single content mode and two content modes.

411. As discussed above, it is my opinion that Ledbetter and Pogue further teach the added limitation of limitation [2.2]. Thus, it is my opinion that the Lane-Ledbetter-Pogue combination teaches this limitation.

3. Claim 3

412. Claim 3 depends from claim 1. For the reasons discussed above, it is my opinion that claim 1 would have been obvious to a POSITA over the Lane-Ledbetter-Pogue combination. Moreover, as discussed in above, it is my opinion that Ledbetter and Pogue further teach the additional limitations of claim 3. Thus, it is my opinion that the Lane-Ledbetter-Pogue combination renders claim 3 obvious.

4. Claim 4

413. Claim 4 depends from claim 1. For the reasons discussed above, it is my opinion that claim 1 would have been obvious to a POSITA over the Lane-Ledbetter-Pogue combination. Moreover, as discussed in above, it is my opinion that Ledbetter and Pogue further teach the additional limitations of claim 4. Thus, it is my opinion that the Lane-Ledbetter-Pogue combination renders claim 4 obvious.

5. Claim 5

414. Claim 5 depends from claim 4. For the reasons discussed above, it is my opinion that claim 4 would have been obvious to a POSITA over the Lane-Ledbetter-Pogue combination.

[5.1] The user interface of claim 4, wherein the computer system configuration comprises a physical positioning of a computer system display relative to a base of the computer system that includes the keyboard about a longitudinal axis of rotation.

415. To the extent the claim 5 requires a monitor to be attached directly to a computer base that includes a keyboard and the Ledbetter-Pogue combination's disclosure discussed above is insufficient, it is my opinion that Lane teaches the added limitation of claim 5.

416. For example, Lane discloses figures showing a display physically positioned relative to a base of a computer system that includes a keyboard about a longitudinal axis of rotation in FIGs. 20, 25, 28, and 27. Lane teaches that:

> The innovative system also is adapted to rotate about at least two adjacent, parallel axes. Consequently, the present invention permits components to be repositioned about each other throughout approximately 0-360°, allowing use of a visual display not only in a standard laptop computer format but also in formats facilitating use of the display as, for example, a television or telecommunications monitor or a pen-based computing tablet.

(Lane at 3:5–14.)

417. Lane goes on to explain:

> It is also an object of the present invention to provide a system having two adjacent, parallel axes of rotation to facilitate component rotation about approximately 0-360°.

(Lane 3:22–25.)

418. Lane claim 2 also indicates:

> 2. A system according to claim 1 in which the connecting means intersects the first and second axes of rotation and permits rotation

of the second electronic module approximately 0-360° about the first electronic module."

(Lane at 12, claim 2.) Lane also provides figures which show a physical positioning of a computer system display (i.e., second module, display) relative to a base of the computer system (i.e., first module) that includes the keyboard about a longitudinal axis of rotation:

Lane's Primary Components

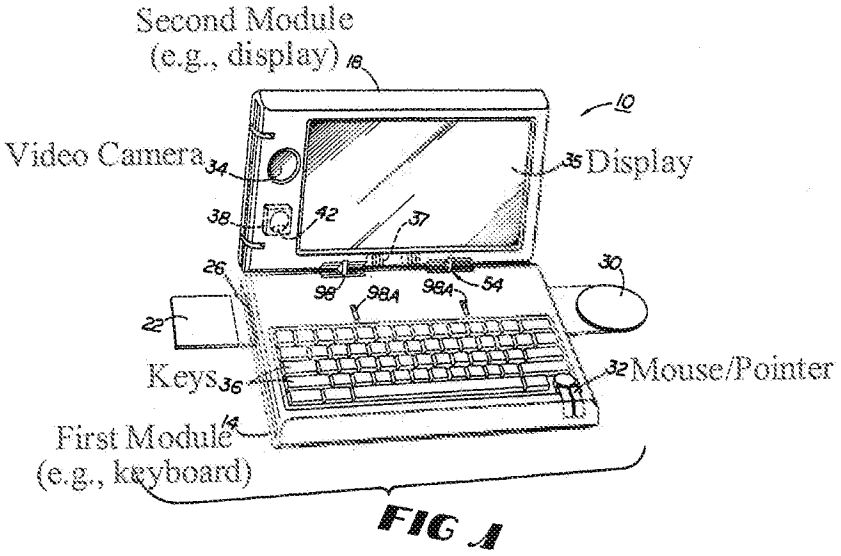


FIG 1

419. In my opinion, a POSITA would have understood that Lane discloses the added limitation of claim 5.

420. Moreover, it is my opinion that Ledbetter and Pogue describe all limitations of claim 5 as above. As such, it is my opinion that the Lane-Ledbetter-Pogue combination renders claim 5 obvious.

6. Claim 6

421. Claim 6 depends from claim 4. For the reasons discussed above, it is my opinion that claim 4 would have been obvious to a POSITA over the Lane-Ledbetter-Pogue combination. Moreover, as discussed above, it is my opinion that Ledbetter and Pogue further teach the additional limitations of claim 6. Thus, it is my opinion that the Lane-Ledbetter-Pogue combination renders claim 6 obvious.

7. Claim 7

422. Claim 7 depends from claim 1. For the reasons discussed above, it is my opinion that claim 1 would have been obvious to a POSITA over the Lane-Ledbetter-Pogue combination. Moreover, as discussed above, it is my opinion that Ledbetter and Pogue further teach the additional limitations of claim 7. Thus, it is my opinion that the Lane-Ledbetter-Pogue combination renders claim 7 obvious.

8. Claim 8

423. Claim 8 depends from claim 7. For the reasons discussed above, it is my opinion that claim 7 would have been obvious to a POSITA over the Lane-Ledbetter-Pogue combination. Moreover, as discussed above, it is my opinion that Ledbetter and Pogue further teach the additional limitations of claim 8. Thus, it is my opinion that the Lane-Ledbetter-Pogue combination renders claim 8 obvious.

9. Claim 9

424. Claim 9 depends from claim 7. For the reasons discussed above, it is my opinion that claim 7 would have been obvious to a POSITA over the Lane-Ledbetter-Pogue combination. Moreover, as discussed above, it is my opinion that Ledbetter and Pogue further teach the

additional limitations of claim 9. Thus, it is my opinion that the Lane-Ledbetter-Pogue combination renders claim 9 obvious.

10. Claim 10

425. Claim 10 depends from claim 4. For the reasons discussed above, it is my opinion that claim 4 would have been obvious to a POSITA over the Lane-Ledbetter-Pogue combination. Moreover, as discussed above, it is my opinion that Ledbetter and Pogue further teach the additional limitations of claim 10. Thus, it is my opinion that the Lane-Ledbetter-Pogue combination renders claim 10 obvious.

11. Claim 11

426. Claim 11 depends from claim 10. For the reasons discussed above, it is my opinion that claim 10 would have been obvious to a POSITA over the Lane-Ledbetter-Pogue combination. Moreover, as discussed above, it is my opinion that Ledbetter and Pogue further teach the additional limitations of claim 11. Thus, it is my opinion that the Lane-Ledbetter-Pogue combination renders claim 11 obvious.

12. Claim 12

427. Claim 12 depends from claim 4. For the reasons discussed above, it is my opinion that claim 4 would have been obvious to a POSITA over the Lane-Ledbetter-Pogue combination. Moreover, as discussed above, it is my opinion that Ledbetter and Pogue further teach the additional limitations of claim 12. Thus, it is my opinion that the Lane-Ledbetter-Pogue combination renders claim 12 obvious.

13. Claim 13

428. Claim 13 depends from claim 12. For the reasons discussed above, it is my opinion that claim 12 would have been obvious to a POSITA over the Lane-Ledbetter-Pogue combination.

Moreover, as discussed above, it is my opinion that Ledbetter and Pogue further teach the additional limitations of claim 13. Thus, it is my opinion that the Lane-Ledbetter-Pogue combination renders claim 13 obvious.

14. Claim 14

429. Claim 14 depends from claim 1. For the reasons discussed above, it is my opinion that claim 1 would have been obvious to a POSITA over the Lane-Ledbetter-Pogue combination. Moreover, as discussed above, it is my opinion that Ledbetter and Pogue further teach the additional limitations of claim 14. Thus, it is my opinion that the Lane-Ledbetter-Pogue combination renders claim 14 obvious.

15. Claim 15

430. Claim 15 depends from claim 1. For the reasons discussed above, it is my opinion that claim 1 would have been obvious to a POSITA over the Lane-Ledbetter-Pogue combination. Moreover, as discussed above, it is my opinion that Ledbetter and Pogue further teach the additional limitations of claim 15. Thus, it is my opinion that the Lane-Ledbetter-Pogue combination renders claim 15 obvious.

16. Claim 16

431. Claim 16 depends from claim 15. For the reasons discussed above, it is my opinion that claim 15 would have been obvious to a POSITA over the Lane-Ledbetter-Pogue combination. Moreover, as discussed above, it is my opinion that Ledbetter and Pogue further teach the additional limitations of claim 16. Thus, it is my opinion that the Lane-Ledbetter-Pogue combination renders claim 16 obvious.

17. Claim 17

[17.1] A customized user interface to display computer content on a display component of a computer system including a keyboard, the user interface comprising:

432. As discussed regarding preamble [1.1], it is my opinion that Lane discloses this it, to the extent preamble is limiting.

[17.2] at least one processor operatively connected to a memory of the computer system;

433. As discussed regarding limitation [1.2], it is my opinion that Lane discloses this limitation.

[17.3] a graphical user interface, executing on the at least one processor, configured to;

434. As discussed regarding limitation [1.3], it is my opinion that Lane discloses this limitation.

[17.4] display a plurality of views of a plurality of visual representations of computer content;

435. As discussed regarding limitation [1.4], it is my opinion that the Lane-Ledbetter-Pogue combination discloses a plurality of views of computer content.

[17.5] an execution component, executing on the at least one processor, configured to:

436. As discussed regarding limitation [1.5], it is my opinion that the Lane-Ledbetter-Pogue combination discloses this limitation.

[17.6] identify at least a first computer system configuration where the keyboard is operable to receive input from an operator of the computer system to control the computer system and a second computer system configuration where the keyboard is inoperable to receive input from the operator of the computer system to control the computer system based on sensor input indicating a position of the display component;

437. In my opinion, Lane teaches this limitation.

438. **First, it is my opinion that Lane teaches a first computer system configuration** where the keyboard is operable to receive input (i.e., a "standard laptop computer format"):

Laptop Mode

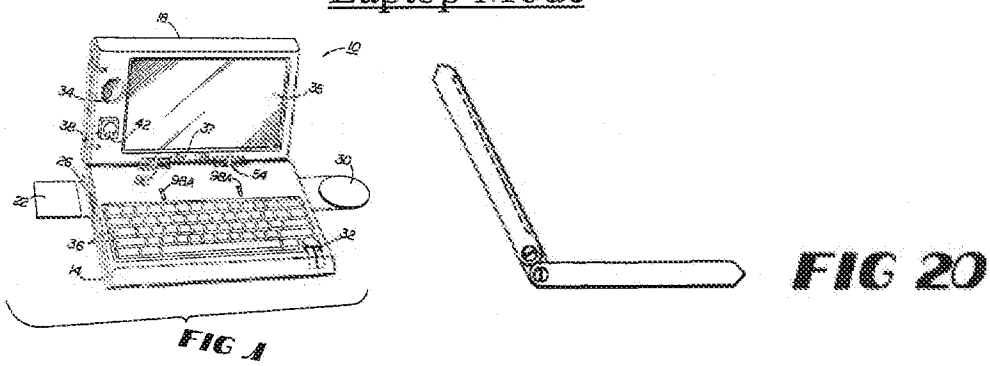


FIG 1 FIG 20

(Lane at FIG 1. and FIG. 20, 3:10–11, 5:4–6 ("As shown in FIG. 1, device 10 may be a portable computer comprising first module 14 (e.g. a keyboard) and second module 18 (e.g. a display).").) Lane further explains that "FIG. 1 illustrates device 10 in a nominally 'open' position permitting **access both to visual display 35 and keys 36** . . ." (Lane at 5:15–17 (emphasis added).) Lane's FIG. 6 illustrates "positions representative of those assumed by the displays and keyboards of many operating laptop computers. FIG. 6 is provided below:

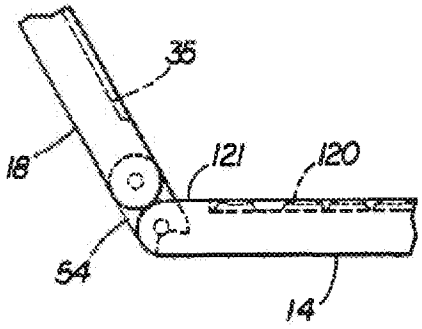


FIG 6

(Lane at FIG. 6, 8:2–8.) In my opinion, a POSITA would have thus understood that Lane teaches a laptop mode, as illustrated in FIGs. 1, 6 and 20, with a computer system configuration where a keyboard is operable to receive input from an operator.

439. **Second, it is my opinion that Lane teaches a computer configuration where the keyboard is inoperable** to receive input from an operator of the computer system (i.e., frame mode or easel mode):

Frame Mode

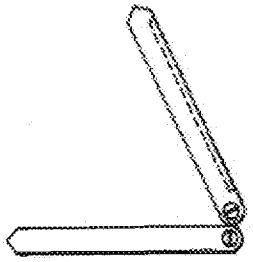


FIG 25

Easel Mode

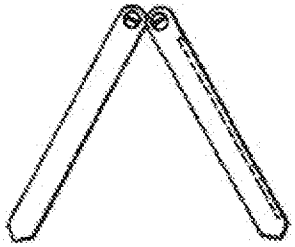


FIG 28

(Lane at FIG 25. and FIG. 28, 10:24–31.) Lane also explicitly confirms that the keys 36 are inaccessible in the frame mode shown in FIG. 25 and in the easel mode shown in FIG. 28. (Lane at 10:24–31 ("Other alternative positionings involving rotation of second module 18 about axis 62 are detailed in FIG. 20 (in which second module 18 is rotated more than 90° to provide a standard 'desktop' orientation) and in FIGS. 25 and 28 (in which second module 18 is rotated more than 270°, when **only the visual display 35 need be accessible**).") (emphasis added).) In my opinion,

a POSITA would thus have understood that Lane teaches a frame mode and an easel mode, as illustrated in FIGs. 25 and 28, with a computer system configuration where a keyboard is inoperable to receive input from an operator. Moreover, Lane teaches another computer configuration where the keyboard is inoperable to receive input from an operator of the computer system in its tablet mode in FIG. 27:

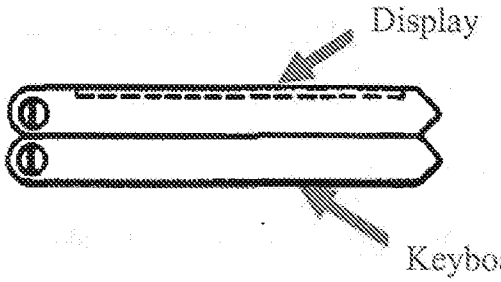


FIG 27

(Lane at FIG. 27 (annotated).) As Lane explains, "FIG. 27 shows second module 18 rotated approximately 360° relative to first module 14 (or vice-versa), exposing visual display 35 for use as, for example, a tablet for **pen-based** computing." (Lane at 10:17–20 (emphasis added).) In my opinion, a POSITA would have understood that Lane's tablet mode would be a computer system configuration where the keyboard is inoperable to receive input from an operator—otherwise holding the tablet for "pen-based computing" would result inadvertent keyboard input. As explained above for limitation [1.7], it is my opinion that a POSITA would have had a reasonable expectation of success, and required no undue experimentation in implementing such software and / or hardware to deactivate the keyboard. The ease with which a POSITA would have implemented such a feature is confirmed by the '715 patent itself, which lacks any implementation details, and merely states generally that "software and/or hardware protection may be provided for the keyboard to prevent keys from being pressed (or to prevent the portable computer from responding to pressed keys)." ('715 Patent at 24:48–53.) In my opinion, this lack of implementation details

confirms the POSITA could have easily incorporated such features into Ledbetter. In my opinion, that use of such features was well within the skill of a POSITA is further confirmed by other prior art such as Shimura and Lane, which teaches "means used to invalidate the input from the keyboard based on the value detected by said detection means." (*See, e.g.*, Shimura (Ex. 1008) at ¶¶ [0008], [0019], claims 6, 11–12.)

440. **Third, it is my opinion that Lane teaches a "position-indicating mechanism 38" (i.e., a sensor)** for "indicating" (i.e., identifying) the "spatial orientation of that module" (i.e., a current configuration), including a configuration where keyboard input is inoperable:

> Also shown in FIG. 1 (and FIG. 29) as part of second module 18 is **position-indicating mechanism 38. Mechanism 38 includes a moveable conductor 42 (such as liquid mercury)** in a spherical cavity 46 having contacts 50 spaced about its periphery. Conductor 42 responds via gravitational forces to spatial reorientation of mechanism 38 by moving relative to contacts 50 (to contact at least one contact 50 to close its respective circuit). Including mechanism 38 as a component of either first or second modules 14 or 18 would thus **permit it to indicate the spatial orientation of that module**. Doing so would also allow mechanism 38 to assist device 10 (and its associated software) in determining, for example, whether the information to appear on visual display 35 should be in "landscape" or "portrait" position as the visual display 35 is spatially configured, the direction in which to move a curser of second module 18 when a visual display, or **whether to render keys 36 of first module 14 inoperable when unused**.

(Lane at 5:23–6:6 (emphases added).) Lane's FIG. 29 of position-indicating mechanism 38 is shown below:

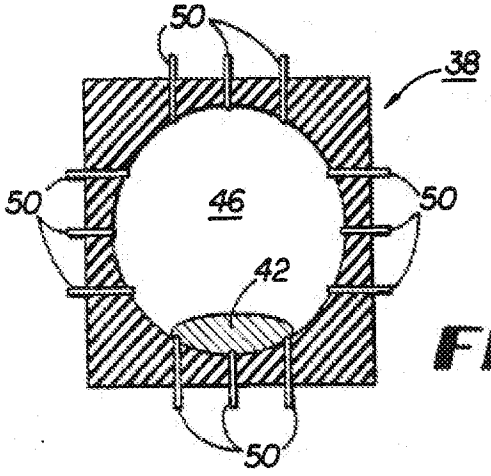


FIG 29

(Lane at FIG. 29.) In my opinion, a POSITA viewing FIG. 29 would have understood the position-indicating mechanism 38 shows at least twelve contacts 50, which can be touched in various combinations by a moveable conductor 42 (e.g., mercury) inside, and hence determine orientation with at least adequate resolution to accurately measure any of the disclosed modes of operation (e.g., laptop, frame, easel, tablet). While FIG. 29 shows the position-indicating mechanism with at least twelve contacts, it is my opinion that a POSITA would have understood Lane's disclosure of a "spherical cavity 46" indicates at least six more contacts in addition to the twelve contacts shown (i.e., along the Z-axis). Moreover, Lane teaches its position-indicating mechanism 38 can be included as a component in first or second modules 14 or 18 (i.e., a keyboard or a display). (Lane at 5:32–35.) In my opinion, a POSITA thus would have understood Lane taught that including the position-indicating mechanism in module 14 (i.e., a keyboard) permitted distinction between configurations such as laptop and frame mode (i.e., keyboard facing down rather than up, while display is the same as laptop mode). Since Lane teaches that its position-indicating mechanism is used to determine "whether to render the keys 36 inoperable … when unused" (Lane at 6:5–6), it is my opinion that a POSITA would understand that the keys 36 are unused in frame mode because they cannot be accessed by the user (they are face down on surface). (Lane at FIG. 25.) Yet, the

keys 36 are clearly usable and operable in laptop mode. (Lane at FIG. 1, 20.) Thus it is my opinion that Lane's position-indicating mechanism in the keyboard module 14 allows the computer system to distinguish (i.e., detect) configurations like the laptop and frame modes in order to perform its prescribed function. In my opinion, a POSITA would have further understood Lane taught that including the position-indicating mechanism in module 18 (i.e., display) permitted distinction. In my opinion, a POSITA would have thus understood that the mechanism with a moveable conductor such as liquid mercury that responds to gravitational forces is a sensor. In my opinion, a POSITA would have understood that Lane's disclosure of a position-indicating mechanism in either keyboard and/or display (either of which can indicate the position of the display component) permits the device and its associated software to determine configurations that "render keys inoperable when unused" as opposed to a typical laptop configuration, which is the same as identifying a first configuration where keyboard is operable and a second configuration where the keyboard is inoperable to receive input from an operator of the computer system, based on sensor input indicating a position of the display component.

441. Moreover, it is my opinion that Ledbetter and Pogue describe all limitations of claim 17 as described above. As such, the Lane-Ledbetter-Pogue combination would teach this limitation. As an example, in my opinion, a POSITA would have understood that by combining Lane's position-indicating mechanism with Ledbetter's position detector means (e.g., the motor rotation counter or optical sensor), configurations such as Lane's laptop mode (FIGs. 1, 20), frame mode (FIG. 25), tablet mode (FIG. 27), easel mode (FIG. 28) and Ledbetter's Workstation mode, Walk-Up mode, Media Consumption Mode, and Tablet Mode could be specifically and separately identified by Lane's additional detection means. Moreover, it is my opinion that a POSITA would have known that the keyboard is not intended for operation in configurations such as frame, easel,

or tablet modes and the Lane-Ledbetter-Pogue system would therefore make the keys inoperable according to Lane's disclosure when those modes are detected.

442. In sum, it is my opinion that a POSITA would have understood that the Lane-Ledbetter-Pogue combination teaches an "execution component" that is configured to identify a first computer system configuration where a keyboard is operable to receive input from an operator and a second computer system configuration where a keyboard is inoperable to receive input from an operator.

[17.7] select, responsive to the sensor input, a first content view from the plurality of views for the first computer system configuration;

443. In my opinion, the Lane-Ledbetter-Pogue combination discloses this limitation, either under the Board's preliminary construction in IPR2021-00786, or under a broader construction, of "plurality of views."

444. Under a broad construction, as explained for limitation [1.4] above, it is my opinion that Lane expressly teaches at least two views of content (i.e., views with different display orientations), and as explained for limitation [1.7] above, Lane teaches that position-indicating mechanism 38 signals the device and its associated software to select one of Lane's views in response to a position-indicating mechanism:

> Doing so would also allow mechanism 38 to assist device 10 (and its associated software) in **determining, for example, whether the information to appear on visual display 35 should be in "landscape" or "portrait" position** as the visual display 35 is spatially configured, the direction in which to move a curser of second module 18 when a visual display, or whether to render keys 36 of first module 14 inoperable when unused.

(Lane at 5:23–6:6 (emphasis added).) As explained above for limitation [17.6], it is my opinion that Lane teaches the selection of a view in response to sensor input. Specifically, a POSITA viewing the position-indicating mechanism of FIG. 29 would have understood it shows at least twelve contacts, and its spherical shape indicates six additional contacts (along the Z-axis), thus providing sensor input with at least adequate resolution to accurately identify any of the disclosed modes of operation (e.g., laptop, frame, easel, tablet), which Lane explains allows the device and associated software to select how information appears on the visual display, in my opinion. As such, it is my opinion that a POSITA would have understood that Lane teaches at least selection of a first content views corresponding with different display orientations.

445. For a narrow construction, as explained for limitation [1.4] above, Lane describes different types of user input environments corresponding with different configurations (e.g., for each of Lane's laptop mode (FIGs. 1, 20), frame mode (FIG. 25), tablet mode (FIG. 27), and easel mode (FIG. 28)), and a POSITA reading Lane would have been motivated to look to art such as Ledbetter and Pogue which teach a plurality of ways of organizing visual representations of computer content beyond changing display orientation, as discussed above. And, as discussed above for Ledbetter regarding limitation [17.7], it is my opinion that Ledbetter discloses selecting a first content view in response to sensor input. Thus, it is my opinion that Lane combined with Ledbetter and Pogue meets limitation [17.7] even under the Board's narrow preliminary construction.

446. Moreover, it is my opinion that Ledbetter and Pogue describe all limitations of claim 17 as described above. As such, the Lane-Ledbetter-Pogue combination would also teach this limitation. As an example, in my opinion, a POSITA would have understood that by combining Lane's position-indicating mechanism with Ledbetter's position detector means (e.g.,

the motor rotation counter or optical sensor), and further incorporating teachings from Ledbetter's mode switch software, then Ledbetter's selection of views could be in response to sensor input identifying each of Lane's configurations such as laptop mode (FIGs. 1, 20), frame mode (FIG. 25), tablet mode (FIG. 27), easel mode (FIG. 28) or Ledbetter's modes. Moreover, as discussed above, it is my opinion that Pogue discloses a plurality of views of a plurality of visual representations of computer content.

447. In sum, it is my opinion that a POSITA would have understood that the Lane-Ledbetter-Pogue combination teaches an "execution component" that is configured to select, responsive to the sensor input, a first content view.

[17.8] transition, automatically in response to the sensor input, the display component between at least the first content view of the plurality of views and a second content view of the plurality of views;

448. In my opinion, the Lane-Ledbetter-Pogue combination discloses this limitation, either under the Board's preliminary construction in IPR2021-00786, or under a broader construction, of "plurality of views."

449. Under a broad construction, as explained for limitation [1.4] above, it is my opinion that Lane teaches at least two content views (i.e., views with different display orientations) and Lane teaches that mechanism 38 provides sensor input to the device (which can be a personal computer) and its associated software to automatically transition the display between a first and second content view:

> Doing so would also allow mechanism 38 to assist device 10 (and its associated software) in **determining, for example, whether the information to appear on visual display 35 should be in**

> **"landscape" or "portrait" position** as the visual display 35 is spatially configured, the direction in which to move a curser of second module 18 when a visual display, or whether to render keys 36 of first module 14 inoperable when unused.

(Lane at 5:23–6:6 (emphasis added).) As explained above for limitations [17.6] and [17.7], it is my opinion that Lane teaches the automatic selection of a view based on this sensor input.

450. For a narrow construction, as explained for limitation [1.4] above, it is my opinion that Lane describes different types of user input environments and a POSITA reading Lane would have been motivated to look to art such as Ledbetter and Pogue which teach a plurality of ways of organizing visual representations of computer content beyond changing display orientation, as discussed above. And, as discussed for Ledbetter regarding limitation [17.8], it is my opinion that Ledbetter discloses automatic transition between first and second content views in response to sensor input. Thus, it is my opinion that Lane combined with Ledbetter and Pogue meets limitation [17.8] even under the Board's narrow preliminary construction.

451. In sum, it is my opinion that a POSITA would have understood that the Lane-Ledbetter-Pogue combination teaches an "execution component" that is configured to transition, automatically in response to the sensor input, the display component between at least the first content view of the plurality of views and a second content view of the plurality of views.

[17.9] receive user input via at least one input device integral to or operatively connected with the computer system; and;

452. In my opinion, Lane teaches this limitation. Lane describes three environments which require different inputs (mouse input, keyboard-based, and pen-based input). (Lane at 5:6–11, 8:16–19.) Lane also teaches a touch screen. (Lane at claim 13 ("means for translating the

fingertip pressure into motion of an electronic cursor").) Lane provides FIG. 1 which shows a mouse / pointer 32:

Lane's Primary Components

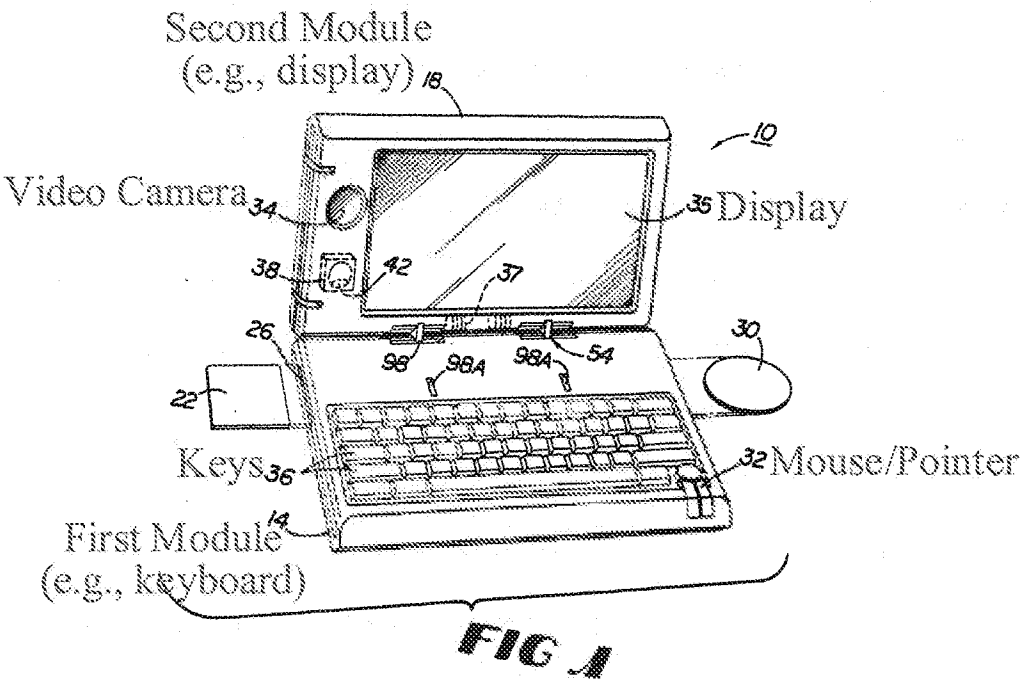


FIG. 1

(Lane at FIG. 1 (annotated).) In my opinion, a POSITA would have understood that the user input devices taught by Lane are "integral or operatively connected with the computer system."

453. Moreover, as explained for limitation [17.9] above, it is my opinion that Ledbetter and Pogue also disclose user input via input devices integral or operatively connected with the computer system, such as keyboard, pointing device, scroll wheel, remote control, and a mouse. As such, it is my opinion that the Lane-Ledbetter-Pogue combination teaches this limitation.

454. In sum, it is my opinion that a POSITA would have understood that the Lane-Ledbetter-Pogue combination teaches an "execution component" that is configured to receive user input via at least one input device integral to or operatively connected with the computer system.

[17.10] transition, automatically in response to receiving the user input, the display component from one of the first content view and the second content view to a channel view including a channel selector that displays a sequence of visual representations.

455. In my opinion, the Lane-Ledbetter-Pogue combination discloses this limitation. As explained above for limitation [1.4], it is my opinion that a POSITA reading Lane would have been motivated to look to art such as Ledbetter and Pogue. And as explained for limitation [17.10], it is my opinion that Ledbetter and Pogue teach limitation [17.10]. Thus, it is my opinion that Lane combined with Ledbetter and Pogue would also meet limitation [17.10].

456. In sum, it is my opinion that a POSITA would have understood that the Lane-Ledbetter-Pogue combination teaches an "execution component" that is configured to transition, automatically in response to receiving the user input (e.g., Ledbetter's trigger button, Pogue's Alt-Tab or Windows button + Tab, or selection of a program in Windows Vista using a mouse), the display component from one of the first content view and the second content view to a channel view including a channel selector that displays a sequence of visual representations (e.g., Ledbetter's channel view in media consumption mode, Pogue's channel views in Windows Vista, Windows Media Center, Windows Photo Gallery, Windows Media Player, and Internet Explorer 7.)

18. Claim 18

457. Claim 18 depends from claim 17. For the reasons discussed above, it is my opinion that claim 17 would have been obvious to a POSITA over Ledbetter.

[18.1] The user interface of claim 17, wherein the at least one input device includes at least one of a scroll wheel, a touchpad, and a mouse.

458. In my opinion, Lane teaches this limitation. Lane teaches the use of a mouse as an input device (*See, e.g.*, Lane at FIG. 1.) Lane explains that "[a]n electronic mouse or other pointer 32 . . . may also be included, as may video camera 34." (Lane, 5:10-15.) Moreover, it is my opinion that Ledbetter and Pogue describe all limitations of claim 18 as described above. As such, it is my opinion that the Lane-Ledbetter-Pogue combination renders claim 18 obvious.

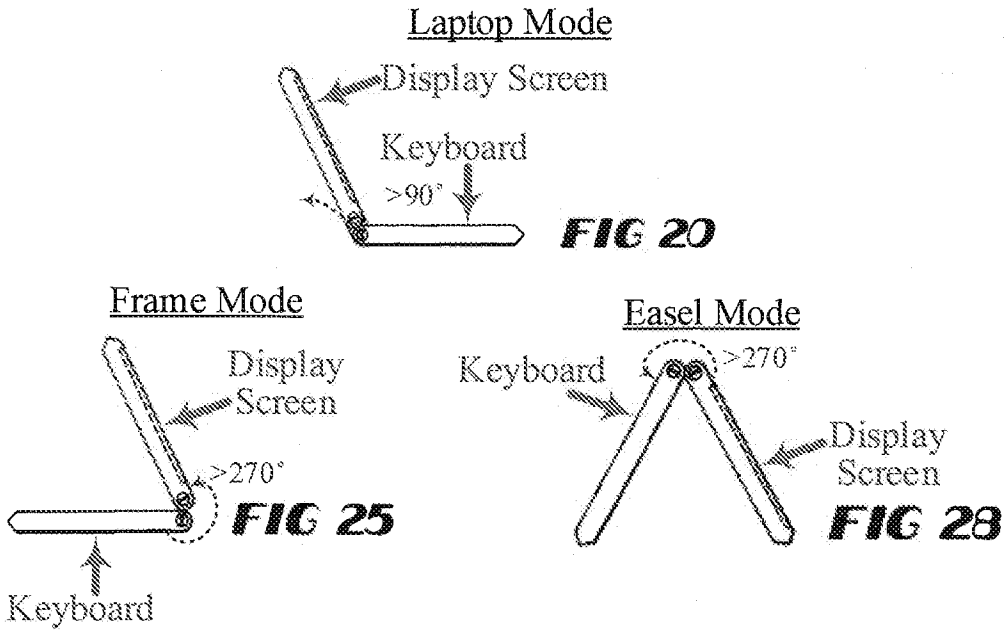
19. Claim 19

459. Claim 19 depends from claim 15. For the reasons discussed above, it is my opinion that claim 15 would have been obvious to a POSITA over Ledbetter and Pogue.

[19.1] The user interface of claim 15, wherein the first mode is a laptop mode where the keyboard is oriented to be accessible to the operator and wherein the second mode is an easel mode or a frame mode where the keyboard is oriented to be inaccessible to the operator.

460. To the extent the claim 19 requires further description of a laptop and the Ledbetter-Pogue combination's disclosure discussed above, is insufficient, it is my opinion that Lane discloses this limitation. While claim 19 does not provide an antecedent basis for "the first mode" and "the second mode," it is my opinion that Lane discloses this limitation, to the extent I understand this claim because Lane discloses a laptop, easel, and frame mode (*e.g.*, Lane, 3:5-14, 10:24-31, FIGS. 20, 25, 28) and discloses automatically reorienting displayed content depending on the display component's orientation (*e.g.*, Lane, 5:23-6:6).

Lane's Display Modes



(Lane, FIGS. 20, 25, 28 (with annotations).) As such, it is my opinion that Lane discloses a first mode that is a laptop mode "where the keyboard is oriented to be accessible to the operator" and a second mode that "is an easel mode and a frame mode where the keyboard is oriented to be inaccessible to the operator."

20. Claim 20

[20.1] A customized user interface to display computer content on a display component of a computer system including a keyboard, the user interface comprising:

461. As discussed regarding preamble [1.1], it is my opinion that the Lane-Ledbetter-Pogue combination discloses it, to the extent preamble is limiting.

[20.2] at least one processor operatively connected to a memory of the computer system;

462. As discussed regarding limitation [1.2], it is my opinion that the Lane-Ledbetter-Pogue combination discloses this limitation.

[20.3] a graphical user interface, executing on the at least one processor, configured to display the computer content on the display component of the computer system, the graphical user interface configured to;

463. As discussed regarding limitation [1.3], it is my opinion that the Lane-Ledbetter-Pogue combination discloses this limitation.

[20.4] display a plurality of views of a plurality of visual representations of computer content;

464. As discussed regarding limitation [1.4], the Lane-Ledbetter-Pogue combination discloses this limitation.

[20.5] wherein the computer content includes at least one of selectable digital content, selectable computer operations and passive digital content

465. As discussed regarding limitation [1.5], it is my opinion that the Lane-Ledbetter-Pogue combination discloses this limitation.

[20.6] an execution component, executing on the at least one processor, configured to:

466. As discussed regarding limitation [1.6], it is my opinion that the Lane-Ledbetter-Pogue combination discloses this limitation.

[20.7] detect a current computer system configuration from at least a first computer system configuration where the keyboard is positioned to receive input from an operator of the computer system and a second computer system configuration where the keyboard is not positioned to receive input from the operator of the computer system;

467. In my opinion, Lane teaches this limitation. For the same reasons as discussed for limitation [1.7], which recites where the keyboard "is operable to receive input" and "is inoperable to receive input," it is my opinion that the Lane-Ledbetter-Pogue combination discloses this limitation. In my opinion, Lane discloses limitation [20.7], which recites where the keyboard "is positioned to receive input" and "is not positioned to receive input."

468. **First, Lane describes a first computer system configuration keyboard is positioned to receive input from an operator**. For example, Lane discloses FIG. 1 and FIG. 20, showing a configuration where the keyboard positioned to receive input, (i.e., a "standard laptop computer format"):

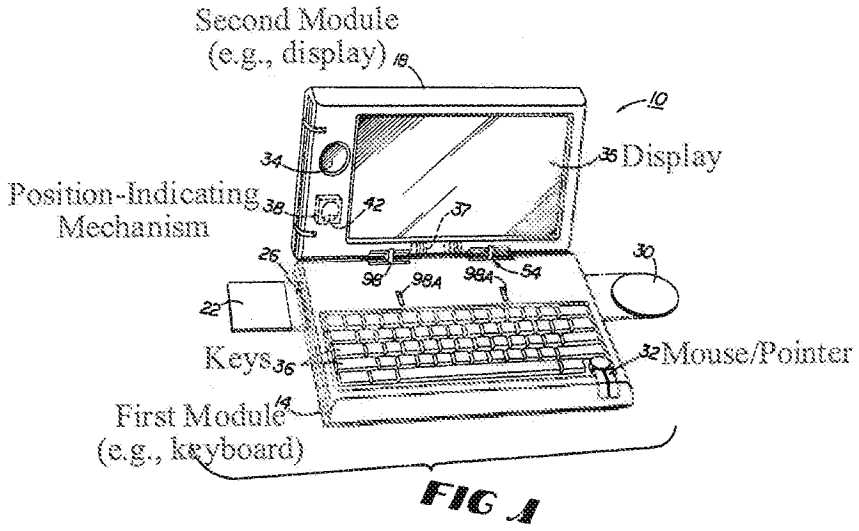


FIG 1

Laptop Mode

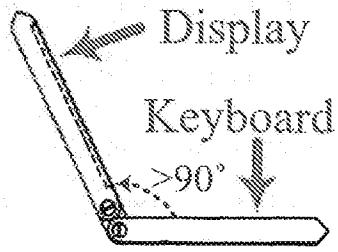


FIG 20

(Lane at FIG 1. and FIG. 20, 3:10–11, 5:4–6 (annotated) ("As shown in FIG. 1, device 10 may be a portable computer comprising first module 14 (e.g. a keyboard) and second module 18 (e.g. a display).").) A POSITA would have thus understood that Lane teaches a laptop mode, as illustrated in FIGs. 1, 6 and 20, with a computer system configuration where a keyboard is positioned to receive input from an operator, in my opinion.

469. **Second, Lane describes a second computer system configuration keyboard is not positioned to receive input**. For example, Figures 25 and 28 are provided below, showing two configurations where the keyboard is not positioned to receive input:

Lane's Frame Mode

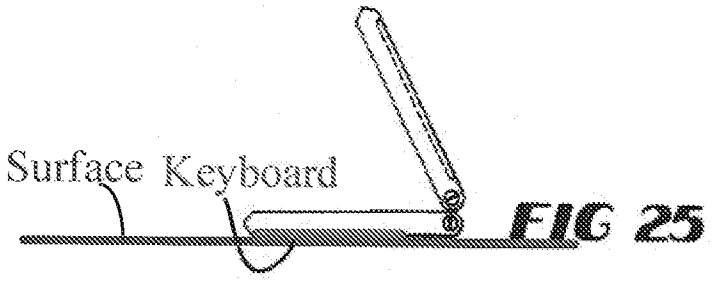


FIG 25

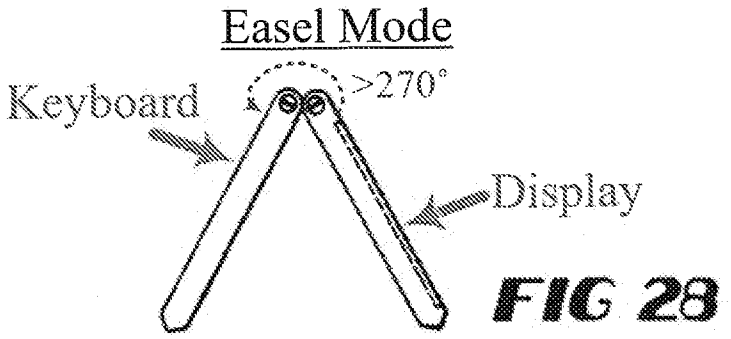


FIG 28

(Lane at FIG 25. and FIG. 28, 10:24–31 (annotated).) A POSITA would have thus understood that Lane teaches, as shown in FIGs. 25 and 28, with a computer system configuration where a keyboard is not positioned to receive input from an operator, in my opinion.

470. **Third, Lane teaches how its "position-indicating mechanism 38" for detecting a current computer system configuration**, as explained for limitation [1.7], which determines the "spatial orientation of that module" (i.e., a current computer system configuration), including a normal laptop configuration and a configuration where keyboard input is not positioned to receive input from an operator, in my opinion.

471. Moreover, it is my opinion that the Lane-Ledbetter-Pogue combination discloses this limitation for the same reasons Ledbetter and Pogue describe all limitations of claims 1 and 20, as described above. As such, it is my opinion that the Lane-Ledbetter-Pogue combination discloses this limitation. the Lane-Ledbetter-Pogue combination teaches this limitation. As an example, it is my opinion that a POSITA would have understood that by combining Lane's position-indicating mechanism with Ledbetter's position detector means (e.g., the motor rotation counter or optical sensor), configurations such as Lane's laptop mode (FIGs. 1, 20), frame mode (FIG. 25), tablet mode (FIG. 27), easel mode (FIG. 28) could be specifically and separately detected by Lane's additional detection means. Moreover, it is my opinion that a POSITA would

have known that the keyboard is not intended for operation in configurations such as frame, easel, or tablet modes and the Lane-Ledbetter-Pogue system would therefore make the keys inoperable according to Lane's disclosure when those modes are detected.

[20.8] select one of the plurality of views for display on the computer system in response to the detected current computer system configuration; and

472. As discussed regarding limitation [1.8], it is my opinion that the Lane-Ledbetter-Pogue combination discloses this limitation.

[20.9] transition the display component to the selected one of the plurality of views.

473. As discussed regarding limitation [1.9], it is my opinion that the Lane-Ledbetter-Pogue combination discloses this limitation.

X. GROUND 4: SHIMURA IN COMBINATION WITH LEDBETTER AND POGUE RENDER OBVIOUS CLAIMS 1–20 OF THE '715 PATENT

A. Motivation To Combine Shimura With Ledbetter And Pogue

474. In my opinion, a POSITA would have been motived to combine Shimura with Ledbetter and Pogue for several reasons. First, all three references are contemporaneous patents directed toward complementary solutions to highly analogous problems in the same field of endeavor. Shimura is directed to personal computer systems with different system configurations and describes keyboards, pen input, and mouse input operations. (Shimura at [Abstract]). In my opinion, a POSITA would thus have looked to analogous art such as Ledbetter which describes personal computer systems with different system configurations with keyboard, mouse, and pen input operations. (Ledbetter at Abstract.) In my opinion, a POSITA viewing Shimura would have looked to other computer systems with different configurations which correspond with different

views, such as Ledbetter's different modes for workstation, media consumption, walk up mode, and tablet mode.

475. Moreover, it is my opinion that Shimura and Ledbetter are directed to solving the same problem of providing a suitable computer configuration for different input operation. Shimura explains that its "Problems Which the Present Invention is Intended to Resolve":

> The above-mentioned prior art was problematical in that it was not a shape which is suitable for use which has a user interface which is based on pen input operation and mouse input operations. In recent years, the usage environment of the personal computer has been changing. One of those changes involves an operating environment based on mouse input. Another change involves an operating environment based on pen input. The abovementioned prior art was persistently suitable for a keyboard-based operating environment. Furthermore, this problem was the same for electronic machines and devices other than portable word-processors and other personal computers.

(Shimura at ¶ [0004].) Similarly, Ledbetter explains that its purpose is to solve the same problem:

> in addition to displaying visible output, many contemporary display monitors are configured for touch and/or pen input via an LCD digitizer screen. However, standalone display monitors (and even those physically coupled to a desktop computer or laptop computer) are typically positioned for workstation like interaction, and, for example, are not capable of being readily positioned for touch and/or pen input.

(Ledbetter at ¶ [0002].) As such it is my opinion that a POSITA reading Shimura would have understood that Ledbetter sought to solve the same problem of computer system positioning for

use with different types of input. In my opinion, a POSITA would have examined how Shimura stated it resolved the problem:

> It is the objective of the present invention to provide an electronic machine and device and a personal computer which adopt a shape which is suitable for a user environment centered on pen input operations and mouse operations while maintaining a shape which can used as a keyboard.

(Shimura at [Abstract], ¶ [0005].) In my opinion, a POSITA would have seen that Ledbetter reached a similar solution of providing different user environments on a personal computer based on different types of user input, but also incorporated additional modes of interaction:

> preset stopping positions may be provided for conventional (e.g., mouse and keyboard) work station-like interaction, video (e.g., DVD movie) playback, stand-up (walk-up) touch-screen interaction, and/or for pen input, similar to a tablet computing device

(Ledbetter at ¶ [0003].)

476. Additionally, in my opinion, a POSITA looking at Shimura would have looked for an operating system compatible with keyboard, pen input, and mouse input, and would thus have looked to operating system art such as Pogue which discusses an operating system (i.e., Windows Vista) that functions with keyboards, pen input, and mouse input operations. (Pogue at 463, 503, 571.) As explained above, it is my opinion that a POSITA would have been motivated to combine Microsoft's Ledbetter computer system, which describes workstations with a keyboard and mouse, media consumption, touch screens, and pen input and display configurations with Pogue, which teaches Microsoft's Windows Vista and describes workstations, media consumption, touch screens, handwriting recognition, and pen input. (*See, e.g.*, Pogue at cover, 253, 313, 463, 501, 517, 629, 719.)

477. Furthermore, in my opinion, a POSITA would have also been motivated to combine Shimura's laptop personal computer with Ledbetter's and Pogue's teachings because such a combination would allow a user to enjoy the convenient form of the Shimura's portable laptop computer with the different views and modes of Ledbetter-Pogue configurable computer system, especially with the then-newly-introduced features of Windows Vista and Internet Explorer 7. As explained in Pogue, Microsoft was eager to apply Windows Vista to a wide variety of computers systems and configurations, including portable computers, touch-screen PCs, palmtops, laptops with touch-screens, pen control, and handwriting recognition, and Tablet PCs:

> In Windows Vista, Microsoft makes its biggest nod yet to a raging trend in computing: portability. Laptop sales are trouncing desktop PC sales. In some industries, palmtops or touch-screen PCs are even replacing laptops. And for millions of people, the computing platform of choice isn't a computer at all—it's a cellphone.
>
> That's why Vista is crammed with special features for the peripatetic PC. For example, it has new features for laptops, including a way to change your power-consumption configuration with a quick click on the battery icon in the Notification Area, and a new Mobility Center that lets you switch quickly among networks and workplaces.
>
> Working with a Tablet PC (a touch-screen laptop or slate) is now easier than ever, too, thanks to new or beefed-up features like pen control, digital ink text input, handwriting recognition, and more. (This stuff used to be available only in a special Tablet PC edition of Windows; for the first time, it's part of the basic operating system.)

(Pogue at 571.) In my opinion, the fact that support for multiple types of configuration is built into the Windows Vista OS means that it was anticipated that the same Windows Vista OS would be used seamlessly across multiple configurations, making the motivation to combine Shimura with

Pogue even clearer, especially in such a popular and widely deployed OS such as Microsoft's Windows Vista.

478. Additionally, it is my opinion that a POSITA viewing the pen input of Shimura on a portable computer would also look to art regarding touch input such as Ledbetter because a POSITA would have understood that pens and styluses get lost, unlike a fingertip. Moreover, it is my opinion that a POSITA would have understood that stylus and fingertip input are analogous with resolution being the main difference.

479. Moreover, it is my opinion that a POSITA would also have had a reasonable expectation of success in combining Shimura's computer system with Ledbetter's teachings of different views for different system configurations because Shimura and Ledbetter share the same hardware such as a configurable display component, a keyboard attached to a base computer, and switching means. In my opinion, a POSITA would also have had a reasonable expectation of success in combining Shimura's computer system with Pogue's teachings of Windows Vista and its associated programs because a computer system, such as Shimura's laptop, typically includes a processor that executes an operating system, such as Windows Vista, as the '715 Patent itself notes:

> Such a processor usually executes an operating system which may be, for example, the Windows-based operating systems (e.g., Windows Vista, Windows NT, Windows 2000 (Windows ME), Windows XP operating systems) available from the Microsoft Corporation.

('715 Patent at 69:6–12; *see also id.* at 49:59–1, 66:51 (describing browsers as "conventional" and identifying Internet Explorer).) And, as discussed above, it is my opinion that a POSITA would have had a reasonable expectation of success combining Ledbetter with Pogue.

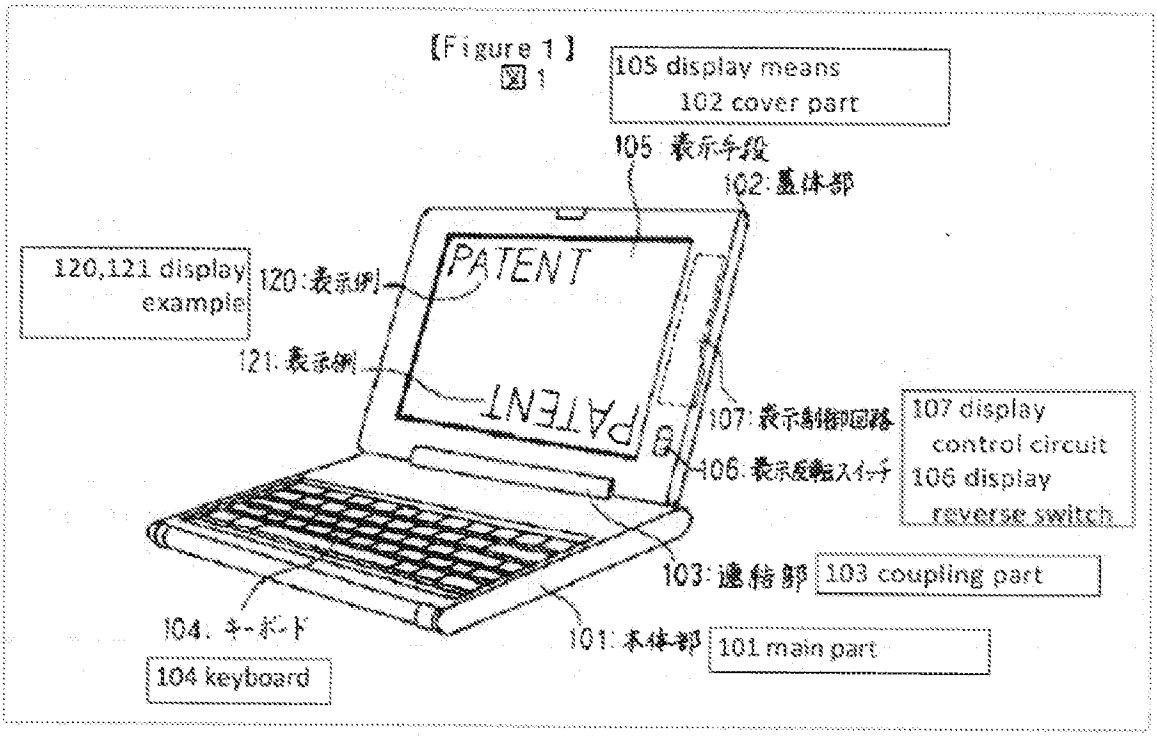
480. In sum, it is my opinion that a POSITA would have been motivated to combine: (1) the portable computer of Shimura, which describes three configurations (i.e., laptop, easel, and tablet) and detection means to detect these configurations with (2) Ledbetter's selection of modes (i.e., workstation, touch screen, media consumption, and tablet) and (2) Pogue's operating system which describes views, content and applications in Windows Vista and its included programs.

B. Claim-By-Claim Analysis

1. Claim 1

[1.1] A customized user interface to display computer content on a display component of a computer system including a keyboard, the user interface comprising:

481. To the extent the preamble is limiting, it is my opinion that Shimura discloses it. As shown in Figure 1 (below), Shimura teaches a user interface that is customized to display computer content on the display component of the computer system including a keyboard. Specifically, Shimura discloses a portable personal computer in the form of a laptop that includes a cover part 102 with a display means 105 and a main part 101 with a keyboard 104. (Shimura at ¶ [0011].)



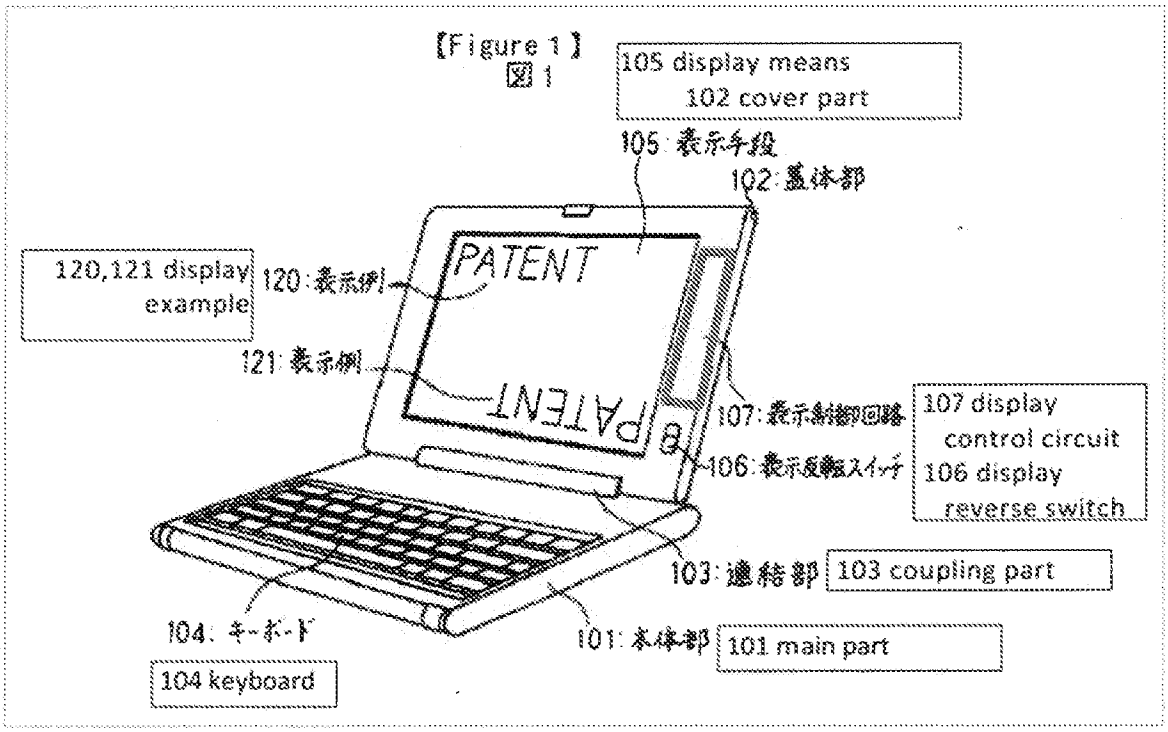
(Shimura at FIG. 1.) The cover part 102 and display means 105 of Shimura are "a display component that displays computer content" (Shimura at ¶ [0011].) The keyboard 104 of Shimura discloses a "keyboard." (*Id.*) Further, it is my opinion that Shimura discloses a user interface that displays computer content (i.e., 120, 121 display example), thereby disclosing the "customized user interface to display computer content" of the '715 Patent.

482. To the extent Shimura is insufficient to disclose a customized user interface, it is my opinion that a POSITA would have been motivated to combine Shimura with an operating system such as the Windows Vista operating system disclosed in Pogue, which discloses a customized user interface on a display of a computer system. In my opinion, a POSITA would have also been motivated to combine the configurable computer system of Shimura with the configurable computer system of Ledbetter, which also discloses a customized user interface on a display of a computer system including a keyboard. Moreover, it is my opinion that Ledbetter and

Pogue describe all other limitations of claim 1 as described above. As such, it is my opinion that the Shimura-Ledbetter-Pogue combination teaches this limitation.

[1.2] at least one processor operatively connected to a memory of the computer system;

483. In my opinion, Shimura discloses this limitation. Shimura teaches a portable computer system (i.e., a laptop) that includes, among other things, a "display control circuit 107" (outlined in red) that controls output to the display means 105 by controlling the computer circuit stored in the main part 101. (Shimura at ¶¶ [0011] – [0012].)



(Shimura at FIG. 1 (annotated).)

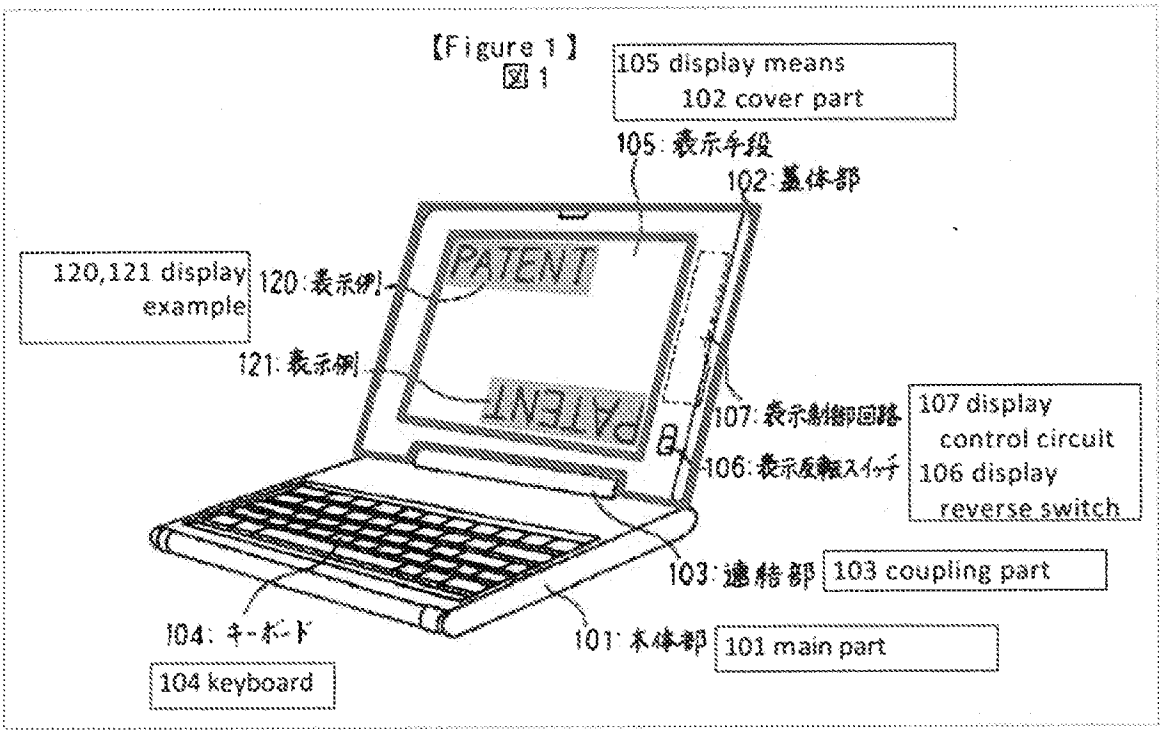
In my opinion, a POSITA would have understood that the display control circuit 107 and the computer circuit include "at least one processor operatively connected to a memory of the computer system" as claimed in the '715 Patent, and as was well-known in the art.

484. It is my opinion that the '715 Patent itself confirms that such processors and memories were well-known in the relevant time period, as it provides little detail on the processor and memory, and describes their usage as typical and "known." (*See, e.g.*, the '715 Patent at 68:18–19 (explaining how memory "is typically used for storing programs and data during operation of the computer system"); *id.*, 68:46–55 ("The processor **5106** generally manipulates the data within the memory **5110**, and then copies the data to the medium associated with storage **5112** after processing is completed. ***A variety of mechanisms are known for managing data movement between the medium and integrated circuit memory element*** and the invention is not limited thereto. The invention is not limited to a particular memory system or storage system."). (emphasis added))

485. Moreover, it is my opinion that Ledbetter and Pogue describe all limitations of claim 1 as described in above. As such, it is my opinion that the Shimura-Ledbetter-Pogue combination teaches this limitation.

[1.3] a graphical user interface, executing on the at least one processor, configured to display the computer content on the display component of the computer system, the graphical user interface configured to;

486. In my opinion, Shimura discloses this limitation. Figure 1 of Shimura (below) shows a graphical user interface ("display means 105" outlined in red) configured to display the computer content ("display example 120/121" highlighted in blue) on the display component ("cover part 102" outlined in green) in a portable computer system (i.e., a laptop):



(Shimura at Figure 1 (annotated).) Further, it is my opinion that the Shimura computer includes the at least one processor that controls the display means 105. *See* VIII.C.1, limitation [1.2].

487. In my opinion, the '715 Patent itself confirms that graphical user interfaces configured to display computer content on the display component of the computer system (such as a desktop view on a computer) were common and conventional:

> A common display configuration used in conventional computers is a "desktop" view in which multiple icons representing links to various programs or applications are displayed over a background image.

('715 Patent at 20:56–59.) In my opinion, a POSITA would have understood that a desktop view on a conventional computer is "configured to display the computer content on the display component of the computer system."

488. To the extent Shimura is insufficient to disclose a graphical user interface, it is my opinion that a POSITA would have been motivated to combine Shimura with an operating system such as the Windows Vista operating system disclosed in Pogue, which discloses a graphical user interface executing on a processor configured to display computer content on the display component (i.e., monitor) of a computer system. In my opinion, a POSITA would have also been motivated to combine the configurable computer system of Shimura with the configurable computer system of Ledbetter, which also discloses a graphical user interface, executing on a processor, configured to display computer content on the display component (i.e., monitor) of a computer system. Moreover, it is my opinion that Ledbetter and Pogue describe all other limitations of claim 1 as described in above. As such, it is my opinion that the Shimura-Ledbetter-Pogue combination teaches this limitation.

[1.4] display a plurality of views of a plurality of visual representations of computer content,

489. In my opinion, the Shimura-Ledbetter-Pogue combination discloses this limitation, either under the Board's preliminary construction in IPR2021-00786, or under a broader construction. As discussed in the claim construction section above, the Board preliminarily construed "plurality of views of a plurality of visual representations of [the] computer content":

> a plurality of ways of organizing visual representations of computer content. The recitation is distinct from merely providing a plurality of ways of displaying content (by, for example, changing display orientation, color, resolution, etc.).

(*See* Section V.B; *see also* Decision at 16.) As such, a construction of limitation [1.4] as a plurality of ways of changing display orientations is broader than the Board's preliminary construction of limitation [1.4] as a plurality of ways of organizing visual representations.

490. Under a broad construction, it is my opinion that Shimura teaches this limitation with its disclosure of display means 105 that provide at least two views of content (i.e., views with different display orientations), depending on the display reversal switch 106, and thus teach at least two of the plurality of views for display on the computer system. (Shimura at ¶ [0012] ("Meanwhile, when display reverse switch 106 is in reverse mode, it can be turned upside down as indicated in display example 121, that is, it can be rotated 180° centered on the vertical line of the display surface.").) Indeed, the '715 Patent described such an "right-way-up" and "upside-down" views:

> According to one embodiment, when the portable computer 100 is configured into the easel mode, the visual display on the display screen 110 is automatically rotated 180 degrees such that the information appears "right-way-up," even through the display screen is upside-down compared to when the portable computer is in the laptop mode. ... In one example, the orientation sensor includes an accelerometer whose output is fed to the computer operating system (or to dedicated logic circuitry) which then triggers a display inversion as appropriate.

('715 Patent at 20:10–38.)

491. Under a narrow construction of this limitation, Shimura alone does not expressly disclose the re-organization of computer content, but it is my opinion that Shimura does describe different types of user input environments. Shimura discloses a pen-based input environment, a mouse-centered operating environment, and "natural mode" with a keyboard and display. (Shimura at [Abstract], ¶¶ [0009], [0014], [0017]; *see also id.* Figure 1, 4, 5.) In my opinion, a POSITA reading Shimura would have understood that different user input environments would correspond with views that re-organized computer content beyond changing the display

orientation. As such, as discussed above, it is my opinion that a POSITA reading Shimura would have been motivated to look to art such as Ledbetter and Pogue which teach a plurality of ways of organizing visual representations of computer content beyond changing display orientation. And, as discussed above, regarding limitation [1.4], it is my opinion that both Ledbetter and Pogue disclose a plurality of views of a plurality of visual representations of computer content. Thus, it is my opinion that Shimura combined with Ledbetter and Pogue meets this limitation even under the Board's narrow preliminary construction because the Shimura-Ledbetter-Pogue combination teaches display views that re-organize computer content significantly more than "merely providing a plurality of ways of displaying content by changing display orientation, color, and resolution."

492. As such, it is my opinion that the Shimura-Ledbetter-Pogue combination discloses this element under either construction.

[1.5] wherein the computer content includes at least one of selectable digital content, selectable computer operations and passive digital content

493. In my opinion, the Shimura-Ledbetter-Pogue combination discloses this limitation, as it teaches that its different modes organize visual representations of each type of recited digital content. As discussed above regarding limitation [1.5], both Ledbetter and Pogue teach computer content which includes visual representations of selectable digital content, selectable computer operations, and passive digital content. As such, it is my opinion that the Shimura-Ledbetter-Pogue combination teaches this limitation.

[1.6] an execution component, executing on the at least one processor, configured to:

494. In my opinion, the Shimura-Ledbetter-Pogue combination discloses this limitation with or without a means-plus-function construction. As discussed above regarding limitation [1.6],

it is my opinion that Ledbetter teaches software executing on a computer system. (Ledbetter at ¶¶ [0004], [0056].) Similarly, it is my opinion that Pogue teaches software executing on a computer system.

495. As discussed above, it is my opinion that the Shimura computer includes the at least one processor (i.e., "computer circuit") that controls the display means 105:

> Display reverse switch 106 is a switch which is operated by the user and can be placed in two states, a normal state and a reverse state. This state is inputted to display control circuit 107. Display control circuit 107 is an electronic circuit used to control output to display means 105 by controlling the computer circuit which is stored in main part 101.

(Shimura at ¶ [0012].) It is my opinion that Shimura also teaches switching and detection means:

> This switching means may also be devised so that it operates automatically. For example, it may be configured so that a detection means used to detect that the main part is at an angle within a predetermined range is placed on the main part and so that input from the keyboard is invalidated based on a value which has been detected by this detection means.

(Shimura at ¶ [0019].)

496. In my opinion, a POSITA would have been motivated to arrive at the Shimura-Ledbetter-Pogue combination, which detects the above computer system configurations using Shimura's detection means or Ledbetter's position detector, select an associated view using Shimura's switching means or Ledbetter's mode switch software, and transition the display to the selected view in a computer system using Shimura's switching means or Ledbetter's mode switch software running on an operating system.

497. Also as explained above, it is my opinion that this limitation is also satisfied to the extent the Examiner finds, or Patent Owner argues, that these terms invoke Section 112(6), have adequate linked structure, and that the linked structure is a processor programmed with an algorithm that:

- detects a current computer system configuration from at least a first computer system configuration where the keyboard is operable to receive input from an operator of the computer system to control the computer system and a second computer system configuration where the keyboard is inoperable to receive input from the operator of the computer system to control the computer system by monitoring signals from a mode sensor, an orientation sensor, an accelerometer, a connection that responds to when an I/O device is enabled or active (*see, e.g.*, '715 Patent at 3:13–20, 11:66–12:3, 20:20–38, 26:50–67, 70:19–35);
- selects one of the plurality of views for display on the computer system in response to the detected current computer system configuration (*id.* at 3:13–14, 5:43–60, 11:9–13, 14:59–61, 48:56–59, 55:21–57:18); and
- transitions the display component to the selected one of the plurality of views, i.e., generates signals that cause the display component to change from one of the plurality of views to another (*e.g.*, *id.*, 3:10–3:12, 3:17–22, 6:19–22, 8:67–9:3, 9:36–37, 9:43–45, 11:26–28).

498. As just explained, and as explained further below with respect to limitations [1.7] – [1.9], it is my opinion that the Shimura-Ledbetter-Pogue combination teaches and discloses a processor running computer software for carrying out the recited functions. In my opinion, a POSITA would have understood that this involved, or at least rendered obvious, a processor

programmed to carry out an algorithm (the software running on the computer) performing the claimed functions in the above-noted manner, or equivalents thereof. As such, it is my opinion that the Shimura-Ledbetter-Pogue combination teaches this limitation.

499. As confirmation for my opinion that the Shimura-Ledbetter-Pogue combination teaches limitation [1.6] – [1.9], I note that during prosecution of the '715 Patent, the Examiner correlated limitations [1.6] – [1.9] with Dunko's orientation sensing mechanism that senses whether the computer was in portrait or landscape orientation and changing the display to correspond with that orientation:

> Dunko teaches at least one processor operatively connected to a memory of the computer system ***(i.e. processor (FIG. 1 and par. 24))***;
>
> an execution component, executing on the at least one processor, configured to:
>
> detect a current computer system configuration from at least a first computer system configuration and a second computer system configuration ***(i.e. an orientation sensing mechanism senses whether the portable mobile communications device is currently in a portrait or landscape orientation (FIG. 9 step 910 and par. 8))***;
>
> select one of the plurality of views for display on the computer system in response to the detected current computer system configuration ***(i.e. and determines which mode of operation is the default mode for the sensed orientation of the portable mobile communications device (FIG. 9 step 915 and par. 8))***; and
>
> transition the display component to the selected one of the plurality of views ***(i.e. the GUI is then reconfigured for the default mode of operation (FIG. 9 step 915 and par. 8). Various modes of operation are phone mode (default for portrait orientation),***

> ***gaming mode (default for landscape orientation), camera mode, music player mode, web browser mode and email mode (FIG. 8 and par. 10)).***

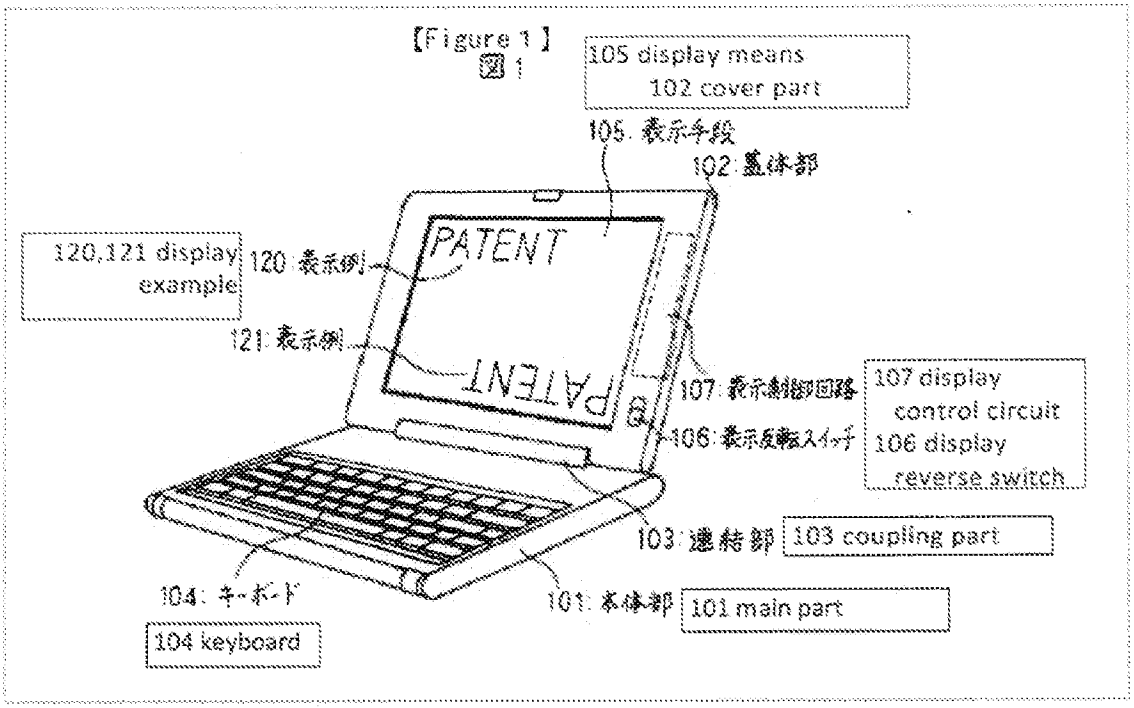
(*See* Ex. 1002 at 350–351 (emphases in original) (citing Dunko at FIG. 9 and par. 8).)

500. Moreover, it is my opinion that Ledbetter and Pogue describe all limitations of claim 1 as described above. As such, it is my opinion that the Shimura-Ledbetter-Pogue combination teaches this limitation.

[1.7] detect a current computer system configuration from at least a first computer system configuration where the keyboard is operable to receive input from an operator of the computer system to control the computer system and a second computer system configuration where the keyboard is inoperable to receive input from the operator of the computer system to control the computer system;

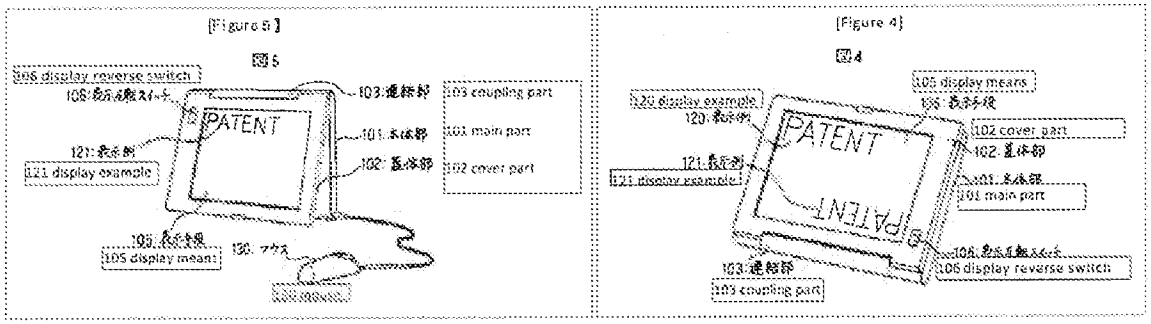
501. In my opinion, Shimura teaches this limitation. Shimura teaches a detection means used for detecting a current configuration where keyboard input is invalidated based on the value detected by the detection means. (Shimura at ¶ [0019], claims 6, 12.) In my opinion, a POSITA would have understood that detecting a configuration where keyboard input is validated or invalidated is the same as detecting a configuration where keyboard is operable / inoperable to receive input from an operator of the computer system.

502. First, it is my opinion that Shimura teaches a first computer system configuration (laptop mode, Figure 1) where the keyboard is operable to receive input from an operator of the computer system to control the computer system. (Shimura at ¶ [0011].)



(Shimura at FIG. 1.)

503. Second, it is my opinion that Shimura also discloses a second and third computer system configuration (easel mode, Figure 5, and tablet mode, Figure 4, respectively) where the keyboard is inoperable to receive input from the operator of the computer system to control the computer system.



(Shimura at FIG. 4, 5.)

504. Shimura explains that certain modes have input from the keyboard invalidated (i.e., a configuration with an inoperable keyboard) to prevent input by mistake:

> When the cover part is used on the front, when some force is exerted on the cover part, unintended data from the keyboard of the main part which is on the back side may sometimes be inputted by mistake. A second switching means should be provided in order to invalidate the input from the keyboard in order to prevent that.

(Shimura at ¶ [0008].) Shimura connects its inoperable keyboard specifically with Figure 4:

> Furthermore, when some force is exerted on display means 105 of the chart using the personal computer in the state indicated in Figure 4, there are cases in which unintended data are mistakenly inputted from the keyboard which is on the back side. A switching means (not shown in figure) should be set in place to invalidate input from the keyboard to prevent this.

(Shimura at ¶ [0018].) In my opinion, Shimura also describes automatic detection of a computer system configuration which causes the keyboard to be rendered inoperable (i.e., when the main part is at an angle within a predetermined range):

> This switching means may also be devised so that it operates automatically. For example, it may be configured so that a detection means used to detect that the main part is at an angle within a predetermined range is placed on the main part and so that input from the keyboard is invalidated based on a value which has been detected by this detection means.

(Shimura at ¶ [0019].)

505. Moreover, it is my opinion that Ledbetter and Pogue describe all limitations of claim 1 as described above. As such, it is my opinion that the Shimura-Ledbetter-Pogue combination teaches this limitation. As an example, in my opinion, a POSITA would have

understood that by combining Shimura's display switching means with Ledbetter's position detector means (e.g., the motor rotation counter or optical sensor), computer system configurations taught by Shimura (i.e., laptop mode, easel mode, and tablet mode) could be specifically and separately detected by Ledbetter's detection means. Moreover, it is my opinion that a POSITA would have known that the keyboard is not intended for operation in configurations such as frame, easel, or tablet modes and the Shimura-Ledbetter-Pogue system would therefore make the keys inoperable according to Shimura's disclosure when those modes are detected.

506. In sum, it is my opinion that a POSITA would have understood that the Shimura-Ledbetter-Pogue combination teaches an "execution component" that is configured to detect a computer system configuration where a keyboard is operable to receive input from an operator and a computer system configuration where a keyboard is inoperable to receive input from an operator.

[1.8] select one of the plurality of views for display on the computer system in response to the detected current computer system configuration; and

507. In my opinion, the Shimura-Ledbetter-Pogue combination discloses this limitation, either under the Board's preliminary construction in IPR2021-00786, or under a broader construction, of "plurality of views."

508. Under a broad construction, as explained for limitation [1.4] above, it is my opinion that Shimura teaches at least two views of content (i.e., views with different display orientations), and one of Shimura's views is selected in response to a display reversal switch. In my opinion, Shimura further teaches automatic switching means for keyboard invalidation corresponding to the detected current computer configuration:

> This switching means may also be devised so that it operates automatically. For example, it may be configured so that a detection

> means used to detect that the main part is at an angle within a predetermined range is placed on the main part and so that input from the keyboard is invalidated based on a value which has been detected by this detection means.

(Shimura at ¶ [0019], claims 2, 6, 10–12, ¶ [0008] ("This switching means is set so that it switches automatically from an angle relative to the vertical line of the main part.").) In my opinion, Shimura also teaches switching means connected to the displays means:

> The abovementioned display means should also be provided with a switching means which makes it possible for the symbols displayed to be displayed at the top and then switch to the bottom.

(*Id.* at ¶ [0008].) In my opinion, POSITA would have understood that Shimura's disclosure of switching means connected with display means satisfies "select one of the plurality of views for display on the computer system in response to the detected current computer system configuration." Moreover, it is my opinion that a POSITA would have understood that Shimura's switching means related to the display means (i.e., the display reversal switch) could be automated like the keyboard invalidation described above. To the extent Shimura's disclosure is insufficient, it is my opinion that combining Shimura with Ledbetter would teach an automated display change (i.e., selection of a view) in response to detected current computer system configuration and renders this limitation obvious.

509. For a narrow construction, as explained for limitation [1.4] above, it is my opinion that Shimura describes different types of user input environments and a POSITA reading Shimura would have been motivated to look to art such as Ledbetter and Pogue which teach a plurality of ways of organizing visual representations of computer content beyond changing display orientation, as discussed above. And, as discussed above regarding Ledbetter and limitation [1.8],

it is my opinion that Ledbetter discloses selecting one of a plurality of views in response to the detected current computer configuration. Thus, it is my opinion that Shimura combined with Ledbetter and Pogue meets limitation [1.8] even under the Board's narrow preliminary construction. Moreover, in my opinion, a POSITA would have understood that by combining Shimura's configuration disclosures with Ledbetter's position detector means (e.g., the motor rotation counter or optical sensor), and further incorporating teachings from Ledbetter's mode switch software, then Ledbetter's selection of views could be in response to detection of each of Shimura's configurations such as laptop mode, easel mode, and tablet mode. Moreover, it is my opinion that Pogue discloses a plurality of views of a plurality of visual representations of computer content.

510. In sum, it is my opinion that a POSITA would have understood that the Shimura-Ledbetter-Pogue combination teaches an "execution component" that is configured to select one of the plurality of views for display on the computer system in response to the detected current computer system configuration.

[1.9] transition the display component to the selected one of the plurality of views.

511. In my opinion, the Shimura-Ledbetter-Pogue combination discloses this limitation, either under the Board's preliminary construction in IPR2021-00786, or under a broader construction, of "plurality of views."

512. Under a broad construction, as explained for limitation [1.4] above, it is my opinion that Shimura teaches at least two views of content (i.e., views with different display orientations). In my opinion, Shimura further teaches the transition of the display component to the selected view through a display control circuit that controls the output to the display means:

> Display reverse switch 106 is a switch which is operated by the user and can be placed in two states, a normal state and a reverse state. This state is inputted to display control circuit 107. Display control circuit 107 is an electronic circuit used to control output to display means 105 by controlling the computer circuit which is stored in main part 101. Display control circuit 107 can turn the display upside down to the display means by using the mode of display reverse switch 106. This means that when display reverse switch 106 is in normal mode, the display is carried out as indicated in display example 120.

(Shimura at ¶ [0012].)

513. For a narrow construction, as explained for limitation [1.4] above, it is my opinion that Shimura describes different types of user input environments and a POSITA reading Shimura would have been motivated to look to art such as Ledbetter and Pogue which teach a plurality of ways of organizing visual representations of computer content beyond changing display orientation, as discussed above. And, as discussed in above for Ledbetter regarding limitation [1.9], it is my opinion that Ledbetter discloses transitioning the display component to the selected one of the plurality of views. Thus, it is my opinion that Shimura combined with Ledbetter and Pogue meets limitation [1.9] even under the Board's narrow preliminary construction.

514. In sum, it is my opinion that a POSITA would have understood that the Shimura-Ledbetter-Pogue combination teaches an "execution component" that is configured to transition the display component to the selected one of the plurality of views.

2. Claim 2

515. Claim 2 depends from claim 1. For the reasons discussed above, it is my opinion that claim 1 would have been obvious to a POSITA over the Shimura-Ledbetter-Pogue combination.

[2.1] The user interface of claim 1, wherein in the plurality of views includes a home view configured to organize a plurality of content modes

516. Shimura discloses this limitation. As discussed above for limitation [1.4], it is my opinion that Shimura describes three environments which require different inputs (mouse input, keyboard-based, and pen input). (Shimura at ¶ [0004].) In my opinion, a POSITA would have understood that the three environments described in Shimura would have a home view, such as a desktop view with icons representing content modes. To the extent Shimura alone is insufficient, it is my opinion that Ledbetter and Pogue teach limitation [2.1], as discussed above. Thus, it is my opinion that the Shimura-Ledbetter-Pogue combination teaches this limitation.

[2.2] a channel view configured to organize at least one of a single content mode and two content modes.

517. As discussed above, it is my opinion that Ledbetter and Pogue further teach the added limitation of limitation [2.2]. Thus, it is my opinion that the Shimura-Ledbetter-Pogue combination teaches this limitation.

3. Claim 3

518. Claim 3 depends from claim 1. For the reasons discussed above, it is my opinion that claim 1 would have been obvious to a POSITA over the Shimura-Ledbetter-Pogue combination. Moreover, as discussed above, it is my opinion that Ledbetter and Pogue further teach the additional limitations of claim 3. Thus, it is my opinion that the Shimura-Ledbetter-Pogue combination renders claim 3 obvious.

4. Claim 4

519. Claim 4 depends from claim 1. For the reasons discussed above, it is my opinion that claim 1 would have been obvious to a POSITA over the Shimura-Ledbetter-Pogue combination. Moreover, as discussed above, it is my opinion that Ledbetter and Pogue further teach the additional limitations of claim 4. Thus, it is my opinion that the Shimura-Ledbetter-Pogue combination renders claim 4 obvious.

5. Claim 5

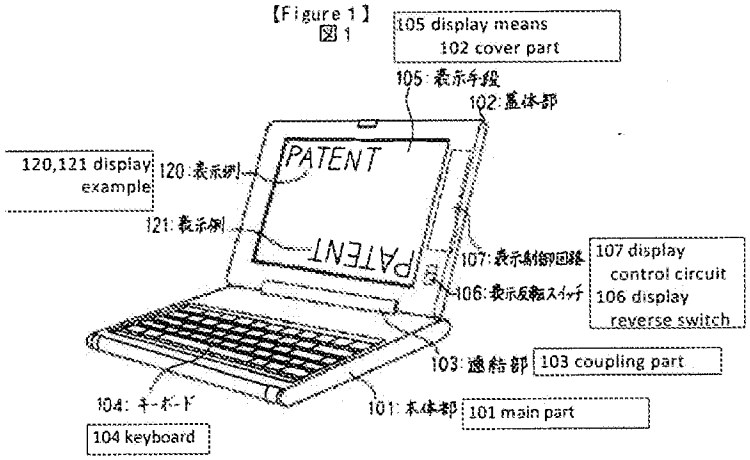
520. Claim 5 depends from claim 4. For the reasons discussed above, it is my opinion that claim 4 would have been obvious to a POSITA over the Shimura-Ledbetter-Pogue combination.

[5.1] The user interface of claim 4, wherein the computer system configuration comprises a physical positioning of a computer system display relative to a base of the computer system that includes the keyboard about a longitudinal axis of rotation.

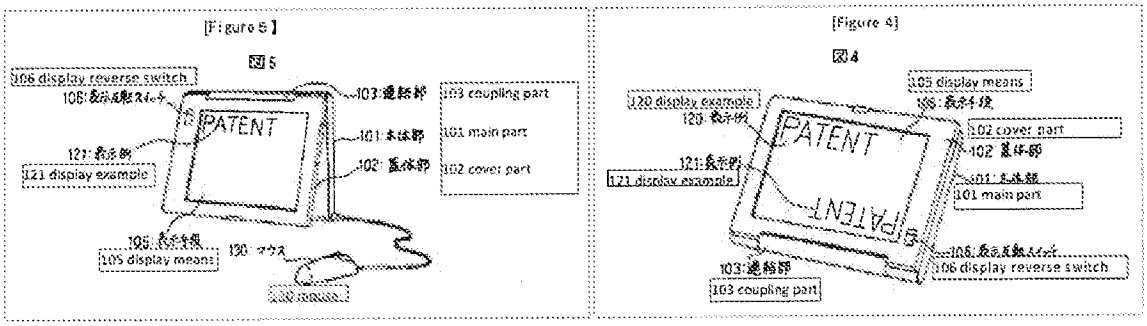
521. To the extent the claim 5 requires a monitor to be attached directly to a computer base that includes a keyboard and the Ledbetter-Pogue combination's disclosure discussed above is insufficient, it is my opinion that Shimura teaches the added limitation of claim 5.

522. Shimura teaches that "[m]ain part 101 can rotate freely around shaft 150. Cover support shaft 111 is coupled to cover support part 113 which is placed on cover part 102. Cover part 102 can rotate freely around shaft 151." (Shimura at ¶ [0013].) In my opinion, a POSITA would have understood that Shimura teaches a display (i.e., 102 cover part) positioned "about a longitudinal" axis of rotation relative to a computer system base that includes a keyboard (i.e., 101 main part).

523. Shimura provides Figure 1, reproduced below:



(Shimura at FIG. 1.) Shimura explains that "main part 101 and cover part 102 can be opened to any angle within a range of nearly 0° to 360°." (*Id.* at ¶ [0017].) Shimura provides Figure 4, which it describes as "nearly 360°" and explains that Figure 5 is "approximately 340°":



(*Id.* at Figure 5, ¶¶ [0016], [0017].)

524. Moreover, it is my opinion that Ledbetter and Pogue describe all limitations of claim 5 as described above. As such, it is my opinion that the Shimura-Ledbetter-Pogue combination renders claim 5 obvious.

6. Claim 6

525. Claim 6 depends from claim 4. For the reasons discussed above, it is my opinion that claim 4 would have been obvious to a POSITA over the Shimura-Ledbetter-Pogue combination. Moreover, as discussed above, it is my opinion that Ledbetter and Pogue further

teach the additional limitations of claim 6. Thus, it is my opinion that the Shimura-Ledbetter-Pogue combination renders claim 6 obvious.

7. Claim 7

526. Claim 7 depends from claim 1. For the reasons discussed above, it is my opinion that claim 1 would have been obvious to a POSITA over the Shimura-Ledbetter-Pogue combination. Moreover, as discussed above, it is my opinion that Ledbetter and Pogue further teach the additional limitations of claim 7. Thus, it is my opinion that the Shimura-Ledbetter-Pogue combination renders claim 7 obvious.

8. Claim 8

527. Claim 8 depends from claim 7. For the reasons discussed above, it is my opinion that claim 7 would have been obvious to a POSITA over the Shimura-Ledbetter-Pogue combination. Moreover, as discussed above, it is my opinion that Ledbetter and Pogue further teach the additional limitations of claim 8. Thus, it is my opinion that the Shimura-Ledbetter-Pogue combination renders claim 8 obvious.

9. Claim 9

528. Claim 9 depends from claim 7. For the reasons discussed above, it is my opinion that claim 7 would have been obvious to a POSITA over the Shimura-Ledbetter-Pogue combination. Moreover, as discussed above, it is my opinion that Ledbetter and Pogue further teach the additional limitations of claim 9. Thus, it is my opinion that the Shimura-Ledbetter-Pogue combination renders claim 9 obvious.

10. Claim 10

529. Claim 10 depends from claim 4. For the reasons discussed above, it is my opinion that claim 4 would have been obvious to a POSITA over the Shimura-Ledbetter-Pogue

combination. Moreover, as discussed above, it is my opinion that Ledbetter and Pogue further teach the additional limitations of claim 10. Thus, it is my opinion that the Shimura-Ledbetter-Pogue combination renders claim 10 obvious.

11. Claim 11

530. Claim 11 depends from claim 10. For the reasons discussed above, it is my opinion that claim 10 would have been obvious to a POSITA over the Shimura-Ledbetter-Pogue combination. Moreover, as discussed above, it is my opinion that Ledbetter and Pogue further teach the additional limitations of claim 11. Thus, it is my opinion that the Shimura-Ledbetter-Pogue combination renders claim 11 obvious.

12. Claim 12

531. Claim 12 depends from claim 4. For the reasons discussed above, it is my opinion that claim 4 would have been obvious to a POSITA over the Shimura-Ledbetter-Pogue combination. Moreover, as discussed above, it is my opinion that Ledbetter and Pogue further teach the additional limitations of claim 12. Thus, it is my opinion that the Shimura-Ledbetter-Pogue combination renders claim 12 obvious.

13. Claim 13

532. Claim 13 depends from claim 12. For the reasons discussed above, claim 12 would have been obvious to a POSITA over the Shimura-Ledbetter-Pogue combination. Moreover, as discussed above, Ledbetter and Pogue further teach the additional limitations of claim 13. Thus, the Shimura-Ledbetter-Pogue combination renders claim 13 obvious.

14. Claim 14

533. Claim 14 depends from claim 1. For the reasons discussed above, it is my opinion that claim 1 would have been obvious to a POSITA over the Shimura-Ledbetter-Pogue

combination. Moreover, as discussed above, it is my opinion that Ledbetter and Pogue further teach the additional limitations of claim 14. Thus, it is my opinion that the Shimura-Ledbetter-Pogue combination renders claim 14 obvious.

15. Claim 15

534. Claim 15 depends from claim 1. For the reasons discussed above, it is my opinion that claim 1 would have been obvious to a POSITA over the Shimura-Ledbetter-Pogue combination. Moreover, as discussed above, it is my opinion that Ledbetter and Pogue further teach the additional limitations of claim 15. Thus, it is my opinion that the Shimura-Ledbetter-Pogue combination renders claim 15 obvious.

16. Claim 16

535. Claim 16 depends from claim 15. For the reasons discussed above, it is my opinion that claim 15 would have been obvious to a POSITA over the Shimura-Ledbetter-Pogue combination. Moreover, as discussed above, it is my opinion that Ledbetter and Pogue further teach the additional limitations of claim 16. Thus, it is my opinion that the Shimura-Ledbetter-Pogue combination renders claim 16 obvious.

17. Claim 17

[17.1] A customized user interface to display computer content on a display component of a computer system including a keyboard, the user interface comprising:

536. As discussed regarding preamble [1.1], it is my opinion that Shimura discloses this it, to the extent preamble is limiting.

[17.2] at least one processor operatively connected to a memory of the computer system;

537. As discussed regarding limitation [1.2], it is my opinion that Shimura discloses this limitation.

[17.3] a graphical user interface, executing on the at least one processor, configured to;

As discussed regarding limitation [1.3], it is my opinion that Shimura discloses this limitation.

[17.4] display a plurality of views of a plurality of visual representations of computer content;

538. As discussed regarding limitation [1.4], it is my opinion that the Shimura-Ledbetter-Pogue combination discloses a plurality of views of computer content.

[17.5] an execution component, executing on the at least one processor, configured to:

539. As discussed regarding limitation [1.5], it is my opinion that the Shimura-Ledbetter-Pogue combination discloses this limitation.

[17.6] identify at least a first computer system configuration where the keyboard is operable to receive input from an operator of the computer system to control the computer system and a second computer system configuration where the keyboard is inoperable to receive input from the operator of the computer system to control the computer system based on sensor input indicating a position of the display component;

540. In my opinion, Shimura teaches this limitation. Shimura teaches that its computer system has a "switching means" that "invalidate[s] the input from the keyboard … set so it switches automatically from an angle relative to the vertical line of the main part." (Shimura at ¶ [0008].)

Shimura further explains that, as indicated in Figure 4, identification of a system configuration depends on when "the main part" (i.e., the computer base with keyboard) is at a certain angle:

> Furthermore, when some force is exerted on display means 105 of the chart using the personal computer in the state indicated in Figure 4, there are cases in which unintended data are mistakenly inputted from the keyboard which is on the back side. A switching means (not shown in figure) should be set in place to invalidate input from the keyboard to prevent this.
>
> This switching means may also be devised so that it operates automatically. For example, it may be configured so that a detection means used to detect that the main part is at an angle within a predetermined range is placed on the main part and so that input from the keyboard is invalidated based on a value which has been detected by this detection means.

(Shimura at ¶¶ [0018], [0019].) In my opinion, a POSITA would have understood that this automatic switch and / or detection means would have been based on a sensor that identified a configuration where the main part with keyboard are at a certain angle. Once the angle of the main part with keyboard reaches a "predetermined range", then the keyboard input is invalidated, which is the same as identifying a configuration where keyboard is operable / inoperable to receive input from an operator of the computer system based on sensor input indicating a position of the display component.

541. Moreover, it is my opinion that Ledbetter and Pogue describe all limitations of claim 1 as described above. As such, it is my opinion that the Shimura-Ledbetter-Pogue combination teaches this limitation. As an example, in my opinion, a POSITA would have understood that by combining Shimura's configurations with Ledbetter's position detector means (e.g., the motor rotation counter or optical sensor), configurations such as Shimura's laptop mode,

easel mode, and tablet mode and Ledbetter's Workstation mode, Walk-Up mode, Media Consumption Mode, and Tablet Mode could be specifically and separately identified by Ledbetter's additional detection means. Moreover, in my opinion, a POSITA would have known that the keyboard is not intended for operation in configurations such as easel, or tablet modes and the Shimura-Ledbetter-Pogue system would therefore make the keys inoperable according to Shimura's disclosure when those modes are detected.

542. In sum, it is my opinion that a POSITA would have understood that the Shimura-Ledbetter-Pogue combination teaches an "execution component" that is configured to identify a computer system configuration where a keyboard is operable to receive input from an operator and a computer system configuration where a keyboard is inoperable to receive input from an operator based on sensor input indicating a position of the display component.

[17.7] select, responsive to the sensor input, a first content view from the plurality of views for the first computer system configuration;

543. In my opinion, the Shimura-Ledbetter-Pogue combination discloses this limitation, either under the Board's preliminary construction in IPR2021-00786, or under a broader construction, of "plurality of views."

544. Under a broad construction, it is my opinion that Shimura teaches this limitation with its disclosure of switching means used to select a first content view in response to sensor input:

> This switching means may also be devised so that it operates automatically. For example, it may be configured so that a detection means used to detect that the main part is at an angle within a predetermined range is placed on the main part and so that input

> from the keyboard is invalidated based on a value which has been detected by this detection means.

(Shimura at ¶ [0019], claims 2, 6, 10–12.) Shimura teaches switching means configured to perform automatically. (*Id.* at ¶¶ [0008], [0019].) As explained above for limitation [17.6], it is my opinion that Shimura teaches the selection of a view based on sensor input.

545. For a narrow construction, as explained for limitation [1.4] above, it is my opinion that Shimura describes different types of user input environments and a POSITA reading Shimura would have been motivated to look to art such as Ledbetter and Pogue which teach a plurality of ways of organizing visual representations of computer content beyond changing display orientation, as discussed above. And, as discussed for Ledbetter regarding limitation [17.7], it is my opinion that Ledbetter discloses selecting a first content view in response to sensor input. Thus, it is my opinion that Shimura combined with Ledbetter and Pogue meets limitation [17.7] even under the Board's narrow preliminary construction.

546. Moreover, Ledbetter and Pogue describe all limitations of claim 17 as described above. As such, the Shimura-Ledbetter-Pogue combination would also teach this limitation. As an example, it is my opinion that a POSITA would have understood that by combining Shimura's configurations with Ledbetter's position detector means (e.g., the motor rotation counter or optical sensor), and further incorporating teachings from Ledbetter's mode switch software, then Ledbetter's selection of views could be in response to sensor input identifying each of Shimura's configurations or Ledbetter's modes. Moreover, as discussed above, Pogue discloses a plurality of views of a plurality of visual representations of computer content, in my opinion.

547. In sum, it is my opinion that a POSITA would have understood that the Shimura-Ledbetter-Pogue combination teaches an "execution component" that is configured to select, responsive to the sensor input, a first content view.

[17.8] transition, automatically in response to the sensor input, the display component between at least the first content view of the plurality of views and a second content view of the plurality of views;

548. In my opinion, the Shimura-Ledbetter-Pogue combination discloses this limitation, either under the Board's preliminary construction in IPR2021-00786, or under a broader construction, of "plurality of views."

549. Under a broad construction, it is my opinion that Shimura teaches this limitation with its disclosure of how a display control circuit controls the output to the display means:

> Display reverse switch 106 is a switch which is operated by the user and can be placed in two states, a normal state and a reverse state. This state is inputted to display control circuit 107. Display control circuit 107 is an electronic circuit used to control output to display means 105 by controlling the computer circuit which is stored in main part 101. Display control circuit 107 can turn the display upside down to the display means by using the mode of display reverse switch 106. This means that when display reverse switch 106 is in normal mode, the display is carried out as indicated in display example 120.

(Shimura at ¶ [0012].) As explained above for limitation [17.6], it is my opinion that Shimura teaches the automatic selection of a view based on this sensor input. (Shimura at ¶¶ [0018], [0019].)

550. For a narrow construction, as explained for limitation [1.4] above, it is my opinion that Shimura describes different types of user input environments and a POSITA reading Shimura

would have been motivated to look to art such as Ledbetter and Pogue which teach a plurality of ways of organizing visual representations of computer content beyond changing display orientation, as discussed above. And, as discussed in for Ledbetter regarding limitation [17.8], it is my opinion that Ledbetter discloses automatic transition between first and second content views in response to sensor input. Thus, it is my opinion that Shimura combined with Ledbetter and Pogue meets limitation [17.8] even under the Board's narrow preliminary construction.

551. In sum, it is my opinion that a POSITA would have understood that the Shimura-Ledbetter-Pogue combination teaches an "execution component" that is configured to transition, automatically in response to the sensor input, the display component between at least the first content view of the plurality of views and a second content view of the plurality of views.

[17.9] receive user input via at least one input device integral to or operatively connected with the computer system; and;

552. In my opinion, Shimura teaches this limitation. As explained above for claim 1, it is my opinion that Shimura teaches user input using a keyboard, mouse, and / or pen input:

> It is the objective of the present invention to provide an electronic machine and device and a personal computer which adopt a shape which is suitable for a user environment centered on pen input operations and mouse operations while maintaining a shape which can [sic] used as a keyboard.

(Shimura at [Abstract], ¶ [0005].) In my opinion, a POSITA would have understood that the user input devices taught by Shimura are "integral or operatively connected with the computer system."

553. Moreover, it is my opinion that Shimura teaches user input through a display reverse switch 106, another form of an input device. (Shimura at [Abstract] ("It should have a

display reverse switch 106 so that display means 105 can be switched upside down.").) Shimura expressly a display reverse switch operated by the user and is connected to the display control circuit of the computer:

> Display reverse switch 106 is **a switch which is operated by the user** and can be placed in two states, a normal state and a reverse state. This state is inputted to display control circuit 107. Display control circuit 107 is an electronic circuit used to control output to display means 105 by controlling the computer circuit which is stored in main part 101. Display control circuit 107 can turn the display upside down to the display means by using the mode of display reverse switch 106. This means that when display reverse switch 106 is in normal mode, the display is carried out as indicated in display example 120.

(Shimura at ¶ [0012] (emphasis added).)

554. Moreover, as explained for limitation [17.9], it is my opinion that Ledbetter and Pogue also disclose user input via input devices integral or operatively connected with the computer system, such as keyboard, pointing device, scroll wheel, remote control, and a mouse. As such, the Shimura-Ledbetter-Pogue combination teaches this limitation.

555. In sum, it is my opinion that a POSITA would have understood that the Shimura-Ledbetter-Pogue combination teaches an "execution component" that is configured to receive user input via at least one input device integral to or operatively connected with the computer system.

[17.10] transition, automatically in response to receiving the user input, the display component from one of the first content view and the second content view to a channel view including a channel selector that displays a sequence of visual representations.

556. In my opinion, the Shimura-Ledbetter-Pogue combination discloses this limitation. As explained above for limitation [1.4] above, it is my opinion that a POSITA reading Shimura would have been motivated to look to art such as Ledbetter and Pogue. And as explained for limitation [17.10], it is my opinion that Ledbetter and Pogue teach limitation [17.10]. Thus, it is my opinion that Shimura combined with Ledbetter and Pogue would also meet limitation [17.10].

557. In sum, it is my opinion that a POSITA would have understood that the Shimura-Ledbetter-Pogue combination teaches an "execution component" that is configured to transition, automatically in response to receiving the user input (e.g., Ledbetter's trigger button, Pogue's Alt-Tab or Windows button + Tab, or selection of a program in Windows Vista using a mouse), the display component from one of the first content view and the second content view to a channel view including a channel selector that displays a sequence of visual representations (e.g., Ledbetter's channel view in media consumption mode, Pogue's channel views in Windows Vista, Windows Media Center, Windows Photo Gallery, Windows Media Player, and Internet Explorer 7.)

18. Claim 18

558. Claim 18 depends from claim 17. For the reasons discussed above, it is my opinion that claim 17 would have been obvious to a POSITA over Ledbetter and Pogue.

[18.1] The user interface of claim 17, wherein the at least one input device includes at least one of a scroll wheel, a touchpad, and a mouse.

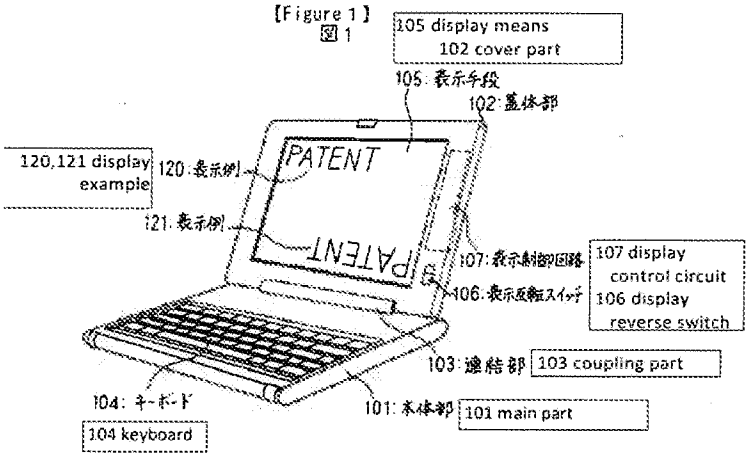
559. In my opinion, Shimura teaches this limitation. Shimura teaches the use of a mouse as an input device (*See, e.g.*, Shimura at [Abstract], ¶¶ [0004], [0005], [0010], [0017]). Moreover, it is my opinion that Ledbetter and Pogue describe all limitations of claim 18 as described above. As such, it is my opinion that the Shimura-Ledbetter-Pogue combination renders claim 18 obvious.

19. Claim 19

560. Claim 19 depends from claim 15. For the reasons discussed above, it is my opinion that claim 15 would have been obvious to a POSITA over Ledbetter and Pogue.

[19.1] The user interface of claim 15, wherein the first mode is a laptop mode where the keyboard is oriented to be accessible to the operator and wherein the second mode is an easel mode or a frame mode where the keyboard is oriented to be inaccessible to the operator.

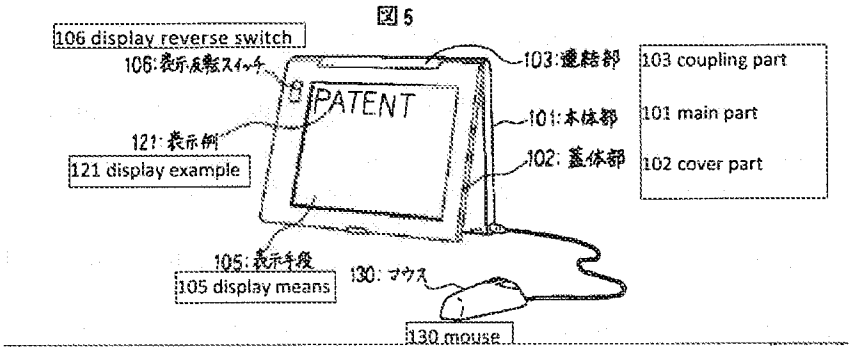
561. To the extent the claim 19 requires further description of a laptop and the Ledbetter-Pogue combination's disclosure discussed above is insufficient, it is my opinion that Shimura discloses this limitation. While claim 19 does not provide an antecedent basis for "the first mode" and "the second mode," Shimura discloses this limitation in my opinion, to the extent I understand this claim. Shimura discloses a laptop mode where the keyboard is oriented to be accessible to the operator:



(Shimura at FIG. 1.)

562. In my opinion, Shimura discloses a laptop mode in an "easel mode" where the keyboard is oriented to be inaccessible to the operator:

[Figure 5]



(Shimura at FIG. 5.) As such, it is my opinion that Shimura discloses a second mode that "is an easel mode **or** a frame mode where the keyboard is oriented to be inaccessible to the operator."

563. Even so, in view of Shimura's teaching of changing display orientation (*id.* at ¶¶ [0016] – [0017]) and that easel mode invalidates keyboard input based on a detection means (*id.* at ¶ [0019]), it is my opinion that a POSITA would have been motivated to rotate Shimura's easel mode so that the keyboard is face down on a surface and satisfy a narrow construction of "frame mode." In my opinion, a POSITA would have understood that placing the keyboard face down on a surface would provide a means of keeping the computer stable and allow easier access to ports for input and output devices. In my opinion, a POSITA would have further understood that such a mode would facility multiple people viewing the screen from across a table, a common meeting format.

20. Claim 20

[20.1] A customized user interface to display computer content on a display component of a computer system including a keyboard, the user interface comprising:

564. As discussed regarding preamble [1.1], it is my opinion that the Shimura-Ledbetter-Pogue combination discloses it, to the extent preamble is limiting.

[20.2] at least one processor operatively connected to a memory of the computer system;

565. As discussed regarding limitation [1.2], it is my opinion that the Shimura-Ledbetter-Pogue combination discloses this limitation.

[20.3] a graphical user interface, executing on the at least one processor, configured to display the computer content on the display component of the computer system, the graphical user interface configured to;

566. As discussed regarding limitation [1.3], it is my opinion that the Shimura-Ledbetter-Pogue combination discloses this limitation.

[20.4] display a plurality of views of a plurality of visual representations of computer content;

567. As discussed regarding limitation [1.4], it is my opinion that the Shimura-Ledbetter-Pogue combination discloses this limitation.

[20.5] wherein the computer content includes at least one of selectable digital content, selectable computer operations and passive digital content

568. As discussed regarding limitation [1.5], it is my opinion that the Shimura-Ledbetter-Pogue combination discloses this limitation.

[20.6] an execution component, executing on the at least one processor, configured to:

569. As discussed regarding limitation [1.6], it is my opinion that the Shimura-Ledbetter-Pogue combination discloses this limitation.

[20.7] detect a current computer system configuration from at least a first computer system configuration where the keyboard is positioned to receive input from an operator of the computer system and a second computer system configuration where the keyboard is not positioned to receive input from the operator of the computer system;

570. In my opinion, Shimura teaches this limitation. For the same reasons as discussed for limitation [1.7], which recites where the keyboard "is operable to receive input" and "is inoperable to receive input," it is my opinion that Shimura discloses limitation [20.7], which recites where the keyboard "is positioned to receive input" and "is not positioned to receive input."

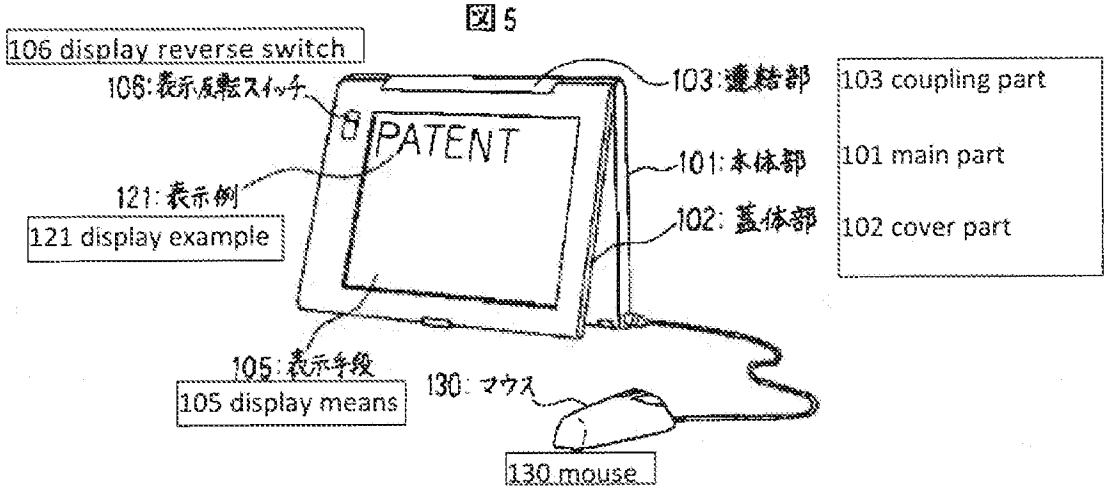
571. Moreover, it is my opinion that Shimura describes the detection of a current computer system configuration from configurations where the keyboard is positioned to receive input and where the keyboard is not positioned to receive input. For example, Shimura discloses Figure 5 and explains:

> Figure 5 indicates the user mode of the state of opening of main part 101 and cover part 102 at approximately 340°. In this case, display reverse switch 106 is set to reverse mode so that the display orientation of display means 105 is set as in display example 121. Then, coupling part 103 is placed upward and placed on the table. At this time, keyboard 104 is completely on the back side when seen by the user.

(Shimura at ¶ [0017].) Figure 5 is provided below:

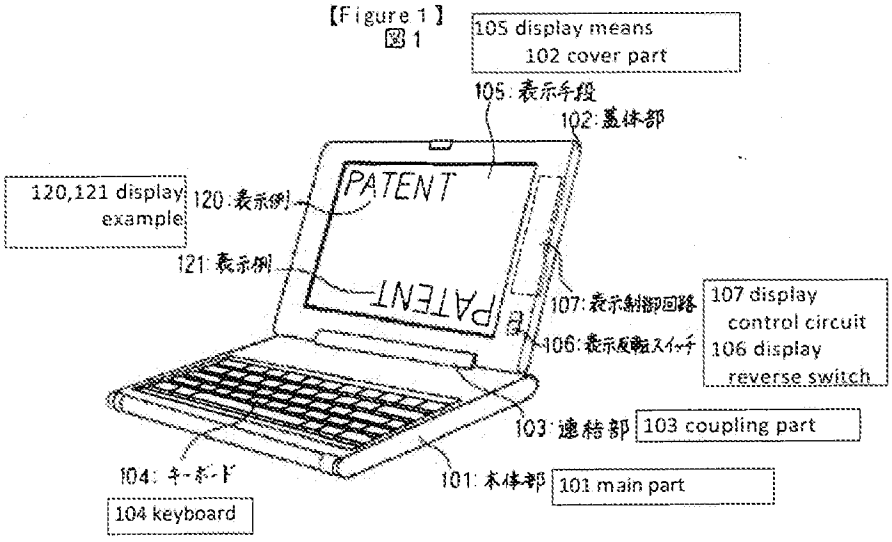
[Figure 5]

図 5



(Shimura at FIG. 5.) In my opinion, a POSITA would have understood from the positioning of the display means 105 and mouse 130 that the keyboard is not positioned to receive input from the operator of the computer system.

572. In my opinion, Shimura also discloses detection of a current configuration where the keyboard is positioned to receive input from the operator of the computer system in its "natural mode":



(Shimura at FIG. 1.) As Shimura explains:

> This is the mode indicated in Figure 1. The user can operate the computer while facing keyboard 104 and display means 105 in a natural mode.

(Shimura at ¶ [0014].)

573. Moreover, it is my opinion that Ledbetter and Pogue describe all limitations of claims 1 and 20 as described above. As such, the Shimura-Ledbetter-Pogue combination teaches this limitation. As an example, in my opinion, a POSITA would have understood that by combining Shimura's configurations with Ledbetter's position detector means (e.g., the motor rotation counter or optical sensor), configurations such as Shimura's laptop, tablet, and easel mdoe could be specifically and separately detected by Ledbetter's position detector means. Moreover, it is my opinion that a POSITA would have known that the keyboard is not intended for operation in configurations such as easel or tablet modes and the Shimura-Ledbetter-Pogue system would therefore make the keys inoperable according to Shimura's disclosure when those modes are detected by Ledbetter's position detector means.

[20.8] select one of the plurality of views for display on the computer system in response to the detected current computer system configuration; and

574. As discussed regarding limitation [1.8], it is my opinion that the Shimura-Ledbetter-Pogue combination discloses this limitation.

[20.9] transition the display component to the selected one of the plurality of views.

575. As discussed regarding limitation [1.9], it is my opinion that the Shimura-Ledbetter-Pogue combination discloses this limitation.

I, Christopher M. Schmandt, do hereby declare and state, that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code.

Dated: 14 Feb 2022

Signature

APPENDIX A

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Education

M.I.T., Master of Science, Visual Studies (Computer Graphics), 1980

M.I.T., Bachelor of Science, Computer Science, 1978

Professional Experience -- MIT

Media Laboratory, Principal Research Scientist, 1985-2018 (retired)
Director, Living Mobile Research Group (formerly Speech + Mobility)

Architecture Machine Group, Research Associate, 1980-1984

Architecture Machine Group, Research Assistant, 1979-1980

Architecture Machine Group, Graphics Programmer, 1977-1979

Departmental Undergraduate Research Opportunities Program Coordinator, 1984-2018

Laboratory Intellectual Property Committee 2001-2016, chair 2002-2009

Departmental Committee on Graduate Studies, 1996-2001, 2007-2018

Sponsored Research Activities

Alerting and Mobile Messaging, Digital Life Consortium, MIT Media Lab, 1997-2018

Acoustical Cues to Discourse Structure, National Science Foundation, Principal Investigator, 1995-1998

Parsing Radio, News in the Future Consortium, MIT Media Lab, 1993-1999

Desktop Audio, SUN Microsystems, Inc., Principal Investigator, 1989-1996

Voice Interaction in Hand Held Computer, Apple Computer, Principal Investigator, 1991-1993

Voice Interfaces for Network Services, AT&T, Principal Investigator, 1989-1991

Back Seat Driver, NEC, Principal Investigator, 1988-1991

Acoustic and Visual Cues for Speech Recognition, DARPA, co-Principal Investigator, 1986-1988

Personal Computers and Telephony, NTT Public Corporation, Principal Investigator, 1984-1989

Home Telecomputing, Atari, Inc., Principal Investigator, 1983

Testifying legal engagments within the last five years, representing party in italics

- *Facebook* v. Windy City, 2017
- *Facebook* v. EVERYMD.COM LLC, 2017
- *Comcast* v. Promptu, 2017
- Express Mobile, Inc v. *Big Commerce*, 2017
- *Facebook* v. Hypermedia, 2017
- *Microsoft* v. Uniloc 2017 LLC, 2019
- *Microsoft* v. SpeakWare, 2019
- *Bumble Trading LLC* v. Match Group LLC, 2019
- *Tile Inc.* v. Cellwitch Inc, 2019
- Blackberry Ltd v. *Facebook, Inc* 2020
- *EROAD Ltd* v. PerDiem Co, 2020
- *Snap Inc.* v. SRK Technology LLC, 2020
- *Shopify Inc* Ltd v. Express Mobile Inc, 2020
- Express Mobile Inc, v *Wix Ltd* 2020
- *Motorola Mobility LLC* v. Ironworks patents, LLC. 2021
- Express Mobile Inc, v *GoDaddy Inc* 2021
- *Bumble Trading LLC* v. Kinectus, LLC. 2021
- *Tile, Inc* v. Linquet Technologies, Inc. 2021
- *Unified Patents, LLC* v.Gesture Technology Partner, LLC. 2021
- Quantum Metric, Inc v.*Content Square Isreal, Ltd.* 2021

Professional Experience -- Intellectual Property

Co-inventor on U.S. Patents

- 5,177,685 for "Automobile navigation system using real time spoken driving instructions"
- 6,728,348 for "System for storing voice recognizable identifiers using a limited input device such as a telephone key pad"
- 6,937,986 for "Automatic dynamic speech recognition vocabulary based on external sources of information"
- 7,098,776 for "Methods and apparatus for vibrotactile communication"
- 7,392,280 for "Method for summarization of threads in electronic mail"
- 7,738,637 "Interactive voice message retrieval"
- 7,443,283 for "Methods and apparatus for connecting an intimate group by exchanging awareness cues and text, voice instant messages, and two-way voice communications"
- 7,865,560 for "System for summarization of threads in electronic mail"
- 8,121,653 for "Methods and apparatus for autonomously managing communications using an intelligent intermediary"
- 8,135,128 for "Animatronic creatures that act as intermediaries between human users and a telephone system"

Co-inventor on U.S. Patent Applications

- 20020076009 "International dialing using spoken commands"
- 20030023688 "Voice-based message sorting and retrieval method"
- 20030081738 "Method and apparatus for improving access to numerical information in voice messages"
- 20030144846 "Method and system for modifying the behavior of an application based upon the application's grammar"
- 20030158903 "Calendar bar interface for electronic mail interaction"

Publications
Most publications can be found at http://www.media.mit.edu/speech/publications
or http://living.media.mit.edu/publications

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Exhibit 1002 - Part 2

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(54) A method for controlling the displaying of information in an electronic device

(57) The invention relates to a method for controlling the displaying of information in an electronic device (1) comprising means (2) for displaying visual information. In the method, the distance between the user and the electronic device (1) is measured, and the size of information to be displayed on the display (2) is changed when the distance between the user and the electronic device (1) is changed. The invention also relates to an electronic device (1) comprising means (2) for displaying visual information. The electronic device (1) also comprises means (13, 14) for measuring the distance between the user and the electronic device (1), and means (4, 7) for changing the size of displayed information when the distance between the user and the electronic device (1) is changed.

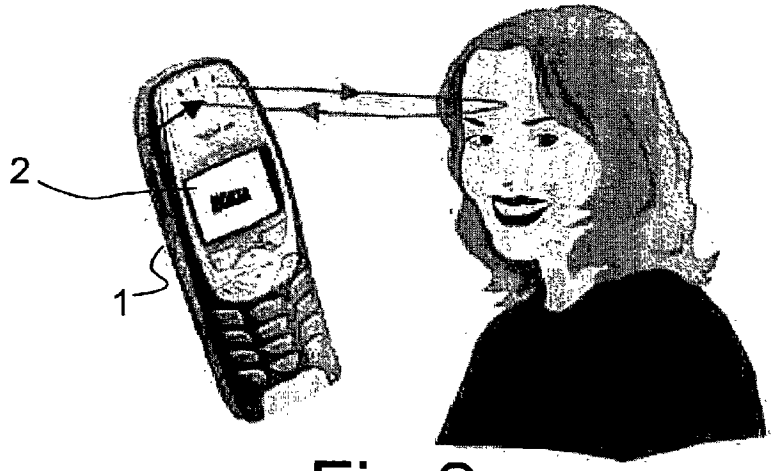

Fig 2a

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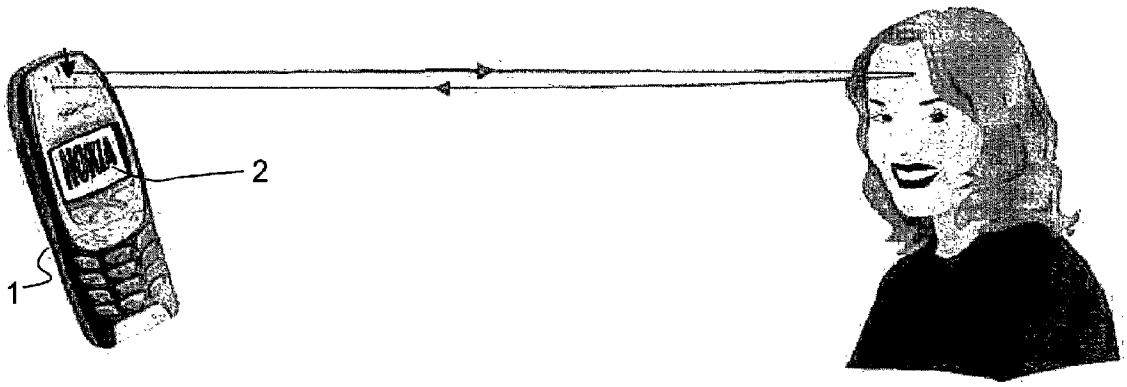

Fig 2b

Description

[0001] The present invention relates to a method for controlling the displaying of information in an electronic device comprising means for displaying visual information. The invention also relates to an electronic device comprising means for displaying visual information.

[0002] Electronic devices of various types are known, in which information is presented visually on a display or the like. This information is for example text-format information and/or image information. However, the size of the electronic device sets its own limits as to how large a display can be installed in the electronic device. For example, portable electronic devices, such as wireless stations, laptop PCs, palmtop PCs, or personal digital assistants (PDA), have a display of a relatively small size. Thus, the information to be displayed can be so small that the user may have difficulties in deciphering the information. On the other hand, in some electronic devices, it is possible to enlarge details, for example the font size, wherein the information on the display becomes more legible to the user. However, the enlargement of details reduces the quantity of information that can be displayed at a time, which may complicate the understanding of the information. This kind of a situation may occur, for example, when the user is writing a text message, of which only a small part is visible at a time. In this case, when the user wishes to check such a part of the text mesage which is not visible on the display, he/she must search for the correct text portion. In some situations, this may be relatively difficult and significantly slow down the writing of the text message.

[0003] In some cases, the user may have a need to view the information on the display when he/she is farther away from the electronic device. For example, when a call comes in a wireless station, the number of the calling telephone and/or the name data of the calling person are normally displayed on the display of the wireless station. If the user is not right next to the wireless station, he/she does not necessarily decipher who is calling. Thus, the user moves closer to check the number/name of the calling person and to decide whether to answer the call or not.

[0004] However, the user may find him/herself in such a place, *e.g.* on a ladder, that he/she does not have the time or does not want to check the caller until the call attempt is disconnected, *e.g.* when the calling person cuts off or the call is transferred to an answering service. In such a situation, the user must afterwards find out from the incoming call data who tried to reach him/her.

[0005] There are known wireless stations which apply means for measuring a distance. In this context, such means are primarily called proximity sensors, but such means are also known as distance sensors. The aim of such means is to determine whether the user is close to the electronic device. Thus, when a call comes in, it is determined whether there is a need to turn on the speaker function of the wireless station, if the user is father away from the phone but still within hearshot. The user can answer the call *e.g.* by waving his/her hand, wherein the call is switched on and the speaker function is activated, if necessary.

[0006] It is an aim of the present invention to provide a function for zooming information to be displayed, based on the proximity of the user, as well as an electronic device in which displayed information can be zoomed on the basis of the distance between the user and the electronic device. The invention is based on the idea of measuring the distance between the user and the electronic device, and this distance information is used in the zooming of information to be displayed. The user can determine parameters to affect *e.g.* whether the information is enlarged or reduced when the distance between the user and the electronic device is changed. More precisely, the method according to the present invention is primarily characterized in that the distance between the user and the electronic device is measured, and the size of information to be displayed is changed when the distance between the user and the electronic device is changed. The electronic device according to the invention is primarily characterized in that it also comprises means for measuring the distance between the user and the electronic device, and means for changing the size of displayed information when the distance between the user and the electronic device is changed.

[0007] The present invention shows remarkable advantages over solutions of prior art. When applying the method of the invention, the size of displayed information can be changed according to the need, wherein the legibility of the information can be significantly improved in comparison with solutions of prior art. Furthermore, the user has a possibility to set the parameters, according to which the change in the information size is determined, wherein the user can improve the usability of the electronic device according to his/her own preferences. The method according to the invention is useful *e.g.* for such persons who find it difficult to read a small font. Thus, the information size can be enlarged, if necessary, when the user is close to the electronic device. Also, sharp-sighted persons may utilize the property of zooming visual information according to the invention, for example by reducing the displayed information when the user is close to the electronic device. In this way, it is possible to increase the quantity of information displayed at a time. In a corresponding manner, when the user is farther away from the electronic device, the information size can be enlarged, and particularly sharp-sighted persons can still find the displayed information legible.

[0008] In the following, the invention will be described in more detail with reference to the appended drawings, in which

Fig. 1 shows an electronic device according to a preferred embodiment of the invention in a

reduced block chart,

Fig. 2a illustrates an example situation, in which the user is close to the electronic device,

Fig. 2b shows an example situation, in which the user is farther away from the electronic device than in the situation of Fig. 2a,

Fig. 3a shows an example of information to be displayed on the display of the electronic device,

Fig. 3b, shows the displayed information according to the example situation of Fig. 3a, when zoomed to a larger size,

Fig. 4a shows another example of information to be displayed on the display of the electronic device, and

Fig. 4b shows the information according to Fig. 4a when zoomed to a smaller size.

[0009] The following detailed description of the invention presents, as an example, an electronic device 1 as shown in Fig. 1, comprising means 2 for displaying visual information. For clarity, these means 2 will below be called a display. Typically, the display consists of picture elements (pixels), whose brightness can be changed to display the desired visual information. The display 2 can be a colour display or a monochrome display, but this feature is not significant as such for the present invention. The electronic device 1 also comprises a control block 3 with at least one processor 4, such as a microcontroller unit (MCU), and possibly also a digital signal processing unit (DSP). The control block also comprises logic functions 5 as well as access logic 6 (Input/Output, IO), *e.g.* for communication between other functional units and the processor 4. Furthermore, the electronic device 1 comprises a memory 7 which preferably contains at least a read only memory (ROM) 7a and a random access memory (RAM) 7b. The read only memory 7a can also be, either completely or in part, implemented by means of a non-volatile random-access memory, such as EEPROM or FLASH. The read only memory 7a is intended for the storage of *e.g.* control software, application software, permanent data and the like in the electronic device. The random access memory 7b can be used, for example, for the storage of changeable information required during the use of the electronic device 1. In this preferred embodiment, a part of the random access memory is implemented by using a non-volatile random access memory 7c, wherein it is possible to store in this memory, for example, information which does not need to be changed often, *e.g.* user profile data, telephone directory data, calendar data, *etc.* The user interface 9 of the wireless terminal 1 comprises means for presenting data, such as a display 2 and an earpiece/speaker 10, as well as means for entering data, such as one or more keypads 11 and a microphone 12. Furthermore, the electronic device comprises means 13, 14 for measuring a distance. These means 13, 14 for measuring a distance preferably comprise a proximity sensor 13 as well as measuring means 14 for measuring the signal of the proximity sensor 13. The measuring means 14 comprise, for example, an analog-to-digital converter or the like, whereby analog signal strength information is converted to digital format. Mobile station functions 8 comprise, for example, a transmitter and a receiver (not shown), by means of which the electronic device 1 can communicate with the mobile communication network in a way known as such. However, it should be mentioned that the present invention can also be applied in such electronic devices which do not comprise mobile station functions or other communication functions.

[0010] The electronic device 1 used can be an electronic device equipped with data processing functions, such as a personal computer (PC), a laptop PC, a palmtop PC, a personal digital assistant (PDA), a wireless station, such as a mobile station or a communication device, or the like. In the following, more detailed description of the invention, a non-restrictive example used of the electronic device 1 is a communication device which comprises not only data processing functions but also mobile station functions 8.

[0011] Proximity sensors are primarily based on the reflection of a signal transmitted by the proximity sensor from an object, such as the user. The proximity sensor measures the strength and/or propagation time of the reflected signal and, on the basis of this, forms an output signal proportional to the distance. In proximity sensors based on signal strength, the strength of the output signal is typically proportional to the distance. In proximity sensors based on measuring the propagation time, the output signal can directly indicate the propagation time, wherein, on the basis of it, it is possible to compute the distance, when the signal propagation rate in the medium (air) is known. The measuring signal of the proximity sensor is typically either an optical signal (laser/LED) or an audio signal (ultrasound). The measuring range is typically in the order of 0.3 m to 100 m for proximity sensors based on an optical signal and in the order of 0.05 m to 10 m for proximity sensors based on an audio signal. In view of applying the present invention, the type of the proximity sensor 13 used is not significant as such. More important criteria on selecting the proximity sensor 13 include *e.g.* weight, size, price, power consumption, reliability, failure probability, resistance to vibrations, and required operating voltages.

[0012] In the electronic device 1 according to a preferred embodiment of the invention, the distance is measured by measuring the strength of the signal formed by the proximity sensor 13 and determining, on the basis of this signal strength, the distance between

the user and the electronic device 1. There are also known proximity sensors which form an output signal which directly indicates the distance between the user and the electronic device 1. In this case, the distance information is obtained directly from this signal. In the start-up procedure, for example, the strength of the signal of the proximity sensor 13 is measured without steps of comparing signal strengths.

[0013] The parameters related to the displaying of information can be set by the user, if necessary, or the original settings can be used. These settings are preferably stored in a non-volatile random access memory 7c, wherein previously stored parameters are available also later without a need to set them in connection with every start-up. These parameters can be set, for example, by enlarging the size of information to be displayed on the display 2 when the user moves farther away from the electronic device 1, or *vice versa.*

[0014] We shall next describe the example situation of Fig. 2a, in which the user of the electronic device is close to the electronic device 1. The user turns on the electronic device 1, wherein the running of the start-up program is started in the processor 4. In the start-up program, the strength of the signal formed by the proximity sensor 13 is determined by reading the measuring result of the measuring means 14. This measuring result is indicated by the measuring means 14 preferably in digital format, wherein it can be stored in the random access memory 7b. After the running of the start-up program, the use of the electronic device 1 can be started.

[0015] In the electronic device 1, distance measurements are taken at intervals and, if necessary, a new measuring result is stored in place of the outdated measuring result. The processor 4 compares the measuring result stored at the start-up stage, *i.e.* the signal strength of the proximity sensor, with the updated signal strength, and determines, on the basis of the comparison (signal strengths), how far away the user is from the electronic device. This distance information does not necessarily need to indicate the real distance but a relative distance. For example, a table is stored in the memory 7 of the electronic device, containing information about how the ratio between the signal strength at the start-up stage and the signal strength measured during the use is dependent on how far away the user is from the electronic device 1. If the proximity sensor 13 directly indicates this distance, this information can naturally be directly used.

[0016] Let us assume that the user has set the parameters so that the size of information displayed on the display 2 is enlarged when the user moves farther away from the electronic device 1. Thus, after completion of the distance measuring result, it is examined if the distance has changed from the preceding measurement to such an extent that there is a need to change the size of information to be displayed on the display 2. If there is a need for change, the processor 4 preferably examines if the distance has decreased or increased. If the distance has increased *(e.g.,* the situation of Fig. 2b in comparison with Fig. 2a), the processor 4 changes the display parameters so that the information size is enlarged. This enlargement of the size may be proportional to the change in the distance, but also other principles can be applied. In some situations, the enlargement of the information size means that all the information cannot be displayed on the display 2 simultaneously, wherein a choice must be made, which part of the information is to be left out. This may vary in different situations. For example, when there is an incoming call, the display 2 preferably presents the information (name/phone number/image of calling person) which best fits in enlarged size on the display 2. An advantageous example of this is shown in Fig. 3b, in which a part of the information of Fig. 3a is displayed in enlarged form on the display 2. In a corresponding manner, when the distance is reduced, the information size can be reduced, wherein also a greater part of the information to be displayed will fit simultaneously on the display 2. When the user writes *e.g.* a text message or makes a call, the distance is relatively small, wherein in this alternative, the information can be displayed in a relatively small font size. Thus, the user will see a large part of the text message simultaneously. Another example of such situations is shown in Fig. 4a, in which information is enlarged, and Fig. 4b shows the information of Fig. 4a zoomed to a smaller font size.

[0017] In such a case in which the user has set the display parameters so that the information size is enlarged when the distance is reduced, the steps to be taken are largely similar to those presented above, except that the change in the font size is substantially reverse. After the completion of a new measuring result, the processor 4 compares the signal strength of the start-up stage with the most recent measuring result and, on the basis of this comparison, determines whether the distance has been changed. If the distance has been reduced, the information size is increased, and, in a corresponding manner, if the distance has been increased, the information size is reduced. This kind of an operation is useful particularly for weak-sighted persons, because the information size is relatively large when the user is close to the electronic device. In a corresponding manner, when the user is farther away from the electronic device, it is of less significance, what is displayed, wherein the information can be displayed in a relatively small font size. This is also useful for such a person who is far-sighted rather than short-sighted. Also a far-sighted person finds information with a large font size more legible at a close distance. In a corresponding manner, as the information size is reduced when the distance is slightly increased, the user's far-sightedness makes it possible for the user to still find the information with a smaller font size legible.

[0018] Due to the above-mentioned short- or far-sightedness, the changes in the font size of displayed information can also be made in such a way that the

direction of the change is not the same when the change in the distance is made in the same direction. For example, for a short-sighted user, a small font size can be used at closer distances and the font size can be increased when the distance is slightly increased. When the distance is further increased so long that the displayed information is not legible even in the large font size, the information size can be reduced again.

[0019] It has been presented above that the processor compares the new measuring result with the measuring result stored at the start-up stage and thereby determines the distance. In some situations, it is also possible to compare the new measuring result with an earlier *(e.g.* preceding) measuring result during the use and to use this comparison data in determining the need to change the information font size.

[0020] The change in the distance does not necessarily always cause a change in the information size. For example, in a situation in which the distance is changed only slightly, it is not always sensible to change the information size on the display 2 but first at the stage when the distance has been sufficiently changed. By means of the hysteresis produced in this way, too frequent changes are avoided and unnecessary loading of the processor 4 is reduced.

[0021] It is also possible to perform the distance measurement and change the information size by a certain command. Therefore, the user gives the command by *e.g.* uttering a voice command or by pressing a key of the keypad 11 when he/she wishes the distance measurement and possible changes on the information size to be performed. This kind of arrangement can be used *e.g.* for avoiding irritations and unintentional rescaling caused, for example, by other people passing by.

[0022] The functions according to the invention can be largely implemented in the application software of the processor 4. In the storage of some permanent setting values, it is possible to use the read only memory 7a and/or the non-volatile random access memory, which is known as such. Such setting values include, for example, tables which are used in the measuring of the distance, *etc.*

[0023] It is obvious that the present invention is not limited solely to the above-presented embodiments, but it can be modified within the scope of the appended claims.

Claims

1. A method for controlling the displaying of information in an electronic device (1) comprising means (2) for displaying visual information, **characterized in that** the distance between the user and the electronic device (1) is measured, and the size of information to be displayed on the display (2) is changed when the distance between the user and the electronic device (1) is changed.

2. The method according to claim 1, **characterized in that** the first distance measurement is taken in connection with turning on of the electronic device (1), at least a second distance measurement is taken during the use of the electronic device (1), and that the change in the distance is determined from the ratio between the first distance measurement and said at least one second distance measurement.

3. The method according to claim 1 or 2, **characterized in that** the measurement of the distance is based on measuring a change in signal strength.

4. The method according to claim 1 or 2, **characterized in that** the measurement of the distance is based on measuring a signal propagation time.

5. The method according to claim 1, 2, 3, or 4, **characterized in that** the size of information to be displayed on the display (2) is enlarged when the distance between the user and the electronic device (1) is increased.

6. The method according to claim 1, 2, 3, or 4, **characterized in that** the size of information to be displayed on the display (2) is reduced when the distance between the user and the electronic device (1) is increased.

7. An electronic device (1) comprising means (2) for displaying visual information, **characterized in that** it also comprises means (13, 14) for measuring the distance between the user and the electronic device (1), and means (4, 7) for changing the size of displayed information when the distance between the user and the electronic device (1) is changed.

8. The electronic device (1) according to claim 7, **characterized in that** the means (13, 14) for measuring the distance of the user comprise a proximity sensor (13).

9. The electronic device (1) according to claim 7 or 8, **characterized in that** it comprises means (4, 13, 14) for taking the first distance measurement in connection with turning on of the electronic device (1), means for taking at least one second distance measurement during the use of the electronic device (1), and means (4, 7) for determining a change in the distance from the ratio between the first distance measurement and said at least one second distance measurement.

10. The electronic device (1) according to claim 7, 8 or 9, **characterized in that** it comprises means (4) for enlarging the size of information to be displayed on the display (2) when the distance between the user and the electronic device (1) is increased.

11. The electronic device (1) according to claim 7, 8 or 9, **characterized in that** it comprises means (4) for reducing the size of information to be displayed on the display (2) when the distance between the user and the electronic device (1) is increased.

12. The electronic device (1) according to any of the claims 7 to 11, **characterized in that** it comprises means (11, 12) for setting a correlation between the direction of change in the distance and the direction of change in the size of information to be displayed on the display (2).

13. The electronic device (1) according to any of the claims 7 to 12, **characterized in that** it is a wireless station.

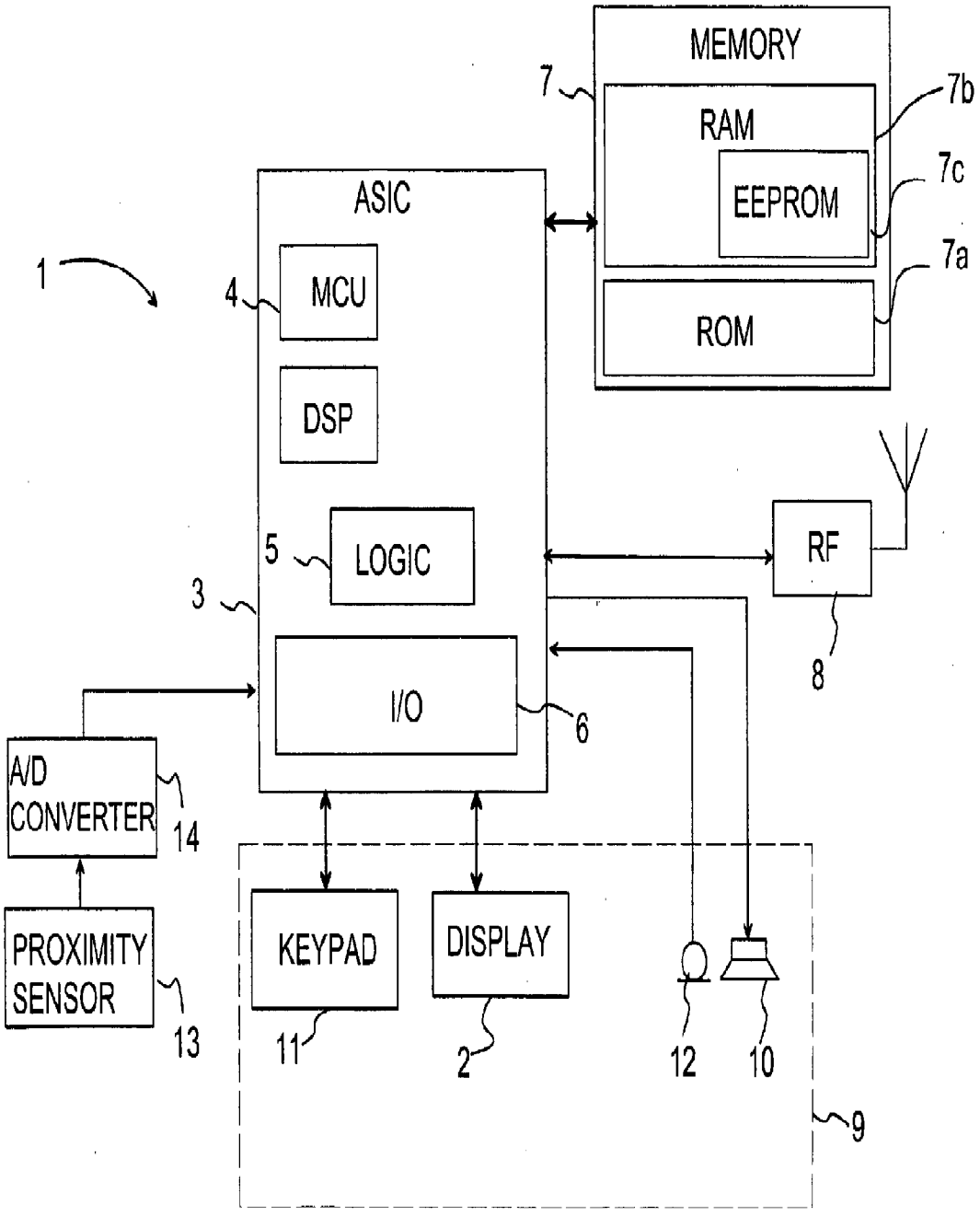
MEMORY
7
7b
RAM
7c
EEPROM
7a
ROM
ASIC
1
4
MCU
DSP
5
LOGIC
3
RF
8
I/O
6
A/D
CONVERTER
14
PROXIMITY
SENSOR
13
KEYPAD
DISPLAY
11
2
12
10
9

Fig 1

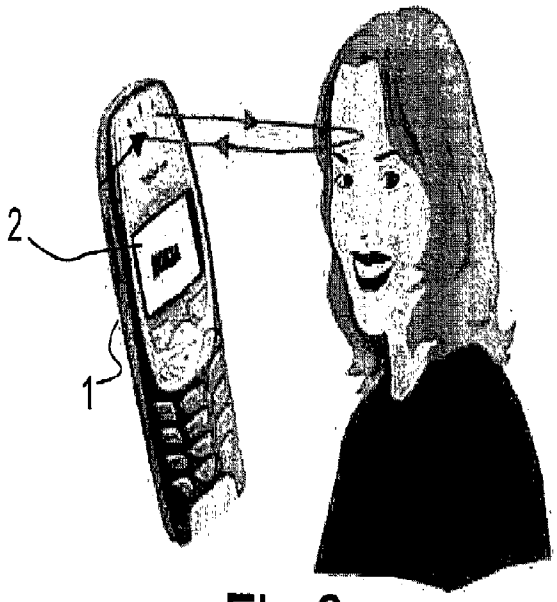

Fig 2a

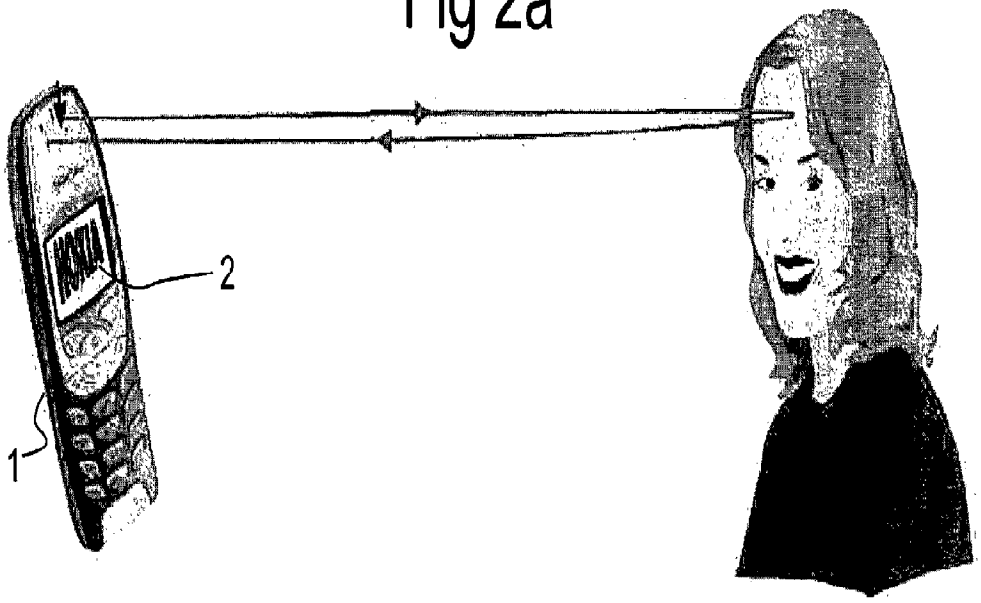

Fig 2b

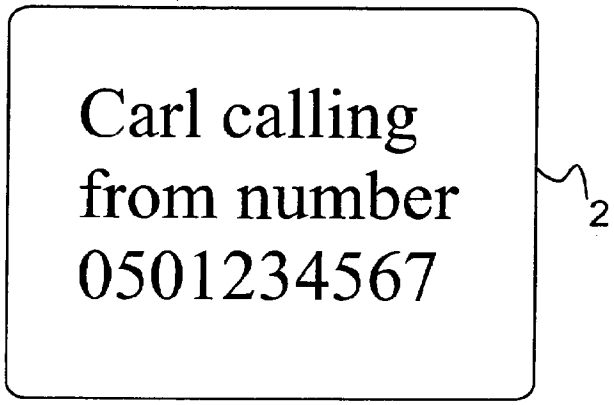

Fig 3a

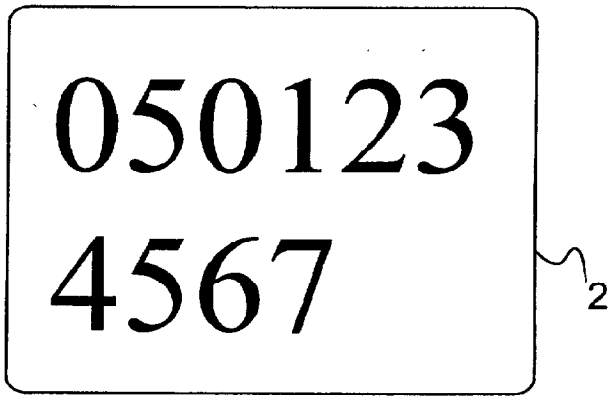

Fig 3b

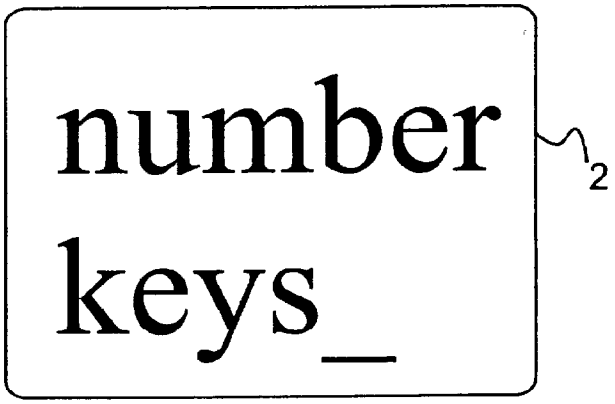
number
keys_
2

Fig 4a

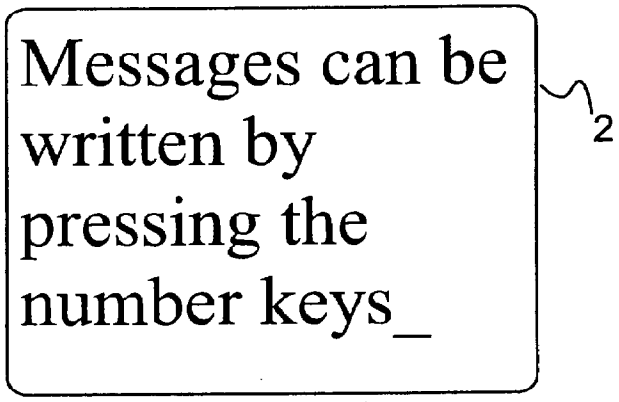
Messages can be
written by
pressing the
number keys_
2

Fig 4b

European Patent Office

EUROPEAN SEARCH REPORT

Application Number
EP 02 39 6166

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
X	WO 01 27727 A (GATEWAY INC) 19 April 2001 (2001-04-19) * abstract * * page 2, line 26 - line 28 * * page 6, line 16 - page 7, line 9; figure 1A * * page 11, line 2 - page 12, line 8; figures 6A,6B,7 *	1-5, 7-10,13	G06F1/16 H04M1/247
X	EP 0 405 826 A (SONY CORP) 2 January 1991 (1991-01-02) * column 3, line 13 - column 4, line 10 * * column 4, line 20 - line 47; figures 1,2 * * column 5, line 46 - column 6, line 31 *	1,2,6,7, 9,11	
E	WO 02 093331 A (HANNULA MANNE ;MYORIGO OY (FI); VAEAENAENEN JOHANNES (FI)) 21 November 2002 (2002-11-21) * page 16, line 9 - line 36; figure 6 * * page 18, line 22 - page 19, line 14; figures 7A-7D * * page 20, line 25 - line 33 *	1,6-8, 11,13	TECHNICAL FIELDS SEARCHED (Int.Cl.7) G06F H04M
A	WO 01 27735 A (MYORIGO OY ;METSAEVAINIO JUKKA PEKKA (FI)) 19 April 2001 (2001-04-19) * abstract * * page 2, line 29 - page 3, line 4; figures 1,2 * * page 7, line 34 - page 8, line 10 *	12	

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
THE HAGUE	4 April 2003	Schröter, P

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
Y : particularly relevant if combined with another document of the same category
A : technological background
O : non-written disclosure
P : intermediate document

T : theory or principle underlying the invention
E : earlier patent document, but published on, or after the filing date
D : document cited in the application
L : document cited for other reasons

& : member of the same patent family, corresponding document

EPO FORM 1503 03.02 (P04C01)

ANNEX TO THE EUROPEAN SEARCH REPORT ON EUROPEAN PATENT APPLICATION NO. EP 02 39 6166

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

04-04-2003

Patent document cited in search report		Publication date		Patent family member(s)	Publication date
WO 0127727	A	19-04-2001	AU	7679000 A	23-04-2001
			EP	1224519 A2	24-07-2002
			WO	0127727 A2	19-04-2001
EP 0405826	A	02-01-1991	DE	69017286 D1	06-04-1995
			DE	69017286 T2	29-06-1995
			EP	0405826 A2	02-01-1991
			JP	3035311 A	15-02-1991
			JP	3125295 B2	15-01-2001
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			WO	02093331 A1	21-11-2002
			US	2002175896 A1	28-11-2002
WO 0127735	A	19-04-2001	FI	992191 A	13-04-2001
			FI	20001506 A	13-04-2001
			AU	7792600 A	23-04-2001
			CN	1379871 T	13-11-2002
			EP	1228422 A1	07-08-2002
			WO	0127735 A1	19-04-2001
			NO	20021647 A	22-05-2002

EPO FORM P0459

For more details about this annex : see Official Journal of the European Patent Office, No. 12/82

Electronic Acknowledgement Receipt

EFS ID:	28631918
Application Number:	14680422
International Application Number:	
Confirmation Number:	5691
Title of Invention:	SYSTEM AND METHOD FOR STREAMLINING USER INTERACTION WITH ELECTRONIC CONTENT
First Named Inventor/Applicant Name:	Yves Behar
Customer Number:	23628
Filer:	Marcus E. Browne/Lynn McNamara
Filer Authorized By:	Marcus E. Browne
Attorney Docket Number:	L2039.70004US03
Receipt Date:	15-MAR-2017
Filing Date:	07-APR-2015
Time Stamp:	10:56:57
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Miscellaneous Incoming Letter	L203970004US03-TRN-MEB.pdf	74131 9a7adda6f178f1757a3d737af958b0f2a4fed0e6	no	1

Warnings:

Information:					
2		L203970004US03-IDS-MEB.pdf	91487 60c9e9d1d172902bf5948ec2719a69f915167f55	yes	4
	Multipart Description/PDF files in .zip description				
	Document Description		**Start**	**End**	
	Transmittal Letter		1	3	
	Information Disclosure Statement (IDS) Form (SB08)		4	4	
Warnings:					
Information:					
3	Foreign Reference	EP1316877A1.pdf	657324 11657a3279a5e8c23ca2d6a1e8a33a4e0685c579	no	13
Warnings:					
Information:					
4	Other Reference-Patent/App/Search documents	L203970004EP00_ER_dated_01-17-2017.pdf	287260 faf1a12be4f9df0bc4b8e5702740bf64cc3a11ea	no	8
Warnings:					
Information:					
		Total Files Size (in bytes):	1110202		

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

Doc Code: TRAN.LET
Document Description: Transmittal Letter

USED IN LIEU OF PTO/SB/21 (07-09)

TRANSMITTAL FORM (to be used for all correspondence after initial filing)			
		Application Number	14/680,422-Conf. #5691
		Filing Date	April 7, 2015
		First Named Inventor	Yves Behar
		Art Unit	2141
		Examiner Name	Claudia B. Dragoescu
Total Number of Pages in This Submission		Attorney Docket Number	L2039.70004US03

ENCLOSURES (*Check all that apply*)

☐ Fee Transmittal Form	☐ Drawing(s)	☐ After Allowance Communication to TC
☐ Fee Attached	☐ Licensing-related Papers	☐ Appeal Communication to Board of Appeals and Interferences
☐ Amendment/Reply	☐ Petition	☐ Appeal Communication to TC **(Appeal Notice, Brief, Reply Brief)**
☐ After Final	☐ Petition to Convert to a Provisional Application	☐ Proprietary Information
☐ Affidavits/declaration(s)	☐ Power of Attorney, Revocation Change of Correspondence Address	☐ Status Letter
☐ Extension of Time Request	☐ Terminal Disclaimer	☒ Other Enclosure(s) (please Identify below): Form PTO - 1449
☐ Express Abandonment Request	☐ Request for Refund	Copies of cited references
☒ Information Disclosure Statement	☐ CD, Number of CD(s) _____	
☐ Certified Copy of Priority Document(s)	☐ Landscape Table on CD	
☐ Reply to Missing Parts/ Incomplete Application	Remarks	
☐ Reply to Missing Parts under 37 CFR 1.52 or 1.53		

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

Firm Name	WOLF, GREENFIELD & SACKS, P.C.		
Signature	/Marcus E. Browne/		
Printed name	Marcus E. Browne		
Date	March 15, 2017	Reg. No.	71,897

Certificate of Electronic Filing under 37 CFR §1.8

I hereby certify that this paper (along with any paper referred to as being attached or enclosed) is being transmitted via the Office's electronic filing system in accordance with 37 CFR § 1.6(a)(4).

Dated: 03-15-2017 Signature: /Lynn P. McNamara/ (Lynn P. McNamara)

DOCKET NO.: L2039.70004US03

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

First Named Inventor:	Yves Behar
Application No.:	14/680,422
Confirmation No.:	5691
Filed:	April 07, 2015
For:	SYSTEM AND METHOD FOR STREAMLINING USER INTERACTION WITH ELECTRONIC CONTENT
Examiner:	Claudia B. Dragoescu
Art Unit:	2141

CERTIFICATE OF ELECTRONIC FILING UNDER 37 C.F.R. § 1.8

The undersigned hereby certifies that this paper, along with any paper referred to as being attached or enclosed, is being transmitted via the Office electronic filing system in accordance with § 1.6(a)(4), on the 15th day of March, 2017.

__/Lynn P. McNamara/_____
Lynn P. McNamara

MAIL STOP AMENDMENT
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

STATEMENT FILED PURSUANT TO THE DUTY OF DISCLOSURE UNDER 37 C.F.R. §§ 1.56, 1.97 AND 1.98

Sir:

Pursuant to the duty of disclosure under 37 C.F.R. §§ 1.56, 1.97 and 1.98, the undersigned requests consideration of this Information Disclosure Statement.

PART I: Compliance with 37 C.F.R. § 1.97

This Information Disclosure Statement has been filed before the mailing of a first Office Action on the merits in the above-identified case.

No fee or certification is required.

PART II: Information Cited

The undersigned hereby makes of record in the above-identified application the information listed on the attached form PTO-1449 (modified PTO/SB/08). The order of

presentation of the references should not be construed as an indication of the importance of the references.

The undersigned hereby makes the following additional information of record in the above-identified application.

The undersigned would like to bring to the Examiner's attention the following co-pending application that may contain subject matter related to this application:

Serial No.	Filing Date	Inventor(s)	Docket No.
†15/394,492	**12-29-2016**	**Behar et al.**	**L2039.70001US05**

†A copy of this reference is not provided as the Office has waived the requirement under 37 C.F.R. § 1.98(a)(2)(iii) for submitting a copy of a cited U.S. patent application if it is scanned to the Image File Wrapper system and is available on Private PAIR.

The undersigned would like to bring to the Examiner's attention the enclosed search report or other communication from a corresponding or related International or Foreign National Application:

Serial No.	Date of Mailing	Type(s) of Communication	Docket No.
EP 09755433.1	**01-17-2017**	**European Examination Report**	**L2039.70004EP00**

PART III: Remarks

Documents cited anywhere in the Information Disclosure Statement are enclosed unless otherwise indicated. It is respectfully requested that:

1. The Examiner consider completely the cited information, along with any other information, in reaching a determination concerning the patentability of the present claims;

2. The enclosed form PTO-1449 (modified PTO/SB/08) be signed by the Examiner to evidence that the cited information has been fully considered by the United States Patent and Trademark Office during the examination of this application;

3. The citations for the information be printed on any patent which issues from this application.

By submitting this Information Disclosure Statement, the undersigned makes no representation that a search has been performed, of the extent of any search performed, or that more relevant information does not exist.

By submitting this Information Disclosure Statement, the undersigned makes no representation that the information cited in the Statement is, or is considered to be, material to patentability as defined in 37 C.F.R. § 1.56(b).

By submitting this Information Disclosure Statement, the undersigned makes no representation that the information cited in the Statement is, or is considered to be, in fact, prior art as defined by 35 U.S.C. § 102.

Notwithstanding any statements by the undersigned, the Examiner is urged to form his or her own conclusion regarding the relevance of the cited information.

An early and favorable action is hereby requested.

The Director is hereby authorized to charge any deficiency or credit any overpayment in the fees occasioned by the filing of this Information Disclosure Statement to our Deposit Account No. 23/2825 under Docket No. L2039.70004US03 from which the undersigned is authorized to draw.

Respectfully submitted,

By: /Marcus E. Browne/
Marcus E. Browne, Reg. No. 71,897
Wolf, Greenfield & Sacks, P.C.
600 Atlantic Avenue
Boston, Massachusetts 02210-2206
Telephone: (617) 646-8000

Docket No.: L2039.70004US03
Date: March 15, 2017
xNDDx

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
14/680,422	04/07/2015	Yves Behar	L2039.70004US03	5691

23628 7590 04/19/2017
WOLF GREENFIELD & SACKS, P.C.
600 ATLANTIC AVENUE
BOSTON, MA 02210-2206

EXAMINER	
DRAGOESCU, CLAUDIA B	

ART UNIT	PAPER NUMBER
2141	

NOTIFICATION DATE	DELIVERY MODE
04/19/2017	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

Patents_eOfficeAction@WolfGreenfield.com
WGS_eOfficeAction@WolfGreenfield.com

Office Action Summary	Application No. 14/680,422	Applicant(s) BEHAR ET AL.	
	Examiner CLAUDIA DRAGOESCU	Art Unit 2141	AIA (First Inventor to File) Status No

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTHS FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *4/7/15*.

☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on _____; the restriction requirement and election have been incorporated into this action.

4)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims*

5)☒ Claim(s) *1 and 6-22* is/are pending in the application.

5a) Of the above claim(s) _____ is/are withdrawn from consideration.

6)☐ Claim(s) _____ is/are allowed.

7)☒ Claim(s) *1 and 6-22* is/are rejected.

8)☐ Claim(s) _____ is/are objected to.

9)☐ Claim(s) _____ are subject to restriction and/or election requirement.

* If any claims have been determined allowable, you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see http://www.uspto.gov/patents/init_events/pph/index.jsp or send an inquiry to PPHfeedback@uspto.gov.

Application Papers

10)☐ The specification is objected to by the Examiner.

11)☒ The drawing(s) filed on *4/7/15* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

Certified copies:

a)☐ All b)☐ Some** c)☐ None of the:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

** See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☒ Information Disclosure Statement(s) (PTO/SB/08a and/or PTO/SB/08b) Paper No(s)/Mail Date *11/10/15,1/18/17,3/15/17*.

3) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

4) ☐ Other: _____.

DETAILED ACTION

1. The present application is being examined under the pre-AIA first to invent provisions. This action is in response to the Application filed on 4/7/15. Claims 1 and 6-22 are presented for examination. Claims 2-5 were cancelled.

Double Patenting Rejection

2. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg,* 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman,* 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi,* 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum,* 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel,* 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington,* 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement. A terminal disclaimer must be signed in compliance with 37 CFR 1.321(b).

The USPTO internet Web site contains terminal disclaimer forms which may be used. Please visit http://www.uspto.gov/forms/. The filing date of the application will determine what form should be used. A web-based eTerminal Disclaimer may be filled out completely online using web-screens. An eTerminal Disclaimer that meets all requirements is auto-processed and approved immediately upon submission. For more information about eTerminal Disclaimers, refer to http://www.uspto.gov/patents/process/file/efs/guidance/eTD-info-I.jsp.

Claims 1-22 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-20 of parent Application 12/416,496, U.S. Patent 9,003,315. Although the claims at issue are not identical, they are not patentably distinct from each other because claims 1-22 of U.S. Patent 9,003,315 contain every element of claims 1-22 of the instant application, and as such anticipate the claims of the instant application.

The claims of the instant application are compared to the similar claims of patent U.S. Patent 9,003,315 in the following table:

Present Application	U.S. Patent 9,003,315
1. A customized user interface to display computer content on a display component of a computer system, the user interface comprising: at least one processor operatively connected to a memory of the computer system; a graphical user interface, executing on the at least one processor, configured to display the computer content on the display component of the computer system, the user interface configured to: display a plurality of views of a plurality of visual representations of computer content, wherein the computer content includes at least one of selectable digital content, selectable computer operations and passive digital content; an execution component, executing on the at least one processor, configured to: detect a current computer system configuration from at least a first computer system configuration and a second computer system configuration; select one of the plurality of views for display on the computer system in response to the detected current computer system configuration; and transition the display component to the selected one of the plurality of views.	1. A customized user interface for a computer system with a plurality selectable I/O profiles configured to present computer operations to a user in a format configured to a selected I/O profile on a display component of the computer system, the user interface comprising: at least one processor; a map based graphical user interface, executing on the at least one processor operatively connected to a memory of the computer system, the map based graphical user interface, when executing, is configured to display information on the display component of the computer system, wherein the map based user interface is further configured to: display a plurality of views of a plurality of visual representations of computer content on the computer system, wherein the computer content includes at least one of selectable digital content, executable computer applications, configurable computer settings, selectable computer operations and passive digital content; display the plurality of visual representations of computer content rendered on the display component, wherein the plurality of visual representations of computer content include an association to a first home view of the plurality of views, the first home view including a display of the computer content, and wherein the each of the plurality of visual representations is responsive to focus and execution, wherein execution includes selecting the visual representation, and wherein the first home view is a first organizational view of at least one application and computer content displayed responsive to activation of the system; and an execution component, executing on the at least one processor, configured to: identify at least a first and a second computer system configuration based on sensor input indicating a position of the display component relative to a base component; select, responsive to the sensor input, a first home view from the plurality of views for the first computer system configuration, wherein the first home view is configured to organize a first set of the plurality of visual representations; filter the first set of visual representations to present content that is optimized for viewing in the second system configuration at least in part
21. A customized user interface to display computer content on a display component of a computer system, the user interface comprising: at least one processor operatively coupled to a memory of the computer system; a graphical user interface, executing on at least one processor, configured to display a plurality of views of a plurality of visual representations of the computer content; an execution component, executing on the at least one processor, configured to: identify at least a first and a second computer system configuration based on sensor input indicating a position of the display component; select, responsive to the sensor input,	

a first content view from the plurality of views for the first computer system configuration; transition, automatically in response to the sensor input, the display component between at least the first content view of the plurality of views and a second content view of the plurality of views; receive user input via at least one input device integral to or operatively connected with the computer system; and transition, automatically in response to receiving the user input, the display component from one of the first content view and the second content view to a channel view including a channel selector that displays a sequence of visual representations.	by identifying content to filter, removing the identified content from the first set of visual representations, and generating a second set of visual representations based on the filtered first set of visual representations, wherein the second set of visual representations includes at least one different member than the first set of visual representations; and transition, automatically in response to the sensor input, the display component between at least the first home view of the plurality of views and a second default content view of the plurality of views, wherein the second default content view is configured to organize the second set of visual representations, wherein the second default content view is a second organizational view of at least one application and computer content, and wherein the sensor input indicates a transition to the second computer system configuration.
6. The user interface of claim 1, wherein in the plurality of views includes a home view configured to organize a plurality of content modes and a channel view configured to organize at least one of a single content mode and two content modes.	6. The user interface of claim 3, wherein the plurality of views includes a home view configured to organize a plurality of content modes and a channel view configured to organize at least one content mode including the at least some of the plurality of visual representations having the view state of the respective computer content.
7. The user interface of claim 1, wherein the plurality of views includes a screen saver view configured to organize selected content modes for passive viewing.	7. The user interface of claim 3, wherein the plurality of views includes a screen saver view configured to organize selected content modes for passive viewing.
8. The user interface of claim 1, wherein the plurality of views includes a home view organizing a plurality of visual representations of digital content, wherein the home view comprises a header display and a body display, and wherein the header display comprises a lateral frame extending from the left of the display component to the right of the display component, wherein the body display is rendered below the header display in the display component of the computer system.	8. The user interface of claim 1, wherein the plurality of views includes the home view organizing a plurality of visual representations of digital content, wherein the first home view is displayed responsive to system activation, and wherein the first home view is displayed responsive to a computer system configuration.
9. The user interface of claim 8, wherein the computer system configuration comprises a physical positioning of a computer system display relative to a base of the computer system about a longitudinal axis of rotation.	9. The user interface of claim 8, wherein the computer system configuration comprises a physical positioning of the display component relative to a base of the computer system about a longitudinal axis of rotation.

10. The user interface of claim 8, wherein the graphical user interface is further configured to display a search tool displayed in the header display, wherein the search tool is configured to accept search terms entered by a user and in response to execution, causes the computer system to navigate to a view of a first visual representation of digital content, wherein the digital content includes a search engine, and the search engine presents results for the search terms.	10. The user interface of claim 8, further comprising a search tool displayed in the header display, wherein the search tool is configured to accept search terms entered by a user and in response to execution, causes the computer system to navigate to a view of a first visual representation of digital content, wherein the digital content includes a search engine, and the search engine presents results for the search terms.
11. The user interface of claim 1, further comprising a storage component configured to retain a previous view state.	11. The user interface of claim 1, further comprising a storage component configured to retain a previous view state.
12. The user interface of claim 11, wherein the execution component is further configured to cause the computer system to transition to a previous view in response to execution of a navigation element by a user.	12. The user interface of claim 11, wherein the execution component is further configured to cause the computer system to transition to a previous view in response to execution of a navigation element by a user.
13. The user interface of claim 11, further comprising the navigation element displayed in a header display.	13. The user interface of claim 11, further comprising the navigation element displayed in the header display.
14. The user interface of claim 8, wherein the body display comprises an organization of the plurality of visual representations of computer content rendered on the computer display, and the home view further comprises display pages in response to a display threshold establishing a maximal number of visual representations displayed per display page.	14. The user interface of claim 8, wherein the body display comprises an organization of the plurality of visual representations of computer content rendered on the computer display, and the home view further comprises display pages in response to a display threshold establishing a maximal number of visual representations displayed per display page.
15. The user interface of claim 14, wherein the home view further comprises an indication of visual representations displayed on adjacent display pages of the home view, wherein the indication is displayed within the body of the home view.	15. The user interface of claim 14, wherein the first home view further comprises an indication of visual representations displayed on adjacent display pages of the home view, wherein the indication is displayed within the body of the home view.
16. The user interface of claim 8, wherein the graphical user interface is further configured to display a nascent card in the home view, wherein the nascent card is configured to permit generation of additional visual representations of digital content.	16. The user interface of claim 8, further comprising a nascent card displayed in the body of the first home view, wherein the nascent card is configured to permit generation of additional visual representations of digital content.
17. The user interface of claim 16, wherein the execution component is further configured to execute a process for creating a visual representation in response to execution of the	17. The user interface of claim 16, wherein the execution component is further configured to execute a process for creating a visual representation in response to execution of the

nascent card, wherein the process for creating a visual representation includes acts of: transitioning to a quick access view; generating a mapping to online digital content; executing the mapping; and displaying a first view of the mapped digital content.	nascent card, wherein the process for creating a visual representation includes acts of: transitioning to a quick access view; generating a mapping to online digital content; executing the mapping; and displaying a first view of the mapped digital content.
18. The user interface of claim 1, wherein the plurality of views includes a quick access view configured to permit user generation of a mapping between digital content and a visual representation.	18. The user interface of claim 1, further comprising a quick access view, wherein the quick access view is configured to permit user generation of a mapping between digital content and a visual representation.
19. The user interface of claim 1, wherein the plurality of views includes a channel view including a channel selector that displays a sequence of visual representations.	19. The user interface of claim 3, wherein the plurality of views includes a channel view, and the view selector component is further responsive to an integrated scroll wheel on the computer system. 22. The user interface of claim 21, wherein the display of the sequence of visual representations is responsive to manipulation of the integrated scroll wheel, and manipulation of the integrated scroll wheel causes the computer system to render a next visual representation in the display of the sequence of visual representations.
20. The user interface of claim 19, wherein the execution component is further configured to transition the computer system to the channel view in response to receiving user input via at least one input device integral to or operatively connected with the computer system.	20. The user interface of claim 19, wherein the view selector component is further configured to transition the computer system to the channel view in response to manipulation of the integrated scroll wheel.
22. The user interface of claim 21, wherein the at least one input device includes at least one of a scroll wheel, a touchpad, and a mouse.	19. The user interface of claim 3, wherein the plurality of views includes a channel view, and the view selector component is further responsive to an integrated scroll wheel on the computer system.

Information Disclosure Statement

3. Cited in MPEP 2004 Aids or Compliance With Duty of Disclosure: It is desirable to avoid the submission of long lists of documents if it can be avoided. Eliminate clearly irrelevant and marginally pertinent cumulative information. If a long list is submitted, highlight those documents which have been specifically brought to applicant's attention and/or are known to be of most significance. See *Penn Van Boats, Inc. v. Sea Lark Boats, Inc.*, 359 F. Supp. 948, 175 USPQ 260 (S.D. Fla. 1972), aff 'd, 479 F.2d 1338, 178 USPQ 577 (5th Cir. 1973), cert. denied, 414 U.S. 874 (1974). But ct. *Molins PLC v. Textron Inc.*, 48 F.3d 1172, 33 USPQ2d 1823 (Fed. Cir. 1995).

An applicant's duty of disclosure of material and information is not satisfied by presenting a patent examiner with "a mountain of largely irrelevant [material] from which he is presumed to have been able, with his expertise and with adequate time, to have found the critical [material]. It ignores the real world conditions under which examiners work." *Rohm & Haas Co. v. Crystal Chemical Co.*, 722 F.2d 1556, 1573 [220 USPQ 289] (Fed. Cir. 1983), cert. denied, 469 U.S. 851 (1984). (Emphasis in original). Patent applicant has a duty not just to disclose pertinent prior art references but to make a disclosure in such way as not to "bury" it within other disclosures of less relevant prior art; See *Golden Valley Microwave Foods Inc. v. Weaver Popcorn Co. Inc.*, 24 USPQ2d 1801 (N.D. Ind. 1992); *Molins PLC v. Textron Inc.*, 26 USPQ2d 1889, at 1899 (D.Del 1992); *Penn Van Boats, Inc. v. Sea Lark Boats, Inc. et al.*, 175 USPQ 260, at 272 (S.D. Fl. 1972).

It is impractical for the examiner to review the references thoroughly with the number of references cited in the case (more than 175 references). By initialing each of

the cited references on the accompanying 1449 forms, the examiner is merely acknowledging the submission of the cited references and merely indicating that only a cursory review is made of the cited references.

Claim Rejections - 35 U.S.C. 103

4. The following is a quotation of pre-AIA 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1, 6-7 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over "Creating a Digital Home Entertainment System with Windows Media Center" by Miller, 2006 in view of Dunko (U.S. Patent Application 20080059888).

Re claim 1, Miller teaches a customized user interface to display computer content on a display component of a computer system ***(i.e. the Windows Media Center portal presents to the user a streamlined interface with only a handful of important options (page 3))***, the user interface comprising:

a graphical user interface configured to display the computer content on the display component of the computer system ***(i.e. display (FIG. 8.2))***, the user interface configured to:

display a plurality of views of a plurality of visual representations of computer content ***(i.e. Windows Media Center presents a plurality of views of content: the***

Start screen displays all the categories (page 3), whereas other views display one category like "Online Spotlight", which displays online content (page 6)), wherein the computer content includes at least one of selectable digital content ***(i.e. songs, movies (pages 9-11))***, selectable computer operations ***(i.e. games (pages 7-8), photo editing (page 4))*** and passive digital content ***(i.e. slide show (page 5))***.

Miller does not expressly teach at least one processor operatively connected to a memory of the computer system;

an execution component, executing on the at least one processor, configured to:

detect a current computer system configuration from at least a first computer system configuration and a second computer system configuration;

select one of the plurality of views for display on the computer system in response to the detected current computer system configuration; and

transition the display component to the selected one of the plurality of views.

Dunko teaches at least one processor operatively connected to a memory of the computer system ***(i.e. processor (FIG. 1 and par. 24))***;

an execution component, executing on the at least one processor, configured to:

detect a current computer system configuration from at least a first computer system configuration and a second computer system configuration ***(i.e. an orientation sensing mechanism senses whether the portable mobile communications device is currently in a portrait or landscape orientation (FIG. 9 step 910 and par. 8))***;

select one of the plurality of views for display on the computer system in response to the detected current computer system configuration ***(i.e. and determines***

which mode of operation is the default mode for the sensed orientation of the portable mobile communications device (FIG. 9 step 915 and par. 8)); and

transition the display component to the selected one of the plurality of views ***(i.e. the GUI is then reconfigured for the default mode of operation (FIG. 9 step 915 and par. 8). Various modes of operation are phone mode (default for portrait orientation), gaming mode (default for landscape orientation), camera mode, music player mode, web browser mode and email mode (FIG. 8 and par. 10)).***

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention is made to add the teachings of Dunko to switch computer configurations based on device orientation, because doing so would allow the portable mobile communications device to automatically reconfigure itself for a different mode of operation without the user having to delve into the intricacies of the user interface to manipulate the functions ***(par. 7)***.

Re claim 6, Miller and Dunko teach the user interface of claim 1. Miller further teaches wherein in the plurality of views includes a home view configured to organize a plurality of content modes ***(i.e. the Media Center Start page displays multiple categories of content such as videos, pictures, movies, radio and TV (FIG. 8.2, page 3))*** and

a channel view configured to organize at least one of a single content mode and two content modes ***(i.e. TV player (FIG. 10.13 page 21), video clips player (FIG.***

11.18-11.19 page 22-23), picture viewer (Fig. 12.11 page 4), news video player (FIG. 15.22 page 15)).

Re claim 7, Miller and Dunko teach the user interface of claim 1. Miller further teaches wherein the plurality of views includes a screen saver view configured to organize selected content modes for passive viewing ***(i.e. photo slide show (page 5))***.

Re claim 18, Miller and Dunko teach the user interface of claim 1. Miller further teaches wherein the plurality of views includes a quick access view configured to permit user generation of a mapping between digital content and a visual representation ***(i.e. displaying an overview of pictures (FIG. 15.30 page 17), movies (FIG. 15.3 page 9, FIG. 16.5 page 11), games (FIG. 15.28 page 8) as thumbnails)***.

Claims 8, 14 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Miller in view of Dunko, and further in view of Filner et al (U.S. Patent Application 20050210399).

Re claim 8, Miller and Dunko teach the user interface of claim 1. Miller further teaches wherein the plurality of views includes a home view organizing a plurality of visual representations of digital content ***(i.e. the Media Center Start page displays multiple***

categories of content such as videos, pictures, movies, radio and TV (FIG. 8.2, page 3)).

Miller doesn't expressly teach a header display and a body display, and wherein the header display comprises a lateral frame extending from the left of the display component to the right of the display component, wherein the body display is rendered below the header display in the display component of the computer system.

Filner et al teaches wherein the plurality of views includes a home view organizing a plurality of visual representations of digital content ***(i.e. a Web portal displays multiple content tiles (FIG. 3))***, wherein the home view comprises a header display and a body display ***(i.e. title panel and body panel (FIG. 3 elements 310 and 304))***, and wherein the header display comprises a lateral frame extending from the left of the display component to the right of the display component ***(i.e. title panel extends across from left to right (FIG. 3 element 310))***, wherein the body display is rendered below the header display in the display component of the computer system ***(i.e. top title panel and bottom body panel (FIG. 3 elements 310 and 304))***.

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to add the teachings of Filner et al to provide a layout including a header and a body, because doing so would provide a familiar layout for portals.

Re claim 14, Miller and Dunko and Filner et al teach the user interface of claim 8. Miller further teaches wherein the body display comprises an organization of the plurality of visual representations of computer content rendered on the computer display ***(i.e. showing multiple visual representations of content per page, like games (page 8) or movies (page 11))***, and the home view further comprises display pages in response to a display threshold establishing a maximal number of visual representations displayed per display page ***(i.e. the number of pieces of content per page has a limit, for example 9 games per page (page 8), or 12 movies per page (page 11)).***

Filner et al also teaches wherein the body display comprises an organization of the plurality of visual representations of computer content rendered on the computer display ***(i.e. a Web portal page displays multiple content tiles (FIG. 3 elements 307, 308, etc.))***.

Re claim 15, Miller and Dunko and Filner et al teach the user interface of claim 14. Miller further teaches wherein the home view further comprises an indication of visual representations displayed on adjacent display pages of the home view, wherein the indication is displayed within the body of the home view ***(i.e. showing indications of more pages of games: "5 of 9" (page 8), or more pages of movies: "View More..." (page 9), or "1 of 14" (page 11), together with up and down navigation arrows to navigate to those pages)***.

Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Miller in view of Dunko and in view of Filner et al, and further in view of Oakley (U.S. Patent Application 20040001049).

Re claim 9, Miller and Dunko and Filner et al teach the user interface of claim 8, but they don't expressly teach wherein the computer system configuration comprises a physical positioning of a computer system display relative to a base of the computer system about a longitudinal axis of rotation.

Oakley teaches wherein the computer system configuration comprises a physical positioning of a computer system display relative to a base of the computer system about a longitudinal axis of rotation ***(i.e. a housing pivotally attached with the display proximate a first edge of the housing (FIG. 3 and abstract))***.

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention is made to add the teachings of Oakley to allow rotation, because doing so would allow the portable computer to be configured in multiple positions.

Claims 11-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Miller in view of Dunko, and further in view of Mattox et al (U.S. Patent 7,698,407).

Re claim 11, Miller and Dunko teach the user interface of claim 1, but they don't expressly teach a storage component configured to retain a previous view state.

Mattox et al teaches a storage component configured to retain a previous view state ***(i.e. the toolbar 304 includes backward and forward buttons, used for navigating to states visited previously, which are saved (FIG. 3A))***.

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to add the teachings of Mattox et al to add history, because doing so would allow the user to navigate back to previously visited pages.

Re claim 12, Miller and Dunko and Mattox et al teach the user interface of claim 11, but Miller and Dunko don't expressly teach transition to a previous view in response to execution of a navigation element by a user.

Mattox et al teaches transition to a previous view in response to execution of a navigation element by a user ***(i.e. upon selecting backward arrow in toolbar 304 in FIG. 3A, the user is taken to the previous Web page, this is typical Web browser behavior, which is well known in the art)***.

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to add the teachings of Mattox et al to add history, because doing so would allow the user to navigate back to previous commands.

Re claim 13, Miller and Dunko and Mattox et al teach the user interface of claim 11, but Miller and Dunko don't expressly teach the navigation element displayed in a header display.

Mattox et al teaches the navigation element displayed in a header display ***(i.e. the toolbar 304 includes backward and forward buttons (FIG. 3A))***.

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to add the teachings of Mattox et al to provide history, because doing so would allow the user navigate back through the commands.

Claims 10, 16 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Miller in view of Dunko and in view of Filner et al, and further in view of Mattox et al.

Re claim 10, Miller and Dunko and Filner et al teach the user interface of claim 8, but they don't expressly teach display a search tool displayed in the header display, accept search terms entered by a user and in response to execution, causes the computer system to navigate to a view of a first visual representation of digital content, wherein the digital content includes a search engine, and the search engine presents results for the search terms.

Mattox et al teaches display a search tool displayed in the header display, accept search terms entered by a user and in response to execution, causes the computer

system to navigate to a view of a first visual representation of digital content, wherein the digital content includes a search engine, and the search engine presents results for the search terms ***(i.e. navigation bar 308 includes a Search engine (FIG. 3A and column 6 lines 5-10))***.

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to add the teachings of Mattox et al to provide search functionality, because it is a basic functionality in a Web browser, and doing so would allow the user to perform searches.

Re claim 16, Miller and Dunko and Filner et al teach the user interface of claim 8, but they don't expressly teach display a nascent card in the home view, wherein the nascent card is configured to permit generation of additional visual representations of digital content.

Mattox et al teaches display a nascent card in the home view, wherein the nascent card is configured to permit generation of additional visual representations of digital content ***(i.e. the user can select "Create Site" or "Create Page" list item 316, to create a new page or a new site (Fig. 3A and column 6 lines 32-41))***.

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to add the teachings of Mattox et al to use a nascent card, because doing so would provide an easy way for the user to create new content cards.

Re claim 17, Miller and Dunko and Filner et al and Mattox et al teach the user interface of claim 16, but Miller and Dunko and Filner et al don't expressly teach wherein the execution component is further configured to execute a process for creating a visual representation in response to execution of the nascent card, wherein the process for creating a visual representation includes acts of: transitioning to a quick access view; generating a mapping to online digital content; executing the mapping; and displaying a first view of the mapped digital content.

Mattox et al teaches wherein the execution component is further configured to execute a process for creating a visual representation in response to execution of the nascent card, wherein the process for creating a visual representation includes acts of:

transitioning to a quick access view ***(i.e. selecting the Create Page list item in FIG. 3A to create a new page, which displays the configuration page of FIG. 3B)***;

generating a mapping to online digital content ***(i.e. configuring or designing the portal (FIG. 3B, 3E, 3F and column 6 lines 55-64))***;

executing the mapping; and displaying a first view of the mapped digital content ***(i.e. displaying the new page (FIG. 3C, 3D, 3G, 3H, 3I, 3J and column 7 lines 5-7))***.

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention is made to add the teachings of Mattox et al to use a nascent card, because doing so would provide an easy way for the user to create new content cards.

Claims 19-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Miller in view of Dunko, and further in view of Nishiyama et al (U.S. Patent Application 20050221865).

Re claim 19, Miller and Dunko teach the user interface of claim 1. Miller further teaches wherein the plurality of views includes a channel view that displays a sequence of visual representations ***(i.e. presenting a list of online games (page 8), online content like streaming movies, TV and music (page 9-11). The user can select any of the games or movies in the list (page 8, 9))***.

Miller and Dunko don't expressly teach a channel selector.

Nishiyama et al teaches a channel selector ***(i.e. a scroll wheel that can select between functions (FIG. 8 and abstract, par. 29))***.

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention is made to add the teachings of Nishiyama et al to use a scroll wheel as input device to navigate the content on the screen, because the scroll wheel is a popular input device for portable devices.

Re claim 20, Miller and Dunko and Nishiyama et al teach the user interface of claim 19. Miller further teaches transition the computer system to the channel view in response to receiving user input via at least one input device integral to or operatively connected

with the computer system ***(i.e. each content category on the Start screen can be selected by clicking on it: for example from the Media Center Start screen select My Pictures (page 5))***.

Re claim 21, Miller teaches a customized user interface to display computer content on a display component of a computer system ***(i.e. the Windows Media Center portal presents to the user a streamlined interface with only a handful of important options (page 3))***, the user interface comprising:

a graphical user interface ***(i.e. display (FIG. 8.2))***, configured to display a plurality of views of a plurality of visual representations of the computer content ***(i.e. Windows Media Center presents a plurality of views of content: the Start screen displays all the categories (page 3), whereas other views display one category like "Online Spotlight", which displays online content (page 6))***;

receive user input via at least one input device integral to or operatively connected with the computer system ***(i.e. each content category on the Start screen can be selected by clicking on it (page 5))***; and

transition, automatically in response to receiving the user input, the display component from one of the first content view and the second content view ***(i.e. each content category on the Start screen can be selected by clicking on it: for example from the Media Center Start screen select My Pictures (page 5))*** to a channel view that displays a sequence of visual representations ***(i.e. presenting a list***

of online games (page 8), online content like streaming movies, TV and music (page 9-11)).

Miller does not expressly teach at least one processor operatively coupled to a memory of the computer system;

an execution component, executing on the at least one processor, configured to:

identify at least a first and a second computer system configuration based on sensor input indicating a position of the display component;

select, responsive to the sensor input, a first content view from the plurality of views for the first computer system configuration;

transition, automatically in response to the sensor input, the display component between at least the first content view of the plurality of views and a second content view of the plurality of views.

Dunko teaches at least one processor operatively coupled to a memory of the computer system ***(i.e. processor (FIG. 1 and par. 24))***;

an execution component, executing on the at least one processor, configured to:

identify at least a first and a second computer system configuration based on sensor input indicating a position of the display component ***(i.e. an orientation sensing mechanism senses whether the portable mobile communications device is currently in a portrait or landscape orientation (FIG. 9 step 910 and par. 8))***;

select, responsive to the sensor input, a first content view from the plurality of views for the first computer system configuration ***(i.e. and determines which mode of***

operation is the default mode for the sensed orientation of the portable mobile communications device (FIG. 9 step 915 and par. 8));

transition, automatically in response to the sensor input, the display component between at least the first content view of the plurality of views and a second content view of the plurality of views ***(i.e. the GUI is then reconfigured for the default mode of operation (FIG. 9 step 915 and par. 8). Various modes of operation are phone mode (default for portrait orientation), gaming mode (default for landscape orientation), camera mode, music player mode, web browser mode and email mode (FIG. 8 and par. 10))***;

receive user input via at least one input device integral to or operatively connected with the computer system ***(i.e. in manual mode the user selects a mode from the list of modes (FIG. 9 step 940 and par. 37))***; and

transition, automatically in response to receiving the user input, the display component from one of the first content view and the second content view to a third content view ***(i.e. the GUI is then reconfigured to the selected mode (FIG. 9 step 945 and par. 37)).***

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention is made to add the teachings of Dunko to switch computer configurations based on device orientation, because doing so would allow the portable mobile communications device to automatically reconfigure itself for a different mode of operation without the user having to delve into the intricacies of the user interface to manipulate the functions ***(par. 7)***.

Miller and Dunko don't expressly teach a channel selector.

Nishiyama et al teaches a channel selector ***(i.e. a scroll wheel that can select between functions (FIG. 8 and abstract, par. 29)).***

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention is made to add the teachings of Nishiyama et al to use a scroll wheel as input device to navigate the content on the screen, because the scroll wheel is a popular input device for portable devices.

Re claim 22, Miller and Dunko and Nishiyama et al teach the user interface of claim 21, but Miller and Dunko don't expressly teach at least one of a scroll wheel, a touchpad, and a mouse.

Nishiyama et al teaches at least one of a scroll wheel, a touchpad, and a mouse ***(i.e. a scroll wheel that can select between functions (FIG. 8 and abstract, par. 29))***.

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention is made to add the teachings of Nishiyama et al to use a scroll wheel as input device, because a scroll wheel is a popular input device for portable devices.

Conclusion

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to CLAUDIA DRAGOESCU whose telephone number is 571-270-7966. The examiner can normally be reached on Monday-Friday 9AM-5PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amy Ng can be reached on 571-270-1698. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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/CLAUDIA DRAGOESCU/
Primary Examiner, Art Unit 2141
April 13, 2017

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT
(Not for submission under 37 CFR 1.99)

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First Named Inventor	Yves Behar
Art Unit	2143
Examiner Name	J. N. To
Attorney Docket Number	L2039-700421

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	14680422
	Filing Date	2015-04-07
	First Named Inventor	Yves Behar
	Art Unit	2143
	Examiner Name	J. N. To
	Attorney Docket Number	L2039-700421

CERTIFICATION STATEMENT

Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):

☐ That each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(1).

OR

☐ That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(2).

☐ See attached certification statement.

☐ The fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

☒ A certification statement is not submitted herewith.

SIGNATURE

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature	/Marcus E. Browne/	Date (YYYY-MM-DD)	2015-11-10
Name/Print	Marcus E. Browne	Registration Number	71897

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 1 hour to complete, including gathering, preparing and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

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2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.

3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.

4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).

5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.

6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).

7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.

8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspections or an issued patent.

9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

FORM PTO-1449/A and B (modified PTO/SB/08)				APPLICATION NO.: 14/680,422	ATTY. DOCKET NO.: L2039.70004US03
INFORMATION DISCLOSURE STATEMENT BY APPLICANT				FILING DATE: April 07, 2015	CONFIRMATION NO.: 5691
				FIRST NAMED INVENTOR: Yves Behar	
Sheet	1	of	1	GROUP ART UNIT: 2141	EXAMINER: Claudia B. Dragoescu

U.S. PATENT DOCUMENTS

Examiner's Initials #	Cite No.	U.S. Patent Document		Name of Patentee or Applicant of Cited Document	Date of Publication or Issue of Cited Document MM-DD-YYYY
		Number	Kind Code		
		9,563,229		Behar et al.	02-07-2017

FOREIGN PATENT DOCUMENTS

Examiner's Initials #	Cite No.	Foreign Patent Document			Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Translation (Y/N)
		Office/ Country	Number	Kind Code			
		EP	1316877	A1	Nokia Corp	06-04-2003	

OTHER ART – NON PATENT LITERATURE DOCUMENTS

Examiner's Initials #	Cite No	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	Translation (Y/N)
		European Examination Report dated January 17, 2017 in connection with European Application No. 09755433.1 (L2039.70004EP00).	

[NOTE – No copies of U.S. patents, published U.S. patent applications, or pending, unpublished patent applications stored in the USPTO's Image File Wrapper (IFW) system, are included. See 37 CFR § 1.98 and 1287OG163. Copies of all other patent(s), publication(s), unpublished, pending U.S. patent applications, or other information listed are provided as required by 37 CFR § 1.98 unless 1) such copies were provided in an IDS in an earlier application that complies with 37 CFR § 1.98, and 2) the earlier application is relied upon for an earlier filing date under 35 U.S.C. § 120.]

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /C.D./

EXAMINER: /CLAUDIA B DRAGOESCU/	DATE CONSIDERED: 04/13/2017

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.

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United States Patent and Trademark Office
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BIB DATA SHEET

CONFIRMATION NO. 5691

SERIAL NUMBER	FILING or 371(c) DATE	CLASS	GROUP ART UNIT	ATTORNEY DOCKET NO.
14/680,422	04/07/2015 RULE	715	2141	L2039.70004US03

APPLICANTS

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INVENTORS

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John H. Chuang, Brookline, MA;
Chris Bambacus, Framingham, MA;
Bart Haney, Boston, MA;
Logan Ray, Boston, MA;
Serge Beaulieu, San Francisco, CA;

**** CONTINUING DATA ***************************

This application is a CON of 12/416,496 04/01/2009 PAT 9003315
which is a CIP of 12/170,939 07/10/2008 PAT 8289688
which claims benefit of 61/041,365 04/01/2008
and said 12/416,496 04/01/2009
is a CIP of 12/170,951 07/10/2008 PAT 8624844
which claims benefit of 61/041,365 04/01/2008
and said 12/416,496 04/01/2009
claims benefit of 61/041,365 04/01/2008

**** FOREIGN APPLICATIONS ***************************

**** IF REQUIRED, FOREIGN FILING LICENSE GRANTED ****

04/17/2015

Foreign Priority claimed ☐ Yes ☑ No 35 USC 119(a-d) conditions met ☐ Yes ☐ No Verified and Acknowledged /CLAUDIA B DRAGOESCU/ Examiner's Signature	☐ Met after Allowance Initials	STATE OR COUNTRY	SHEETS DRAWINGS	TOTAL CLAIMS	INDEPENDENT CLAIMS
		CA	56	18	2

ADDRESS

WOLF GREENFIELD & SACKS, P.C.
600 ATLANTIC AVENUE

Index of Claims	Application/Control No.	Applicant(s)/Patent Under Reexamination
	14680422	BEHAR ET AL.
	Examiner	Art Unit
	CLAUDIA DRAGOESCU	2141

✓	Rejected	-	Cancelled	N	Non-Elected	A	Appeal
=	Allowed	÷	Restricted	I	Interference	O	Objected

☐ Claims renumbered in the same order as presented by applicant ☐ CPA ☐ T.D. ☐ R.1.47

CLAIM		DATE								
Final	Original	04/13/2017								
	1	✓								
	2	-								
	3	-								
	4	-								
	5	-								
	6	✓								
	7	✓								
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	9	✓								
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	18	✓								
	19	✓								
	20	✓								
	21	✓								
	22	✓								

EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
S260	1	14/680422.app.	US-PGPUB; USPAT	OR	ON	2017/04/04 15:29
S262	51	S261 and portal.AB,TI.	US-PGPUB; USPAT	OR	ON	2017/04/04 17:55
S261	5612	(Yahoo).as.	US-PGPUB; USPAT	OR	ON	2017/04/04 17:55
S264	403	(yves near behar).in.	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/04/04 18:29
S263	259	(yves near behar).in.	US-PGPUB; USPAT	OR	ON	2017/04/04 18:29
S266	1	"20080059888".pn. and (rotat$3 landscape portrait orient$7).BI.	US-PGPUB; USPAT	OR	ON	2017/04/06 13:05
S267	1	"20080059888".pn. and (user same (chang$3 rotat$3) same (landscape portrait orient$7)).BI.	US-PGPUB; USPAT	OR	ON	2017/04/06 13:07
S268	1	14/680422.app.	US-PGPUB; USPAT	OR	ON	2017/04/06 18:59
S270	26	S269 and (search$3 near engine).BI.	US-PGPUB; USPAT	OR	ON	2017/04/06 19:39
S269	176	(US-20040001049-$ or US-20050221865-$ or US-20050210399-$ or US-20100174993-$ or US-20050257400-$ or US-20060230021-$ or US-20020049655-$ or US-20080077614-$ or US-20020165846-$ or US-20050182742-$ or US-20090187837-$ or US-20070028270-$ or US-20070028268-$ or US-20070028267-$ or US-20070028183-$ or US-20080163127-$ or US-20060224575-$ or US-20060224962-$ or US-20110191163-$ or US-20080052637-$ or US-20080168387-$ or US-20070098350-$ or US-20050097007-$ or US-20090113307-$ or US-20090113310-$ or US-20070127642-$).did. or (US-20090063502-$ or US-20040167896-$ or US-20070124701-$ or US-20080168495-$ or US-20090144157-$ or US-20020095387-$ or US-20060026213-$ or US-20100131977-$ or US-20090327222-$ or US-20060264243-$ or US-20080024465-$ or US-20060209022-$ or US-20060112351-$ or US-20080168404-$	US-PGPUB; USPAT; JPO; DERWENT	OR	ON	2017/04/06 19:39

or US-20070103454-$ or US-20080168367-$ or US-20090307633-$ or US-20070155434-$ or US-20080168382-$ or US-20060238439-$ or US-20050083642-$ or US-20070240076-$ or US-20030074416-$ or US-20080022229-$ or US-20040064471-$ or US-20060277477-$ or US-20080134093-$).did. or (US-20070124693-$ or US-20060212806-$ or US-20090150826-$ or US-20090204920-$ or US-20060085743-$ or US-20050216850-$ or US-20050243019-$ or US-20100091025-$ or US-20100064536-$ or US-20100060664-$ or US-20100064244-$ or US-20100066643-$ or US-20100079355-$ or US-20100085274-$ or US-20100085382-$ or US-20110126141-$ or US-20110216064-$ or US-20080140868-$ or US-20080045207-$ or US-20070279315-$ or US-20040209230-$ or US-20030120750-$ or US-20110246871-$ or US-20110169749-$ or US-20120008270-$ or US-20120223892-$ or US-20090037825-$).did. or (US-20100134409-$ or US-20090213035-$ or US-20120062475-$ or US-20120169618-$ or US-20090091542-$ or US-20070046630-$ or US-20050093868-$ or US-20090265627-$ or US-20090303676-$ or US-20080224948-$ or US-20090023395-$ or US-20060017692-$ or US-20080174570-$ or US-20070075127-$ or US-20050020325-$ or US-20090109213-$ or US-20040012627-$ or US-20120233565-$ or US-20100081475-$ or US-20080204424-$ or US-20080119237-$ or US-20060085384-$ or US-20050085273-$ or US-20050125570-$ or US-20080020744-$ or US-20080092054-$ or US-20080059888-$).did. or (US-20050091596-$ or US-20040212602-$ or US-20040207568-$ or US-20090019383-$ or US-20150277688-$ or US-20090322790-$ or US-20090300511-$ or US-20090244012-$ or US-20050206615-$ or US-20150332425-$ or US-20170090699-$).did. or (US-6661426-$ or US-7467356-$ or US-7178111-$ or US-7958441-$ or US-7149960-$ or US-7925968-$ or US-7698407-$ or US-7987421-$ or US-5796575-$ or US-6295038-$ or US-7958042-$ or US-7765493-$ or US-7359863-$ or US-7904373-$ or US-6341061-$ or US-5926364-$ or US-7035665-$ or US-6437974-$ or US-6144358-$ or US-5436954-$ or US-6492974-$ or US-6882335-$ or US-7869834-$ or US-

		6275829-$ or US-7703013-$ or US-8122372-$).did. or (US-7814425-$ or US-6693652-$ or US-7380116-$ or US-6282646-$ or US-5682529-$ or US-8040233-$ or US-8253654-$ or US-7747970-$ or US-7782274-$ or US-7932882-$ or US-7307668-$ or US-7564425-$ or US-7081886-$ or US-7310082-$ or US-7532196-$ or US-8599106-$ or US-8600446-$ or US-5758267-$ or US-7634300-$ or US-8037121-$ or US-6833827-$ or US-7366994-$ or US-6097389-$ or US-5847698-$).did. or (JP-2006227409-$ or JP-2004302179-$ or JP-06242853-$ or JP-06259166-$ or JP-2005242436-$).did. or (US-20090322790-$ or US-20040228076-$ or US-20050210399-$).did.				
S271	76	S269 and (search$3).BI.	US-PGPUB; USPAT	OR	ON	2017/04/06 19:41
S272	2	12/416496.app.	US-PGPUB; USPAT	OR	ON	2017/04/07 09:14
S273	7	12/416496.app. 12/416479.app. 13/651636.app. 14/108576.app.	US-PGPUB; USPAT	OR	ON	2017/04/07 09:53
S274	11642	((web internet) and portal).AB,TI.	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/04/07 10:42
S275	103101	((chang$3 updat$3 rotat$3) with (configur$5 orient$5) with (aspect view GUI UI)).BI.	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/04/07 10:43
S276	9	((chang$3 updat$3 rotat$3) with (configur$5 orient$5) with (aspect view GUI UI) with (home near (view page screen)) with (detail channel near (view screen tile page))).BI.	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/04/07 10:44
S277	58	((chang$3 updat$3 rotat$3) same (configur$5 orient$5) same (aspect view GUI UI) same (home near10 (view page screen)) same ((detail$3 channel) near10 (view screen tile page))).BI.	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/04/07 10:45
S278	1343	((chang$3 updat$3 rotat$3) same (configur$5 orient$5) same (aspect view GUI UI page screen tile) same (home portal landing) same (detail$3 channel)).BI.	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/04/07 10:46
S279	35	S274 and S278	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/04/07 10:47

S282	4382	((web internet) near portal).AB,TI.	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/04/07 10:49
S281	8727	((web internet) with portal).AB,TI.	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/04/07 10:49
S280	112	S278 AND ((G06F3/04842 OR G06F3/0482 OR G06F3/0484 OR G06F3/04817 OR G06F3/04847 OR G06F3/0481).CPC.)	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/04/07 10:49
S285	282	S283 and (@ad<"20080401")	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/04/07 10:51
S284	14	S280 and (@ad<"20080401")	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/04/07 10:51
S283	481	S282 AND ((G06F17/3089 OR G06F17/30873 OR G06F17/30867 OR G06F17/30864 OR G06F17/30899 OR G06F17/2247).CPC.)	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/04/07 10:51

EAST Search History (Interference)

<This search history is empty>

4/13/2017 4:40:30 PM
C:\Users\cdragoescu\Documents\EAST\Workspaces\12416496.wsp

FORM PTO-1449/A and B (modified PTO/SB/08)	APPLICATION NO.: 14/680,422	ATTY. DOCKET NO.: L2039.70004US03
INFORMATION DISCLOSURE STATEMENT BY APPLICANT	FILING DATE: April 07, 2015	CONFIRMATION NO.: 5691
	FIRST NAMED INVENTOR: Yves Behar	
Sheet 1 of 2	GROUP ART UNIT: 2141	EXAMINER: Amy Ng

U.S. PATENT DOCUMENTS

Examiner's Initials #	Cite No.	U.S. Patent Document Number	U.S. Patent Document Kind Code	Name of Patentee or Applicant of Cited Document	Date of Publication or Issue of Cited Document MM-DD-YYYY
		5,661,632		Register	08-26-1997
		5,708,561		Huilgol et al.	01-13-1998
		6,137,468		Martinez	10-24-2000
		6,154,359		Kamikakai et al.	11-28-2000
		6,493,216		Lin	12-10-2002
		6,597,384		Harrison	07-22-2003
		7,148,877		Chang et al.	12-12-2006
		7,164,432		Amemiya	01-16-2007
		7,187,364		Duarte et al.	03-06-2007
		7,433,179		Hisano et al.	10-07-2008
		8,300,022		Brenneman	10-30-2012
		8,464,161		Giles et al.	06-11-2013
		9,003,315		Behar et al.	04-07-2015
		9,495,070		Pennington et al.	11-15-2016
		2005-0093868	A1	Hinckley	05-05-2005
		2007-0120762	A1	O'Gorman	05-31-2007
		2007-0296820	A1	Lonn	12-27-2007
		2008-0088602	A1	Hotelling	04-17-2008
		2009-0007001	A1	Morin et al.	01-01-2009
		2009-0150784	A1	Denney et al.	06-11-2009
		2009-0249244	A1	Robinson et al.	10-01-2009
		2009-0303205	A1	Seibert	12-10-2009

FOREIGN PATENT DOCUMENTS

Examiner's Initials #	Cite No.	Foreign Patent Document Office/ Country	Foreign Patent Document Number	Foreign Patent Document Kind Code	Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Translation (Y/N)
		GB	2321982	A	Fujitsu ICL Computers OY	08-12-1998	
		WO	95/24007	A1	Lane	09-08-1995	

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /C.D./

EXAMINER:	DATE CONSIDERED:
/CLAUDIA B DRAGOESCU/	04/13/2017

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.

FORM PTO-1449/A and B (modified PTO/SB/08)				APPLICATION NO.: 14/680,422	ATTY. DOCKET NO.: L2039.70004US03
INFORMATION DISCLOSURE STATEMENT BY APPLICANT				FILING DATE: April 07, 2015	CONFIRMATION NO.: 5691
				FIRST NAMED INVENTOR: Yves Behar	
Sheet	2	of	2	GROUP ART UNIT: 2141	EXAMINER: Amy Ng

OTHER ART – NON PATENT LITERATURE DOCUMENTS

Examiner's Initials #	Cite No	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	Translation (Y/N)
		International Preliminary Report on Patentability mailed October 14, 2010 for International Application No. PCT/US2009/039117 (L2039.70004WO00).	
		International Search Report and Written Opinion for International Application No. PCT/US2009/038599 dated June 03, 2009 (L2039.70001WO00).	
		European Examination Report dated November 22, 2016 in connection with European Application No. 09727165.4 (L2039.70001EP00).	
		Extended European Search Report mailed April 05, 2011 in connection with European Application No. 09755433.1 (L2039.70004EP00).	
		Chinese Office Action mailed July 18, 2013 in connection with Chinese Application No. 200980117859.8 (L2039.70001CN00).	
		European Communication dated November 23, 2015 in connection to European Application No. 09727165.4 (L2039.70001EP00).	
		Japanese Office Action mailed April 16, 2013 in connection with Japanese Application No. 2011-503058 (L2039.70001JP00).	
		Japanese Office Action mailed December 4, 2012 in connection with Japanese Application No. 2011-503058 and partial English translation thereof (L2039.70001JP00).	
		Office Action dated June 7, 2012, for Application No. 12/170,951 (L2039.70001US02).	
		Office Action L2039-700111 dated April 4, 2011, for Application No. 12/170,951 (L2039.70001US02).	

[NOTE – No copies of U.S. patents, published U.S. patent applications, or pending, unpublished patent applications stored in the USPTO's Image File Wrapper (IFW) system, are included. See 37 CFR § 1.98 and 1287OG163. Copies of all other patent(s), publication(s), unpublished, pending U.S. patent applications, or other information listed are provided as required by 37 CFR § 1.98 unless 1) such copies were provided in an IDS in an earlier application that complies with 37 CFR § 1.98, and 2) the earlier application is relied upon for an earlier filing date under 35 U.S.C. § 120.]

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /C.D./

EXAMINER:	DATE CONSIDERED:
/CLAUDIA B DRAGOESCU/	04/13/2017

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.

Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
	14680422	BEHAR ET AL.
	Examiner	Art Unit
	CLAUDIA DRAGOESCU	2141

CPC- SEARCHED		
Symbol	Date	Examiner
G06F 3/0481-04847 17/2247-3089	4/7/17	CD

CPC COMBINATION SETS - SEARCHED		
Symbol	Date	Examiner

US CLASSIFICATION SEARCHED			
Class	Subclass	Date	Examiner

SEARCH NOTES		
Search Notes	Date	Examiner
Performed inventor name and assignee search	4/4/17	CD
Performed EAST CPC class search	4/7/17	CD
Performed EAST keyword search	4/4-7/17	CD

INTERFERENCE SEARCH			
US Class/ CPC Symbol	US Subclass / CPC Group	Date	Examiner

Docket No.: L2039.70004US03
(PATENT)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

First Named Inventor:	Yves Behar
Application No.:	14/680,422
Confirmation No.:	5691
Filed:	April 7, 2015
For:	SYSTEM AND METHOD FOR STREAMLINING USER INTERACTION WITH ELECTRONIC CONTENT
Examiner:	J. N. To
Art Unit:	2143

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I hereby certify that this paper (along with any paper referred to as being attached or enclosed) is being transmitted via the Office's electronic filing system in accordance with 37 CFR § 1.6(a)(4).

Dated: August 18, 2017 Electronic Signature for: /Eileen M. MacKenzie/

AMENDMENT IN RESPONSE TO NON-FINAL OFFICE ACTION UNDER 37 C.F.R. § 1.111

Mail Stop Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

INTRODUCTORY COMMENTS

In response to the Office Action dated April 19, 2017, please amend the above-identified U.S. patent application as follows:

Amendments to the Claims are reflected in the listing of claims which begins on page 2 of this paper.

Remarks/Arguments begin on page 7 of this paper.

AMENDMENTS TO THE CLAIMS

Applicant submits below a complete listing of the current claims, including marked-up claims with insertions indicated by underlining and deletions indicated by strikeouts and/or double bracketing. This listing of claims replaces all prior versions, and listings, of claims in the application.

Listing of Claims:

1. (Currently Amended) A customized user interface to display computer content on a display component of a computer system including a keyboard, the user interface comprising:

at least one processor operatively connected to a memory of the computer system;

a graphical user interface, executing on the at least one processor, configured to display the computer content on the display component of the computer system, the graphical user interface configured to:

display a plurality of views of a plurality of visual representations of computer content, wherein the computer content includes at least one of selectable digital content, selectable computer operations and passive digital content;

an execution component, executing on the at least one processor, configured to:

detect a current computer system configuration from at least a first computer system configuration where the keyboard is operable to receive input from an operator of the computer system to control the computer system and a second computer system configuration where the keyboard is inoperable to receive input from the operator of the computer system to control the computer system;

select one of the plurality of views for display on the computer system in response to the detected current computer system configuration; and

transition the display component to the selected one of the plurality of views.

2-5. (Canceled)

6. (Previously Presented) The user interface of claim 1, wherein in the plurality of views includes a home view configured to organize a plurality of content modes and a channel view configured to organize at least one of a single content mode and two content modes.

7. (Previously Presented) The user interface of claim 1, wherein the plurality of views includes a screen saver view configured to organize selected content modes for passive viewing.

8. (Previously Presented) The user interface of claim 1, wherein the plurality of views includes a home view organizing a plurality of visual representations of digital content, wherein the home view comprises a header display and a body display, and wherein the header display comprises a lateral frame extending from the left of the display component to the right of the display component, wherein the body display is rendered below the header display in the display component of the computer system.

9. (Currently Amended) The user interface of claim 8, wherein the computer system configuration comprises a physical positioning of a computer system display relative to a base of the computer system that includes the keyboard about a longitudinal axis of rotation.

10. (Previously Presented) The user interface of claim 8, wherein the graphical user interface is further configured to display a search tool displayed in the header display, wherein the search tool is configured to accept search terms entered by a user and in response to execution, causes the computer system to navigate to a view of a first visual representation of digital content, wherein the digital content includes a search engine, and the search engine presents results for the search terms.

11. (Original) The user interface of claim 1, further comprising a storage component configured to retain a previous view state.

12. (Original) The user interface of claim 11, wherein the execution component is further configured to cause the computer system to transition to a previous view in response to execution of a navigation element by a user.

13. (Previously Presented) The user interface of claim 11, further comprising the navigation element displayed in a header display.

14. (Original) The user interface of claim 8, wherein the body display comprises an organization of the plurality of visual representations of computer content rendered on the computer display, and the home view further comprises display pages in response to a display threshold establishing a maximal number of visual representations displayed per display page.

15. (Original) The user interface of claim 14, wherein the home view further comprises an indication of visual representations displayed on adjacent display pages of the home view, wherein the indication is displayed within the body of the home view.

16. (Previously Presented) The user interface of claim 8, wherein the graphical user interface is further configured to display a nascent card in the home view, wherein the nascent card is configured to permit generation of additional visual representations of digital content.

17. (Original) The user interface of claim 16, wherein the execution component is further configured to execute a process for creating a visual representation in response to execution of the nascent card, wherein the process for creating a visual representation includes acts of:

transitioning to a quick access view;

generating a mapping to online digital content;

executing the mapping; and

displaying a first view of the mapped digital content.

18. (Previously Presented) The user interface of claim 1, wherein the plurality of views includes a quick access view configured to permit user generation of a mapping between digital content and a visual representation.

19. (Previously Presented) The user interface of claim 1, wherein the plurality of views includes a channel view including a channel selector that displays a sequence of visual representations.

20. (Previously Presented) The user interface of claim 19, wherein the execution component is further configured to transition the computer system to the channel view in response to receiving user input via at least one input device integral to or operatively connected with the computer system.

21. (Currently Amended) A customized user interface to display computer content on a display component of a computer system including a keyboard, the user interface comprising:

at least one processor operatively coupled to a memory of the computer system;

a graphical user interface, executing on at least one processor, configured to display a plurality of views of a plurality of visual representations of the computer content;

an execution component, executing on the at least one processor, configured to:

identify at least a first computer system configuration where the keyboard is operable to receive input from an operator of the computer system to control the computer system and a second computer system configuration where the keyboard is inoperable to receive input from the operator of the computer system to control the computer system based on sensor input indicating a position of the display component;

select, responsive to the sensor input, a first content view from the plurality of views for the first computer system configuration;

transition, automatically in response to the sensor input, the display component between at least the first content view of the plurality of views and a second content view of the plurality of views;

receive user input via at least one input device integral to or operatively connected with the computer system; and

transition, automatically in response to receiving the user input, the display component from one of the first content view and the second content view to a channel view including a channel selector that displays a sequence of visual representations.

22. (Previously Presented) The user interface of claim 21, wherein the at least one input device includes at least one of a scroll wheel, a touchpad, and a mouse.

23. (New) The user interface of claim 1, wherein the first mode is a laptop mode where the keyboard is oriented to be accessible to the operator and wherein the second mode is an easel mode or a frame mode where the keyboard is oriented to be inaccessible to the operator.

24. (New) A customized user interface to display computer content on a display component of a computer system including a keyboard, the user interface comprising:

at least one processor operatively connected to a memory of the computer system;

a graphical user interface, executing on the at least one processor, configured to display the computer content on the display component of the computer system, the graphical user interface configured to:

display a plurality of views of a plurality of visual representations of computer content, wherein the computer content includes at least one of selectable digital content, selectable computer operations and passive digital content;

an execution component, executing on the at least one processor, configured to:

detect a current computer system configuration from at least a first computer system configuration where the keyboard is positioned to receive input from an operator of the computer system and a second computer system configuration where the keyboard is not positioned to receive input from the operator of the computer system;

select one of the plurality of views for display on the computer system in response to the detected current computer system configuration; and

transition the display component to the selected one of the plurality of views.

REMARKS

In response to the Office Action mailed April 19, 2017, Applicant respectfully requests reconsideration in view of the amendments and the following remarks. Claims 1 and 6-22 were previously pending in this application. Claims 1, 9, and 21 have been amended. New claims 23 and 24 have been added. As a result, claims 1 and 6-24 are pending for examination with claims 1, 21, and 24 being in independent form. No new matter has been added.

Support for these amendments is provided at, for example, Paragraphs [0122]-[0130], and [0134] and FIGs. 26, 27, and 52A-52C of the Specification as Originally Published (2015/0277688).

DOUBLE PATENTING REJECTION

The Office Action rejected claims 1-22 on the ground of nonstatutory double patenting as purportedly being unpatentable over claims 1-20 of U.S. Patent No. 9,003,315. Without acceding to the propriety of the double patenting rejection, a terminal disclaimer is filed herewith to remove the rejection. Accordingly, withdrawal of the double patenting rejection is respectfully requested.

REJECTIONS UNDER 35 U.S.C. § 103

Claims 1, 6-7 and 18 are rejected 35 U.S.C. § 103(a) as being unpatentable over "Creating a Digital Home Entertainment System with Windows Media Center" by Miller, 2006 (hereinafter "Miller") in view of U.S. Publication No. 2008/0059888 to Dunko (hereinafter "Dunko"). Claims 8, 14 and 15 are rejected 35 U.S.C. § 103(a) as being unpatentable over Miller in view of Dunko and further in view of U.S. Patent Publication No. 2005/0210399 to Filner et al. (hereinafter "Filner"). Claim 9 is rejected under 35 U.S.C. 103 §(a) as being unpatentable over Miller in view of Dunko and in view of Filner and further in view of U.S. Publication No. 2004/0001049 to Oakley (hereinafter Oakley). Claims 11-13 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Miller in view of Dunko and further in view of U.S. Patent No. 7,698,407 to Mattox et al. (hereinafter "Mattox"). Claims 10, 16 and 17 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Miller in view of Dunko and in view of Filner and further in view of Mattox. Claims 19-22 are rejected under 35 U.S.C. § 103(a) as being patentable over Miller in view of

Dunko and further in view of U.S. Patent Publication No. 2005/0221865 to Nishiyama et al. (hereinafter "Nishiyama"). In response, Applicant has amended independent claims 1 and 21 and respectfully requests consideration in view of the foregoing amendments and the following remarks.

Claim 1, as amended, is directed to "[a] customized user interface to display computer content on a display component of a computer system including a keyboard." The user interface includes "a graphical user interface" that is "configured to: ... detect a current computer system configuration from at least ***a first computer system configuration where the keyboard is operable to receive input from an operator of the computer system to control the computer system*** and ***a second computer system configuration where the keyboard is inoperable to receive input from the operator of the computer system to control the computer system***." The cited references fail to teach at least these limitations.

Claim 21, as amended, is directed to "[a] customized user interface to display computer content on a display component of a computer system including a keyboard." The user interface includes "an execution component, executing on the at least one processor, configured to: identify at least ***a first computer system configuration where the keyboard is operable to receive input from an operator of the computer system to control the computer system*** and ***a second computer system configuration where the keyboard is inoperable to receive input from the operator of the computer system to control the computer system*** based on sensor input indicating a position of the display component." The cited references fail to teach at least these limitations.

A. Discussion of Cited References

Miller discloses a guide for Windows Media Center to assist users "determin[e] which type of Media Center PC to buy, or with connecting and configuring the Media Center PC in your home theater system." (see, e.g., p. 1, Overview).

Dunko is directed to "[a] system and method... for reconfiguring the graphical user interface (GUI) of a mechanically vibrated touchscreen display associated with a portable mobile communications device that is operable in a variety of modes" (see, e.g., Abstract). Dunko discloses a device that, when "operating in automatic mode" uses an "orientation sensing application [to] cause[] the mechanically vibrated touch screen display to render the graphical user

interface (GUI) for the default mode or application associated with the currently sensed orientation (portrait or landscape)" (see, e.g., Paragraph [0036]).

Nishiyama is directed to "[a] portable radio telephone set provided with a display section includes a rotary selector which rotates to select various functions" (see, e.g., Abstract). Nishiyama discloses "[a] menu displayed on the display section [that] is selected by the rotary selector during a non-conversation time, and the sound volume can be adjusted during the conversation time" (see, e.g., Abstract).

B. Independent claim 1 patently distinguishes over Miller and Dunko

Claim 1 is patentable over the combination of Miller and Dunko at least because the combination fails to teach or suggest "a graphical user interface" that is "configured to: … detect a current computer system configuration from at least ***a first computer system configuration where the keyboard is operable to receive input from an operator of the computer system to control the computer system*** and ***a second computer system configuration where the keyboard is inoperable to receive input from the operator of the computer system to control the computer system***." Rather, Miller discloses a guide for using Windows Media Center and Dunko discloses a touch screen device that identifies whether the display is in a portrait mode or a landscape mode. Consequently, the combination of Miller and Dunko fails to teach "a graphical user interface" that is "configured to: … detect a current computer system configuration from at least ***a first computer system configuration where the keyboard is operable to receive input from an operator of the computer system to control the computer system*** and ***a second computer system configuration where the keyboard is inoperable to receive input from the operator of the computer system to control the computer system***," as recited in claim 1. Accordingly, withdrawal of the rejection of claim 1, and each claim that depends therefrom, under 35 U.S.C. § 103(a) is respectfully requested.

C. Independent claim 21 patently distinguishes over Miller, Dunko, and Nishiyama

Claim 21 is patentable over the combination of Miller, Dunko, and Nishiyama at least because the combination fails to teach or suggest a "user interface" that includes "an execution component, executing on the at least one processor, configured to: identify at least ***a first computer***

system configuration where the keyboard is operable to receive input from an operator of the computer system to control the computer system and ***a second computer system configuration where the keyboard is inoperable to receive input from the operator of the computer system to control the computer system*** based on sensor input indicating a position of the display component." Rather, Miller discloses a guide for using Windows Media Center, Dunko discloses a touch screen device that identifies whether the display is in a portrait mode or a landscape mode, and Nishiyama discloses a device with a scroll wheel. Consequently, the combination of Miller, Dunko, and Nishiyama fails to teach a "user interface" that includes "an execution component, executing on the at least one processor, configured to: identify at least ***a first computer system configuration where the keyboard is operable to receive input from an operator of the computer system to control the computer system*** and ***a second computer system configuration where the keyboard is inoperable to receive input from the operator of the computer system to control the computer system*** based on sensor input indicating a position of the display component," as recited in claim 21. Accordingly, withdrawal of the rejection of claim 21, and each claim that depends therefrom, under 35 U.S.C. § 103(a) is respectfully requested.

NEWLY PRESENTED CLAIMS

Claims 23 and 24 have been added. Claim 23 depends from independent claim 1. Therefore, claim 23 is allowable for at least the same reasons discussed above with regard to independent claim 1. Claim 24 is allowable over the cited references at least because the cited references fail to teach or suggest a "an execution component, executing on the at least one processor, configured to: detect a current computer system configuration from at least a first computer system configuration where the keyboard is positioned to receive input from an operator of the computer system and a second computer system configuration where the keyboard is not positioned to receive input from the operator of the computer system," as recited in claim 24.

GENERAL COMMENTS ON DEPENDENT CLAIMS

Since each of the dependent claims depends from a base claim that is believed to be in condition for allowance, for the sake of brevity, Applicant believes that it is unnecessary at this time

to argue the further distinguishing features of the dependent claims. However, Applicant does not necessarily concur with the interpretation of the previously presented dependent claims as set forth in the Office Action, nor does Applicant concur that the basis for rejection of any of the previously presented dependent claims is proper. Therefore, Applicant reserves the right to specifically address the further patentability of the dependent claims in the future.

CONCLUSION

In view of the foregoing amendments and remarks, reconsideration is respectfully requested. This application should now be in condition for allowance; a notice to this effect is respectfully requested. If the Examiner believes, after this amendment, that the application is not in condition for allowance, the Examiner is requested to call the Applicant's attorney at the telephone number listed below.

If this response is not considered timely filed and if a request for an extension of time is otherwise absent, Applicant hereby requests any necessary extension of time. Applicant believes no fee is due with this response. However, if a fee is due, please charge Deposit Account No. 23/2825 under Docket No. L2039.70004US03 from which the undersigned is authorized to draw.

Dated: August 18, 2017

Respectfully submitted,

Electronic signature: /Marcus E. Browne/
Marcus E. Browne
Registration No.: 71,897
Matthew H. Grady
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PTO/AIA/26 (04-14)
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TERMINAL DISCLAIMER TO OBVIATE A DOUBLE PATENTING REJECTION OVER A "PRIOR" PATENT	Docket Number (Optional) L2039.70004US03

In re Application of: Yves Behar et al.

Application No.: 14/680,422-Conf. #5691

Filed: April 7, 2015

For: SYSTEM AND METHOD FOR STREAMLINING USER INTERACTION WITH ELECTRONIC CONTENT

The applicant, LiTL LLC, owner of 100 percent interest in the instant application hereby disclaims, except as provided below, the terminal part of the statutory term of any patent granted on the instant application which would extend beyond the expiration date of the full statutory term of **prior patent** No. 9,003,315 as the term of said **prior patent** is presently shortened by any terminal disclaimer. The applicant hereby agrees that any patent so granted on the instant application shall be enforceable only for and during such period that it and the **prior patent** are commonly owned. This agreement runs with any patent granted on the instant application and is binding upon the grantee, its successors or assigns.

In making the above disclaimer, the applicant does not disclaim the terminal part of the term of any patent granted on the instant application that would extend to the expiration date of the full statutory term of the **prior patent**, "as the term of said **prior patent** is presently shortened by any terminal disclaimer," in the event that said **prior patent** later:

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2. ☒ The undersigned is an attorney or agent of record. Reg. No. 71,897

/Marcus E. Browne/ — Signature
August 18, 2017 — Date

Marcus E. Browne — Typed or printed name

Agent for Applicant — Title
617.646.8000 — Telephone Number

☒ Terminal disclaimer fee under 37 CFR 1.20(d) included.

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Electronic Patent Application Fee Transmittal

Application Number:	14680422
Filing Date:	07-Apr-2015
Title of Invention:	SYSTEM AND METHOD FOR STREAMLINING USER INTERACTION WITH ELECTRONIC CONTENT
First Named Inventor/Applicant Name:	Yves Behar
Filer:	Marcus E. Browne/Eileen MacKenzie
Attorney Docket Number:	L2039.70004US03

Filed as Large Entity

Filing Fees for Utility under 35 USC 111(a)

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Extension - 1 month with $0 paid	1251	1	200	200
Miscellaneous:				
STATUTORY OR TERMINAL DISCLAIMER	1814	1	160	160
		Total in USD ($)		**360**

Electronic Acknowledgement Receipt

EFS ID:	30126942
Application Number:	14680422
International Application Number:	
Confirmation Number:	5691
Title of Invention:	SYSTEM AND METHOD FOR STREAMLINING USER INTERACTION WITH ELECTRONIC CONTENT
First Named Inventor/Applicant Name:	Yves Behar
Customer Number:	23628
Filer:	Marcus E. Browne/Eileen MacKenzie
Filer Authorized By:	Marcus E. Browne
Attorney Docket Number:	L2039.70004US03
Receipt Date:	18-AUG-2017
Filing Date:	07-APR-2015
Time Stamp:	18:18:41
Application Type:	Utility under 35 USC 111(a)

Payment information:

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Payment Type	CARD
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RAM confirmation Number	082117INTEFSW18193100
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Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Miscellaneous Incoming Letter	L203970004US03-TRN-MEB.pdf	25156 a4727a71225364f008acaa43fac4935374517752	no	1
Warnings:					
Information:					
2	Fee Worksheet (SB06)	L203970004US03-FEE-MEB.pdf	31388 ccac8a293347ebc0fcd275f3c77df1e2cae472c7	no	1
Warnings:					
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3	Extension of Time	L203970004US03-EXT-MEB.pdf	23603 c04b4446556b8dcb312dc64e1a235ea5584832ef	no	1
Warnings:					
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4		L203970004US03-AMN-MEB.pdf	59698 57e1d3cfbdf106b0a9f25df39221f69558b930da	yes	11

Multipart Description/PDF files in .zip description

Document Description	Start	End
Amendment/Req. Reconsideration-After Non-Final Reject	1	1
Claims	2	6
Applicant Arguments/Remarks Made in an Amendment	7	11

Warnings:					
Information:					
5	Terminal Disclaimer Filed	L203970004US03-TD-MEB.pdf	20731 0fa6c7cf43c566c2b6e7d08d4863a0fdbaa2ad0d	no	1

Warnings:					
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6	Fee Worksheet (SB06)	fee-info.pdf	32756 6954d8411154004a42fe97ac7bb2a1b1e46f389a	no	2
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If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

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New International Application Filed with the USPTO as a Receiving Office

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TRANSMITTAL FORM (to be used for all correspondence after initial filing)			
		Application Number	14/680,422-Conf. #5691
		Filing Date	April 7, 2015
		First Named Inventor	Yves Behar
		Art Unit	2143
		Examiner Name	J. N. To
Total Number of Pages in This Submission		Attorney Docket Number	L2039.70004US03

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[ ] Reply to Missing Parts under 37 CFR 1.52 or 1.53		

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

Firm Name	WOLF, GREENFIELD & SACKS, P.C.		
Signature	/Marcus E. Browne/		
Printed name	Marcus E. Browne		
Date	August 18, 2017	Reg. No.	71,897

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Dated: August 18, 2017 Electronic Signature for: /Eileen M. MacKenzie/

FEE TRANSMITTAL

Complete if known	
Application Number	14/680,422-Conf. #5691
Filing Date	April 7, 2015
First Named Inventor	Yves Behar
Examiner Name	J. N. To
Art Unit	2143
Practitioner Docket No.	L2039.70004US03

☐ Applicant asserts small entity status. See 37 CFR 1.27.

☐ Applicant certifies micro entity status. See 37 CFR 1.29. Form PTO/SB/15A or B or equivalent must either be enclosed or have been submitted previously.

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WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.

FEE CALCULATION

1. BASIC FILING, SEARCH, AND EXAMINATION FEES (U = undiscounted fee; S = small entity fee; M = micro entity fee)

	FILING FEES			SEARCH FEES			EXAMINATION FEES			
Application Type	**U ($)**	**S ($)**	**M ($)**	**U ($)**	**S ($)**	**M ($)**	**U ($)**	**S ($)**	**M ($)**	**Fees Paid ($)**
Utility	280	140*	70	600	300	150	720	360	180	
Design	180	90	45	120	60	30	460	230	115	
Plant	180	90	45	380	190	95	580	290	145	
Reissue	280	140	70	600	300	150	2,160	1,080	540	
Provisional	260	130	65	0	0	0	0	0	0	

* The $140 small entity status filing fee for a utility application is further reduced to $70 for a small entity status applicant who files the application via EFS-Web.

2. EXCESS CLAIM FEES

Fee Description	**Undiscounted Fee ($)**	**Small Entity Fee ($)**	**Micro Entity Fee ($)**
Each claim over 20 (including Reissues)	80	40	20
Each independent claim over 3 (including Reissues)	420	210	105
Multiple dependent claims	780	390	195

Total Claims	**Extra Claims**	**Fee ($)**	**Fee Paid ($)**
_____ - 20 or HP =	_____	x _____	= _____

HP = highest number of total claims paid for, if greater than 20.

Indep. Claims	**Extra Claims**	**Fee ($)**	**Fee Paid ($)**
_____ - 3 or HP =	_____	x _____	= _____

HP = highest number of independent claims paid for, if greater than 3.

Multiple Dependent Claims	
Fee ($)	**Fee Paid ($)**

3. APPLICATION SIZE FEE

If the specification and drawings exceed 100 sheets of paper (excluding electronically filed sequence or computer listings under 37 CFR 1.52(e)), the application size fee due is $400 ($200 for small entity) ($100 for micro entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).

Total Sheets	**Extra Sheets**	**Number of each additional 50 or fraction thereof**	**Fee ($)**	**Fee Paid ($)**
_____ - 100 =	_____ /50 =	_____ (round **up** to a whole number) x	_____	= _____

4. OTHER FEE(S)

	Fees Paid ($)
Non-English specification, $130 fee (no small or micro entity discount)	
Non-electronic filing fee under 37 CFR 1.16(t) for a utility application, $400 fee ($200 small or micro entity)	
Other (e.g., late filing surcharge): 1251 Extension for response within first month	200.00
1814 Statutory disclaimer, including terminal ...	160.00

SUBMITTED BY

Signature	/Marcus E. Browne/	Registration No. (Attorney/Agent)	71,897	Telephone	617.646.8000
Name (Print/Type)	Marcus E. Browne			Date	August 18, 2017

Certificate of Electronic Filing under 37 CFR §1.8

I hereby certify that this paper (along with any paper referred to as being attached or enclosed) is being transmitted via the Office's electronic filing system in accordance with 37 CFR § 1.6(a)(4).

Dated: August 18, 2017 Electronic Signature for: /Eileen M. MacKenzie/

PTO/AIA/22 (03-13)
Approved for use through 7/31/2016. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

PETITION FOR EXTENSION OF TIME UNDER 37 CFR 1.136(a)	Docket Number (Optional) L2039.70004US03
Application Number 14/680,422-Conf. #5691	Filed April 7, 2015
For SYSTEM AND METHOD FOR STREAMLINING USER INTERACTION WITH ELECTRONIC CONTENT	
Art Unit 2143	Examiner J. N. To

This is a request under the provisions of 37 CFR 1.136(a) to extend the period for filing a reply in the above-identified application.

The requested extension and fee are as follows (check time period desired and enter the appropriate fee below):

	Fee	Small Entity Fee	Micro Entity Fee	
[X] One month (37 CFR 1.17(a)(1))	$200	$100	$50	$ 200.00
[ ] Two months (37 CFR 1.17(a)(2))	$600	$300	$150	$
[ ] Three months (37 CFR 1.17(a)(3))	$1,400	$700	$350	$
[ ] Four months (37 CFR 1.17(a)(4))	$2,200	$1,100	$550	$
[ ] Five months (37 CFR 1.17(a)(5))	$3,000	$1,500	$750	$

[ ] Applicant asserts small entity status. See 37 CFR 1.27.

[ ] Applicant certifies micro entity status. See 37 CFR 1.29.
Form PTO/SB/15A or B or equivalent must either be enclosed or have been submitted previously.

[ ] A check in the amount of the fee is enclosed.

[X] Payment by credit card. ~~Form PTO-2038 is attached.~~

[ ] The Director has already been authorized to charge fees in this application to a Deposit Account.

[X] The Director is hereby authorized to charge any fees which may be required, or credit any overpayment, to Deposit Account Number 23/2825 .

[X] Payment made via EFS-Web.

WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.

I am the

[ ] applicant.

[X] attorney or agent of record. Registration number 71,897 .

[ ] attorney or agent acting under 37 CFR 1.34. Registration number _____ .

/Marcus E. Browne/	August 18,2017
Signature	Date
Marcus E. Browne	617.646.8000
Typed or printed name	Telephone Number

NOTE: This form must be signed in accordance with 37 CFR 1.33. See 37 CFR 1.4 for signature requirements and certifications. Submit multiple forms if more than one signature is required, see below*.

[ ] * Total of 1 forms are submitted.

Certificate of Electronic Filing under 37 CFR §1.8

I hereby certify that this paper (along with any paper referred to as being attached or enclosed) is being transmitted via the Office's electronic filing system in accordance with 37 CFR § 1.6(a)(4).

Dated: August 18, 2017 Electronic Signature for: /Eileen M. MacKenzie/

Application Number	Application/Control No.	Applicant(s)/Patent under Reexamination	
	14/680,422	BEHAR ET AL.	

Document Code - DISQ	Internal Document – DO NOT MAIL

TERMINAL DISCLAIMER	☒ APPROVED	☐ DISAPPROVED
Date Filed : 18 August, 2017	**This patent is subject to a Terminal Disclaimer**	

Approved/Disapproved by:

/CRYSTAL QUEEN/

Technology Center: PLRC

Telephone: _____

U.S. Patent and Trademark Office

PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875	Application or Docket Number 14/680,422	Filing Date 04/07/2015	☐ To be Mailed

ENTITY: ☒ LARGE ☐ SMALL ☐ MICRO

APPLICATION AS FILED – PART I

FOR	(Column 1) NUMBER FILED	(Column 2) NUMBER EXTRA	RATE ($)	FEE ($)
☐ BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A	
☐ SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A	N/A	
☐ EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	minus 20 =	*	X $ =	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*	X $ =	
☐ APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is $310 ($155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).			
☐ MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))				
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL	

APPLICATION AS AMENDED – PART II

AMENDMENT **08/18/2017**

	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	RATE ($)	ADDITIONAL FEE ($)
Total (37 CFR 1.16(i))	* 20	Minus	** 20	= 0	X $80 =	0
Independent (37 CFR 1.16(h))	* 3	Minus	***3	= 0	X $420 =	0
☐ Application Size Fee (37 CFR 1.16(s))						
☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))						
					TOTAL ADD'L FEE	0

AMENDMENT

	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	RATE ($)	ADDITIONAL FEE ($)
Total (37 CFR 1.16(i))	*	Minus	**	=	X $ =	
Independent (37 CFR 1.16(h))	*	Minus	***	=	X $ =	
☐ Application Size Fee (37 CFR 1.16(s))						
☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))						
					TOTAL ADD'L FEE	

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.
** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".
*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".
The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.

LIE
MYRTLE LEIGH

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

NOTICE OF ALLOWANCE AND FEE(S) DUE

23628 7590 09/22/2017
WOLF GREENFIELD & SACKS, P.C.
600 ATLANTIC AVENUE
BOSTON, MA 02210-2206

EXAMINER
DRAGOESCU, CLAUDIA B

ART UNIT	PAPER NUMBER
2141	

DATE MAILED: 09/22/2017

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
14/680,422	04/07/2015	Yves Behar	L2039.70004US03	5691

TITLE OF INVENTION: SYSTEM AND METHOD FOR STREAMLINING USER INTERACTION WITH ELECTRONIC CONTENT

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	UNDISCOUNTED	$960	$0	$0	$960	12/22/2017

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED. THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED. SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.

HOW TO REPLY TO THIS NOTICE:

I. Review the ENTITY STATUS shown above. If the ENTITY STATUS is shown as SMALL or MICRO, verify whether entitlement to that entity status still applies.

If the ENTITY STATUS is the same as shown above, pay the TOTAL FEE(S) DUE shown above.

If the ENTITY STATUS is changed from that shown above, on PART B - FEE(S) TRANSMITTAL, complete section number 5 titled "Change in Entity Status (from status indicated above)".

For purposes of this notice, small entity fees are 1/2 the amount of undiscounted fees, and micro entity fees are 1/2 the amount of small entity fees.

II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

IMPORTANT REMINDER: Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.

PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), to: Mail **Mail Stop ISSUE FEE**
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450
or Fax (571)-273-2885

INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

23628 7590 09/22/2017
WOLF GREENFIELD & SACKS, P.C.
600 ATLANTIC AVENUE
BOSTON, MA 02210-2206

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

Certificate of Mailing or Transmission
I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (571) 273-2885, on the date indicated below.

(Depositor's name)
(Signature)
(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
14/680,422	04/07/2015	Yves Behar	L2039.70004US03	5691

TITLE OF INVENTION: SYSTEM AND METHOD FOR STREAMLINING USER INTERACTION WITH ELECTRONIC CONTENT

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	UNDISCOUNTED	$960	$0	$0	$960	12/22/2017

EXAMINER	ART UNIT	CLASS-SUBCLASS
DRAGOESCU, CLAUDIA B	2141	715-744000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).
- ❑ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.
- ❑ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. **Use of a Customer Number is required.**

2. For printing on the patent front page, list
(1) The names of up to 3 registered patent attorneys or agents OR, alternatively,
(2) The name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed.
1 _____
2 _____
3 _____

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE (B) RESIDENCE: (CITY and STATE OR COUNTRY)

Please check the appropriate assignee category or categories (will not be printed on the patent) : ❑ Individual ❑ Corporation or other private group entity ❑ Government

4a. The following fee(s) are submitted:
- ❑ Issue Fee
- ❑ Publication Fee (No small entity discount permitted)
- ❑ Advance Order - # of Copies _____

4b. Payment of Fee(s): **(Please first reapply any previously paid issue fee shown above)**
- ❑ A check is enclosed.
- ❑ Payment by credit card. Form PTO-2038 is attached.
- ❑ The director is hereby authorized to charge the required fee(s), any deficiency, or credits any overpayment, to Deposit Account Number _____ (enclose an extra copy of this form).

5. **Change in Entity Status** (from status indicated above)
- ❑ Applicant certifying micro entity status. See 37 CFR 1.29
  NOTE: Absent a valid certification of Micro Entity Status (see forms PTO/SB/15A and 15B), issue fee payment in the micro entity amount will not be accepted at the risk of application abandonment.
- ❑ Applicant asserting small entity status. See 37 CFR 1.27
  NOTE: If the application was previously under micro entity status, checking this box will be taken to be a notification of loss of entitlement to micro entity status.
- ❑ Applicant changing to regular undiscounted fee status.
  NOTE: Checking this box will be taken to be a notification of loss of entitlement to small or micro entity status, as applicable.

NOTE: This form must be signed in accordance with 37 CFR 1.31 and 1.33. See 37 CFR 1.4 for signature requirements and certifications.

Authorized Signature _____ Date _____

Typed or printed name _____ Registration No. _____

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
14/680,422	04/07/2015	Yves Behar	L2039.70004US03	5691

23628 7590 09/22/2017

WOLF GREENFIELD & SACKS, P.C.
600 ATLANTIC AVENUE
BOSTON, MA 02210-2206

EXAMINER	
DRAGOESCU, CLAUDIA B	

ART UNIT	PAPER NUMBER
2141	

DATE MAILED: 09/22/2017

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b)
(Applications filed on or after May 29, 2000)

The Office has discontinued providing a Patent Term Adjustment (PTA) calculation with the Notice of Allowance.

Section 1(h)(2) of the AIA Technical Corrections Act amended 35 U.S.C. 154(b)(3)(B)(i) to eliminate the requirement that the Office provide a patent term adjustment determination with the notice of allowance. See Revisions to Patent Term Adjustment, 78 Fed. Reg. 19416, 19417 (Apr. 1, 2013). Therefore, the Office is no longer providing an initial patent term adjustment determination with the notice of allowance. The Office will continue to provide a patent term adjustment determination with the Issue Notification Letter that is mailed to applicant approximately three weeks prior to the issue date of the patent, and will include the patent term adjustment on the patent. Any request for reconsideration of the patent term adjustment determination (or reinstatement of patent term adjustment) should follow the process outlined in 37 CFR 1.705.

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

OMB Clearance and PRA Burden Statement for PTOL-85 Part B

The Paperwork Reduction Act (PRA) of 1995 requires Federal agencies to obtain Office of Management and Budget approval before requesting most types of information from the public. When OMB approves an agency request to collect information from the public, OMB (i) provides a valid OMB Control Number and expiration date for the agency to display on the instrument that will be used to collect the information and (ii) requires the agency to inform the public about the OMB Control Number's legal significance in accordance with 5 CFR 1320.5(b).

The information collected by PTOL-85 Part B is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450. Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

Notice of Allowability	Application No. 14/680,422	Applicant(s) BEHAR ET AL.	
	Examiner CLAUDIA DRAGOESCU	Art Unit 2141	AIA (First Inventor to File) Status No

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to *the Amendment of 8/18/17*.
   ☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on_____.
2. ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on _____; the restriction requirement and election have been incorporated into this action.
3. ☒ The allowed claim(s) is/are *1 and 6-24*. As a result of the allowed claim(s), you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see http://www.uspto.gov/patents/init_events/pph/index.jsp or send an inquiry to PPHfeedback@uspto.gov.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

   Certified copies:

   a) ☐ All b) ☐ Some *c) ☐ None of the:
   1. ☐ Certified copies of the priority documents have been received.
   2. ☐ Certified copies of the priority documents have been received in Application No. _____ .
   3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

   * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
   ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

   Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date _____
3. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
4. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____ .
5. ☒ Examiner's Amendment/Comment
6. ☒ Examiner's Statement of Reasons for Allowance
7. ☐ Other _____.

/CLAUDIA DRAGOESCU/
Primary Examiner, Art Unit 2141

DETAILED ACTION

1. The present application, filed on or after March 16, 2013, is being examined under the first inventor to file provisions of the AIA. This action is responsive to the Amendment filed on 8/18/17. Claims 1 and 6-24 are pending in the case. Claims 2-5 are cancelled.

Remarks

2. Applicant has obtained a Terminal Disclaimer against U.S. Patent 9,003,315 on 8/18/17, therefore the Double Patenting rejections of claims 1-22 is respectfully withdrawn.

Allowable Subject Matter

3. Claims 1 and 6-24 are allowed. The following is an examiner's statement of reasons for allowance: independent claims 1, 21 and 24, when considered as a whole, are allowable over the prior art of record.

Specifically, the prior art of Miller teaches the Windows Media Center portal, which presents to the user a streamlined interface with only a handful of important options. Windows Media Center presents a plurality of views of content: the Start screen displays all the categories, whereas other views display one category like “Online

Spotlight", which displays online content, songs, movies, games, photo editing and slide shows.

The prior art of Dunko teaches an orientation sensing mechanism that senses whether the portable mobile communications device is currently in a portrait or landscape orientation; and determines which mode of operation is the default mode for the sensed orientation of the portable mobile communications device. The GUI is then reconfigured for the default mode of operation. Various modes of operation are phone mode (default for portrait orientation), gaming mode (default for landscape orientation), camera mode, music player mode, web browser mode and email mode.

But the claims of the present invention recite a different combination of limitations. Claim 1 recites the following limitations that in combination with the other claim limitations are not taught by the combination of the prior art:

"display a plurality of views of a plurality of visual representations of computer content, wherein the computer content includes at least one of selectable digital content, selectable computer operations and passive digital content;

detect a current computer system configuration where the keyboard is operable to receive input from an operator of the computer system to control the computer system and a second computer system configuration where the keyboard is inoperable to receive input from the operator of the computer system to control the computer system;

select one of the plurality of views for display on the computer system in response to the detected current computer system configuration; and

transition the display component to the selected one of the plurality of views“. Claim 21 recites the following limitations that in combination with the other claim limitations are not taught by the combination of the prior art:

“identify at least a first computer system configuration where the keyboard is operable to receive input from an operator of the computer system to control the computer system and a second computer system configuration where the keyboard is inoperable to receive input from the operator of the computer system to control the computer system based on sensor input indicating a position of the display component;

select, responsive to the sensor input, a first content view from the plurality of views for the first computer system configuration;

transition, automatically in response to the sensor input, the display component between at least the first content view of the plurality of views and a second content view of the plurality of views;

receive user input via at least one input device integral to or operatively connected with the computer system; and

transition, automatically in response to receiving the user input, the display component from one of the first content view and the second content view to a channel view including a channel selector that displays a sequence of visual representations”. Claim 24 recites the following limitations that in combination with the other claim limitations are not taught by the combination of the prior art:

“display a plurality of views of a plurality of visual representations of computer content, wherein the computer content includes at least one of selectable digital content, selectable computer operations and passive digital content;

detect a current computer system configuration where the keyboard is positioned to receive input from an operator of the computer system and a second computer system configuration where the keyboard is not positioned to receive input from the operator of the computer system;

select one of the plurality of views for display on the computer system in response to the detected current computer system configuration; and

transition the display component to the selected one of the plurality of views”.

The dependent claims further add limitations to the allowable subject matter of the corresponding independent claims; thus are also allowable. Therefore the claims are allowed over the art because the claims differ in scope that is not seen or suggested by the prior art.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Claudia Dragoescu whose telephone number is 571-270-7966. The examiner can normally be reached on Monday-Friday: 9:30am-5:00pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amy Ng can be reached on 571-270-1698. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/CLAUDIA DRAGOESCU/
Primary Examiner, Art Unit 2141
September 15, 2017

Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
	14680422	BEHAR ET AL.
	Examiner	Art Unit
	CLAUDIA DRAGOESCU	2141

CPC- SEARCHED		
Symbol	Date	Examiner
G06F 3/0481-04847 17/2247-3089	4/7/17	CD
G06F 1/1626 3/04886,048$	9/15/17	CD

CPC COMBINATION SETS - SEARCHED		
Symbol	Date	Examiner

US CLASSIFICATION SEARCHED			
Class	Subclass	Date	Examiner

* See search history printout included with this form or the SEARCH NOTES box below to determine the scope of the search.

SEARCH NOTES		
Search Notes	Date	Examiner
Performed inventor name and assignee search	4/4/17	CD
Performed EAST CPC class search	4/7/17	CD
Performed EAST keyword search	4/4-7/17	CD
Performed updated EAST keyword search and CPC class search of all databases	9/15/17	CD
Performed EAST interference search and CPC class search of all databases	9/15/17	CD

INTERFERENCE SEARCH			
US Class/ CPC Symbol	US Subclass / CPC Group	Date	Examiner
G06F	1/1626 3/04886,048$	9/15/17	CD

Issue Classification	Application/Control No.	Applicant(s)/Patent Under Reexamination
	14680422	BEHAR ET AL.
	Examiner	**Art Unit**
	CLAUDIA DRAGOESCU	2141

CPC						
Symbol					**Type**	**Version**
G06F		3	/	0484	F	2013-01-01
G06F		1	/	162	I	2013-01-01
G06F		1	/	1632	I	2013-01-01
G06F		1	/	1677	I	2013-01-01
G06F		1	/	169	I	2013-01-01
G06F		3	/	0362	I	2013-01-01
G06F		17	/	30905	I	2013-01-01
H04L		67	/	02	I	2013-01-01
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CPC Combination Sets							
Symbol					**Type**	**Set**	**Ranking**	**Version**
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NONE		Total Claims Allowed:	
(Assistant Examiner)	(Date)	20	
/CLAUDIA DRAGOESCU/ Primary Examiner.Art Unit 2141	9/15/2018	O.G. Print Claim(s)	O.G. Print Figure
(Primary Examiner)	(Date)	1	4

Issue Classification	Application/Control No.	Applicant(s)/Patent Under Reexamination
	14680422	BEHAR ET AL.
	Examiner	**Art Unit**
	CLAUDIA DRAGOESCU	2141

US ORIGINAL CLASSIFICATION		INTERNATIONAL CLASSIFICATION										
CLASS	SUBCLASS	CLAIMED					NON-CLAIMED					
		G	0	6	F	3 / 048 (2013.01.01)						
CROSS REFERENCE(S)												
CLASS	SUBCLASS (ONE SUBCLASS PER BLOCK)											

NONE		Total Claims Allowed:	
(Assistant Examiner)	(Date)	20	
/CLAUDIA DRAGOESCU/ Primary Examiner.Art Unit 2141	9/15/2018	O.G. Print Claim(s)	O.G. Print Figure
(Primary Examiner)	(Date)	1	4

Issue Classification	Application/Control No.	Applicant(s)/Patent Under Reexamination
	14680422	BEHAR ET AL.
	Examiner	**Art Unit**
	CLAUDIA DRAGOESCU	2141

☐ Claims renumbered in the same order as presented by applicant ☐ CPA ☒ T.D. ☐ R.1.47

Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original
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12	16														

NONE (Assistant Examiner)	(Date)	**Total Claims Allowed:** 20	
/CLAUDIA DRAGOESCU/ Primary Examiner.Art Unit 2141 (Primary Examiner)	9/15/2018 (Date)	O.G. Print Claim(s) 1	O.G. Print Figure 4

EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
S1	1	12/416496.app.	US-PGPUB; USPAT	OR	ON	2011/06/05 13:12
S3	0	"2004001049".pn.	US-PGPUB; USPAT	OR	ON	2011/08/18 13:39
S4	36	(Oakley near Nicholas).IN.	US-PGPUB; USPAT	OR	ON	2011/08/18 13:41
S5	17	(yanagisawa near kazunori).in.	US-PGPUB; USPAT	OR	ON	2011/08/18 14:10
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S10	420	S9 and (@ad<"20090501")	US-PGPUB; USPAT	OR	ON	2011/08/18 16:47
S9	481	S8 and (GUI (graphical near user near interface)).AB,TI.	US-PGPUB; USPAT	OR	ON	2011/08/18 16:47
S14	244	S13 and (@ad<"20090501")	US-PGPUB; USPAT	OR	ON	2011/08/18 16:48
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S12	5316	portal.AB,TI.	US-PGPUB; USPAT	OR	ON	2011/08/18 16:48
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S15	903	(AOL (America near online)).as.	US-PGPUB; USPAT	OR	ON	2011/08/18 16:52
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S20	446	S19 and portal	US-PGPUB; USPAT	OR	ON	2011/08/18 16:55
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S49	24	(glein ostojic).in. and microsoft.as.	US-PGPUB; USPAT	OR	ON	2011/08/19 09:22
S50	18	S49 not S48	US-PGPUB; USPAT	OR	ON	2011/08/19 09:23
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S55	47	(windows near10 media near10 center) and microsoft.as.	US-PGPUB; USPAT	OR	ON	2011/08/19 10:38
S56	739	(media near10 center) and microsoft.as.	US-PGPUB; USPAT	OR	ON	2011/08/19 10:39
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S58	739	(Media near10 Center) and microsoft.as.	US-PGPUB; USPAT	OR	ON	2011/08/19 10:41
S60	76	(content and portal).TI.	US-PGPUB; USPAT	OR	ON	2011/08/20 12:06
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S62	18	(Media near10 Center).AB,TI. and Microsoft.as.	US-PGPUB; USPAT	OR	ON	2011/08/20 12:16
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S73	1	"6,295,038".pn.	USPAT	OR	ON	2011/08/22 12:20
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S87	8563	(Web near browser) and history	USPAT	OR	ON	2011/08/26 11:12
S90	25	S88 and (back near arrow)	USPAT	OR	ON	2011/08/26 11:13
S89	6400	S87 and (arrow button indicator)	USPAT	OR	ON	2011/08/26 11:13
S91	12	"5926364".pn. "6144358".pn. "6341061".pn. "6437974".pn. "6492974".pn. "6882335".pn. "5436954".pn. "7035665".pn. "7869834".pn. "20060238439".pn. "20030107603".pn. "20050083642".pn.	US-PGPUB; USPAT	OR	ON	2012/07/01 07:49
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S94	398	S93 and "715".clas.	US-PGPUB; USPAT	OR	ON	2012/07/01 15:00
S93	1147	(thumbnail with (Web near page)).BI.	US-PGPUB; USPAT	OR	ON	2012/07/01 15:00
S96	57	(thumbnail with (Web near page)).AB,TI.	US-PGPUB; USPAT	OR	ON	2012/07/01 15:01
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S97	55	S96 and (@ad<"20090401")	US-PGPUB; USPAT	OR	ON	2012/07/01 15:02
S99	1	S97 and S98	US-PGPUB; USPAT	OR	ON	2012/07/01 15:26
S98	28	(pre$view with (Web near page)).AB,TI.	US-PGPUB; USPAT	OR	ON	2012/07/01 15:26
S100	0	(pre$view and (Web near page) and portal).AB,TI.	US-PGPUB; USPAT	OR	ON	2012/07/01 15:27
S102	2141	(pre$view and (Web near page) and portal).BI.	US-PGPUB; USPAT	OR	ON	2012/07/01 15:28
S101	13	(pre$view and portal).AB,TI.	US-PGPUB; USPAT	OR	ON	2012/07/01 15:28
S103	960	(pre$view with (Web near page)).BI.	US-PGPUB; USPAT	OR	ON	2012/07/01 15:29
S105	23761	((Web with page) brows$3).AB,TI. and ((tool image object menu icon) appear$3 (focus$3 hover$3)).BI.	US-PGPUB; USPAT	OR	ON	2012/07/01 15:31
S104	20268	((Web with page) browser).AB,TI. and ((tool image object menu icon) appear$3 (focus$3 hover$3)).BI.	US-PGPUB; USPAT	OR	ON	2012/07/01 15:31
S109	61	S108 and "715".clas.	US-PGPUB; USPAT	OR	ON	2012/07/01 15:32
S108	126	((Web with page) brows$3).AB,TI. and ((tool image object menu icon) with appear$3 with (focus$3 hover$3)).BI.	US-PGPUB; USPAT	OR	ON	2012/07/01 15:32
S107	5459	S106 and (@ad<"20090401")	US-PGPUB; USPAT	OR	ON	2012/07/01 15:32
S106	6644	S105 and "715".clas.	US-PGPUB; USPAT	OR	ON	2012/07/01 15:32
S110	50	S109 and (@ad<"20090401")	US-PGPUB;	OR	ON	2012/07/01

			USPAT			15:33
S111	114	((Web with page) brows$3).AB,TI. and ((window pane panel thubnail frame image object menu icon) with (enlarg$3 increas$3 grow$3 zoom$3) with (focus$3 hover$3)).BI.	US-PGPUB; USPAT	OR	ON	2012/07/01 16:55
S113	46	S112 and "715".clas.	US-PGPUB; USPAT	OR	ON	2012/07/01 16:56
S112	93	S111 and (@ad<"20090501")	US-PGPUB; USPAT	OR	ON	2012/07/01 16:56
S114	86	(US-20040001049-$ or US-20050221865-$ or US-20050210399-$ or US-20100174993-$ or US-20050257400-$ or US-20060230021-$ or US-20020049655-$ or US-20080077614-$ or US-20020165846-$ or US-20050182742-$ or US-20090187837-$ or US-20070028270-$ or US-20070028268-$ or US-20070028267-$ or US-20070028183-$ or US-20080163127-$ or US-20060224575-$ or US-20060224962-$ or US-20110191163-$ or US-20080052637-$ or US-20080168387-$ or US-20070098350-$ or US-20050097007-$ or US-20090113307-$ or US-20090113310-$ or US-20070127642-$).did. or (US-20090063502-$ or US-20040167896-$ or US-20070124701-$ or US-20080168495-$ or US-20090144157-$ or US-20020095387-$ or US-20060026213-$ or US-20100131977-$ or US-20090327222-$ or US-20060264243-$ or US-20080024465-$ or US-20060209022-$ or US-20060112351-$ or US-20080168404-$ or US-20070103454-$ or US-20080168367-$ or US-20090307633-$ or US-20070155434-$ or US-20080168382-$ or US-20060238439-$ or US-20050083642-$ or US-20070240076-$ or US-20030074416-$ or US-20080022229-$ or US-20040064471-$ or US-20060277477-$ or US-20080134093-$).did. or (US-20070124693-$ or US-20060212806-$ or US-20090150826-$ or US-20090204920-$).did. or (US-6661426-$ or US-7467356-$ or US-7178111-$ or US-7958441-$ or US-7149960-$ or US-7925968-$ or US-7698407-$ or US-7987421-$ or US-5796575-$ or US-6295038-$ or US-7958042-$ or US-7765493-$ or US-7359863-$ or US-7904373-$ or US-6341061-$ or US-5926364-$ or US-7035665-$ or US-6437974-$ or US-6144358-$ or US-5436954-$ or US-6492974-$ or US-6882335-$ or US-7869834-$ or US-6275829-$ or US-7703013-$ or US-8122372-$).did. or (US-20090322790-$ or US-20040228076-$ or US-	US-PGPUB; USPAT; DERWENT	OR	ON	2012/07/02 14:39

		20050210399-$).did.				
S115	8	S114 and ((updat$3 refresh$3) same (thumbnail)).BI.	US-PGPUB; USPAT	OR	ON	2012/07/02 14:40
S117	7	S116 and thumbnail	US-PGPUB; USPAT	OR	ON	2012/07/02 14:57
S116	197	("5200913" | "6005767" | "6659516" | "7072179" | "20020021258" | "20040228076" | "20060264243" | "20080284738" | "5515345" | "5987704" | "6067224" | "6628267" | "6661426" | "6819304" | "7428142" | "7522946" | "D463797" | "D479708" | "D528993" | "6343006" | "20080042987" | "3468576" | "4939514" | "5796575" | "6377444" | "6697055" | "20030109232" | "6222507" | "6302612" | "6642909" | "6859219" | "7138962" | "D495694" | "D504128" | "D513509" | "D517541" | "20050146845" | "20080062625" | "20050210399" | "20090300511" | "6275376" | "6510049" | "6829140" | "20050041378" | "5712760" | "6275376" | "6829140" | "D333636" | "D462069" | "D544846" | "D605635" | "20070138806" | "20070182663" | "6223393" | "6323846" | "6661426" | "6944012" | "D416003" | "20040203535" | "5793355" | "5900848" | "6266236" | "6327482" | "D395868" | "D528541" | "20020010707" | "20050257400" | "6343006" | "6771494" | "7061472" | "7239508" | "20050063145" | "20050128695" | "20050210399" | "20050282596" | "20060268500" | "7061472" | "D491177" | "D516552" | "D534531" | "D593086" | "D593091" | "20060126284" | "20090244012" | "5268817" | "5825352" | "5841631" | "6266236" | "6628267" | "6788527" | "6963485" | "7250207" | "6665175" | "6771494" | "D399526" | "D452238" | "D476326" | "D491936" | "D494162" | "D518042" | "D581371" | "20090322790" | "5949643" | "5987704" | "5790371" | "6005767" | "6659516" | "D391927" | "D392944" | "D535292" | "20070247446" | "20090244832" | "6262885" | "20020005818" | "20030048595" | "20050018396" | "20090275366" | "20100174993" | "5547698" | "6295038" | "6464195" | "D495674" | "D512997" | "D523429" | "D593085" | "20040001049" | "7467356").PN.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/07/02 14:57
S118	70	(thumbnail and (Web near page)).AB,TI. and (generat$ refresh$3 updat$3 cach$3).BI.	US-PGPUB; USPAT	OR	ON	2012/07/02 15:12
S119	64	(thumbnail and (Web near page)).AB,TI. and ((generat$ refresh$3 updat$3 cach$3) same thumbnail).BI.	US-PGPUB; USPAT	OR	ON	2012/07/02 15:13

S121	33	(Niels near Dongen).in.	US-PGPUB; USPAT	OR	ON	2012/11/22 18:52
S120	0	(Niels near vanDongen).in.	US-PGPUB; USPAT	OR	ON	2012/11/22 18:52
S122	37	(hendry near ian).in.	US-PGPUB; USPAT	OR	ON	2012/11/22 19:11
S123	1466	(chang$3 same (device laptop) same configuration same display same content).BI.	US-PGPUB; USPAT	OR	ON	2012/11/22 19:24
S124	112	(chang$3 with (device laptop) with configuration with display with content).BI.	US-PGPUB; USPAT	OR	ON	2012/11/22 19:25
S126	61	S124 and (@ad<"20080401")	US-PGPUB; USPAT	OR	ON	2012/11/22 19:30
S125	72	S124 and (@ad<"20090501")	US-PGPUB; USPAT	OR	ON	2012/11/22 19:30
S127	11	S123 and qualcomm.as.	US-PGPUB; USPAT	OR	ON	2012/11/22 19:40
S128	1	12/170951.app.	US-PGPUB; USPAT	OR	ON	2012/11/22 19:43
S129	0	S123 and S128	US-PGPUB; USPAT	OR	ON	2012/11/22 19:50
S131	11	("20030050874" | "20040011866" | "20090132681" | "20090307118" | "20090312000" | "20100211504" | "20110251950" | "5477038" | "5936523" | "6285991" | "8040233").PN.	US-PGPUB; USPAT; USOCR	OR	ON	2012/11/22 19:59
S130	1	("8040233").URPN.	USPAT	OR	ON	2012/11/22 19:59
S133	11	("20020107027" | "20030088496" | "20080045207" | "20080140868" | "20090006194" | "20090112693" | "20090150217" | "20090197616" | "20090300525" | "7376414" | "7542816").PN.	US-PGPUB; USPAT; USOCR	OR	ON	2012/11/22 20:03
S132	1	("8040233").URPN.	USPAT	OR	ON	2012/11/22 20:03
S134	50	("6133898" | "20100064536" | "20110216064" | "20100053089" | "6331840" | "6643124" | "20100060547" | "20100085274" | "20090296331" | "20040203520" | "20100085382" | "7028410" | "7453418" | "20100064244" | "20060026243" | "20020158811" | "20060284785" | "7958644" | "6573913" | "20110126141" | "7145593" | "20050099361" | "20050122671" | "7210236" | "7231609" | "20110210922" | "6252563" | "20030095373" | "20080259095" | "20090193351" | "20100007576" | "8068121" | "20050283988" | "20070268264" | "20100060664" | "20070041151" | "20060264243" | "20110109526" | "7637024" | "20040108968" | "20070263081" | "6466369" |	US-PGPUB; USPAT	OR	ON	2012/11/22 20:13

		"20050235458" | "20070279315" | "20070089311" | "20100060664" | "20060161278" | "20100066643" | "20100079355" | "20110109526" | "20070046561" | "20100039350").PN.				
S135	443	(automatically same chang$3 same (device laptop) same configuration same display same content).BI.	US-PGPUB; USPAT	OR	ON	2012/11/22 20:14
S136	176	S135 and (@ad<"20080401")	US-PGPUB; USPAT	OR	ON	2012/11/22 20:15
S137	1	"7782274".pn.	US-PGPUB; USPAT	OR	ON	2012/11/23 11:29
S139	74	("20010054986" | "20020021622" | "20020128055" | "20020135535" | "20020140628" | "20030020671" | "20030043087" | "20030071800" | "20030071832" | "20030098857" | "20030109286" | "20030144034" | "20030160735" | "20030160754" | "20030161094" | "20030218577" | "20030218712" | "20030218860" | "20040036810" | "20040036818" | "20040150581" | "20040217423" | "20050050367" | "20050088463" | "20050099361" | "20050134524" | "20050146845" | "20050162511" | "20050248501" | "20050285811" | "20060044215" | "20060088359" | "20060126284" | "20060146488" | "20060232496" | "20070279315" | "4110792" | "4141000" | "5128662" | "5379461" | "5467102" | "5790371" | "5949643" | "5960442" | "6018898" | "6057814" | "6076093" | "6222507" | "6320591" | "6327482" | "6343006" | "6377324" | "6386974" | "6493002" | "6532146" | "6628244" | "6643124" | "6722976" | "6750844" | "6762929" | "6771237" | "6807275" | "6819304" | "6844865" | "6850780" | "6859219" | "6919864" | "6931265" | "7091926" | "7092247" | "7095387" | "7138962" | "7196676" | "7371177").PN.	US-PGPUB; USPAT; USOCR	OR	ON	2012/11/23 11:33
S138	0	("7782274").URPN.	USPAT	OR	ON	2012/11/23 11:33
S140	109	(behar near yves).in.	US-PGPUB; USPAT; USOCR	OR	ON	2012/11/23 11:43
S141	1	"7932882".pn.	US-PGPUB; USPAT	OR	ON	2012/11/26 07:21
S142	1044	lenovo.as.	US-PGPUB; USPAT	OR	ON	2012/11/26 07:38
S146	0	S142 and (laptop and tent and mode).BI.	US-PGPUB; USPAT	OR	ON	2012/11/26 07:41
S145	150	S142 and (laptop and mode).BI.	US-PGPUB; USPAT	OR	ON	2012/11/26 07:41
S144	347	S142 and (laptop).BI.	US-PGPUB; USPAT	OR	ON	2012/11/26 07:41
S143	0	S142 and (laptop and tent and stand and mode).BI.	US-PGPUB; USPAT	OR	ON	2012/11/26 07:41

S148	8	S142 and (laptop and mode).AB,TI.	US-PGPUB; USPAT	OR	ON	2012/11/26 07:42
S147	21	S142 and (laptop and stand and mode).BI.	US-PGPUB; USPAT	OR	ON	2012/11/26 07:42
S149	9	S142 and (laptop and (portrait landscape)).BI.	US-PGPUB; USPAT	OR	ON	2012/11/26 07:50
S150	137	S142 and (display).AB,TI.	US-PGPUB; USPAT	OR	ON	2012/11/26 07:55
S151	29	S150 and (chang$5 switch$5 conver$5).AB,TI.	US-PGPUB; USPAT	OR	ON	2012/11/26 07:57
S155	36	S154 not S151	US-PGPUB; USPAT	OR	ON	2012/11/26 08:19
S154	40	S150 and (acceler$7 orient$7 position configur$7).AB,TI.	US-PGPUB; USPAT	OR	ON	2012/11/26 08:19
S153	124	S150 and (acceler$7 orient$7 position configur$7).BI.	US-PGPUB; USPAT	OR	ON	2012/11/26 08:19
S152	924	S142 and (acceler$7 orient$7 position configur$7).BI.	US-PGPUB; USPAT	OR	ON	2012/11/26 08:19
S157	7	("20070046630" | "20080036714" | "20090091542" | "20090201257" | "20090284474" | "6396506" | "7310082").PN.	US-PGPUB; USPAT; USOCR	OR	ON	2012/11/26 08:37
S156	0	("7932882").URPN.	USPAT	OR	ON	2012/11/26 08:37
S158	1	"7479949".pn.	US-PGPUB; USPAT	OR	ON	2012/11/30 07:50
S159	6	mobile.ab,ti. and (tilt$3 same flip$5 same page).BI.	US-PGPUB; USPAT	OR	ON	2012/11/30 08:36
S160	1	12/394186.app.	US-PGPUB; USPAT	OR	ON	2012/11/30 09:00
S161	1	"7782274".pn.	US-PGPUB; USPAT	OR	ON	2013/04/29 20:25
S162	0	("2010/0064536").URPN.	USPAT	OR	ON	2013/04/29 21:04
S163	1	12/170951.app. 12/170939.app. 61/041365.app.	USPAT	OR	ON	2013/04/29 21:06
S164	1	12/416496.app. and (sensor same (display near configuration)).BI.	US-PGPUB; USPAT	OR	ON	2013/04/29 21:43
S165	475	(automatically same chang$3 same (device laptop) same configuration same display same content).BI.	US-PGPUB; USPAT	OR	ON	2013/04/30 15:28
S166	475	(automatically same chang$3 same (device laptop) same configuration same display same content).BI.	US-PGPUB; USPAT	OR	ON	2013/04/30 15:35
S167	1	"20080224948".pn.	US-PGPUB; USPAT	OR	ON	2013/04/30 15:36
S168	0	("2010/0064536").URPN.	USPAT	OR	ON	2013/04/30 15:55
S169	475	(automatically same chang$3 same (device laptop) same configuration same display same content).BI.	US-PGPUB; USPAT	OR	ON	2013/04/30 16:07
S170	1	"20070279315".pn.	US-PGPUB; USPAT	OR	ON	2013/04/30 16:20
S171	1	"7479949".pn.	US-PGPUB;	OR	ON	2013/04/30

			USPAT			16:24
S172	242	(portrait same landscape same acceler$7).Bl. and apple.as.	US-PGPUB; USPAT	OR	ON	2013/04/30 16:25
S173	60	S172 and (@ad<"20080401")	US-PGPUB; USPAT	OR	ON	2013/04/30 17:23
S175	20	S174 and (@ad<"20080401")	US-PGPUB; USPAT	OR	ON	2013/04/30 17:43
S174	26	(automatically same chang$3 same (device laptop) same configuration same display same content same sensor).Bl.	US-PGPUB; USPAT	OR	ON	2013/04/30 17:43
S176	135	(US-20040001049-$ or US-20050221865-$ or US-20050210399-$ or US-20100174993-$ or US-20050257400-$ or US-20060230021-$ or US-20020049655-$ or US-20080077614-$ or US-20020165846-$ or US-20050182742-$ or US-20090187837-$ or US-20070028270-$ or US-20070028268-$ or US-20070028267-$ or US-20070028183-$ or US-20080163127-$ or US-20060224575-$ or US-20060224962-$ or US-20110191163-$ or US-20080052637-$ or US-20080168387-$ or US-20070098350-$ or US-20050097007-$ or US-20090113307-$ or US-20090113310-$ or US-20070127642-$).did. or (US-20090063502-$ or US-20040167896-$ or US-20070124701-$ or US-20080168495-$ or US-20090144157-$ or US-20020095387-$ or US-20060026213-$ or US-20100131977-$ or US-20090327222-$ or US-20060264243-$ or US-20080024465-$ or US-20060209022-$ or US-20060112351-$ or US-20080168404-$ or US-20070103454-$ or US-20080168367-$ or US-20090307633-$ or US-20070155434-$ or US-20080168382-$ or US-20060238439-$ or US-20050083642-$ or US-20070240076-$ or US-20030074416-$ or US-20080022229-$ or US-20040064471-$ or US-20060277477-$ or US-20080134093-$).did. or (US-20070124693-$ or US-20060212806-$ or US-20090150826-$ or US-20090204920-$ or US-20060085743-$ or US-20050216850-$ or US-20050243019-$ or US-20100091025-$ or US-20100064536-$ or US-20100060664-$ or US-20100064244-$ or US-20100066643-$ or US-20100079355-$ or US-20100085274-$ or US-20100085382-$ or US-20110126141-$ or US-20110216064-$ or US-20080140868-$ or US-20080045207-$ or US-20070279315-$ or US-20040209230-$ or US-20030120750-$ or US-20110246871-$	US-PGPUB; USPAT; DERWENT	OR	ON	2013/04/30 17:58

		or US-20110169749-$ or US-20120008270-$ or US-20120223892-$ or US-20090037825-$).did. or (US-20100134409-$ or US-20090213035-$ or US-20120062475-$ or US-20120169618-$ or US-20090091542-$ or US-20070046630-$ or US-20050093868-$ or US-20090265627-$ or US-20090303676-$ or US-20080224948-$ or US-20090023395-$).did. or (US-6661426-$ or US-7467356-$ or US-7178111-$ or US-7958441-$ or US-7149960-$ or US-7925968-$ or US-7698407-$ or US-7987421-$ or US-5796575-$ or US-6295038-$ or US-7958042-$ or US-7765493-$ or US-7359863-$ or US-7904373-$ or US-6341061-$ or US-5926364-$ or US-7035665-$ or US-6437974-$ or US-6144358-$ or US-5436954-$ or US-6492974-$ or US-6882335-$ or US-7869834-$ or US-6275829-$ or US-7703013-$ or US-8122372-$).did. or (US-7814425-$ or US-6693652-$ or US-7380116-$ or US-6282646-$ or US-5682529-$ or US-8040233-$ or US-8253654-$ or US-7747970-$ or US-7782274-$ or US-7932882-$ or US-7307668-$ or US-7564425-$ or US-7081886-$ or US-7310082-$ or US-7532196-$).did. or (US-20090322790-$ or US-20040228076-$ or US-20050210399-$).did.				
S178	17	S176 and (sensor same configur$7 same (chang$3 adapt$7 modifi$7) same display).Bl.	US-PGPUB; USPAT	OR	ON	2013/04/30 18:00
S177	46	S176 and (sensor and configur$7 and (chang$3 adapt$7 modifi$7) and display).Bl.	US-PGPUB; USPAT	OR	ON	2013/04/30 18:00
S179	7	S178 and (@ad<"20080401")	US-PGPUB; USPAT	OR	ON	2013/04/30 18:01
S180	1	"20060017692".pn.	US-PGPUB; USPAT	OR	ON	2013/04/30 18:26
S183	1	"7756928".pn.	US-PGPUB; USPAT	OR	ON	2013/05/01 19:23
S184	1	"6242853"	JPO; DERWENT	OR	ON	2013/11/25 10:38
S185	14177	hitachi.as. and (@pd<"19941001" and @pd>"19940901")	JPO; DERWENT	OR	ON	2013/11/25 10:40
S186	14177	hitachi.as. and (@pd<"19941001") and (@pd>"19940901")	JPO; DERWENT	OR	ON	2013/11/25 10:41
S187	1	hitachi.as. and (@pd="19940905")	JPO; DERWENT	OR	ON	2013/11/25 10:53
S188	29	hitachi.as. and (SHIMURA near NOBUYUKI).in.	JPO; DERWENT	OR	ON	2013/11/25 10:59
S189	1	"06242853".pn.	JPO; DERWENT	OR	ON	2013/11/25 11:01
S190	1	12/416496.app. and (organiz$7 same (home near view) same (application	US-PGPUB; USPAT	OR	ON	2013/12/09 09:18

		content)).BI.				
S191	1	12/416496.app. and ((chang$3 differen$3) same configur$5).BI.	US-PGPUB; USPAT	OR	ON	2013/12/11 09:00
S192	136	(US-20040001049-$ or US-20050221865-$ or US-20050210399-$ or US-20100174993-$ or US-20050257400-$ or US-20060230021-$ or US-20020049655-$ or US-20080077614-$ or US-20020165846-$ or US-20050182742-$ or US-20090187837-$ or US-20070028270-$ or US-20070028268-$ or US-20070028267-$ or US-20070028183-$ or US-20080163127-$ or US-20060224575-$ or US-20060224962-$ or US-20110191163-$ or US-20080052637-$ or US-20080168387-$ or US-20070098350-$ or US-20050097007-$ or US-20090113307-$ or US-20090113310-$ or US-20070127642-$).did. or (US-20090063502-$ or US-20040167896-$ or US-20070124701-$ or US-20080168495-$ or US-20090144157-$ or US-20020095387-$ or US-20060026213-$ or US-20100131977-$ or US-20090327222-$ or US-20060264243-$ or US-20080024465-$ or US-20060209022-$ or US-20060112351-$ or US-20080168404-$ or US-20070103454-$ or US-20080168367-$ or US-20090307633-$ or US-20070155434-$ or US-20080168382-$ or US-20060238439-$ or US-20050083642-$ or US-20070240076-$ or US-20030074416-$ or US-20080022229-$ or US-20040064471-$ or US-20060277477-$ or US-20080134093-$).did. or (US-20070124693-$ or US-20060212806-$ or US-20090150826-$ or US-20090204920-$ or US-20060085743-$ or US-20050216850-$ or US-20050243019-$ or US-20100091025-$ or US-20100064536-$ or US-20100060664-$ or US-20100064244-$ or US-20100066643-$ or US-20100079355-$ or US-20100085274-$ or US-20100085382-$ or US-20110126141-$ or US-20110216064-$ or US-20080140868-$ or US-20080045207-$ or US-20070279315-$ or US-20040209230-$ or US-20030120750-$ or US-20110246871-$ or US-20110169749-$ or US-20120008270-$ or US-20120223892-$ or US-20090037825-$).did. or (US-20100134409-$ or US-20090213035-$ or US-20120062475-$ or US-20120169618-$ or US-20090091542-$ or US-20070046630-$ or US-20050093868-$ or US-20090265627-$ or US-20090303676-$ or US-20080224948-$ or US-20090023395-$	US-PGPUB; USPAT; DERWENT	OR	ON	2013/12/11 09:14

		or US-20060017692-$).did. or (US-6661426-$ or US-7467356-$ or US-7178111-$ or US-7958441-$ or US-7149960-$ or US-7925968-$ or US-7698407-$ or US-7987421-$ or US-5796575-$ or US-6295038-$ or US-7958042-$ or US-7765493-$ or US-7359863-$ or US-7904373-$ or US-6341061-$ or US-5926364-$ or US-7035665-$ or US-6437974-$ or US-6144358-$ or US-5436954-$ or US-6492974-$ or US-6882335-$ or US-7869834-$ or US-6275829-$ or US-7703013-$ or US-8122372-$).did. or (US-7814425-$ or US-6693652-$ or US-7380116-$ or US-6282646-$ or US-5682529-$ or US-8040233-$ or US-8253654-$ or US-7747970-$ or US-7782274-$ or US-7932882-$ or US-7307668-$ or US-7564425-$ or US-7081886-$ or US-7310082-$ or US-7532196-$).did. or (US-20090322790-$ or US-20040228076-$ or US-20050210399-$).did.				
S195	137	(US-20040001049-$ or US-20050221865-$ or US-20050210399-$ or US-20100174993-$ or US-20050257400-$ or US-20060230021-$ or US-20020049655-$ or US-20080077614-$ or US-20020165846-$ or US-20050182742-$ or US-20090187837-$ or US-20070028270-$ or US-20070028268-$ or US-20070028267-$ or US-20070028183-$ or US-20080163127-$ or US-20060224575-$ or US-20060224962-$ or US-20110191163-$ or US-20080052637-$ or US-20080168387-$ or US-20070098350-$ or US-20050097007-$ or US-20090113307-$ or US-20090113310-$ or US-20070127642-$).did. or (US-20090063502-$ or US-20040167896-$ or US-20070124701-$ or US-20080168495-$ or US-20090144157-$ or US-20020095387-$ or US-20060026213-$ or US-20100131977-$ or US-20090327222-$ or US-20060264243-$ or US-20080024465-$ or US-20060209022-$ or US-20060112351-$ or US-20080168404-$ or US-20070103454-$ or US-20080168367-$ or US-20090307633-$ or US-20070155434-$ or US-20080168382-$ or US-20060238439-$ or US-20050083642-$ or US-20070240076-$ or US-20030074416-$ or US-20080022229-$ or US-20040064471-$ or US-20060277477-$ or US-20080134093-$).did. or (US-20070124693-$ or US-20060212806-$ or US-20090150826-$ or US-20090204920-$ or US-20060085743-$ or US-20050216850-$ or US-	US-PGPUB; USPAT; DERWENT	OR	ON	2013/12/11 09:17

		20050243019-$ or US-20100091025-$ or US-20100064536-$ or US-20100060664-$ or US-20100064244-$ or US-20100066643-$ or US-20100079355-$ or US-20100085274-$ or US-20100085382-$ or US-20110126141-$ or US-20110216064-$ or US-20080140868-$ or US-20080045207-$ or US-20070279315-$ or US-20040209230-$ or US-20030120750-$ or US-20110246871-$ or US-20110169749-$ or US-20120008270-$ or US-20120223892-$ or US-20090037825-$).did. or (US-20100134409-$ or US-20090213035-$ or US-20120062475-$ or US-20120169618-$ or US-20090091542-$ or US-20070046630-$ or US-20050093868-$ or US-20090265627-$ or US-20090303676-$ or US-20080224948-$ or US-20090023395-$ or US-20060017692-$ or US-20080174570-$).did. or (US-6661426-$ or US-7467356-$ or US-7178111-$ or US-7958441-$ or US-7149960-$ or US-7925968-$ or US-7698407-$ or US-7987421-$ or US-5796575-$ or US-6295038-$ or US-7958042-$ or US-7765493-$ or US-7359863-$ or US-7904373-$ or US-6341061-$ or US-5926364-$ or US-7035665-$ or US-6437974-$ or US-6144358-$ or US-5436954-$ or US-6492974-$ or US-6882335-$ or US-7869834-$ or US-6275829-$ or US-7703013-$ or US-8122372-$).did. or (US-7814425-$ or US-6693652-$ or US-7380116-$ or US-6282646-$ or US-5682529-$ or US-8040233-$ or US-8253654-$ or US-7747970-$ or US-7782274-$ or US-7932882-$ or US-7307668-$ or US-7564425-$ or US-7081886-$ or US-7310082-$ or US-7532196-$).did. or (US-20090322790-$ or US-20040228076-$ or US-20050210399-$).did.				
S196	20	S195 and zoom$3.Bl.	US-PGPUB; USPAT	OR	ON	2013/12/11 09:31
S197	1	12/416496.app. and ((chang$3 differen$3 reduc$3) same organiz$8).Bl.	US-PGPUB; USPAT	OR	ON	2013/12/11 09:37
S198	82	(lap$top computer device).ab,ti. and ((chang$3 different) same configuration same automat$7 same display$3 same ((video media) with play$3)).Bl.	US-PGPUB; USPAT	OR	ON	2013/12/11 09:54
S199	27	S198 and (@ad<"20080401")	US-PGPUB; USPAT	OR	ON	2013/12/11 09:56
S200	13	(lap$top computer device).ab,ti. and ((chang$3 differ$7) same configur$7 same automat$7 same display$3 same (full with screen with view$3)).Bl.	US-PGPUB; USPAT	OR	ON	2013/12/11 10:15
S201	40	(lap$top computer device).ab,ti. and	US-PGPUB;	OR	ON	2013/12/11

		((chang$3 differ$7) same configur$7 same automat$7 same (switch$3 display$3) same (full with screen)).Bl.	USPAT			10:18
S202	19	S201 and (@ad<"20080401")	US-PGPUB; USPAT	OR	ON	2013/12/11 10:19
S204	21	S201 not S202	US-PGPUB; USPAT	OR	ON	2013/12/11 10:28
S205	0	(lap$top computer device).ab,ti. and ((switch$3 display$3) same portrait same landscape same configuration same automat$7 same (full with screen)).Bl.	US-PGPUB; USPAT	OR	ON	2013/12/11 10:34
S206	0	(lap$top computer device).ab,ti. and ((switch$3 chang$3 display$3) same portrait same landscape same automat$7 same (full with screen)).Bl.	US-PGPUB; USPAT	OR	ON	2013/12/11 10:35
S208	5353	(lap$1top computer device mobile hand$held wireless portable tablet note$1book (cell near10 phone) player (personal near10 communicat$3) pda ipod ipad blackberry android (smart near10 phone) (smart near10 pad)).ab,ti. and ((switch$3 chang$3 display$3) same portrait same landscape).Bl.	US-PGPUB; USPAT	OR	ON	2013/12/11 10:36
S207	0	(lap$1top computer device mobile hand$held wireless portable tablet note$1book (cell near10 phone) player (personal near10 communicat$3) pda ipod ipad blackberry android (smart near10 phone) (smart near10 pad)).ab,ti. and ((switch$3 chang$3 display$3) same portrait same landscape same automat$7 same (full with screen)).Bl.	US-PGPUB; USPAT	OR	ON	2013/12/11 10:36
S209	24	(lap$1top computer device mobile hand$held wireless portable tablet note$1book (cell near10 phone) player (personal near10 communicat$3) pda ipod ipad blackberry android (smart near10 phone) (smart near10 pad)).ab,ti. and ((switch$3 chang$3 display$3) same portrait same landscape same full$screen).Bl.	US-PGPUB; USPAT	OR	ON	2013/12/11 10:37
S210	15	S209 and (@ad<"20080401")	US-PGPUB; USPAT	OR	ON	2013/12/11 10:38
S211	81	(lap$1top computer device mobile hand$held wireless portable tablet note$1book (cell near10 phone) player (personal near10 communicat$3) pda ipod ipad blackberry android (smart near10 phone) (smart near10 pad)).ab,ti. and (portrait same landscape same full$screen).Bl.	US-PGPUB; USPAT	OR	ON	2013/12/11 10:55
S212	16	S211 and (@ad<"20080401")	US-PGPUB; USPAT	OR	ON	2013/12/11 10:57
S213	1796	(lap$1top computer device mobile hand$held wireless portable tablet note$1book (cell near10 phone) player (personal near10 communicat$3) pda	US-PGPUB; USPAT	OR	ON	2013/12/11 10:58

		ipod ipad blackberry android (smart near10 phone) (smart near10 pad)).ab,ti. and ((switch$3 chang$3) same (orientation portrait landscape) same (enlarg$3 zoom$3 full$screen)).Bl.				
S214	40	(lap$1top computer device mobile hand$held wireless portable tablet note$1book (cell near10 phone) player (personal near10 communicat$3) pda ipod ipad blackberry android (smart near10 phone) (smart near10 pad)).ab,ti. and ((switch$3 chang$3) same orientation same portrait same landscape same automat$7 same (enlarg$3 reduc$3 zoom$7 full$screen)).Bl.	US-PGPUB; USPAT	OR	ON	2013/12/11 10:59
S215	2	("2012/0233565").URPN.	USPAT	OR	ON	2013/12/11 11:07
S217	12	("2010/0081475").URPN.	USPAT	OR	ON	2013/12/11 11:18
S216	1	"20100081475".pn.	US-PGPUB; USPAT	OR	ON	2013/12/11 11:18
S219	2	"20090293007".pn. "20090298418".pn.	US-PGPUB; USPAT	OR	ON	2013/12/11 11:21
S221	0	("8600446").URPN.	USPAT	OR	ON	2013/12/11 11:31
S220	1	"8600446".pn.	US-PGPUB; USPAT	OR	ON	2013/12/11 11:31
S222	6	("20060085384" | "20070036346" | "20080096593" | "20080119237" | "20080204424" | "20090298418").PN.	US-PGPUB; USPAT; USOCR	OR	ON	2013/12/11 11:32
S226	0	S225 and (portrait and landscape)	US-PGPUB; USPAT	OR	ON	2013/12/11 11:38
S225	142	S224 and (@ad<"20080401")	US-PGPUB; USPAT	OR	ON	2013/12/11 11:38
S224	639	flextronics.as. imerj.as. z124.as.	US-PGPUB; USPAT; USOCR	OR	ON	2013/12/11 11:38
S227	2	S225 and (portrait landscape)	US-PGPUB; USPAT	OR	ON	2013/12/11 11:39
S228	7	("20050125570" | "20050140648" | "5434964" | "20040203485" | "5758267" | "20050085273" | "20050215297").PN.	US-PGPUB; USPAT	OR	ON	2013/12/11 13:24
S229	49	("2005/0020325").URPN.	USPAT	OR	ON	2013/12/11 13:45
S230	31	S229 and (@ad<"20080401")	US-PGPUB; USPAT	OR	ON	2013/12/11 13:47
S231	1	"20080020744".pn.	US-PGPUB; USPAT	OR	ON	2013/12/11 15:03
S232	2706	"715".clas. and (automat$7 same display same mode).Bl.	US-PGPUB; USPAT	OR	ON	2013/12/11 15:21
S233	385	"715".clas. and (automat$7 same (switch$3 chang$3) same (display$3 screen view$3) same mode same (position orientation configuration)).Bl.	US-PGPUB; USPAT	OR	ON	2013/12/11 15:22

S234	202	S233 and (@ad<"20080401")	US-PGPUB; USPAT	OR	ON	2013/12/11 15:23
S235	8	"20040212602".pn. "20050091596".pn. "20090019383".pn. "6972752".pn. "5847698".pn. "6097389".pn. "7366994".pn. "2050134717".pn. "20040207568".pn.	US-PGPUB; USPAT	OR	ON	2013/12/11 15:38
S239	1	"06242853".pn.	JPO	OR	ON	2013/12/11 17:45
S238	0	"06-242853".pn.	JPO	OR	ON	2013/12/11 17:45
S237	0	"6-242853".pn.	JPO	OR	ON	2013/12/11 17:45
S236	0	"242853".pn.	JPO	OR	ON	2013/12/11 17:45
S240	12	"06242853".pn. "06259166".pn. "08179851".pn. "05197507".pn. "01292112".pn. "2005242436".pn. "2001167211".pn. "2005159741".pn. "10111658".pn. "1020000036647".pn. "6090200".pn. "2004302179".pn. "11296259".pn. "2006227409".pn.	JPO	OR	ON	2013/12/11 17:54
S243	32	(zoom$3 same5 automat$7 same5 easel).BI.	US-PGPUB; USPAT	OR	ON	2013/12/12 11:10
S242	330	(zoom$3 and automat$7 and easel).BI.	US-PGPUB; USPAT	OR	ON	2013/12/12 11:10
S241	0	(zoom$3 same automat$7 same easel).BI.	US-PGPUB; USPAT	OR	ON	2013/12/12 11:10
S244	163	("5200913" | "6005767" | "6659516" | "7072179" | "20020021258" | "20040228076" | "20060264243" | "20080284738" | "5515345" | "5987704" | "6067224" | "6628267" | "6661426" | "6819304" | "7428142" | "7522946" | "D463797" | "D479708" | "D528993" | "6343006" | "20080024465" | "20060238439" | "6492974" | "20010032320" | "20080174570" | "20050091596" | "20090019383" | "6097389" | "20080209493" | "20080042987" | "3468576" | "4939514" | "5796575" | "6377444" | "6697055" | "20030109232" | "6222507" | "6302612" | "6642909" | "6859219" | "7138962" | "D495694" | "D504128" | "D513509" | "D517541" | "20050146845" | "20080062625" | "6341061" | "6882335" | "20050010860" | "20070073833" | "20060015823" | "20060123353" | "20050210399" | "20090300511" | "6275376" | "6510049" | "6829140" | "20050041378" | "5712760" | "6275376" | "6829140" | "D333636" | "D462069" | "D544846" | "D605635" | "6295038" | "7698407" | "7869834" | "20080158795" | "20090190295" | "20050134717" | "20070138806" | "20070182663" | "6223393" |	US-PGPUB; USPAT	OR	ON	2014/10/29 17:41

		"6323846" | "6661426" | "6944012" | "D416003" | "20040203535" | "5793355" | "5900848" | "6266236" | "6327482" | "D395868" | "D528541" | "20020010707" | "20050221865" | "6144358" | "6437974" | "20050210399" | "7366994" | "20090019479" | "20050257400" | "6343006" | "6771494" | "7061472" | "7239508" | "20050063145" | "20050128695" | "20050210399" | "20050282596" | "20060268500" | "7061472" | "D491177" | "D516552" | "D534531" | "D593086" | "D593091" | "20060126284" | "20060264243" | "5436954" | "20090150826" | "20070242421" | "20040212602" | "20050005241" | "20050071782" | "20090244012" | "5268817" | "5825352" | "5841631" | "6266236" | "6628267" | "6788527" | "6963485" | "7250207" | "6665175" | "6771494" | "D399526" | "D452238" | "D476326" | "D491936" | "D494162" | "D518042" | "D581371" | "7756928" | "20040207568" | "20090193364" | "20090322790" | "5949643" | "5987704" | "5790371" | "6005767" | "6659516" | "D391927" | "D392944" | "D535292" | "20070247446" | "20050083642" | "5926364" | "20070240076" | "6693652" | "20080235594" | "5847698" | "20080059888" | "7814425" | "20090244832" | "6262885" | "20020005818" | "20030048595" | "20050018396" | "20090275366" | "20100174993" | "5547698" | "6295038" | "6464195" | "D495674" | "D512997" | "D523429" | "D593085" | "20040001049" | "7467356" | "20040001049" | "20030107603" | "7035665" | "20080024388" | "6972752" | "20060277167" | "20080134093").PN.				
S245	7362	715/744,764,65,788,789,800.ccls. and (@ad<"20090401")	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/10/30 09:58
S246	595	S245 and (lap$1top computer device mobile hand$held wireless portable tablet note$1book (cell near10 phone) player (personal near10 communicat$3) pda ipod ipad blackberry android (smart near10 phone) (smart near10 pad)).ab,ti. and ((automat$7 dynamic$7) same (switch$3 chang$3 transition$3 convert$3 toggl$3 modif$7 adjust$7 updat$7) same (display$3 screen view$3) same (position orient$7 portrait landscape configur$7 resolution	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/10/30 09:59

		scal$7 size zoom$7 magnif$7 enlarg$7 reduc$7)).Bl.				
S247	85	S245 and (lap$1top computer device mobile hand$held wireless portable tablet note$1book (cell near10 phone) player (personal near10 communicat$3) pda ipod ipad blackberry android (smart near10 phone) (smart near10 pad)).ab,ti. and ((automat$7 dynamic$7) same (switch$3 chang$3 transition$3 convert$3 toggl$3 modif$7 adjust$7 updat$7) same (display$3 screen view$3) same mode same (position orient$7 portrait landscape configur$7 resolution scal$7 size zoom$7 magnif$7 enlarg$7 reduc$7)).Bl.	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/10/30 10:00
S249	0	S245 and ((lap$1top computer device mobile hand$held wireless portable tablet note$1book (cell near10 phone) player (personal near10 communicat$3) pda ipod ipad blackberry android (smart near10 phone) (smart near10 pad)) same (automat$7 dynamic$7) same (switch$3 chang$3 transition$3 convert$3 toggl$3 modif$7 adjust$7 updat$7) same (display$3 screen view$3) same (position orient$7 portrait landscape resolution scal$7 size zoom$7 magnif$7 enlarg$7 reduc$7) same sensor same input same config$7).Bl.	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/10/30 10:01
S248	0	S245 and (lap$1top computer device mobile hand$held wireless portable tablet note$1book (cell near10 phone) player (personal near10 communicat$3) pda ipod ipad blackberry android (smart near10 phone) (smart near10 pad)).ab,ti. and ((automat$7 dynamic$7) same (switch$3 chang$3 transition$3 convert$3 toggl$3 modif$7 adjust$7 updat$7) same (display$3 screen view$3) same (position orient$7 portrait landscape resolution scal$7 size zoom$7 magnif$7 enlarg$7 reduc$7) same sensor same input same config$7).Bl.	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/10/30 10:01
S251	0	S245 and ((lap$1top computer device mobile hand$held wireless portable tablet note$1book (cell near10 phone) player (personal near10 communicat$3) pda ipod ipad blackberry android (smart near10 phone) (smart near10 pad)) same (automat$7 dynamic$7) same (switch$3 chang$3 transition$3 convert$3 toggl$3 modif$7 adjust$7 updat$7) same config$7 same (display$3 screen view$3 content) same (home default) same sensor same input).Bl.	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/10/30 10:02
S250	0	S245 and (lap$1top computer device mobile hand$held wireless portable	US-PGPUB; USPAT;	OR	ON	2014/10/30 10:02

		tablet note$1book (cell near10 phone) player (personal near10 communicat$3) pda ipod ipad blackberry android (smart near10 phone) (smart near10 pad)).ab,ti. and ((automat$7 dynamic$7) same (switch$3 chang$3 transition$3 convert$3 toggl$3 modif$7 adjust$7 updat$7) same config$7 same (display$3 screen view$3 content) same (home default) same sensor same input).BI.	FPRS; EPO; JPO; DERWENT; IBM_TDB			
S260	1	14/680422.app.	US-PGPUB; USPAT	OR	ON	2017/04/04 15:29
S262	51	S261 and portal.AB,TI.	US-PGPUB; USPAT	OR	ON	2017/04/04 17:55
S261	5612	(Yahoo).as.	US-PGPUB; USPAT	OR	ON	2017/04/04 17:55
S264	403	(yves near behar).in.	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/04/04 18:29
S263	259	(yves near behar).in.	US-PGPUB; USPAT	OR	ON	2017/04/04 18:29
S266	1	"20080059888".pn. and (rotat$3 landscape portrait orient$7).BI.	US-PGPUB; USPAT	OR	ON	2017/04/06 13:05
S267	1	"20080059888".pn. and (user same (chang$3 rotat$3) same (landscape portrait orient$7)).BI.	US-PGPUB; USPAT	OR	ON	2017/04/06 13:07
S268	1	14/680422.app.	US-PGPUB; USPAT	OR	ON	2017/04/06 18:59
S270	26	S269 and (search$3 near engine).BI.	US-PGPUB; USPAT	OR	ON	2017/04/06 19:39
S269	176	(US-20040001049-$ or US-20050221865-$ or US-20050210399-$ or US-20100174993-$ or US-20050257400-$ or US-20060230021-$ or US-20020049655-$ or US-20080077614-$ or US-20020165846-$ or US-20050182742-$ or US-20090187837-$ or US-20070028270-$ or US-20070028268-$ or US-20070028267-$ or US-20070028183-$ or US-20080163127-$ or US-20060224575-$ or US-20060224962-$ or US-20110191163-$ or US-20080052637-$ or US-20080168387-$ or US-20070098350-$ or US-20050097007-$ or US-20090113307-$ or US-20090113310-$ or US-20070127642-$).did. or (US-20090063502-$ or US-20040167896-$ or US-20070124701-$ or US-20080168495-$ or US-20090144157-$ or US-20020095387-$ or US-20060026213-$ or US-20100131977-$ or US-20090327222-$ or US-20060264243-$ or US-20080024465-$ or US-20060209022-$ or US-	US-PGPUB; USPAT; JPO; DERWENT	OR	ON	2017/04/06 19:39

20060112351-$ or US-20080168404-$ or US-20070103454-$ or US-20080168367-$ or US-20090307633-$ or US-20070155434-$ or US-20080168382-$ or US-20060238439-$ or US-20050083642-$ or US-20070240076-$ or US-20030074416-$ or US-20080022229-$ or US-20040064471-$ or US-20060277477-$ or US-20080134093-$).did. or (US-20070124693-$ or US-20060212806-$ or US-20090150826-$ or US-20090204920-$ or US-20060085743-$ or US-20050216850-$ or US-20050243019-$ or US-20100091025-$ or US-20100064536-$ or US-20100060664-$ or US-20100064244-$ or US-20100066643-$ or US-20100079355-$ or US-20100085274-$ or US-20100085382-$ or US-20110126141-$ or US-20110216064-$ or US-20080140868-$ or US-20080045207-$ or US-20070279315-$ or US-20040209230-$ or US-20030120750-$ or US-20110246871-$ or US-20110169749-$ or US-20120008270-$ or US-20120223892-$ or US-20090037825-$).did. or (US-20100134409-$ or US-20090213035-$ or US-20120062475-$ or US-20120169618-$ or US-20090091542-$ or US-20070046630-$ or US-20050093868-$ or US-20090265627-$ or US-20090303676-$ or US-20080224948-$ or US-20090023395-$ or US-20060017692-$ or US-20080174570-$ or US-20070075127-$ or US-20050020325-$ or US-20090109213-$ or US-20040012627-$ or US-20120233565-$ or US-20100081475-$ or US-20080204424-$ or US-20080119237-$ or US-20060085384-$ or US-20050085273-$ or US-20050125570-$ or US-20080020744-$ or US-20080092054-$ or US-20080059888-$).did. or (US-20050091596-$ or US-20040212602-$ or US-20040207568-$ or US-20090019383-$ or US-20150277688-$ or US-20090322790-$ or US-20090300511-$ or US-20090244012-$ or US-20050206615-$ or US-20150332425-$ or US-20170090699-$).did. or (US-6661426-$ or US-7467356-$ or US-7178111-$ or US-7958441-$ or US-7149960-$ or US-7925968-$ or US-7698407-$ or US-7987421-$ or US-5796575-$ or US-6295038-$ or US-7958042-$ or US-7765493-$ or US-7359863-$ or US-7904373-$ or US-6341061-$ or US-5926364-$ or US-7035665-$ or US-6437974-$ or US-6144358-$ or US-5436954-$ or US-6492974-$ or US-

		6882335-$ or US-7869834-$ or US-6275829-$ or US-7703013-$ or US-8122372-$).did. or (US-7814425-$ or US-6693652-$ or US-7380116-$ or US-6282646-$ or US-5682529-$ or US-8040233-$ or US-8253654-$ or US-7747970-$ or US-7782274-$ or US-7932882-$ or US-7307668-$ or US-7564425-$ or US-7081886-$ or US-7310082-$ or US-7532196-$ or US-8599106-$ or US-8600446-$ or US-5758267-$ or US-7634300-$ or US-8037121-$ or US-6833827-$ or US-7366994-$ or US-6097389-$ or US-5847698-$).did. or (JP-2006227409-$ or JP-2004302179-$ or JP-06242853-$ or JP-06259166-$ or JP-2005242436-$).did. or (US-20090322790-$ or US-20040228076-$ or US-20050210399-$).did.				
S271	76	S269 and (search$3).BI.	US-PGPUB; USPAT	OR	ON	2017/04/06 19:41
S272	2	12/416496.app.	US-PGPUB; USPAT	OR	ON	2017/04/07 09:14
S273	7	12/416496.app. 12/416479.app. 13/651636.app. 14/108576.app.	US-PGPUB; USPAT	OR	ON	2017/04/07 09:53
S274	11642	((web internet) and portal).AB,TI.	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/04/07 10:42
S275	103101	((chang$3 updat$3 rotat$3) with (configur$5 orient$5) with (aspect view GUI UI)).BI.	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/04/07 10:43
S276	9	((chang$3 updat$3 rotat$3) with (configur$5 orient$5) with (aspect view GUI UI) with (home near (view page screen)) with (detail channel near (view screen tile page))).BI.	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/04/07 10:44
S277	58	((chang$3 updat$3 rotat$3) same (configur$5 orient$5) same (aspect view GUI UI) same (home near10 (view page screen)) same ((detail$3 channel) near10 (view screen tile page))).BI.	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/04/07 10:45
S278	1343	((chang$3 updat$3 rotat$3) same (configur$5 orient$5) same (aspect view GUI UI page screen tile) same (home portal landing) same (detail$3 channel)).BI.	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/04/07 10:46
S279	35	S274 and S278	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT;	OR	ON	2017/04/07 10:47

			IBM_TDB			
S282	4382	((web internet) near portal).AB,TI.	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/04/07 10:49
S281	8727	((web internet) with portal).AB,TI.	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/04/07 10:49
S280	112	S278 AND ((G06F3/04842 OR G06F3/0482 OR G06F3/0484 OR G06F3/04817 OR G06F3/04847 OR G06F3/0481).CPC.)	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/04/07 10:49
S285	282	S283 and (@ad<"20080401")	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/04/07 10:51
S284	14	S280 and (@ad<"20080401")	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/04/07 10:51
S283	481	S282 AND ((G06F17/3089 OR G06F17/30873 OR G06F17/30867 OR G06F17/30864 OR G06F17/30899 OR G06F17/2247).CPC.)	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/04/07 10:51
S286	1	12/459172.app.	US-PGPUB; USPAT	OR	ON	2017/09/14 13:07
S288	1	"20150277688".pn. and (key$1board$3 same (position$3 in$1operable enabl$3 disabl$3 activ$5 in$1activ$5)).BI.	US-PGPUB; USPAT	OR	ON	2017/09/15 12:24
S287	0	"20150277688".pn. and (key$1board$3 same sensor$3 same (position$3 in$1operable enabl$3 disabl$3 activ$5 in$1activ$5)).BI.	US-PGPUB; USPAT	OR	ON	2017/09/15 12:24
S289	180	(US-20040001049-$ or US-20050221865-$ or US-20050210399-$ or US-20100174993-$ or US-20050257400-$ or US-20060230021-$ or US-20020049655-$ or US-20080077614-$ or US-20020165846-$ or US-20050182742-$ or US-20090187837-$ or US-20070028270-$ or US-20070028268-$ or US-20070028267-$ or US-20070028183-$ or US-20080163127-$ or US-20060224575-$ or US-20060224962-$ or US-20110191163-$ or US-20080052637-$ or US-20080168387-$	US-PGPUB; USPAT; JPO; DERWENT	OR	ON	2017/09/15 12:32

or US-20070098350-$ or US-20050097007-$ or US-20090113307-$ or US-20090113310-$ or US-20070127642-$).did. or (US-20090063502-$ or US-20040167896-$ or US-20070124701-$ or US-20080168495-$ or US-20090144157-$ or US-20020095387-$ or US-20060026213-$ or US-20100131977-$ or US-20090327222-$ or US-20060264243-$ or US-20080024465-$ or US-20060209022-$ or US-20060112351-$ or US-20080168404-$ or US-20070103454-$ or US-20080168367-$ or US-20090307633-$ or US-20070155434-$ or US-20080168382-$ or US-20060238439-$ or US-20050083642-$ or US-20070240076-$ or US-20030074416-$ or US-20080022229-$ or US-20040064471-$ or US-20060277477-$ or US-20080134093-$).did. or (US-20070124693-$ or US-20060212806-$ or US-20090150826-$ or US-20090204920-$ or US-20060085743-$ or US-20050216850-$ or US-20050243019-$ or US-20100091025-$ or US-20100064536-$ or US-20100060664-$ or US-20100064244-$ or US-20100066643-$ or US-20100079355-$ or US-20100085274-$ or US-20100085382-$ or US-20110126141-$ or US-20110216064-$ or US-20080140868-$ or US-20080045207-$ or US-20070279315-$ or US-20040209230-$ or US-20030120750-$ or US-20110246871-$ or US-20110169749-$ or US-20120008270-$ or US-20120223892-$ or US-20090037825-$).did. or (US-20100134409-$ or US-20090213035-$ or US-20120062475-$ or US-20120169618-$ or US-20090091542-$ or US-20070046630-$ or US-20050093868-$ or US-20090265627-$ or US-20090303676-$ or US-20080224948-$ or US-20090023395-$ or US-20060017692-$ or US-20080174570-$ or US-20070075127-$ or US-20050020325-$ or US-20090109213-$ or US-20040012627-$ or US-20120233565-$ or US-20100081475-$ or US-20080204424-$ or US-20080119237-$ or US-20060085384-$ or US-20050085273-$ or US-20050125570-$ or US-20080020744-$ or US-20080092054-$ or US-20080059888-$).did. or (US-20050091596-$ or US-20040212602-$ or US-20040207568-$ or US-20090019383-$ or US-20150277688-$ or US-20090322790-$ or US-20090300511-$ or US-20090244012-$ or US-20050206615-$ or US-

		20150332425-$ or US-20170090699-$ or US-20130141854-$ or US-20140282263-$ or US-20110161821-$).did. or (US-6661426-$ or US-7467356-$ or US-7178111-$ or US-7958441-$ or US-7149960-$ or US-7925968-$ or US-7698407-$ or US-7987421-$ or US-5796575-$ or US-6295038-$ or US-7958042-$ or US-7765493-$ or US-7359863-$ or US-7904373-$ or US-6341061-$ or US-5926364-$ or US-7035665-$ or US-6437974-$ or US-6144358-$ or US-5436954-$ or US-6492974-$ or US-6882335-$ or US-7869834-$ or US-6275829-$ or US-7703013-$ or US-8122372-$).did. or (US-7814425-$ or US-6693652-$ or US-7380116-$ or US-6282646-$ or US-5682529-$ or US-8040233-$ or US-8253654-$ or US-7747970-$ or US-7782274-$ or US-7932882-$ or US-7307668-$ or US-7564425-$ or US-7081886-$ or US-7310082-$ or US-7532196-$ or US-8599106-$ or US-8600446-$ or US-5758267-$ or US-7634300-$ or US-8037121-$ or US-6833827-$ or US-7366994-$ or US-6097389-$ or US-5847698-$ or US-9003315-$).did. or (JP-2006227409-$ or JP-2004302179-$ or JP-06242853-$ or JP-06259166-$ or JP-2005242436-$).did. or (US-20090322790-$ or US-20040228076-$ or US-20050210399-$).did.				
S290	10	S289 and ((easel near10 mode) same key$1board$3 same (back near10 (panel side face))).BI.	US-PGPUB; USPAT	OR	ON	2017/09/15 12:33
S291	23	((easel near10 mode) same key$1board$3 same (back near10 (panel side face))).BI.	US-PGPUB; USPAT	OR	ON	2017/09/15 12:35
S292	24	((easel with mode) same key$1board$3 same (back with (panel side face))).BI.	US-PGPUB; USPAT	OR	ON	2017/09/15 12:37
S293	11	(mode same key$1board$3 same (hid$3 conceal$3) same (back near10 (panel side face))).BI.	US-PGPUB; USPAT	OR	ON	2017/09/15 12:39
S295	108	((virtual near10 key$1board) same (mov$7 transition$3) same ((front with back) (first with second)) same (panel face side)).BI.	US-PGPUB; USPAT	OR	ON	2017/09/15 12:42
S294	55	((virtual near10 key$1board) same (mov$7 transition$3) same ((front with back) (first with second)) same (panel face)).BI.	US-PGPUB; USPAT	OR	ON	2017/09/15 12:42
S297	16	(mode same key$1board$3 same (hid$3 conceal$3) same (back near10 (panel side face))).BI.	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/09/15 12:45
S296	23	((easel near10 mode) same	US-PGPUB;	OR	ON	2017/09/15

		key$1board$3 same (back near10 (panel side face))).Bl.	USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB			12:45
S299	0	S296 and (@ad<"20080401")	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/09/15 12:46
S298	120	((virtual near10 key$1board) same (mov$7 transition$3) same ((front with back) (first with second)) same (panel face side)).Bl.	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/09/15 12:46
S301	18	S298 and (@ad<"20080401")	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/09/15 12:47
S300	4	S297 and (@ad<"20080401")	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/09/15 12:47
S305	14	S303 and (@ad<"20080401")	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/09/15 13:01
S304	10	S302 and (@ad<"20080401")	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/09/15 13:01
S303	61	S298 AND ((G06F3/048$).CPC.)	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/09/15 13:01
S302	52	S298 AND ((G06F3/04886 OR G06F1/1626).CPC.)	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/09/15 13:01
S306	4	"8624844".pn.	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/09/15 13:02

EAST Search History (Interference)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
S253	581	S252 and (lap$1top computer device mobile hand$held wireless portable tablet note$1book (cell near10 phone) player (personal near10 communicat$3) pda ipod ipad blackberry android (smart near10 phone) (smart near10 pad)).ab,ti. and ((automat$7 dynamic$7) same (switch$3 chang$3 transition$3 convert$3 toggl$3 modif$7 adjust$7 updat$7) same (display$3 screen view$3) same (position orient$7 portrait landscape configur$7 resolution scal$7 size zoom$7 magnif$7 enlarg$7 reduc$7)).BI.	US-PGPUB; USPAT	OR	ON	2014/10/30 10:12
S252	6202	715/744,764,65,788,789,800.ccls. and (@ad<"20090401")	US-PGPUB; USPAT	OR	ON	2014/10/30 10:12
S255	0	S252 and (lap$1top computer device mobile hand$held wireless portable tablet note$1book (cell near10 phone) player (personal near10 communicat$3) pda ipod ipad blackberry android (smart near10 phone) (smart near10 pad)).ab,ti. and ((automat$7 dynamic$7) same (switch$3 chang$3 transition$3 convert$3 toggl$3 modif$7 adjust$7 updat$7) same (display$3 screen view$3) same (position orient$7 portrait landscape resolution scal$7 size zoom$7 magnif$7 enlarg$7 reduc$7) same sensor same input same config$7).BI.	US-PGPUB; USPAT	OR	ON	2014/10/30 10:13
S254	84	S252 and (lap$1top computer device mobile hand$held wireless portable tablet note$1book (cell near10 phone) player (personal near10 communicat$3) pda ipod ipad blackberry android (smart near10 phone) (smart near10 pad)).ab,ti. and ((automat$7 dynamic$7) same (switch$3 chang$3 transition$3 convert$3 toggl$3 modif$7 adjust$7 updat$7) same (display$3 screen view$3) same mode same (position orient$7 portrait landscape configur$7 resolution scal$7 size zoom$7 magnif$7 enlarg$7 reduc$7)).BI.	US-PGPUB; USPAT	OR	ON	2014/10/30 10:13
S257	0	S252 and (lap$1top computer device mobile hand$held wireless portable tablet note$1book (cell near10 phone) player (personal near10 communicat$3) pda ipod ipad blackberry android (smart near10 phone) (smart near10 pad)).ab,ti. and ((automat$7 dynamic$7) same (switch$3 chang$3 transition$3 convert$3 toggl$3 modif$7 adjust$7 updat$7) same config$7 same (display$3 screen view$3 content) same (home default) same sensor same input).BI.	US-PGPUB; USPAT	OR	ON	2014/10/30 10:14
S256	0	S252 and ((lap$1top computer device mobile hand$held wireless portable tablet note$1book (cell near10 phone) player (personal near10 communicat$3) pda ipod ipad blackberry android (smart near10 phone) (smart near10 pad)) same (automat$7 dynamic$7) same (switch$3 chang$3	US-PGPUB; USPAT	OR	ON	2014/10/30 10:14

		transition$3 convert$3 toggl$3 modif$7 adjust$7 updat$7) same (display$3 screen view$3) same (position orient$7 portrait landscape resolution scal$7 size zoom$7 magnif$7 enlarg$7 reduc$7) same sensor same input same config$7).Bl.				
S258	0	S252 and ((lap$1top computer device mobile hand$held wireless portable tablet note$1book (cell near10 phone) player (personal near10 communicat$3) pda ipod ipad blackberry android (smart near10 phone) (smart near10 pad)) same (automat$7 dynamic$7) same (switch$3 chang$3 transition$3 convert$3 toggl$3 modif$7 adjust$7 updat$7) same config$7 same (display$3 screen view$3 content) same (home default) same sensor same input).Bl.	US-PGPUB; USPAT	OR	ON	2014/10/30 10:15
S307	24	((easel with mode) same key$1board$3 same (back with (panel side face))).Bl.	US-PGPUB; USPAT	OR	ON	2017/09/15 13:06
S310	55	((virtual near10 key$1board) same (mov$7 transition$3) same ((front with back) (first with second)) same (panel face)).Bl.	US-PGPUB; USPAT	OR	ON	2017/09/15 13:07
S309	11	(mode same key$1board$3 same (hid$3 conceal$3) same (back near10 (panel side face))).Bl.	US-PGPUB; USPAT	OR	ON	2017/09/15 13:07
S308	23	((easel near10 mode) same key$1board$3 same (back near10 (panel side face))).Bl.	US-PGPUB; USPAT	OR	ON	2017/09/15 13:07
S313	11	(mode same key$1board$3 same (hid$3 conceal$3) same (back near10 (panel side face))).Bl.	US-PGPUB; USPAT	OR	ON	2017/09/15 13:08
S312	23	((easel near10 mode) same key$1board$3 same (back near10 (panel side face))).Bl.	US-PGPUB; USPAT	OR	ON	2017/09/15 13:08
S311	108	((virtual near10 key$1board) same (mov$7 transition$3) same ((front with back) (first with second)) same (panel face side)).Bl.	US-PGPUB; USPAT	OR	ON	2017/09/15 13:08
S314	108	((virtual near10 key$1board) same (mov$7 transition$3) same ((front with back) (first with second)) same (panel face side)).Bl.	US-PGPUB; USPAT	OR	ON	2017/09/15 13:09
S318	2	S313 and (@ad<"20080401")	US-PGPUB; USPAT	OR	ON	2017/09/15 13:10
S317	0	S312 and (@ad<"20080401")	US-PGPUB; USPAT	OR	ON	2017/09/15 13:10
S316	9	S311 and (@ad<"20080401")	US-PGPUB; USPAT	OR	ON	2017/09/15 13:10
S315	0	S310 and (@ad<"20080401")	US-PGPUB; USPAT	OR	ON	2017/09/15 13:10
S323	5	S321 and (@ad<"20080401")	US-PGPUB; USPAT	OR	ON	2017/09/15 13:11
S322	1	S319 and (@ad<"20080401")	US-PGPUB;	OR	ON	2017/09/15 13:11

			USPAT			
S321	52	S314 AND ((G06F3/048$).CPC.)	US-PGPUB; USPAT	OR	ON	2017/09/15 13:11
S320	42	S314 AND ((G06F3/0488$).CPC.)	US-PGPUB; USPAT	OR	ON	2017/09/15 13:11
S319	43	S314 AND ((G06F3/04886 OR G06F1/1626).CPC.)	US-PGPUB; USPAT	OR	ON	2017/09/15 13:11

9/ 15/ 2017 6:52:14 PM
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Doc Code: TRAN.LET
Document Description: Transmittal Letter

USED IN LIEU OF PTO/SB/21 (07-09)

TRANSMITTAL FORM *(to be used for all correspondence after initial filing)*			
		Application Number	14/680,422-Conf. #5691
		Filing Date	April 7, 2015
		First Named Inventor	Yves Behar
		Art Unit	2143
		Examiner Name	J. N. To
Total Number of Pages in This Submission		Attorney Docket Number	L2039.70004US03

ENCLOSURES (***Check all that apply***)

☐ Fee Transmittal Form	☐ Drawing(s)	☐ After Allowance Communication to TC
☐ Fee Attached	☐ Licensing-related Papers	☐ Appeal Communication to Board of Appeals and Interferences
☐ Amendment/Reply	☐ Petition	☐ Appeal Communication to TC **(Appeal Notice, Brief, Reply Brief)**
☐ After Final	☐ Petition to Convert to a Provisional Application	☐ Proprietary Information
☐ Affidavits/declaration(s)	☐ Power of Attorney, Revocation Change of Correspondence Address	☐ Status Letter
☐ Extension of Time Request	☐ Terminal Disclaimer	☒ Other Enclosure(s) (please Identify below):
☐ Express Abandonment Request	☐ Request for Refund	• Substitute Statements in Lieu of Declarations (14)
☐ Information Disclosure Statement	☐ CD, Number of CD(s) _____	• Inventor Declarations (5)
☐ Certified Copy of Priority Document(s)	☐ Landscape Table on CD	
☐ Reply to Missing Parts/ Incomplete Application	Remarks	
☐ Reply to Missing Parts under 37 CFR 1.52 or 1.53		

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

Firm Name	WOLF, GREENFIELD & SACKS, P.C.		
Signature	/Marcus E. Browne/		
Printed name	Marcus E. Browne		
Date	September 26, 2017	Reg. No.	71,897

Certificate of Electronic Filing under 37 CFR §1.8

I hereby certify that this paper (along with any paper referred to as being attached or enclosed) is being transmitted via the Office's electronic filing system in accordance with 37 CFR § 1.6(a)(4).

Dated: September 26, 2017 Electronic Signature for: /Eileen M. MacKenzie/

DECLARATION (37 C.F.R. § 1.63) FOR UTILITY OR DESIGN APPLICATION USING AN APPLICATION DATA SHEET (37 C.F.R. § 1.76)

Title of Invention	SYSTEM AND METHOD FOR STREAMLINING USER INTERACTION WITH ELECTRONIC CONTENT

As the below named inventor, I declare that:

This declaration is directed to:

☐ The attached application, or

☒ United States application or PCT international application number 14/680,422 filed on April 7, 2015

☐ As amended on _____ (if applicable);

The above-identified application was made or authorized to be made by me.

I believe the inventor(s) named below to be the original and first inventor(s) of the subject matter which is claimed and for which a patent is sought.

I believe I am the original inventor or an original joint inventor of a claimed invention in the application.

I have reviewed and understand the contents of the above-identified application, including the claims, as amended by any amendment specifically referred to above.

I acknowledge the duty to disclose to the United States Patent and Trademark Office all information known to me to be material to patentability as defined in 37 C.F.R. § 1.56.

All statements made herein of my own knowledge are true, and all statements made herein on information and belief are believed to be true.

I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. § 1001 by fine or imprisonment of not more than five (5) years, or both.

LEGAL NAME OF SOLE OR FIRST INVENTOR

Inventor one: Yves Behar Date: _____

Signature: _____ Citizen of: US

LEGAL NAME OF ADDITIONAL JOINT INVENTOR, if any

Inventor two: Joshua Morenstein Date: _____

Signature: _____ Citizen of: US

LEGAL NAME OF ADDITIONAL JOINT INVENTOR, if any

Inventor three: Christopher Hibmacronan Date: _____

Signature: _____ Citizen of: US

LEGAL NAME OF ADDITIONAL JOINT INVENTOR, if any

Inventor four: Naoya Edahiro Date: _____

Signature: _____ Citizen of: US

☒ Additional inventors are being named on 2 additional form(s) attached hereto.

DECLARATION FOR UTILITY OR DESIGN APPLICATION USING AN APPLICATION DATA SHEET	ADDITIONAL INVENTOR(S) Supplemental Sheet Page 1 of 2

LEGAL NAME OF ADDITIONAL JOINT INVENTOR, if any

Inventor five: Matthew David Day Date:

Signature: Citizen of: US

LEGAL NAME OF ADDITIONAL JOINT INVENTOR, if any

Inventor six: Robert Sanford Havoc Pennington Date:

Signature: Citizen of: US

LEGAL NAME OF ADDITIONAL JOINT INVENTOR, if any

Inventor seven: Noah Bruce Guyot Date:

Signature: Citizen of: US

LEGAL NAME OF ADDITIONAL JOINT INVENTOR, if any

Inventor eight: Daniel Kuo Date:

Signature: Citizen of: US

LEGAL NAME OF ADDITIONAL JOINT INVENTOR, if any

Inventor nine: Jenea Boshart Hayes Date:

Signature: Citizen of: US

LEGAL NAME OF ADDITIONAL JOINT INVENTOR, if any

Inventor ten: Aaron Tang Date:

Signature: Citizen of: US

LEGAL NAME OF ADDITIONAL JOINT INVENTOR, if any

Inventor eleven: Donald Francis Fischer Date: 8/5/2016

Signature: Citizen of: US

LEGAL NAME OF ADDITIONAL JOINT INVENTOR, if any

Inventor twelve: Christian Marc Schmidt Date:

Signature: Citizen of: US

LEGAL NAME OF ADDITIONAL JOINT INVENTOR, if any

Inventor thirteen: Lisa Strausfeld Date:

Signature: Citizen of: US

DECLARATION FOR UTILITY OR DESIGN APPLICATION USING AN APPLICATION DATA SHEET	ADDITIONAL INVENTOR(S) Supplemental Sheet Page 2of 2

LEGAL NAME OF ADDITIONAL JOINT INVENTOR, if any

Inventor fourteen: David Livingston Fore Date: _____

Signature: _____ Citizen of: US

LEGAL NAME OF ADDITIONAL JOINT INVENTOR, if any

Inventor fifteen: John H. Chuang Date: _____

Signature: _____ Citizen of: US

LEGAL NAME OF ADDITIONAL JOINT INVENTOR, if any

Inventor sixteen: Chris Bambacus Date: _____

Signature: _____ Citizen of: US

LEGAL NAME OF ADDITIONAL JOINT INVENTOR, if any

Inventor seventeen: Bart Haney Date: _____

Signature: _____ Citizen of: US

LEGAL NAME OF ADDITIONAL JOINT INVENTOR, if any

Inventor eighteen: Logan Ray Date: _____

Signature: _____ Citizen of: US

LEGAL NAME OF ADDITIONAL JOINT INVENTOR, if any

Inventor nineteen: Serge Beaulieu Date: _____

Signature: _____ Citizen of: US

DECLARATION (37 C.F.R. § 1.63) FOR UTILITY OR DESIGN APPLICATION USING AN APPLICATION DATA SHEET (37 C.F.R. § 1.76)

Title of Invention	SYSTEM AND METHOD FOR STREAMLINING USER INTERACTION WITH ELECTRONIC CONTENT

As the below named inventor, I declare that:

This declaration is directed to:

☐ The attached application, or

☒ United States application or PCT international application number 14/680,422 filed on April 7, 2015

☐ As amended on _____ (if applicable);

The above-identified application was made or authorized to be made by me.

I believe the inventor(s) named below to be the original and first inventor(s) of the subject matter which is claimed and for which a patent is sought.

I believe I am the original inventor or an original joint inventor of a claimed invention in the application.

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LEGAL NAME OF SOLE OR FIRST INVENTOR

Inventor one: Yves Behar Date: _____

Signature: _____ Citizen of: US

LEGAL NAME OF ADDITIONAL JOINT INVENTOR, if any

Inventor two: Joshua Morenstein Date: _____

Signature: _____ Citizen of: US

LEGAL NAME OF ADDITIONAL JOINT INVENTOR, if any

Inventor three: Christopher Hibmacronan Date: _____

Signature: _____ Citizen of: US

LEGAL NAME OF ADDITIONAL JOINT INVENTOR, if any

Inventor four: Naoya Edahiro Date: _____

Signature: _____ Citizen of: US

☒ Additional inventors are being named on 2 additional form(s) attached hereto.

DECLARATION FOR UTILITY OR DESIGN APPLICATION USING AN APPLICATION DATA SHEET	ADDITIONAL INVENTOR(S) Supplemental Sheet Page 1 of 2

LEGAL NAME OF ADDITIONAL JOINT INVENTOR, if any

Inventor five: Matthew David Day Date:

Signature: Citizen of: US

LEGAL NAME OF ADDITIONAL JOINT INVENTOR, if any

Inventor six: Robert Sanford Havoc Pennington Date:

Signature: Citizen of: US

LEGAL NAME OF ADDITIONAL JOINT INVENTOR, if any

Inventor seven: Noah Bruce Guyot Date:

Signature: Citizen of: US

LEGAL NAME OF ADDITIONAL JOINT INVENTOR, if any

Inventor eight: Daniel Kuo Date:

Signature: Citizen of: US

LEGAL NAME OF ADDITIONAL JOINT INVENTOR, if any

Inventor nine: Jenea Boshart Hayes Date:

Signature: Citizen of: US

LEGAL NAME OF ADDITIONAL JOINT INVENTOR, if any

Inventor ten: Aaron Tang Date: July 22, 2016

Signature: Citizen of: US

LEGAL NAME OF ADDITIONAL JOINT INVENTOR, if any

Inventor eleven: Donald Francis Fischer Date:

Signature: Citizen of: US

LEGAL NAME OF ADDITIONAL JOINT INVENTOR, if any

Inventor twelve: Christian Marc Schmidt Date:

Signature: Citizen of: US

LEGAL NAME OF ADDITIONAL JOINT INVENTOR, if any

Inventor thirteen: Lisa Strausfeld Date:

Signature: Citizen of: US

DECLARATION FOR UTILITY OR DESIGN APPLICATION USING AN APPLICATION DATA SHEET	ADDITIONAL INVENTOR(S) Supplemental Sheet Page 2of 2

LEGAL NAME OF ADDITIONAL JOINT INVENTOR, if any

Inventor fourteen: David Livingston Fore Date: _____

Signature: _____ Citizen of: US

LEGAL NAME OF ADDITIONAL JOINT INVENTOR, if any

Inventor fifteen: John H. Chuang Date: _____

Signature: _____ Citizen of: US

LEGAL NAME OF ADDITIONAL JOINT INVENTOR, if any

Inventor sixteen: Chris Bambacus Date: _____

Signature: _____ Citizen of: US

LEGAL NAME OF ADDITIONAL JOINT INVENTOR, if any

Inventor seventeen: Bart Haney Date: _____

Signature: _____ Citizen of: US

LEGAL NAME OF ADDITIONAL JOINT INVENTOR, if any

Inventor eighteen: Logan Ray Date: _____

Signature: _____ Citizen of: US

LEGAL NAME OF ADDITIONAL JOINT INVENTOR, if any

Inventor nineteen: Serge Beaulieu Date: _____

Signature: _____ Citizen of: US

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Signature: _____ Citizen of: US

LEGAL NAME OF ADDITIONAL JOINT INVENTOR, if any

Inventor two: Joshua Morenstein Date: _____

Signature: _____ Citizen of: US

LEGAL NAME OF ADDITIONAL JOINT INVENTOR, if any

Inventor three: Christopher Hibmacronan Date: _____

Signature: _____ Citizen of: US

LEGAL NAME OF ADDITIONAL JOINT INVENTOR, if any

Inventor four: Naoya Edahiro Date: _____

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Signature: _____ Citizen of: US

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Signature: _____ Citizen of: US

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Signature: _____ Citizen of: US

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Signature: _____ Citizen of: US

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Inventor eleven: Donald Francis Fischer Date: _____

Signature: _____ Citizen of: US

LEGAL NAME OF ADDITIONAL JOINT INVENTOR, if any

Inventor twelve: Christian Marc Schmidt Date: _____

Signature: _____ Citizen of: US

LEGAL NAME OF ADDITIONAL JOINT INVENTOR, if any

Inventor thirteen: Lisa Strausfeld Date: _____

Signature: _____ Citizen of: US

DECLARATION FOR UTILITY OR DESIGN APPLICATION USING AN APPLICATION DATA SHEET	ADDITIONAL INVENTOR(S) Supplemental Sheet Page 2of 2

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Inventor fourteen: David Livingston Fore Date: _____

Signature: _____ Citizen of: US

LEGAL NAME OF ADDITIONAL JOINT INVENTOR, if any

Inventor fifteen: John H. Chuang Date: _____

Signature: _____ Citizen of: US

LEGAL NAME OF ADDITIONAL JOINT INVENTOR, if any

Inventor sixteen: Chris Bambacus Date: 7/25/16

Signature:  Citizen of: US

LEGAL NAME OF ADDITIONAL JOINT INVENTOR, if any

Inventor seventeen: Bart Haney Date: _____

Signature: _____ Citizen of: US

LEGAL NAME OF ADDITIONAL JOINT INVENTOR, if any

Inventor eighteen: Logan Ray Date: _____

Signature: _____ Citizen of: US

LEGAL NAME OF ADDITIONAL JOINT INVENTOR, if any

Inventor nineteen: Serge Beaulieu Date: _____

Signature: _____ Citizen of: US

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LEGAL NAME OF ADDITIONAL JOINT INVENTOR, if any

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Signature: _____ Citizen of: US

LEGAL NAME OF ADDITIONAL JOINT INVENTOR, if any

Inventor three: Christopher Hibnacronan Date: _____

Signature: _____ Citizen of: US

LEGAL NAME OF ADDITIONAL JOINT INVENTOR, if any

Inventor four: Naoya Edahiro Date: _____

Signature: _____ Citizen of: US

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DECLARATION FOR UTILITY OR DESIGN APPLICATION USING AN APPLICATION DATA SHEET	ADDITIONAL INVENTOR(S) Supplemental Sheet Page 1 of 2

LEGAL NAME OF ADDITIONAL JOINT INVENTOR, if any

Inventor five: Matthew David Day Date:

Signature: Citizen of: US

LEGAL NAME OF ADDITIONAL JOINT INVENTOR, if any

Inventor six: Robert Sanford Havoc Pennington Date: 2016-08-15

Signature: Citizen of: US

LEGAL NAME OF ADDITIONAL JOINT INVENTOR, if any

Inventor seven: Noah Bruce Guyot Date:

Signature: Citizen of: US

LEGAL NAME OF ADDITIONAL JOINT INVENTOR, if any

Inventor eight: Daniel Kuo Date:

Signature: Citizen of: US

LEGAL NAME OF ADDITIONAL JOINT INVENTOR, if any

Inventor nine: Jenea Boshart Hayes Date:

Signature: Citizen of: US

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Signature: Citizen of: US

LEGAL NAME OF ADDITIONAL JOINT INVENTOR, if any

Inventor fifteen: John H. Chuang Date:

Signature: Citizen of: US

LEGAL NAME OF ADDITIONAL JOINT INVENTOR, if any

Inventor sixteen: Chris Rambacus Date:

Signature: Citizen of: US

LEGAL NAME OF ADDITIONAL JOINT INVENTOR, if any

Inventor seventeen: Bart Haney Date:

Signature: Citizen of: US

LEGAL NAME OF ADDITIONAL JOINT INVENTOR, if any

Inventor eighteen: Logan Ray Date:

Signature: Citizen of: US

LEGAL NAME OF ADDITIONAL JOINT INVENTOR, if any

Inventor nineteen: Serge Beaulieu Date:

Signature: Citizen of: US

DECLARATION (37 C.F.R. § 1.63) FOR UTILITY OR DESIGN APPLICATION USING AN APPLICATION DATA SHEET (37 C.F.R. § 1.76)

Title of Invention	SYSTEM AND METHOD FOR STREAMLINING USER INTERACTION WITH ELECTRONIC CONTENT

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Signature: _____ Citizen of: US

LEGAL NAME OF ADDITIONAL JOINT INVENTOR, if any

Inventor two: Joshua Morenstein Date: _____

Signature: _____ Citizen of: US

LEGAL NAME OF ADDITIONAL JOINT INVENTOR, if any

Inventor three: Christopher Hibmacronan Date: _____

Signature: _____ Citizen of: US

LEGAL NAME OF ADDITIONAL JOINT INVENTOR, if any

Inventor four: Naoya Edahiro Date: _____

Signature: _____ Citizen of: US

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Signature: Citizen of: US

LEGAL NAME OF ADDITIONAL JOINT INVENTOR, if any

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Signature: Citizen of: US

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Signature: Citizen of: US

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Signature: Citizen of: US

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LEGAL NAME OF ADDITIONAL JOINT INVENTOR, if any

Inventor thirteen: Lisa Strausfeld Date:

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Signature: Citizen of: US

LEGAL NAME OF ADDITIONAL JOINT INVENTOR, if any

Inventor eighteen: Logan Ray Date:

Signature: Citizen of: US

LEGAL NAME OF ADDITIONAL JOINT INVENTOR, if any

Inventor nineteen: Serge Beaulieu Date:

Signature: Citizen of: US

Doc code: Oath
Document Description: Oath or declaration filed

PTO/AIA/02 (07-13)
Approved for use through 04/30/2017. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

SUBSTITUTE STATEMENT IN LIEU OF AN OATH OR DECLARATION FOR UTILITY OR DESIGN PATENT APPLICATION (35 U.S.C. 115(d) AND 37 CFR 1.64)

Title of Invention	SYSTEM AND METHOD FOR STREAMLINING USER INTERACTION WITH ELECTRONIC CONTENT

This statement is directed to:

[ ] The attached application,

OR

[X] United States application or PCT international application number 14/680,422 filed on 04/07/2015.

LEGAL NAME of inventor to whom this substitute statement applies:

(*E.g.*, Given Name (first and middle (if any)) and Family Name or Surname)

Joshua Morenstein

Residence (except for a deceased or legally incapacitated inventor):

San Francisco	CA	United States of America
City	State	Country

Mailing Address (except for a deceased or legally incapacitated inventor):

124 Downey Street

San Francisco	CA	94117	United States of America
City	State	Zip	Country

I believe the above-named inventor or joint inventor to be the original inventor or an original joint inventor of a claimed invention in the application.

The above-identified application was made or authorized to be made by me.

I hereby acknowledge that any willful false statement made in this statement is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both.

Relationship to the inventor to whom this substitute statement applies:

[ ] Legal Representative (for deceased or legally incapacitated inventor only),

[X] Assignee,

[ ] Person to whom the inventor is under an obligation to assign,

[ ] Person who otherwise shows a sufficient proprietary interest in the matter (petition under 37 CFR 1.46 is required), or

[ ] Joint Inventor.

PTO/SB/AIA02 (07-13)
Approved for use through 01/31/2014. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

SUBSTITUTE STATEMENT

Circumstances permitting execution of this substitute statement:

- [ ] Inventor is deceased,
- [ ] Inventor is under legal incapacity,
- [x] Inventor cannot be found or reached after diligent effort, or
- [ ] Inventor has refused to execute the oath or declaration under 37 CFR 1.63.

If there are joint inventors, please check the appropriate box below:

- [x] An application data sheet under 37 CFR 1.76 (PTO/AIA/14 or equivalent) naming the entire inventive entity has been or is currently submitted.

OR

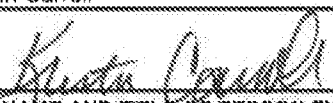
- [ ] An application data sheet under 37 CFR 1.76 (PTO/AIA/14 or equivalent) has not been submitted. Thus, a Substitute Statement Supplemental Sheet (PTO/AIA/11 or equivalent) naming the entire inventive entity and providing inventor information is attached. See 37 CFR 1.64(b).

WARNING:

Petitioner/applicant is cautioned to avoid submitting personal information in documents filed in a patent application that may contribute to identity theft. Personal information such as social security numbers, bank account numbers, or credit card numbers (other than a check or credit card authorization form PTO-2038 submitted for payment purposes) is never required by the USPTO to support a petition or an application. If this type of personal information is included in documents submitted to the USPTO, petitioners/applicants should consider redacting such personal information from the documents before submitting them to the USPTO. Petitioner/applicant is advised that the record of a patent application is available to the public after publication of the application (unless a non-publication request in compliance with 37 CFR 1.213(a) is made in the application) or issuance of a patent. Furthermore, the record from an abandoned application may also be available to the public if the application is referenced in a published application or an issued patent (see 37 CFR 1.14). Checks and credit card authorization forms PTO-2038 submitted for payment purposes are not retained in the application file and therefore are not publicly available.

PERSON EXECUTING THIS SUBSTITUTE STATEMENT:

Name: Kristin Carroll	Date (Optional):

Signature: 

APPLICANT NAME AND TITLE OF PERSON EXECUTING THIS SUBSTITUTE STATEMENT:

If the applicant is a juristic entity, list the applicant name and the title of the signer:

Applicant Name: LiTL LLC

Title of Person Executing This Substitute Statement: General Counsel

The signer, whose title is supplied above, is authorized to act on behalf of the applicant.

Residence of the signer (unless provided in an application data sheet, PTO/AIA/14 or equivalent):

Boston	MA	United States of America
City	State	Country

Mailing Address of the signer (unless provided in an application data sheet, PTO/AIA/14 or equivalent)

501 Boylston Street

Boston	MA	02116	United States of America
City	State	Zip	Country

Note: Use an additional PTO/AIA/02 form for each inventor who is deceased, legally incapacitated, cannot be found or reached after diligent effort, or has refused to execute the oath or declaration under 37 CFR 1.63.

Doc code: Oath
Document Description: Oath or declaration filed

PTO/AIA/02 (07-13)
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U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

SUBSTITUTE STATEMENT IN LIEU OF AN OATH OR DECLARATION FOR UTILITY OR DESIGN PATENT APPLICATION (35 U.S.C. 115(d) AND 37 CFR 1.64)

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OR

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LEGAL NAME of inventor to whom this substitute statement applies:

(*E.g.*, Given Name (first and middle (if any)) and Family Name or Surname)

Christopher Hibmacronan

Residence (except for a deceased or legally incapacitated inventor):

City	State	Country
Oakland	CA	United States of America

Mailing Address (except for a deceased or legally incapacitated inventor):

2429 Damuth Street

City	State	Zip	Country
Oakland	CA	94602	United States of America

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The above-identified application was made or authorized to be made by me.

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☐ Legal Representative (for deceased or legally incapacitated inventor only),

☒ Assignee,

☐ Person to whom the inventor is under an obligation to assign,

☐ Person who otherwise shows a sufficient proprietary interest in the matter (petition under 37 CFR 1.46 is required), or

☐ Joint Inventor.

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WARNING:

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PERSON EXECUTING THIS SUBSTITUTE STATEMENT:

Name: Kristin Carroll	Date (Optional):

Signature: Kristin Carroll

APPLICANT NAME AND TITLE OF PERSON EXECUTING THIS SUBSTITUTE STATEMENT:

If the applicant is a juristic entity, list the applicant name and the title of the signer:

Applicant Name: LITL LLC

Title of Person Executing This Substitute Statement: General Counsel

The signer, whose title is supplied above, is authorized to act on behalf of the applicant.

Residence of the signer (unless provided in an application data sheet, PTO/AIA/14 or equivalent):

Boston	MA	United States of America
City	State	Country

Mailing Address of the signer (unless provided in an application data sheet, PTO/AIA/14 or equivalent)

501 Boylston Street

Boston	MA	02116	United States of America
City	State	Zip	Country

Note: Use an additional PTO/AIA/02 form for each inventor who is deceased, legally incapacitated, cannot be found or reached after diligent effort, or has refused to execute the oath or declaration under 37 CFR 1.63.

Doc code: Oath
Document Description: Oath or declaration filed

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SUBSTITUTE STATEMENT IN LIEU OF AN OATH OR DECLARATION FOR UTILITY OR DESIGN PATENT APPLICATION (35 U.S.C. 115(d) AND 37 CFR 1.64)

Title of Invention	SYSTEM AND METHOD FOR STREAMLINING USER INTERACTION WITH ELECTRONIC CONTENT

This statement is directed to:

[ ] The attached application,

OR

[x] United States application or PCT international application number 14/680,422 filed on 04/07/2015.

LEGAL NAME of inventor to whom this substitute statement applies:

(*E.g.*, Given Name (first and middle (if any)) and Family Name or Surname)

Naoya Edahiro

Residence (except for a deceased or legally incapacitated inventor):

City	State	Country
San Francisco	CA	United States of America

Mailing Address (except for a deceased or legally incapacitated inventor):

375 Bartlett Street

City	State	Zip	Country
San Francisco	CA	94110	United States of America

I believe the above-named inventor or joint inventor to be the original inventor or an original joint inventor of a claimed invention in the application.

The above-identified application was made or authorized to be made by me.

I hereby acknowledge that any willful false statement made in this statement is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both.

Relationship to the inventor to whom this substitute statement applies:

[ ] Legal Representative (for deceased or legally incapacitated inventor only),

[x] Assignee,

[ ] Person to whom the inventor is under an obligation to assign,

[ ] Person who otherwise shows a sufficient proprietary interest in the matter (petition under 37 CFR 1.46 is required), or

[ ] Joint Inventor.

SUBSTITUTE STATEMENT

Circumstances permitting execution of this substitute statement:

- [ ] Inventor is deceased,
- [ ] Inventor is under legal incapacity,
- [x] Inventor cannot be found or reached after diligent effort, or
- [ ] Inventor has refused to execute the oath or declaration under 37 CFR 1.63.

If there are joint inventors, please check the appropriate box below:

- [x] An application data sheet under 37 CFR 1.76 (PTO/AIA/14 or equivalent) naming the entire inventive entity has been or is currently submitted.

OR

- [ ] An application data sheet under 37 CFR 1.76 (PTO/AIA/14 or equivalent) has not been submitted. Thus, a Substitute Statement Supplemental Sheet (PTO/AIA/11 or equivalent) naming the entire inventive entity and providing inventor information is attached. See 37 CFR 1.64(b).

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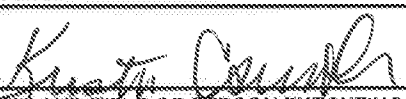
PERSON EXECUTING THIS SUBSTITUTE STATEMENT:

Name: Kristin Carroll	Date (Optional):

Signature: 

APPLICANT NAME AND TITLE OF PERSON EXECUTING THIS SUBSTITUTE STATEMENT:

If the applicant is a juristic entity, list the applicant name and the title of the signer:

Applicant Name: LiTL LLC

Title of Person Executing This Substitute Statement: General Counsel

The signer, whose title is supplied above, is authorized to act on behalf of the applicant.

Residence of the signer (unless provided in an application data sheet, PTO/AIA/14 or equivalent):

Boston	MA	United States of America
City	State	Country

Mailing Address of the signer (unless provided in an application data sheet, PTO/AIA/14 or equivalent)

501 Boylston Street

Boston	MA	02116	United States of America
City	State	Zip	Country

Note: Use an additional PTO/AIA/02 form for each inventor who is deceased, legally incapacitated, cannot be found or reached after diligent effort, or has refused to execute the oath or declaration under 37 CFR 1.63.

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SUBSTITUTE STATEMENT IN LIEU OF AN OATH OR DECLARATION FOR UTILITY OR DESIGN PATENT APPLICATION (35 U.S.C. 115(d) AND 37 CFR 1.64)

Title of Invention	SYSTEM AND METHOD FOR STREAMLINING USER INTERACTION WITH ELECTRONIC CONTENT

This statement is directed to:

[ ] The attached application,

OR

[X] United States application or PCT international application number 14/680,422 filed on 04/07/2015.

LEGAL NAME of inventor to whom this substitute statement applies:

(*E.g.*, Given Name (first and middle (if any)) and Family Name or Surname)

Noah Bruce Guyot

Residence (except for a deceased or legally incapacitated inventor):

City	State	Country
Mill Valley	CA	United States of America

Mailing Address (except for a deceased or legally incapacitated inventor):

4 Longfellow Road

City	State	Zip	Country
Mill Valley	CA	94941	United States of America

I believe the above-named inventor or joint inventor to be the original inventor or an original joint inventor of a claimed invention in the application.

The above-identified application was made or authorized to be made by me.

I hereby acknowledge that any willful false statement made in this statement is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both.

Relationship to the inventor to whom this substitute statement applies:

[ ] Legal Representative (for deceased or legally incapacitated inventor only),

[X] Assignee,

[ ] Person to whom the inventor is under an obligation to assign,

[ ] Person who otherwise shows a sufficient proprietary interest in the matter (petition under 37 CFR 1.46 is required), or

[ ] Joint Inventor.

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SUBSTITUTE STATEMENT

Circumstances permitting execution of this substitute statement:

- [ ] Inventor is deceased,
- [ ] Inventor is under legal incapacity,
- [x] Inventor cannot be found or reached after diligent effort, or
- [ ] Inventor has refused to execute the oath or declaration under 37 CFR 1.63.

If there are joint inventors, please check the appropriate box below:

- [x] An application data sheet under 37 CFR 1.76 (PTO/AIA/14 or equivalent) naming the entire inventive entity has been or is currently submitted.

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PERSON EXECUTING THIS SUBSTITUTE STATEMENT:

Name: Kristin Carroll	Date (Optional):

Signature: Kristin Carroll

APPLICANT NAME AND TITLE OF PERSON EXECUTING THIS SUBSTITUTE STATEMENT:

If the applicant is a juristic entity, list the applicant name and the title of the signer:

Applicant Name: LITL LLC

Title of Person Executing This Substitute Statement: General Counsel

The signer, whose title is supplied above, is authorized to act on behalf of the applicant.

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501 Boylston Street

Boston	MA	02116	United States of America
City	State	Zip	Country

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Title of Invention	SYSTEM AND METHOD FOR STREAMLINING USER INTERACTION WITH ELECTRONIC CONTENT

This statement is directed to:

[ ] The attached application,

OR

[x] United States application or PCT international application number 14/680,422 filed on 04/07/2015.

LEGAL NAME of inventor to whom this substitute statement applies:

(*E.g.*, Given Name (first and middle (if any)) and Family Name or Surname)

Daniel Kuo

Residence (except for a deceased or legally incapacitated inventor):

City	State	Country
San Francisco	CA	United States of America

Mailing Address (except for a deceased or legally incapacitated inventor):

1916 Page Street; Apartment 1

City	State	Zip	Country
San Francisco	CA	94117	United States of America

I believe the above-named inventor or joint inventor to be the original inventor or an original joint inventor of a claimed invention in the application.

The above-identified application was made or authorized to be made by me.

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Relationship to the inventor to whom this substitute statement applies:

[ ] Legal Representative (for deceased or legally incapacitated inventor only),

[x] Assignee,

[ ] Person to whom the inventor is under an obligation to assign,

[ ] Person who otherwise shows a sufficient proprietary interest in the matter (petition under 37 CFR 1.46 is required), or

[ ] Joint Inventor.

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SUBSTITUTE STATEMENT

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- [ ] Inventor is under legal incapacity,
- [x] Inventor cannot be found or reached after diligent effort, or
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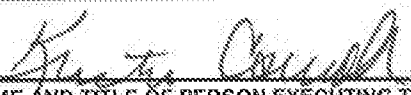
Name: Kristin Carroll	Date (Optional):

Signature: 

APPLICANT NAME AND TITLE OF PERSON EXECUTING THIS SUBSTITUTE STATEMENT:

If the applicant is a juristic entity, list the applicant name and the title of the signer:

Applicant Name: LITL LLC

Title of Person Executing This Substitute Statement: General Counsel

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501 Boylston Street

Boston	MA	02116	United States of America
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SUBSTITUTE STATEMENT IN LIEU OF AN OATH OR DECLARATION FOR UTILITY OR DESIGN PATENT APPLICATION (35 U.S.C. 115(d) AND 37 CFR 1.64)

Title of Invention	SYSTEM AND METHOD FOR STREAMLINING USER INTERACTION WITH ELECTRONIC CONTENT

This statement is directed to:

[ ] The attached application,

OR

[X] United States application or PCT international application number 14/680,422 filed on 04/07/2015.

LEGAL NAME of inventor to whom this substitute statement applies:

(*E.g.*, Given Name (first and middle (if any)) and Family Name or Surname)

Jenea Boshart Hayes

Residence (except for a deceased or legally incapacitated inventor):

City	State	Country
Castro Valley	CA	United States of America

Mailing Address (except for a deceased or legally incapacitated inventor):

18379 Plymouth Drive

City	State	Zip	Country
Castro Valley	CA	94546	United States of America

I believe the above-named inventor or joint inventor to be the original inventor or an original joint inventor of a claimed invention in the application.

The above-identified application was made or authorized to be made by me.

I hereby acknowledge that any willful false statement made in this statement is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both.

Relationship to the inventor to whom this substitute statement applies:

[ ] Legal Representative (for deceased or legally incapacitated inventor only),

[X] Assignee,

[ ] Person to whom the inventor is under an obligation to assign,

[ ] Person who otherwise shows a sufficient proprietary interest in the matter (petition under 37 CFR 1.46 is required), or

[ ] Joint Inventor.

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SUBSTITUTE STATEMENT

Circumstances permitting execution of this substitute statement:

- [ ] Inventor is deceased,
- [ ] Inventor is under legal incapacity,
- [x] Inventor cannot be found or reached after diligent effort, or
- [ ] Inventor has refused to execute the oath or declaration under 37 CFR 1.63.

If there are joint inventors, please check the appropriate box below:

- [x] An application data sheet under 37 CFR 1.76 (PTO/AIA/14 or equivalent) naming the entire inventive entity has been or is currently submitted.

OR

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PERSON EXECUTING THIS SUBSTITUTE STATEMENT:

Name: Kristin Carroll	Date (Optional):

Signature: Kristin Carroll

APPLICANT NAME AND TITLE OF PERSON EXECUTING THIS SUBSTITUTE STATEMENT:

If the applicant is a juristic entity, list the applicant name and the title of the signer:

Applicant Name: LITL LLC

Title of Person Executing This Substitute Statement: General Counsel

The signer, whose title is supplied above, is authorized to act on behalf of the applicant.

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City	State	Country

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501 Boylston Street

Boston	MA	02116	United States of America
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SUBSTITUTE STATEMENT IN LIEU OF AN OATH OR DECLARATION FOR UTILITY OR DESIGN PATENT APPLICATION (35 U.S.C. 115(d) AND 37 CFR 1.64)

Title of Invention	SYSTEM AND METHOD FOR STREAMLINING USER INTERACTION WITH ELECTRONIC CONTENT

This statement is directed to:

[ ] The attached application,

OR

[X] United States application or PCT international application number 14/680,422 filed on 04/07/2015

LEGAL NAME of inventor to whom this substitute statement applies:

(*E.g.*, Given Name (first and middle (if any)) and Family Name or Surname)

Lisa Strausfeld

Residence (except for a deceased or legally incapacitated inventor):

City	State	Country
New York	NY	United States of America

Mailing Address (except for a deceased or legally incapacitated inventor):

114 East 13th Street; Apartment 7D

City	State	Zip	Country
New York	NY	10003	United States of America

I believe the above-named inventor or joint inventor to be the original inventor or an original joint inventor of a claimed invention in the application.

The above-identified application was made or authorized to be made by me.

I hereby acknowledge that any willful false statement made in this statement is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both.

Relationship to the inventor to whom this substitute statement applies:

[ ] Legal Representative (for deceased or legally incapacitated inventor only),

[X] Assignee,

[ ] Person to whom the inventor is under an obligation to assign,

[ ] Person who otherwise shows a sufficient proprietary interest in the matter (petition under 37 CFR 1.46 is required), or

[ ] Joint Inventor.

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SUBSTITUTE STATEMENT

Circumstances permitting execution of this substitute statement:

- [ ] Inventor is deceased,
- [ ] Inventor is under legal incapacity,
- [x] Inventor cannot be found or reached after diligent effort, or
- [ ] Inventor has refused to execute the oath or declaration under 37 CFR 1.63.

If there are joint inventors, please check the appropriate box below:

- [x] An application data sheet under 37 CFR 1.76 (PTO/AIA/14 or equivalent) naming the entire inventive entity has been or is currently submitted.

OR

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PERSON EXECUTING THIS SUBSTITUTE STATEMENT:

Name: Kristin Carroll	Date (Optional):

Signature: Kristin Carroll

APPLICANT NAME AND TITLE OF PERSON EXECUTING THIS SUBSTITUTE STATEMENT:

If the applicant is a juristic entity, list the applicant name and the title of the signer:

Applicant Name: LITL LLC

Title of Person Executing This Substitute Statement: General Counsel

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Residence of the signer (unless provided in an application data sheet, PTO/AIA/14 or equivalent):

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OR

☒ United States application or PCT international application number 14/680,422 filed on 04/07/2015

LEGAL NAME of inventor to whom this substitute statement applies:

(*E.g.*, Given Name (first and middle (if any)) and Family Name or Surname)

Christian Marc Schmidt

Residence (except for a deceased or legally incapacitated inventor):

City	State	Country
Brooklyn	NY	United States of America

Mailing Address (except for a deceased or legally incapacitated inventor):

119 Smith Street; Apartment 3

City	State	Zip	Country
Brooklyn	NY	11201	United States of America

I believe the above-named inventor or joint inventor to be the original inventor or an original joint inventor of a claimed invention in the application.

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☐ Person to whom the inventor is under an obligation to assign,

☐ Person who otherwise shows a sufficient proprietary interest in the matter (petition under 37 CFR 1.46 is required), or

☐ Joint Inventor.

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- [x] An application data sheet under 37 CFR 1.76 (PTO/AIA/14 or equivalent) naming the entire inventive entity has been or is currently submitted.

OR

- [ ] An application data sheet under 37 CFR 1.76 (PTO/AIA/14 or equivalent) has not been submitted. Thus, a Substitute Statement Supplemental Sheet (PTO/AIA/11 or equivalent) naming the entire inventive entity and providing inventor information is attached. See 37 CFR 1.64(b).

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PERSON EXECUTING THIS SUBSTITUTE STATEMENT:

Name: Kristin Carroll	Date (Optional):

Signature: Kristin Carroll

APPLICANT NAME AND TITLE OF PERSON EXECUTING THIS SUBSTITUTE STATEMENT:

If the applicant is a juristic entity, list the applicant name and the title of the signer:

Applicant Name: LITL LLC

Title of Person Executing This Substitute Statement: General Counsel

The signer, whose title is supplied above, is authorized to act on behalf of the applicant.

Residence of the signer (unless provided in an application data sheet, PTO/AIA/14 or equivalent):

Boston	MA	United States of America
City	State	Country

Mailing Address of the signer (unless provided in an application data sheet, PTO/AIA/14 or equivalent)

501 Boylston Street

Boston	MA	02116	United States of America
City	State	Zip	Country

Note: Use an additional PTO/AIA/02 form for each inventor who is deceased, legally incapacitated, cannot be found or reached after diligent effort, or has refused to execute the oath or declaration under 37 CFR 1.63.

PTO/AIA/02 (07-13)
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SUBSTITUTE STATEMENT IN LIEU OF AN OATH OR DECLARATION FOR UTILITY OR DESIGN PATENT APPLICATION (35 U.S.C. 115(d) AND 37 CFR 1.64)

Title of Invention	SYSTEM AND METHOD FOR STREAMLINING USER INTERACTION WITH ELECTRONIC CONTENT

This statement is directed to:

[ ] The attached application,

OR

[X] United States application or PCT international application number 14/680,422 filed on 04/07/2015.

LEGAL NAME of inventor to whom this substitute statement applies:

(*E.g.*, Given Name (first and middle (if any)) and Family Name or Surname)

David Livingstone Fore

Residence (except for a deceased or legally incapacitated inventor):

Oakland	CA	United States of America
City	State	Country

Mailing Address (except for a deceased or legally incapacitated inventor):

1 Lakeside Drive # 602

Oakland	CA	94612	United States of America
City	State	Zip	Country

I believe the above-named inventor or joint inventor to be the original inventor or an original joint inventor of a claimed invention in the application.

The above-identified application was made or authorized to be made by me.

I hereby acknowledge that any willful false statement made in this statement is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both.

Relationship to the inventor to whom this substitute statement applies:

[ ] Legal Representative (for deceased or legally incapacitated inventor only),

[X] Assignee,

[ ] Person to whom the inventor is under an obligation to assign,

[ ] Person who otherwise shows a sufficient proprietary interest in the matter (petition under 37 CFR 1.46 is required), or

[ ] Joint Inventor.

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U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE
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SUBSTITUTE STATEMENT

Circumstances permitting execution of this substitute statement:

- [ ] Inventor is deceased,
- [ ] Inventor is under legal incapacity,
- [x] Inventor cannot be found or reached after diligent effort, or
- [ ] Inventor has refused to execute the oath or declaration under 37 CFR 1.63.

If there are joint inventors, please check the appropriate box below:

- [x] An application data sheet under 37 CFR 1.76 (PTO/AIA/14 or equivalent) naming the entire inventive entity has been or is currently submitted.

OR

- [ ] An application data sheet under 37 CFR 1.76 (PTO/AIA/14 or equivalent) has not been submitted. Thus, a Substitute Statement Supplemental Sheet (PTO/AIA/11 or equivalent) naming the entire inventive entity and providing inventor information is attached. See 37 CFR 1.64(b).

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PERSON EXECUTING THIS SUBSTITUTE STATEMENT:

Name: Kristin Carroll	Date (Optional):

Signature: Kristin Carroll

APPLICANT NAME AND TITLE OF PERSON EXECUTING THIS SUBSTITUTE STATEMENT:

If the applicant is a juristic entity, list the applicant name and the title of the signer:

Applicant Name: LiTL LLC

Title of Person Executing This Substitute Statement: General Counsel

The signer, whose title is supplied above, is authorized to act on behalf of the applicant.

Residence of the signer (unless provided in an application data sheet, PTO/AIA/14 or equivalent):

Boston	MA	United States of America
City	State	Country

Mailing Address of the signer (unless provided in an application data sheet, PTO/AIA/14 or equivalent)

501 Boylston Street

Boston	MA	02116	United States of America
City	State	Zip	Country

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Doc code: Oath
Document Description: Oath or declaration filed

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SUBSTITUTE STATEMENT IN LIEU OF AN OATH OR DECLARATION FOR UTILITY OR DESIGN PATENT APPLICATION (35 U.S.C. 115(d) AND 37 CFR 1.64)

Title of Invention	SYSTEM AND METHOD FOR STREAMLINING USER INTERACTION WITH ELECTRONIC CONTENT

This statement is directed to:

[ ] The attached application,

OR

[X] United States application or PCT international application number 14/680,422 filed on 04/07/2015.

LEGAL NAME of inventor to whom this substitute statement applies:

(*E.g.*, Given Name (first and middle (if any)) and Family Name or Surname)

Serge Beaulieu

Residence (except for a deceased or legally incapacitated inventor):

City	State	Country
San Francisco	CA	United States of America

Mailing Address (except for a deceased or legally incapacitated inventor):

409B Lyon Street

City	State	Zip	Country
San Francisco	CA	94117	United States of America

I believe the above-named inventor or joint inventor to be the original inventor or an original joint inventor of a claimed invention in the application.

The above-identified application was made or authorized to be made by me.

I hereby acknowledge that any willful false statement made in this statement is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both.

Relationship to the inventor to whom this substitute statement applies:

[ ] Legal Representative (for deceased or legally incapacitated inventor only),

[X] Assignee,

[ ] Person to whom the inventor is under an obligation to assign,

[ ] Person who otherwise shows a sufficient proprietary interest in the matter (petition under 37 CFR 1.46 is required), or

[ ] Joint Inventor.

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SUBSTITUTE STATEMENT

Circumstances permitting execution of this substitute statement:

- [ ] Inventor is deceased,
- [ ] Inventor is under legal incapacity,
- [x] Inventor cannot be found or reached after diligent effort, or
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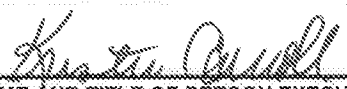
PERSON EXECUTING THIS SUBSTITUTE STATEMENT:

Name: Kristin Carroll	Date (Optional):

Signature: 

APPLICANT NAME AND TITLE OF PERSON EXECUTING THIS SUBSTITUTE STATEMENT:

If the applicant is a juristic entity, list the applicant name and the title of the signer:

Applicant Name: LiTL LLC

Title of Person Executing This Substitute Statement: General Counsel

The signer, whose title is supplied above, is authorized to act on behalf of the applicant.

Residence of the signer (unless provided in an application data sheet, PTO/AIA/14 or equivalent):

Boston	MA	United States of America
City	State	Country

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501 Boylston Street

Boston	MA	02116	United States of America
City	State	Zip	Country

Note: Use an additional PTO/AIA/02 form for each inventor who is deceased, legally incapacitated, cannot be found or reached after diligent effort, or has refused to execute the oath or declaration under 37 CFR 1.63.

Doc code: Oath
Document Description: Oath or declaration filed

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SUBSTITUTE STATEMENT IN LIEU OF AN OATH OR DECLARATION FOR UTILITY OR DESIGN PATENT APPLICATION (35 U.S.C. 115(d) AND 37 CFR 1.64)

Title of Invention	SYSTEM AND METHOD FOR STREAMLINING USER INTERACTION WITH ELECTRONIC CONTENT

This statement is directed to:

[ ] The attached application,

OR

[X] United States application or PCT international application number 14/680,422 filed on 04/07/2015.

LEGAL NAME of inventor to whom this substitute statement applies:

(*E.g.*, Given Name (first and middle (if any)) and Family Name or Surname)

Logan Ray

Residence (except for a deceased or legally incapacitated inventor):

City	State	Country

Mailing Address (except for a deceased or legally incapacitated inventor):

711 Boylston Street

City	State	Zip	Country
Boston	MA	02116	United States of America

I believe the above-named inventor or joint inventor to be the original inventor or an original joint inventor of a claimed invention in the application.

The above-identified application was made or authorized to be made by me.

I hereby acknowledge that any willful false statement made in this statement is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both.

Relationship to the inventor to whom this substitute statement applies:

[ ] Legal Representative (for deceased or legally incapacitated inventor only),

[X] Assignee,

[ ] Person to whom the inventor is under an obligation to assign,

[ ] Person who otherwise shows a sufficient proprietary interest in the matter (petition under 37 CFR 1.46 is required), or

[ ] Joint Inventor.

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SUBSTITUTE STATEMENT

Circumstances permitting execution of this substitute statement:

- [ ] Inventor is deceased,
- [ ] Inventor is under legal incapacity,
- [x] Inventor cannot be found or reached after diligent effort, or
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If there are joint inventors, please check the appropriate box below:

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PERSON EXECUTING THIS SUBSTITUTE STATEMENT:

Name: Kristin Carroll	Date (Optional):

Signature: 

APPLICANT NAME AND TITLE OF PERSON EXECUTING THIS SUBSTITUTE STATEMENT:

If the applicant is a juristic entity, list the applicant name and the title of the signer:

Applicant Name: LITL LLC

Title of Person Executing This Substitute Statement: General Counsel

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Boston	MA	02116	United States of America
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Title of Invention	SYSTEM AND METHOD FOR STREAMLINING USER INTERACTION WITH ELECTRONIC CONTENT

This statement is directed to:

[ ] The attached application,

OR

[x] United States application or PCT international application number 14/680,422 filed on 04/07/2015.

LEGAL NAME of inventor to whom this substitute statement applies:

(*E.g.*, Given Name (first and middle (if any)) and Family Name or Surname)

Bart Haney

Residence (except for a deceased or legally incapacitated inventor):

Boston	MA	United States of America
City	State	Country

Mailing Address (except for a deceased or legally incapacitated inventor):

711 Boylston Street

Boston	MA	02116	United States of America
City	State	Zip	Country

I believe the above-named inventor or joint inventor to be the original inventor or an original joint inventor of a claimed invention in the application.

The above-identified application was made or authorized to be made by me.

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[ ] Legal Representative (for deceased or legally incapacitated inventor only),

[x] Assignee,

[ ] Person to whom the inventor is under an obligation to assign,

[ ] Person who otherwise shows a sufficient proprietary interest in the matter (petition under 37 CFR 1.46 is required), or

[ ] Joint Inventor.

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SUBSTITUTE STATEMENT

Circumstances permitting execution of this substitute statement:

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- [ ] Inventor is under legal incapacity,
- [x] Inventor cannot be found or reached after diligent effort, or
- [ ] Inventor has refused to execute the oath or declaration under 37 CFR 1.63.

If there are joint inventors, please check the appropriate box below:

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PERSON EXECUTING THIS SUBSTITUTE STATEMENT:

Name: Kristin Carroll	Date (Optional):

Signature: Kristin Carroll

APPLICANT NAME AND TITLE OF PERSON EXECUTING THIS SUBSTITUTE STATEMENT:

If the applicant is a juristic entity, list the applicant name and the title of the signer:

Applicant Name: LITL LLC

Title of Person Executing This Substitute Statement: General Counsel

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Title of invention	SYSTEM AND METHOD FOR STREAMLINING USER INTERACTION WITH ELECTRONIC CONTENT

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OR

[X] United States application or PCT international application number 14/680,422 filed on 04/07/2015.

LEGAL NAME of inventor to whom this substitute statement applies:

(*E.g.*, Given Name (first and middle (if any)) and Family Name or Surname)

Matthew David Day

Residence (except for a deceased or legally incapacitated inventor):

City	State	Country
San Francisco	CA	United States of America

Mailing Address (except for a deceased or legally incapacitated inventor):

425 2nd Street #301

City	State	Zip	Country
San Francisco	CA	94107	United States of America

I believe the above-named inventor or joint inventor to be the original inventor or an original joint inventor of a claimed invention in the application.

The above-identified application was made or authorized to be made by me.

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[ ] Joint Inventor.

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SUBSTITUTE STATEMENT

Circumstances permitting execution of this substitute statement:

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- [ ] Inventor is under legal incapacity,
- [x] Inventor cannot be found or reached after diligent effort, or
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If there are joint inventors, please check the appropriate box below:

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PERSON EXECUTING THIS SUBSTITUTE STATEMENT:

Name: Kristin Carroll	Date (Optional):

Signature: Kristin Carroll

APPLICANT NAME AND TITLE OF PERSON EXECUTING THIS SUBSTITUTE STATEMENT:

If the applicant is a juristic entity, list the applicant name and the title of the signer:

Applicant Name: LITL LLC

Title of Person Executing This Substitute Statement: General Counsel

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OR

[X] United States application or PCT international application number 14/680,422 filed on 04/07/2015.

LEGAL NAME of inventor to whom this substitute statement applies:

(*E.g.*, Given Name (first and middle (if any)) and Family Name or Surname)

Yves Behar

Residence (except for a deceased or legally incapacitated inventor):

City	State	Country
Oakland	CA	United States of America

Mailing Address (except for a deceased or legally incapacitated inventor):

5741 Scarborough Drive

City	State	Zip	Country
Oakland	CA	94611	United States of America

I believe the above-named inventor or joint inventor to be the original inventor or an original joint inventor of a claimed invention in the application.

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[ ] Joint Inventor.

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SUBSTITUTE STATEMENT

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If there are joint inventors, please check the appropriate box below:

- [x] An application data sheet under 37 CFR 1.76 (PTO/AIA/14 or equivalent) naming the entire inventive entity has been or is currently submitted.

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- [ ] An application data sheet under 37 CFR 1.76 (PTO/AIA/14 or equivalent) has not been submitted. Thus, a Substitute Statement Supplemental Sheet (PTO/AIA/11 or equivalent) naming the entire inventive entity and providing inventor information is attached. See 37 CFR 1.64(b).

WARNING:

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Electronic Acknowledgement Receipt

EFS ID:	30481145
Application Number:	14680422
International Application Number:	
Confirmation Number:	5691
Title of Invention:	SYSTEM AND METHOD FOR STREAMLINING USER INTERACTION WITH ELECTRONIC CONTENT
First Named Inventor/Applicant Name:	Yves Behar
Customer Number:	23628
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1	Miscellaneous Incoming Letter	L203970004US03-TRN-MEB.pdf	26362 1ac7f63f531a0d3af6934e75193c0d5b31c771ad	no	1

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2	Oath or Declaration filed	L203970004US03-INVDEC-MEB.pdf	2774110 e2dbb8fc8e8e6cd362a5d875d52cf6e5001536f3	no	15
Warnings:					
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3	Oath or Declaration filed	L203970004US03-SUBSTATE-MEB.pdf	2172519 8d74cc8b42d9a18c97c1d6e0e6e77320e10acbb4	no	28
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FORM PTO-1449/A and B (modified PTO/SB/08)				APPLICATION NO.: 14/680,422	ATTY. DOCKET NO.: L2039.70004US03
INFORMATION DISCLOSURE STATEMENT BY APPLICANT				FILING DATE: April 07, 2015	CONFIRMATION NO.: 5691
				FIRST NAMED INVENTOR: Yves Behar	
Sheet	1	of	1	GROUP ART UNIT: 2141	EXAMINER: Claudia B. Dragoescu

U.S. PATENT DOCUMENTS

Examiner's Initials #	Cite No.	U.S. Patent Document		Name of Patentee or Applicant of Cited Document	Date of Publication or Issue of Cited Document MM-DD-YYYY
		Number	Kind Code		
		2002-0190947	A1	Feinstein	12-19-2002
		2006-0017692	A1	Wehrenberg et al.	01-26-2006

FOREIGN PATENT DOCUMENTS

Examiner's Initials #	Cite No.	Foreign Patent Document			Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Translation (Y/N)
		Office/ Country	Number	Kind Code			
		CN	1926496	A	Apple Computer	03-07-2007	Y-Abstract

OTHER ART – NON PATENT LITERATURE DOCUMENTS

Examiner's Initials #	Cite No	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	Translation (Y/N)
		Canadian Office Action mailed August 18, 2017 in connection with Canadian Application No. 2719828 (L2039.70001CA00).	

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EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.

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Bibliographic data: CN1926496 (A) — 2007-03-07

Methods and apparatuses for operating a portable device based on an accelerometer

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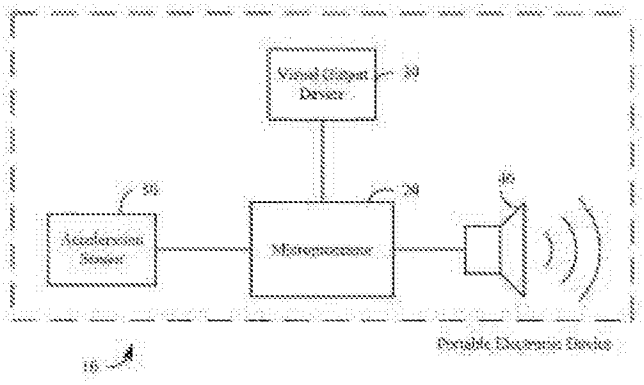
Abstract of CN1926496 (B)

Methods and apparatuses for operating a portable device based on an accelerometer are described. According to one embodiment of the invention, an accelerometer attached to a portable device detects a movement of the portable device. In response, a machine executable code is executed within the portable device to perform one or more predetermined user configurable operations. Other methods and apparatuses are also described.



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权利要求书 18 页 说明书 32 页 附图 31 页

[54] 发明名称

基于加速度计操作便携式设备的方法及装置

[57] 摘要

本发明描述了基于加速度计操作便携式设备的方法及装置。根据本发明的一个实施例，安装到便携式设备的加速度计检测便携式设备的运动。作为响应，机器可执行代码在便携式设备中被执行，以进行一个或多个预定的用户可配置操作。其他方法和装置也被描述。

1. 一种方法，包括：

利用安装到便携式设备的加速度计检测所述便携式设备的运动；以及

响应于所述便携式设备的运动的检测，执行机器可执行代码，以进行一个或多个预定的用户可配置动作。

2. 根据权利要求1所述的方法，进一步包括：

基于所述加速度计所提供的运动数据，确定所述运动的方向；以及

将所确定的运动的方向与预定方向相比较，以确定所确定的方向是否与所述预定方向相对匹配，以便执行所述机器可执行代码。

3. 根据权利要求2所述的方法，其中所述便携式设备的运动包括平行于所述便携式设备的表面朝某方向移动所述便携式设备。

4. 根据权利要求2所述的方法，其中所述便携式设备的运动包括相对于所述便携式设备的边和角中至少一个旋转所述便携式设备。

5. 根据权利要求2所述的方法，其中所述便携式设备的运动包括平行于所述便携式设备的表面朝某方向移动所述便携式设备、相对于所述便携式设备的边旋转所述便携式设备、以及相对于所述便携式设备的角旋转所述便携式设备中至少两个的组合。

6. 根据权利要求2所述的方法，进一步包括基于由所述加速度计所收集的运动数据确定所述便携式设备在所述运动后的定向，其中基于所确定的定向执行所述一个或多个预定的用户可配置动作。

7. 根据权利要求6所述的方法，其中所述一个或多个预定的用户可配置动作包括根据与所述图像在所述运动之前的定向相对一致的定向在所述便携式设备的显示屏上显示图像。

8. 根据权利要求7所述的方法，其中所述图像包括文档页面、网页以及幻灯片演示页面中之一。

9. 根据权利要求2所述的方法，进一步包括：

在所述运动之前，在所述便携式设备的显示屏上显示文档的第一页；以及

如果所确定的运动的方向相对匹配所述预定方向，则在所述便携式设备的显示屏上显示所述文档的不同于所述第一页的第二页。

10. 根据权利要求9所述的方法，进一步包括在所述文档的第一页和第二页之间显示一个或多个中间页面，所述一个或多个中间页面表示从所述第一页到所述第二页的转换。

11. 根据权利要求9所述的方法，其中当所述便携式设备的运动被检测时，所述便携式设备被放置在支撑平面上，并且当突发力拍打所述支撑平面时，所述便携式设备的运动被检测。

12. 根据权利要求11所述的方法，进一步包括：

通过所述支撑表面检测由拍打所述支撑平面所导致的所述便携式设备的振动；以及

基于所检测的所述便携式设备的振动产生所述运动数据。

13. 根据权利要求11所述的方法，其中所述文档的第二页被显示为从所述文档的第一页前进的下一页面。

14. 根据权利要求11所述的方法，其中所述文档的第二页被显示为从所述文档的第一页返回的前一页面。

15. 根据权利要求2所述的方法，进一步包括：

在所述运动之前，在所述便携式设备的显示屏上显示文档页面的第一部分；以及

如果所确定的运动的方向与所述预定方向相对匹配，则在所述便携式设备的显示屏上显示所述文档页面的不同于所属第一部分的第二部分。

16. 根据权利要求15所述的方法，进一步包括在所述文档页面的第一和第二部分之间显示一个或多个所述文档页面的过渡部分，所述一个或多个过渡部分表示从所述第一部分到所述第二部分的转换。

17. 根据权利要求16所述的方法，其中从第一部分转换地显示所述第二部分，就像所述便携式设备在移动、而所述文档页面是静止的一样。

18. 根据权利要求16所述的方法，其中根据从用户视点所确定的运动的方向执行从所述第一部分到所述第二部分的转换。

19. 根据权利要求15所述的方法，其中所述文档页面不能被完整地显示在所述便携式设备的显示屏中的一个页面上。

20. 根据权利要求15所述的方法，其中所述文档页面是地图、报纸以及视频游戏场景之一。

21. 根据权利要求2所述的方法，进一步包括：

显示从用户视点看来朝从第一场景到第二场景的方向转换的一

系列图像；

检测所述便携式设备的运动是否和与从用户视点看所述转换的方向相关联的方向一致；以及

如果根据与所述转换的方向相关联的方向没有检测到所述运动，则执行预定操作。

22. 根据权利要求21所述的方法，其中所述预定操作包括下述操作之一：引起所述便携式设备的振动，产生声音报警，以及振动和声音报警的组合。

23. 根据权利要求21所述的方法，进一步包括：

基于由所述加速度计所提供的运动数据，确定所述便携式设备的运动的加速度；以及

用与所述运动的加速度相对关联的加速度调整所述图像序列的显示。

24. 根据权利要求21，其中所述图像序列表示视频游戏的活动场景，并且所述便携式设备表示从拿着所述便携式设备的用户的视点看面向所述运动场景的运动对象。

25. 根据权利要求6所述的方法，进一步包括：

启动所述便携式设备的最适合于给定的确定定向的至少一个接口；以及

可选地，去激励所述便携式设备的较不适合于给定的确定定向的至少一个接口。

26. 根据权利要求25所述的方法，进一步包括：

基于由所述加速度计所提供的运动数据，确定在所述运动之后所述便携式设备是否被用户拿着；以及

预测所述用户用于握持所述便携式设备的手的位置，其中基于所述手的预测位置启动或去激励所述至少一个的接口。

27. 根据权利要求26所述的方法，进一步包括：

启动不在所述预测位置内的至少一个接口；以及

去激励在所述预测位置内的至少一个接口。

28. 根据权利要求25所述的方法，其中所述至少一个接口包括一个或多个无线收发器。

29. 根据权利要求28所述的方法，进一步包括：

启动以相对较强信号通信的至少一个无线收发器；以及

去激励以相对较弱信号通信的至少一个无线收发器。

30. 根据权利要求25所述的方法，其中所述至少一个接口包括一个或多个扬声器。

31. 根据权利要求30所述的方法，进一步包括驱动至少一个扬声器，以在所述运动之后在便携式设备的给定的确定的定向上具有最佳声音效果。

32. 根据权利要求25所述的方法，其中所述至少一个接口包括一个或多个照相机。

33. 根据权利要求25所述的方法，其中所述至少一个接口包括一个或多个麦克风。

34. 根据权利要求25所述的方法，其中所述至少一个接口包括一个或多个视频输出接口。

35. 根据权利要求2所述的方法，进一步包括：

基于由所述加速度计所提供的运动数据，确定所述运动是否是重复运动；以及

确定所述运动的重复率，其中基于所确定的运动的重复率执行所述机器可执行代码。

36. 根据权利要求35所述的方法，其中所述便携式设备是多媒体播放器，并且执行所述机器可执行代码包括通过所述便携式设备播放多媒体内容。

37. 根据权利要求36所述的方法，进一步包括调整当前正被播放的多媒体内容的节奏，以相对匹配所确定的运动的重复率。

38. 根据权利要求36所述的方法，进一步包括选择和播放节拍与所确定的运动的重复率相对匹配的多媒体内容。

39. 根据权利要求36所述的方法，其中所述便携式设备是数字音频播放器。

40. 根据权利要求1所述的方法，进一步包括确定所述便携式设备的包括活动运行状态和非活动运行状态之一的运行状态，其中基于所确定的运行状态执行所述机器可执行代码。

41. 根据权力要求40所述的方法，进一步包括：如果基于所述加速度计所提供的运动数据确定所述便携式设备处于非活动状态并且正在移动，则将所述便携式设备转换到相对较低功率模式。

42. 根据权利要求40所述的方法，进一步包括：如果基于由所

述加速度计所提供的运动数据确定所述便携式设备处于非活动状态并且不是正在移动，则将所述便携式设备转换为睡眠模式。

43. 根据权利要求42所述的方法，其中将所述便携式设备转换为睡眠模式包括：

将所述便携式设备的系统存储器中的至少一部分内容交换到所述便携式设备的永久存储器中；以及

基本关闭所述便携式设备消耗的所有电源。

44. 根据权利要求40所述的方法，其中当所述便携式设备处于非活动状态时，所述便携式设备的盖子是合着的。

45. 根据权利要求40所述的方法，其中当所述便携式设备处于非活动状态时，所述便携式设备的用户接口被锁定。

46. 根据权利要求40所述的方法，其中当所述便携式设备处于非活动状态时，所述便携式设备的接口设备被禁用。

47. 根据权利要求2所述的方法，进一步包括：

在检测所述便携式设备的运动之前，要求用户移动所述便携式设备，作为密码输入的一部分；以及

基于所述便携式设备的运动方向是否相对匹配所述预定方向，指示所述密码是否被正确输入。

48. 根据权利要求47所述的方法，进一步包括在请求所述用户移动所述便携式设备之前，提示所述用户输入所述密码的第一部分，其中基于所述便携式设备的所述运动以及所输入的所述密码的第一部分确定所述密码是否被成功输入的指示。

49. 根据权利要求48所述的方法，进一步包括：在请求所述用户移动所述便携式设备之后，提示所述用户输入所述密码的第二部分，其中基于所述便携式设备的运动以及所输入的所述密码的第一和第二部分确定所述密码是否被成功输入的指示。

50. 根据权利要求2所述的方法，进一步包括：

利用所述加速度计记录一段时间内所述便携式设备的一系列运动；以及

随后利用所记录的运动序列绘制表示所述运动序列的轨迹。

51. 根据权利要求50所述的方法，其中记录所述运动序列包括：

基于所述加速度计所提供的运动数据确定每个运动的运动方向；以及

记录具有不同运动方向的每个运动之间的时间间隔，其中基于所确定的每个运动的方向以及每个运动之间的时间间隔执行所述绘制。

52. 根据权利要求51所述的方法，进一步包括在绘制之前，将所记录的运动序列存储到所述便携式设备的存储器中。

53. 根据权利要求52所述的方法，其中通过从所述便携式设备的存储器中检索所记录的运动序列离线地执行所述绘制。

54. 根据权利要求2所述的方法，进一步包括：

基于所述加速度计所提供的运动数据，确定所述便携式设备的预定表面是否朝向预定方向；以及

如果所述便携式设备的预定表面朝向所述预定方向，则使所述便携式设备进入相对较低功率模式。

55. 根据权利要求54所述的方法，其中如果所述便携式设备的

显示器表面朝下，则使所述便携式设备进入所述相对较低功率模式。

56. 根据权利要求2所述的方法，进一步包括：

确定所述便携式设备是否处于锁定状态；以及

如果所述便携式设备处于锁定状态，则产生警报以指示所述便携式设备的运动。

57. 根据权利要求56所述的方法，其中产生所述警报包括产生可听到的音频警报。

58. 根据权利要求56所述的方法，其中产生所述警报包括通过网络将信号发送到远程设备。

59. 根据权利要求2所述的方法，进一步包括：

基于所述加速度计所提供的运动数据，确定所述便携式设备的位置简表；以及

根据所确定的位置简表配置所述便携式设备。

60. 根据权利要求59所述的方法，其中配置所述便携式设备包括：如果所述便携式设备与移动简表相关联，则禁用所述便携式设备的无线网络接口以及使能所述便携式设备的蜂窝接口。

61. 根据权利要求1所述的方法，其中所述便携式设备是膝上型计算机、触摸屏PC、PDA(个人数字助理)、蜂窝电话、个人通信器以及多媒体播放器中之一。

62. 一种便携式设备，包括：

处理器；

连接到所述处理器的存储器，所述存储器存储有指令；以及

连接到所述处理器和所述存储器的加速度计，用于检测所述便携式设备的运动，其中所述处理器响应于检测到所述便携式设备的运动而执行来自所述存储器的指令以执行一个或多个预定的用户可配置动作。

63. 根据权利要求62所述的便携式设备，进一步包括连接到所述加速度计以及所述处理器的控制器，所述控制器用于

基于所述加速度计所提供的运动数据，确定所述运动的方向；以及

将所确定的运动的方向与预定方向相比较，以确定所确定的方向是否相对匹配所述预定方向，以便执行所述指令。

64. 一种具有用于使机器执行方法的可执行代码的机器可读介质，所述方法包括：

利用安装到便携式设备的加速度计，检测所述便携式设备的运动；以及

响应于检测到所述便携式设备的运动，执行机器可执行代码，以进行一个或多个预定的用户可配置动作。

65. 根据权利要求64所述的机器可读介质，其中所述方法进一步包括：

基于所述加速度计所提供的运动数据，确定所述运动的方向；以及

将所确定的运动的方向与预定方向相比较，以确定所确定的方向是否相对匹配所述预定方向，以便执行所述机器可执行代码。

66. 一种装置，包括：

用于利用安装到便携式设备的加速度计检测所述便携式设备的运动的单元；以及

用于响应于检测到所述便携式设备的运动而执行机器可执行代码，以进行一个或多个预定的用户可配置动作的单元。

67. 根据权利要求66所述的装置，进一步包括：

用于基于所述加速度计所提供的运动数据确定所述运动的方向的单元；以及

用于比较所确定的运动的方向与预定方向，以确定所确定的方向是否相对匹配所述预定方向，以便执行所述机器可执行代码的单元。

68. 一种方法，包括：

利用安装到便携式设备的加速度计检测所述便携式设备的运动；

基于所述加速度计所提供的运动数据确定所述运动之后所述便携式设备的定向；以及

根据与所述运动之前所述图像的定向相对一致的定向，在所述便携式设备的显示屏上显示图像。

69. 根据权利要求68所述的方法，其中所述图像是文档页面、网页以及幻灯片演示页面之一。

70. 一种方法，包括：

在便携式设备的显示屏上显示文档的第一页；

利用安装到所述便携式设备的加速度计，检测所述便携式设备的运动；以及

响应于运动的检测，显示所述文档的不同于所述第一页的第二页。

71. 根据权利要求70所述的方法，进一步包括基于所述加速度计所提供的运动数据，确定所述运动的方向，其中如果所确定的方向相对匹配预定方向，则显示所述第二页。

72. 根据权利要求71所述的方法，进一步包括在所述文档的第一和第二页之间显示一个或多个中间页面，其中所述一个或多个中间页面表示从所述第一页到所述第二页的转换。

73. 根据权利要求71所述的方法，其中当检测所述便携式设备的运动时，所述便携式设备被放在支撑平面上，并且当突发力敲打所述支撑表面时检测所述便携式设备的运动。

74. 根据权利要求73所述的方法，进一步包括：

通过所述支撑平面检测由敲打所述支撑平面所引起的所述便携式设备的振动；以及

基于所检测到的便携式设备的振动，产生所述运动数据。

75. 根据权利要求73所述的方法，其中所述文档的第二页被显示作为从所述文档的第一页前进的下一页。

76. 根据权利要求73所述的方法，其中所述文档的第二页被显示作为从所述文档的第一页返回的上一页。

77. 一种方法，包括：

在所述便携式设备的显示屏上显示文档页面的第一部分；

利用安装到所述便携式设备的加速度计，检测所述便携式设备的运动；以及

响应于所述检测，在所述便携式设备的显示屏上显示所述文档页面的不同于所述第一部分的第二部分。

78. 根据权利要求77所述的方法，进一步包括基于所述加速度计所提供的运动数据，确定所述运动的方向，其中如果所确定的方向

相对匹配预定方向，则显示所述文档页面的第二部分。

79. 根据权利要求78所述的方法，其中从所述第一部分转换地显示所述第二部分，就好像所述便携式设备在移动、而所述文档页面静止一样。

80. 根据权利要求78所述的方法，其中根据从用户视点确定的所述运动的方向而执行从所述第一部分到所述第二部分的转换。

81. 根据权利要求77所述的方法，其中所述文档页面不能被完整地显示在所述便携式设备的显示器内一个页面上。

82. 根据权利要求77所述的方法，其中所述文档页面是地图、报纸以及视频游戏场景之一。

83. 一种方法，包括：

在便携式设备的显示屏上显示从用户视点看来朝从第一场景到第二场景的方向转换的一系列图像；

利用安装到所述便携式设备的加速度计，检测所述便携式设备的运动；以及

如果所检测到的运动不和与从用户视点看的所述转换的方向相关联的方向一致，则执行预定操作。

84. 根据权利要求83所述的方法，其中所述预定操作包括导致所述便携式设备振动、产生声音报警、以及振动和声音报警的组合之一。

85. 根据权利要求83所述的方法，进一步包括：

基于所述加速度计所提供的运动数据，确定所述便携式设备的运

动的加速度；以及

以和所述运动的加速度相对关联的加速度调整所述图像序列的显示。

86. 根据权利要求83所述的方法，其中所述图像序列表示视频游戏的运动场景，并且所述便携式设备表示从拿着所述便携式设备的用户的视点看面向所述运动场景的运动物体。

87. 一种方法，包括：

利用安装到便携式设备的加速度计，检测所述便携式设备的运动；

基于所述加速度计所提供的运动数据，确定在所述运动之后所述便携式设备的定向；以及

启动所述便携式设备的最适合于给定的确定的定向的至少一个接口。

88. 根据权利要求87所述的方法，进一步包括可选地去激励所述便携式设备的较不适于给定的确定的定向的至少一个接口。

89. 根据权利要求88所述的方法，进一步包括：

基于所述加速度计所提供的运动数据，确定在所述运动之后所述便携式设备是否被用户拿着；以及

预测所述用户用于握着所述便携式设备的手的位置，其中基于所预测的手的位置启动或去激励所述至少一个接口。

90. 根据权利要求89所述的方法，进一步包括：

启动不在所述预测位置内的至少一个接口；以及

去激励位于所述预测位置内的至少一个接口。

91. 根据权利要求88所述的方法，其中所述至少一个接口包括一个或多个无线收发器。

92. 根据权利要求91所述的方法，进一步包括：

启动以相对较强信号通信的至少一个无线接口；以及

去激励以相对较弱信号通信的至少一个无线收发器。

93. 根据权利要求88所述的方法，其中所述至少一个接口包括一个或多个扬声器。

94. 根据权利要求93所述的方法，进一步包括驱动至少一个扬声器，从而在所述运动之后，在所确定的便携式设备的定向上具有最佳声音效果。

95. 根据权利要求88所述的方法，其中所述至少一个接口包括一个或多个照相机。

96. 根据权利要求88所述的方法，其中所述至少一个接口包括一个或多个麦克风。

97. 根据权利要求88所述的方法，其中所述至少一个接口包括一个或多个视频输出接口。

98. 一种方法，包括：

利用加速度计检测便携式设备的运动是否是重复运动；

基于所述加速度计所提供的运动数据，确定所述运动的重复率；以及

基于所确定的运动的重复率，通过所述便携式设备播放多媒体内容。

99. 根据权利要求98所述的方法，进一步包括调整所述多媒体内容的节奏，以相对匹配所确定的运动的重复率。

100. 根据权利要求98所述的方法，进一步包括选择和播放节奏相对匹配所确定的运动的重复率的多媒体内容。

101. 根据权利要求98所述的方法，其中所述便携式设备是数字音频播放器。

102. 一种方法，包括：

利用安装到便携式设备的加速度计，检测所述便携式设备是否正在移动；

确定所述便携式设备的运行状态，所述运行状态包括非活动状态和活动状态之一；以及

如果所述便携式设备正在移动，则基于所确定的运行状态，将所述便携式设备配置到预定功耗模式。

103. 根据权利要求102所述的方法，进一步包括：如果基于所述加速度计所提供的运动数据确定所述便携式设备处于所述非活动状态并且正在移动，则将所述便携式设备转换到相对较低功耗模式。

104. 根据权利要求102所述的方法，进一步包括：如果基于所述加速度计所提供的运动数据确定所述便携式设备处于所述非活动状态并且没有移动，则将所述便携式设备转换到睡眠模式。

105. 根据权利要求104所述的方法，其中将所述便携式设备转换到睡眠模式包括：

将所述便携式设备的系统存储器中内容的至少一部分交换到所

述便携式设备的永久存储器中；以及

基本关掉由所述便携式设备消耗的所有电源。

106. 根据权利要求102所述的方法，进一步包括：

基于由所述加速度计所提供的运动数据，确定所述便携式设备的预定表面是否朝向预定方向；以及

如果所述便携式设备的预定表面朝向所述预定方向，则将所述便携式设备配置为相对较低功耗模式。

107. 根据权利要求106所述的方法，其中如果所述便携式设备的显示器表面朝下，则所述便携式设备被配置为所述相对较低功耗模式。

108. 根据权利要求102所述的方法，其中当所述便携式设备处于所述非活动状态时，所述便携式设备的盖子是闭合的。

109. 根据权利要求102所述的方法，其中当所述便携式设备处于所述非活动状态时，所述便携式设备的用户接口被锁定。

110. 根据权利要求102所述的方法，其中当所述便携式设备处于所述非活动状态时，禁用所述便携式设备的接口设备。

111. 一种方法，包括：

利用安装到便携式设备的加速度计检测所述便携式设备的运动；

基于由所述加速度计所提供的运动数据，确定所述便携式设备的运动方向；以及

调整所显示对象在所述便携式设备的显示屏上的位置，以补偿所述便携式设备的运动，使得调整后的显示对象相对于所述便携式设备的用户保持相对不变的位置。

112. 根据权利要求111所述的方法，其中检测所述便携式设备的运动包括根据预定位置作为时间的函数而检测所述便携式设备的运动。

113. 根据权利要求111所述的方法，进一步包括：

提取由所述加速度计所提供的运动数据的一个或多个相对高的频率分量；以及

基于所提取的一个或多个相对高的频率分量确定所述运动方向，而忽略相对低的频率分量。

114. 根据权利要求113所述的方法，其中所述一个或多个相对高的频率分量表示所述便携式设备的突发运动。

115. 根据权利要求111所述的方法，其中所显示对象包括电子文档。

116. 一种方法，包括：

响应于施加到便携式设备的力，利用安装到所述便携式设备的加速度计检测所述便携式设备的运动；

基于由所述加速度计所提供的加速度信息，计算所述力的幅值和方向；以及

在所述便携式设备的显示屏上将所显示对象从第一位置移动到第二位置，其中基于所计算的力的幅值和方向确定所述第一位置和第二位置之间的方向和距离。

基于加速度计操作便携式设备的方法及装置

相关申请

本申请是2004年7月13日提交的共同待审美国专利申请No.10/890,856的部分连续(CIP)，共同待审美国专利申请No.10/890,856是2003年1月21日提交的共同待审美国专利申请No.10/348,465、现为美国专利No.6,768,066的继续，美国专利No.6,768,066是2000年10月2日提交的共同待审美国专利申请No.09/678,541、现为美国专利No.6,520,013的分案申请。

本申请也是2004年3月1日提交的共同待审美国专利申请No.10/791,495的部分连续(CIP)。上述美国专利申请在此被引入作为参考。

技术领域

本发明一般涉及便携式设备。本发明尤其涉及使用便携式设备的加速度计来操作便携式设备。

背景技术

加速度计是广泛使用的设备，它的应用有多种多样，例如振动监控、应用控制、游戏杆、工业过程控制、空间发射、卫星控制以及其他应用。例如，加速度计已经被用在汽车中作为检测汽车运动期间运行条件变化的传感器。

随着计算机变得越来越流行，加速度计已经被用在计算机中，以感测计算机的突发运动，诸如自由掉落。加速度计在计算机中的一个典型应用就是保护硬盘驱动器的读/写头。然而，还没有加速度计与计算机中的可执行软件结合使用的应用。

发明内容

本说明书描述了基于加速度计操作便携式设备的方法和装置。根据本发明的一个实施例，连接到便携式设备的加速度计检测便携式设备的运动。作为响应，机器可执行代码被执行以进行预定的用户可配置的操作。

根据本发明的一个实施例，便携式设备的加速度计可以连续或周期性地监控便携式设备的运动。因此，基于由连接到便携式设备的加速度计所提供的运动数据，可以确定便携式设备在运动之前以及运动之后的定向(orientation)。

根据本发明另一实施例，加速度计可以被用于检测便携式设备的运动，从而作为触发文档或图形页面是否可以被显示的一种方式。

根据本发明的另一实施例，加速度计可以被用于导航应用中。例如，其中附加有加速度计的便携式设备可以被用作导航工具，以导航通常不能一次被完整地显示在便携式设备的显示屏上的相对较大的对象或文档。

根据本发明的另一实施例，加速度计可以被应用在游戏应用中，其中加速度计可以被用于检测在视频游戏在便携式设备中运行期间的场景变换。

根据本发明的另一实施例，加速度计可以被用于检测便携式设备的运动，并且可以基于加速度计所提供的运动数据确定便携式设备的定向。此后，可以基于所确定的运动后定向，启动或去激励便携式设备的一个或多个接口。

根据本发明的另一实施例，加速度计可以被用于检测和确定带着其中装有加速度计的便携式设备的用户的活动(例如晃动)。

根据本发明的另一实施例，加速度计可以被用于确定便携式设备是否正在移动(例如被用户携带)，以及便携式设备是否应该进入适当的运行状态(例如睡眠或休眠模式)。

根据本发明的另一实施例，加速度计可以被用于检测便携式设备是否根据特定方向移动，以确定密码是否输入正确。

根据本发明的另一实施例，加速度计可以被用于检测和记录便携式设备的一系列运动，其中所记录的运动数据可以被用于随后重建运动历史(例如，离线)。

从附图以及下面的详细描述中可以了解本发明的其他特征。

附图说明

本发明是通过实例来阐述的，但并不限于附图中的图形，在附图中，相似的标号表示类似的元件。

附图1是阐述依据本发明一个实施例的便携式设备的示例性体系结构的框图。

附图2是阐述依据本发明一个实施例的用于响应于加速度计所产生的事件而操作便携式设备的示例性进程的流程图。

附图3A和3B是阐述依据本发明一个实施例的可以使用加速度计的示例性应用的图。

附图4是阐述依据本发明一个实施例的用于基于加速度计重新定向所显示文档的示例性处理器的流程图。

附图5A和5B是阐述依据本发明某些实施例的可以被用于触发文档页面的显示的便携式设备的示例性运动的图。

附图6是阐述依据本发明一个实施例的用于基于加速度计呈现文档的示例性进程的流程图。

附图7A和7B是阐述依据本发明一个实施例的基于加速度计的示例性导航应用的图。

附图8是阐述依据本发明一个实施例的用于基于加速度计导航图像的示例性进程的流程图。

附图9A和9B是阐述依据本发明一个实施例的基于加速度计的示例性游戏应用的图。

附图10A和10B是阐述依据本发明另一实施例的基于加速度计的示例性游戏应用的图。

附图11是阐述依据本发明一个实施例的用于基于加速度计的游

戏应用的示例性进程的流程图。

附图12A和12B是阐述依据本发明一个实施例的用于基于加速度计启动/去激励便携式设备接口的示例性机制的图。

附图13是阐述依据本发明一个实施例的用于基于加速度计操作便携式设备接口的示例性进程的流程图。

附图14A和14B是阐述依据本发明一个实施例的用于利用加速度计启动/去激励便携式设备的多媒体接口的示例性机制的图。

附图15是阐述依据本发明一个实施例的用于基于加速度计重新配置多媒体接口的示例性进程的流程图。

附图16是阐述依据本发明一个实施例的用于基于加速度计播放多媒体内容的示例性进程的流程图。

附图17是阐述依据本发明一个实施例的用于便携式设备的电源管理的示例性进程的流程图。

附图18是阐述依据本发明一个实施例的用于处理密码的示例性进程的流程图。

附图19是阐述依据本发明一个实施例的用于利用加速度计重建运动轨迹的示例性进程的流程图。

附图20是阐述根据本发明一个实施例的具有加速度计的示例性便携式设备的方框图。

附图21是可以与本发明的一个实施例一起使用的数字处理系统的方框图。

附图22是阐述依据本发明一个实施例的用于利用加速度计进行运动补偿的示例性进程的流程图。

附图23是阐述依据本发明一个实施例的用于利用加速度计检测冲击的示例性进程的流程图。

附图24是阐述依据本发明一个实施例的用于利用加速度计操作便携式设备的部件的示例性进程的流程图。

具体实施方式

本说明书描述了基于加速度计操作便携式设备的方法和装置。根据某些实施例，加速度计已经被应用于便携式设备中，诸如例如膝上型计算机、触摸屏PC、个人数字助理(PDA)、蜂窝电话以及数字多媒体播放器等。一旦加速度计检测到便携式设备的运动，就基于加速度计所提供的运动数据确定运动方向，也被称为运动矢量或加速度矢量。运动方向和/或运动数据可以被提供给在便携式设备中执行的软件成分(例如应用程序软件)。响应于检测到便携式设备的运动，相应的软件成分基于由加速度计所提供的运动方向和/或运动数据执行一个或多个预定的用户可配置动作，诸如例如前进一页文档等。

在接下来的描述中，阐述许多细节，以提供对本发明更为全面的解释。然而，对于本领域技术人员来说，显然可以不需要这些具体细节而实施本发明。在其他情况中，为了避免使本发明太过晦涩，用方框图的形式表示公知的结构及设备，而不是用细节描述。

下述具体描述中的某些部分是用计算机存储器中数据位上的操作的算法和符号表示的方式提供的。这些算法描述和表示是数据处理领域技术人员用于最有效地向其他本领域技术人员传递他们的工作主旨的方式。算法在这里、并且通常被认为是导致期望结果的有条理的步骤序列。这些步骤是需要物理量的物理控制的那些步骤。通常、尽管不是必要地，这些量是能够被存储、传递、组合、比较、以及控制的电信号或磁信号形式。原则上，为了通用性，已经证实了把这些信号表示为位、值、元件、符号、字符、术语、数字等是方便的。

然而，应该牢记的是，所有这些以及类似的术语要与适当的物理量相关联，并且仅仅是应用于这些物理量的合适标记。除非特别指出，否则从下述的讨论中显然可以看到，在整个说明书中，利用诸如“处理”或“计算”或“运算”或“确定”或“显示”等术语的讨论是指计算机系统或类似电子计算设备的控制计算机系统的寄存器和存储器内的表示为物理(电子)量的数据、以及将它们转换为计算机系统的存储器或寄存器或其他此类信息存储、传送或显示设备内的类似地被表示为物理量的其他数据的动作和进程。

本发明还涉及用于执行这里的操作的装置。该装置可以被特定构造用于需要的目的，或者其可以包括由存储在计算机中的计算机程序选择性地启动或重新配置的通用计算机。这样的计算机程序可以被存储在计算机可读存储介质中，诸如、但不限于任意类型的盘，包括软盘、光盘、CD-ROM、以及磁光盘、只读存储器(ROM)、随机存取存储器(RAM)、可擦除可编程ROM(EPROM)、电可擦除可编程ROM(EEPROM)、磁卡或光卡、或适于存储电指令的任意类型的介质，并且每一个都连接到计算机系统总线。

本文中所表示的算法和显示本质上与任何特定计算机或其他装置都不关联。不同通用系统都可以与根据文中教导的程序一起使用，或者可以证实构造更专门的装置以执行所需方法步骤是很方便的。对于多种这些系统的所需结构将在下面的描述中提供。此外，本发明不参考任意特定编程语言来阐述。应该理解，多种编程语言可以被用于实现文中描述的本发明的教导。

机器可读介质包括用于以机器(例如计算机)可读格式存储或传送信息的任意机制。例如，机器可读介质包括只读存储器(“ROM”)；随机存取存储器(“RAM”)；磁盘存储介质；光学存储介质；闪速存储器设备；电、光、声或其他形式的传播信号(例如载波，红外信号，数字信号等)；等。

概述

附图1是阐述依据本发明一个实施例的便携式设备的示例性体系结构的方框图。在一个实施例中，示例性系统100包括、但不只限于处理器；连接到处理器的存储器，存储器存储有指令；以及连接到处理器和存储器的加速度计，用于检测便携式设备的运动，其中响应于检测到便携式设备的运动，处理器执行来自存储器的指令，以实现一个或多个预定的用户可配置动作。在一个可选实施例中，示例性系统100进一步包括连接到加速度计的控制器，用于基于由加速度计所提供的运动数据确定运动方向，并且将所确定的运动方向与预定方向进行比较，以确定所确定的方向是否相对匹配预定方向，以便执行指令。

参照附图1，根据一个实施例，示例性系统100包括一个或多个加速度计101、一个或多个连接到加速度计101的控制器102、与运动相关的固件103、运动软件成分104、以及一个或多个应用程序软件105-107。加速度计101可以被安装到便携式设备上，诸如例如安装到便携式设备的主板上。可选地，加速度计101可以与便携式设备的另一组件集成。例如，加速度计101可以与便携式设备的芯片组集成。

根据一个实施例，加速度计101能够检测便携式设备的运动，包括加速和/或减速。加速度计101可以为多个维度产生运动数据，这些运动数据可以被用于确定便携式设备的运动方向。例如，当加速度计101检测到便携式设备被移动时，加速度计101可以产生X、Y和Z轴加速度信息。在一个实施例中，加速度计101可以被实现为在被转让给本申请的共同受让人的美国专利No.6,520,013中所描述的那些设备。可选地，可以利用商业上可用的各种加速度计来实现加速度计101。例如，加速度计101可以是来自Kionix的KGF01加速度计或者来自模拟器件公司(Analog Devices)的ADXL311加速度计。

此外，示例性系统100包括一个或多个连接到加速度计101的控制器102。控制器102可以被用于计算便携式设备的运动方向，运动方向也被称为运动矢量。可以基于加速度计101所提供的运动数据(例如X、Y和Z轴运动信息)，根据一个或多个预定公式确定运动矢量。计算运动矢量的某些实施例将在下文中进一步详细描述。

根据一个实施例，控制器102负责监控加速度计101的一个或多个输出，并且与便携式设备的其它组件-诸如例如芯片组(例如存储器控制器或北桥)以及/或者微处理器(例如CPU)-通信。控制器102可以利用商业上可用的多种微控制器来实现。例如，控制器102可以是来自Microchip公司的PIC 16F818微控制器。控制器102可以与加速度计101集成。可选地，控制器102可以与便携式设备的其他组件-诸如例如芯片组或微处理器-集成。

在一个实施例中，控制器102可以通过总线-诸如I2C(inter-IC)总线-以及中断线与其它组件通信。响应于运动数据，

控制器102经由中断线向其他组件-诸如固件103-产生中断，例如硬件中断、软件中断或者二者的结合，以将这样的运动通报给其他组件。此外，控制器102可以进一步基于由加速度计101所提供的运动数据计算运动矢量。有关控制器102和便携式设备的其他组件之间的通信的详细信息将在下文中进一步描述。

返回到附图1，运动固件103包括可以被嵌入到便携式设备的一个或多个硬件组件-诸如例如控制器102或芯片组(例如BIOS的一部分，BIOS也被称为基本输入/输出系统)-内的一段或多段机器可执行代码。在一个实施例中，运动固件103可以被存储在控制器102的只读存储器(ROM)(例如闪速存储器)中。然而，可以通过将更新版本上载到存储器中、例如利用闪速应用程序(flash utility)来升级运动固件103的机器可执行代码。固件103可以负责检测响应于运动检测而产生的任何事件。根据一个实施例，固件103提供控制器102和便携式设备的其他组件-诸如例如操作系统(OS)之间的主通信机制。

运动软件104可以负责运动固件103和其他软件成分-诸如应用程序软件成分105-107-以及操作系统之间的通信。在一个实施例中，运动软件104可以被实现为操作系统的一部分，诸如例如设备驱动程序的核心组件等。操作系统可以用商业上可用的多种操作系统来实现。例如，操作系统可以是Apple Computer(苹果电脑)公司的Mac OS。可选地，操作系统可以是Microsoft(微软)公司的Windows操作系统。其他操作系统-诸如例如Unix、Linux、嵌入式操作系统(例如Palm OS)或实时操作系统-也可以被实现。

根据一个实施例，响应于可以由运动固件103通知的运动检测事件，运动软件成分104可以向一个或多个应用程序软件105-107通信该事件。响应于检测，应用程序软件105-107可以执行某些操作。应用程序105-107可以是多种不同的应用程序，诸如例如浏览器、文字处理器、幻灯片显示等。应用程序105-107所执行的操作的某些实施例将在下文中进一步详细描述。

附图2是阐述依据本发明一个实施例的用于响应于由加速度计所产生的事件而操作便携式设备的示例性进程的流程图。示例性进程200可以由处理逻辑执行，处理逻辑可以包括硬件(电路，专用逻辑等)、软件(诸如运行在专用机器上的软件)，或者两者的组合。在一个实施例中，示例性进程200包括、但不只限于利用安装在便携式设备的加速度计检测便携式设备的运动，以及响应于检测到便携式设备的运动而运行机器可执行代码以执行一个或多个预定的用户可配置动作。

参照附图2，在方框201中，利用安装在便携式设备上的加速度计(例如附图1的加速度计)检测便携式设备-诸如例如膝上型计算机或触摸屏PC-的运动。在一个实施例中，响应于检测，加速度计可以为多个维度(例如X，Y和Z轴)产生运动数据。响应于检测，在方框202中，基于由加速度计所提供的运动数据确定运动的方向。在一个实施例中，由控制器(例如附图1中的控制器102)确定运动方向。响应于所确定的方向，在方框203中，一段或多段机器可执行代码(例如应用程序软件)可以被执行，以完成一个或多个预定的用户可配置动作，诸如例如前进网页等。其他操作也可以被执行。

基于加速度计确定定向

根据本发明的一个实施例，便携式设备的加速度计可以连续地或周期性地监控便携式设备的运动。因此，可以基于由安装在便携式设备上的加速度计所提供的运动数据确定运动之前和运动之后便携式设备的定向。

附图3A和3B是阐述依据本发明一个实施例的可以利用加速度计的示例性应用的图。在这个实施例中，并且在整个应用中，触摸屏设备被用作为便携式设备的示例。但便携式设备并不只限于此。应该认识到，也可以应用其他便携式设备，诸如膝上型计算机、个人数字助理(PDA)、个人通信器(例如Research In Motion公司的blackberry)、蜂窝电话、或多媒体播放器(例如MP3播放器)等。

参照附图3A和3B，首先根据一个实施例，便携式设备处于定向

301，其中在便携式设备的显示屏上显示文档页面303。在定向301中，从面向给定定向301的显示屏的用户视点来看，文档页面303被正确显示，其中定向301可以被加速度计以及与之相关联的控制器周期性地或连续地检测和确定。

当便携式设备被移动时，例如按照移动方向304移动并结束在定向302，加速度计（附图1中的加速度计101）可以检测这种运动。响应于检测，控制器（例如附图1中的控制器102）可以基于加速度计所提供的运动数据确定运动方向，并且通知便携式设备的适当组件，诸如例如附图1中的固件103、运动软件104以及/或者应用程序105-107。这种通知可以通过中断或通过拉出控制器和/或加速度计的一个或多个寄存器而被实现。此外，控制器可以进一步确定运动后便携式设备的定向。

依据一个实施例，响应于通知，可以根据所确定的运动后的定向调整文档页面303的定向，如附图3B所示。在一个实施例中，所显示的文档页面的定向可以在运动之后被调整，从而与运动之前的定向相对一致。因此，尽管便携式设备的定向已经改变，但所显示的文档页面的定向仍然保持相对一致，尤其是在面向便携式设备的显示屏的用户的视点上。

在这个实施例中，文档页面303的定向的调整可以通过将所显示的数据（例如文档页面）传送给便携式设备的显示屏的显示驱动程序（例如视频驱动程序）实现。可选地，定向的调整可以通过提供文档页面303的原始应用程序软件（例如附图1的应用程序105-107）（例如提供网页的浏览器或提供文档页面的文字处理器）来实现。注意，附图3A和3B所示的运动方向304只是用于说明的目的。其它运动方向、诸如附图5A所示的那些运动方向或者它们的组合也可以被实现。此外，仅仅为了说明的目的，如附图3A和3B所示，便携式设备被向左旋转90度。便携式设备可以被旋转、平移或者二者或多个维度并且以任意运动步长的组合。

附图4是依据本发明一个实施例的用于基于加速度计重新定向所

显示文档的示例性处理器的流程图。示例性进程400可以由处理逻辑执行，其中处理逻辑可以包括硬件(电路，专用逻辑等)、软件(诸如运行在专用机器上的软件)、或者二者的组合。在一个实施例中，示例性进程400包括、但不只限于利用安装到便携式设备的加速度计来检测便携式设备的运动，基于由加速度计所提供的运动数据确定运动后便携式设备的定向，以及根据与运动前图像的定向相对一致的定向将图像显示在便携式设备的显示屏上。

参照附图4，在方框401，利用安装到便携式设备的加速度计检测便携式设备从第一定向开始的运动。响应地，在方框402，基于由加速度计所提供运动数据、诸如X、Y及Z轴信息，运动方向被确定。在一个实施例中，可以由连接到加速度计的控制器(例如附图1中的控制器102)执行确定。可以根据一个或多个预定公式确定运动方向。在方框403，在运动之后，可以基于由加速度计所提供的运动数据确定便携式设备的第二定向。在方框404，可以基于所确定的第二定向调整所显示文档页面的定向。在一个实施例中，所显示文档页面的定向可以被调整，使得调整后的文档页面的定向与运动前的定向相对一致，尤其是从用户的视点上来看。其它操作也可以被执行。

基于加速度计显示不同文档页面

根据本发明的另一实施例，加速度计可以被用于检测便携式设备的运动，作为触发是否可以显示文档或图像页面的方式。例如，当便携式设备朝预定方向被移动(例如突然的运动)时，加速度计可以检测这个运动，并且应用程序软件可以响应于检测到运动而显示特定页面。

附图5A是阐述依据本发明一个实施例的可以被用于触发文档页面显示的便携式设备的示例性运动的图。例如，参照附图5A，文档的第一页面被显示在便携式设备500的显示屏507上。当便携式设备500在某些方向上被移动时，安装到便携式设备500的加速度计(例如附图1的加速度计101)可以检测这样的运动。响应于检测，加速度计可以经由相关的控制器、固件和/或操作系统通知其他组件、诸如应用

程序软件，尤其是通知提供正被显示的文档的第一页面的组件。

在一个特定实施例中，加速度计可以通知控制器(例如附图1中的控制器102)，包括提供运动数据(例如X、Y和Z轴)。控制器和/或固件可以基于由加速度计所提供的运动数据计算运动的运动矢量。其后，控制器可以向其他组件-诸如运动软件成分(例如运动软件104)以及/或者操作系统-发送信号。运动软件以及/或者操作系统可以将运动矢量与预定方向进行比较，以确定运动矢量是否与预定方向相对匹配，例如基于预定阈值确定。

在一个实施例中，预定方向以及与这个预定方向相关联的阈值(例如灵敏度)可以由用户通过用户接口配置。这种灵敏度可以基于在给定时间和地点与便携式设备相关联的不同轮廓来配置。例如，当便携式设备位于家里/办公室时，与它位于运动的平台(例如汽车、火车、轮船或飞机等)上相比，便携式设备的灵敏度可以不同。在另一实施例中，便携式设备可以包括智能地过滤掉某些“嘈杂的”运动背景的机制。

如果运动矢量相对匹配预定方向，则可以通知相关的应用程序软件。作为响应，相关应用程序软件可以执行某些操作，包括在显示屏上显示与第一页面不同的第二页面。

在一个实施例中，文档的第二页面可以是文档的下一页或前一页。文档可以是由文字处理器-诸如Microsoft Office的文字处理器-所创建的文字文档。可选地，文档可以是由浏览器-诸如Microsoft的互联网浏览器(Internet Explorer)或者Netscape Communications的Netscape通讯器-所呈现的网页。此外，文档可以是幻灯片显示，例如由Microsoft的PowerPoint或Apple Computer的Keynote所显示的。

参照附图5A，运动方向可以包括与便携式设备表面(例如便携式设备的显示器表面507)平行的运动方向，如方向501和502所示。可选地，运动方向可以包括便携式设备相对于平行于便携式设备边缘(例如边缘505和506)的轴线的旋转，如方向503和504所示。而

且，便携式设备的运动方向可以是上述方向的组合。例如，运动可以是相对于便携式设备500的角的多维旋转。也可以使用其它类型的运动。

附图5B是阐述根据本发明一个可选实施例的可以被用于触发文档页面显示的便携式设备的示例性运动的图。在这个实施例中，便携式设备551可以被放置在支撑平面552上。此外，运行在便携式设备551中的应用程序软件可以被配置为“缺省”模式。当突发的力被施加到支撑表面552时，突发的力引起支撑平面552的振动。突发的力可以通过用户轻敲(tabbing)支撑平面552而被提供。

响应于支撑表面552的振动，安装到便携式设备551的加速度计可以检测这种振动。响应于检测，加速度计可以通过固件和/或控制器等通知相关的应用程序软件。作为响应，应用程序软件可以显示文档的下一页、上一页或者特定页，这可以由用户通过用户接口配置。当便携式设备被放置在桌面上或与演示投影机一起被挂起时，这尤其有用。进行演示的用户可以简单地轻敲桌子来前进到演示的下一页，而不必按便携式设备的键盘的键(例如“Enter”键或空格键)或鼠标。

附图6是阐述依据本发明一个实施例的基于加速度计显示文档的示例性进程的流程图。示例性进程600可以由处理逻辑执行，处理逻辑可以包括硬件(电路、专用逻辑等)、软件(诸如运行在专用机器上的软件)或者这二者的组合。在一个实施例中，示例性进程600包括、但不只限于将文档的第一页面显示在便携式设备的显示屏上，利用安装到便携式设备的加速度计检测便携式设备的运动，以及响应于检测到运动而显示不同于第一页面的第二文档页面。

参照附图6，在方框601，利用安装到便携式设备的加速度计来检测便携式设备的运动。响应于检测，在方框602中，基于由加速度计所提供的运动数据、例如X、Y、Z轴信息，确定运动的运动方向。在一个实施例中，可以由相关联的控制器和/或相关联的固件确定运动方向。在方框603，确定运动方向是否和预定方向相对匹配。如果匹配，则在方框604，通知在已经显示第一文档页面的便携式设备中所

运行的相关应用程序软件。作为响应，在方框605，应用程序软件显示与第一页面不相同的第二文档页面。其它操作也可以被执行。

基于加速度计的导航应用

根据本发明另一实施例，加速度计可以被用于导航应用。例如，其中装有加速度计的便携式设备可以被用作导航工具，以导航通常不能一次被完整地显示在便携式设备的显示屏内的较大对象或文档。

附图7A和7B是阐述依据本发明一个实施例的基于加速度计的示例性导航应用的图。在这种实施例中，起初地图的一部分被显示，如附图7A所示。地图通常不能以一定详细程度作为整体被完整地显示在便携式设备700的显示屏中。例如，当用户“放大”地图时，只有一部分地图能够被显示在显示屏上。当用户导航遍及地图的第一部分时，用户可能希望从第一部分逐渐导航到地图的第二部分。

根据一个实施例，拿着便携式设备700的用户可以朝着用户所希望导航的方向、例如根据方向703（例如以东北方向为例）移动便携式设备700。响应于运动，安装到便携式设备700的加速度计可以检测这样的运动。加速度计可以为便携式设备的控制器和/或固件提供运动数据（例如X、Y和Z轴信息）。相关联的控制器和/或固件可以基于由加速度计所提供的运动数据，利用一个或多个预定公式，计算运动方向和/或运动距离。其后，控制器和/或固件可以将运动方向传递给当前正提供地图的相关应用程序软件。

作为响应，应用程序软件可以基于由控制器和/或固件所提供的运动方向、运动距离以及/或者运动加速度数据来确定地图的第二部分。相应地，应用程序软件随后显示第二部分。因此，用户不必按压和/或点击按钮以导航地图的其它部分。注意，图示的运动方向703只是为了说明的目的。任意其它方向也可以被应用。

在一个实施例中，地图的第二部分可以通过从第一部分过渡来显示。也就是说，第一部分和第二部分之间的多个中间部分可以被顺序显示，以构成从第一部分到第二部分的过渡。因此，第二部分逐渐地“进入”便携式设备的显示屏。依据一个实施例，从第一部分到第二部分的

Exhibit 1002 - Part 3

过渡被显示，就像用户在较大的地图上移动便携式设备而地图保持稳定一样。在这种实施例中，过渡被显示，就像用户拿着便携式设备作为放大器来导航大的地图、大的报纸或网页等一样。

根据另一实施例，某些运动可以被用于“放大”或“缩小”所显示的页面。例如，平行于便携式设备表面(例如显示器表面)的运动可以被用于导航显示页面的不同部分，而便携式设备的旋转可以被用于放大或缩小显示页面，这可以改变显示页面的分辨率。例如，用户可以将便携式设备向上倾斜以作为缩小的方式，并且可以向下倾斜便携式设备以作为放大的方式。其他运动方向、诸如附图5A所示的那些方向或那些方向的组合也可以被利用。

根据另一实施例，上述技术可以被用于虚拟现实环境中。在一个实施例中，允许用户使用便携式显示设备所装配的加速度计作为进入虚拟现实图像数据库的轻便和可控的窗口。例如，拿着触摸屏设备的用户可以转向并且看到从二维或三维图像或对象数据库中的位置向后看到的景象，就像用户在虚拟现实游戏空间里漫步一样。根据另一实施例，用户可以实现图像全景的观察，其中不同方向的景象由从单个位置指向不同方向的多个照相机提供。

附图8是阐述依据本发明一个实施例的基于加速度计导航图像的示例性进程的流程图。示例性进程800可以由处理逻辑执行，处理逻辑可以包括硬件(电路、专用逻辑等)、软件(诸如运行在专用机器上的软件)、或两者的组合。在一个实施例中，示例性进程800包括、但不只限于运动之前在便携式设备的显示屏上显示文档页面的第一部分，并且如果所确定的运动方向和预定方向相对匹配，则在便携式设备的显示屏上显示不同于第一部分的文档页面的第二部分。

参照附图8，在方框801，图像的第一部分(例如附图7A所示的地图的一部分)被显示在便携式设备的显示屏上。图像可以是全景图像、虚拟现实图像数据库、三维图像数据库或由多部照相机输入所构成的环境等的一部分。在方框802，利用安装到便携式设备的加速度计检测便携式设备的运动。响应于检测，在方框803，基于由加速度

计所提供的运动数据（例如X、Y和Z轴信息）计算运动方向。在一个实施例中，响应于检测，加速度计将运动数据发送给相关的控制器和/或固件。控制器和/或固件可以基于运动数据计算运动方向。可选地，运动方向的计算可以由便携式设备的其他组件-诸如例如附图1的运动软件组件104和/或便携式设备的操作系统-执行。在方框804，基于所确定的运动方向显示图像的第二部分。在一个实施例中，图像的多个中间部分可以被显示，这些中间部分构成从第一部分到第二部分的过渡。第二部分被显示得好像便携式设备在运动而所显示图像保持稳定一样。其它操作也可以被执行。

基于加速度计的游戏应用

根据本发明的另一实施例，加速度计可以被用于游戏应用，其中加速度计可以被用于检测视频游戏在便携式设备上运行期间的场景转换。

附图9A和9B是阐述根据本发明一个实施例的基于加速度计的示例性游戏应用的图。在这个实施例中，作为示例，用户正手握便携式设备900作为方向盘，就好像用户正面对第一场景901驾驶汽车。当用户朝一个方向、诸如例如方向903移动（例如旋转）便携式设备时，所显示的场景可以被改变为附图9B所示的第二场景。

根据一个实施例，当拿着便携式设备900的用户按照方向903移动时，安装到便携式设备的加速度计检测这样的运动。加速度计可以将运动数据（例如X、Y和Z轴信息）提供给便携式设备的控制器和/或固件。基于由加速度计所提供的运动数据，相关的控制器和/或固件可以利用一个或多个预定公式计算运动方向。随后，控制器和/或固件可以将运动方向和/或运动距离或加速度传递给当前正提供游戏的相关游戏应用程序软件。

作为响应，游戏应用程序软件可以基于由控制器和/或固件所提供的运动方向、运动距离以及/或者运动加速度来确定游戏的第二场景。相应地，游戏应用程序软件随后显示第二场景。因此，为了改变游戏的场景，用户不必按压和/或点击按钮。注意，图示的运动方向903

只是用于说明的目的。任何其它方向也可以被应用。

在一个实施例中，游戏的第二场景可以通过从第一场景的过渡而被显示。也就是说，第一场景和第二场景之间的多个中间场景可以被顺序显示，以构成从第一场景到第二场景的过渡。因此，第二场景逐渐地“进入”便携式设备的显示屏中。

根据另一实施例，某些运动可以被检测，作为使运行的汽车加速和/或减速的方式。例如，当便携式设备向上倾斜(例如类似于加大油门)时，所显示的场景可以变为显示汽车的加速。同样地，当便携式设备向下倾斜(例如类似于踩刹车)时，所显示的场景可以变为显示汽车的减速。

此外，加速度计可以被用于检测便携式设备的运动是否超出某些阈值。如果超出，则一个或多个预定的用户可配置动作可以被执行。例如，在驾驶游戏中，当用户将汽车驶离公路时，警告消息可以被传递给用户用于这样的指示。

附图10A和10B是阐述依据本发明另一实施例的基于加速度计的示例性游戏应用的图。在这个实施例中，用户正手握内置有加速度计的便携式设备作为汽车的方向盘。如附图10A所示，当场景包括向左弯曲的道路时，为了停留在道路上，要求用户向左旋转方向盘。安装到便携式设备的加速度计可以被用于检测便携式设备(例如方向盘)是否已经相应地被旋转以及旋转角度和距离是否合适。

如果检测到便携式设备的旋转并没有旋转或旋转得不够，则相关的游戏应用程序软件可以执行某些预定动作。例如，游戏应用程序可以对用户产生警告，诸如例如便携式设备的振动或语音警报等等。此外，离开道路的场景可以被显示。如果检测到用户长达一段时间没有对路面状况做出反应，则撞车的场景可以被相应地显示。

根据某些实施例，其他运动方向可以被用于从拿着便携式设备的用户的视点“向上看”和“向下看”。例如，在飞行游戏中，用户可能拿着便携式设备，就像用户正在开动飞行对象(例如飞机)，其中加速度计可以被用于检测便携式设备的运动，以便确定飞行对象将朝向哪

里。例如，当便携式设备向上倾斜时，飞行对象上升，而当便携式设备向下倾斜时，飞行对象下降。其他方向、诸如例如附图5A所示的那些方向或他们的组合可以被用于使飞行对象飞往任意方向。

同样，在依据一个实施例的射击游戏中，除了上述可以被用于向上看、向下看以及/或者向周围看的运动之外，便携式设备的平行于便携式设备的显示表面的垂直运动可以被用于检测用户是在站立的射击位置还是在藏匿位置。例如，当向下移动便携式设备时，保护障碍可以被显示阻挡对手，以表示拿着便携式设备作为射击武器的用户藏匿在保护障碍之后。当向上移动便携式设备时，保护障碍可以被移除而暴露对手，以表示用户处在没有保护的射击位置。其它游戏配置也可以存在。

附图11是阐述依据本发明一个实施例的基于加速度计的游戏应用程序的示例性进程的流程图。示例性进程1100可以由处理逻辑执行，处理逻辑可以包括硬件(电路、专用逻辑等)、软件(诸如运行在专用机器上的软件)或者二者的组合。在一个实施例中，示例性进程1100包括、但不只限于显示从用户视点看到的、朝这从第一场景到第二场景方向过渡的一系列图像；检测便携式设备的运动是否和从户视点看到的变换方向相关联的方向一致；以及如果根据与变换方向相关联的方向没有检测到运动，则执行预定操作。

参照附图11，在方框1101，从第一场景变换到第二场景的一系列图像(例如驾驶游戏)被显示在便携式设备的显示屏上。在方框1102，利用安装到便携式设备的加速度计检测便携式设备的运动。在方框1103，基于由加速度计所提供的运动数据确定便携式设备的运动方向。在一个实施例中，运动方向由连接到加速度计的控制器和/或固件确定，类似于附图1所示的配置。响应于所确定的运动方向，在方框1104中，一个或多个预定操作-诸如例如导致便携式设备的振动、产生音频警报或者二者的组合-可以被执行。其它操作也可以被执行。

基于加速度计启动/去激励设备

根据本发明另一实施例，加速度计可以被用于检测便携式设备的运动，并且可以基于加速度计所提供的运动数据而确定便携式设备的定向。其后，可以基于所确定的运动后的定向而启动或去激励便携式设备的一个或多个接口。

附图12A和12B是阐述依据本发明一个实施例的基于加速度计启动/去激励便携式设备的接口的示例性机制的图。在这个实施例中，如附图12A的配置1201所示，多个接口1204-1207被设置在便携式设备的多个位置。作为示例，接口1204-1207在文中被描述为无线接口、诸如例如天线或无线收发器。应该理解，其它接口也可以被应用。

参照附图12A，最初对于给定定向1201，文档1203被显示。根据一个实施例，当用户在定向1201举起便携式设备时，安装到便携式设备的加速度计可以检测这样的运动，并且由类似附图1所示的连接到加速度计的相关控制器和/或固件确定定向1201。由所确定的定向，可以确定在定向1201的情况下，无线接口1204和1205处于发送和/或接收无线信号的最佳位置(例如接收和/或发送最强的信号)，而无线接口1206-1207处于相对较弱的位置。因此，无线接口1204-1205可以被启动，而无线接口1206-1207可以可选地被去激励。

当便携式设备被移动时，例如按照方向1208旋转90度，便携式设备可能停在不同的定向1202，如附图12B所示。安装到便携式设备的加速度计可以检测这样的运动，并且将运动数据传输给上述便携式设备的其它组件。除了如上参照附图3A和3B所述维持文档页面的定向与运动前定向相对一致地被显示之外，无线接口1204-1207可以被重新评估，以确定现有配置对于运动后的定向是否仍然是最佳配置。

在这个实施例中，假设便携式设备顶部和底部的无线接口被认为是最佳位置。在运动之后(例如，左转90度)，最初处于最佳位置的无线接口1204-1205可能不再处于最佳位置了。相反，原来不在最佳位置的无线接口1206-1207现在可能处在最佳位置。因此，响应于检测到运动以及确定运动后的定向，无线接口1206和1207可以被启动，如粗体所示，这是因为他们处于最佳位置。同样，无线接口1204-1205

可以被去激励，因为他们不再处于最佳位置。

此外，除了检测便携式设备是否被移动之外，还基于由加速度计所提供的运动数据确定便携式设备是否被用户捡起或手握着。在一个实施例中，这样的确定可以由类似于附图1所示的结构的连接到加速度计的控制器和/或固件执行。如果确定便携式设备被用户手握着，则可以进一步确定或预测拿着便携式设备的用户的手1208-1209的位置。

例如，在附图12A所示的定向1201中，在预测用户的手的位置之后，可能被手1208-1209遮盖的一个或多个无线接口-诸如无线接口1207和1208-可以被去激励。同样，在附图12B所示的运动后的定向1202中，无线接口1204和1205可以被去激励，因为预测它们被用户的手所遮盖。

附图13是阐述根据本发明一个实施例的用于基于加速度计操作便携式设备的接口的示例性进程的流程图。示例性进程1300可以由处理逻辑执行，其中处理逻辑可以包括硬件(电路、专用逻辑等)、软件(诸如运行在专用机器上的软件)、或二者的组合。在一个实施例中，示例性进程1300包括、但不只限于利用安装到便携式设备的加速度计检测便携式设备的运动，基于由加速度计所提供的运动数据确定运动后的便携式设备的定向，以及启动便携式设备的在所确定定向的情况下最适合的至少一个接口。

参照附图13，在方框1301，利用安装到便携式设备的加速度计检测便携式设备的运动，其中便携式设备包括设置在多个位置上的多个接口(例如无线接口)。在方框1302，基于由加速度计所提供的运动数据确定运动后便携式设备的定向。在方框1303，可选地，基于由加速度计所提供的运动数据确定便携式设备是否被用户捡起或拿着。如果是，则预测拿着便携式设备的用户的手的位置。在方框1304，基于所确定的定向，一个或多个接口可以被启动或去激励。可选地，某些被预测的用户的手所遮盖的接口可以被去激励，而那些没有被遮盖的接口被启动。其他操作也可以被执行。

根据一个实施例，上述技术也可以被应用到便携式设备的多媒体接口。附图14A和14B是阐述根据本发明一个实施例的利用加速度计启动/去激励便携式设备的多媒体接口的示例性机制的框图。在这个实施例中，作为示例，一个或多个扬声器被用作便携式设备的多媒体接口。参照附图14A，便携式设备包括设置在便携式设备的不同位置上的多个扬声器1405-1408，并且可选地在便携式设备的显示屏上显示文档页面1403。在运动前的定向1401中，考虑左侧的扬声器1405-1406和右侧的扬声器1407-1408，可以配置音频驱动程序以产生适当的3D环绕声。当便携式设备被移动时，例如按照运动方向1404旋转90度，通过加速度计以及加速度计的相关联控制器和/或固件检测并确定第二定向1402，如附图14B所示。

响应于检测，除了如上参考附图3A和3B所述保持文档页面1403的定向与运动之前的定向相对一致地被显示之外，扬声器1405-1408的位置可以被重新评估，以确定现有配置对于运动后的定向是否仍然是最佳配置。在这个实例中，如附图14B所示，最初的左侧扬声器1405和1406位于底部，而最初的右侧扬声器1407和1408位于顶部。因而，现有声音条件已经改变，并且声音效果不再处于最佳状态。因此，音频驱动程序可能被重新配置以产生与便携式设备运动之前相对相当的声音质量。例如，扬声器1405和1407可以被用作左侧扬声器，而扬声器1406和1408可以被用作右侧扬声器，以便产生合适的声音效果。其他配置也可以存在。

附图15是阐述根据本发明一个实施例的用于基于加速度计重新配置多媒体接口的示例性进程的流程图。示例性进程1500可以由处理逻辑执行，处理逻辑可以包括硬件(电路、专用逻辑等)、软件(诸如运行在专用机器上的软件)或二者的组合。参照附图15，在方框1501，利用安装到便携式设备的加速度计检测便携式设备的运动，其中便携式设备包括多个设置在不同位置的多媒体接口或设备。在方框1502，基于由加速度计所提供的运动数据确定便携式设备运动后的定向。在方框1503，可以可选地基于所确定的定向启动或去激励一个或

多个多媒体接口。在方框1504，驱动一个或多个多媒体设备，以在所确定的运动后定向的情况下产生最佳效果。其他操作也可以被执行。

尽管在本文中以无线接口和音频接口作为示例，但并不只限于这两种接口。其他类型的接口-诸如例如视频接口、麦克风以及照相机-也可以被应用。

根据本发明的某些实施例，某些设备只有当机器位于某个定向或位于与它通常被使用时的定向不同的定向时才能被适当地使用。例如，媒体插入可能要求设备被侧立放置或是正面朝下放置以提供接入。弹出媒体可能需要设备被侧立放置或是正面朝下放置，以防止媒体被阻碍或掉落地上。

例如，根据一个实施例，用户可以通过按压按钮或其他控制启动将媒体从媒体设备或组件的弹出(例如CD从CD ROM设备中弹出)。设备准备弹出媒体或卸下磁盘等。此时，利用安装到便携式设备的加速度计，控制这个设备的控制模块或应用程序软件可以检测到便携式设备不处于适于弹出媒体的位置。因此，设备可以通过周期性地或连续地读取来自加速度计的加速度数据，等待单元被定位在适当的位置或定向。此外，与设备关联的应用程序软件可以通知设备的用户(例如弹出消息或是声音警告等)设备需要处于某些位置以完成用户的请求。一旦设备处于适当的定向，所请求的操作可以被执行(例如弹出媒体)。

同样地，根据另一实施例，如果用户不重新定向单元，则加速度计可以被用于放弃操作。如果设备在一段时间内不被重新定位到适当的或预定的位置，则设备可以取消所请求的操作或者向用户提供进一步的指令。根据另一实施例，加速度计可以被用于检测定向，或者为了使能和/或禁用安装在设备侧边或底部的输入设备。例如，在设备的底部可以存在弹出按钮，这个按钮当设备竖立时被禁用。这样，用户将设备放置在桌上或用户的膝盖上时，该按钮不被启动。

附图24是阐述根据本发明另一实施例的启动或去激励设备的示例性进程的流程图。示例性进程可以由处理逻辑执行，处理逻辑可以

包括硬件(电路、专用逻辑等)、软件(诸如运行在专用机器上的软件)或二者的组合。参考附图24，在方框2401，用于将便携式设备的组件从第一运行状态变换到第二运行状态的请求被接收(例如，弹出便携式存储设备)。在方框2402，利用安装到便携式设备的加速度计，确定便携式设备是否根据预定的适合于第二运行状态的定向被定位。

在方框2403，如果基于加速度计所提供的加速度信息确定便携式设备按照预定的定向或位置被定位，则便携式设备的组件随后被从第一运行状态变换到第二运行状态(例如，打开CD ROM的托盘)。然而，如果便携式设备不在预定的位置或定向，则在方框2404，所请求的变换被拒绝或挂起，从而使便携式设备的组件依然停留在第一运行状态或是其他状态(例如第三态：tri-state等)。同时，利用加速度计周期性或连续地监视便携式设备的位置或定向，其中一旦便携式设备的位置或定向被检测为位于适当的位置或定向，则所请求的操作可以被重新开始。如果便携式设备不在适当的位置或定向长达一个预定的时间周期，则所请求的操作可以被放弃。可选地，在方框2405，可以产生通知，以告知便携式设备的用户将便携式设备放到某些位置，以便完成所请求的操作。其他操作也可以被执行。

基于加速度计的其他应用

根据本发明另一实施例，加速度计可以被用于检测和确定携带其中装有加速度计的便携式设备的用户的活动。根据一个实施例，例如，被安装到可以被用户拿着的便携式设备中的加速度计可以检测用户在拿着便携式设备时抖动。在这个实施例中，便携式设备可以是数字多媒体播放器(例如MP3播放器)。安装到便携式设备的加速度计可以检测由用户活动所引起的便携式设备的运动可能是反复性的。

响应于检测，便携式设备的运动的重复率可以被确定，例如，通过连接到加速度计的控制器和/或固件，类似于附图1所示的配置。一旦运动的重复率被确定，应用程序软件(例如Microsoft的Windows媒体播放器或Real Networks的实时播放器(real player)等)可以调整当前正被便携式设备播放的多媒体内容的节奏，使其相对匹配所确

定的运动重复率。因此，例如，可以调整当前被MP3播放器所播放的音乐的速度，以与拿着MP3播放器的用户的抖动率相对匹配。

此外，根据另一实施例，应用程序软件可以进一步选择和播放最适合于所确定的用户活动(例如抖动率)的多媒体内容。在一个实施例中，用户可以通过用户接口配置多媒体播放器，从而在某些环境下可以选择和播放某些类型的多媒体内容。因此，当加速度计和相关的控制器和/或固件检测到用户正在执行某些类型的活动时，相关类型的多媒体内容可以被相应地选择和播放。

附图16是阐述根据本发明一个实施例的用于基于加速度计播放多媒体内容的示例性进程的流程图。示例性进程1600可以由处理逻辑执行，处理逻辑可以包括硬件(电路、专用逻辑等)、软件(诸如运行在专用机器上的软件)或二者的组合。参照附图16，在方框1601，利用安装到便携式设备的加速度计检测便携式设备的运动，其中便携式设备的运动每隔一定时间周期就重复。在方框1602，基于由加速度计所提供的运动数据确定便携式设备的运动重复率。在方框1603，可选地，具有和所确定的重复率相对匹配的节奏的数字多媒体内容被选择和播放。在方框1604，当前播放的多媒体内容的节奏被调整以相对匹配所确定的运动重复率。其他操作也可以被执行。

根据本发明的另一实施例，加速度计可以被用于检测便携式设备是否正在移动(例如被用户携带着)以及便携式设备是否应该被置于适当的运行状态。根据一个实施例，当便携式设备处于非活动状态并且通过安装到便携式设备的加速度计检测到便携式设备正在移动时，便携式设备可以被置于相对较低功耗模式，诸如例如休眠模式。例如，顶盖合上的膝上型计算机可以被认为处于非活动状态。由于膝上型计算机电脑的顶盖是合上的，所以用户不能主动操作膝上型计算机。可选地，当膝上型计算机的桌面被锁定时，它被认为处于非活动状态。其他情况也可以被认为是非活动状态，这可以是用户可配置的。因此，膝上型计算机可以被置于低功耗模式。此外，如果膝上型计算机被确定为是移动的(通过加速度计)，则向永久存储设备(例如硬盘驱动

器）写任何数据可能是不安全的。因此，永久存储设备的读/写头可以被停放到安全位置，而不向永久存储设备写数据。

根据一个实施例，如果基于由安装到便携式设备的加速度计所提供的数据确定便携式设备处于非活动状态，并且便携式设备不是正在移动，则可以使便携式设备进入休眠模式，其中系统存储器的内容可以被交换到永久存储设备（例如硬盘驱动器）中。由于便携式设备没有移动，因此向永久存储设备写数据是相对安全的。

附图17是阐述根据本发明一个实施例的用于便携式设备的电源管理的示例性进程的流程图。示例性进程1700可以由处理逻辑执行，处理逻辑可以包括硬件（电路、专用逻辑等）、软件（诸如运行在专用机器上的软件）或二者的组合。参照附图17，在方框1701，确定便携式设备是否处于非活动状态。例如，当便携式设备的顶盖合上或它的桌面被锁定时，便携式设备被认为处于非活动状态。在方框1702，利用安装到便携式设备的加速度计检测便携式设备以确定便携式设备是否正在移动（例如便携式设备是否被用户携带）。在方框1703，如果便携式设备正在移动，则使便携式设备进入相对较低功耗模式，并且不把系统存储器的内容交换到永久存储设备中。否则，在方框1704，如果便携式设备正在移动，通过将系统存储器的内容交换到永久存储设备，使便携式设备进入睡眠模式。其他操作也可以被执行。

根据本发明的另一实施例，为了确定是否正确输入密码，加速度计可以被用于检测便携式设备是否按照特定方向运动。在一个实施例中，当便携式设备的用户被提示输入密码时，作为输入密码的一部分，用户必须朝一个或几个方向移动便携式设备。安装到便携式设备的加速度计可以检测这样的运动，并且运动方向可以被确定，例如，通过相关的控制器和/或固件。如果运动方向相对匹配预定方向，则认为密码已经被正确“输入”了。

根据一个可选实施例，用户可能被要求在便携式设备上输入密码的第一部分。然后，用户被要求根据特定方向移动便携式设备。此后，用户被要求输入密码的第二部分（例如密码的其余部分）。因此，输

入的密码以及便携式设备的特定运动的组合构造完整的密码。也可以存在其他配置。

附图18是阐述根据本发明一个实施例的用于处理密码的示例性进程的流程图。示例性进程1800可以由处理逻辑执行，处理逻辑可以包括硬件(电路、专用逻辑等)、软件(诸如运行在专用机器上的软件)或二者的组合。参照附图18，在方框1801，用户被要求在便携式设备上输入密码。在方框1802中，利用安装到便携式设备的加速度计检测便携式设备是否被移动。在方框1803，基于由加速度计所提供的运动数据确定运动方向。在方框1804，确定便携式设备是否已经按照预定方向被移动。在方框1805，基于运动方向与预定方向是否相对匹配，发布提示以指明密码是否被正确“输入”。其他操作也可以被执行。

根据本发明的另一实施例，加速度计可以被用于检测和记录便携式设备的一系列运动，其中所记录的运动数据随后(例如离线)可以被用于重现运动历史。在一个实施例中，当便携式设备在一段时间内被移动时，安装到便携式设备的加速度计检测和记录这样的运动。在运动过程中，由加速度计所记录的运动数据可以被存储在便携式设备的存储设备(例如硬盘驱动器)中。可选地，运动数据可以在运动期间通过网络(例如无线网络)被发送到远程设备。随后，在运动之后，可以利用由加速度计所提供的运动数据，重现表示这段时间上的运动的轨迹。

这在用户希望以后重新绘制过山车运行轨迹时是非常有用的。例如，用户可以携带安装有加速度计的便携式设备并坐上过山车。在乘车期间，加速度计可以检测运动数据并将它们存储在存储设备中，或是可选地，加速度计把运动数据通过网络传送到远程设备。在乘坐之后，运动数据可以被用于重现过山车运行的轨迹。过山车只是被用作一个示例，上述技术可以被应用于其他场合。例如，为了绘制其他地区的地图，携带加速度计的用户可以开车去那些地方进行测量，其中加速度计被安装到便携式设备或被安装到汽车上。然后，可以利用在开车过程中由加速度计所收集的运动数据绘制地图。

附图19是阐述根据本发明一个实施例的用于利用加速度计重现运动轨迹的示例性进程的流程图。示例性进程1900可以由处理逻辑执行，处理逻辑可以包括硬件(电路、专用逻辑等)、软件(诸如运行在专用机器上的软件)、或二者的组合。参照附图19，在方框1901，利用安装到便携式设备的加速度计检测便携式设备的一系列运动。在上述示例中，汽车可以被认为是便携式设备。在方框1902中，这一系列运动中的每一个运动的运动方向以及每个运动之间的时间被确定。在方框1903，信息可以被存储在便携式设备的存储器中。可选地，信息也可以通过网络被动态地传输到远程设备(例如无线网络)。随后，在方框1904，可以利用所存储的运动数据重现表示运动历史的轨迹。其他操作也可以被执行。

利用加速度计的运动补偿

根据本发明的另一实施例，加速度计可以被用于检测便携式设备的运动，并且可响应于检测应用运动补偿。例如，安装到便携式设备的加速度计可以检测使用便携式设备(例如阅读显示在便携式设备的显示屏上的电子文档)的用户可能正乘坐在颠簸的汽车上。响应于检测，可以对所显示的文档执行运动补偿，使得电子文档可以相对保持在对于用户的眼睛一样的位置。

在一个实施例中，可以通过适当地对从加速度计所接收的信号求积分来计算显示器平面内作为时间的函数的显示器平台的位置。随后，图像在显示屏上被作为时间的函数垂直和水平地变换，以保持图像位置在空间中充分固定，而与显示器平面内显示器的运动无关。可以通过由加速度计所提供的运动数据的相对较高频率分量来表示这样的运动(例如，诸如颠簸之类的突发运动)。为了防止当汽车上山和下山或绕圈时图像离开屏幕，显示器运动的低频率分量-诸如由汽车的前进速度所引起的那些-可以不被补偿。同样，当乘车在颠簸的平台上时，这种技术也可以被应用到通过便携式设备玩的电子游戏中。

附图22是阐述根据本发明一个实施例的用于利用加速度计的运动补偿的示例性进程的流程图。示例性进程可以由处理逻辑执行，处

理逻辑可以包括硬件(电路、专用逻辑等)、软件(诸如运行在专用机器上的软件)或是二者的组合。在一个实施例中，示例性进程包括、但不只限于利用安装到便携式设备的加速度计检测便携式设备的运动，基于加速度计所提供的运动数据确定便携式设备的运动方向，以及调整所显示对象在便携式设备的显示屏上的位置，以补偿便携式设备的运动，使得调整后的显示对象相对于便携式设备的用户保持相对同样的位置。

参照附图22，在方框2201，利用安装到便携式设备的加速度计检测便携式设备的运动。在一个实施例中，根据作为加速度计所提供的运动数据的一部分的位置，作为时间的函数检测运动。运动数据可以包括表示突发运动的相对高频率分量以及表示低速运动的相对低频率分量。在方框2202，在显示器平面中提取运动数据中相对高频率分量(例如降低阅读所显示文档或观察静止图像的人视觉灵敏度的运动分量)。在方框2203，所显示文档或图像的位置可以基于所提取的高频率分量而被移位，以补偿便携式设备的高频率运动(例如突发运动)。因此，对于用户来说，所显示的文档或图像可以被相对稳定地保持在空间中。其他操作也可以被执行。

利用加速度计的冲击检测及应用

根据本发明的另一实施例，加速度计可以用于检测便携式设备的用户所施加的冲击。在一个实施例中，该技术允许用户在提供受控动量传递的物理意义上施加冲击，作为应用程序的便携式或固定式设备的输入。例如，这些冲击可以出现以与冲击的幅值和方向成比例地启动或偏转显示屏上对象的运动。这将支持游戏(例如台球或其他球类游戏)以及教育/工程探测(例如结构对敲击的反应)。

例如，用户可以通过轻敲便携式设备的侧边，在便携式设备的显示屏上“晃动”指针。安装到便携式设备的加速度计可以检测这样的引起便携式设备运动的力。力的方向和幅值可以基于加速度计所提供的运动数据确定。当为应用使能这项功能时，在设备侧面的轻拍将使鼠标以类似于轻拍小物体并使其滑过平面上一段距离的方式移动。同样，

这种技术可以被应用在多种其它应用中，诸如例如视频游戏(例如高尔夫球、保龄球、网球等)。

附图23是阐述根据本发明一个实施例的用于冲击检测的示例性进程的流程图。示例性进程可以由处理逻辑执行，处理逻辑可以包括硬件(电路、专用逻辑等)、软件(诸如运行在专用机器上的软件)或二者的组合。在一个实施例中，示例性进程包括、但不只限于响应于施加到便携式设备的力，利用安装到便携式设备的加速度计检测便携式设备的运动，基于加速度计所提供的加速度信息计算力的幅值和方向，以及将所显示对象在便携式设备的显示屏上从第一位置移动到第二位置，其中基于所计算的力的幅值和方向确定第一位置和第二位置之间的方向和距离。

参照附图23，在方框2301，响应于便携式设备上的轻拍(例如用户用手轻拍便携式设备的边缘)，安装到便携式设备的加速度计检测三轴加速度作为时间的函数。在方框2302中，通过执行三轴加速度的分量的时间积分，与传递到设备的冲击的幅值成比例地计算值。在一个实施例中，可以基于例如通过加速度的三个分量(例如X、Y和Z轴加速度信息)的矢量和所确定的所得到的加速度矢量的绝对值的积分确定该值。

在方框2303，确定由于轻拍便携式设备所导致的传递到便携式设备的冲击的方向。在一个实施例中，基于加速度计所提供的运动数据，由连接到加速度计的微控制器和/或固件计算方向。响应于所确定的冲击方向和幅值，应用程序软件使所显示的对象相对相关于所确定的冲击的方向和距离地以某个方向移动一定距离。所显示的对象可以是指针。可选地，所显示的对象可以是在台球或弹球中的球、保龄球游戏中的保龄球、网球中的球拍或球板、观测形变和/或动力学运动的结构等。上述技术也可以被应用到其它类似应用类型，这对于本领域技术人员来说是显而易见。

带加速度计的示例性便携式设备

附图20是阐述根据本发明一个实施例的具有加速度计的示例性

便携式设备的框图。例如，示例性系统2000可以至少表示附图1所示的示例性系统100或者附图21的示例性系统2100的一部分（例如子系统）。参照附图20，示例性系统2000包括一个或多个加速度计2001、一个或多个微控制器2002、主芯片组2003以及一个或多个外围设备2006，其中主芯片组2003可以被连接到视频适配器2004和音频设备2005。

在一个实施例中，加速度计2001是可以提供X、Y和Z轴上加速度数据的三轴加速度计。加速度计是被封装在芯片组件中的机电式微型机械。它提供三路模拟输出（例如X、Y和Z轴），这些模拟输出的值与沿三维空间中的相应轴所测量的加速度直接成比例。在一个实施例中，加速度计2001可以是Kionix公司的KGF01加速度计或是模拟器件公司的ADXL311。

微控制器2002负责监视加速度计2001的模拟输出，并通过芯片组2003与主机通信。在一个实施例中，通过I2C总线2007以及中断线2008把微控制器2002连接到主芯片组2003。可选地，微控制器2002可以与主芯片组2003集成。在一个实施例中，微控制器2002可以是Microchip(微芯)公司的PCI 16F818微控制器。

根据一个实施例，当加速度计2001检测到便携式设备正在移动时，微控制器2002从加速度计2001接收三轴加速度信息，并通过中断线通知主机。作为响应，运动数据可以通过I2C总线2007被从微控制器2002中读出。在一个实施例中，微控制器2002可以基于从加速度计2001所接收的三轴加速度信息确定运动方向。可选地，主芯片组可以执行这样的操作。在一个实施例中，所有这三个轴的所得到的加速度矢量的幅值可以根据下列公式确定：

$$Mag(Acceleration_{resultant}) = Sqrt(X_{accel}^{2} + Y_{accel}^{2} + Z_{accel}^{2})$$

响应于确定的加速度矢量的幅值，在示例性系统2000中执行的一个或多个软件成分（例如应用程序软件、固件以及操作系统等）可以执行特定操作，例如本申请中上述的那些操作。例如，所显示的图像的定向可以被视频适配器调整，以及声音效果可以通过音频设备

2005被调整等。此外，一个或多个外围设备2006-诸如例如硬盘驱动器-可以被相应地配置。其它配置也可以存在。

示例性数据处理系统

附图21是可以和本发明的一个实施例一起使用的数字处理系统的方框图。例如，附图21所示的系统2100可以被用作为附图1和20所示的示例性系统。

注意，虽然附图21表示了计算机系统的各种组件，但是并不打算表示任何特定架构或组件互联方式，因为这些细节和本发明没有密切关系。也应该理解，网络计算机、手持计算机、蜂窝电话、多媒体播放器以及可以有更少组件或可能可以具有更多组件的其他数据处理系统也可以与本发明一起使用。例如，附图21的计算机系统可以是Apple Macintosh计算机或IBM兼容计算机。

如附图21所示，作为一种数据处理系统的计算机系统2100包括总线2102、易失性RAM2105以及非易失性存储器2106，其中总线2102连接到微处理器2103和ROM 2107。可以是例如Motorola(摩托罗拉)公司或IBM公司的PowerPC G4或PowerPC G5微处理器的微处理器2103被连接到高速缓存存储器2104，如附图21的实例中所示。总线2102把这些不同部件互相连接到一起，并且也把这些部件2103、2107、2105、2106互相连接到显示控制器和显示设备2108，以及连接到输入/输出(I/O)设备2110，输入输出设备可以是鼠标、键盘、调制解调器、网络接口、打印机以及其他本领域中公知的设备。通常，输入/输出设备2110通过输入/输出控制器2109连接到系统。易失性RAM 2105通常被实现为需要连续供电以刷新或保持存储器中的数据的动态RAM(DRAM)。非易失性存储器2106通常为磁硬盘驱动器、磁光盘驱动器、光盘驱动器、或DVD RAM或者其它类型的甚至在电源被从系统中去除之后还保持数据的存储系统。通常，非易失性存储器也是随机存取存储器，尽管这并不需要。虽然附图21显示了非易失性存储器是直接连接到数据处理系统的其它部件的本地设备，但应该理解，本发明可以利用远离系统的非易失性存储器，诸如

通过网络接口-诸如调制解调器或以太网接口-连接到数据处理系统的网络存储设备。总线2102可以包括通过各种桥、控制器以及/或者适配器彼此连接的一条或多条总线，如本领域中所公知的。在一个实施例中，I/O控制器2109包括用于控制USB(通用串行总线)外围设备的USB适配器。可选地，I/O控制器2109可以包括用于控制FireWire设备的IEEE-1394适配器，IEEE-1394适配器也被称为FireWire适配器。其他部件也可以被包括。

因此，用于利用加速度计操作便携式设备的方法和装置已经被描述。在前述说明书中，已经参照具体示例性实施例描述了本发明。但显然可以对其进行各种修改而不会背离在以下权利要求书中所确定的本发明的主旨和范围。相应地，说明书和附图将被视为图解说明的意思，而不是限制的意思。

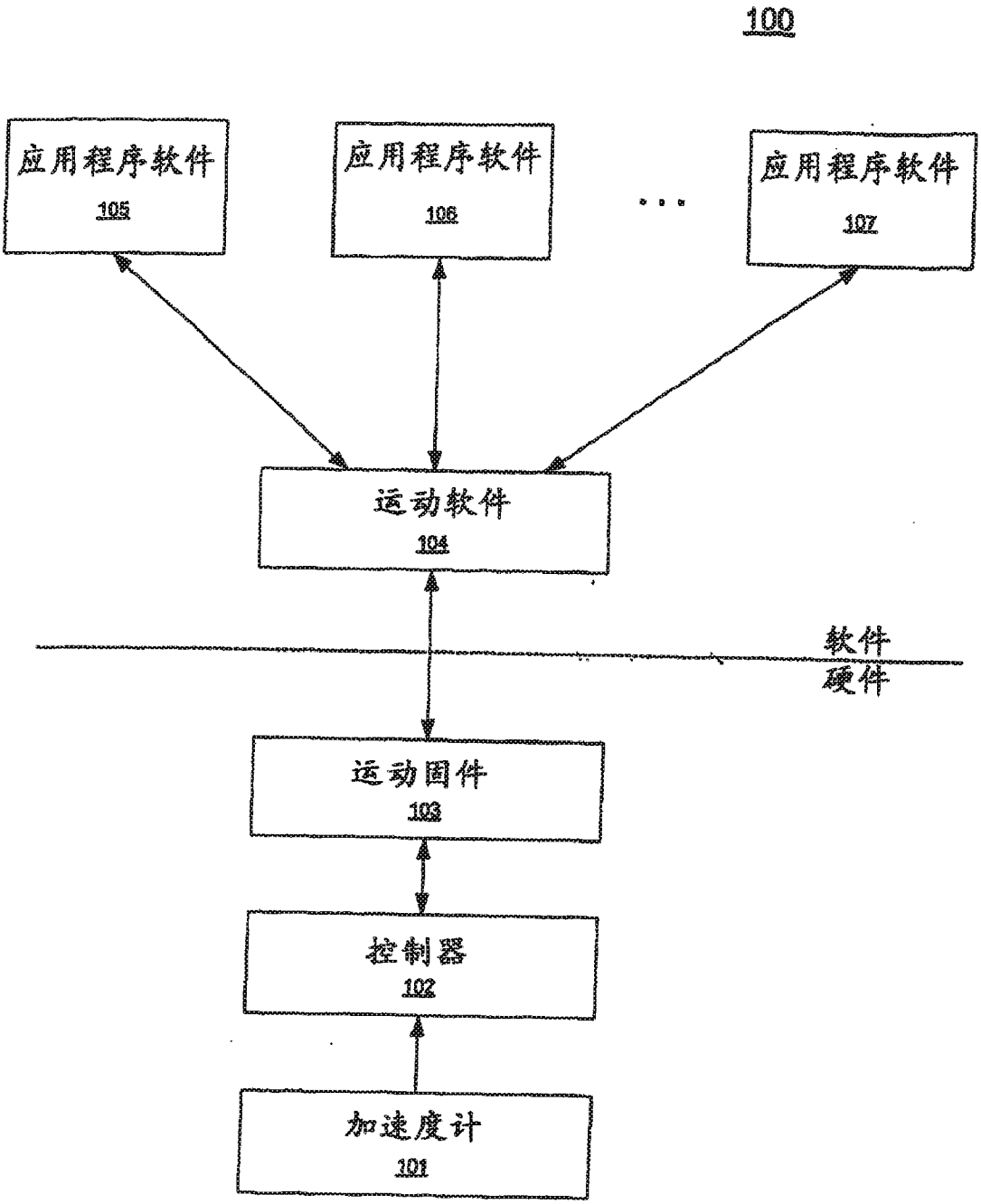
100
应用程序软件
105
应用程序软件
106
...
应用程序软件
107
运动软件
104
软件
硬件
运动固件
103
控制器
102
加速度计
101

图1

200

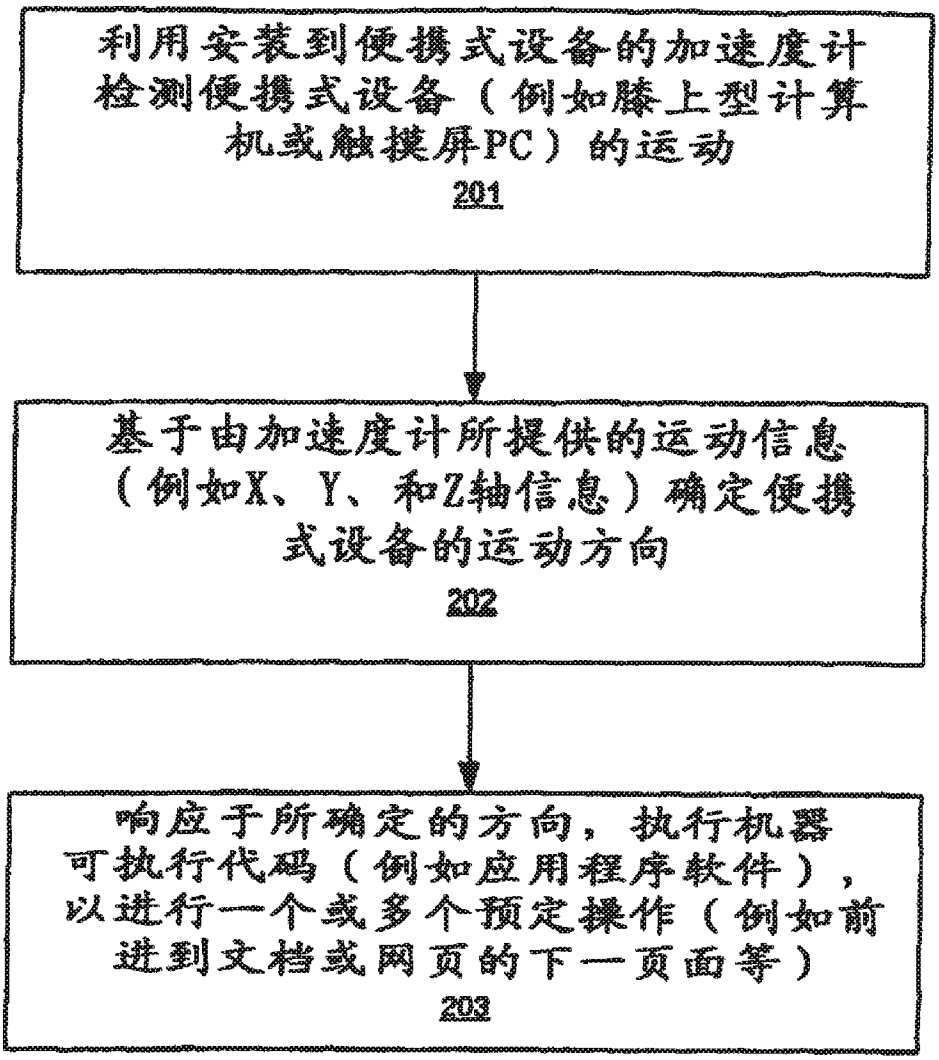
利用安装到便携式设备的加速度计检测便携式设备（例如膝上型计算机或触摸屏PC）的运动
201
基于由加速度计所提供的运动信息（例如X、Y、和Z轴信息）确定便携式设备的运动方向
202
响应于所确定的方向，执行机器可执行代码（例如应用程序软件），以进行一个或多个预定操作（例如前进到文档或网页的下一页面等）
203

图2

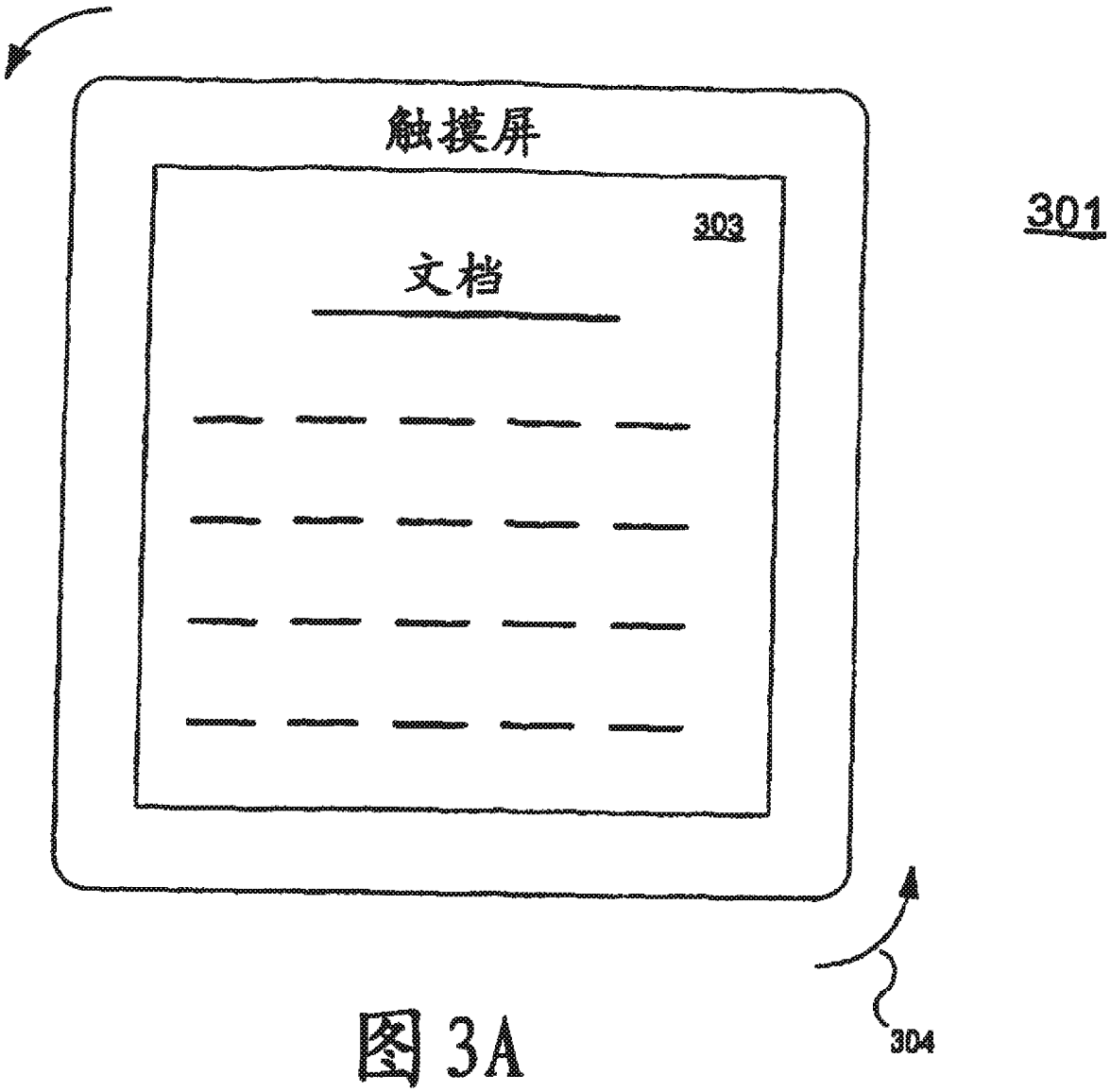

图 3A

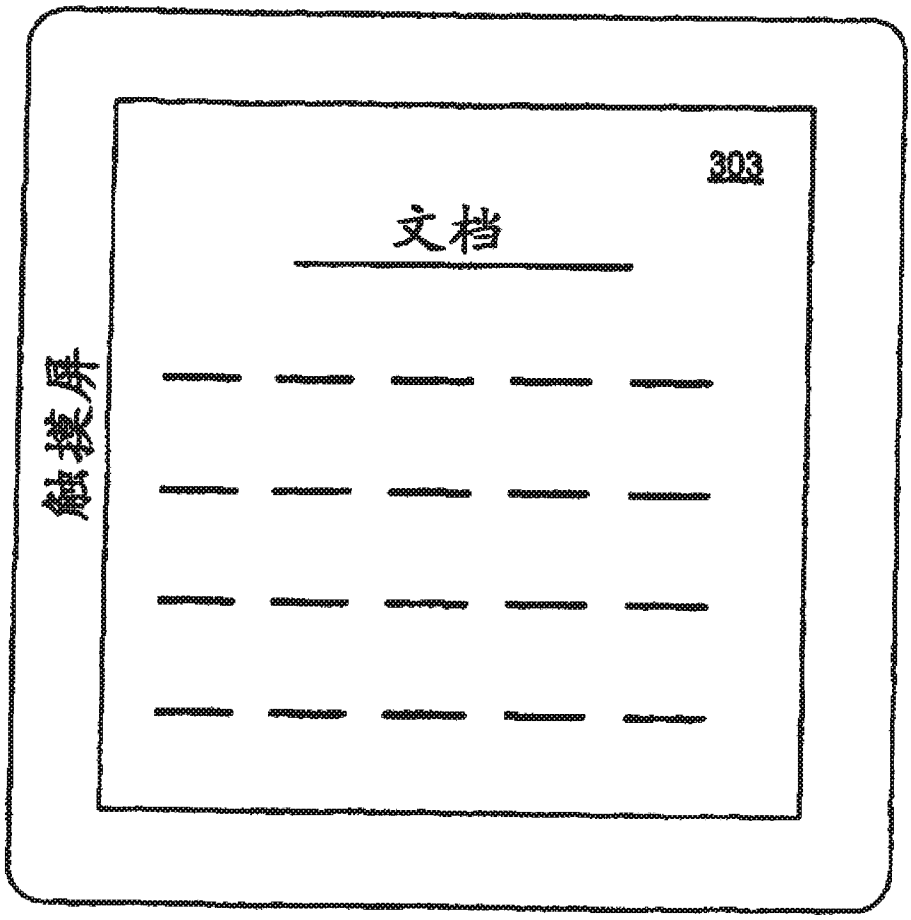

图 3B

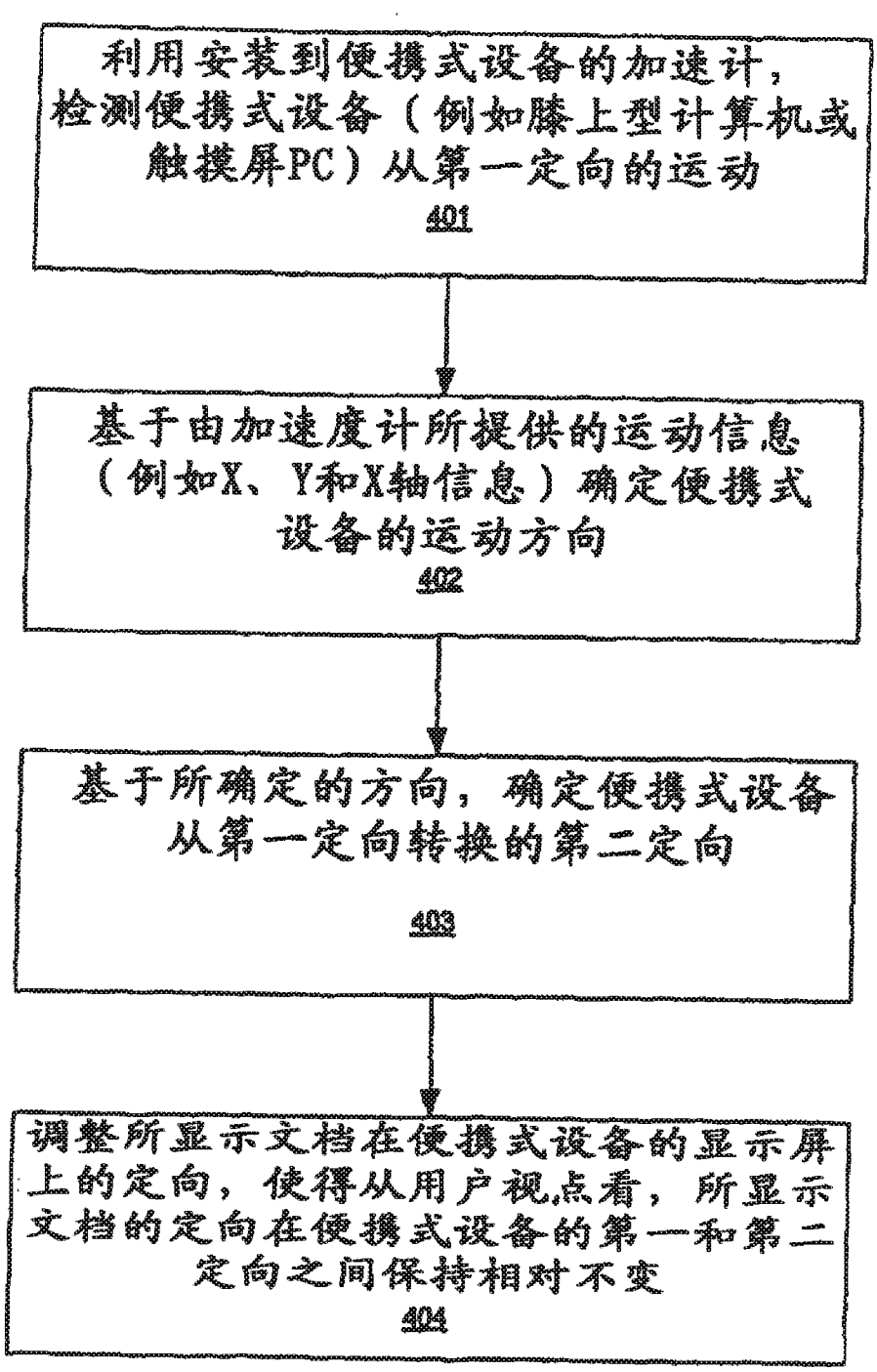
400
利用安装到便携式设备的加速计，检测便携式设备（例如膝上型计算机或触摸屏PC）从第一定向的运动
401
基于由加速度计所提供的运动信息（例如X、Y和X轴信息）确定便携式设备的运动方向
402
基于所确定的方向，确定便携式设备从第一定向转换的第二定向
403
调整所显示文档在便携式设备的显示屏上的定向，使得从用户视点看，所显示文档的定向在便携式设备的第一和第二定向之间保持相对不变
404

图4

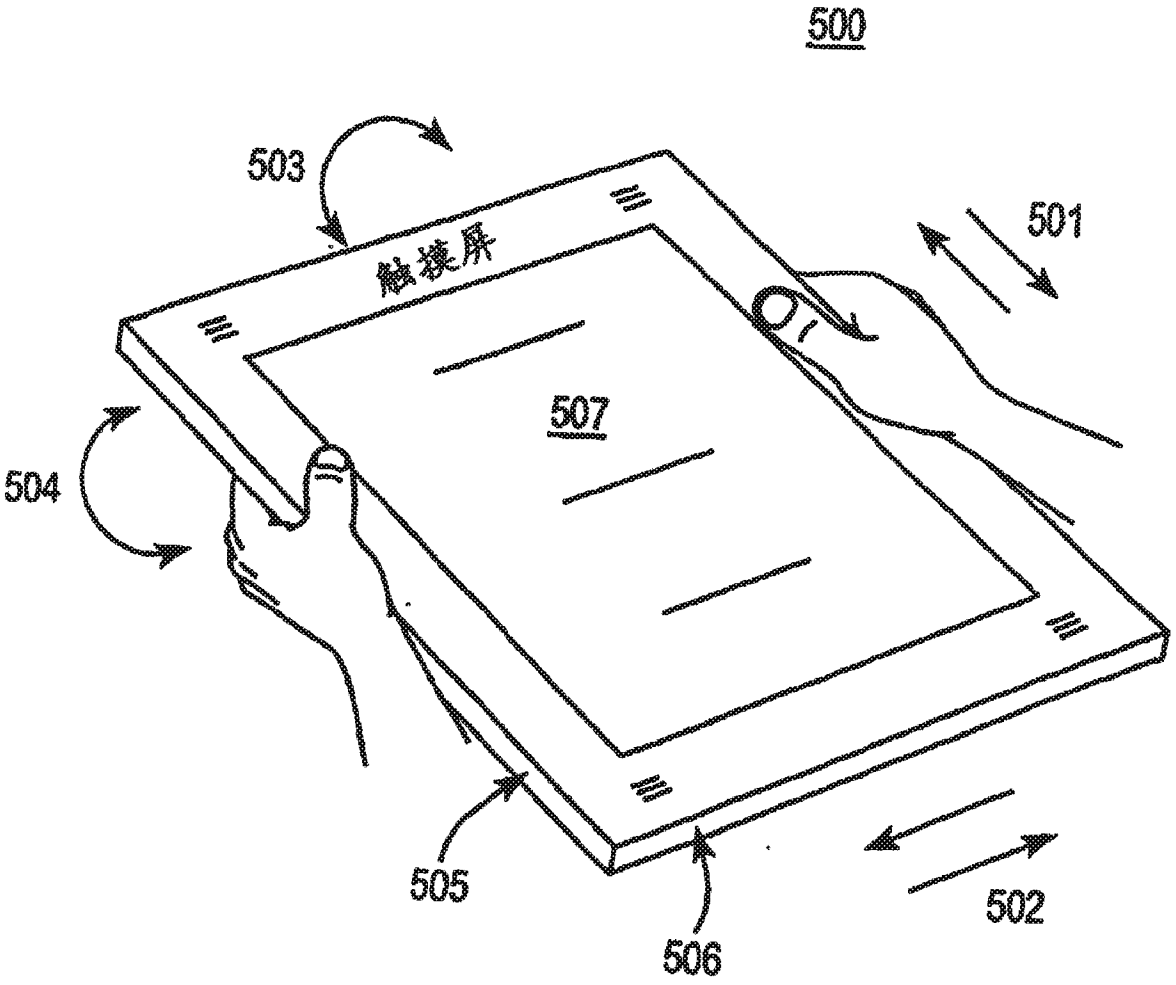

图 5A

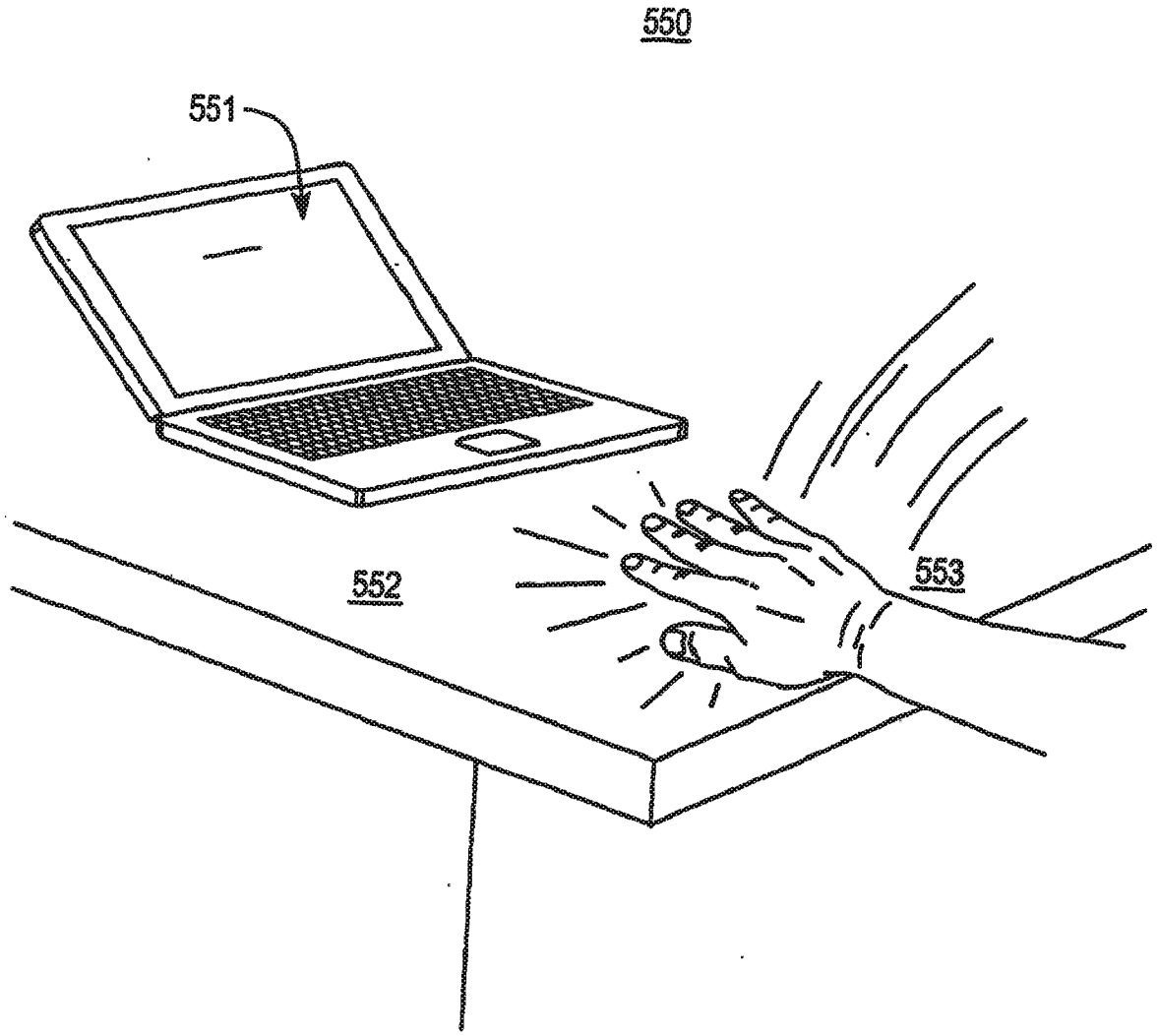

图 5B

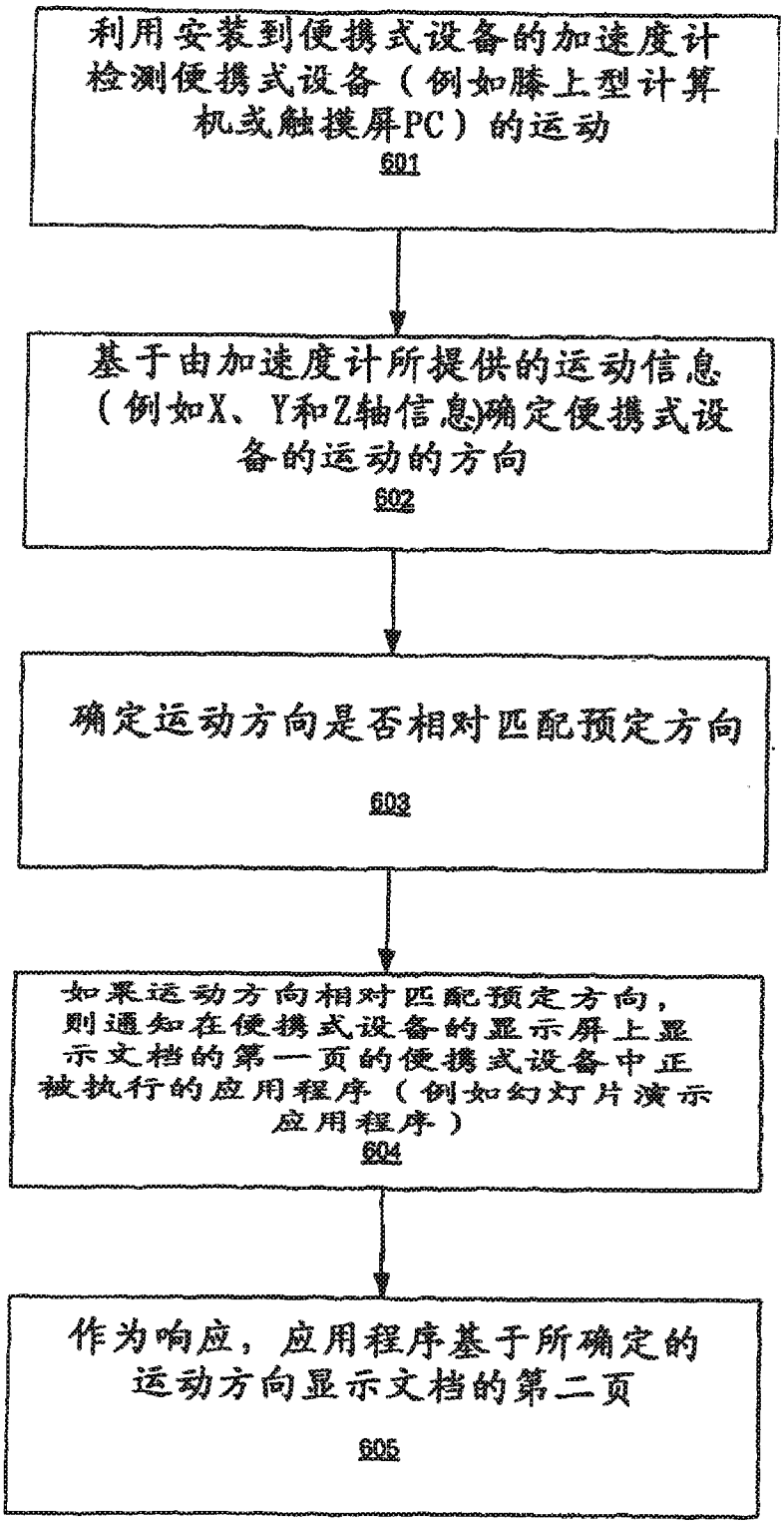
600
利用安装到便携式设备的加速度计检测便携式设备（例如膝上型计算机或触摸屏PC）的运动
601
基于由加速度计所提供的运动信息（例如X、Y和Z轴信息）确定便携式设备的运动的方向
602
确定运动方向是否相对匹配预定方向
603
如果运动方向相对匹配预定方向，则通知在便携式设备的显示屏上显示文档的第一页的便携式设备中正被执行的应用程序（例如幻灯片演示应用程序）
604
作为响应，应用程序基于所确定的运动方向显示文档的第二页
605

图6

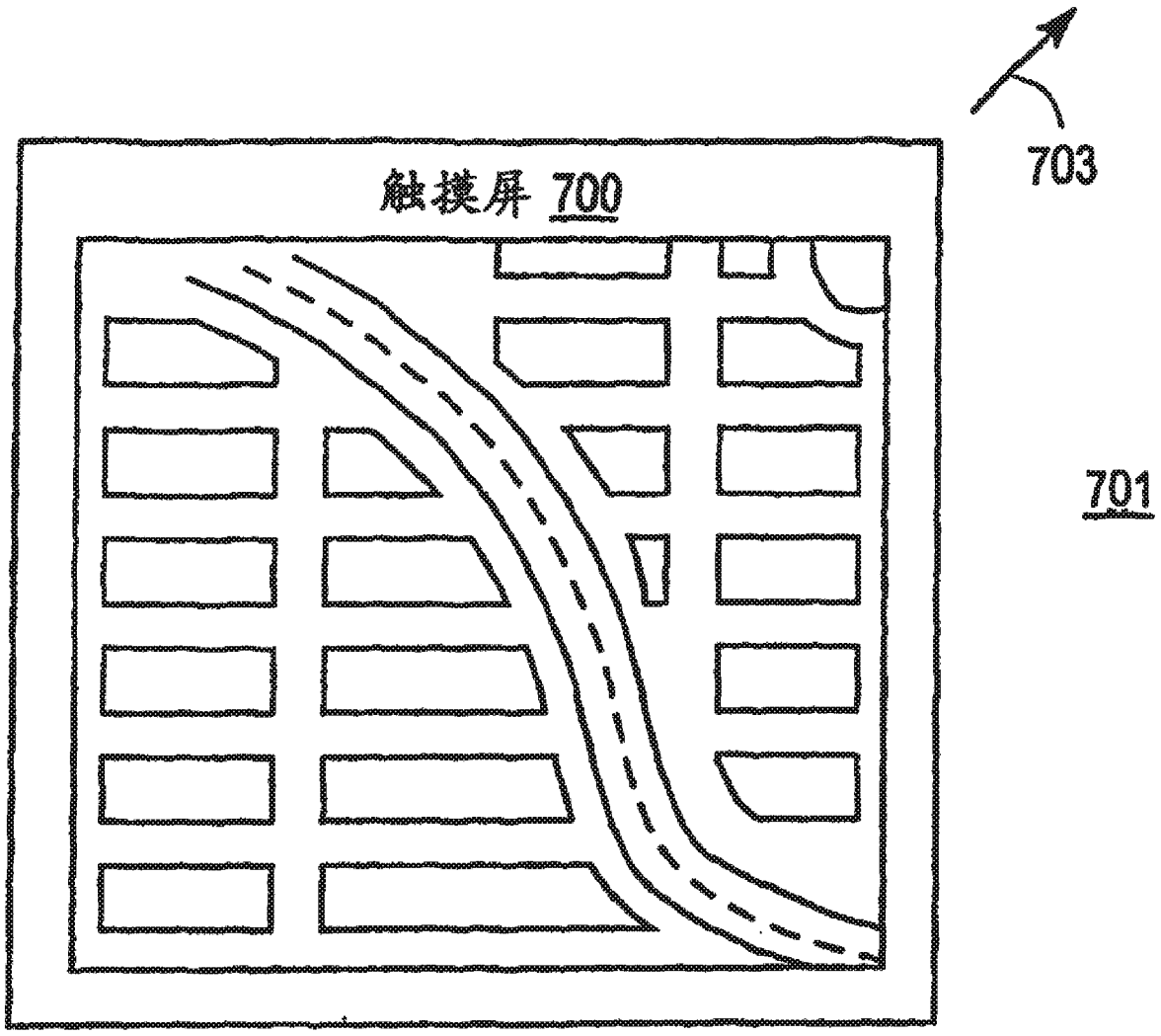

图 7A

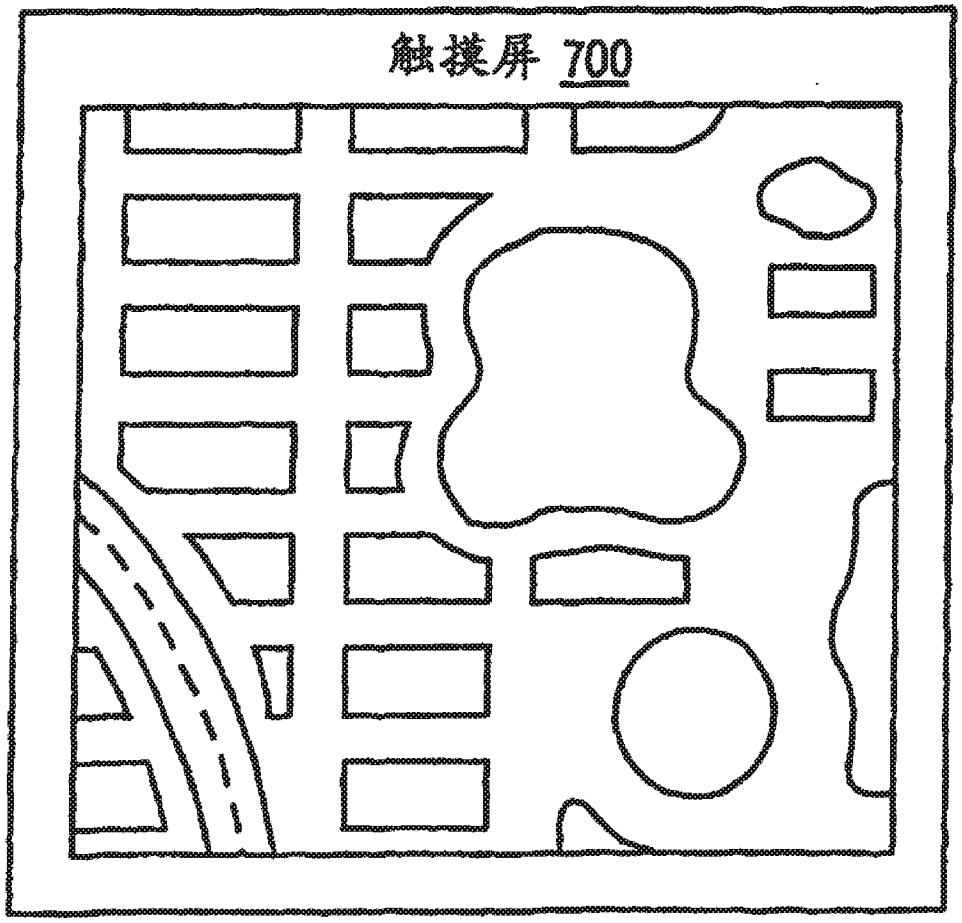

图 7B

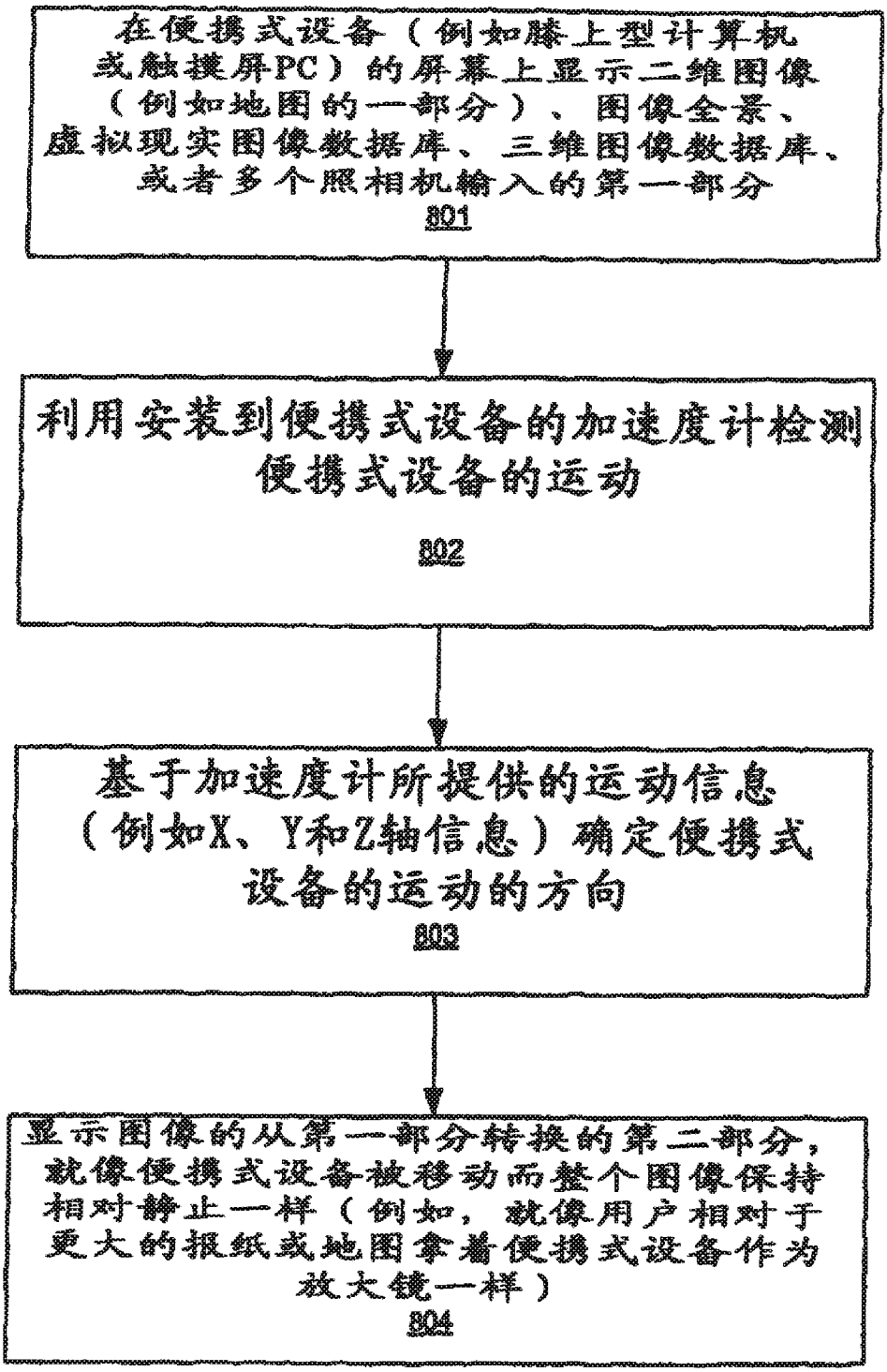
在便携式设备（例如膝上型计算机或触摸屏PC）的屏幕上显示二维图像（例如地图的一部分）、图像全景、虚拟现实图像数据库、三维图像数据库、或者多个照相机输入的第一部分
801
利用安装到便携式设备的加速度计检测便携式设备的运动
802
基于加速度计所提供的运动信息（例如X、Y和Z轴信息）确定便携式设备的运动的方向
803
显示图像的从第一部分转换的第二部分，就像便携式设备被移动而整个图像保持相对静止一样（例如，就像用户相对于更大的报纸或地图拿着便携式设备作为放大镜一样）
804

图8

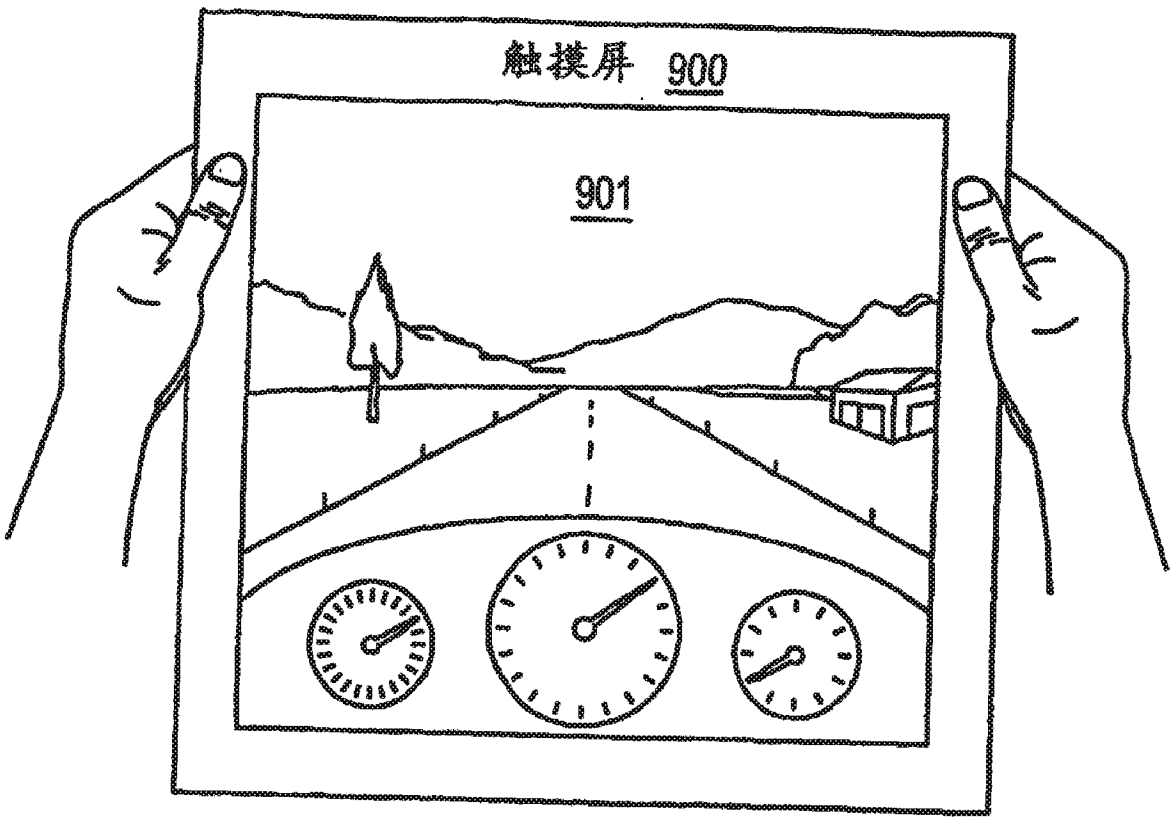

图 9A

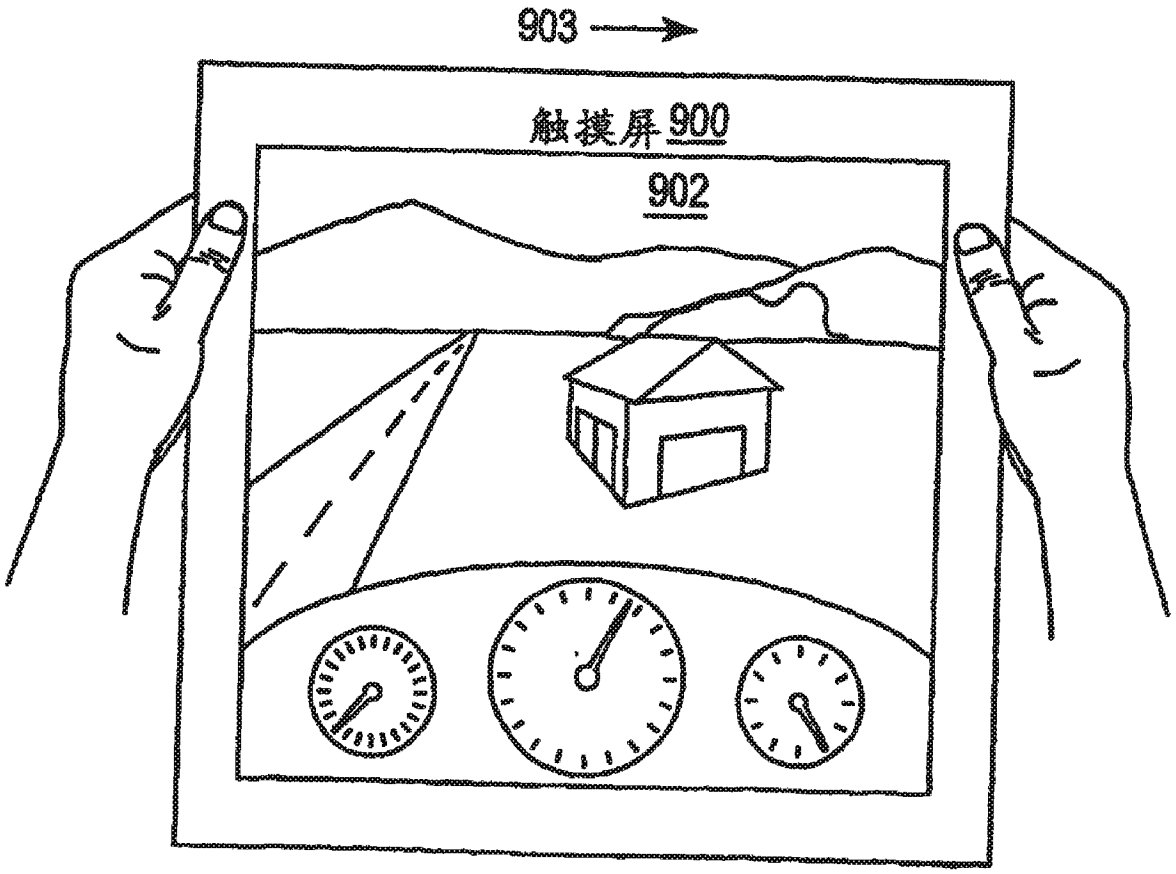

图9B

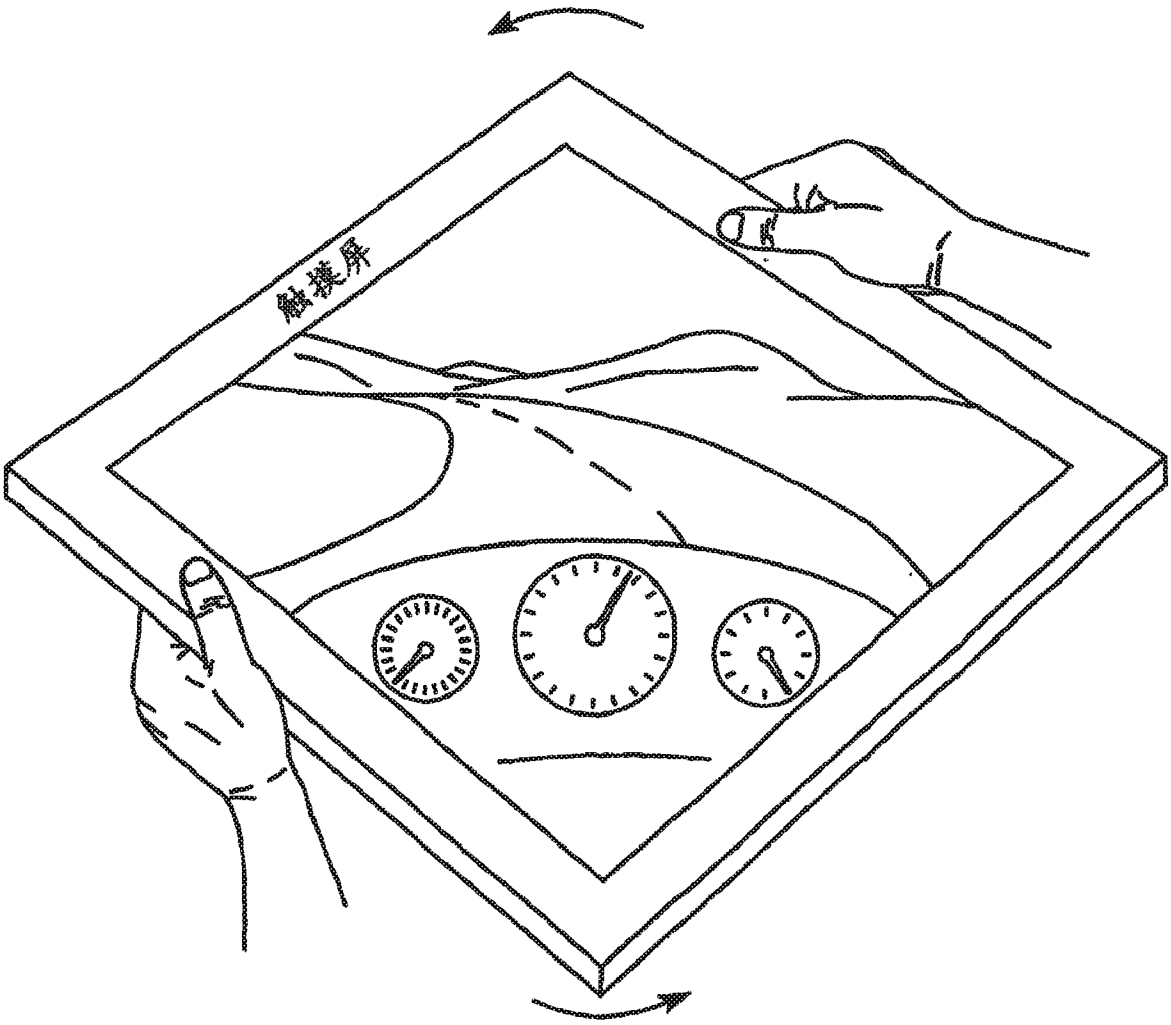

图10A

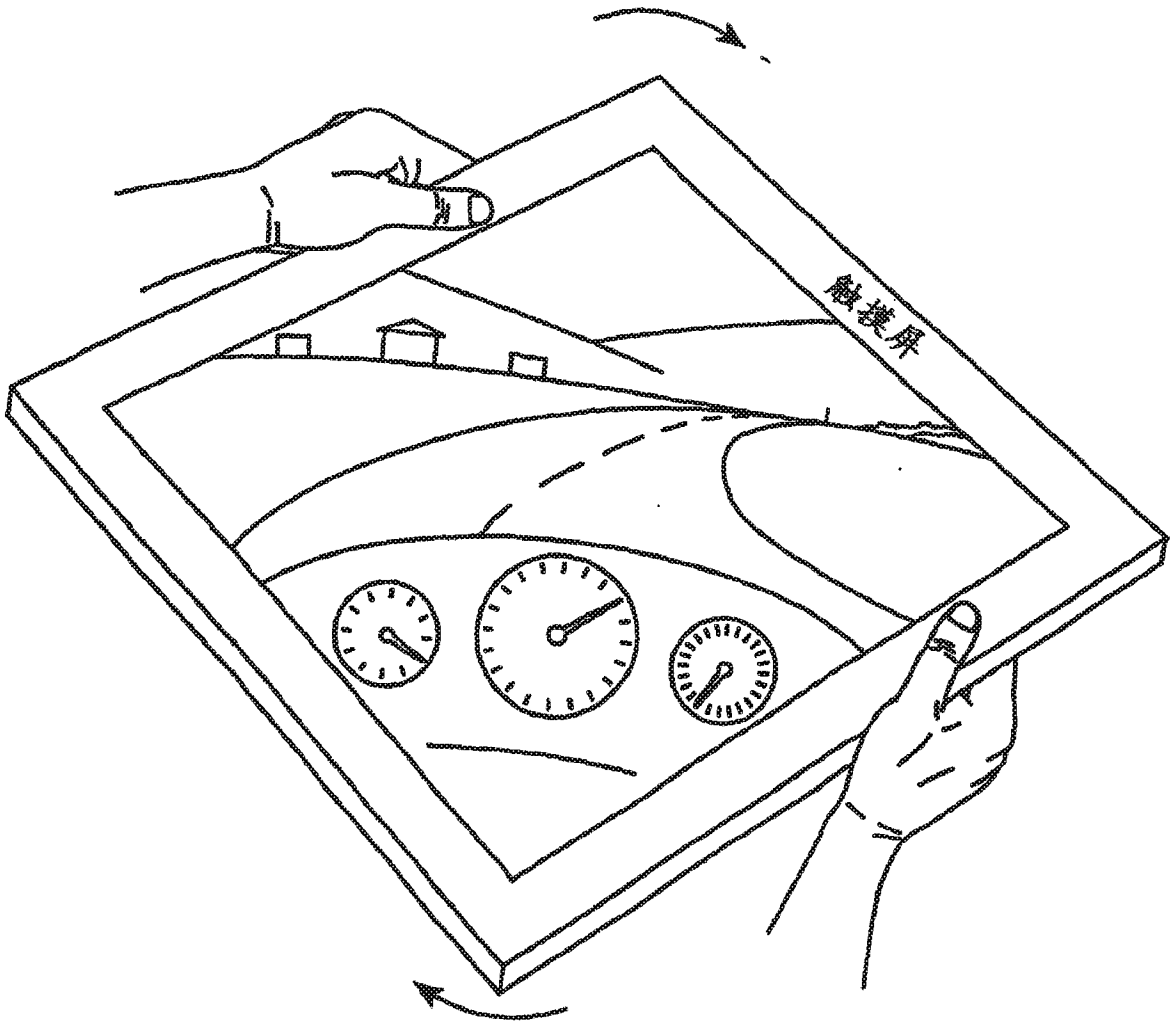

图10B

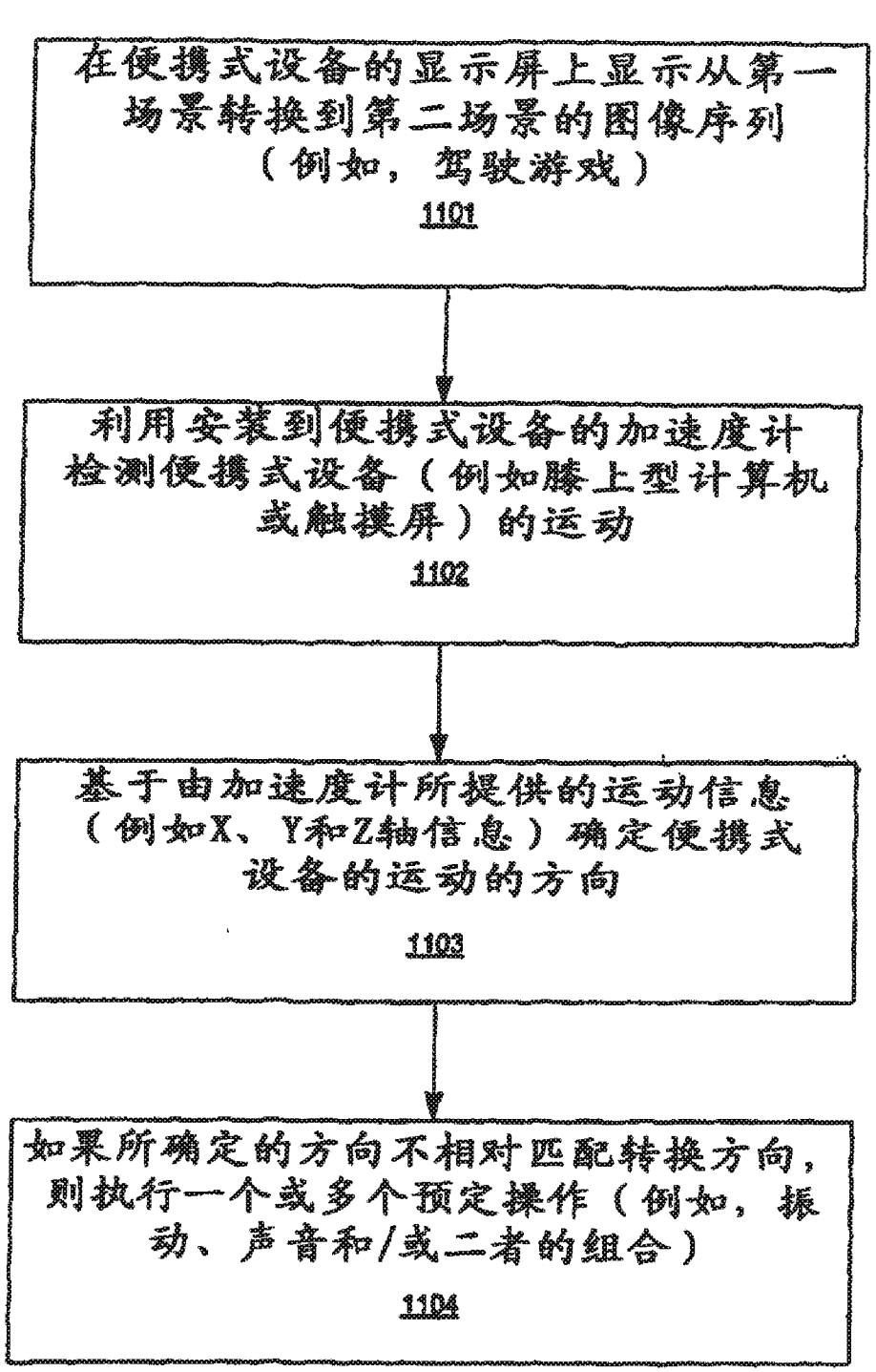
1100
在便携式设备的显示屏上显示从第一场景转换到第二场景的图像序列（例如，驾驶游戏）
1101
利用安装到便携式设备的加速度计检测便携式设备（例如膝上型计算机或触摸屏）的运动
1102
基于由加速度计所提供的运动信息（例如X、Y和Z轴信息）确定便携式设备的运动的方向
1103
如果所确定的方向不相对匹配转换方向，则执行一个或多个预定操作（例如，振动、声音和/或二者的组合）
1104

图11

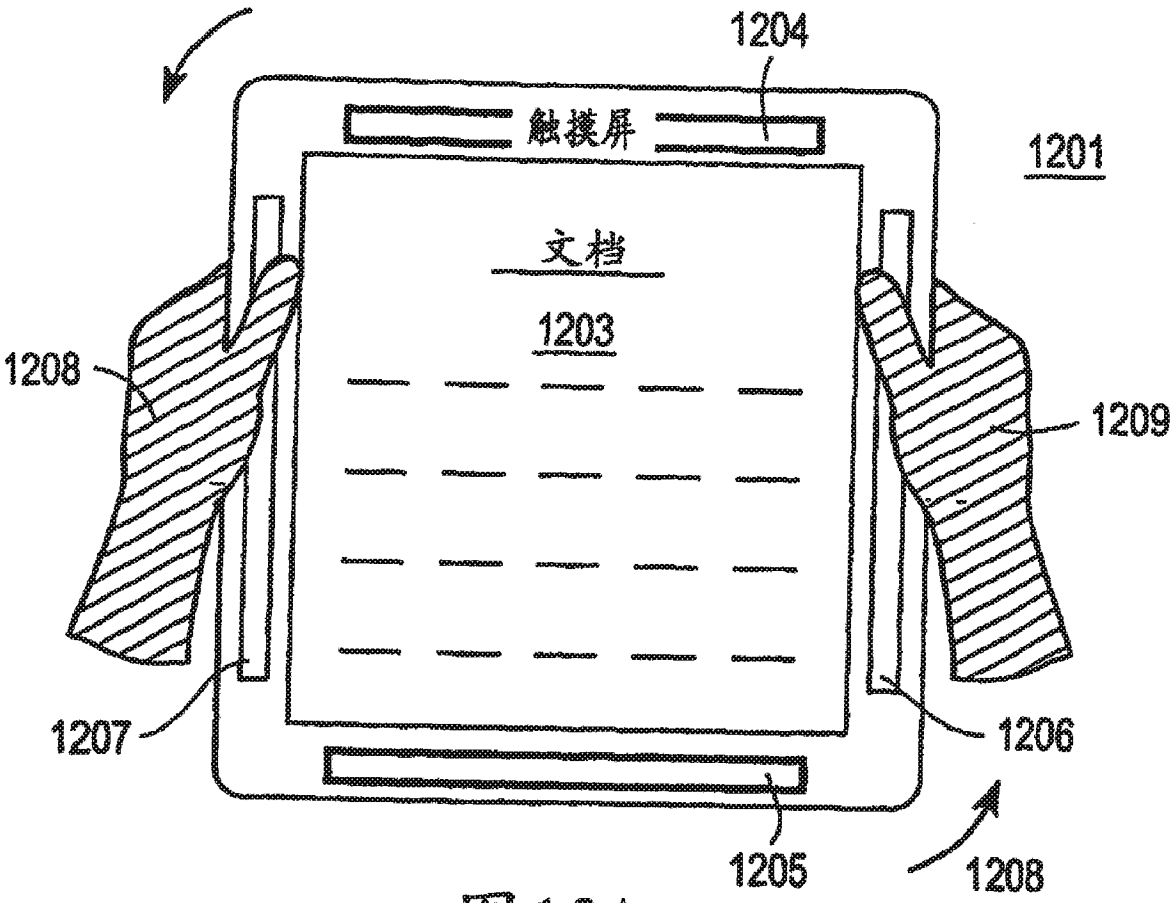

图12A

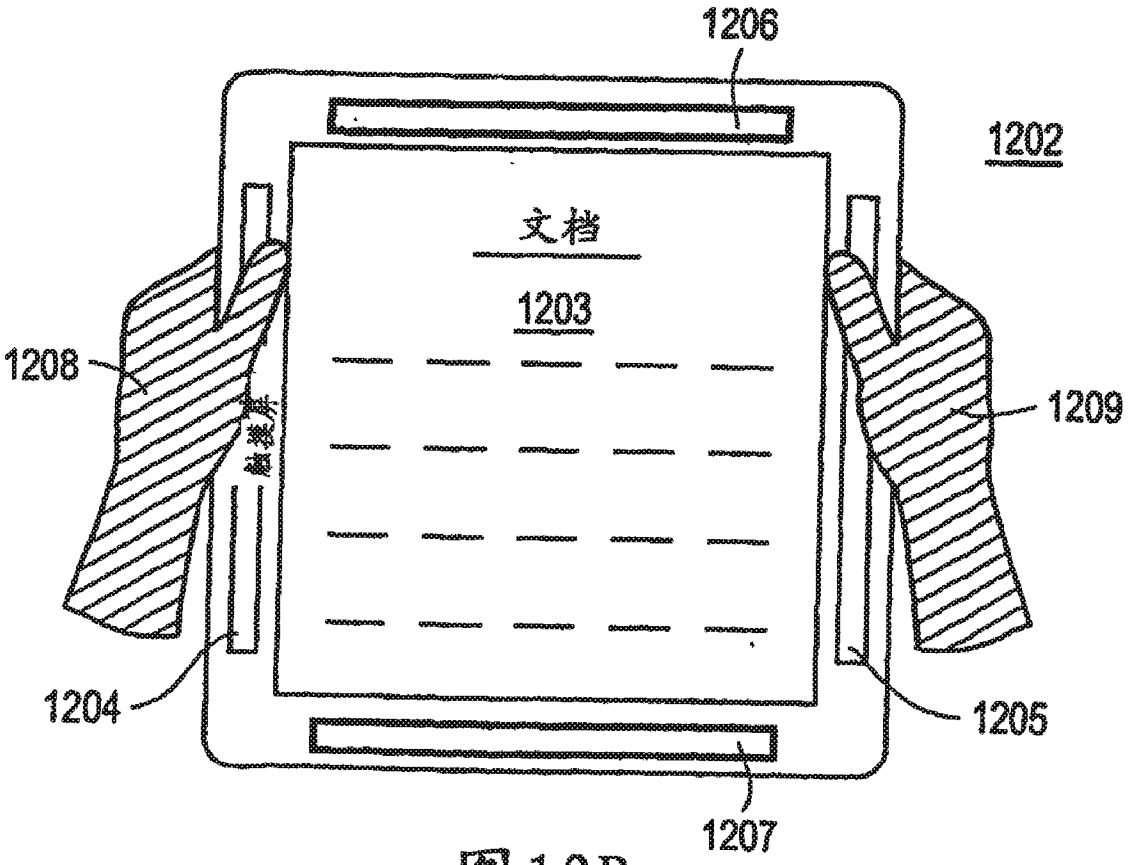

图 12B

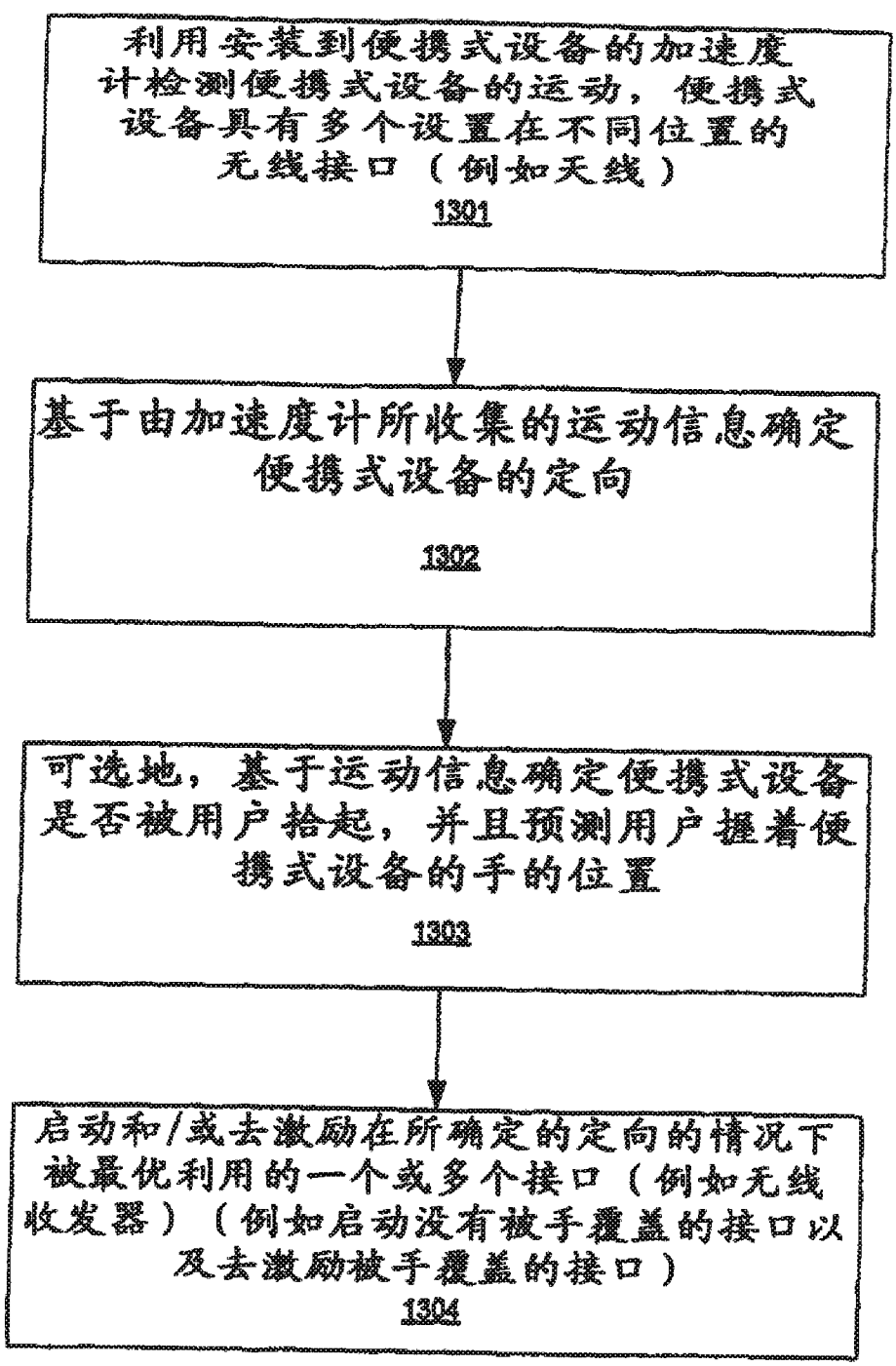
1300
利用安装到便携式设备的加速度计检测便携式设备的运动，便携式设备具有多个设置在不同位置的无线接口（例如天线）
1301
基于由加速度计所收集的运动信息确定便携式设备的定向
1302
可选地，基于运动信息确定便携式设备是否被用户拾起，并且预测用户握着便携式设备的手的位置
1303
启动和/或去激励在所确定的定向的情况下被最优利用的一个或多个接口（例如无线收发器）（例如启动没有被手覆盖的接口以及去激励被手覆盖的接口）
1304

图13

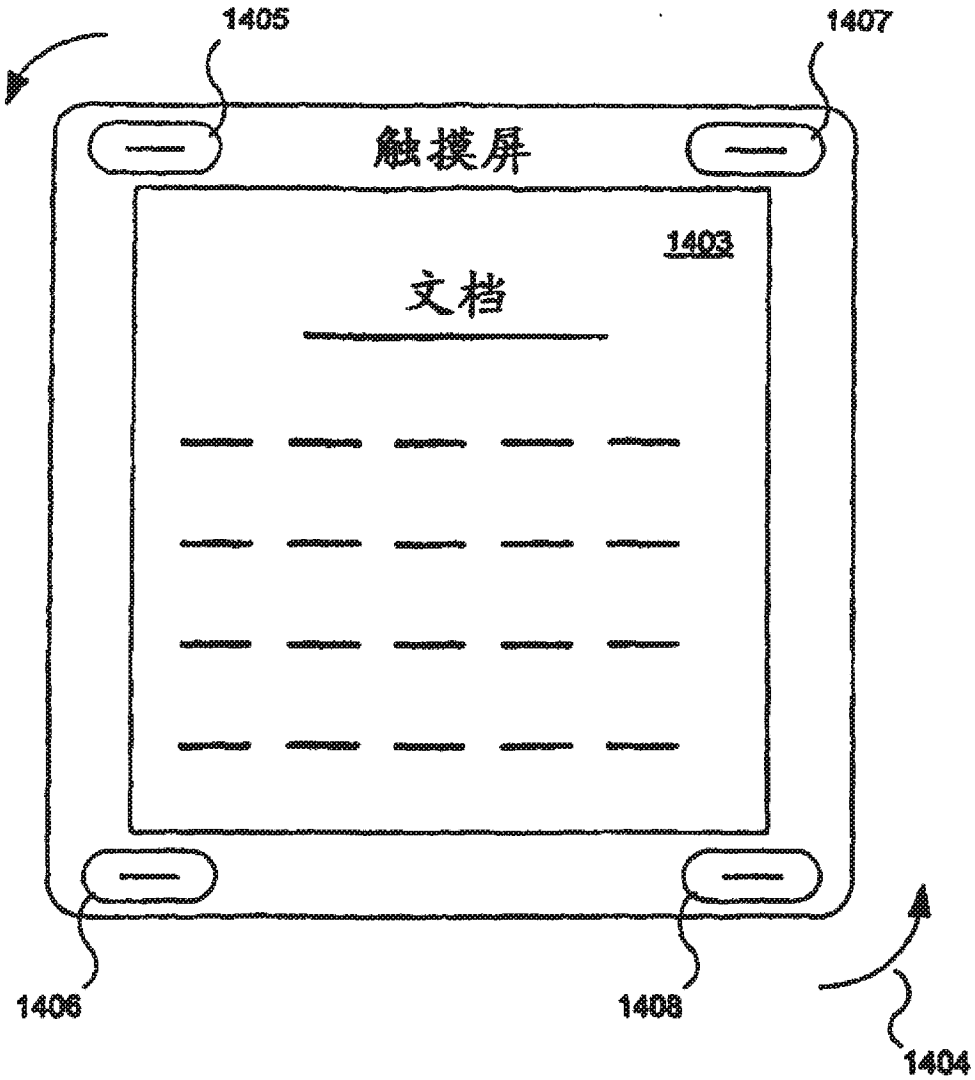

图 14A

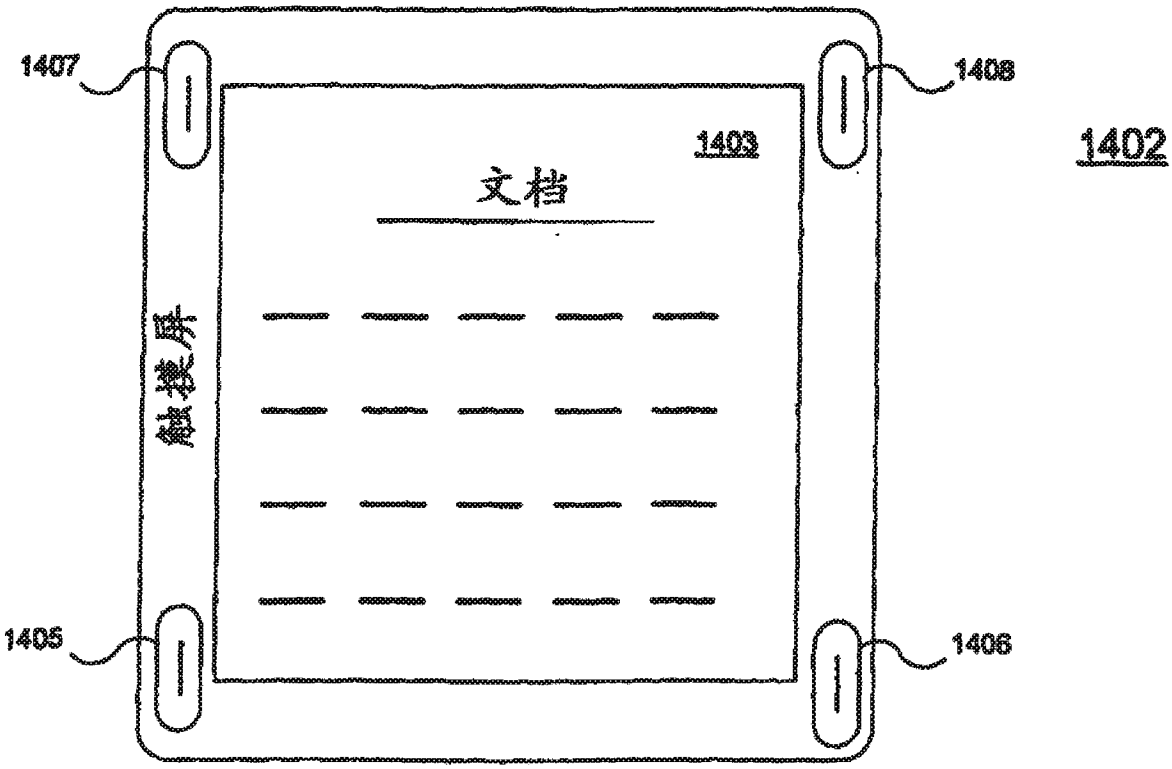

图14B

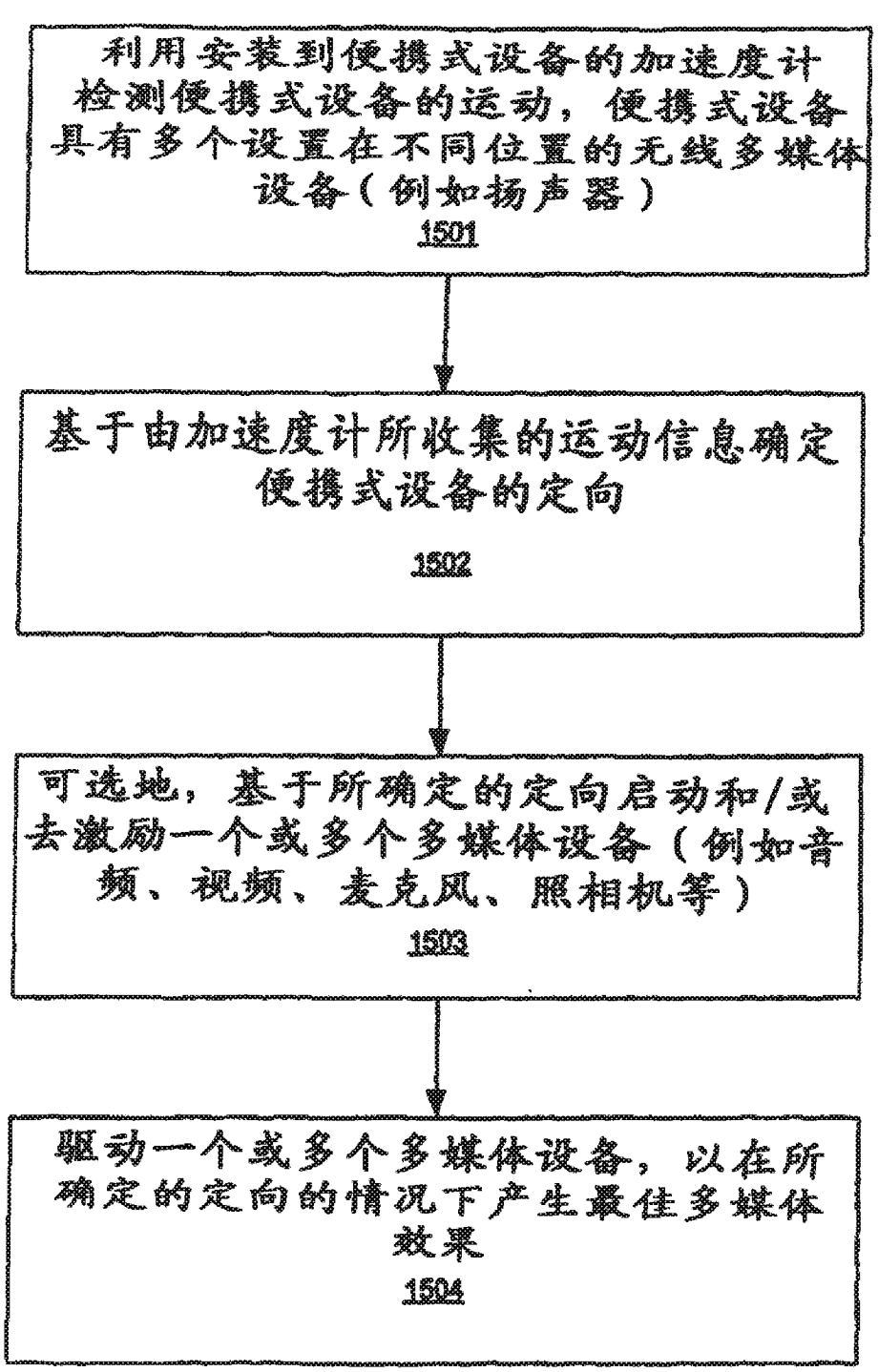
1500
利用安装到便携式设备的加速度计检测便携式设备的运动，便携式设备具有多个设置在不同位置的无线多媒体设备（例如扬声器）
1501
基于由加速度计所收集的运动信息确定便携式设备的定向
1502
可选地，基于所确定的定向启动和/或去激励一个或多个多媒体设备（例如音频、视频、麦克风、照相机等）
1503
驱动一个或多个多媒体设备，以在所确定的定向的情况下产生最佳多媒体效果
1504

图15

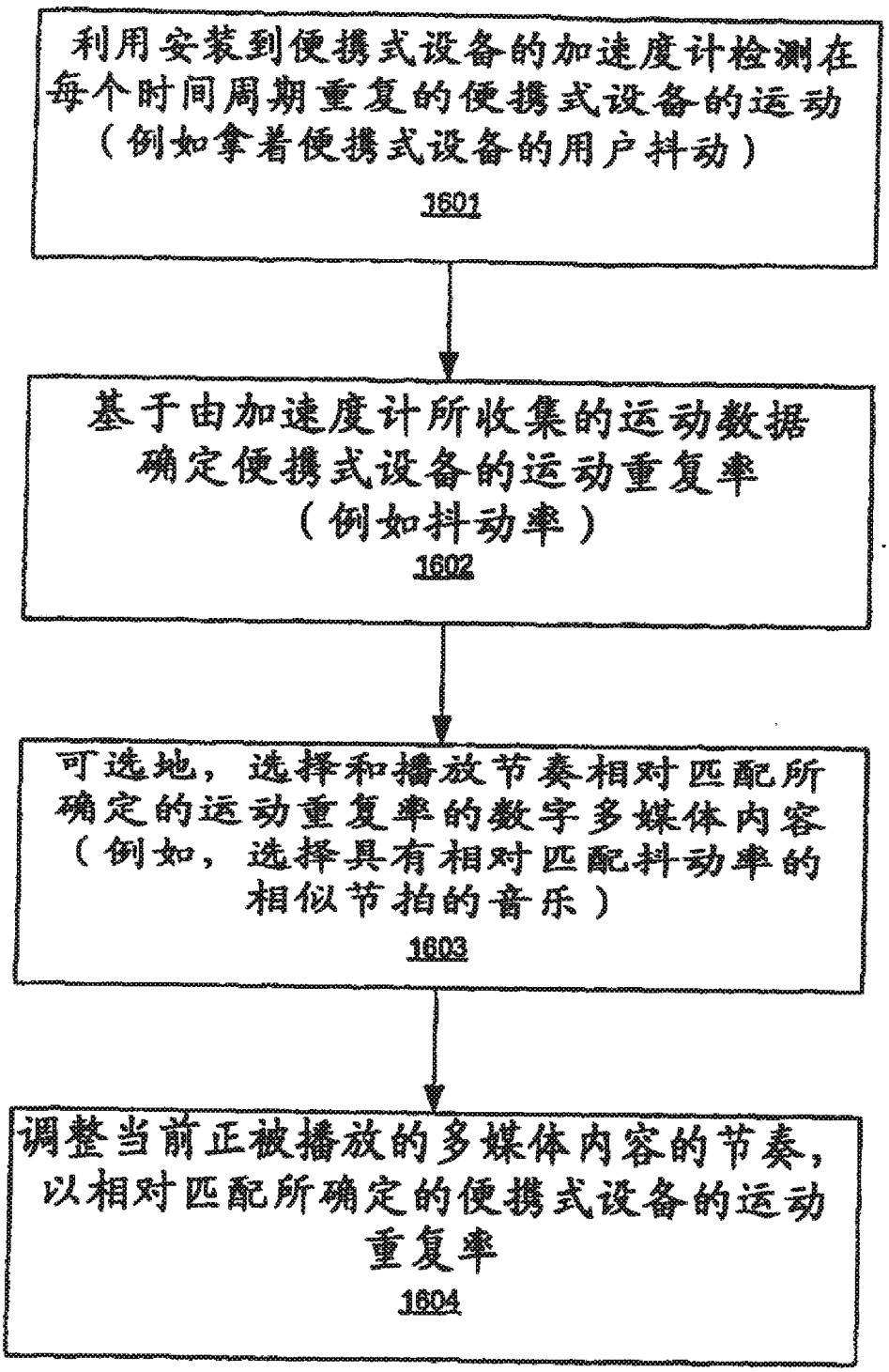
1600
利用安装到便携式设备的加速度计检测在每个时间周期重复的便携式设备的运动（例如拿着便携式设备的用户抖动）
1601
基于由加速度计所收集的运动数据确定便携式设备的运动重复率（例如抖动率）
1602
可选地，选择和播放节奏相对匹配所确定的运动重复率的数字多媒体内容（例如，选择具有相对匹配抖动率的相似节拍的音乐）
1603
调整当前正被播放的多媒体内容的节奏，以相对匹配所确定的便携式设备的运动重复率
1604

图16

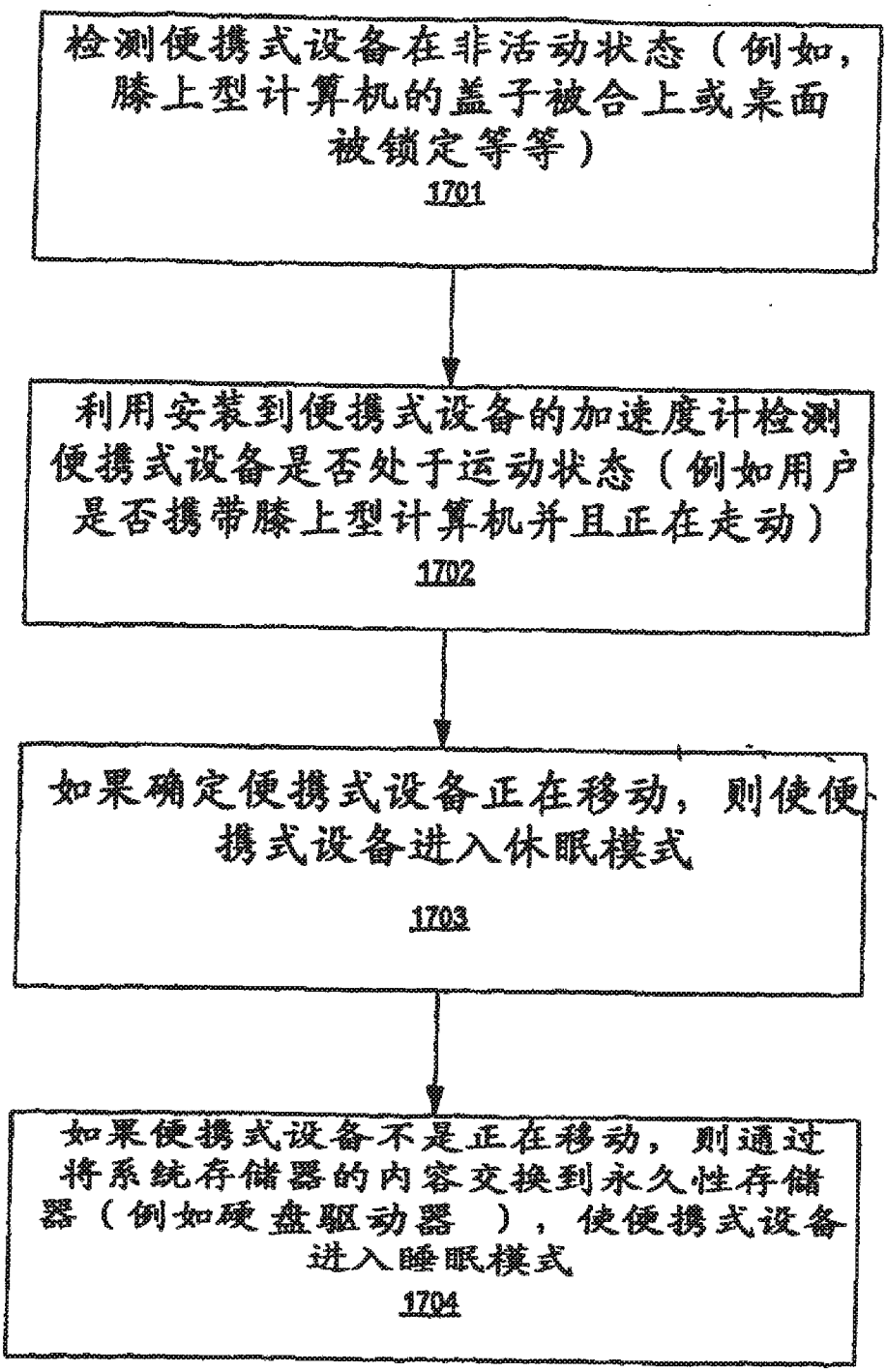
1700
检测便携式设备在非活动状态（例如，膝上型计算机的盖子被合上或桌面被锁定等等）
1701
利用安装到便携式设备的加速度计检测便携式设备是否处于运动状态（例如用户是否携带膝上型计算机并且正在走动）
1702
如果确定便携式设备正在移动，则使便携式设备进入休眠模式
1703
如果便携式设备不是正在移动，则通过将系统存储器的内容交换到永久性存储器（例如硬盘驱动器 ），使便携式设备进入睡眠模式
1704

图17

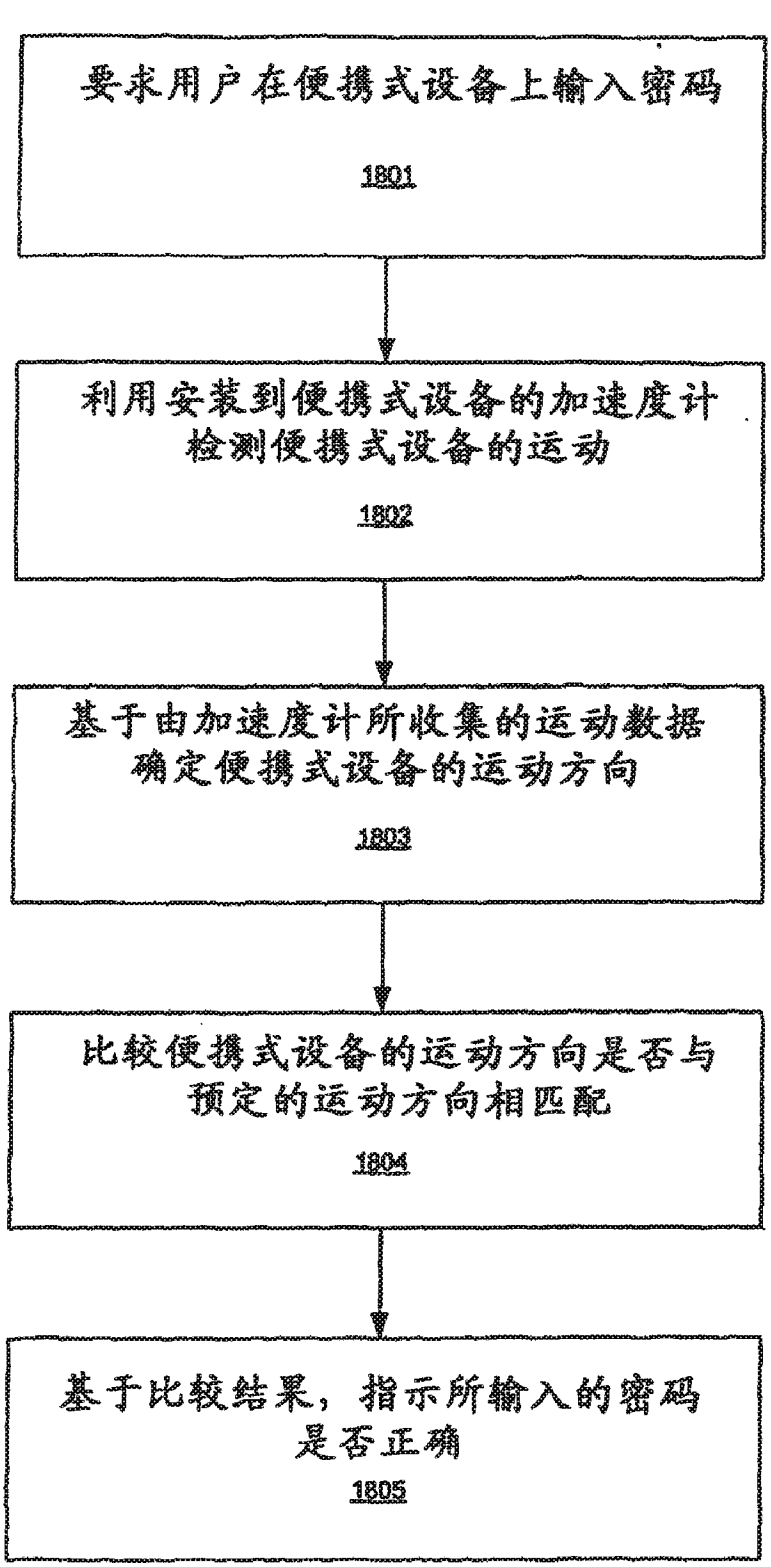
1800
要求用户在便携式设备上输入密码
1801
利用安装到便携式设备的加速度计检测便携式设备的运动
1802
基于由加速度计所收集的运动数据确定便携式设备的运动方向
1803
比较便携式设备的运动方向是否与预定的运动方向相匹配
1804
基于比较结果，指示所输入的密码是否正确
1805

图18

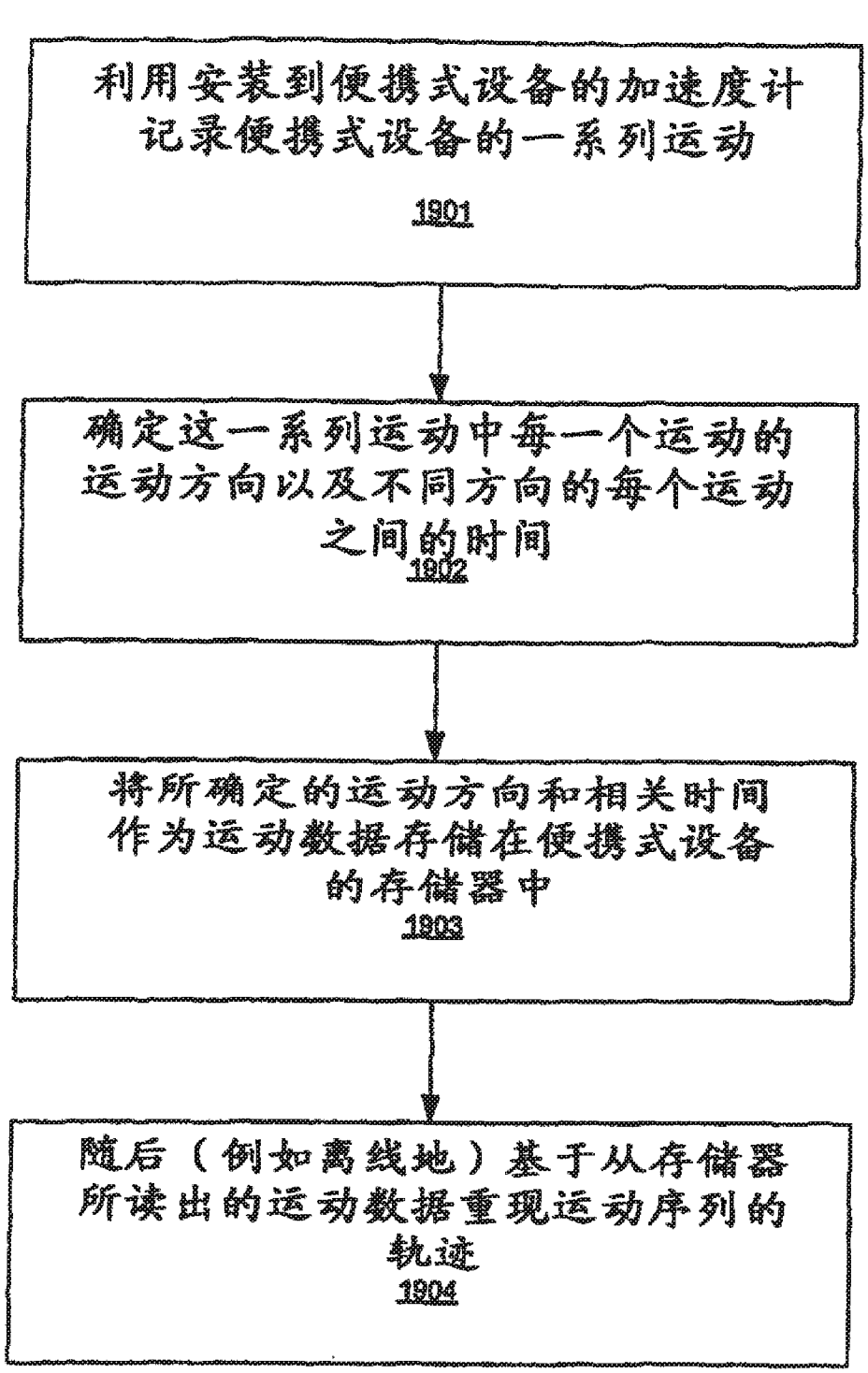
1900
利用安装到便携式设备的加速度计记录便携式设备的一系列运动
1901
确定这一系列运动中每一个运动的运动方向以及不同方向的每个运动之间的时间
1902
将所确定的运动方向和相关时间作为运动数据存储在便携式设备的存储器中
1903
随后（例如离线地）基于从存储器所读出的运动数据重现运动序列的轨迹
1904

图19

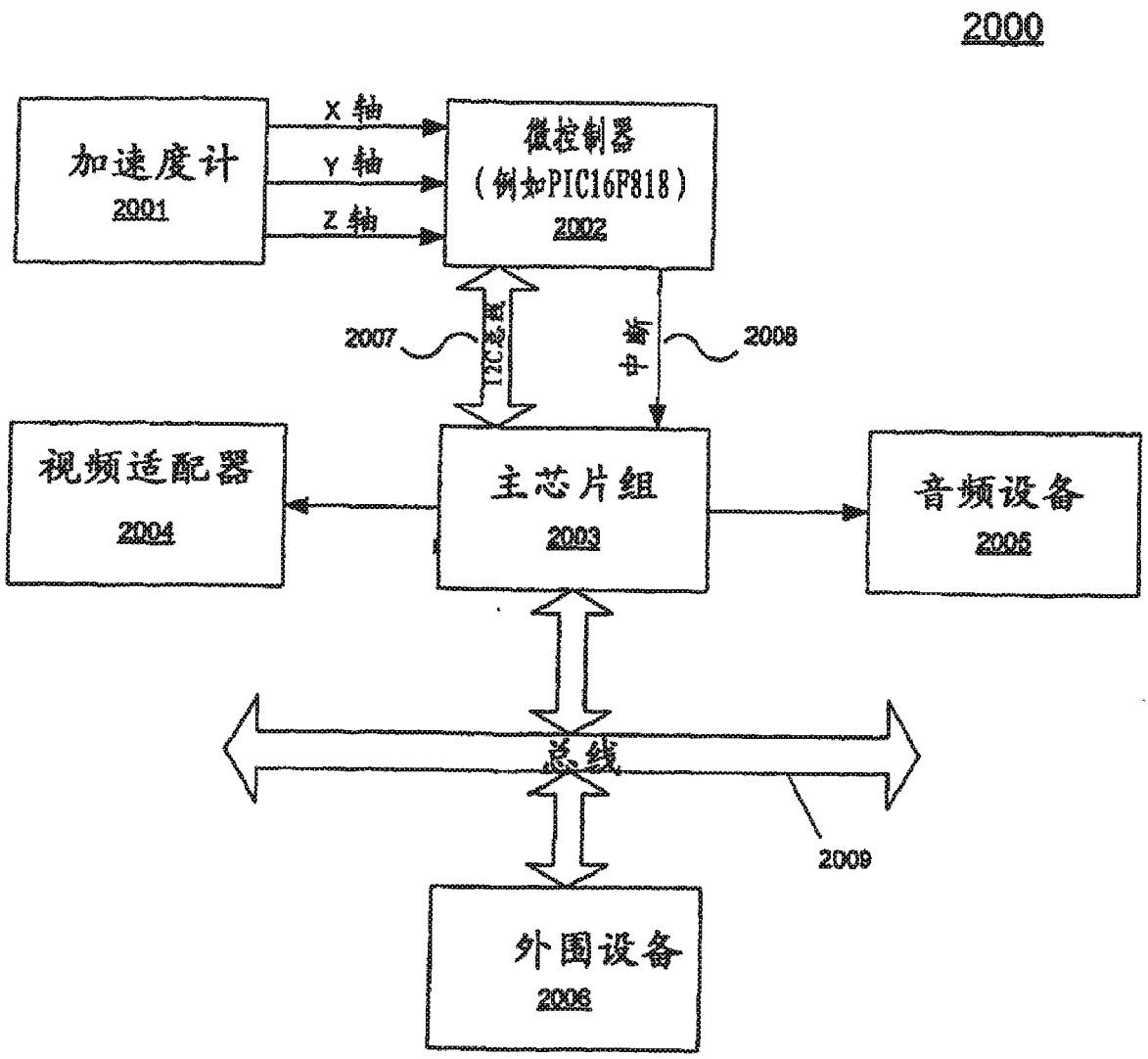
2000
加速度计
2001
X 轴
Y 轴
Z 轴
微控制器
(例如PIC16F818)
2002
2007
I2C 总线
2008
中断
视频适配器
2004
主芯片组
2003
音频设备
2005
总线
2009
外围设备
2006

图20

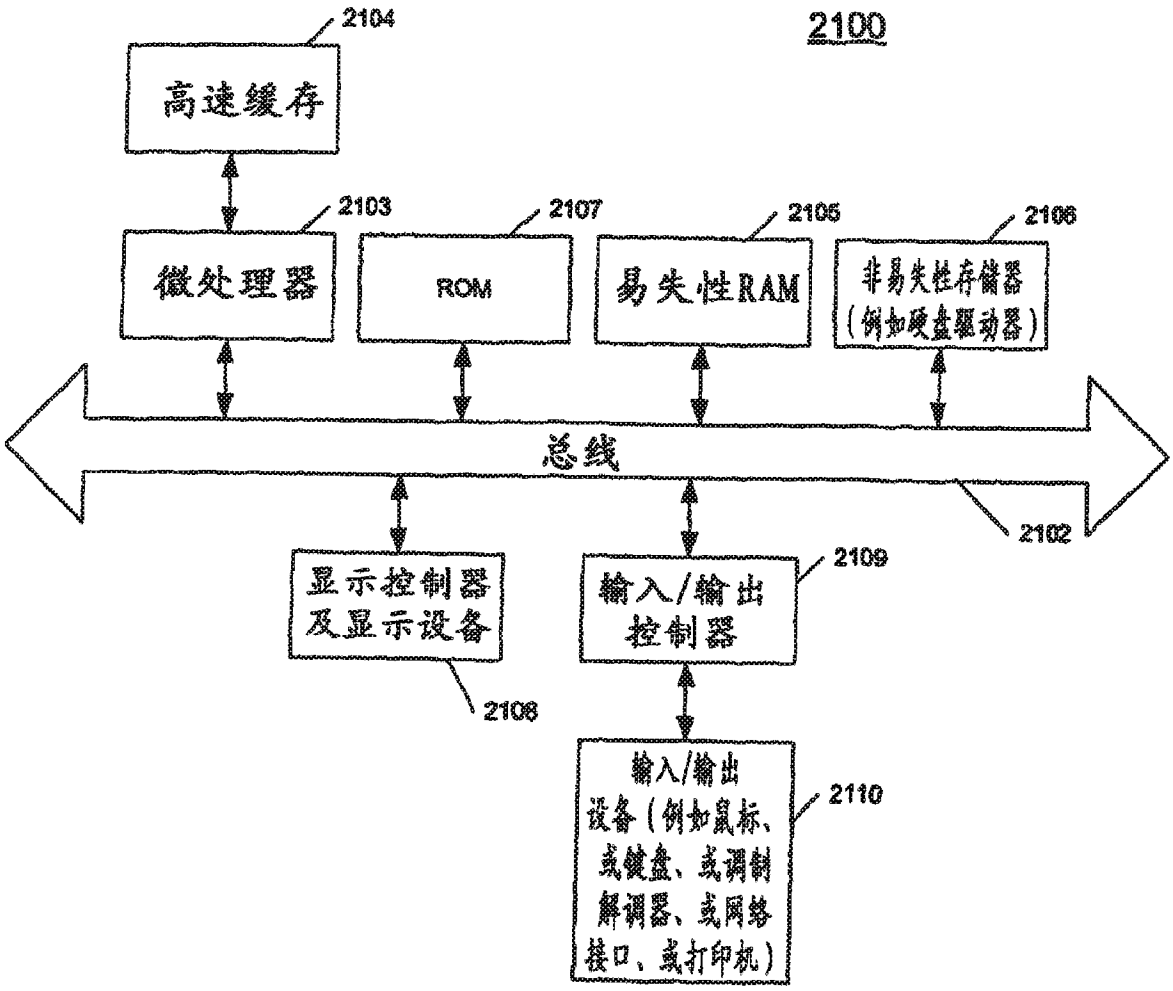
2100
2104
高速缓存
2103
微处理器
2107
ROM
2105
易失性RAM
2106
非易失性存储器
(例如硬盘驱动器)
总线
2102
显示控制器
及显示设备
2108
2109
输入/输出
控制器
输入/输出
设备(例如鼠标、
或键盘、或调制
解调器、或网络
接口、或打印机)
2110

图21

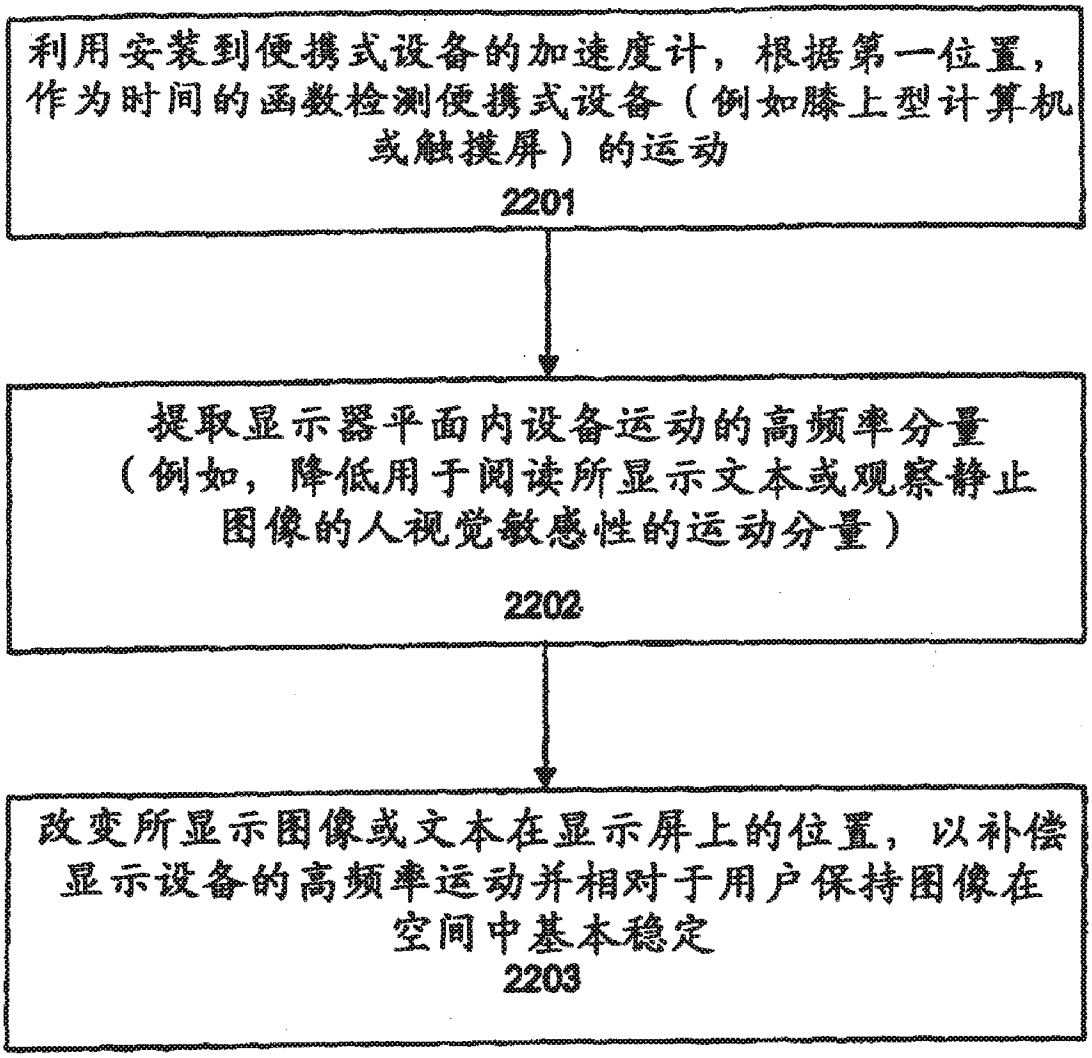
利用安装到便携式设备的加速度计，根据第一位置，作为时间的函数检测便携式设备（例如膝上型计算机或触摸屏）的运动
2201
提取显示器平面内设备运动的高频率分量（例如，降低用于阅读所显示文本或观察静止图像的人视觉敏感性的运动分量）
2202
改变所显示图像或文本在显示屏上的位置，以补偿显示设备的高频率运动并相对于用户保持图像在空间中基本稳定
2203

图22

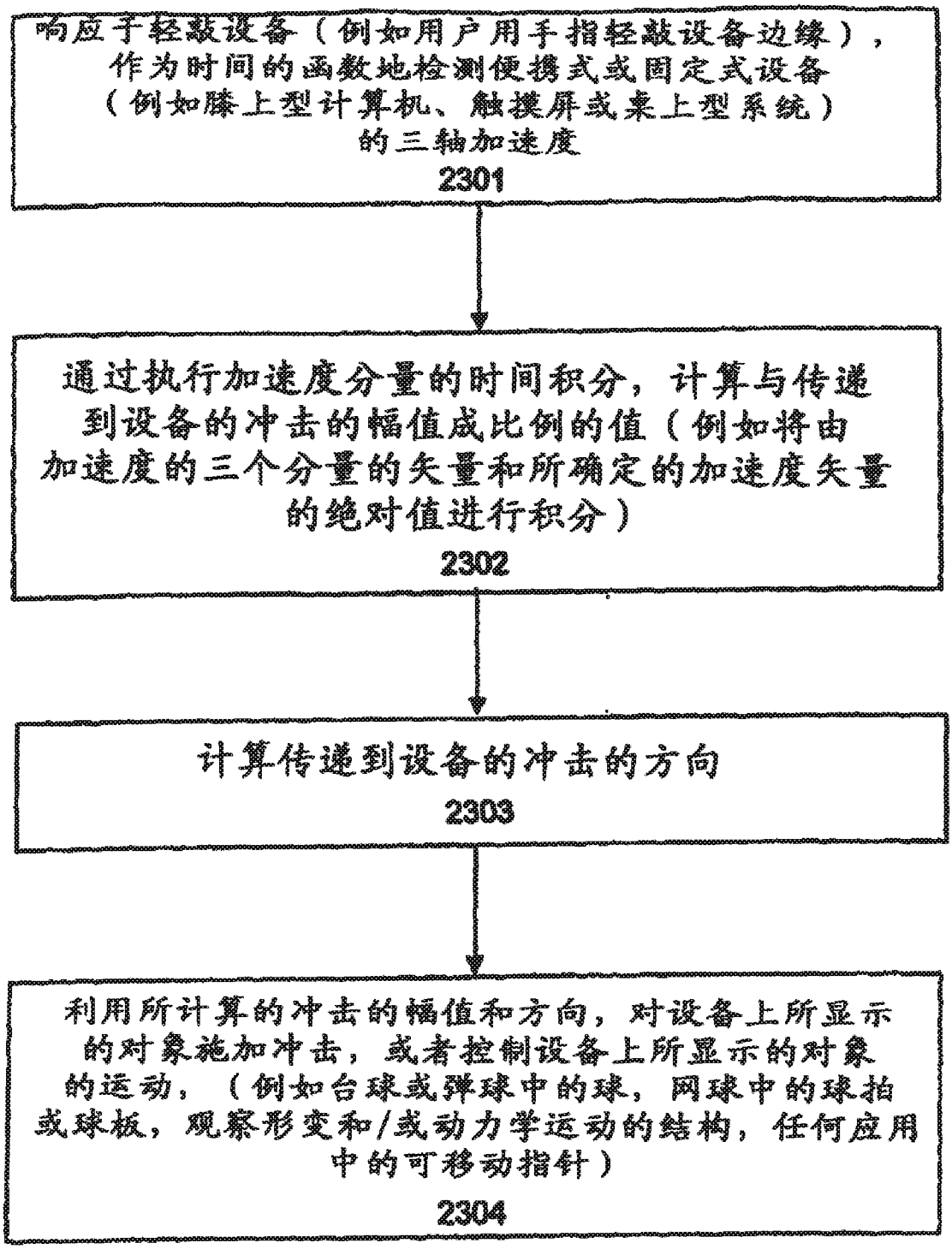
响应于轻敲设备（例如用户用手指轻敲设备边缘），作为时间的函数地检测便携式或固定式设备（例如膝上型计算机、触摸屏或桌上型系统）的三轴加速度
2301
通过执行加速度分量的时间积分，计算与传递到设备的冲击的幅值成比例的值（例如将由加速度的三个分量的矢量和所确定的加速度矢量的绝对值进行积分）
2302
计算传递到设备的冲击的方向
2303
利用所计算的冲击的幅值和方向，对设备上所显示的对象施加冲击，或者控制设备上所显示的对象的运动，（例如台球或弹球中的球，网球中的球拍或球板，观察形变和/或动力学运动的结构，任何应用中的可移动指针）
2304

图23

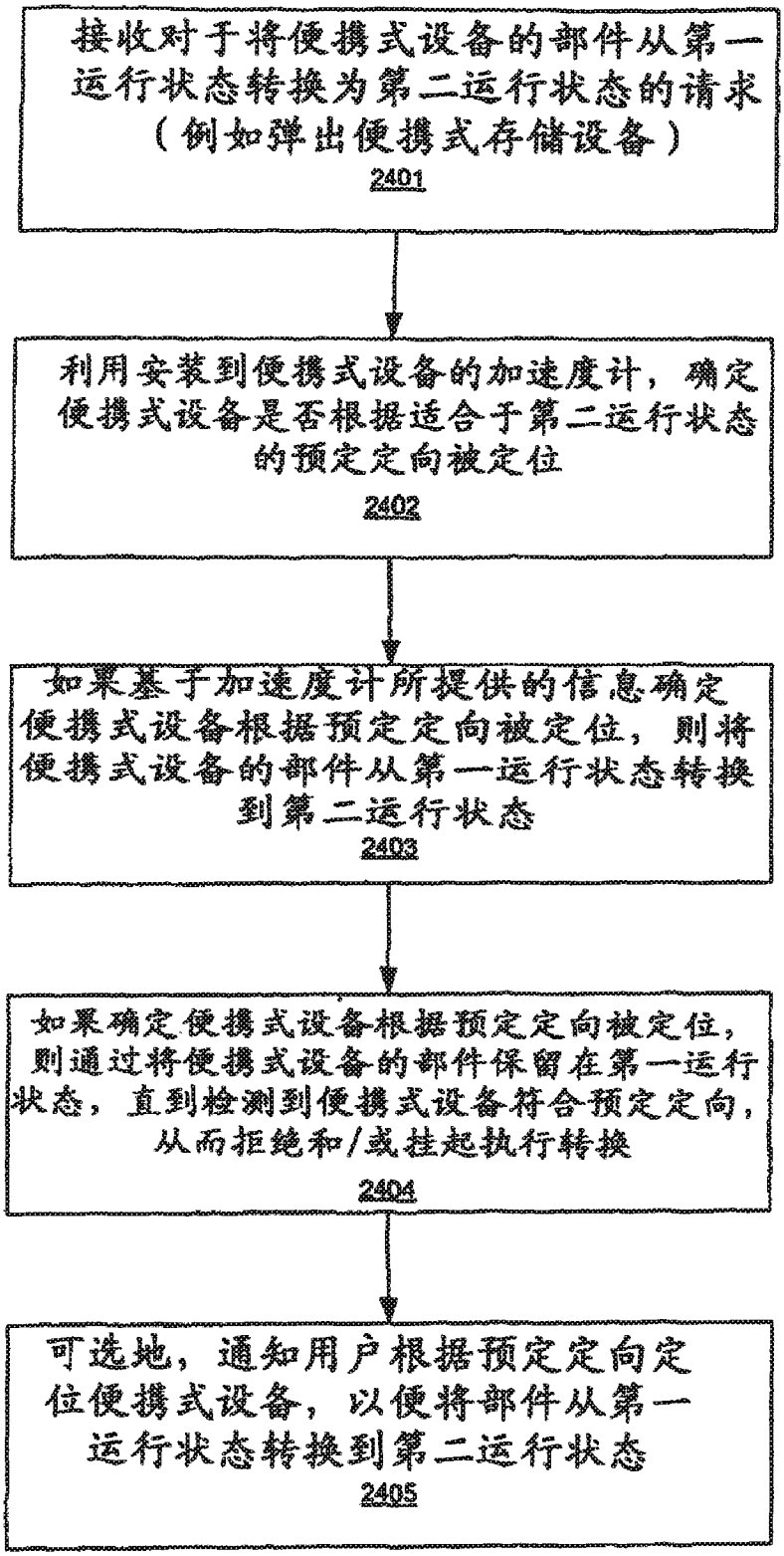
接收对于将便携式设备的部件从第一运行状态转换为第二运行状态的请求（例如弹出便携式存储设备）
2401
利用安装到便携式设备的加速度计，确定便携式设备是否根据适合于第二运行状态的预定定向被定位
2402
如果基于加速度计所提供的信息确定便携式设备根据预定定向被定位，则将便携式设备的部件从第一运行状态转换到第二运行状态
2403
如果确定便携式设备根据预定定向被定位，则通过将便携式设备的部件保留在第一运行状态，直到检测到便携式设备符合预定定向，从而拒绝和/或挂起执行转换
2404
可选地，通知用户根据预定定向定位便携式设备，以便将部件从第一运行状态转换到第二运行状态
2405

图 24

Electronic Patent Application Fee Transmittal

Application Number:	14680422
Filing Date:	07-Apr-2015
Title of Invention:	SYSTEM AND METHOD FOR STREAMLINING USER INTERACTION WITH ELECTRONIC CONTENT
First Named Inventor/Applicant Name:	Yves Behar
Filer:	Marcus E. Browne/Lynn McNamara
Attorney Docket Number:	L2039.70004US03

Filed as Large Entity

Filing Fees for Utility under 35 USC 111(a)

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Miscellaneous:				
Submission- Information Disclosure Stmt	1806	1	180	180
		Total in USD ($)		**180**

Electronic Acknowledgement Receipt

EFS ID:	30575962
Application Number:	14680422
International Application Number:	
Confirmation Number:	5691
Title of Invention:	SYSTEM AND METHOD FOR STREAMLINING USER INTERACTION WITH ELECTRONIC CONTENT
First Named Inventor/Applicant Name:	Yves Behar
Customer Number:	23628
Filer:	Marcus E. Browne/Lynn McNamara
Filer Authorized By:	Marcus E. Browne
Attorney Docket Number:	L2039.70004US03
Receipt Date:	05-OCT-2017
Filing Date:	07-APR-2015
Time Stamp:	14:22:36
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	CARD
Payment was successfully received in RAM	$180
RAM confirmation Number	100617INTEFSW14234200
Deposit Account	232825
Authorized User	Wolf Greenfield

The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:

37 CFR 1.17 (Patent application and reexamination processing fees)

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Miscellaneous Incoming Letter	L203970004US03-TRN-MEB.pdf	74001 cc1d8a355f0776d65d5bf3a47d93c8b5ff2fc39a	no	1
Warnings:					
Information:					
2	Fee Worksheet (SB06)	L203970004US03-FEE-MEB.pdf	91192 009d502a943552438e3726e24ece2db1ef83ddb6	no	1
Warnings:					
Information:					
3		L203970004US03-IDS-MEB.pdf	90359 659f95c902db06aa8b5c3c8a294aa2a4bba48009	yes	4

Multipart Description/PDF files in .zip description

Document Description	Start	End
Transmittal Letter	1	3
Information Disclosure Statement (IDS) Form (SB08)	4	4

Warnings:					
Information:					
4	Foreign Reference	CN1926496.pdf	1217406 a9caaaf30c930fab5a37eed86d30235706975ed8	no	83
Warnings:					
Information:					
5	Other Reference-Patent/App/Search documents	L203970001CA00_OA_dated_08-18-2017.pdf	172859 4676e87eac5984630d2256b7bdda88a48bc4f933	no	5
Warnings:					
Information:					

6	Fee Worksheet (SB06)	fee-info.pdf	31016 8dd4dcf0d4e3238e93184e7cc7f49b653e99eec6	no	2

Warnings:	
Information:	
Total Files Size (in bytes):	1676833

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

Doc Code: TRAN.LET
Document Description: Transmittal Letter

USED IN LIEU OF PTO/SB/21 (07-09)

TRANSMITTAL FORM (to be used for all correspondence after initial filing)			
		Application Number	14/680,422-Conf. #5691
		Filing Date	April 7, 2015
		First Named Inventor	Yves Behar
		Art Unit	2141
		Examiner Name	Claudia B. Dragoescu
Total Number of Pages in This Submission		Attorney Docket Number	L2039.70004US03

ENCLOSURES (*Check all that apply*)

[x] Fee Transmittal Form	[ ] Drawing(s)	[ ] After Allowance Communication to TC
[ ] Fee Attached	[ ] Licensing-related Papers	[ ] Appeal Communication to Board of Appeals and Interferences
[ ] Amendment/Reply	[ ] Petition	[ ] Appeal Communication to TC **(Appeal Notice, Brief, Reply Brief)**
[ ] After Final	[ ] Petition to Convert to a Provisional Application	[ ] Proprietary Information
[ ] Affidavits/declaration(s)	[ ] Power of Attorney, Revocation Change of Correspondence Address	[ ] Status Letter
[ ] Extension of Time Request	[ ] Terminal Disclaimer	[x] Other Enclosure(s) (please Identify below): Form PTO - 1449
[ ] Express Abandonment Request	[ ] Request for Refund	Copies of cited references
[x] Information Disclosure Statement	[ ] CD, Number of CD(s) _____	
[ ] Certified Copy of Priority Document(s)	[ ] Landscape Table on CD	
[ ] Reply to Missing Parts/ Incomplete Application	Remarks	
[ ] Reply to Missing Parts under 37 CFR 1.52 or 1.53		

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

Firm Name	WOLF, GREENFIELD & SACKS, P.C.		
Signature	/Marcus E. Browne/		
Printed name	Marcus E. Browne		
Date	October 5, 2017	Reg. No.	71,897

Certificate of Electronic Filing under 37 CFR §1.8

I hereby certify that this paper (along with any paper referred to as being attached or enclosed) is being transmitted via the Office's electronic filing system in accordance with 37 CFR § 1.6(a)(4).

Dated: 10-05-2017 Signature: /Lynn P. McNamara/ (Lynn P. McNamara)

FEE TRANSMITTAL

Complete if known	
Application Number	14/680,422-Conf. #5691
Filing Date	April 7, 2015
First Named Inventor	Yves Behar
Examiner Name	Claudia B. Dragoescu
Art Unit	2141
Practitioner Docket No.	L2039.70004US03

☐ Applicant asserts small entity status. See 37 CFR 1.27.

☐ Applicant certifies micro entity status. See 37 CFR 1.29. Form PTO/SB/15A or B or equivalent must either be enclosed or have been submitted previously.

TOTAL AMOUNT OF PAYMENT ($)180.00

METHOD OF PAYMENT (check all that apply)

☐ Check ☒ Credit Card ☐ Money Order ☐ None ☐ Other (please identify): _____

☐ Deposit Account Deposit Account Number: 23/2825 Deposit Account Name: Wolf, Greenfield & Sacks, P.C.

For the above-identified deposit account, the Director is hereby authorized to (check all that apply):

☐ Charge fee(s) indicated below ☐ Charge fee(s) indicated below, **except for the filing fee**

☒ Charge any additional fee(s) or underpayment of fee(s) under 37 CFR 1.16 and 1.17 ☒ Credit any overpayment of fee(s)

WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.

FEE CALCULATION

1. BASIC FILING, SEARCH, AND EXAMINATION FEES (U = undiscounted fee; S = small entity fee; M = micro entity fee)

	FILING FEES			SEARCH FEES			EXAMINATION FEES			
Application Type	**U ($)**	**S ($)**	**M ($)**	**U ($)**	**S ($)**	**M ($)**	**U ($)**	**S ($)**	**M ($)**	**Fees Paid ($)**
Utility	280	140*	70	600	300	150	720	360	180	
Design	180	90	45	120	60	30	460	230	115	
Plant	180	90	45	380	190	95	580	290	145	
Reissue	280	140	70	600	300	150	2,160	1,080	540	
Provisional	260	130	65	0	0	0	0	0	0	

* The $140 small entity status filing fee for a utility application is further reduced to $70 for a small entity status applicant who files the application via EFS-Web.

2. EXCESS CLAIM FEES

Fee Description	**Undiscounted Fee ($)**	**Small Entity Fee ($)**	**Micro Entity Fee ($)**
Each claim over 20 (including Reissues)	80	40	20
Each independent claim over 3 (including Reissues)	420	210	105
Multiple dependent claims	780	390	195

Total Claims	**Extra Claims**	**Fee ($)**	**Fee Paid ($)**	**Multiple Dependent Claims**	
		x	=	**Fee ($)**	**Fee Paid ($)**

HP = highest number of total claims paid for, if greater than 20.

Indep. Claims	**Extra Claims**	**Fee ($)**	**Fee Paid ($)**
		x	=

HP = highest number of independent claims paid for, if greater than 3.

3. APPLICATION SIZE FEE

If the specification and drawings exceed 100 sheets of paper (excluding electronically filed sequence or computer listings under 37 CFR 1.52(e)), the application size fee due is $400 ($200 for small entity) ($100 for micro entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).

Total Sheets	**Extra Sheets**	**Number of each additional 50 or fraction thereof**	**Fee ($)**	**Fee Paid ($)**
		(round **up** to a whole number) x	=	

4. OTHER FEE(S)

	Fees Paid ($)
Non-English specification, $130 fee (no small or micro entity discount)	
Non-electronic filing fee under 37 CFR 1.16(t) for a utility application, $400 fee ($200 small or micro entity)	
Other (e.g., late filing surcharge): 1806 Submission of an Information Disclosure Statement	180.00

SUBMITTED BY

Signature	/Marcus E. Browne/	Registration No. (Attorney/Agent)	71,897	Telephone	617.646.8000
Name (Print/Type)	Marcus E. Browne			Date	October 5, 2017

Certificate of Electronic Filing under 37 CFR §1.8

I hereby certify that this paper (along with any paper referred to as being attached or enclosed) is being transmitted via the Office's electronic filing system in accordance with 37 CFR § 1.6(a)(4).

Dated: 10-05-2017 Signature: /Lynn P. McNamara/ (Lynn P. McNamara)

DOCKET NO.: L2039.70004US03

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

First Named Inventor:	Yves Behar
Application No.:	14/680,422
Confirmation No.:	5691
Filed:	April 07, 2015
For:	SYSTEM AND METHOD FOR STREAMLINING USER INTERACTION WITH ELECTRONIC CONTENT
Examiner:	Claudia B. Dragoescu
Art Unit:	2141

CERTIFICATE OF ELECTRONIC FILING UNDER 37 C.F.R. § 1.8

The undersigned hereby certifies that this paper, along with any paper referred to as being attached or enclosed, is being transmitted via the Office electronic filing system in accordance with § 1.6(a)(4), on the 5th day of October, 2017.

__/Lynn P. McNamara/____
Lynn P. McNamara

MAIL STOP AMENDMENT
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

STATEMENT FILED PURSUANT TO THE DUTY OF DISCLOSURE UNDER 37 C.F.R. §§ 1.56, 1.97 AND 1.98

Sir:

Pursuant to the duty of disclosure under 37 C.F.R. §§ 1.56, 1.97 and 1.98, the undersigned requests consideration of this Information Disclosure Statement.

PART I: Compliance with 37 C.F.R. § 1.97

This Information Disclosure Statement has been filed after the mailing date of either a Final Action under 37 C.F.R. § 1.113 or a Notice of Allowance under 37 C.F.R. § 1.311 and is being filed on or before payment of an Issue Fee.

The undersigned hereby states, as specified in 37 C.F.R. § 1.97(e), that each item of information contained in this Information Disclosure Statement was first cited in any communication from a foreign patent office in a counterpart for this application not more than three months prior to the filing of this Statement.

Please charge our Credit Card in the amount of $180.00 covering the fee set forth in 37 C.F.R. § 1.17(p).

PART II: Information Cited

The undersigned hereby makes of record in the above-identified application the information listed on the attached form PTO-1449 (modified PTO/SB/08). The order of presentation of the references should not be construed as an indication of the importance of the references.

The undersigned hereby makes the following additional information of record in the above-identified application.

The undersigned would like to bring to the Examiner's attention the following other information:

Canadian Office Action mailed 08/18/2017 for Canadian Application No. 2719828 (L2039.70001CA00).

PART III: Remarks

Documents cited anywhere in the Information Disclosure Statement are enclosed unless otherwise indicated. It is respectfully requested that:

1. The Examiner consider completely the cited information, along with any other information, in reaching a determination concerning the patentability of the present claims;
2. The enclosed form PTO-1449 (modified PTO/SB/08) be signed by the Examiner to evidence that the cited information has been fully considered by the United States Patent and Trademark Office during the examination of this application;
3. The citations for the information be printed on any patent which issues from this application.

By submitting this Information Disclosure Statement, the undersigned makes no representation that a search has been performed, of the extent of any search performed, or that more relevant information does not exist.

By submitting this Information Disclosure Statement, the undersigned makes no representation that the information cited in the Statement is, or is considered to be, material to patentability as defined in 37 C.F.R. § 1.56(b).

By submitting this Information Disclosure Statement, the undersigned makes no representation that the information cited in the Statement is, or is considered to be, in fact, prior art as defined by 35 U.S.C. § 102.

Notwithstanding any statements by the undersigned, the Examiner is urged to form his or her own conclusion regarding the relevance of the cited information.

An early and favorable action is hereby requested.

The Director is hereby authorized to charge any deficiency or credit any overpayment in the fees occasioned by the filing of this Information Disclosure Statement to our Deposit Account No. 23/2825 under Docket No. L2039.70004US03 from which the undersigned is authorized to draw.

Respectfully submitted,

By: /Marcus E. Browne/
Marcus E. Browne, Reg. No. 71,897
Wolf, Greenfield & Sacks, P.C.
600 Atlantic Avenue
Boston, Massachusetts 02210-2206
Telephone: (617) 646-8000

Docket No.: L2039.70004US03
Date: October 5, 2017
xNDDx

FORM PTO-1449/A and B (modified PTO/SB/08)				APPLICATION NO.: 14/680,422	ATTY. DOCKET NO.: L2039.70004US03
INFORMATION DISCLOSURE STATEMENT BY APPLICANT				FILING DATE: April 07, 2015	CONFIRMATION NO.: 5691
				FIRST NAMED INVENTOR: Yves Behar	
Sheet	1	of	1	GROUP ART UNIT: 2141	EXAMINER: Claudia B. Dragoescu

U.S. PATENT DOCUMENTS

Examiner's Initials #	Cite No.	U.S. Patent Document		Name of Patentee or Applicant of Cited Document	Date of Publication or Issue of Cited Document MM-DD-YYYY
		Number	Kind Code		
		2002-0190947	A1	Feinstein	12-19-2002
		2006-0017692	A1	Wehrenberg et al.	01-26-2006

FOREIGN PATENT DOCUMENTS

Examiner's Initials #	Cite No.	Foreign Patent Document			Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Translation (Y/N)
		Office/ Country	Number	Kind Code			
		CN	1926496	A	Apple Computer	03-07-2007	Y-Abstract

OTHER ART – NON PATENT LITERATURE DOCUMENTS

Examiner's Initials #	Cite No	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	Translation (Y/N)
		Canadian Office Action mailed August 18, 2017 in connection with Canadian Application No. 2719828 (L2039.70001CA00).	

[NOTE – No copies of U.S. patents, published U.S. patent applications, or pending, unpublished patent applications stored in the USPTO's Image File Wrapper (IFW) system, are included. See 37 CFR § 1.98 and 1287OG163. Copies of all other patent(s), publication(s), unpublished, pending U.S. patent applications, or other information listed are provided as required by 37 CFR § 1.98 unless 1) such copies were provided in an IDS in an earlier application that complies with 37 CFR § 1.98, and 2) the earlier application is relied upon for an earlier filing date under 35 U.S.C. § 120.]

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /C.D./

EXAMINER:	DATE CONSIDERED:
/CLAUDIA B DRAGOESCU/	10/16/2017

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.

Doc Code: TRAN.LET
Document Description: Transmittal Letter

USED IN LIEU OF PTO/SB/21 (07-09)

TRANSMITTAL FORM *(to be used for all correspondence after initial filing)*			
		Application Number	14/680,422-Conf. #5691
		Filing Date	April 7, 2015
		First Named Inventor	Yves Behar
		Art Unit	2141
		Examiner Name	DRAGOESCU, CLAUDIA B
Total Number of Pages in This Submission		Attorney Docket Number	L2039.70004US03

ENCLOSURES (*Check all that apply*)

☐ Fee Transmittal Form	☐ Drawing(s)	☐ After Allowance Communication to TC
☐ Fee Attached	☐ Licensing-related Papers	☐ Appeal Communication to Board of Appeals and Interferences
☐ Amendment/Reply	☐ Petition	☐ Appeal Communication to TC **(Appeal Notice, Brief, Reply Brief)**
☐ After Final	☐ Petition to Convert to a Provisional Application	☐ Proprietary Information
☐ Affidavits/declaration(s)	☐ Power of Attorney, Revocation Change of Correspondence Address	☐ Status Letter
☐ Extension of Time Request	☐ Terminal Disclaimer	☒ Other Enclosure(s) (please Identify below):
☐ Express Abandonment Request	☐ Request for Refund	Issue Fee Payment - PTOL-85 Part B
☐ Information Disclosure Statement	☐ CD, Number of CD(s) _____	
☐ Certified Copy of Priority Document(s)	☐ Landscape Table on CD	
☐ Reply to Missing Parts/ Incomplete Application	☐ Remarks	
☐ Reply to Missing Parts under 37 CFR 1.52 or 1.53		

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

Firm Name	WOLF, GREENFIELD & SACKS, P.C.		
Signature	/Marcus E. Browne/		
Printed name	Marcus E. Browne		
Date	December 19, 2017	Reg. No.	71,897

Certificate of Electronic Filing under 37 CFR §1.8

I hereby certify that this paper (along with any paper referred to as being attached or enclosed) is being transmitted via the Office's electronic filing system in accordance with 37 CFR § 1.6(a)(4).

Dated: December 19, 2017 Electronic Signature: /Trish McDonald/

PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), to: Mail **Mail Stop ISSUE FEE**
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450
or Fax (571)-273-2885

INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

WOLF, GREENFIELD & SACKS, P.C.
600 Atlantic Avenue
Boston, Massachusetts 02210-2206

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

~~Certificate of Mailing or Transmission~~

~~I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (571) 273-2885, on the date indicated below.~~

~~(Depositor's name)~~
~~(Signature)~~
~~(Date)~~

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
14/680,422	04/07/2015	Yves Behar	L2039.70004US03	5691

TITLE OF INVENTION: SYSTEM AND METHOD FOR STREAMLINING USER INTERACTION WITH ELECTRONIC CONTENT

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	UNDISCOUNTED	$960.00			$960.00	12/22/2017

EXAMINER	ART UNIT	CLASS-SUBCLASS
DRAGOESCU, CLAUDIA B	2141	

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).
- [ ] Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.
- [ ] "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. **Use of a Customer Number is required.**

2. For printing on the patent front page, list
(1) The names of up to 3 registered patent attorneys or agents OR, alternatively,
(2) The name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed.

1 Wolf, Greenfield & Sacks, P.C.
2
3

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE: LiTL LLC

(B) RESIDENCE: (CITY and STATE OR COUNTRY): Boston, Massachusetts

Please check the appropriate assignee category or categories (will not be printed on the patent) : [ ] Individual [X] Corporation or other private group entity [ ] Government

4a. The following fee(s) are submitted:
- [X] Issue Fee
- [ ] Publication Fee (No small entity discount permitted)
- [ ] Advance Order - # of Copies _____

4b. Payment of Fee(s): **(Please first reapply any previously paid issue fee shown above)**
- [ ] A check is enclosed.
- [X] Payment by credit card. ~~Form PTO-2038 is attached~~.
- [X] The Director is hereby authorized to charge ~~the required fee(s),~~ any deficiency, or credit any overpayment, to Deposit Account Number 23/2825 (enclose an extra copy of this form).

5. **Change in Entity Status** (from status indicated above)
- [ ] Applicant certifying micro entity status. See 37 CFR 1.29
  NOTE: Absent a valid certification of Micro Entity Status (see forms PTO/SB/15A and 15B), issue fee payment in the micro entity amount will not be accepted at the risk of application abandonment.
- [ ] Applicant asserting small entity status. See 37 CFR 1.27
  NOTE: If the application was previously under micro entity status, checking this box will be taken to be a notification of loss of entitlement to micro entity status.
- [ ] Applicant changing to regular undiscounted fee status.
  NOTE: Checking this box will be taken to be a notification of loss of entitlement to small or micro entity status, as applicable.

NOTE: This form must be signed in accordance with 37 CFR 1.31 and 1.33. See 37 CFR 1.4 for signature requirements and certifications.

Authorized Signature /Marcus E. Browne/ Date December 19, 2017

Typed or printed name Marcus E. Browne Registration No. 71,897

Certificate of Mailing or Transmission under 37 CFR 1.8

I hereby certify that this correspondence is being:

1. ☐ Deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to:
   Mail Stop Issue Fee
   Commissioner for Patents
   P.O. Box 1450
   Alexandria, VA 22313-1450

   on _____.
   Date

2. ☐ Facsimile transmitted to the United States Patent and Trademark Office, or

   OR

3. ☒ EFS-Web transmitted to the USPTO.

/Trish McDonald/	December 19, 2017
Signature	Date
Trish McDonald	617.646.8000
Typed or printed name	Telephone number

Note: Each paper must have its own certificate of mailing or transmission, or this certificate must identify each submitted paper:

Issue Fee Transmittal (1 page)

Electronic Patent Application Fee Transmittal

Application Number:	14680422
Filing Date:	07-Apr-2015
Title of Invention:	SYSTEM AND METHOD FOR STREAMLINING USER INTERACTION WITH ELECTRONIC CONTENT
First Named Inventor/Applicant Name:	Yves Behar
Filer:	Marcus E. Browne/Trish McDonald
Attorney Docket Number:	L2039.70004US03

Filed as Large Entity

Filing Fees for Utility under 35 USC 111(a)

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
UTILITY APPL ISSUE FEE	1501	1	960	960

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Extension-of-Time:				
Miscellaneous:				
			Total in USD ($)	**960**

Electronic Acknowledgement Receipt

EFS ID:	31277867
Application Number:	14680422
International Application Number:	
Confirmation Number:	5691
Title of Invention:	SYSTEM AND METHOD FOR STREAMLINING USER INTERACTION WITH ELECTRONIC CONTENT
First Named Inventor/Applicant Name:	Yves Behar
Customer Number:	23628
Filer:	Marcus E. Browne/Trish McDonald
Filer Authorized By:	Marcus E. Browne
Attorney Docket Number:	L2039.70004US03
Receipt Date:	19-DEC-2017
Filing Date:	07-APR-2015
Time Stamp:	16:57:15
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	CARD
Payment was successfully received in RAM	$960
RAM confirmation Number	122017INTEFSW16580100
Deposit Account	
Authorized User	

The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Miscellaneous Incoming Letter	L203970004US03-TRN-MEB.pdf	24737 bddc7e5495ccb8c489a7bf5cc5500bbb108d3915	no	1
Warnings:					
Information:					
2	Issue Fee Payment (PTO-85B)	L203970004US03-ISSFEE-MEB.pdf	49372 1e83e43f7e796aae8196efb97aec0219b8244175	no	2
Warnings:					
Information:					
3	Fee Worksheet (SB06)	fee-info.pdf	30920 e194a687c72976dd734f4b518d138f240bb84667	no	2
Warnings:					
Information:					
		Total Files Size (in bytes):	105029		

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

UNITED STATES PATENT AND TRADEMARK OFFICE

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APPLICATION NO.	ISSUE DATE	PATENT NO.	ATTORNEY DOCKET NO.	CONFIRMATION NO.
14/680,422	01/30/2018	9880715	L2039.70004US03	5691

23628 7590 01/10/2018

WOLF GREENFIELD & SACKS, P.C.
600 ATLANTIC AVENUE
BOSTON, MA 02210-2206

ISSUE NOTIFICATION

The projected patent number and issue date are specified above.

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b)
(application filed on or after May 29, 2000)

The Patent Term Adjustment is 168 day(s). Any patent to issue from the above-identified application will include an indication of the adjustment on the front page.

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (http://pair.uspto.gov).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Application Assistance Unit (AAU) of the Office of Data Management (ODM) at (571)-272-4200.

APPLICANT(s) (Please see PAIR WEB site http://pair.uspto.gov for additional applicants):

Yves Behar, Oakland, CA;
LiTL LLC, Boston, MA;
Joshua Morenstein, San Francisco, CA;
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Robert Sanford Havoc Pennington, Asheville, NC;
Noah Bruce Guyot, Mill Valey, CA;
Daniel Kuo, San Francisco, CA;
Jenea Boshart Hayes, Castro Valley, CA;
Aaron Tang, Somerville, MA;
Donald Francis Fischer, Charlestown, MA;
Christian Marc Schmidt, Brooklyn, NY;

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Docket No.: L2039.70004US03
(PATENT)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

First Named Inventor:	Yves Behar
Application No.:	14/680,422
Confirmation No.:	5691
Filed:	April 7, 2015
Patent No.:	9,880,715
Issued:	January 30, 2018
For:	SYSTEM AND METHOD FOR STREAMLINING USER INTERACTION WITH ELECTRONIC CONTENT
Examiner:	C. B. Dragoescu
Art Unit:	2141

Certificate of Electronic Filing under 37 CFR §1.8
I hereby certify that this paper (along with any paper referred to as being attached or enclosed) is being transmitted via the Office's electronic filing system in accordance with 37 C.F.R. § 1.6(a)(4).

Dated: April 4, 2018 Electronic Signature for: /Eileen M. MacKenzie/

REQUEST FOR CERTIFICATE OF CORRECTION PURSUANT TO 37 CFR 1.323

Attention: Certificate of Correction Branch
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

Upon reviewing the above-identified patent, Patentee noted typographical errors which should be corrected.

On the Title Page of the Issued Patent,

At Item (72) Inventors: "Noah Bruce Guyot, Mill Valey, CA (US)" should read ""Noah Bruce Guyot, Mill Valley, CA (US)".

At Item (72) Inventors: "Chris Bambacus, Framington, MA (US)" should read ""Chris Bambacus, Framingham, MA (US)".

This request involves correction of Applicant errors. Accordingly, a fee is required. Please charge our Credit Card in the amount of $150.00 covering the fee set forth in 37 C.F.R. § 1.20(a).

The errors now sought to be corrected are inadvertent typographical errors, the correction of which does not involve new matter or require reexamination.

Transmitted herewith is a proposed Certificate of Correction effecting such amendment. Patentee respectfully solicits the granting of the requested Certificate of Correction.

The Director is hereby authorized to charge any deficiency or credit any overpayment in the fees filed, asserted to be filed or which should have been filed herewith to Deposit Account No. 23/2825, under Docket No. L2039.70004US03.

Dated: April 4, 2018

Respectfully submitted,

Electronic signature: /Edward J. Russavage/
Edward J. Russavage
Registration No.: 43,069
Marcus E. Browne
Registration No.: 71,897
WOLF, GREENFIELD & SACKS, P.C.
600 Atlantic Avenue
Boston, Massachusetts 02210-2206
617.646.8000

PTO/SB/44 (09-07)
Approved for use through 01/31/2020. OMB 0651-0033
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

(Also Form PTO-1050)

UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION

PATENT NO.	:	9,880,715
APPLICATION NO.	:	14/680,422
ISSUE DATE	:	January 30, 2018
INVENTOR(S)	:	Yves Behar et al.

It is certified that an error appears or errors appear in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

On the Title Page of the Issued Patent:

At Item (72) Inventors: "Noah Bruce Guyot, Mill Valey, CA (US)" should read ""Noah Bruce Guyot, Mill Valley, CA (US)".

At Item (72) Inventors: "Chris Bambacus, Framington, MA (US)" should read ""Chris Bambacus, Framingham, MA (US)".

MAILING ADDRESS OF SENDER (Please do not use Customer Number below):
Edward J. Russavage
WOLF, GREENFIELD & SACKS, P.C. 1
600 Atlantic Avenue
Boston, Massachusetts 02210-2206

Electronic Patent Application Fee Transmittal

Application Number:	14680422
Filing Date:	07-Apr-2015
Title of Invention:	SYSTEM AND METHOD FOR STREAMLINING USER INTERACTION WITH ELECTRONIC CONTENT
First Named Inventor/Applicant Name:	Yves Behar
Filer:	Edward J. Russavage/Eileen MacKenzie
Attorney Docket Number:	L2039.70004US03

Filed as Large Entity

Filing Fees for Utility under 35 USC 111(a)

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Certificate of correction	1811	1	150	150

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Extension-of-Time:				
Miscellaneous:				
			Total in USD ($)	**150**

Electronic Acknowledgement Receipt

EFS ID:	32248819
Application Number:	14680422
International Application Number:	
Confirmation Number:	5691
Title of Invention:	SYSTEM AND METHOD FOR STREAMLINING USER INTERACTION WITH ELECTRONIC CONTENT
First Named Inventor/Applicant Name:	Yves Behar
Customer Number:	23628
Filer:	Edward J. Russavage/Eileen MacKenzie
Filer Authorized By:	Edward J. Russavage
Attorney Docket Number:	L2039.70004US03
Receipt Date:	04-APR-2018
Filing Date:	07-APR-2015
Time Stamp:	17:49:45
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	CARD
Payment was successfully received in RAM	$150
RAM confirmation Number	040518INTEFSW17503300
Deposit Account	232825
Authorized User	Wolf Greenfield

The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:

37 CFR 1.20 (Post Issuance fees)

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Miscellaneous Incoming Letter	L203970004US03-TRN-EJR.pdf	26460 a1e11541ddf143fe5eb051fe0e9f03cabf805768	no	1
Warnings:					
Information:					
2	Fee Worksheet (SB06)	L203970004US03-FEE-EJR.pdf	31252 0bc774f401501e2b95507331fcf6b34d8a6a7ddc	no	1
Warnings:					
Information:					
3	Request for Certificate of Correction	L203970004US03-RCOC-EJR.pdf	25137 6f66f46f3d25413ec8010e7c7c6aaf02782ed132	no	2
Warnings:					
Information:					
4	Request for Certificate of Correction	L203970004US03-COC-EJR.pdf	13716 d7f78c27d1e72379de89d2cc952763a7e408ab37	no	1
Warnings:					
Information:					
5	Fee Worksheet (SB06)	fee-info.pdf	30819 cf69fc9340c0118ca75ca359dc46ebe42bb532f3	no	2
Warnings:					
Information:					
		Total Files Size (in bytes):	127384		

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

Doc Code: TRAN.LET
Document Description: Transmittal Letter

USED IN LIEU OF PTO/SB/21 (07-09)

TRANSMITTAL FORM (to be used for all correspondence after initial filing)			
		Application Number	Patent#: 9,880,715
		Filing Date	Issued: January 30, 2018
		First Named Inventor	Yves Behar
		Art Unit	2141
		Examiner Name	C. B. Dragoescu
Total Number of Pages in This Submission		Attorney Docket Number	L2039.70004US03

ENCLOSURES (*Check all that apply*)

[X] Fee Transmittal Form	[ ] Drawing(s)	[ ] After Allowance Communication to TC
[ ] Fee Attached	[ ] Licensing-related Papers	[ ] Appeal Communication to Board of Appeals and Interferences
[ ] Amendment/Reply	[ ] Petition	[ ] Appeal Communication to TC **(Appeal Notice, Brief, Reply Brief)**
[ ] After Final	[ ] Petition to Convert to a Provisional Application	[ ] Proprietary Information
[ ] Affidavits/declaration(s)	[ ] Power of Attorney, Revocation Change of Correspondence Address	[ ] Status Letter
[ ] Extension of Time Request	[ ] Terminal Disclaimer	[X] Other Enclosure(s) (please Identify below):
[ ] Express Abandonment Request	[ ] Request for Refund	• Request for Certificate of Correction
[ ] Information Disclosure Statement	[ ] CD, Number of CD(s) _____	• Certificate of Correction
[ ] Certified Copy of Priority Document(s)	[ ] Landscape Table on CD	
[ ] Reply to Missing Parts/ Incomplete Application	Remarks	
[ ] Reply to Missing Parts under 37 CFR 1.52 or 1.53		

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

Firm Name	WOLF, GREENFIELD & SACKS, P.C.		
Signature	/Edward J. Russavage/		
Printed name	Edward J. Russavage		
Date	April 4,2018	Reg. No.	43,069

Certificate of Electronic Filing under 37 CFR §1.8

I hereby certify that this paper (along with any paper referred to as being attached or enclosed) is being transmitted via the Office's electronic filing system in accordance with 37 C.F.R. § 1.6(a)(4).

Dated: April 4, 2018 Electronic Signature for: /Eileen M. MacKenzie/

FEE TRANSMITTAL

Complete if known	
Application Number	Patent #: 9,880,715
Filing Date	Issued: January 30, 2018
First Named Inventor	Yves Behar
Examiner Name	C. B. Dragoescu
Art Unit	2141
Practitioner Docket No.	L2039.70004US03

☐ Applicant asserts small entity status. See 37 CFR 1.27.

☐ Applicant certifies micro entity status. See 37 CFR 1.29. Form PTO/SB/15A or B or equivalent must either be enclosed or have been submitted previously.

TOTAL AMOUNT OF PAYMENT ($)150.00

METHOD OF PAYMENT (check all that apply)

☐ Check ☒ Credit Card ☐ Money Order ☐ None ☐ Other (please identify): _____

☒ Deposit Account Deposit Account Number: 23/2825 Deposit Account Name: Wolf, Greenfield & Sacks, P.C.

For the above-identified deposit account, the Director is hereby authorized to (check all that apply):

☐ Charge fee(s) indicated below ☐ Charge fee(s) indicated below, **except for the filing fee**

☒ Charge any additional fee(s) or underpayment of fee(s) under 37 CFR 1.16 and 1.17 ☒ Credit any overpayment of fee(s)

WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.

FEE CALCULATION

1. BASIC FILING, SEARCH, AND EXAMINATION FEES (U = undiscounted fee; S = small entity fee; M = micro entity fee)

	FILING FEES			SEARCH FEES			EXAMINATION FEES			
Application Type	**U ($)**	**S ($)**	**M ($)**	**U ($)**	**S ($)**	**M ($)**	**U ($)**	**S ($)**	**M ($)**	**Fees Paid ($)**
Utility	300	150*	75	660	330	165	760	380	190	
Design	200	100	50	160	80	40	600	300	150	
Plant	200	100	50	420	210	105	620	310	155	
Reissue	300	150	75	660	330	165	2,200	1,100	550	
Provisional	280	140	70	0	0	0	0	0	0	

* The $150 small entity status filing fee for a utility application is further reduced to $75 for a small entity status applicant who files the application via EFS-Web.

2. EXCESS CLAIM FEES

Fee Description	**Undiscounted Fee ($)**	**Small Entity Fee ($)**	**Micro Entity Fee ($)**
Each claim over 20 (including Reissues)	100	50	25
Each independent claim over 3 (including Reissues)	460	230	115
Multiple dependent claims	820	410	205

Total Claims		**Extra Claims**	**Fee ($)**		**Fee Paid ($)**
_____	- 20 or HP =	_____	x _____	=	_____

HP = highest number of total claims paid for, if greater than 20.

Indep. Claims		**Extra Claims**	**Fee ($)**		**Fee Paid ($)**
_____	- 3 or HP =	_____	x _____	=	_____

HP = highest number of independent claims paid for, if greater than 3.

Multiple Dependent Claims

Fee ($)	**Fee Paid ($)**
_____	_____

3. APPLICATION SIZE FEE

If the specification and drawings exceed 100 sheets of paper (excluding electronically filed sequence or computer listings under 37 CFR 1.52(e)), the application size fee due is $400 ($200 for small entity) ($100 for micro entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).

Total Sheets		**Extra Sheets**		**Number of each additional 50 or fraction thereof**	**Fee ($)**	**Fee Paid ($)**
_____	- 100 =	_____	/50 =	_____ (round **up** to a whole number)	x _____	= _____

4. OTHER FEE(S)

	Fees Paid ($)
Non-English specification, $130 fee (no small or micro entity discount)	
Non-electronic filing fee under 37 CFR 1.16(t) for a utility application, $400 fee ($200 small or micro entity)	
Other (e.g., late filing surcharge): 1811 Certificate of correction	150.00

SUBMITTED BY

Signature	/Edward J. Russavage/	Registration No. (Attorney/Agent)	43,069	Telephone	617.646.8000
Name (Print/Type)	Edward J. Russavage			Date	April 4, 2018

Certificate of Electronic Filing under 37 C.F.R. § 1.8

I hereby certify that this paper (along with any paper referred to as being attached or enclosed) is being transmitted via the Office's electronic filing system in accordance with 37 C.F.R. § 1.6(a)(4).

Dated: April 4, 2018 Electronic Signature for: /Eileen M. MacKenzie/

UNITED STATES PATENT AND TRADEMARK OFFICE

CERTIFICATE OF CORRECTION

PATENT NO.	: 9,880,715 B2
APPLICATION NO.	: 14/680422
DATED	: January 30, 2018
INVENTOR(S)	: Yves Behar et al.

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

On the Title Page

At Item (72) Inventors: "Noah Bruce Guyot, Mill Valey, CA (US)" should read ""Noah Bruce Guyot, Mill Valley, CA (US)".

At Item (72) Inventors: "Chris Bambacus, Framington, MA (US)" should read ""Chris Bambacus, Framingham, MA (US)".

Signed and Sealed this
First Day of May, 2018

Andrei Iancu
Director of the United States Patent and Trademark Office

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

LENOVO (UNITED STATES) INC.,
Petitioner,

v.

LITL LLC,
Patent Owner.

IPR2021-00786
Patent 9,880,715 B2

Before MICHELLE N. ANKENBRAND, GARTH D. BAER, and BRIAN D. RANGE, *Administrative Patent Judges*.

RANGE, *Administrative Patent Judge*.

DECISION
Denying Institution of *Inter Partes* Review
35 U.S.C. § 314

I. INTRODUCTION

Lenovo (United States) Inc. ("Petitioner") filed a Petition (Paper 1, "Pet.") requesting an *inter partes* review of claims 1–20 of U.S. Patent No. 9,880,715 B2 (Ex. 1001, "the '715 patent"). LiTL LLC ("Patent Owner") filed a Preliminary Response. Paper 5 ("Prelim. Resp.").

Petitioner identifies Lenovo (United States) Inc. and Lenovo (Beijing) Limited as the real parties in interest, and further notes that Lenovo (United States) Inc. is "an indirect wholly-owned subsidiary of Lenovo Group Limited." Pet. 2. Patent Owner identifies LiTL LLC as the real party in interest. Paper 4, 1.

We have authority to determine whether to institute an *inter partes* review. *See* 35 U.S.C. § 314; 37 C.F.R. § 42.4(a) (2020). The standard for institution is set forth in 35 U.S.C. § 314(a), which provides that *inter partes* review may not be instituted unless "there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition." As discussed below, we determine that Petitioner does not show a reasonable likelihood of prevailing with respect to any of the challenged claims. Accordingly, we deny institution of an *inter partes* review.

II. BACKGROUND

A. Related Matters

The parties identify the following as a related matter: *LiTL LLC v. Lenovo (United States), Inc. and Lenovo (Beijing) Limited*, 1:20-cv-00689-RGA (D. Del.). Pet. 2; Paper 4, 1. Patent Owner also identifies the following as related matters: IPR2021-00681 (challenging U.S. Patent No. 8,289,688, which belongs to the patent family of the '715 patent); IPR2021-00800

(challenging U.S. Patent No. 10,289,154, which belongs to the patent family of the '715 patent); IPR2021-00821 (challenging U.S. Patent No. 8,612,888, which belongs to the patent family of the '715 patent); and IPR2021-00822 (challenging U.S. Patent No. 8,624,844, which belongs to the patent family of the '715 patent). Paper 4, 2.

B. The '715 Patent (Ex. 1001)

The '715 patent is titled "System and Method for Streamlining User Interaction with Electronic Content." Ex. 1001, code (54). The challenged claims relate to "a graphical user interface that organizes interface elements into views of computer content for presentation to a user" and "an interface that is responsive to configurations of the device and activities performed by the user." *Id.*, code (57). The '715 patent explains that increased computing power enables computers to provide more and more features, but the myriad options may frustrate some users. *Id.* at 1:40–2:14. The '715 patent emphasizes the problem of "the inflexibility of the devices being used and their accompanying interfaces," and a problem generated by "feature packing" whereby "[t]ypical computer users simply can't take advantage of all the functionality offered. . . . [as t]he complexity of the interface (both hardware and software) hampers adoption [of, e.g., services and features offered by their own computer or by online providers], as does the volume of features offered." *Id.* at 2:18–33; *see id.* at 15:19–30.

The solution the '715 patent proposes is a graphical user interface that improves the user's experience and the user's ability to interact with electronic content, by implementing different views. *Id.* at 2:45–58. For example, the '715 patent explains different views present different

organizations of interface elements based upon device configuration and user activity:

> [A]spects and embodiments are directed to a graphical user interface that organizes interface elements into modes of content for presentation to a user. Different views of the modes of content are used to present the user with an interface that is responsive to configurations of the device and responsive to activity being performed by the user. Further the elements that comprise the graphical user interface are configured to present a summarized view of available actions and content, in order to simplify user interaction. The different views present different organizations of the interface elements and in some example display only certain ones of the modes of content in order to reduce the number of options a user must navigate to accomplish an objective.

Id. at 2:35–58.

The '715 patent further explains that its user interface comprises a plurality of views of representations of computer content and explains the views as follows:

> The user interface comprises a map based graphical user interface displayed on the computer system, the map based user interface comprising a plurality of views of a plurality of visual representations of computer content, wherein the computer content includes at least one of selectable digital content, selectable computer operations and passive digital content, and the plurality of visual representations of computer content rendered on the computer display, wherein the plurality of visual representations of computer content include an association to a first view of the plurality of views, the first view including the computer content, and wherein the each of the plurality of visual representations is responsive to focus and execution, wherein execution includes clicking on the visual representation, and an execution component comprising at least one computer hardware element configured to transition the computer system display between the plurality of views, wherein the execution component further comprises a view selector component configured to select

> one of the plurality of views for display on a computer system in response to a computer system configuration.

Id. at 2:63–3:25.

The computer system of the '715 patent also describes different profiles to customize the graphical user interface in different modes, including: a closed mode (in which the display screen is disposed substantially against the base of the computer); a laptop mode (in which the portable computer has a conventional laptop appearance, achieved by, e.g., rotating the display about the longitudinal axis up to approximately 180 degrees from the closed mode); an easel mode (in which the base of the computer and its display component stand upright forming an inverted "V," and the keyboard is concealed and not easily accessible); a flat mode (in which the computer's base component and display component lay flat on a surface); and a frame mode (in which the keyboard is concealed and not easily accessible, and software and/or hardware protection may be provided for the keyboard to prevent keys from being pressed, or to prevent the computer from responding to pressed keys). *Id.* at 6:39–42, 6:49–56, 11:40–42, 24:37–63, 25:40–50.

Figure 17 of the '715 patent, reproduced below, illustrates a portable computer in laptop mode, in which the keyboard is oriented to be accessible to the user. *Id.* at 13:29–32, 21:1–3. Figure 4 of the '715 patent, reproduced below, illustrates the portable computer in easel mode, in which the keyboard is concealed and not easily accessible. *Id.* at 12:57–58, 24:61–62, 26:60–65. And Figure 26 of the '715 patent, reproduced below, illustrates the portable computer configured into frame mode, in which the keyboard is concealed and not easily accessible. *Id.* at 13:55–58, 24:61–62.

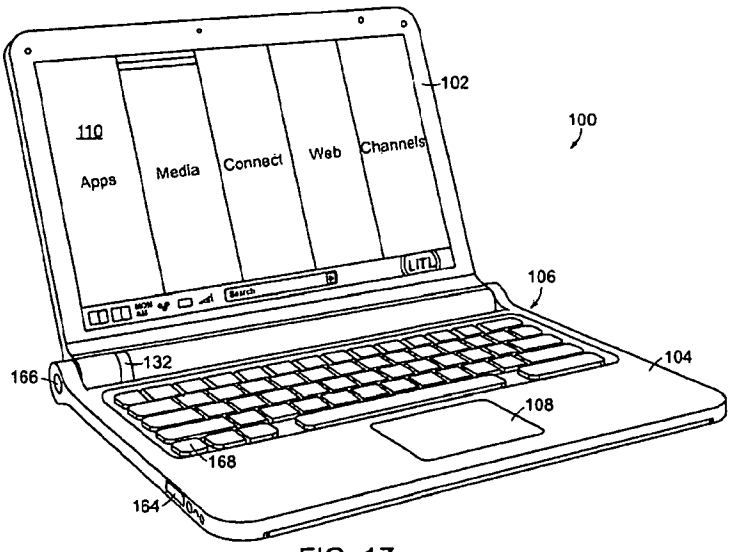


FIG. 17

Figure 17 illustrates a portable computer in laptop mode. *Id.* at 13:29–32.

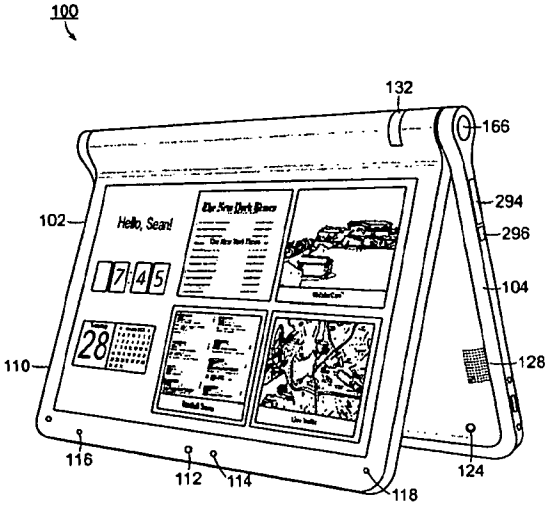


FIG. 4

Figure 4 illustrates a portable computer in easel mode. *Id.* at 12:57–58.

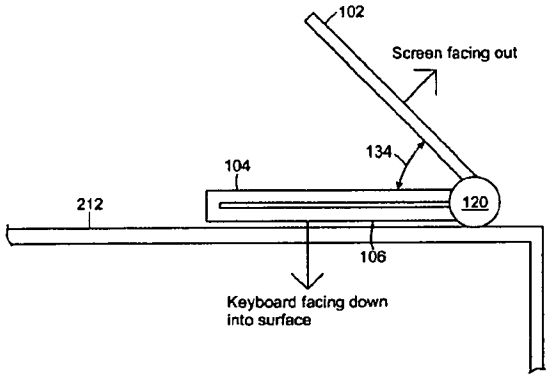


FIG. 26

Figure 26 illustrates a portable computer in frame mode. *Id.* at 13:55–58.

The '715 patent's computer assigns different views to the different modes (e.g., the laptop mode, the easel mode, the flat mode, and the frame mode) based on the mode's configuration. *Id.* at 2:45–3:16, 31:18–26. For example, the computer may display a "home view" in laptop mode, and may display a "Channel View" in easel mode as Figure 23 of the '715 patent shows. We reproduce Figure 23 below. *Id.* at 31:18–26.

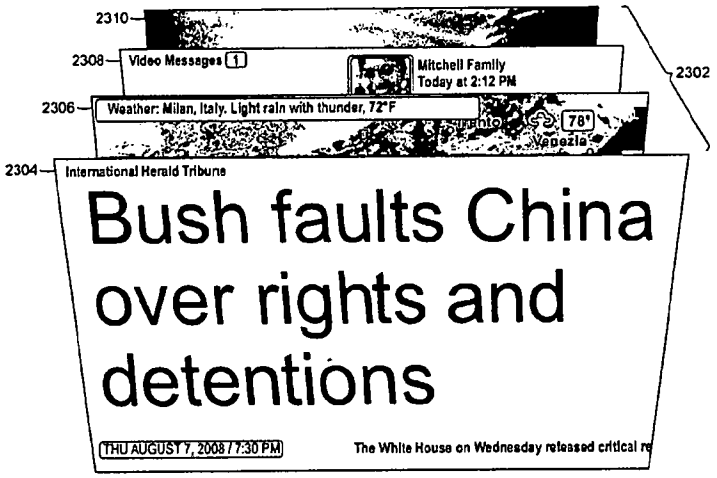


FIG. 23

Figure 23 is a screen shot of a graphical user interface of the portable computer set in easel mode, displaying a channel view that may also display a plurality of modes of content. *Id.* at 13:47–49, 31:20–26.

As Figure 23 shows, the channel view includes selector display (2302) and visual representations of content or channel cards (2304–2310) available for selection. *Id.* at 31:18–26, 53:63–54:1. The visualization the channel view provides resembles and behaves like a rolodex. *Id.* at 54:7–10. In one example, a user invokes the channel view by operating/moving a physical scroll wheel (e.g., scroll wheel 132 illustrated in Figure 4, reproduced above). *Id.* at 53:60–64. As the user moves the scroll wheel, individual channels 2304–2310 appear to flip around the hinge of the device. *Id.* at 54:10–19. In response to a selection, the foremost channel card displayed is selected and displayed full screen. *Id.*

As further examples, the '715 patent explains that the computer may display a "channel page view" (illustrated in Figure 20A, reproduced below), and a "channel full view" (illustrated in Figure 21, reproduced below).

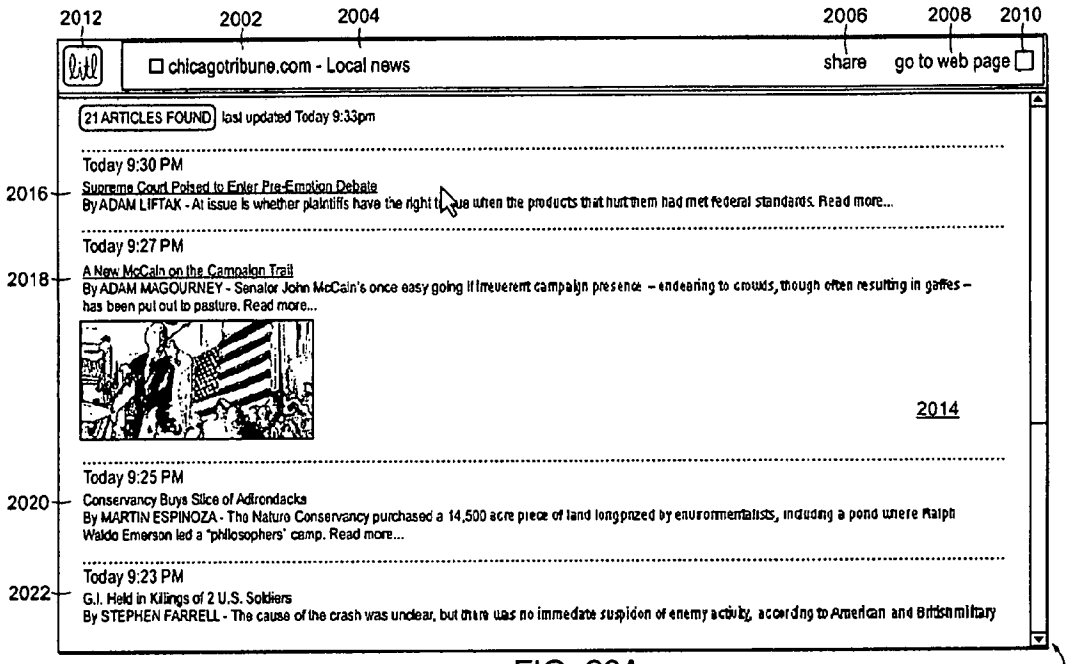


FIG. 20A

Figure 20A is a screen shot illustrating a graphical user interface showing a channel page view, which presents a unique view into content made available through a website, and provides a consistent framework for user interaction with rss style content. *Id.* at 13:38–40, 51:28–50.

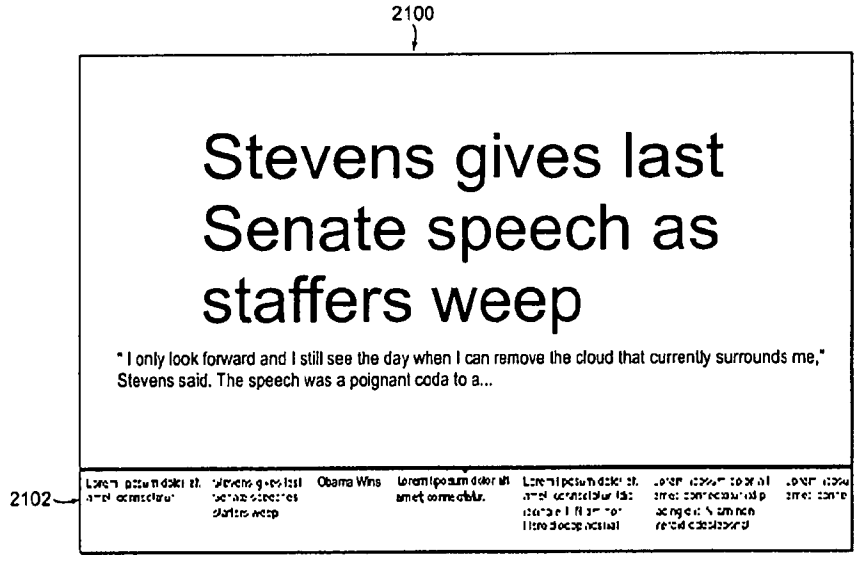


FIG. 21

Figure 21 is a screen shot illustrating a graphical user interface showing a channel full view, which includes displays configured to identify a source of an rss feed, and, in response to a user selection, displays a content menu permitting selection of any of the rss items.
Id. at 13:41–43, 52:33–52.

C. Challenged Claims

Among challenged claims 1–20, claims 1, 17, and 20 are independent. Claims 2–16 and 19 depend from claim 1, and claim 18 depends from claim 17. Claim 1 is exemplary of the claimed subject matter of the '715 patent and is reproduced as follows, with added bracketed identifiers to claim elements.

> 1. [1pre] A customized user interface to display computer content on a display component of a computer system including a keyboard, the user interface comprising:
>
> > [1a] at least one processor operatively connected to a memory of the computer system;
> >
> > [1b] a graphical user interface, executing on the at least one processor, configured to display the computer content on the display component of the computer system, the graphical user interface configured to:
> >
> > > [1c] display a plurality of views of a plurality of visual representations of computer content, wherein the computer content includes at least one of selectable digital content, selectable computer operations and passive digital content;
> >
> > [1d] an execution component, executing on the at least one processor, configured to:
> >
> > > [1e] detect a current computer system configuration from at least a first computer system configuration where the keyboard is operable to receive input from an operator of the computer system to control the computer system and a second computer system configuration where the keyboard is inoperable to

> receive input from the operator of the computer system to control the computer system;
>
> [1f] select one of the plurality of views for display on the computer system in response to the detected current computer system configuration; and
>
> transition the display component to the selected one of the plurality of views.

Ex. 1001, 70:63–71:24; *see also* Ex. 1009 and Pet. 51–59 (annotating claim 1 with the same identifiers).

D. Asserted Grounds of Unpatentability

Petitioner asserts that the challenged claims are unpatentable based on the following grounds:

Ground	Claim(s) Challenged	35 U.S.C. §	Reference(s)/Basis
1	1, 20	103	Shimura,[1] Tsuji[2]
2	2–19	103	Shimura, Tsuji, Pogue[3]

Pet. 3. Petitioner supports the asserted grounds with the Declaration of Jean Renard Ward. Ex. 1007; *see also* Ex. 1008 (curriculum vitae of Jean Renard Ward).

III. ANALYSIS

We organize our analysis into three main sections: (A) level of ordinary skill in the art; (B) claim construction; (C) the adequacy of Petitioner's ground one showings for purposes of trial institution; and (D) the adequacy of Petitioner's ground two for purposes of trial institution.

---

[1] JP1994-242853 (H6-242853), published September 2, 1994 (Ex. 1003). We refer to the Certified English translation (Ex. 1004).
[2] US 2005/0062715 A1, published Mar. 24, 2005 (Ex. 1005).
[3] Windows XP Home Edition: The Missing Manual (2d ed.) (David Pogue, Pogue Press, LLC & O'Reilly Media, Inc. 2004) (Ex. 1006).

A. Level of Ordinary Skill in the Art

With regard to the level of ordinary skill in the art, Petitioner contends that a person of ordinary skill would have had:

> at least a Bachelor's degree in Electrical Engineering, Computer Engineering, or Computer Science, plus two to three years of work experience in designing hardware and/or software aspects of user interfaces for computing devices and be familiar with designs of the user interface employed and displayed by the operating system and its organization of content and functionality. . . . Alternatively, the POSITA would also have received a graduate degree such as Master's or PhD degree in the same field with at least one year of the same work experience.

Pet. 14 (citing Ex. 1007 ¶¶ 24–28).

Patent Owner does not dispute Petitioner's asserted level of ordinary skill in the art. *See generally* Prelim. Resp.

We find, based on the current record, that Petitioner's contention is reasonable. For purposes of this decision, we adopt the level of ordinary skill in the art Petitioner proposes.

B. Claim Construction

Petitioner proposes constructions for several claim terms, including: "execution component" (asserting "'execution component' is a means-plus-function limitation under 35 U.S.C. §112, ¶6"); and "content mode" (asserting that for "'content mode(s),' 'single content mode,' and 'two content modes' each is construed as 'user selectable element(s) displayed on a user interface that, when selected, allows the user to access the content organized therein'"). Pet. 15–29.

Patent Owner does not dispute Petitioner's proposed construction for "content mode" because "the Petition fails even if that construction is adopted." Prelim. Resp. 15. Patent Owner disputes Petitioner's proposed

means-plus-function constructions for "execution component" because "the Petition misapplies the law for construing an alleged means-plus-function limitation." *Id.*

We determine we need not explicitly construe "execution component" and "content mode" at this stage of the proceeding. *See Nidec Motor Corp. v. Zhongshan Broad Ocean Motor Co. Matal*, 868 F.3d 1013, 1017 (Fed. Cir. 2017) ("we need only construe terms 'that are in controversy, and only to the extent necessary to resolve the controversy'" (quoting *Vivid Techs., Inc. v. Am. Sci. & Eng'g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999))).

We determine, however, that construction is necessary for "plurality of views of a plurality of visual representations of computer content" (as recited in claim 1, and, similarly, in the other challenged claims of the '715 patent). For brevity, we refer to this recitation as the "views recitation." With respect to the views recitation, the '715 patent provides that "different views present different organizations of the interface elements" and "organize modes of content." Ex. 1001, 2:54–56, 3:26–28. For example, the '715 patent describes the different views as presenting different organizations of interface elements as follows:

> Different views of the modes of content are used to present the user with an interface that is responsive to configurations of the device and responsive to activity being performed by the user. Further the elements that comprise the graphical user interface are configured to present a summarized view of available actions and content, in order to simplify user interaction. The different views present different organizations of the interface elements and in some example display only certain ones of the modes of content in order to reduce the number of options a user must navigate to accomplish an objective.
>
> . . .

> The user interface comprises a map based graphical user interface displayed on the computer system, the map based user interface comprising a plurality of views of a plurality of visual representations of computer content, wherein the computer content includes at least one of selectable digital content, selectable computer operations and passive digital content, and the plurality of visual representations of computer content rendered on the computer display, wherein the plurality of visual representations of computer content include an association to a first view of the plurality of views, the first view including the computer content, and wherein the each of the plurality of visual representations is responsive to focus and execution, wherein execution includes clicking on the visual representation, and an execution component comprising at least one computer hardware element configured to transition the computer system display between the plurality of views, wherein the execution component further comprises a view selector component configured to select one of the plurality of views for display on a computer system in response to a computer system configuration. . . .
>
> According to one aspect of the present invention, the plurality of views are configured to organize modes of content into different views.

Id. at 2:45–3:28.

The entirety of the '715 patent is consistent with the description above. As we explain in the summary of the '715 patent provided in Section II.B, *supra*, the purpose of the '715 patent is to better organize "more and more features" provided by "feature packing," so that the typical computer user can better take advantage of features offered. *Id.* at 1:40–2:44. The '715 patent explains that "different views [that] present different organizations of the interface elements and in some example[s] display only certain ones of the modes of content in order to reduce the number of options a user must navigate to accomplish an objective." *Id.* at 2:45–58.

As Patent Owner explains, the '715 patent discusses views extensively. *See, e.g.*, Prelim. Resp. 29–33 (providing numerous citations to the '715 patent. In particular, the '715 patent describes many examples of views that each organize content in a different way. *See, e.g.*, *id.* at Figs. 2 (home view), 3A (web page view), 5 (quick access view), 6 (bookmark view), 20A (channel page view), 21 (channel full view), 23 (channel view); *see also id.* at 12:48–15:15 (summarizing the '715 patent's figures). We agree with Patent Owner that, when discussing views, the '715 patent consistently refers to different ways of organizing content. Prelim. Resp. 29–33.

Although not a focus of the '715 patent, the '715 patent also describes how the orientation of displayed content may be changed to ensure it is right-side up. The '715 patent explains that changing the visual display may be rotated when the computer's configuration is changed as follows:

> According to one embodiment, when the portable computer 100 is configured into the easel mode, the visual display on the display screen 110 is automatically rotated 180 degrees such that the information appears "right-way-up," even though the display screen is upside-down compared to when the portable computer is in laptop mode. Thus, a user may simply "flip" the portable computer 100 into the easel mode and immediately be able to comfortably view information on the display screen 110, without having to access display screen controls to adjust the orientation of the visual display.

Ex. 1001, 20:10–24. The '715 patent further explains how the computer may incorporate sensors to allow automatic adjustment of the display's orientation. *Id.* at 20:24–38; *see also id.* at 23:59–24:1 (explaining change in orientation). The '715 patent, however, never refers to merely changing the

visual display's orientation as changing views of a plurality of visual representations of computer content.

Based on the analysis above and the record before us, and for purposes of this Decision, we construe the claim recitation "plurality of views of a plurality of visual representations of computer content" (and similar recitations) as referring to a plurality of ways of organizing visual representations of computer content. The recitation is distinct from merely providing a plurality of ways of displaying content (by, for example, changing display orientation, color, resolution, etc.).

C. Ground One: Obviousness Based on Shimura and Tsuji

All grounds rely on Shimura and Tsuji. We provide an overview of Shimura and Tsuji before we address the parties' contentions.

1. Overview of Shimura (Exs. 1003 and 1004)

Shimura is a Japanese patent application publication (Ex. 1003) for which Petitioner has provided a certified English translation (Ex. 1004). Shimura relates to a personal computer "which can adopt a mode suitable for a user environment centered on a pen input operation and a mouse input operation while retaining a mode which can use a keyboard." Ex. 1004, code [57]. Figure 1 of Shimura, reproduced below, illustrates an example of the personal computer. *Id.*

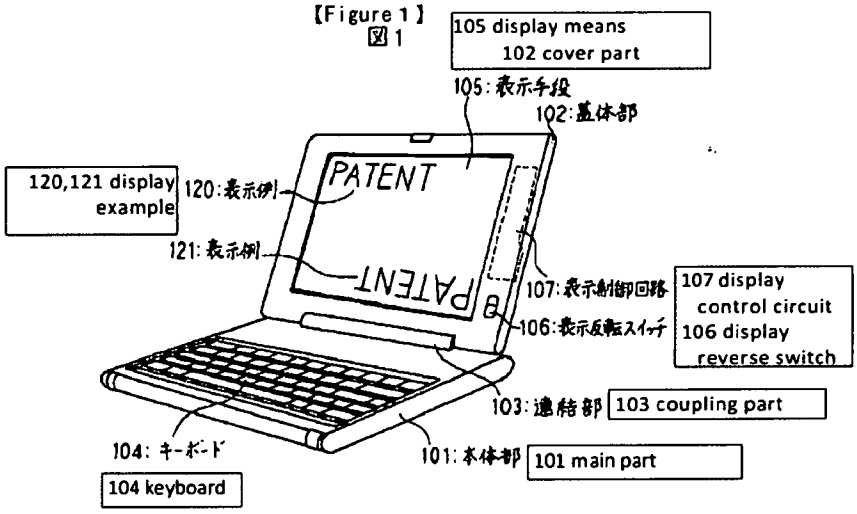
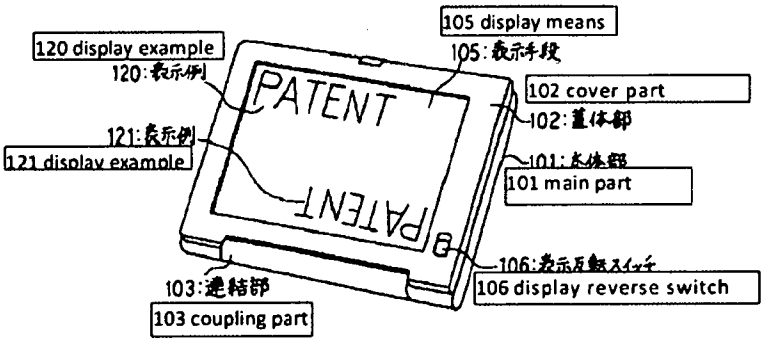


Figure 1 illustrates a personal computer. *Id.*

As shown in Figure 1, the personal computer includes main part 101 provided with keyboard 104 on the front, cover part 102 provided with display 105 on the front, and coupling mechanism 103 used to couple one end of main part 101 and one end of cover part 102 with display 105 such that cover part 102 faces main part 101, and coupling mechanism 103 enables the opening and closing of computer parts 101 and 102. *Id.* Coupling mechanism 103 is structured so that it can also open cover part 102 so that the orientation of cover part 102 exceeds 180° relative to main part 101. *Id.* Figures 4 and 5 of Shimura, reproduced below, show inclined views of the personal computer, with main part 101 rotated nearly 360° with respect to cover part 102 (Figure 4), and main part 101 and cover part 102 opened to an angle of approximately 340° (Figure 5). *Id.* ¶¶ 16–17, Figs. 4 and 5.

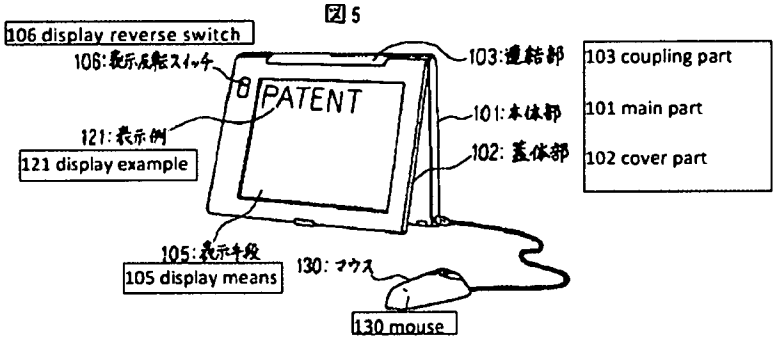
[Figure 4]

図4



[Figure 5]

図5



Figures 4 and 5 show inclined views of the personal computer in which main part 101 has been rotated by more than 180° with respect to cover part 102. *Id.* ¶¶ 6–7, 12, 16–17.

Coupling mechanism 103 enables the rotation of cover part 102 with respect to main part 101. *Id.* ¶¶ 12–13. Coupling mechanism 103 is fastened by hinges to main part 101 and cover part 102. *Id.* ¶ 12. A display reverse switch 106 enables display 105 to be switched upside down. *Id.* ¶¶ 12, 17. A user may place display reverse switch 106 in a normal state and a reverse state. *Id.* ¶ 12. For example, a user may set display reverse switch 106 to a normal mode so that the display orientation of display 105 has orientation 120 (as shown in Figure 1). *Id.* ¶ 12. A user may also set display reverse switch 106 to a reverse mode so that a display orientation of display 105 has

orientation 121 (e.g., upside down, as shown in Figure 5). *Id.* ¶¶ 12, 17. Display control circuit 107 of the personal computer controls the output to display 105 by controlling a computer circuit stored in main part 101. *Id.* ¶ 12. Display control circuit 107 turns the display upside down (to orientation 121) based on the state of display reverse switch 106. *Id.*

2. Overview of Tsuji (Ex. 1005)

Tsuji is a US patent application publication that relates to a portable computer including: a housing with a top surface; a keyboard placed on the top surface of the housing; a display unit with a front surface and a rear surface, supported by the housing and "rotated between a closed position in which the keyboard is covered and an open position in which the keyboard is exposed"; a sensor which senses an angle formed between the front surface of the display unit and the top surface of the housing; and a display device in the display unit to display a screen image in one of "a first orientation in which a bottom-end portion of the screen image is located toward the housing and a second orientation in which a top-end portion of the screen image is located toward the housing in accordance with the angle sensed by the sensor." Ex. 1005 ¶¶ 3, 10. Tsuji's Figures 1, 2, and 5, reproduced below, illustrate the portable computer with its display in various positions. *Id.* ¶¶ 13–15.

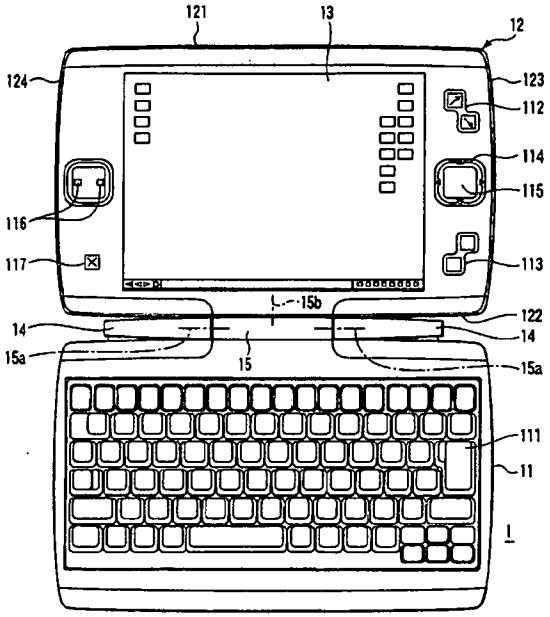


FIG. 1

Figure 1 illustrates a portable computer including display unit 12 that can rotate around first central axis 15a that extends in parallel to the outer surface of computer main body 11, and can also rotate around second central axis 15b perpendicular to first central axis 15a. *Id.* ¶¶ 13, 31–33.

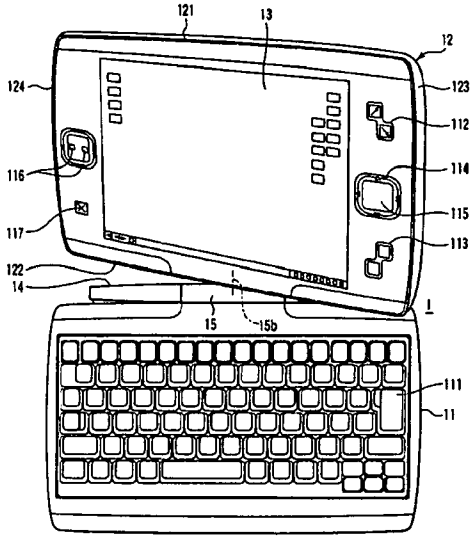


FIG. 2

Figure 2 illustrates the portable computer with display unit 12 rotated around second central axis 15b, display unit 12 rotatable 360° around second central axis 15b in the horizontal direction with respect to the outer surface of computer main body 11. *Id.* ¶¶ 14, 33.

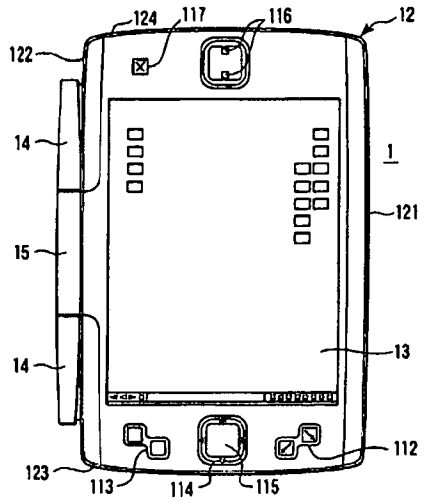


FIG. 5

Figure 5 illustrates the portable computer with display unit 12 set to a PDA style by rotating the display unit 180° around second central axis 15b in a horizontal direction so that the display unit is accessible in a second open position. *Id.* ¶¶ 17, 33–34.

Figure 14 of Tsuji, reproduced below, illustrates a control operation for an automatic image rotating function performed by the portable computer shown in Figure 1. *Id.* ¶ 26.

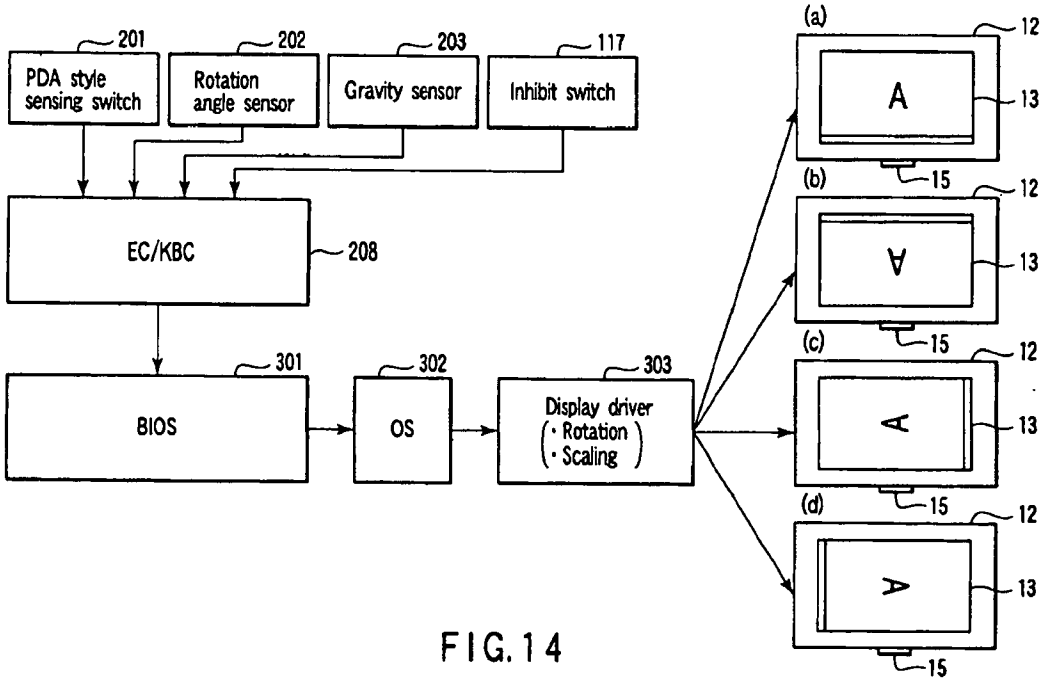


FIG. 14

Figure 14 illustrates a control operation for an automatic image rotating function performed by the portable computer shown in Figure 1. *Id.* ¶ 26.

A BIOS (Basic Input Output System) program 301 shown in Figure 14 acquires values from a sensing switch, a rotation angle sensor, and a gravity sensor to determine whether the portable computer is used in a PC style (as shown in Figure 1, reproduced above) or in a PDA style (as shown in Figure 5). *Id.* ¶¶ 34, 64, 69–71. When the computer is used in PC style, BIOS 301 performs control to change the orientation of a screen image in response to a signal from rotation angle sensor 202. *Id.* ¶ 70. When the computer is used in PDA style, BIOS 301 performs control to change the orientation of a screen image in response to a signal from gravity sensor 203. *Id.* BIOS 301 then informs display driver 303 of the orientation of the screen image to be displayed on the computer's LCD and the aspect ratio of the screen image, and display driver 303 performs an operation for rotating the

screen image displayed on the computer's LCD and a scaling operation for varying the aspect ratio in response to an instruction from BIOS 301. *Id.* Display driver 303 then sets the orientation of the screen image displayed on the LCD in one of four orientations (a), (b), (c) and (d). *Id.* ¶ 71.

3. Discussion

Based on the present record, Petitioner does not demonstrate a reasonable likelihood of showing the combination of Shimura and Tsuji (ground 1) would have rendered obvious the subject matter of challenged claims 1 and 20. Pet. 42–62. Petitioner also does not demonstrate a reasonable likelihood of showing the subject matter of the challenged claims would have been obvious over the combination of references Petitioner applies for ground 2. *Id.* at 62–102.

Claim 1 recites, *inter alia*, a "graphical user interface" configured to "display a plurality of views of a plurality of visual representations of computer content, wherein the computer content includes at least one of selectable digital content, selectable computer operations and passive digital content" (limitation [1c]), and an "execution component" configured to "select one of the plurality of views for display on the computer system in response to the detected current computer system configuration [as determined by the keyboard being operable or inoperable to receive input from the computer's operator]" and "transition the display component to the selected one of the plurality of views" (limitation [1f]). Ex. 1001, 71:1–24.

Petitioner contends Shimura's display 105 teaches the claimed "graphical user interface." Pet. 53–54 (citing Ex. 1004, Fig. 1; Ex. 1007 ¶¶ 185–189). Petitioner further contends Shimura's graphical user interface

meets the views recitation because Shimura's display 105 "displays content in either a normal or inverted view (i.e., rotated 180°)," where

> [t]he view depends on the state of display reversal switch 106 inputted to display control circuit 107 inside the cover part 102. . . . If the display reverse switch 106 is set to normal view, the display control circuit 107 causes the display screen 105 to display the content in normal view. . . . Similarly, if the display reverse switch 106 is set to reverse mode the content is displayed in an inverted view.
>
> A POSITA would have considered the Shimura-Tsuji Computer's ability to display content in either a normal or inverted view to disclose [1c].

Id. at 54–56 (citing Ex. 1004 ¶ 12, Fig. 1; Ex. 1007 ¶¶ 190–194). With respect to limitation [1f], Petitioner contends that a combined Shimura-Tsuji computer can select a view based on computer system configuration:

> [t]he Shimura-Tsuji Computer can determine the computer system configurations and "select[s] one of the plurality of views [e.g., normal and inverted views] for display on the computer system in response to the detected current computer system configuration" and transitions the display to that view.

Id. at 59 (citing Ex. 1007 ¶¶ 203–206). For the claimed "execution component," Petitioner also relies on Tsuji's BIOS program 301 "that informs a display driver 303 . . . of the orientation of the image to be displayed," and on Tsuji's display driver 303 "which is controlled by the BIOS program 301, [and] performs the operation for rotating the image displayed on the LCD." *Id.* at 59–60 (citing Ex. 1005 ¶¶ 68–74, Fig. 14; Ex. 1007 ¶ 205).

Patent Owner argues that Petitioner has failed to meet its burden for claim 1 because the "Petition fails to properly construe 'plurality of views,' which refers to a plurality of ***ways of organizing*** displayed content." Prelim.

Resp. 24, 44–45. Patent Owner's argument is persuasive for the reasons explained below.

As Patent Owner argues, the Petition relies only on different orientations (such as a "normal view" and an "inverted view") of a single organization of displayed content, to meet claim 1's views recitation. *Id.* at 24–25. For example, Patent Owner points out that the Petition considers Shimura's display of the word "PATENT" right-side-up (normal view) and upside-down (inverted) as meeting the recited "plurality of views." *Id.* at 26–27 (citing Pet. 49–50, 54–55). As we explain above in our claim construction, however, inverting or re-orienting a single way of organizing displayed content does not create a "plurality of views of a plurality of visual representations of computer content" as claimed and described in the '715 patent. As such, Petitioner's implicit "construction of 'plurality of views' as reading on different orientations of the same organization of displayed content is wrong because it is inconsistent with every embodiment of a 'plurality of views' described in the specification." *Id.* at 25, 38–41.

Indeed, Patent Owner correctly explains that the '715 patent addresses reorientation of a display but reorientation does not result in the views recitation. Patent Owner makes this distinction by arguing:

> [in] the claims and the specification of the '715 Patent—a "view" is a ***way of organizing*** displayed content. Ex. 1001, Abstract, 2:54–58 ("[t]he ***different views*** present ***different organizations*** of the interface elements"); 3:26–28 ("the plurality of ***views*** are configured to ***organize modes of content*** into different views"); 7:25–27, 9:55–57 (a "plurality of views" of computer content as recited in claims 1, 17 and 20, is a plurality of ways of organizing displayed content).
> . . . the specification also describes ***re-orientating*** the same display organization about the computer's longitudinal axis to

> ensure it is right-side-up, but uses different terminology to describe that re-orientation and never refers to two different orientations of the same organization of displayed content as different views.
>
> . . .
>
> The specification makes clear "views" are particular ***ways of organizing*** displayed content—***not*** different ***orientations*** of a single organization of displayed content.

Prelim. Resp. 27–28; *see id.* at 29–37, 42–44. We find that Patent Owner's explanation of this distinction is best supported by the text of the '715 patent.

Thus, on the current record, Petitioner has not made a sufficient showing that the combination of Shimura and Tsuji teaches the subject matter of limitations [1c] and [1f] of claim 1.

Independent claim 20 includes recitations similar to the views recitation of claim 1. *See* Ex. 1001, 73:19–74:18; Pet. 60–62. Patent Owner maps claim 20 to the prior art's teachings merely by referring back to claim 1. Pet. 60–62. For the reasons we provide as to claim 1, Petitioner has not made a sufficient showing that the combination of Shimura and Tsuji teaches the subject matter of claim 20.

D. Ground Two: Obviousness Based on Shimura, Tsuji, and Pogue

We provide an overview of Pogue before we address the parties' contentions.

1. Overview of Pogue (Ex. 1006)

Pogue is a book on Windows XP, titled "Windows XP Home Edition: The Missing Manual." Ex. 1006, 2. Pogue explains that "[t]he purpose of this book . . . is to serve as the manual that should have accompanied Windows XP" and to provide "step-by-step instructions for using almost

every Windows feature." *Id.* at 15.[4] Pogue presents various screen images from a computer running Windows XP, including the "Windows XP computer screen" after a fresh install of Windows XP (Figure 2-2) and a Filmstrip view that "turns [a] folder window into a slide show machine, complete with Next and Previous buttons beneath an enlarged picture, as well as buttons that rotate the image on the screen" (Figure 2-5). *Id.* at 36, 87.

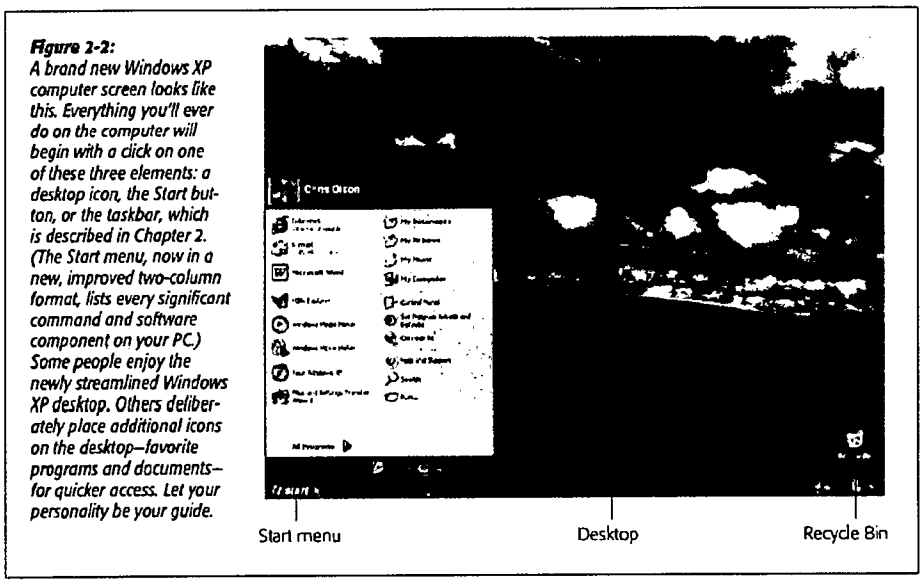


Figure 2-2 shows the Windows XP computer screen displayed after a fresh install of Windows XP. *Id.* at 36.

[4] Page numbers refer to numbered pages of Exhibit 1006 rather than referring to pages of the book.

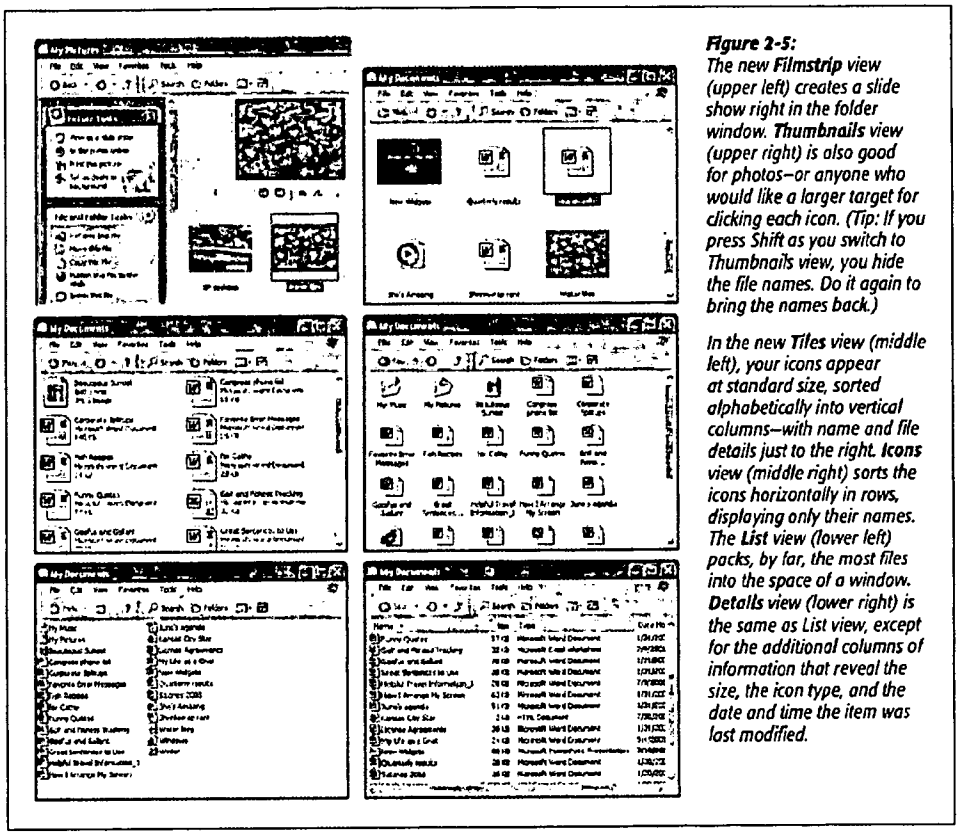


Figure 2-5:
*The new **Filmstrip** view (upper left) creates a slide show right in the folder window. **Thumbnails** view (upper right) is also good for photos—or anyone who would like a larger target for clicking each icon. (Tip: If you press Shift as you switch to Thumbnails view, you hide the file names. Do it again to bring the names back.)*

*In the new **Tiles** view (middle left), your icons appear at standard size, sorted alphabetically into vertical columns—with name and file details just to the right. **Icons** view (middle right) sorts the icons horizontally in rows, displaying only their names. The **List** view (lower left) packs, by far, the most files into the space of a window. **Details** view (lower right) is the same as List view, except for the additional columns of information that reveal the size, the icon type, and the date and time the item was last modified.*

Figure 2-5 shows a Filmstrip view that "turns [a] folder window into a slide show machine, complete with Next and Previous buttons beneath an enlarged picture, as well as buttons that rotate the image on the screen." *Id.* at 87.

2. Discussion

Petitioner's second ground of unpatentability is based on obviousness over Shimura, Tsuji, and Pogue. Pet. 62. Although Petitioner states that Pogue discloses a "home view" and a "channel view," as recited in claim 2, Petitioner does not show that Pogue remedies the deficiencies of Shimura and Tsuji with respect to the claimed selection and display of "a plurality of views of a plurality of visual representations of computer content," as recited in claim 1. *See* Pet. 63–66.

In particular, claims 2–16 and 19 depend from claim 1 and include all the limitations claim 1 requires. Claim 1 requires "an execution component . . . configured to: select one of the plurality of views for display on the computer system in response to the detected current computer system configuration." Ex. 1001, 71:10–20; *see also* Ex. 1009, 1 (mapping this recitation as [1f]). Even if Pogue teaches a plurality of views (within the claim construction we provide above), Petitioner does not rely on Pogue to meet the [1f] recitation. Instead, Petitioner alleges that the Shimura-Tsuji combination selecting between normal and inverted views meets the [1f] recitation. Pet. 59. But, as we explain above, Petitioner's mapping of Shimura-Tsuji to [1f] is insufficient. Thus, for the reasons discussed with respect to claim 1, we determine that Petitioner has not established a reasonable likelihood of prevailing in its contention that the asserted combination of Shimura, Tsuji, and Pogue would have rendered obvious claims 2–16 and 19.

As Patent Owner's arguments with respect to independent claim 17 (arguments similar to those submitted for claims 1 and 20, *see* Prelim. Resp. 24–27, 42–45) further explain, Petitioner also has not shown that the combination of Shimura and Tsuji teaches the limitations directed to the "plurality of views of a plurality of visual representations of the computer content" recited in independent claim 17. *Id.* at 62–64. Petitioner labels the portions of claim 17 requiring a graphical user interface "configured to display a plurality of views of a plurality of visual representations of the computer content" and requiring an execution component configured to "select, responsive to the sensor input, a first content view from the plurality of views" as [17b] and [17e] respectively. Ex. 1009, 4. Petitioner does not

provide any mapping to prior art for these recitations beyond what Petitioner provided for claim 1. Pet. 100–101. Petitioner, therefore, does not show that Pogue remedies the deficiencies of Shimura and Tsuji that we addressed with respect to claim 1. Thus, Patent Owner's arguments persuade us that Petitioner has not made a sufficient showing that the combination of Shimura, Tsuji, and Pogue teaches the subject matter of claim 17.

Claim 18 depends from claim 17 and includes all the limitations claim 17 requires. For the reasons discussed with respect to claim 17, we determine that Petitioner has not established a reasonable likelihood of prevailing in its contention that claim 18 would have been rendered obvious by the asserted combination of Shimura, Tsuji, and Pogue.

Therefore, Petitioner does not establish a reasonable likelihood of prevailing in demonstrating the unpatentability of any challenged claim of the '715 patent in its second ground of unpatentability for the same reasons as Petitioner's first ground of patentability.

IV. CONCLUSION

For the reasons above, we determine that Petitioner has not established a reasonable likelihood that it would prevail in showing that at least one of the challenged claims is unpatentable.

V. ORDER

In consideration of the foregoing, it is hereby:

ORDERED that the Petition is denied, and we do not institute an *inter partes* review of any claim of the '715 patent based on a ground asserted in the Petition.

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Exhibit 1009

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

LENOVO (UNITED STATES) INC.
Petitioner

v.

LITL LLC
Patent Owner

IPR Case No. IPR2021-00786
U.S. Patent No. 9,880,715

PETITION FOR *INTER PARTES* REVIEW UNDER 35 U.S.C. §311 *ET SEQ.* AND 37 C.F.R. §42.100 *ET SEQ.* (CLAIMS 1-20 OF U.S. PATENT NO. 9,880,715)

EXHIBIT LIST

EXHIBIT	DESCRIPTION
1001	U.S. Pat. No. 9,880,715 ("the '715 Patent")
1002	Prosecution History of the '715 Patent
1003	JP 1994-242856 to Shimura
1004	Certified English translation of JP 1994-242856 ("Shimura")
1005	U.S. Pub. No. 2005/0062715 to Tsuji et al. ("Tsuji")
1006	Windows XP Home Edition: The Missing Manual (2nd Edition) ("Pogue")
1007	Declaration of Jean Ward
1008	Curriculum Vitae of Jean Ward
1009	Claim Listing
1010	U.S. Pub. No. 2008/0059888 to Dunko ("Dunko")
1011	U.S. Pub. No. 2006/0034042 to Hisano et al. ("Hisano")
1012	U.S. Pub. No. 2005/0122318 to Tonouchi et al. ("Tonouchi")
1013	JP 2002-258982 to Kiyoyuki
1014	Certified English translation of JP 2002-258982 ("Kiyoyuki")
1015	JP 1996-179851 to Shigeo
1016	Certified English translation of JP 1996-179851 ("Shigeo")
1017	DE 1031455A1 to Schweizer
1018	Certified English translation of DE 1031455A1 ("Schweizer")

EXHIBIT	DESCRIPTION
1019	Clifford & Gomez, Measuring Tilt with Low-g Accelerometers (2005) ("Freescale")
1020	U.S. Pat. No. 6,493,216 to Lin ("Lin")
1021	U.S. Pat. No. 8,151,105 to Park et al. ("Park")
1022	Ride, MIT's $100 Laptop (2005) ("MIT")
1023	U.S. Pat. No. 6,882,335 to Saarinen ("Saarinen")
1024	Panasonic CF-19 Operating Instructions
1025	Panasonic CF-T8 Operating Instructions
1026	Hardy, Lenovo ThinkPad X61 Tablet PC Review (2007)
1027	Lenovo ThinkPad X61 Tablet Service and Troubleshooting Guide
1028	Dell Latitude XT Tablet
1029	Motion Computing M1400 Tablet PC User Guide
1030	Motion Computing M1400 Tablet PC Addendum
1031	HP Compaq Tablet PC TC1100 QuickSpecs
1032	Sony Vaio VGN-UX280P (UX Series MicroPC) Spec Sheet
1033	Declaration of Michael J. Hopkins
1034	Declaration of Liliana Nunez
1035	WaybackMachine Archive of https://www.windows-help-central.com/show-desktop-icon-in-xp-missing.html
1036	Excerpts of Windows XP Hacks & Mods: For Dummies
1037	Excerpts of Windows XP in a Nutshell (2nd Edition)

EXHIBIT	DESCRIPTION
1038	U.S. Pat. No. 5,559,670 ("Flint")

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I. INTRODUCTION

The 20 challenged claims are directed to a computer with multiple computer system configurations, related features, and a graphical user interface with various views of computer content, all of which were well-known before the priority date. This computer is configurable between these configurations, including a laptop mode where the keyboard is accessible to the user and easel and frame modes where it is not. But these computer system configurations, and computers configurable to transition between them, were well-known before the priority date. Related claimed features include detection of the computer system configuration based on sensor(s), corresponding changes in the view of computer content, and well-known standard computer components, such as a CPU and keyboard. Further related claimed features include variations in the displayed views of computer content, including a home view, channel view, screen saver, and ways in which to navigate and use the displayed content. But likewise, these and other claimed features were well-known before the priority date.

Three prior art references—Shimura, Tsuji, and Pogue—in various combinations render obvious all 20 challenged claims. This petition requests that the Board find unpatentable and cancel all challenged claims.

II. MANDATORY NOTICES UNDER 37 C.F.R. §42.8

A. Real Parties-In-Interest (§42.8 (b)(1))

Pursuant to 37 C.F.R. § 42.8(b)(1), Petitioner Lenovo (United States) Inc. is a real party-in-interest. Petitioner is an indirect wholly-owned subsidiary of Lenovo Group Limited. Because Lenovo (Beijing) Limited has been named as a defendant in the "related matter" identified pursuant to 37 C.F.R. § 42.8(b)(2) (i.e., *LiTL LLC v. Lenovo (United States) Inc. and Lenovo (Beijing) Limited*, Case No. 1:20-cv-00689 (D. Del.)), Lenovo (Beijing) Limited is also a real party-in-interest.

B. Related Matters (§42.8 (b)(2))

The patent at issue, U.S. Patent No. 9,880,715 ('715 Patent"), is the subject of the following district court proceeding: *LiTL LLC v. Lenovo (United States), Inc. and Lenovo (Beijing) Limited*, Case No. 1:20-cv-00689 (D. Del.).

C. Lead and Backup Counsel (§42.8 (b)(3))

Petitioner appoints Martin Bader (Reg. No. 54,736) of Sheppard, Mullin, Richter & Hampton LLP as Lead Counsel, and appoints Nam Kim (Reg. No 64,160), and Michael Hopkins (Reg. No. 75,019), of the same firm as Back-Up Counsel. An appropriate Power of Attorney is filed concurrently herewith.

D. Service Information (§42.8 (b)(4))

Service of any documents to Counsel can be made via hand delivery to Sheppard Mullin Richter & Hampton LLP, 12275 El Camino Real, Suite 200, San

Diego, California 92130. Petitioner consents to service by email at LegalTm-LNV-LTL@sheppardmullin.com.

III. FEE FOR *IPR* (37 C.F.R. §42.15(a) and §42.103)

Petitioner has paid the required fees. The Office is authorized to charge any fee deficiency, or credit any overpayment, to Deposit Account No. 50-4561.

IV. REQUIREMENTS FOR *IPR* UNDER 37 C.F.R. §42.104

A. Grounds for Standing (§42.104(a))

Petitioner certifies that the '715 Patent is available for IPR and that the Petitioner is not barred or estopped from challenging the claims thereof.

B. Identification of Challenged Claims (§42.104(b)(1))

This Petition challenges the validity of Claims 1-20 of the '715 Patent.

C. Grounds of Challenge (§42.104(b)(2))

The Grounds of unpatentability presented in this Petition are as follows.

Ground	Basis	References	Challenged Claim
1	§103	Obvious over Shimura in view of Tsuji	1, 20
2	§103	Obvious over Shimura in view of Tsuji and Pogue	2-19

The '715 Patent issued from U.S. Application No. 14/680,422, filed April 7, 2015, which is a continuation of Application No. 12/416,496 (U.S. Patent No. 9,003,315), which is a continuation-in-part of Application No. 12/170,939 (U.S. Patent No. 8,289,688) and Application No. 12/170,951 (U.S. Patent No.

8,624,844), and claims priority to U.S. Provisional Application No. 61/041,365, filed April 1, 2008. Without conceding valid priority entitlement, for purposes of this Petition only, it is assumed that April 1, 2008 marks the earliest effective priority date (the "Critical Date") of the '715 Patent.

V. PROPOSED GROUNDS SHOULD NOT BE DENIED INSTITUTION ON ANY DISCRETIONARY GROUND

The Board should decline to exercise its discretion to deny institution under 35 U.S.C. § 325(d). The Section 325(d) analysis follows a two-part framework. *Amazon.com, Inc. v. VB Assets, LLC*, IPR2020-01346, slip op. at 6-7 (P.T.A.B. Feb. 4, 2021) (Paper 7). The Board first determines "whether the art or arguments presented in the Petition are the same or substantially the same as those previously presented to the Office." *Id.* If the answer is no, the inquiry ends there. But if the answer is yes, the Board then determines "whether the petitioner has demonstrated a material error by the Office in its prior consideration of that art or arguments." *Id.*

A. The Three References Were Not "Presented to the Office"

Of the three references relied upon, two were neither cited during prosecution nor relied upon by the Examiner. The only remaining reference—Shimura—was merely cited in an information disclosure statement ("IDS") and not

relied upon or substantively considered by the Examiner in any way. EX-1002, 402. Therefore, all three references fail to satisfy part one.

The PTAB has "consistently held that a reference that was neither applied against the claims nor discussed by the Examiner does not weigh in favor of exercising our discretion under § 325(d)." *Solvay USA Inc. v. WorldSource Enterprises,* LLC, PGR2019-00046, slip op. at 14 (P.T.A.B. Aug. 13, 2019) (Paper 7). This includes "[m]ere citation in an IDS." *Id.*; *Zip Top, LLC v. Stasher, Inc.*, IPR2018-01216, slip op. at 35 (P.T.A.B. Jan. 17, 2019) (Paper 14) ("mere citation to a reference by the Examiner does not establish that the Examiner substantively considered the merits of" the reference) (collecting cases). Further, Shimura is just one of nearly 200 references cited in nineteen pages of cited references. *Shenzhen Zhiyi Tech. Co. Ltd. v. iRobot Corp.*, IPR2017-02137, slip op. at 10 (P.T.A.B. Apr. 2, 2018) (Paper 9) (declining to exercise 325(d) discretion where reference "was merely included in the approximately fifteen pages of cited references").

Additionally, the Shimura-Tsuji Combination is not cumulative of the art relied upon by the Examiner. The Examiner relies on an "orientation sensing mechanism" in U.S. Pub. No. 2008/0059888 ("Dunko") as disclosure of the "detect a current computer system configuration" limitations of the '715 Patent'. EX-1002, 228-253. However, Dunko's "orientation sensing mechanism" merely senses whether the device is in portrait or landscape mode using an accelerometer or

gyroscope. EX-1010, ¶¶ 10-11. This is not the same structure disclosed by, nor does it serve the same purpose as the Shimura-Tsuji Combination, which uses a gravity sensor ***and*** a hinge rotation sensor to "detect a current computer system configuration" such as the '715 Patent's laptop, easel, and frame modes. VIII.B.1. Indeed, following the Dunko rejection, the patentee amended the claims to recite that the detected configuration include the operability/position of the keyboard. EX-1002, 207-211. Dunko's portrait/landscape detection could not accomplish this, but the Shimura-Tsuji combination does. VIII.B.1-VIII.B.2. Therefore, for at least this reason, the Shimura-Tsuji combination is not cumulative of Dunko because "it is solving a problem that is close to that of the '[715] Patent" using "different structures that serve different purposes." *Oticon Medical AB v. Cochlear Limited*, IPR2019-00975, slip op. at 15-16 (P.T.A.B. Oct. 16, 2019) (Precedential) (Paper 15).

B. Even If a Reference Was "Presented to the Office," the Office Made a Material Error by Overlooking Its Impact

Even if the Board finds that Shimura was previously "presented to the Office," to the extent the Examiner considered Shimura, it "misapprehend[ed] or overlook[ed] specific teachings of the relevant prior art [i.e., Shimura] where those teachings impact patentability of the challenged claims." *Cellco P'ship v. Huawei Device Co., Ltd.*, IPR2020-01117, slip op. at 12 (PTAB Feb. 3, 2021) (Paper 10).

Here, the Examiner did not rely upon or substantively considered Shimura. Thus, the Examiner overlooked specific teachings of Shimura that impact the patentability of the claims challenged in this Petition. *Id.* Similarly, the "fact that [the references in the Petition were] not the basis of rejection weighs strongly against exercising [the Board's] discretion to deny institution under 35 U.S.C. § 325(d)." *Id.*

Moreover, the Examiner did not consider Shimura in combination with either Tsuji or Pogue. *Id.* at 14 (declining to exercise Section 325(d) discretion where "[reference] [is] cited and discussed during prosecution" but "the combination of [that reference and another reference] as asserted in the Petition has not been substantively evaluated by the Office"); *Amazon.com*, at 9 (Paper 7).

Therefore, the Board should decline to deny institution under Section 325(d).

VI. RELEVANT INFORMATION CONCERNING THE '715 PATENT

A. Overview of the '715 Patent

The '715 Patent is directed to a computer that "permit[s] the user to transition the device from one configuration to another during its use" and includes "a graphical user interface that organizes interface elements into views of computer content for presentation to [the] user." EX-1001, Abstract. The plurality of computer system configurations include a laptop mode (e.g., FIG 1 below) where a

display component 102 is pivotably coupled to a base 104 that includes a keyboard 106. EX-1001, 19:12-31.

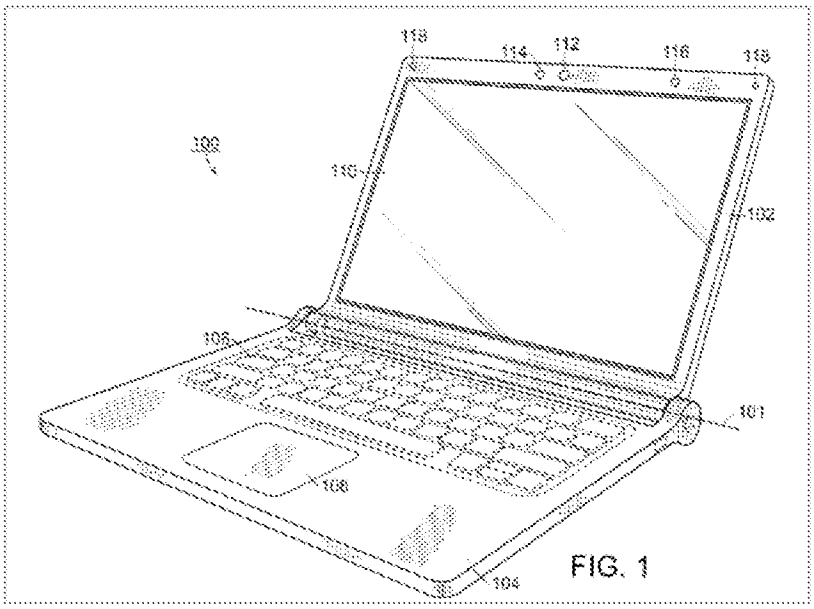


FIG. 1

In laptop mode, the keyboard is accessible to the user. EX-1007, ¶¶48-49.

Other computer system configurations include an easel mode (FIG. 4 below) and a frame mode (FIG. 26 below). EX-1001, 19:51-52, 24:37-41.

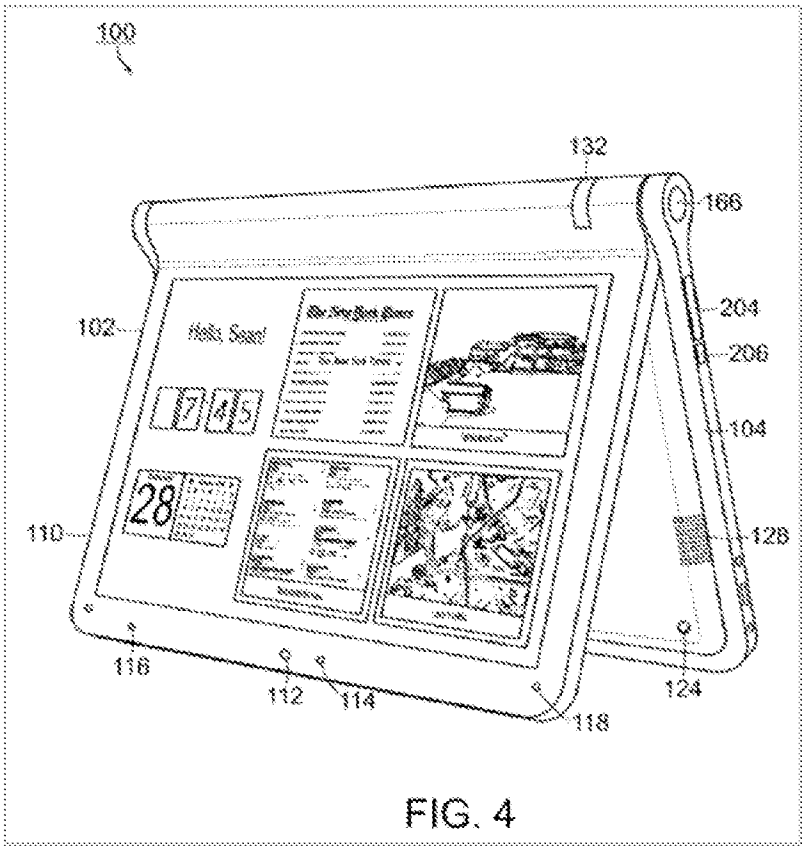

100
132
166
102
204
206
104
110
128
116
112
114
118
124

FIG. 4

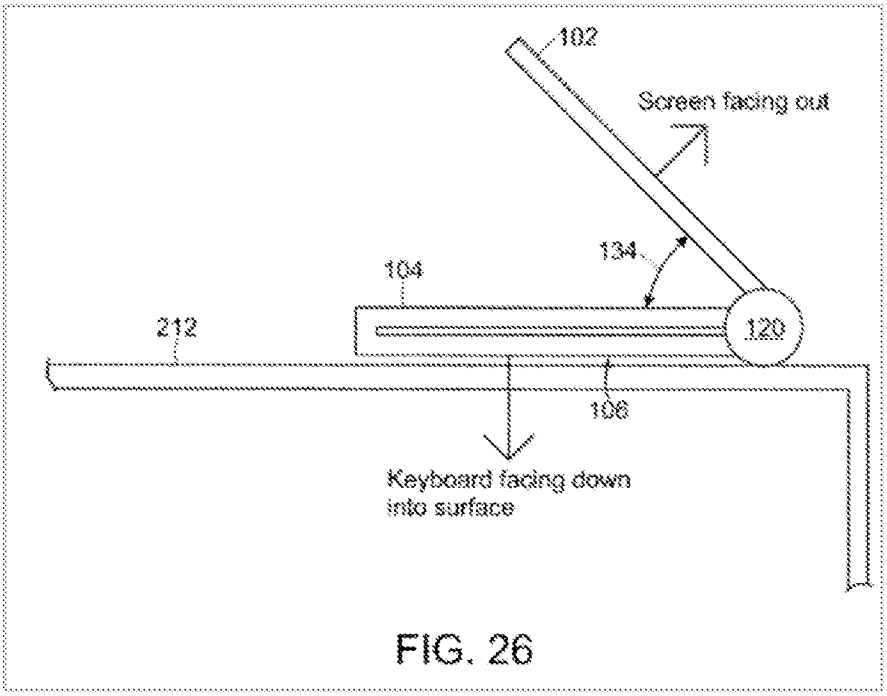

102
Screen facing out
134
104
212
120
106
Keyboard facing down
into surface

FIG. 26

In the easel and frame modes, the keyboard is "concealed and not easily accessible" to the user. EX-1001, 24:61-62. E.g., in the easel mode, the keyboard is "on the other side" of the portable computer from the "display screen" and in the frame mode, "the keyboard [is] 'face down' on the surface." EX-1001, 19:61-64, 24:37-41. Where it is undesirable for keys to be pressed, "software and/or hardware protection may be provided" to prevent the recognition or pressing of keys." EX-1001, 24:49-53. At the Critical Date, portable computers configurable into a plurality of display modes, including the laptop, easel, and frame modes, that were also capable of preventing recognition of keyboard input, were known in the art. EX-1007, ¶¶65-81.

The displayed content of the portable computer of the '715 Patent can be automatically or manually rotated by 90° or 180° so that the displayed content is oriented properly for an intended user. EX-1001, 20:10-15, 24:63-25:20. E.g., where the rotation is automated, the portable computer uses an orientation (or mode) sensor that detects whether the portable computer is in a laptop mode or an easel mode and adjusts the display accordingly. EX-1001, 20:20-24. The orientation (or mode) sensor may be located in a hinge assembly and "may be used to determine a precise relative orientation[, such as an angle,] of the base component 104 with respect to the display component 102 … to determine [a given display mode.]" EX-1001, 20:30-35, 70:2-6, 25-30. In some embodiments, the

orientation sensor may be located in a display component 102 or base 104 and may include an accelerometer "whose output is fed to the computer operating system (or to dedicated logic circuitry) which then triggers a display inversion as appropriate." EX-1001, 20:24-26, 35-38.

The computer of the '715 Patent may further include a processor, which "usually executes an operating system which may be, for example, the Windows-based operating systems," such as "Windows XP." EX-1001, 68:14-15, 69:13-17. Together, these " define a computer platform for which application programs … are written." EX-1001, 69:26-28.

Moreover, the '715 Patent discloses a "graphical user interface [GUI] that … provides a clear overview of the entire computing environment and searching capability within the environment." EX-1001, 20:62-66. The '715 Patent describes various views, including a "home view," (or "home screen"), an example architecture of which is depicted in FIG. 11 (below). EX-1001, 31:8-20, FIG. 11.

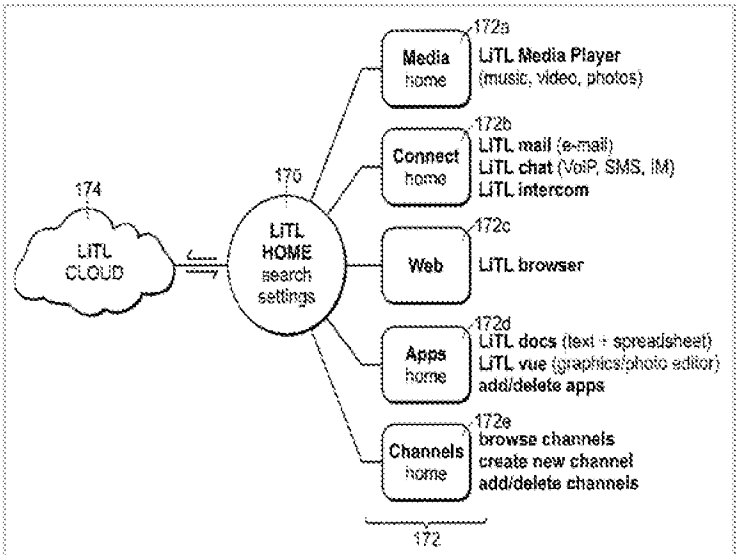


FIG. 11

The home view "displays a plurality of modes of content 172," such as "web," "applications," and "channels," which may be displayed in any configuration recognized by those skilled in the art, including "a 'desktop' and icon configuration." EX-1001, 22:14-23.

As mentioned above, one mode of content disclosed by the '715 Patent is a "channel" mode that includes "channel views" and "channel page views."[1] EX-1001, 21:20-23. An "example of a channel may include a 'photo frame' channel in which the portable computer may be configured to display a pre-selected image or

[1] The '715 Patent refers to both "channel views" and "channel page views" interchangeably and can therefore be the same view. EX-1001, 51:62-65, 52:62-65.

set of images," an example of which is shown in FIG. 24. EX-1001, 21:48-51, 54:20-28.

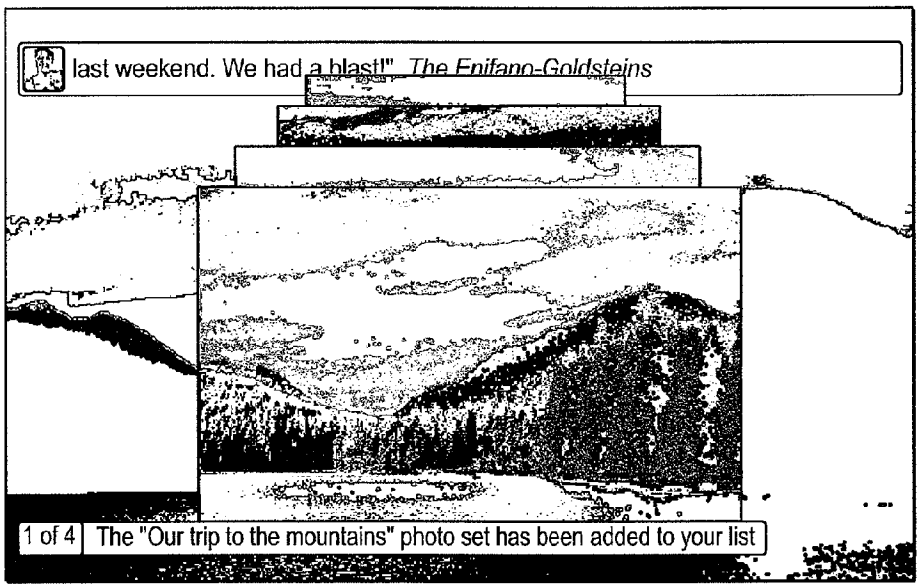


FIG. 24

The '715 Patent also describes a "screen saver view," which "may be activated by the computer system remaining idle for a period of time" and can display pictures and videos. EX-1001, 32:7-15.

Challenged Claims 1 and 2 are representative.

B. Prosecution History of the '715 Patent

The '715 Patent was allowed after one Office Action and claim amendments. EX-1002, *passim*. In the April 19, 2017 Office Action the Examiner rejected pending independent Claim 1 as obvious over "Creating a Digital Home Entertainment System with Windows Media Center" by Miller, 2006 ("Miller") in view of U.S. Pat. Pub. No. 2008/0059888 ("Dunko") and pending independent

Claim 21 (which issued as Claim 17) as obvious over Miller in view of Dunko and further in view of U.S. Pat. Pub. No. 2005/0221865 ("Nishiyama"). EX-1002, 228-253. Applicant amended independent Claims 1 and 21 and added a similarly-worded new independent Claim 24. EX-1002, 206-211. Subsequently, all pending claims were allowed. EX-1002, 161-174. However, as demonstrated below, these claims were squarely within the prior art, including the prior art relied upon in this Petition.

C. Level of Ordinary Skill in the Art

A person of ordinary skill in the art (hereafter "POSITA") would have had at least a Bachelor's degree in Electrical Engineering, Computer Engineering, or Computer Science, plus two to three years of work experience in designing hardware and/or software aspects of user interfaces for computing devices and be familiar with designs of the user interface employed and displayed by the operating system and its organization of content and functionality. EX-1007, ¶¶24-28. Alternatively, the POSITA would also have received a graduate degree such as Master's or PhD degree in the same field with at least one year of the same work experience. *Id.*

D. Claim Listing

EX-1009 is a claim listing that enumerates each claim element.

VII. CLAIM CONSTRUCTION—37 C.F.R. §42.104 (b)(3)

The claim construction standard defined in *Phillips v. AWH Corp.*, 415 F.3d 1303 (Fed. Cir. 2005) applies to this proceeding. 83 Fed. Reg. No. 197, 51340 (Oct. 11, 2018); 37 C.F.R. 42.100. Words in a claim are given their plain meaning, which is the meaning understood by a POSITA after reading the entire patent. *Phillips*, 415 F.3d at 1312–13.

Petitioner proposes that only the terms below in the Challenged Claims require express construction for purposes of the current validity challenges. Petitioner reserves the right to respond to any constructions that LiTL may offer or that the Board may adopt. Petitioner is not waiving any arguments concerning indefiniteness or claim scope that may be raised in other proceedings.

A. "execution component"

Claim limitations construed below directly or indirectly include "an execution component" configured to perform recited functions.

For purposes of this Petition only, "execution component" is assumed to be a means-plus-function limitation under 35 U.S.C. §112, ¶6. *Williamson v. Citrix Online LLC*, 792 F.3d 1339, 1348-50 (Fed. Cir. 2015); M.P.E.P. § 2181.I.A (identifying "component for" as a non-structural generic placeholder).

1. [1e], [17d], and [20e]

The functions of limitations [1e], [17d], and [20e] are listed in the table below:

[1e]	[17d]	[20e]
detect[ing] a current computer system configuration from at least a first computer system configuration where the keyboard is operable to receive input from an operator of the computer system to control the computer system and a second computer system configuration where the keyboard is inoperable to receive input from the operator of the computer system to control the computer system;	identify[ing] at least a first computer system configuration where the keyboard is operable to receive input from an operator of the computer system to control the computer system and a second computer system configuration where the keyboard is inoperable to receive input from the operator of the computer system to control the computer system based on sensor input indicating a position of the display component;	detect[ing] a current computer system configuration from at least a first computer system configuration where the keyboard is positioned to receive input from an operator of the computer system and a second computer system configuration where the keyboard is not positioned to receive input from the operator of the computer system;

The '715 Patent discloses a computer that includes a keyboard and can be configured in various computer system configurations, including laptop, easel, and frame modes. *See* VI.A. In the easel and frame modes "the keyboard may be concealed and not easily accessible." EX-1001, 24:61-63. In these modes, the keyboard is inoperable to receive input from (and not positioned to receive input from) an operator of the computer system to control the computer system. In the laptop mode, the "user may interact with" the keyboard. EX-1001, 57:9-18. In this mode, the keyboard is operable to receive input from (and positioned to receive input from) an operator of the computer system to control the computer system.

The '715 Patent also discloses that the computer includes an "orientation sensor" that may be used "to determine whether the device is in the laptop mode, easel mode, or some point in between." EX-1001, 20:20-38; 70:19-35. The orientation sensor can "include electronic or mechanical components, or a combination thereof," such as an accelerometer or a mechanism to "detect a relative orientation of the display component 102 and the base component 104 [that includes the keyboard 106] (for example, a size of the angle 134)" as shown in the frame mode depicted in FIG. 26. *Id.*

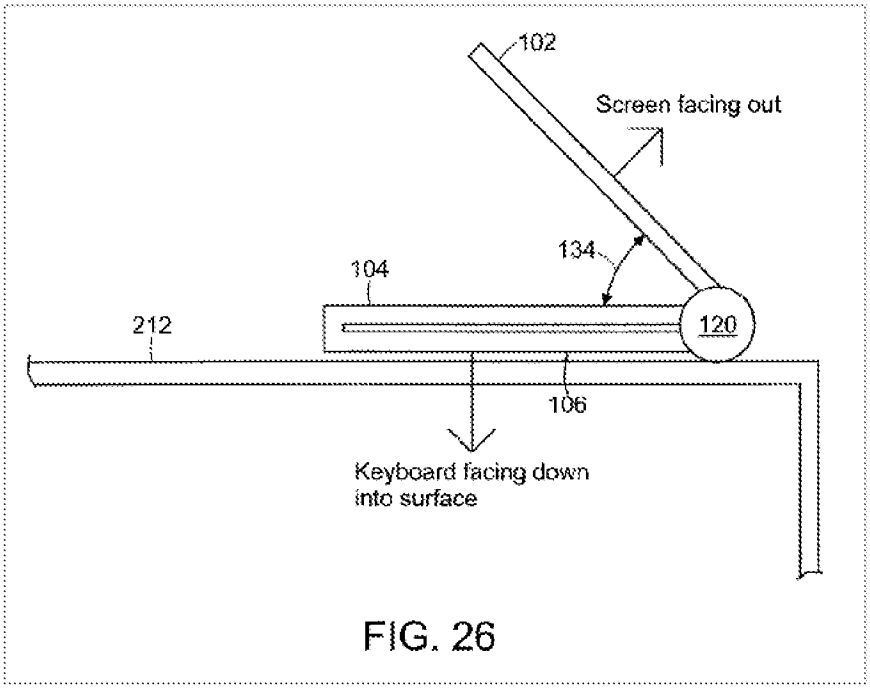


FIG. 26

The orientation sensor information can be output to "the computer operating system (or to dedicated logic circuitry)." *Id.*

The '715 Patent also discloses an "interconnection mechanism [that] enables communications (e.g., data, instructions) to be exchanged between system components." EX-1001, 68:9-69:36, FIG. 51. E.g., a POSITA would have known that data can be transferred from the orientation sensor to the processor, which "executes an operating system" and/or defined programs. *Id.*; EX-1007, ¶126. The POSITA would have also understood that the processor can then run a program that uses the data received from the orientation sensor to detect (or identify based on sensor input indicating a position of the display component) a current computer

system configuration, using, e.g., "dedicated logic circuitry." EX-1001, 20:35-38; EX-1007, ¶126.

Thus, based on this disclosure, a POSITA would have understood the corresponding structure for each of the means-plus-function limitations of [1e], [17d], and [20e] to include at least (i) a program (or programs) executing on a processor, whereby the program(s) can (ii) receive data from orientation sensors, and (iii) use that received data to determine the current computer system configuration, and its equivalents. EX-1007, ¶127.

2. [1f], [17e], [20f]

The functions of limitations [1f], [17e], and [20f] are listed in the table below:

[1f]/[20f]	[17e]
select[ing] one of the plurality of views for display on the computer system in response to the detected current computer system configuration; and	select[ing], responsive to the sensor input, a first content view from the plurality of views for the first computer system configuration;
transition[ing] the display component to the selected one of the plurality of views.	transition[ing], automatically in response to the sensor input, the display component between at least the first content view of the plurality of views and a second content view of the plurality of views;

The '715 Patent discloses detecting (or identifying based on sensor input indicating a position of the display component) a current computer system configuration using data output from orientation sensors. *See* VII.A.1.

The '715 Patent also discloses that the output of the orientation sensors can be used by the computer to alter the content displayed on the display screen. EX-1001, 20:10-38, 24:63-25:20. E.g., when in easel mode, "the visual display on the display screen is automatically rotated 180 degrees such that the information appears 'right-way-up.'" *Id.* A POSITA would have understood that the normal, non-rotated display of content in the laptop (or frame) mode and the inverted, 180° rotated display of content in the easel mode are at least two of the plurality of views for display on the computer system (or at least the first and second content view of the plurality of views). EX-1007, ¶130.

The 180° rotation is accomplished by feeding the output of the orientation sensors "to the computer operating system (or to dedicated logic circuitry) which then triggers a display inversion as appropriate" based on the detected computer system configuration. EX-1001, 20:35-38. The initial data communication from orientation sensor to operating system/logic circuitry is accomplished via an "interconnection mechanism," where a program running on the processor then determines the computer system configuration. *See* VII.A.1. A POSITA would have understood that the processor could then run the same program or another

program to select the normal or inverted view accordingly, which constitutes selecting one of the plurality of views in response to the detected current computer system configuration (or selecting, responsive to the sensor input, a first content view from the plurality of views). EX-1007, ¶131.

Because the "interconnection mechanism" also provides a connection between the processor and the display component (output device), a POSITA would have also understood that the processor could run the same program or another program that would transition the content displayed to the normal or inverted view. EX-1001, 68:9-34, FIG. 51; EX-1007, ¶132. The POSITA would have understood that this constitutes transitioning the display component to the selected one of the plurality of views (or transitioning, automatically in response to the sensor input, the display component between at least the first and second content views of the plurality of views). EX-1007, ¶132.

Thus, based on this disclosure, a POSITA would have understood the corresponding structure for each of the means-plus-function limitations of [1f], [17e], and [20f] to include at least (i) a program (or programs) executing on a processor, whereby the program(s) can (ii) select a view of displayed content appropriate for the detected computer system configuration (e.g., normal view for laptop/frame modes and inverted view for frame modes) and (iii) transition the display to the selected view, and its equivalents. EX-1007, ¶133.

3. [8]

The function is "caus[ing] the computer system to transition to a previous view in response to execution of a navigation element by a user."

The '715 Patent discloses that the navigation element can be "provided in visual representation of computer content" (i.e., an icon on the display) and, when executed, "operates as a toggle between present view and home view, returning a user to the home view when the present view is elsewhere, and returning the user to the previous view when the present view is the home view." EX-1001, 46:9-18. The '715 Patent also discloses that the display can be navigated using a mouse, touch pad, trackball, arrow keys, or other input devices, as known to those skilled in the art. EX-1001, 20:56-61, 21:8-11, 68:29-34. A POSITA would have understood that the navigation element displayed on the screen could be executed with one of these input devices. EX-1007, ¶135.

The '715 Patent's "interconnection mechanism" enables communication between these input devices, the processor, and the display. EX-1001, 68:9-34, FIG. 51; VII.A.1-VII.A.2. A POSITA would have understood that selection of the navigation element with an input device (such as a mouse) would send information to the processor indicating the navigation element was executed, which in turn would control the display to transition to a home view when the present view is

elsewhere or to the previous view when the present view is the home view. EX-1007, ¶136.

Thus, based on this disclosure, a POSITA would have understood the corresponding structure for claim 8 to include at least (i) a program (or programs) executing on a processor, whereby the program(s) can (ii) detect execution of a navigation element and (iii) transition the display to the home view or previous view accordingly, and its equivalents. EX-1007, ¶137.

4. [13]

The function is:

[13a]: "execut[ing] a process for creating a visual representation in response to execution of a nascent card;"

[13b]: "transitioning to a quick access view;"

[13c]: "generating a mapping to online digital content;

executing the mapping; and

displaying a first view of the mapped digital content."

a. Limitation [13a]

The '715 Patent discloses that nascent cards are a type of system card that "provide[s] and display[s] computer system functionality that [may be] frequently accessed during ordinary computer use[]," that, when executed, maps to "functionality necessary to operation" of the device, such as a "Browse the Web"

nascent card, which "reveals the creation of a new visual representation for accessing web content." EX-1001, 30:2-4, 35:6-21, 38:62-39:1, 68:9-69:36. Like the "navigation element" discussed in VII.A.3, a POSITA would have understood that a nascent card displayed on the screen could be executed with an input device that communicates with a processor that in turn communicates with the display, thus initiating the process for creating a visual representation. EX-1007, ¶139.

b. Limitation [13b]

The '715 Patent discloses that the "quick access view" may include "displaying content options in order to generate a mapping" or to allow "a user to select computer content to associate with the new visual representation," such as, a web page that "present[s] a display of frequently accessed web content (e.g. web pages) to the user" or is "configured to permit entry of a uniform resource locator (e.g. a url), and further configured to allow a user to request display of bookmarked locations." EX-1001, 30:15-17, 40:55-65, 68:9-69:36. A POSITA would have understood that a program executing on the processor could instruct the display to transition to such a "quick access view" by communicating through the "interconnection mechanism." EX-1007, ¶140; VII.A.2-VII.A.3.

c. Limitation [13c]

The '715 Patent discloses that "[i]n response to a request to display a web page in a new window"—e.g., by selecting any of the frequently accessed web

content, entering a url, or selecting a bookmarked location in the quick access view—"a new visual representation is generated and associated with a mapping to the web page." EX-1001, 41:10-13. A POSITA would have understood this to disclose that in response to a request to display a web page from the quick access view, the computer system generates a mapping to the website (i.e., online digital content), executes the mapping, and displays a first view of the mapped digital content (i.e., displays the website.) EX-1007, ¶141. APOSITA would have further understood that this could be accomplished by a program executing on the processor that is communicating with the display through the "interconnection mechanism." EX-1007, ¶141; VII.A.2-VII.A.3.

Thus, based on this disclosure, a POSITA would have understood the corresponding structure for Claim 13 to include at least (i) a program (or programs) executing on a processor, whereby the program(s) can (ii) detect execution of a nascent card, (iii) transition the display to the quick access view in response, and (iv) map to, and display, online content in response to a request to display that content from the quick access view, and its equivalents. EX-1007, ¶142.

5. [16], [17f], and [17g]

The functions of Claim 16 and limitations [17f] and [17g] ("[17f]+[17g]") are listed in the table below:

16	[17f]+[17g]
transition[ing] the computer system to the channel view in response to receiving user input via at least one input device integral to or operatively connected with the computer system.	receiv[ing] user input via at least one input device integral to or operatively connected with the computer system; and transition[ing], automatically in response to receiving the user input, the display component from one of the first content view and the second content view to a channel view including a channel selector that displays a sequence of visual representations.

The '715 Patent discloses a computer system configured to allow a user to navigate to various views of the user interface "using conventional tools, such as a trackball, touchpad, mouse or arrow keys." EX-1001, 20:62-21:29, 31:49-32:56, 68:9-69:36, FIGs. 9, 50. A POSITA would have understood this to constitute receiving user input via at least one input device integral to or operatively connected with the computer system. EX-1007, ¶144.

Specifically, a user can navigate to a channel view that may optionally include a channel selector that displays a sequence of visual representations. EX-1001, 20:62-21:29, 31:49-32:56, 68:9-69:36, FIGs. 9, 50. A POSITA would have understood this to disclose transitioning, automatically in response to receiving the user input, the display component from one of the first content view and the second

content view to a channel view (or transitioning the computer system to the channel view in response to receiving user input). EX-1007, ¶145.

Thus, based on this disclosure, a POSITA would have understood the corresponding structure for [17f]+[17g] and Claim 16 to include at least (i) a program (or programs) executing on a processor, whereby the program(s) can (ii) receive user input via an input device, and (iii) transition the display to the channel view in response. EX-1007, ¶146.

B. "content mode" in [2] and [3]

The '715 Patent describes "high level navigation options [that] provide a summarized view of the available content" that may be "grouped based on a mode of content" and, when selected, the computer "navigate[s] to more detailed operations" in that content mode. EX-1001, 27:38-47. In the mode of content, the user may "select particular functions, features or applications within that mode." EX-1001, 22:37-40. E.g., Fig. 11 (below) depicts a block diagram of a "'home' screen 170 that displays a plurality of modes of content 172" that, when selected, allow "the user [to] access the content organized within that mode." EX-1001, 21:14-29.

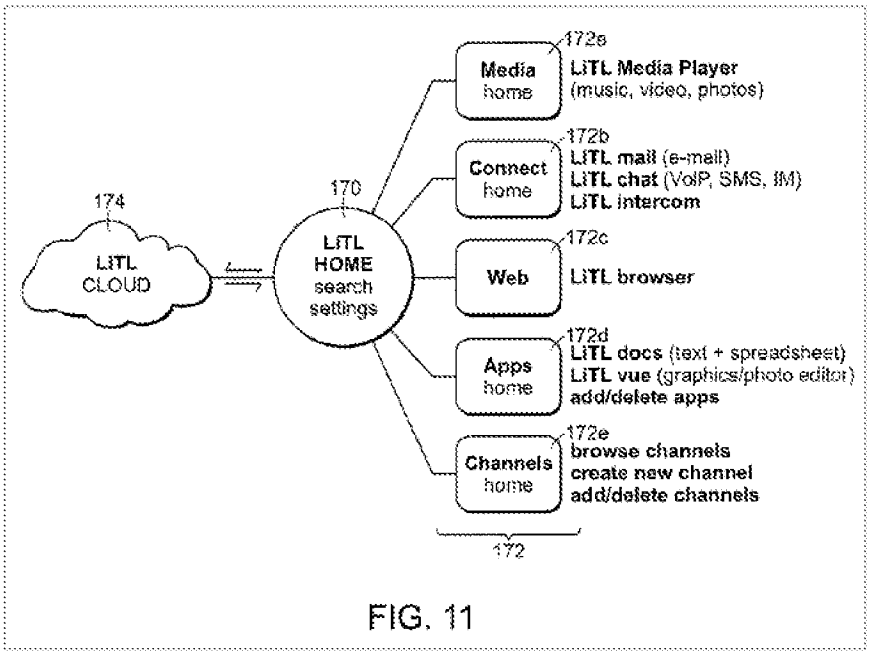


FIG. 11

These modes of content "may be displayed as a series of bars across the display screen" (FIG. 12, below), "a 'desktop' and icon configuration" (not shown), "a 'dashboard' type display" (FIG. 13, below), "or another configuration, as would be recognized by those skilled in the art. EX-1001, 22:10-21.

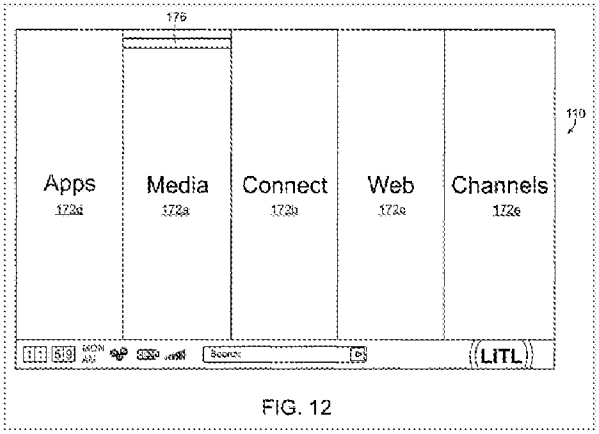


FIG. 12

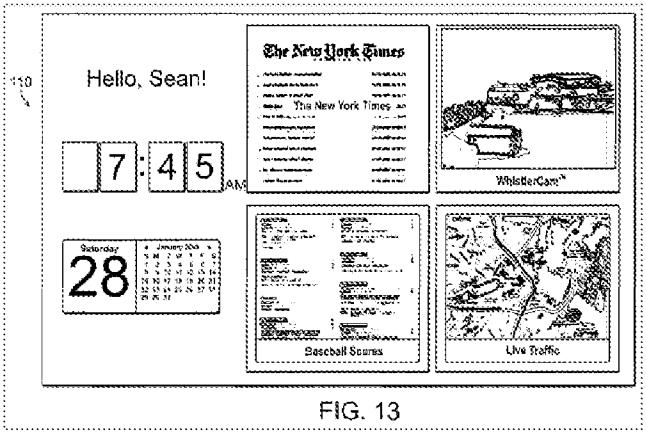


FIG. 13

For purposes of this Petition only, "content mode(s)," "single content mode," and "two content modes" each is construed as "user selectable element(s) displayed on a user interface that, when selected, allows the user to access the content organized therein."

VIII. PRECISE REASONS FOR RELIEF REQUESTED

A. Summary of the Prior Art Applied in This Petition

1. Overview of Shimura

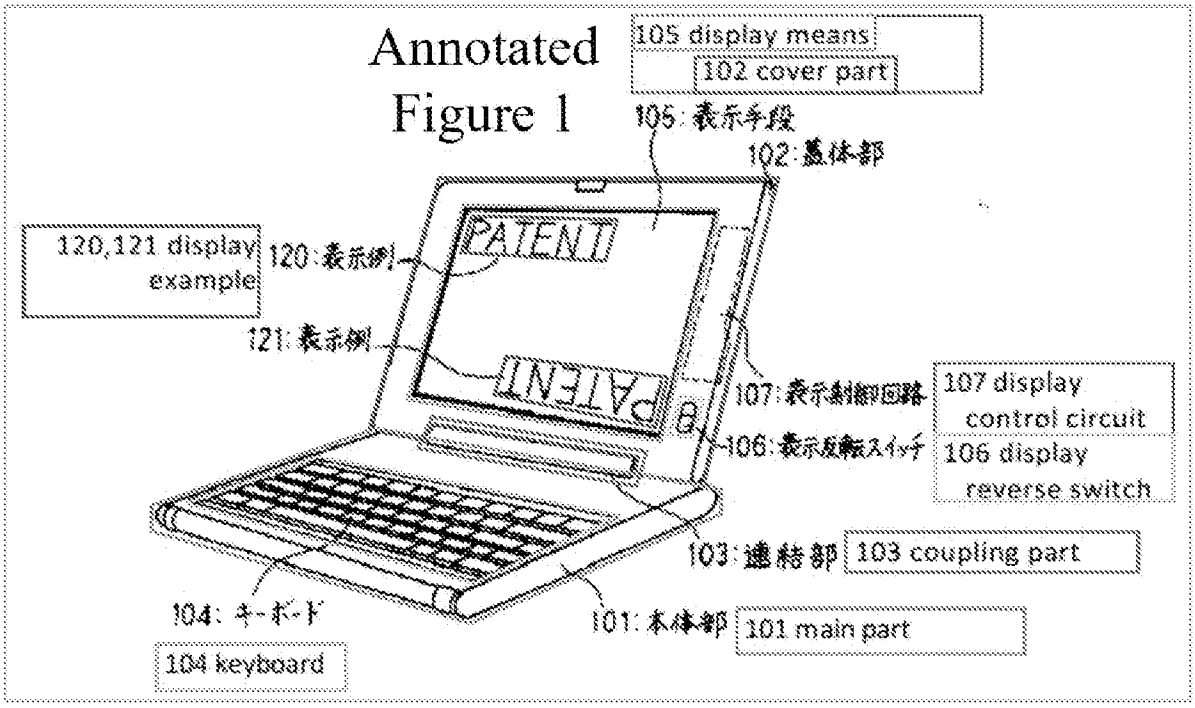
Shimura published as Japanese Patent No. 1994-242853 on September 2, 1994, from an application filed on February 15, 1993. Shimura therefore qualifies as prior art under at least pre-AIA 35 U.S.C. §§ 102(a) and (b). The Shimura reference was published in Japanese, and a certified English translation is provided herein (EX-1004). Reference will be made to the certified English translation for simplicity.

Shimura is directed to a portable "computer which can adopt a mode suitable for a user environment." EX-1004, Abstract. The portable computer includes:

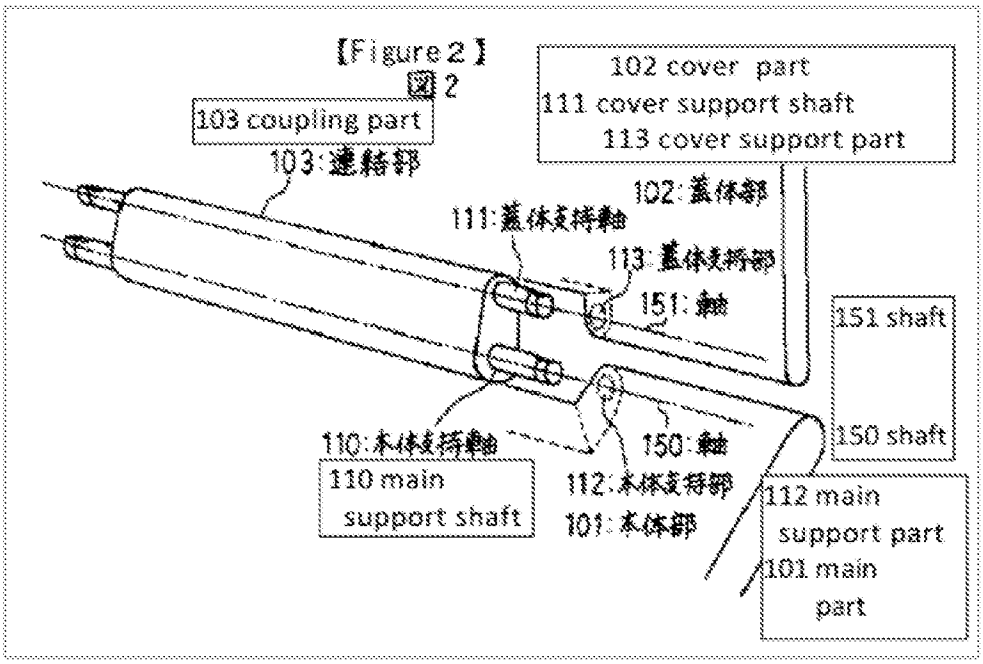
- main part 101 (dark green below in Annotated Figure 1 of Shimura) with keyboard 104 (light green);
- cover part 102 (dark blue) with display means 105 (light blue);
- coupling part 103 (red) fastening main part 101 to cover part 102;

- display reverse switch 106 (orange) to set the display to a normal view or an inverted view (i.e., the displayed content is turned upside down); and
- display elements 120, 121 (dark red).

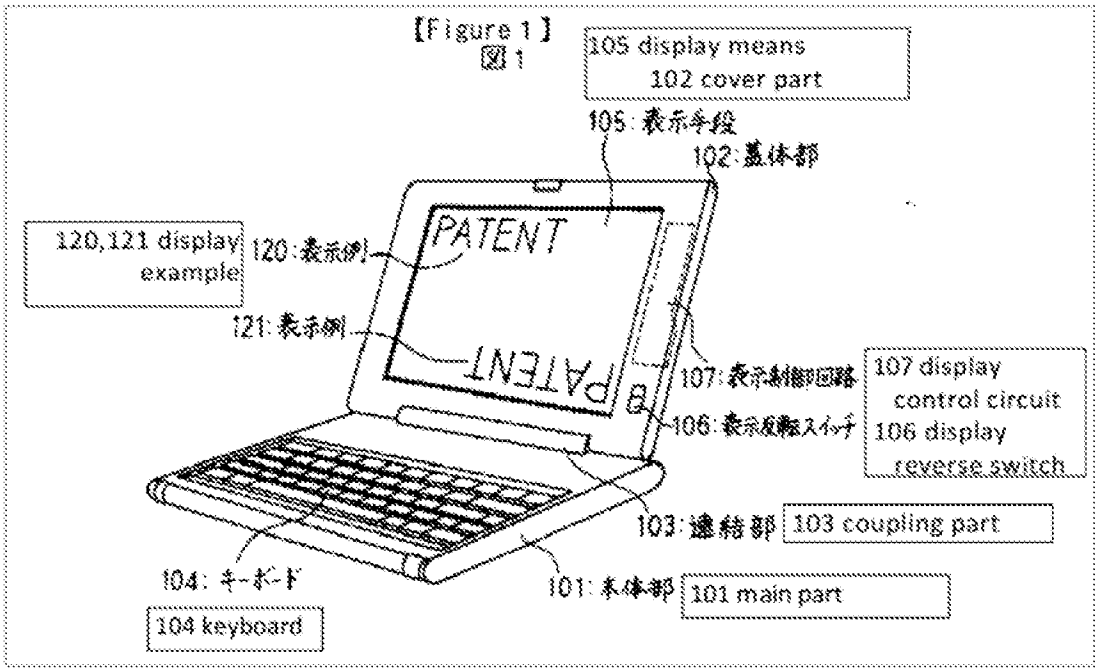
EX-1004, Abstract, ¶¶10-17.



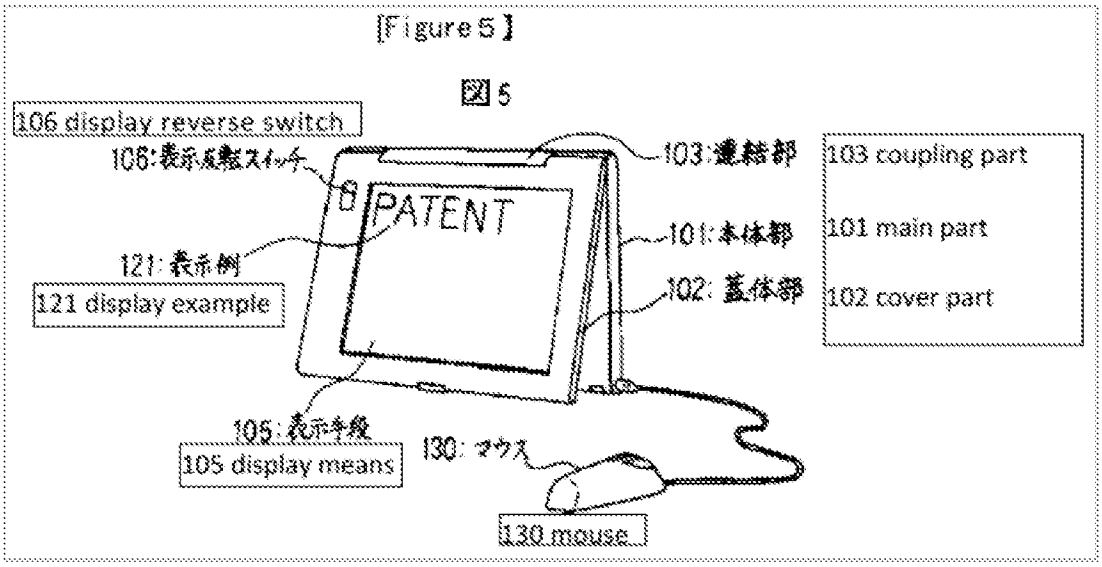
The coupling part 103 allows the cover part 102 to be rotated up to 360° about the main part 101 into various computer system configurations. EX-1004, ¶¶11-17. The coupling part 103 may include two shafts 150, 151, which facilitate rotation of the cover part 102 about the main part 101, as illustrated in Figure 2 (below). EX-1004, ¶¶13-14. The coupling part 103 includes a main support part 112 of the main part 101 and a cover support part 113 of the cover part 102. EX-1004, ¶13.



In a first computer system configuration, which corresponds to the laptop mode of the '715 patent, the keyboard 104 is facing upward and is operable to the user and the display means 105 is facing the user, as illustrated in Figure 1 (below). EX-1004, ¶¶11, 14 ("The user can operate the computer while facing keyboard 104 and display means 105 in a natural mode.").



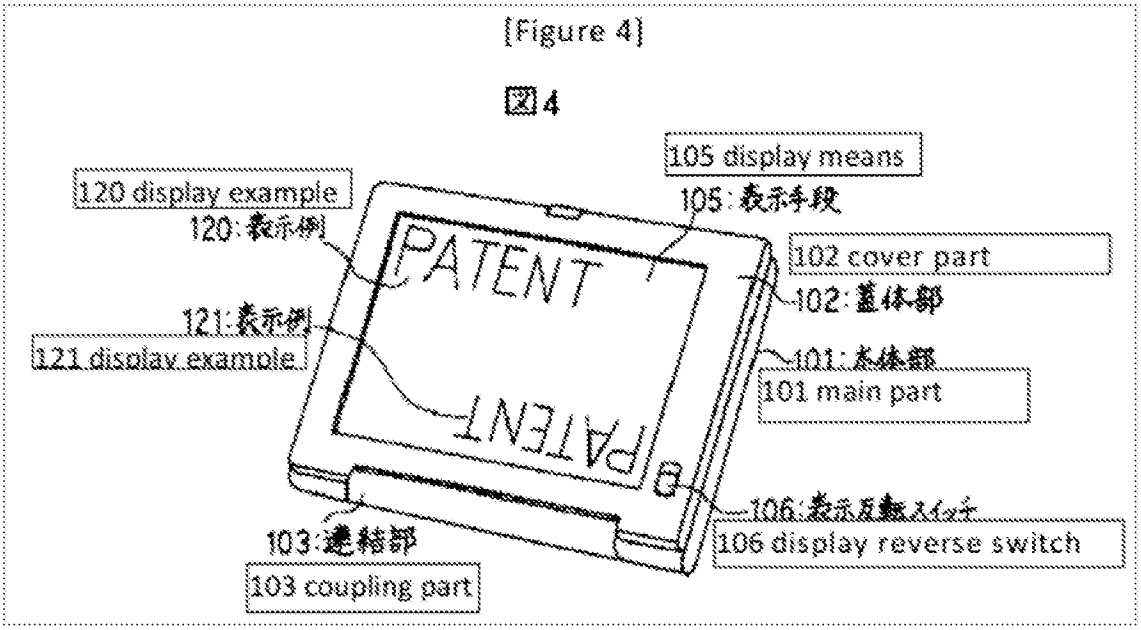
In a second computer system configuration, which corresponds to the easel mode of the '715 patent, the cover part is rotated 340° about the main part 101 such that the display means 105 is facing the user and the keyboard 104 is facing away from the user, and the user may be limited to interacting with the operating environment using a mouse 130, as illustrated in Figure 5 (below). EX-1004, ¶¶14-16.



In a third computer system configuration, which corresponds to the frame mode of the '715 patent, the keyboard 104 and the display means 105 are facing away from each other, and the user may need to use a pen (not shown) to interact with the computer, as illustrated in Figure 4 (below). EX-1004, ¶17.[2]

[2] The '715 Patent describes that "the portable computer 100 may be configured into a 'frame' mode, … in which the portable computer is placed on a surface 212 with [1] the keyboard 106 'face down' on the surface 212 and [2] the display 110 facing upward." EX-1001, 24:37-41. FIG. 4 of Shimura discloses the frame mode because (1) the keyboard face down on a surface and (2) the display is facing upward. EX-1004, ¶¶16, 18, FIG. 4. Shimura further discloses that the portable computer can be configured from any angle between 0° to 360°, such as, for example, 340° as shown in Figure 5. *Id.*, ¶¶8, 10, 17.

[Figure 4]



Shimura also discloses a "second switching means" that can be set to invalidate input from the keyboard in a frame mode (Figure 4 above), where data can be mistakenly inputted from the keyboard. EX-1004, ¶8, 18. Shimura discloses that the input invalidation functionality operates automatically based on an angle of the cover part 102 compared to a main part 101. EX-1004, ¶¶18, 19.

2. Overview of Tsuji

Tsuji issued as a U.S. patent on August 12, 2008, which was first published on March 24, 2005 and claims priority to a Japanese application filed on September 19, 2003. Tsuji therefore qualifies as prior art under at least pre-AIA 35 U.S.C. §§ 102(a), (b), and (e).

Referring to FIGS. 1 and 5 (below), Tsuji discloses a portable computer 1 including a computer main body 11 with a CPU (central processing unit). EX-

1005, ¶30. The display unit 12 of Tsuji is "implemented as a touch screen device that is capable of recognizing a position indicated by a stylus (pen) or a user's finger." EX-1005, ¶31; FIGS 1 and 5 (below). The portable computer 1 can be configured into a PC style, as illustrated in FIG. 1 (below), and a PDA style, as illustrated in FIG. 5 (below). EX-1005, ¶34.

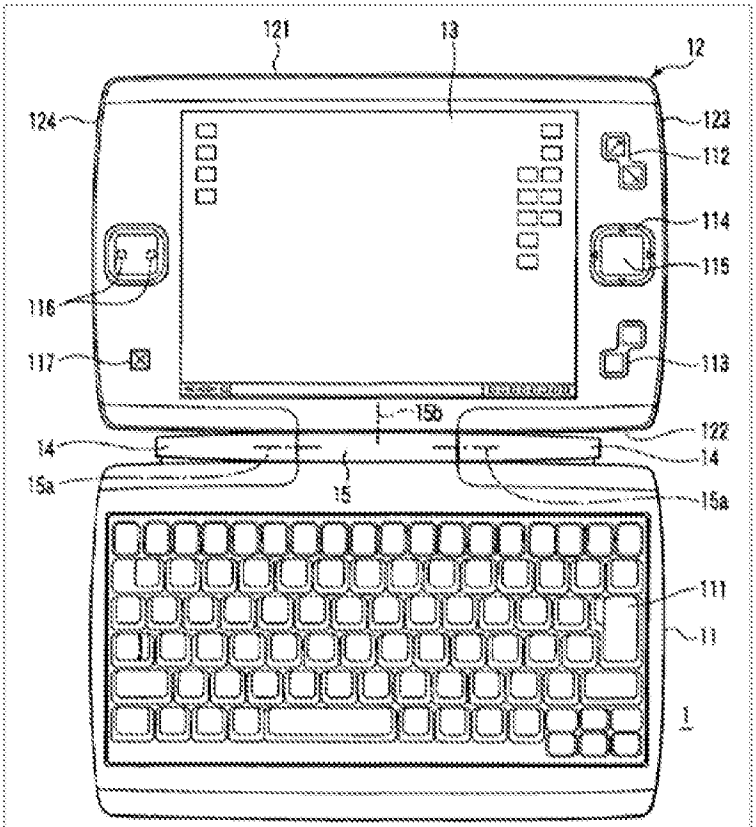


FIG. 1

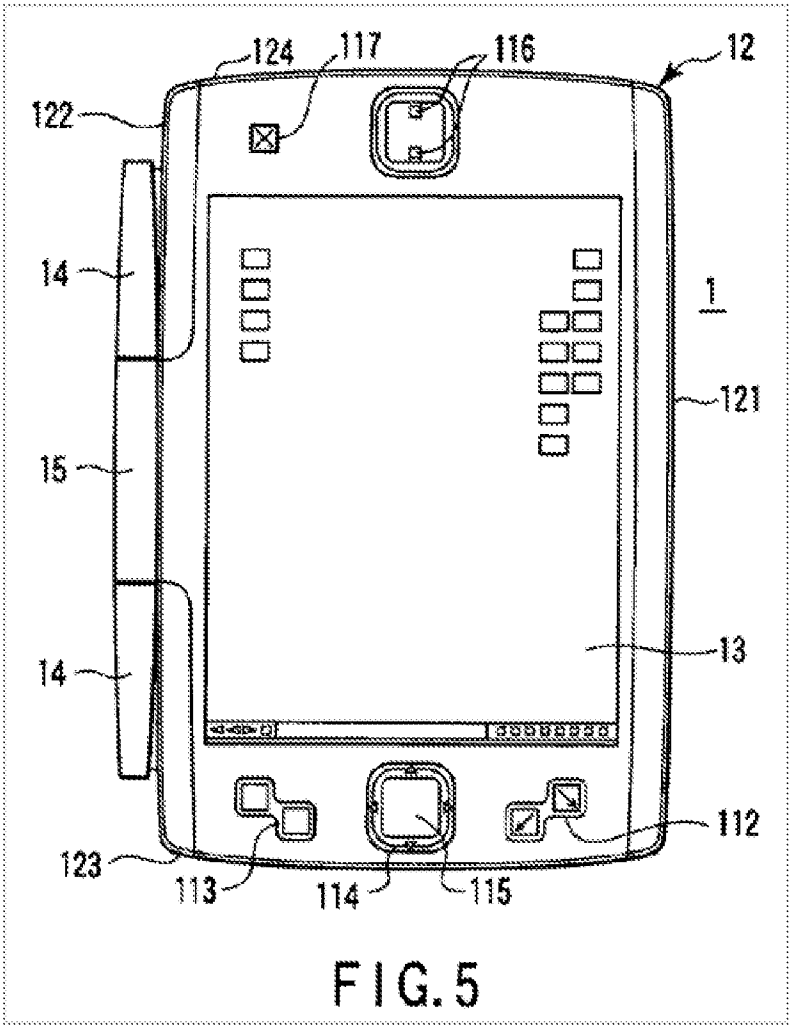


FIG. 5

A display driver 303 in the portable computer 1 "performs an operation for rotating a screen image displayed on the LCD 13 and a scaling operation for varying the aspect ratio in response to an instruction from the BIOS 301." EX-1005, ¶70. The BIOS 301 relies on a gravity sensor 203 and/or a rotation angle sensor 202, illustrated in FIG. 10 (below), to orient the display unit 12 (i.e., rotate the screen image). EX-1005, ¶¶48-52, 58, 74-77.

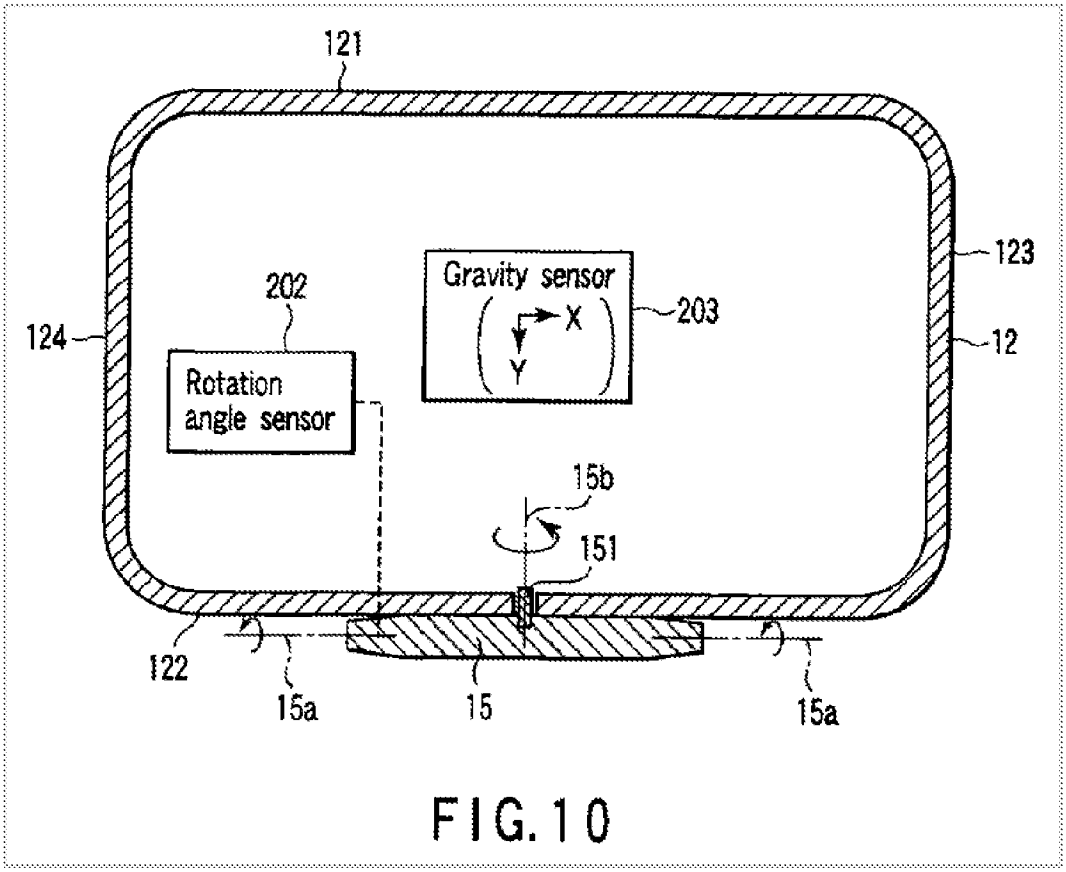


FIG. 10

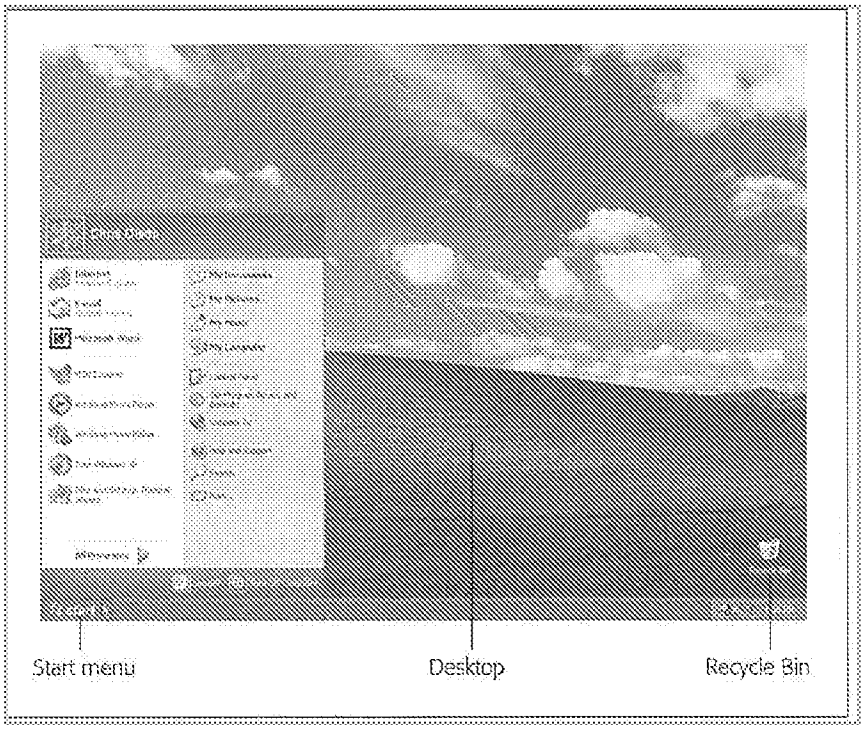
3. Overview of Pogue[3]

Pogue is a printed publication and is prior art under at least pre-AIA 35 U.S.C. §§ 102(a) and (b). Pogue bears a marking "Copyright © 2004 Pogue Press, LLC," has an ISBN Number, and a statement that it was "Published by O'Reilly Media, Inc." in the United States. EX-1006, 5; *FLIR Sys., Inc. v. Leak Surveys, Inc.*, IPR2014-00411, slip op. at 18-19 (PTAB Sept. 5, 2014) (Paper 9). Pogue's

[3] All citations to Pogue (EX-1006) are to the pages of the reference itself, not the stamped EX-1006 page numbers.

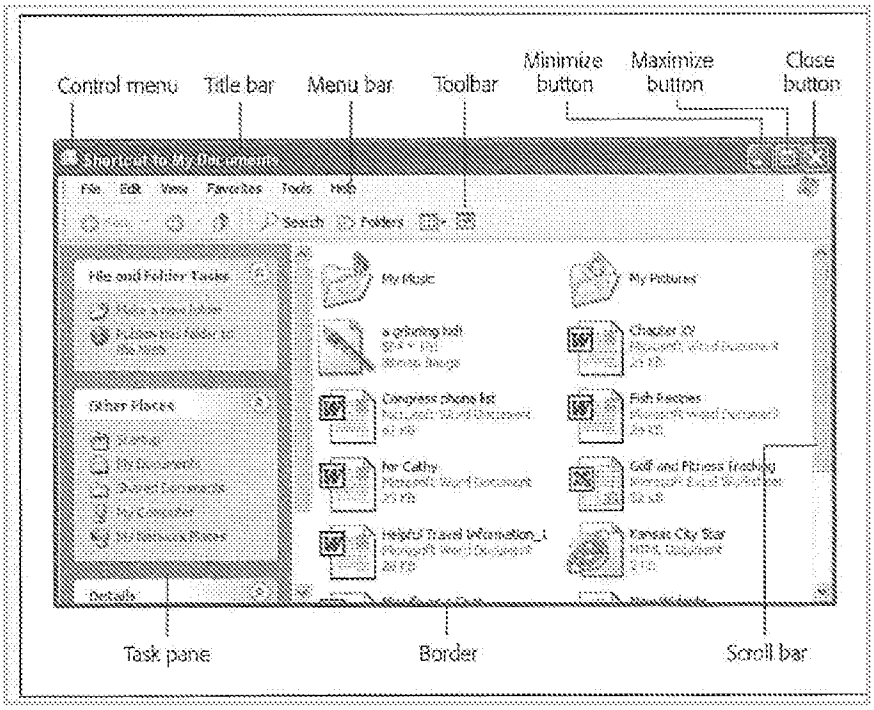
listing on amazon.com contains user reviews from as early as January 2005, and archived webpages indicate Pogue was available to purchase on various websites prior to the Critical Date. EX-1033, ¶¶2-4; *CIM Maintenance Inc. v. P&RO Solutions Group, Inc.*, IPR2017-00516, slip op. at 18-20 (PTAB June 22, 2017) (Paper 8); *Workspot, Inc. v. Citrix Systems, Inc.*, IPR2019-01002, slip op. at 17-21 (PTAB Nov. 20, 2019) (Paper 12). Pogue was cataloged by at least one library as early as October 2005. EX-1034, ¶2. As confirmed by the publisher, Pogue was available online to "subscribers, individuals, and libraries" as early as January 11, 2005. EX-1033, ¶5.

Pogue is meant "to serve as the manual that should have accompanied Windows XP" and includes "step-by-step instructions for using almost every Windows feature." EX-1006, 2. "Windows is an *operating system*, the software that controls your computer," and Windows XP is one version of the Windows operating system. EX-1006, 1, 5. "At its heart, Windows is a home base, a remote-control clicker that lets you call up the various software programs (applications) you use." EX-1006, 5. "Every application on your machine, as well as every document you create, is represented on the screen by an *icon*." EX-1006, 5. E.g., the "[d]esktop[] covers everything you see on the screen when you turn on a Windows XP computer: icons, windows, menus, scroll bars, the Recycle Bin, shortcuts, the Start menu, shortcut menus, and so on":



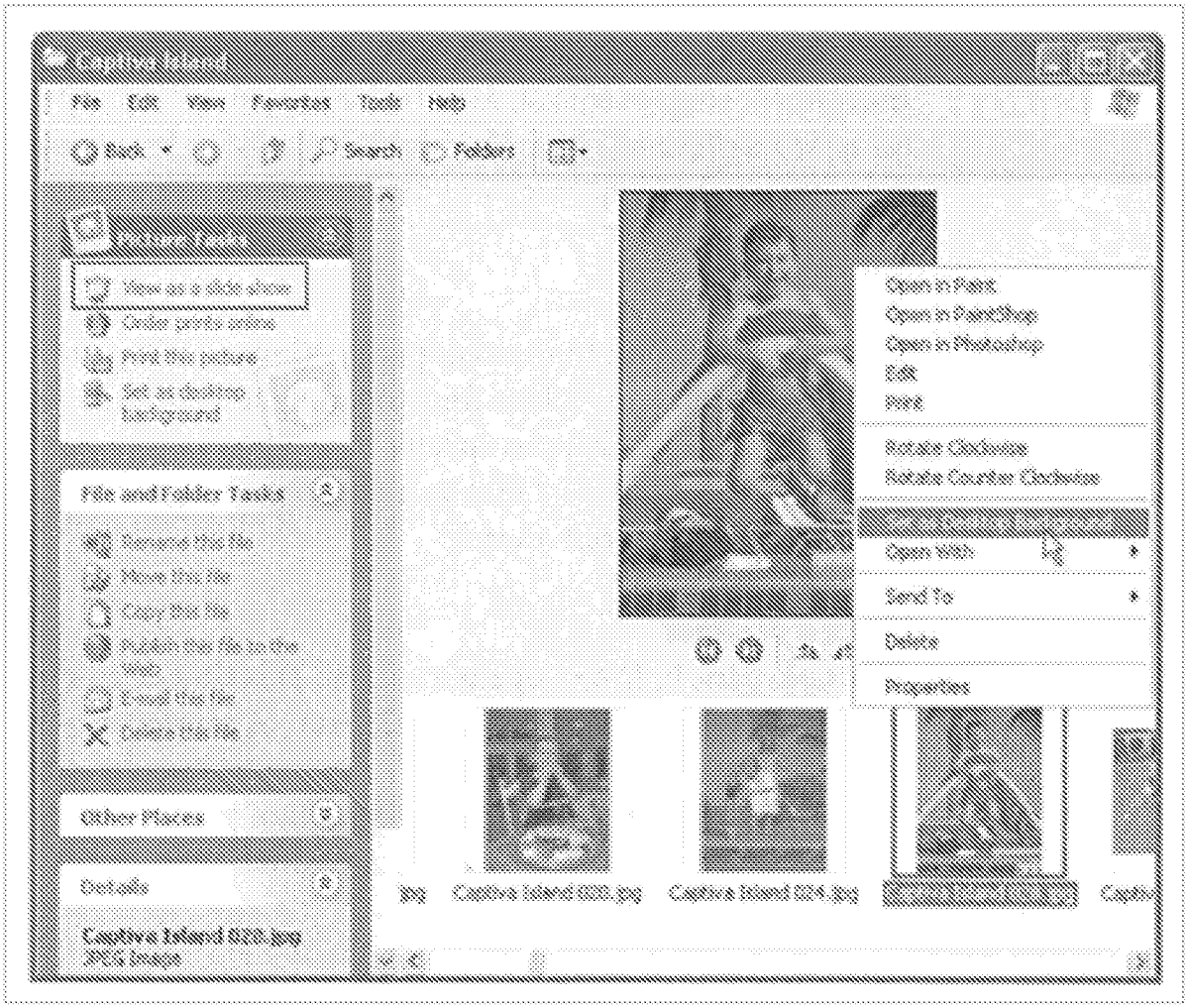
EX-1006, 3, 23. In order to keep the desktop organized, Windows is able to "organize[] icons into folders, put[] those folders into *other* folders, and so on." EX-1006, 101.

"Windows got its name from the rectangles on the screen—the windows—where every computer activity takes place." EX-1006, 65. Windows XP has different categories of windows, including "[d]esktop windows," which "organize your files and programs," and "[a]pplication windows … where you do work—in Word or Internet Explorer, for example." EX-1006, 65. An example window is shown in Figure 2-1:



EX-1006, 66.

One particular use of folders in Windows XP relates to the ability to manage and display digital photographs. EX-1006, 205 *et seq.* When photographs are saved to a computer running Windows XP, they are "usually in a folder in your MyPictures folder." EX-1006, 209. "Windows XP comes with two folder window views especially designed for digital photos: Thumbnail and Filmstrip [Figure 7-2 below]." EX-1006, 209. While in this folder, if "you click 'View as a slide show' [boxed in red] in the task pane, your screen goes dark … and your entire monitor fills with a gorgeous, self-advancing slide show of the pictures in the folder." EX-1006, 210.



Pogue also discloses screen savers, where a "few minutes after you leave your computer, whatever work you were doing is hidden behind the screen saver," which can be "composed of photos," turning "your favorite pictures into an automatic slide show whenever your computer isn't in use." EX-1006, 214, 263.

Windows XP also acts as your "equipment headquarters," providing the "behind-the-scenes plumbing that controls the various functions of your computer—its modem, screen, keyboard, printer, and so on." EX-1006, 6.

B. Ground 1: Shimura in view of Tsuji renders Claims 1 and 20 obvious.

1. Combination of Shimura and Tsuji (hereafter "Shimura-Tsuji combination")

A POSITA would have been motivated to combine Shimura with Tsuji for several reasons. EX-1007, ¶¶165-180

First, they are both contemporaneous patents directed toward complementary solutions to highly analogous problems in the same field of endeavor. They are both directed toward a portable computer that can be used in various computer system configurations and displayed content orientations. EX-1004, ¶¶10–17, Figures 1, 3, 4, 5; EX-1005, ¶¶34, 51, FIGs. 1, 5-8. They both discuss computer system configurations where the keyboard is inoperable and/or inaccessible. EX-1004, ¶¶8, 18, 19; EX-1005, ¶¶36, 45. While Shimura discloses a portable computer capable of receiving pen input, EX-1004, Abstract, ¶¶4, 5, 9, 11, 16, 20, Tsuji discloses that the touchscreen can also receive input from a stylus and finger. EX-1005, ¶36.

a. Incorporating Tsuji's Touch Screen Display into the Shimura Computer

A POSITA would have been motivated to incorporate the touch screen display of Tsuji, capable of both finger and stylus inputs, into the Shimura Computer because such a display was well-known at the Critical Date and such a display would provide an input device (e.g., a finger) that would not require an

external peripheral device (e.g., a mouse, or stylus). EX-1007, ¶167. A POSITA would have had additional motivation to incorporate the touch-sensitive display of Tsuji because the keyboard is not always accessible or operable in all of the display modes of the Shimura Computer'. EX-1007, ¶167. Thus, a display that would be able to receive input from a finger would improve a user's interaction with the Shimura Computer. *Id.*

A POSITA would have understood that the Shimura Computer incorporating Tsuji's touch screen display includes other well-known portable computer components. EX-1007, ¶168. E.g., Tsuji discloses that the computer main body 11 includes a CPU (central processing unit). EX-1005, ¶30. While such a CPU is not explicitly disclosed in Shimura, a POSITA would have known that the Shimura Computer must include such a well-known standard component of a portable computer. EX-1007, ¶168.

b. Further Incorporating Tsuji's Rotation Angle and Gravity Sensors into the Shimura Computer

A POSITA would have been motivated to further incorporate the rotation angle and gravity sensors of Tsuji, illustrated in FIG. 10 (below), into the Shimura Computer to improve operability and/or usability by providing the option of automatically controlling the orientation of the displayed content based on one or more sensors. EX-1005, ¶33; EX-1007, ¶169.

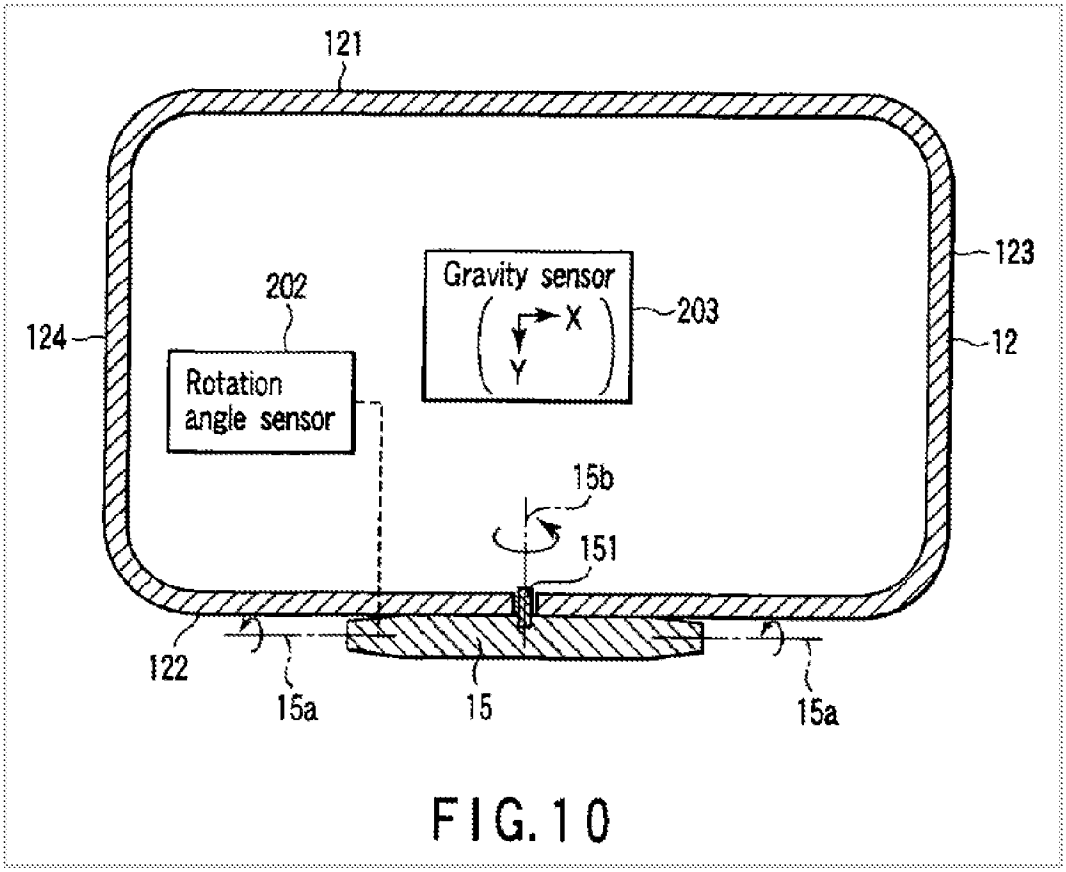


FIG. 10

Specifically, Tsuji discloses the rotation angle sensor 202 sensing whether a rotation angle is greater than a specific rotation angle, and the gravity sensor 203 "sensing which orientation the display unit main body is located in relative to the orientation of the force of gravity." EX-1005, ¶¶58-59. Based on this disclosure, a POSITA would have been motivated to implement the combination of the rotation angle sensor 202 and the gravity sensor 203 in the Shimura Computer to enable it to distinguish between various computer system configurations (e.g., the laptop mode, the easel mode, and the frame mode). EX-1007, ¶170. E.g., as detailed below, even when the easel mode and the frame mode have the same rotation angle

such that the output of the rotation angle sensor 202 would be the same, the output of the gravity sensor 203 would be different in those two modes and this difference can be used to distinguish between them. EX-1007, ¶170.

Also based on the above disclosure of Tsuji, a POSITA would have been motivated to implement the rotation angle sensor of Tsuji in the hinge of the Shimura Computer and the gravity sensor of Tsuji in the cover part 102 of the Shimura Computer, as illustrated in First-Modified Figure 1 of Shimura (below). EX-1007, ¶171. The output of the rotation angle sensor indicates the amount of rotation of the display component (102) relative to the base (101). *Id.* The output of the gravity sensor indicates the X-component and the Y-component of gravity in the plane of the display component (102). *Id.* As illustrated in FIG. 14 of Tsuji (below), the outputs of the rotation angle sensor 202 (outlined in red) and gravity sensor 203 (outlined in blue) are received by a BIOS program 301 (outlined in green) running on a processor that uses those outputs to determine the computer system configuration and instruct the display driver 303 (outlined in orange) to adjust the display screen in accordance with the logic diagram in Table 1 below. EX-1005, ¶¶63-71.

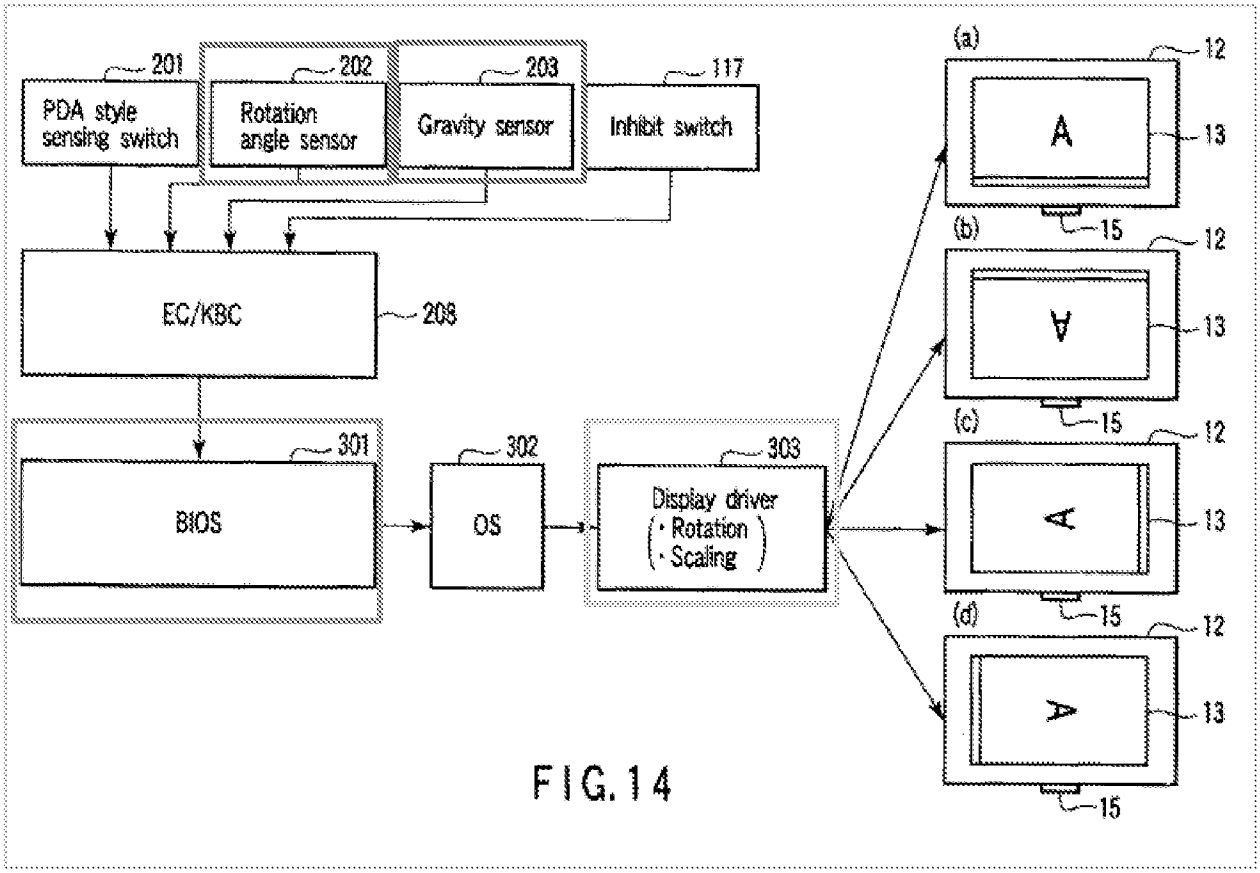
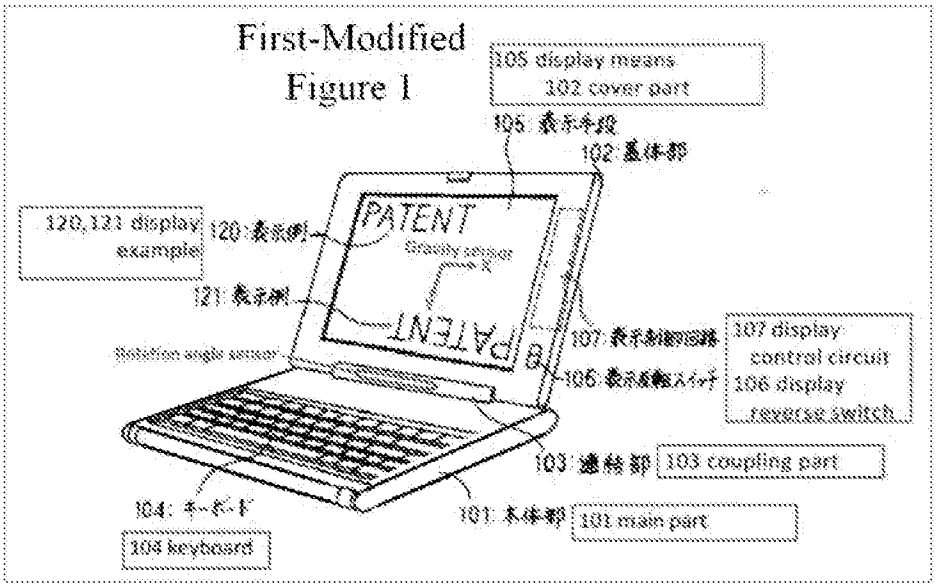
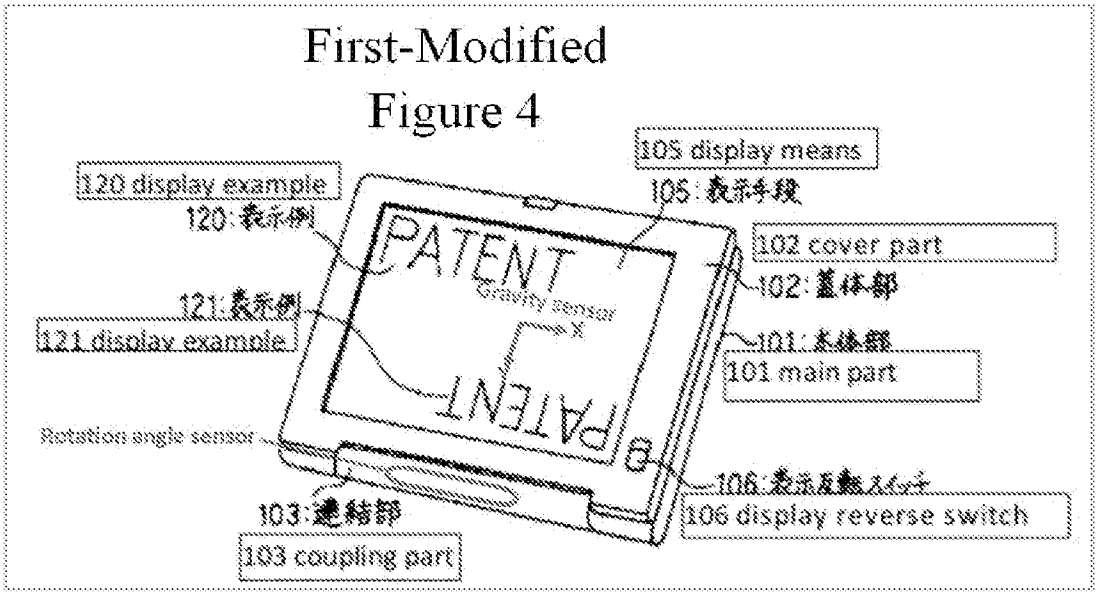


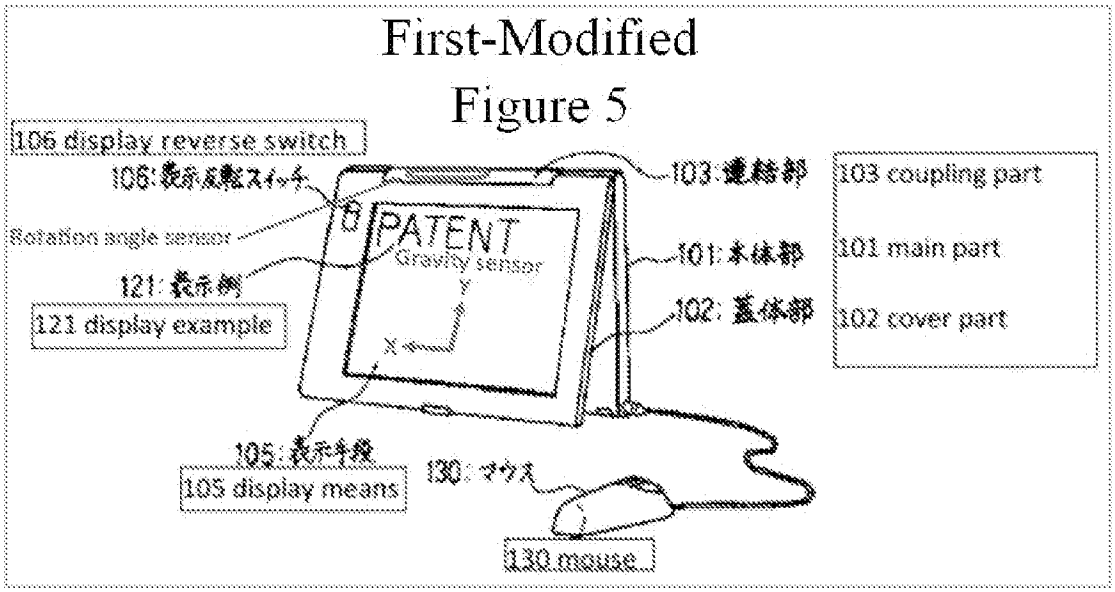
FIG. 14

In the illustrated laptop mode example below, the output of the gravity sensor would indicate the Y-component of gravity in the plane of the display component (102) pointing towards the hinge (103). EX-1007, ¶172.



By monitoring the Y-component of gravity in the plane of the display component, illustrated in First-Modified Figures 4 and 5 of Shimura (below), the easel mode and the frame mode can be distinguished. EX-1007, ¶173.





Exemplary logic for determining the computer system configuration based on outputs of the rotation angle sensor and the gravity sensor is summarized in Table 1 below (*id.*):

Table 1		
Rotating Angle Output of Hinge-Rotation Sensor	**Gravity Direction Output of Gravity Sensor**	**Display Mode**
> 0° and < 180°	Not used	Laptop mode
>180°	Away from the hinge assembly	Easel mode
>270°[4]	Towards the hinge assembly, or none	Frame mode[5]

[4] The '715 Patent describes that in frame mode, "the keyboard 106 [is] 'face down' on the surface 212 and the display 110 [is] facing upward." EX-1001, 24:37-41. Therefore, the hinge-rotation angle must be greater than 270°.

[5] This assumes that the surface (e.g., a desktop) on which the base rests is

Additionally, accelerometers configured to detect the direction of gravity were well-known and commercially available at the Critical Date. EX-1007, ¶175. E.g., an application note by Freescale Semiconductor, Inc. indicates that the company manufactured MMA6200Q and MMA7260Q series accelerometers that can measure the tilt of an object. EX-1019. As the figures below from the application note demonstrates, the tilt is "a static measurement where gravity is the acceleration being measured." *Id.*

In fact, the application note identifies image rotation in a portable device as one of applications of the accelerometers. *Id.* So a POSITA would have known to use such a commercially available accelerometer and to use it as a gravity sensor. EX-1007, ¶176.

A POSITA would have known that Shimura's modified display control circuit 107 and modified electronic circuit receiving the outputs of Tsuji's hinge-rotation sensor 202 and gravity sensor 203 orient the displayed content between at least a normal view and an inverted view. EX-1007, ¶177. E.g., a POSITA would have understood that the displayed content would be oriented in a normal view in

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horizontal/flat with respect to the Earth.

the laptop mode and frame mode and an inverted view in the easel mode. *Id.* Automatically transitioning between the normal and inverted view in different computer system configurations based on a rotation angle sensor and/or an accelerometer (e.g., a gravity sensor) was well-known at the Critical Date. *Id.*

c. Combining Tsuji with Shimura to Arrive at the Shimura-Tsuji Computer

It would have been obvious to incorporate Tsuji's:

- touch-sensitive display into Shimura's display component; and
- automatic display-orientation control feature used to process the sensor(s)'s outputs into Shimura's modified display control circuit 107 and modified electronic circuit.

The resulting system will be hereafter referred to as the "Shimura-Tsuji Computer." EX-1007, ¶178.

There would have been motivation to combine, and a reasonable expectation of success in combining, Tsuji with Shimura because the combination is merely a combination of well-known prior art elements according to known methods to yield predictable results. *KSR*, 550 U.S. at 415–21; EX-1007, ¶179. That is, Tsuji taught the well-known prior art concept of:

- a touch-sensitive display that can receive input from a finger; and

- automatically controlling the orientation of the displayed content in different display modes based on the hinge-rotation and gravity sensors.

EX-1007, ¶179. Application of these teachings to Shimura would have yielded a predictable portable computer with the above well-known prior art concepts. *Id.*

For all the reasons identified in VIII.B.1, the POSITA would have been motivated to arrive at the Shimura-Tsuji Computer by adding or otherwise integrating into the Shimura Computer:

- Tsuji's sensor(s) to improve operability and/or usability by automatically controlling the orientation of the displayed content in different computer system configurations; and
- an improved touch-sensitive display that is not limited to pens, but can also receive input from a finger, as in Tsuji.

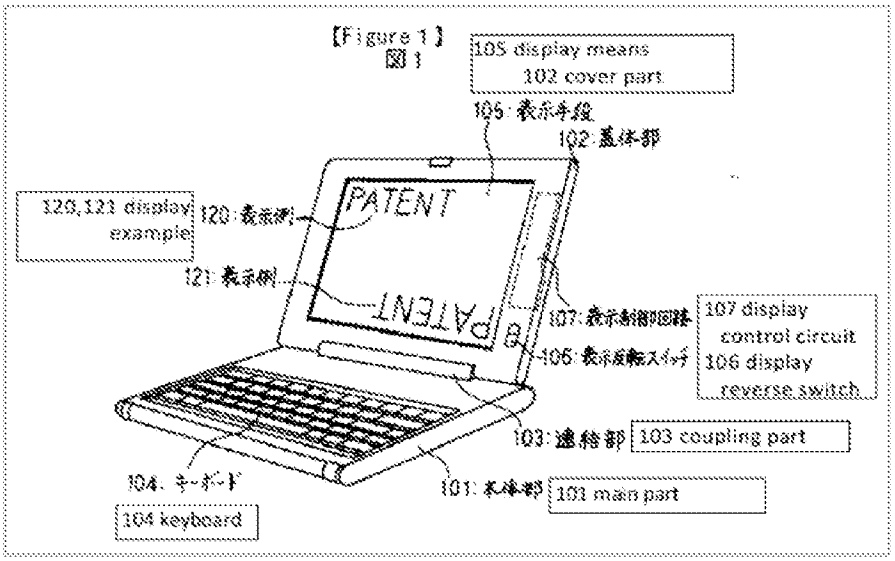
EX-1007, ¶180.

2. Claim 1

a. Limitation [1pre]

Shimura discloses [1pre]. *See* VIII.A.1; EX-1007, ¶¶181-184.

As shown in Figure 1 (below), Shimura discloses a portable personal computer that includes a cover part 102 with a display means 105 and a main part 101 with a keyboard 104. EX-1004, ¶11.



The display means 105 of Shimura is the "display part of the computer" and also "an input means when used in a pen input environment." EX-1004, ¶11. A POSITA would have understood that:

- the laptop disclosed by Shimura discloses the "computer system" of the '715 Patent;
- the cover part 102 of Shimura discloses the "display component" of the '715 Patent; and
- the keyboard 104 of Shimura discloses the "keyboard" of the '715 Patent.

EX-1007, ¶182.

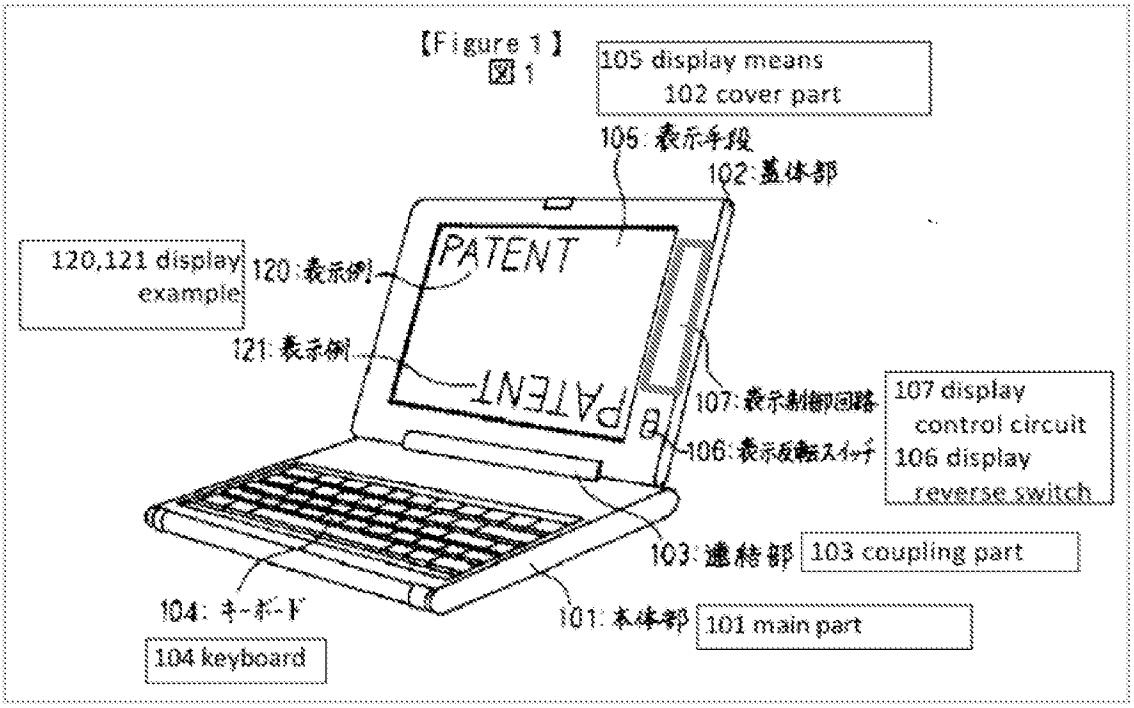
Further, Shimura discloses a user interface that displays computer content, thereby disclosing the "customized user interface to display computer content" of the '715 Patent. EX-1007, ¶183; VIII.B.2.c.

Therefore, Shimura discloses [1pre]. EX-1007, ¶¶181-184.

b. Limitation [1a]

Shimura discloses [1a]. *See* VIII.A.1; EX-1007, ¶¶185-187.

Shimura discloses a computer system that includes, among other things, a "display control circuit 107" (outlined in red) that controls output to the display means 105 by controlling the computer circuit stored in the main part 101. EX-1004, ¶11-12.

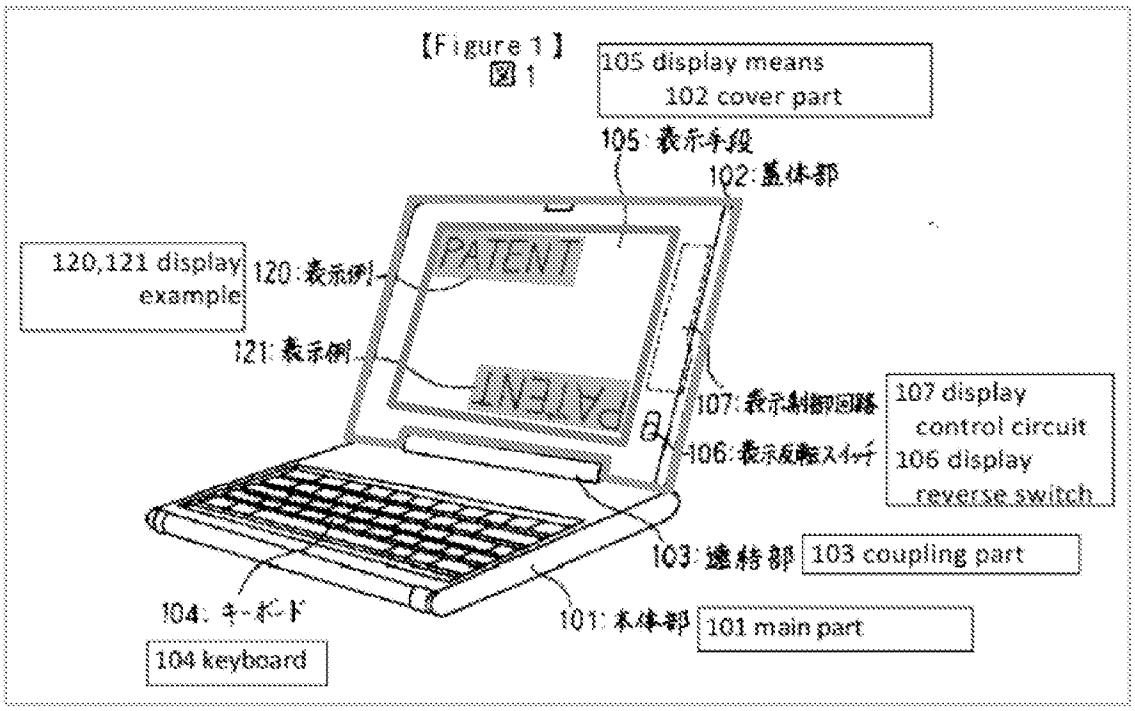


A POSITA would have understood that the display control circuit 107 and the computer circuit include "at least one processor operatively connected to a memory of the computer system" as claimed in the '715 Patent. EX-1007, ¶187.

c. Limitation [1b]

Shimura discloses [1b]. *See* VIII.A.1; EX-1007, ¶¶188-189.

Figure 1 of Shimura (below) shows a graphical user interface ("display means 105" outlined in red) configured to display the computer content ("display example 120/121" highlighted in blue) on the display component ("cover part 102" outlined in green).

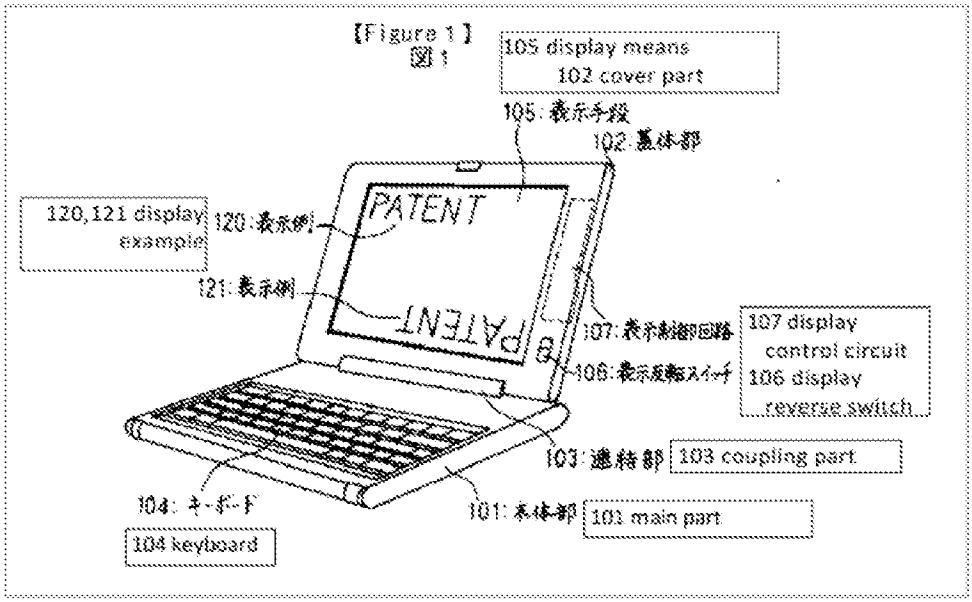


Further, the Shimura computer includes the at least one processor that controls the display means 105. *See* VIII.B.2.b; EX-1007, ¶¶185-189.

d. Limitation [1c]

The Shimura-Tsuji combination discloses [1c] and renders it obvious. *See* VIII.A.1, VIII.B.1; EX-1007, ¶¶190-194.

The display means 105 of the Shimura-Tsuji Computer displays content in either a normal or inverted view (i.e., rotated 180°).[6] EX-1004, ¶12, Figure 1; EX-1007, ¶191-192.



The view depends on the state of display reversal switch 106 inputted to display control circuit 107 inside the cover part 102. *Id.* If the display reverse switch 106 is set to normal view, the display control circuit 107 causes the display screen 105 to display the content in normal view. *Id.* Similarly, if the display reverse switch 106 is set to reverse mode the content is displayed in an inverted view. *Id.*

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[6] The word "PATENT" in Shimura is at least passive digital content or selectable digital content.

A POSITA would have considered the Shimura-Tsuji Computer's ability to display content in either a normal or inverted view to disclose [1c]. EX-1007, ¶¶190-194.

e. Limitation [1d]

As explained in [1a], the Shimura computer includes at least one processor. Further, as explained in [1e], [1f], and [1g] below, the Shimura-Tsuji combination discloses each limitation which the "execution component" is "configured to" accomplish by executing on the processor. Therefore, the Shimura-Tsuji combination discloses [1d] and renders it obvious. EX-1007, ¶195; VIII.A.1, VIII.B.1.

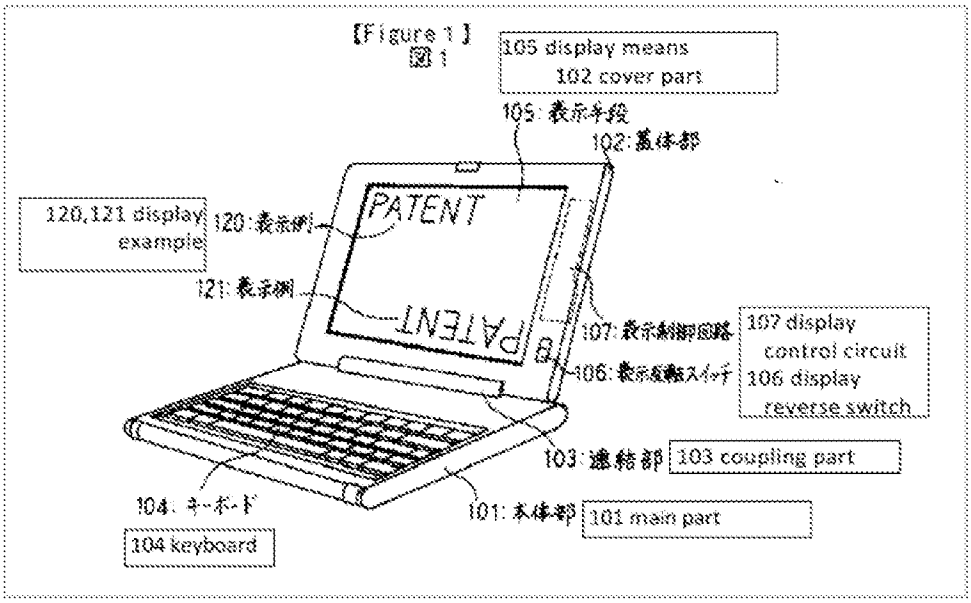
f. Limitation [1e]

The Shimura-Tsuji combination discloses [1e] and renders it obvious, including the recited function and corresponding structure. VIII.B.1; EX-1007, ¶¶196-202.

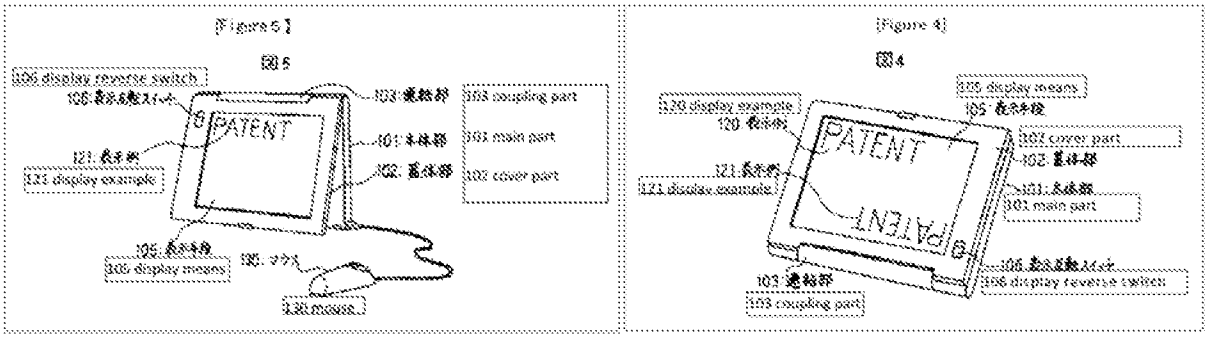
First, the Shimura-Tsuji combination discloses the function of [1e] identified in VII.A.1.

As discussed in VIII.A.1 Shimura discloses:

- a first computer system configuration (laptop mode, Figure 1) where the keyboard is operable to receive input from an operator of the computer system to control the computer system; and



- a second and third computer system configuration (easel mode, Figure 5, and frame mode, Figure 4, respectively) where the keyboard is inoperable to receive input from the operator of the computer system to control the computer system.



A POSITA would have been motivated to arrive at the Shimura-Tsuji Computer, which can determine the above computer system configurations from the orientation sensors' output. EX-1007, ¶¶198-199; VIII.B.1. E.g., the "BIOS" executing on the processor controls the computer hardware, such as "controlling an

automatic image rotating function" based on output from the orientation sensors and logic explained in VIII.B.1.b. EX-1005, ¶¶64-72.

Second, the Shimura-Tsuji combination discloses the corresponding structure for [1e]. The Shimura-Tsuji Computer includes (i) a BIOS program 301 (outlined in red) executing on a processor (not shown) (ii) that receives data from a hinge-rotation sensor 202 (outlined in blue) and gravity sensor 203 (outlined in green), as depicted in FIG. 14 of Tsuji. EX-1005, ¶¶68-72; EX-1007, ¶201.

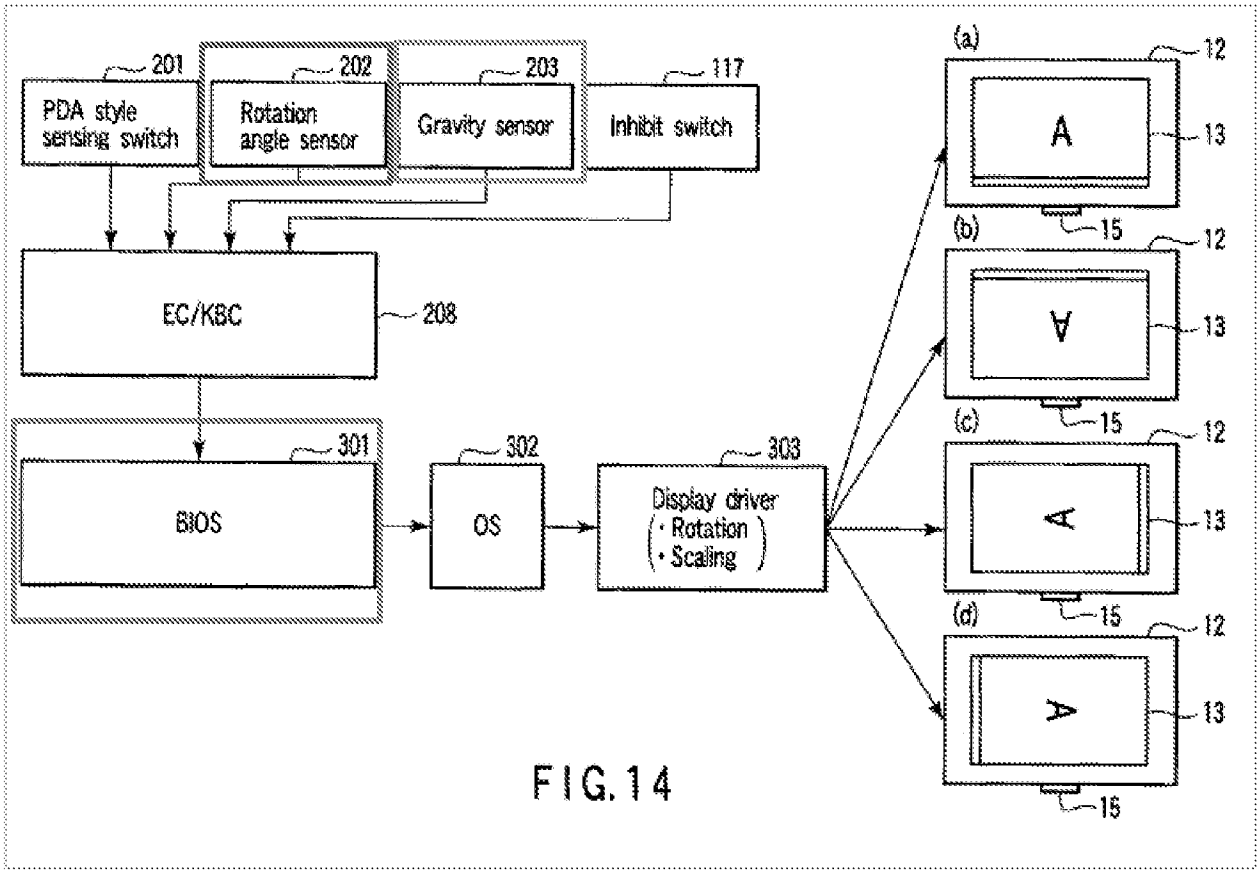


FIG. 14

The Shimura-Tsuji Computer also discloses (iii) the BIOS program using the data received from the orientation sensors to determine a computer system configuration. EX-1005, ¶¶68-73; VIII.B.1.b; EX-1007, ¶201.

Accordingly, the Shimura-Tsuji combination discloses [1e] and renders it obvious. EX-1007, ¶¶196-202.

g. Limitation [1f]

The Shimura-Tsuji combination discloses [1f] and renders it obvious, including the recited function and corresponding structure. VIII.B.1; EX-1007, ¶¶203-206.

First, the Shimura-Tsuji combination discloses the function of [1f]. *See* VII.A.2. The Shimura-Tsuji Computer can determine the computer system configurations and "select[s] one of the plurality of views [e.g., normal and inverted views] for display on the computer system in response to the detected current computer system configuration" and transitions the display to that view. EX-1007, ¶204; VIII.B.1 & VIII.B.2.f.

Second, the Shimura-Tsuji combination discloses the corresponding structure for [1f]. As noted in [1e], the Shimura-Tsuji Computer includes (i) a BIOS program 301 (outlined in red) executing on a processor (not shown) (ii) that informs a display driver 303 (outlined in blue) of the orientation of the image to be displayed based on the detected computer system configuration, and (iii) the

display driver 303, which is controlled by the BIOS program 301, performs the operation for rotating the image displayed on the LCD accordingly ((a)-(d) outlined in green), as depicted in FIG. 14 of Tsuji. EX-1005, ¶¶68-74; EX-1007, ¶205.

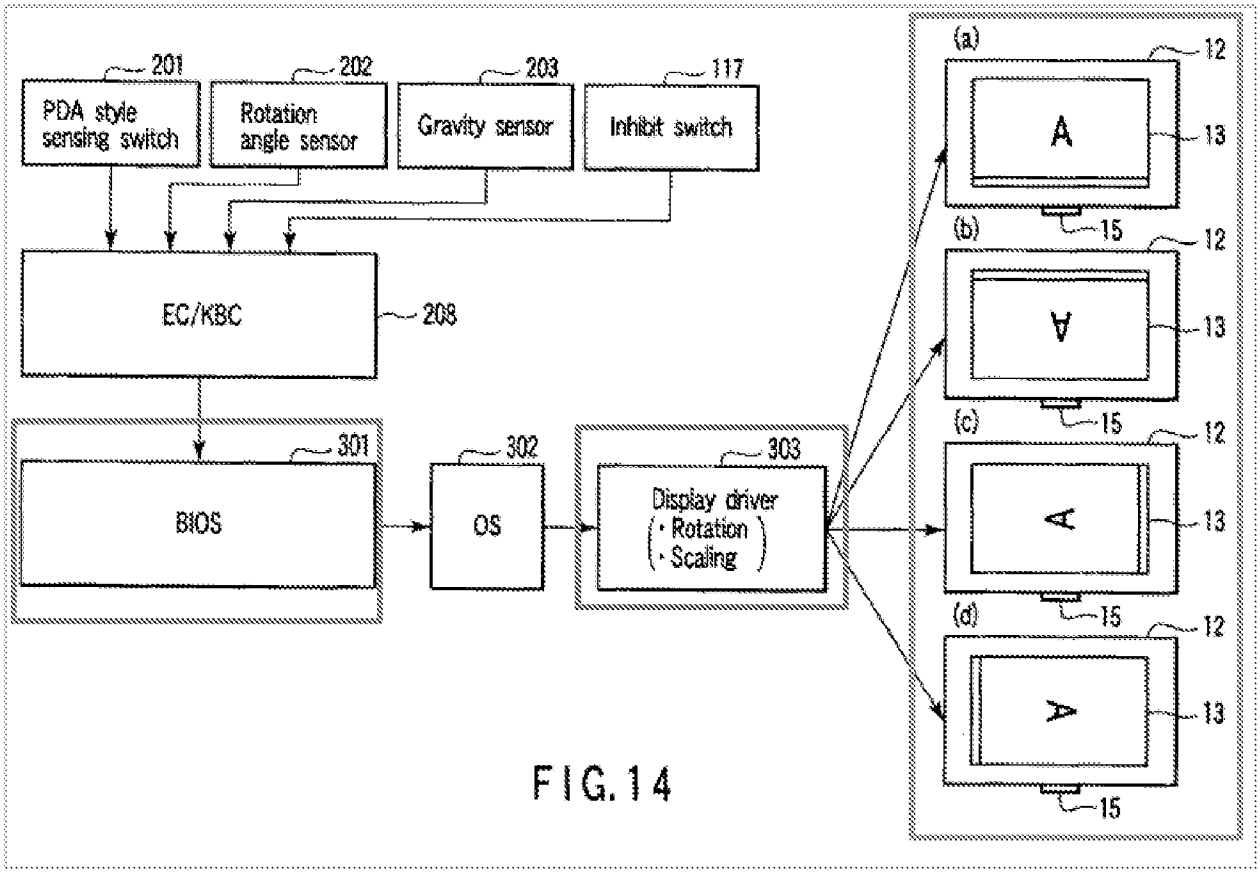


FIG. 14

Accordingly, the Shimura-Tsuji combination renders obvious Claim 1. EX-1007, ¶¶181-206.

3. Claim 20

a. Limitation [20pre]

Shimura discloses [20pre]. *See* VIII.B.2.a. [20pre] and [1pre] are verbatim identical.

b. Limitation [20a]

Shimura discloses [20a]. *See* VIII.B.2.b. [20a] and [1a] are verbatim identical.

c. Limitation [20b]

Shimura discloses [20b]. *See* VIII.B.2.c. [20b] and [1b] are verbatim identical.

d. Limitation [20c]

Shimura-Tsuji discloses [20c]. *See* VIII.B.2.d. [20c] and [1c] are verbatim identical.

e. Limitation [20d]

Shimura-Tsuji discloses [20d]. *See* VIII.B.2.e. [20d] and [1d] are verbatim identical.

f. Limitation [20e]

The Shimura-Tsuji combination discloses [20e] and renders it obvious, including the recited function and corresponding structure. *See* VII.A.1, VIII.B.1, [1e]. E.g., the function performed by [20e], which includes "detect[ing] … [whether] the keyboard is positioned to receive input," will be substantially similar

to that of [1e], which includes "detect[ing] … [whether] the keyboard is operable to receive input." *See* VII.A.1. Further, the corresponding structures are the same.

g. Limitation [20f]

Shimura discloses [20f]. *See* VIII.B.2.g. [20f] and [1f] are verbatim identical.

Accordingly, the Shimura-Tsuji combination renders obvious Claim 20. EX-1007, ¶¶207-214.

C. Ground 2: Shimura in view of Tsuji and Pogue renders Claims 2-19 obvious.

1. Combination of Shimura, Tsuji, and Pogue (hereafter "Shimura-Tsuji-Pogue combination")

For all the reasons set forth in VIII.B.1 above, a POSITA would have been motivated to combine Tsuji with Shimura.

Further, a POSITA would have been motivated to combine Shimura and Tsuji with Pogue for several reasons. EX-1007, ¶¶215-220.

First, Shimura and Tsuji are directed toward personal computer systems. EX-1004, ¶¶10-17, Figures 1, 3, 4, 5; EX-1005, ¶¶28-29, FIG. 1; EX-1007, ¶217. Pogue discloses an operating system, which is "the software that controls [the] computer." EX-1006, 5-6. A POSITA would have understood that the personal computer systems disclosed in Shimura and Tsuji would have an operating system

installed and would have looked to Pogue for explicit disclosure of an operating system capable of running on these systems. EX-1007, ¶217.

Pogue identifies the hardware requirements to run Windows XP. EX-1006, 558. A POSITA would have known that a computer at the Critical Date would have met at least these requirements, as various computers from before the Critical Date met these hardware requirements and were able to run Windows XP. EX-1007, ¶¶95-117. While Shimura and Tsuji disclose hardware components and related circuitry, they do not expressly disclose an operating system. Pogue expressly discloses Windows XP, one example of a well-known operating system at the Critical Date.

There would have been motivation to combine, and a reasonable expectation of success in combining, Pogue (an operating system) with Shimura and Tsuji because prior art elements are merely combined according to known methods to yield predictable results (a computer running an operating system). *See KSR*, 550 U.S. at 415–21; EX-1007, ¶219.

Therefore, the POSITA would have been motivated to combine the teachings of Shimura and Tsuji with the teachings of Pogue to arrive at the Shimura-Tsuji-Pogue Computer. EX-1007, ¶¶215-220.

2. <u>Claim 2</u>

a. "home view"