Samsung Electronics Co. Ltd., Samsung Electronics America, Inc., and Apple Inc. v. Neonode Smartphone LLC

IPR2021-00145
U.S. Patent No. 8,812,993

Petitioners' Demonstrative Slides

Before Hon. Michelle N. Ankenbrand, Kara L. Szpondowski, and Christopher L. Ogden

March 17, 2022

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

EXHIBIT 1060
Samsung et al. v. Neonode
IPR2021-00145

Table of Contents

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

’993 Patent, Claim 1

1.pre	A non-transitory computer readable medium storing instructions, which, when executed by a processor of **an electronic device** having a touch-sensitive display screen, cause the processor to enable a user interface of the device,
1.a	the user interface comprising at least two states, namely,
1.b	(a) a tap-present state, wherein a plurality of **tap-activatable** icons for a respective plurality of pre-designated **system functions** are present, each system function being activated in response to a tap on its respective icon, and
1.c	(b) a tap-absent state, wherein tap-activatable icons are absent but an otherwise-activatable graphic is present in a strip along at least one edge of the display screen for transitioning the user interface from the tap-absent state to the tap-present state in response to a multi-step user gesture comprising
1.d	(i) an object touching the display screen within the strip, and (ii) the object gliding on the display screen away from and out of the strip.

Petition, 27-48.

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’993 Patent, Dependent Claims 2-8

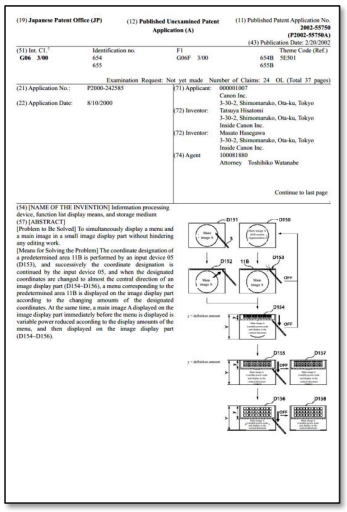
2	The computer readable medium of claim 1, wherein any state transition elicited by a user gesture that begins at a location at which the otherwise-activatable graphic is provided, transitions to the tap-present state.
3	The computer readable medium of claim 1, wherein the tap-present state does not display the tap-activatable icons within a window frame.
4	The computer readable medium of claim 1, wherein the plurality of pre-designated system functions comprises a help function.
5	The computer readable medium of claim 1, wherein the plurality of pre-designated system functions comprises a clock function.
6	The computer readable medium of claim 1, wherein the plurality of pre-designated system functions comprises an alarm function.
7	The computer readable medium of claim 1, wherein the strip is less than a thumb's width wide within the display screen.
8	The computer readable medium of claim 1, wherein the multi-step user gesture comprises (i) the object touching the otherwise-activatable graphic, and (ii) the object gliding on the display screen away from and out of the strip.

Petition, 48-63.

’993 Patent Prior Art

Hisatomi

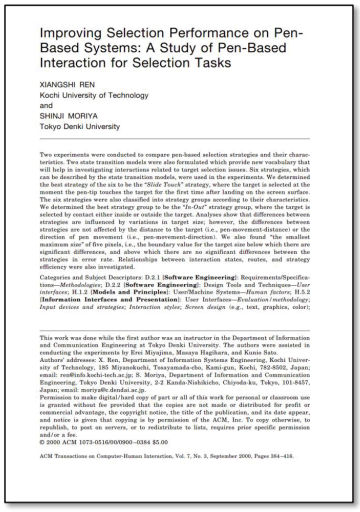
JP Published Patent. App. No. 2002-55750



EX1005.

Ren

“Improving Selection on Pen-Based Systems,” ACM Transactions on Computer-Human Interaction



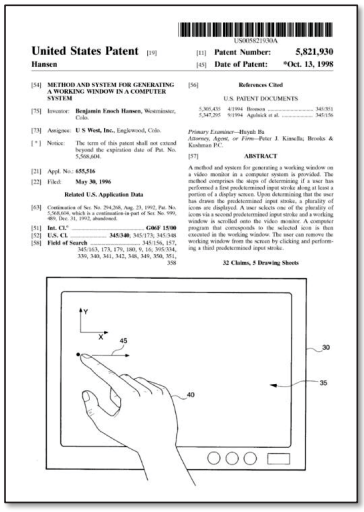
Improving Selection Performance on Pen-Based Systems: A Study of Pen-Based Interaction for Selection Tasks

XIANGSHI REN
Kochi University of Technology
and
SHINJI MORIYA
Tokyo Denki University

EX1006.

Hansen

U.S. 5,821,930



United States Patent [19]
Hansen

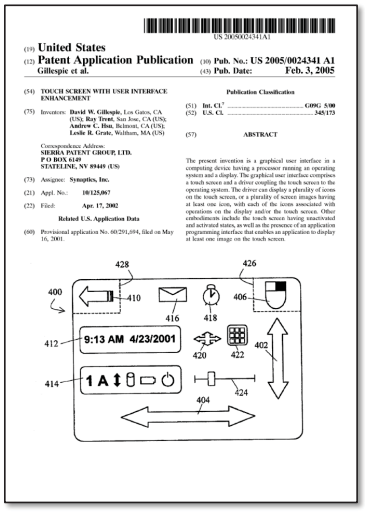
[11] Patent Number: 5,821,930
[45] Date of Patent: *Oct. 13, 1998

[54] METHOD AND SYSTEM FOR GENERATING A WORKING WINDOW IN A COMPUTER SYSTEM

EX1029.

Gillespie

U.S. Patent Appl. Pub. No. 2005/0024341



(19) United States
(12) Patent Application Publication
Gillespie et al.

(10) Pub. No.: US 2005/0024341 A1
(43) Pub. Date: Feb. 3, 2005

(54) TOUCH SCREEN WITH USER INTERFACE ENHANCEMENT

EX1030.

Petition, 10-24.

Grounds

Ground	Claims	Basis	Prior Art
1A	1-3, 7, 8	§103	Hisatomi and Ren
1B	4	§103	Hisatomi, Ren, Allard-656
1C	5	§103	Hisatomi, Ren, Tanaka
1D	6	§103	Hisatomi, Ren, Kodama
2A	1-3, 7, 8	§103	Hansen and Gillespie
2B	4	§103	Hansen, Gillespie, Allard-656
2C	5	§103	Hansen, Gillespie, Tanaka
2D	6	§103	Hansen, Gillespie, Kodama

Petition, 1-2.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

Claim Construction

The Board's Construction

Claim Term	Board's Construction
"tap-activatable" (claims 1, 3)	"activatable by a gesture that involves touching a screen and then lifting off the screen"

Institution Decision, 22.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

Patent Owner's Proposed Constructions

Claim Term	Patent Owner's Proposed Construction
"An electronic device" (claim 1)	"a mobile handheld computer"
"tap-activatable" (claim 1, 3)	"activatable upon completion of a gesture that involves the input device touching a screen followed directly and immediately by lifting off the screen"
"system functions" (claim 1, 3-6)	"services or settings of the operating system"

PO's Response, 5, 8, 9.

Petitioners' Reply, 2, 10.

“An electronic device”
(claim 1)

“An Electronic Device”

Claim Term	Patent Owner’s Proposed Construction
“An electronic device” (claim 1)	“a mobile handheld computer”

PO’s Response, 5-7.

- Patent Owner intentionally amended claims for broader scope
- Plain and ordinary meaning does not limit size
- Nothing in the claim language relates to size or construction of the electronic device

“An Electronic Device”

Bederson: “[T]he claim [does not] recite any language that would inform a POSA that the claimed device should be limited to a ‘mobile handheld’ device.” EX1051, ¶18.

1. A non-transitory computer readable medium storing instructions, which, when executed by a processor of an electronic device having a touch-sensitive display screen, cause the processor to enable a user interface of the device, the user interface comprising at least two states, namely, (a) a tap-present state, wherein a plurality of tap-activatable icons for a respective plurality of pre-designated system functions are present, each system function being activated in response to a tap on its respective icon, and (b) a tap-absent state, wherein tap-activatable icons are absent but an otherwise-activatable graphic is present in a strip along at least one edge of the display screen for transitioning the user interface from the tap-absent state to the tap-present state in response to a multi-step user gesture comprising (i) an object touching the display screen within the strip, and (ii) the object gliding on the display screen away from and out of the strip.

EX1001, claim 1

Petitioner’s Reply, 1-2.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

“An Electronic Device”

The file history demonstrates Patent Owner’s construction is incorrect:

21. (currently amended) A non-transitory computer readable medium storing ~~computer program code~~ instructions, which, when executed by a processor of ~~a mobile handheld device that has a touch sensitive display, instructs the device (i) to display a representation of a function in the touch sensitive display, (ii) to display a plurality of icons in the touch sensitive display, each icon representing an application,~~ an electronic device, cause the processor to enable a user interface of the

Ex. 1003, 403

Petitioner’s Reply, 1-2.

“An Electronic Device”

Dr. Rosenberg agrees that the plain and ordinary meaning is not a “mobile handheld computer”:

Q. Is it your opinion that a mobile handheld computer is the plain meaning of an electronic device?

A. Not necessarily in the absence of the patent, devoid of the patent. No, I wouldn't say so. I would say, you know, you could say a Cray computer, a super computer that takes up the size of the room could be called an electronic device, but in the context of

Rosenberg Depo. Trans. (EX1052), 15:19-16:5.

Petitioner’s Reply, 1-2.

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“tap-activatable”
(claims 1, 3)

"Tap-Activatable"

Claim Term	Board's Construction	Patent Owner's Proposed Construction
"tap-activatable" (claims 1, 3)	"activatable by a gesture that involves touching a screen and then lifting off the screen"	"activatable upon completion of a gesture that involves the input device touching a screen followed directly and immediately by lifting off the screen"

Institution Decision, 22.

PO's Response, 8-9; *see also POPR* at 8 (proposing the construction "activatable upon completion of a gesture consisting of a downward touch on the display followed quickly and directly by an upward lift off of the display").

- No construction is needed
- The Board correctly rejected Patent Owner's "followed directly and immediately" construction
  - Unsupported by the intrinsic record
  - Unsupported by extrinsic evidence
  - Unnecessary to the proceeding as recognized by the Board

Petitioners' Reply, 2-3.

“Tap-Activatable”

- The parties agree the gesture of the ’993 patent’s Figure 4 is a “tap”

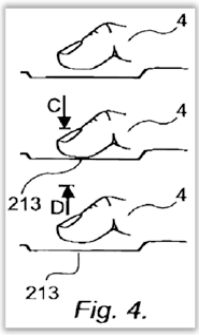
Petitioners’ Expert

known selection techniques in the prior art, and alternatively in view of Ren. The ’993 patent’s only reference to activation in response to a tap on an icon are as follows: “Selections of preferred service or setting is done by tapping on corresponding icon” (EX1001, 2:35-36), and “FIG. 4 shows that selection of a preferred service or setting is done by tapping C, D on corresponding icon 213.”

Bederson Decl. (EX1002) at ¶ 133.

PO’s Expert

“FIG. 4 shows that selection of a preferred service or setting is done by tapping C, D on a corresponding icon 213.” EX1001, 4:41-42. Figure 4, which illustrates “tapping,” is reproduced below:



Rosenberg Decl. (EX2013), ¶ 46 (showing EX1001, FIG. 4).

Petition, 6-7, 36-37; Petitioners' Reply, 6, 13-14.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

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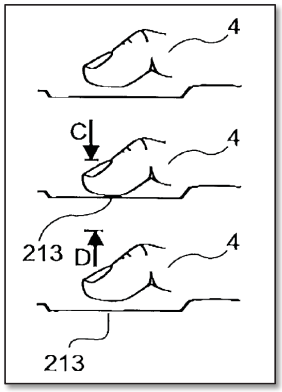
“Tap-Activatable”

- The parties agree the gesture of the ’993 patent’s Figure 4 is a “tap”
- No dispute the common and well-known tap gesture is a “tap” as claimed

’993 Patent



EX1001, FIG. 4.

PO’s Expert

Q. … So you would agree that a tap was a common gesture in 2002 to activate an icon on a touch user interface?
A. Yes, I do.

Rosenberg Tr. (EX1052) at 106:24-107:1; *see also id.* at 23:17-23 (“Tap was extremely well known.”), 13:15-14:2 (tap was amongst default gestures for UI widgets).

Petitioners’ Expert

EX1001, 4:41-42. The “tapping” illustrated in FIG. 4 was a well-known technique for selecting a target in a GUI, like that disclosed by Hisatomi, and was one of the most common in 2002 as well as today. In the most common usage, touch screen

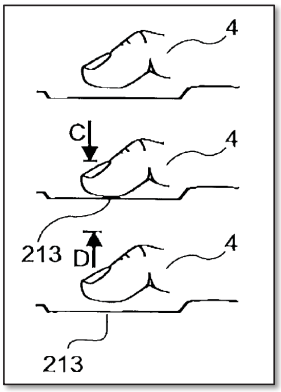
Bederson Decl. (EX1002) at ¶ 133.

Petition, 6-7, 36-37; Petitioners' Reply, 6, 13-14.

“Tap-Activatable”

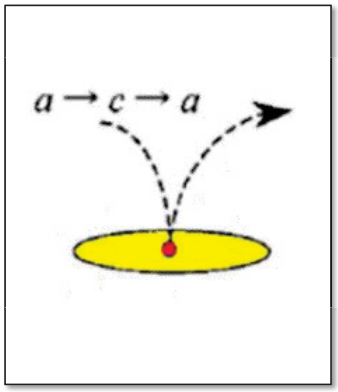
- The parties agree the gesture of the ’993 patent’s Figure 4 is a “tap”
- No dispute the common and well-known tap gesture is a “tap” as claimed
- No dispute Ren’s *Direct Off a→c→a* route is a “tap” as claimed

’993 Patent



EX1001, FIG. 4.

Ren



EX1006 at FIG. 3 (excerpt, emphasized).

PO’s Expert

Q. … And you agree that the direct off strategy taught by Ren meets your construction of tap-activatable; is that right?

...

A. Yes. Direct off, in the terminology of Ren, Ren uses direct off. I would equate that to what one of skill in the art would understand as tap. ... the answer to your question is yes, direct off in Ren is equivalent to tap.

Rosenberg Tr. (EX1052) at 82:11-23.

Petition, 6-7, 36-37; Petitioners' Reply, 6, 13-14.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

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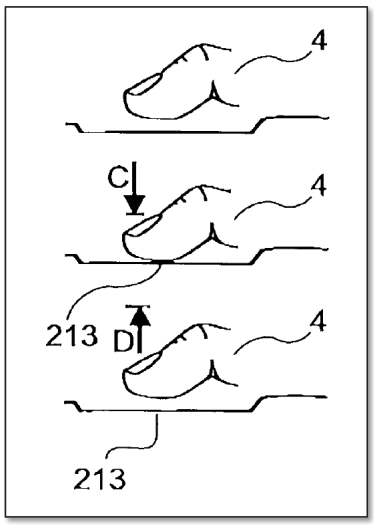
“Tap-Activatable”



’993 patent (EX1001), Fig. 4.

FIG. **4** shows that selection of a preferred service or setting is done by tapping C, D on corresponding icon **213**.

’993 patent (EX1001), 4:41-42.

- Not a definition
- Not inconsistent with ordinary meaning
- No support for “directly and immediately”
- No definition of <u>when</u> selection (or activation) occurs, *e.g.*, touch-down or touch-up
- No reference to the timing for the gesture of Fig. 4
- No “manifest exclusion or restriction”

Petitioners' Reply, 11-12.

"Tap-Activatable"

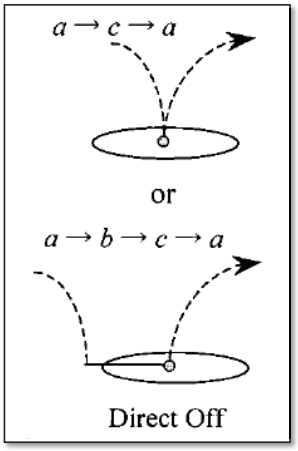
Claim Term	Board's Construction	Patent Owner's Proposed Construction
"tap-activatable" (claims 1, 3)	"activatable by a gesture that involves touching a screen and then lifting off the screen"	"activatable upon completion of a gesture that involves the input device touching a screen followed directly and immediately by lifting off the screen"

Institution Decision, 22.

PO's Response, 8-9.

- The Board does not need to decide whether Ren's *a*→*b*→*c*→*a* route is a "tap"
- Neither construction excludes Ren's *a*→*b*→*c*→*a* route
- The claim is not limited to <u>exclusively</u> "tap-activatable"

Ren



EX1006 at FIG. 3 (excerpt, emphasized).

Petitioners' Reply, 6, 9-10.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

“system functions”
(claims 1, 3-6)

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

Patent Owner's Proposed Constructions

Claim Term	Patent Owner's Proposed Construction
"system functions" (claim 1, 3-6)	"services or settings of the operating system"

PO's Response, 9-13.

- **PO's expert**: "The ordinary meaning of a system function is a function that was part of the operating system, designed, developed, tested, and deployed by the maker of the operating system." Rosenberg Tr. (EX1052) at 60:18-61:5.

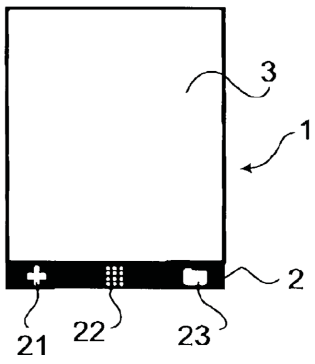
PO's additional limitations on the claim based on the term "system functions"

- **PO's Response**: no "currently active application is running" PO's Response, 31.
- **PO's Response**: "an icon presented within an application is not an icon for a system function" PO's Response, 32.

Petitioners' Reply, 3-5, 15-17, 19-20.

"System Functions"

- "Functions" are not limited to services or settings
- No use of "operating system" in the specification
- No reason to believe "help" service is different in a "different embodiment"



'993 Patent (EX1001), Fig. 1.

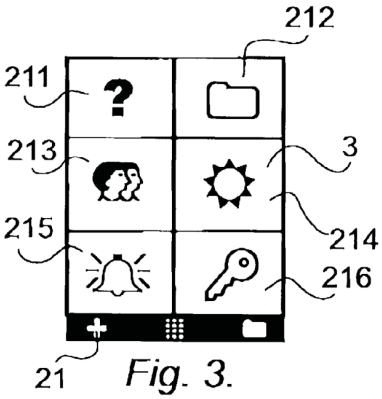


Fig. 3.

'993 Patent (EX1001), Fig. 3.

Patent Owner's Proposed Construction

"services or settings of the operating system"

FIG. **3** shows that if the first function **21** is activated, then the display area **3** is adapted to display icons **211**, **212**, **213**, **214**, **215**, **216** representing services or functions depending on the current active application. One of the icons, in the figure exemplified by icon **211**, always represents a "help"-service, regardless of application. Any key that, because of

* * *

If for instance the active application handles a picture, then the icons that are shown when the first function is activated can be services such as "save to disk", "send as SMS", or "delete" and they can be settings such as "resolution", "colour", or "brightness".

If no application is currently active on the computer unit, then the icons **211**, **212**, **213**, **214**, **215**, **216** are adapted to represent services or settings of the operations system of the computer unit, such as background picture, clock, alarm **215**, users **213**, help **211**, etc.

'993 Patent (EX1001), 4:20-40.

Petitioners' Reply, 3-5, 16.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

"System Functions"

28. First, the ordinary meaning of "system functions" is not limited to "services or settings of the operating system." A POSA would understand the term "function" is not limited to services or settings, and does not exclude applications, as Neonode suggests. The Microsoft Computer Dictionary, for example, does not restrict a "function" to a "routine"—it also includes a "program." EX1057, 228. Thus, an application (which is a program, *see id.* at 31), would be within the scope of the ordinary meaning of the term "system function."

30. Third, the claim does not limit the "system functions" to an "operations" or "operating" system. Nor does the ordinary meaning of system functions indicate such a limitation. On the contrary, a POSA would understand the term to include functions that relate to the system of the particular device. For example, if the system was a mobile phone, a POSA would have understood the "system functions" to be any functions the mobile phone (i.e., the system) is capable of executing, , such as a dialer or a map application. If the system was a

Petitioners' Reply, 3-5.

- Petitioners' expert explained the ordinary meaning

31. Fourth, even if the "system functions" are limited to operating system functions, a POSA would have recognized that applications included with an operating system are examples of such system functions. These would include, for example, a PDA's web browser or text editor, a mobile phone's dialer and map application, and a camera's picture-taking functionality. A POSA also would have recognized that dialers and camera functions are typically controlled by the operating system in order to control the user's privacy and which applications can control the device. As another example, it was well-known to even a layperson by 2002 that Microsoft shipped its Windows operating system with a web browser, which is an application a POSA would have recognized as an application that is part of the operating system.

Bederson Supp. Dec. (EX1051), ¶¶ 28, 30-31.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

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"System Functions"

- System functions include "applications"

New dependent claims **22** - **27** relate to various applications that may be executed by the device of independent claim **21**. Claim **22** is supported in the original specification at least by icon 216 in FIG. 3. Claim **23** is supported in the original specification at least by page 6, lines 8 – 11 and by icon 215 in FIG. 3. Claims **24** and **25** are supported in the original specification at least by page 6, lines 8 – 11. Claim **26** is supported in the original specification at least by page 6, lines 8 – 11 and by icon 211 in FIG. 3. Claim **27** is supported in the original specification at least by page 6, lines 8 – 11 and by icon 213 in FIG. 3.

'993 File History (EX1003), 572-573.

If no application is currently active on the computer unit, then the icons **211**, **212**, **213**, **214**, **215**, **216** are adapted to represent services or settings of the operations system of the computer unit, such as background picture, clock, alarm **215**, users **213**, help **211**, etc.

'993 Patent (EX1001), 4:36-40.

21. (new) A computer readable medium storing computer program code, which, when executed by a mobile handheld device that has a touch sensitive display, instructs the device (i) to display a representation of a function in the touch sensitive display, (ii) to display a plurality of icons in the touch sensitive display, each icon representing an application, in response to a multi-step operation comprising an object touching the touch sensitive display at a location where the function representation is displayed, and the object gliding along the touch sensitive display away from the touched location, and (iii) to activate one of the applications in response to a tap on its icon.

* * *

23. (new) The computer readable medium of claim **21**, wherein the plurality of applications includes an alarm clock application.

24. (new) The computer readable medium of claim **21**, wherein the device comprises a clock, wherein the plurality of applications includes an application for setting the time for the clock.

25. (new) The computer readable medium of claim **21**, wherein the plurality of applications includes an application for configuring a background picture for the touch sensitive display.

26. (new) The computer readable medium of claim **21**, wherein the plurality of applications includes a help application.

'993 File History (EX1003), 566-567.

Petitioners' Reply, 3-4.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

“System Functions” and a “Current active application”

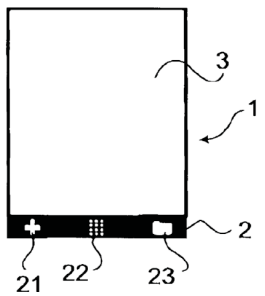
FIG. **1** illustrates a user interface for a mobile handheld computer unit. The user interface according to the present invention is specifically adapted to computer units comprising a touch sensitive area **1**, which is divided into a menu area **2** and a display area **3**. It should be understood that there are several different kinds of known touch sensitive displays and that the present invention to does not depend on what kind of touch sensitive display that is used in relation to the inventive user interface.

The computer unit is adapted to run several applications simultaneously and to present an active application on top of any other application on the display area **3**. It should be understood that by simultaneously it is meant any technology that will make it appear to a user of the computer unit that applications are run simultaneously and that the present invention does not depend on how this is realised, whether it is through time-sharing of one processor, parallel use of several processors, or any other technique.

’993 patent (EX1001), 3:57-4:7.

FIG. **3** shows that if the first function **21** is activated, then the display area **3** is adapted to display icons **211**, **212**, **213**, **214**, **215**, **216** representing services or functions depending on the current active application. One of the icons, in the figure exemplified by icon **211**, always represents a “help”-service, regardless of application. Any key that, because of

’993 patent (EX1001), 4:20-25.



’993 Patent (EX1001), Fig. 1.

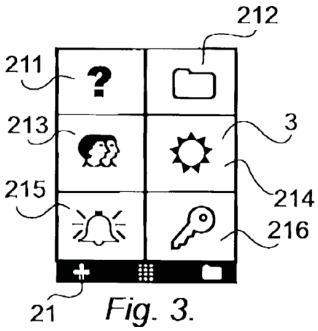


Fig. 3.

’993 Patent (EX1001), Fig. 3.

Petitioners' Reply, 3-5, 16-17.

"System Functions" – No Intrinsic Record Exclusions

The touch-and-glide user gesture in Gough is used for opening a keypad. The one-stroke Palm gesture in Carlson is used for one of five options; namely, (1) turning a backlight on and off, (2) opening a keyboard, (3) opening a graffiti help, (4) locking the Palm, and (5) sending a currently selected memo, to-do-item, calendar appointment or address book entry to a nearby Palm device within infrared range. None of these functions transitions the user interface to a home state that presents controls for a plurality of pre-designated system functions.

The SwitchHack utility described on page 7 and in Figure 1.3 of Pogue opens a pop-up window within a running application that allows a user to toggle between the running application and a different application selected from a list of recently run applications. As such, this utility does not transition the user interface to a home state that presents controls for a plurality of pre-designated system functions.

'993 File History (EX1003), 414-415.

PO's Sur-reply at 9.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

Ground 1
Claims 1-8 are Obvious in light of Hisatomi (Ex. 1005) and Ren (Ex. 1006)

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

Alleged Earlier Invention Date

It is settled that in establishing conception a party must show possession of every feature recited in the count, and that every limitation of the count must have been known to the inventor at the time of the alleged conception. *Davis v. Reddy*, 620 F.2d 885, 889, 205 USPQ 1065, 1069 (CCPA 1980). Conception must be proved by corroborating evidence which shows that the inventor disclosed to others his "completed thought expressed in such clear terms as to enable those skilled in the art" to make the invention. *Field v. Knowles*, 183 F.2d 593, 601, 37 CCPA 1211, 1222, 86 USPQ 373, 379 (1950).

Coleman v. Dines, 754 F. 2d 353, 359 (Fed. Cir. 1985).

Petitioners' Reply, 5-6.

Hisatomi is Prior Art

- ’993 Patent: priority claim to December 10, 2002 EX1001.
- Hisatomi: published February 20, 2002 EX1005.

- Patent Owner has not established an earlier invention date
  - No inventor declaration
  - No contemporaneous corroborating evidence
  - No limitation-by-limitation analysis
    - No mention of PO’s proposed claim constructions, *e.g.,* “system functions,” no active application
    - No mention of dependent claims
    - PO witnesses confirmed N1 devices lacked claim elements

Petitioners' Reply, 5-6.

Hisatomi—Published February 2002—is Prior Art


CONFIDENTIAL BUSINESS PLAN
May 2003

neonode

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EX2014

Petitioners' Reply, 5-6.

- No contemporaneous corroborating evidence

3. In late 2003, I began meeting with Magnus Goertz and Thomas Eriksson about the prospect of investing in a business they had established to bring a new type of mobile handset to the market. The name of the company was

Backlund Dec. (EX2016) at ¶ 3.

4. I knew Neonode was trying to raise money to bring its N1 phone to market, and I knew Marcus Bäcklund, who was also investigating an investment in Neonode. I began meeting with Thomas Ericsson, and Magnus Goertz in early 2004 to discuss an investment in Neonode. They demonstrated a fully-functional

Bystedt Dec. (EX2015) at ¶ 4.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

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Hisatomi – Published February 2002 – is Prior Art

Patent Owner does not tie the alleged earlier invention to claim limitations

- "a touch-sensitive display that a user could … navigate using swiping gestures executed by the user's thumb." PO's Response at 13-14.
- "programming for unlocking the phone by swiping along the bottom of the display from one side to the other." PO's Response at 15.
- "the idea of a mobile phone programmed to use swiping gestures for navigation … ." PO's Response at 16.

× "an otherwise-activatable graphic is present in a strip"

× "transitioning the user interface … in response to a multi-step user gesture comprising (i) an object touching the display screen within the strip, and (ii) the object gliding on the display screen away from and out of the strip"

× "tap-present state" and "tap-absent state"

× "a plurality of tap-activatable icons for … pre-designated system functions"

Petitioners' Reply, 5-6.

’993 Patent, Claim 1

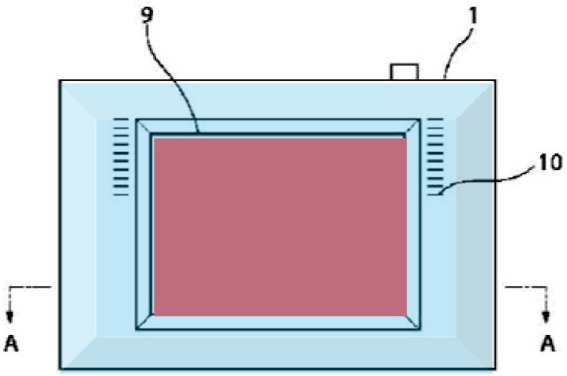
1.pre	A non-transitory computer readable medium storing instructions, which, when executed by a processor of an electronic device having a touch-sensitive display screen, cause the processor to enable a user interface of the device,
1.a	the user interface comprising **at least two states**, namely,
1.b	(a) **a tap-present state,** wherein a plurality of **tap-activatable** icons for a respective plurality of pre-designated **system functions** are present, each system function being **activated in response to a tap on its respective icon**, and
1.c	(b) a tap-absent state, wherein tap-activatable icons are absent but an otherwise-activatable graphic is present in a strip along at least one edge of the display screen for transitioning the user interface from the tap-absent state to the tap-present state in response to a multi-step user gesture comprising
1.d	(i) an object touching the display screen within the strip, and (ii) the object gliding on the display screen away from and out of the strip.

Petition, 27-48.

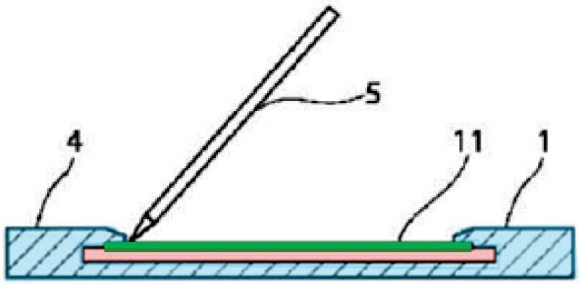
Hisatomi – Figures 3-4

[0012] The portable information processing device 01 is a notebook-sized portable information terminal (PDA) that is mounted with an image display screen 09 with the capability to display full-color image information in high definition, and receives the coordinate instructions mainly from a pen-type input device 05.

Hisatomi (EX1005) at ¶ 12.



Hisatomi (EX1005), Fig. 3 (emphasized, device (blue), display (red).

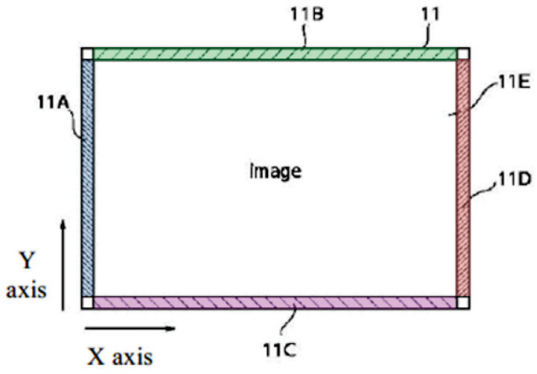


Hisatomi (EX1005), Fig. 4 (emphasized, device (blue), display (red), touch panel sensor (green).

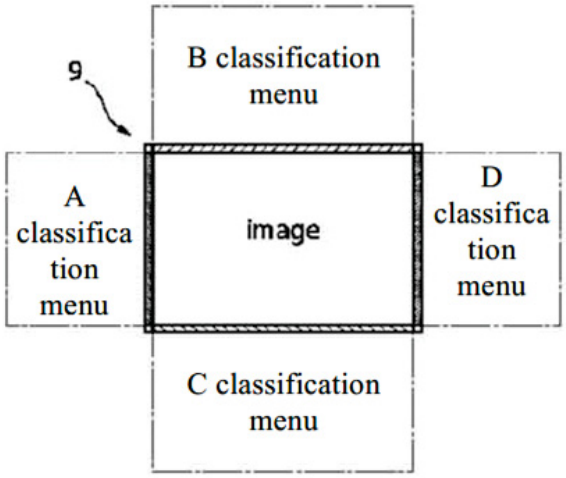
Petition, 10-11, 28.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

Hisatomi Figures 5, 6



Hisatomi (EX1005), Fig. 5 (emphasized).

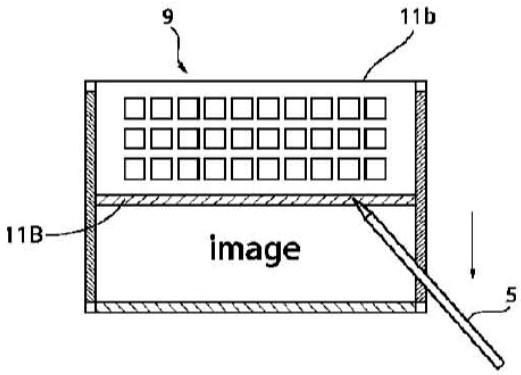


Hisatomi (EX1005), Fig. 6.

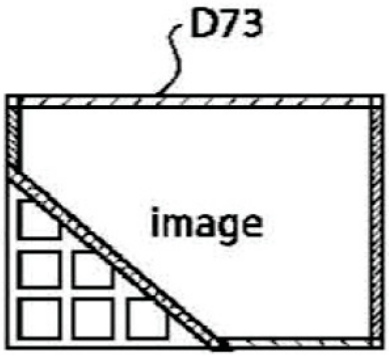
Petition, 32-33, 39-40.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

Hisatomi Figures 7, 28



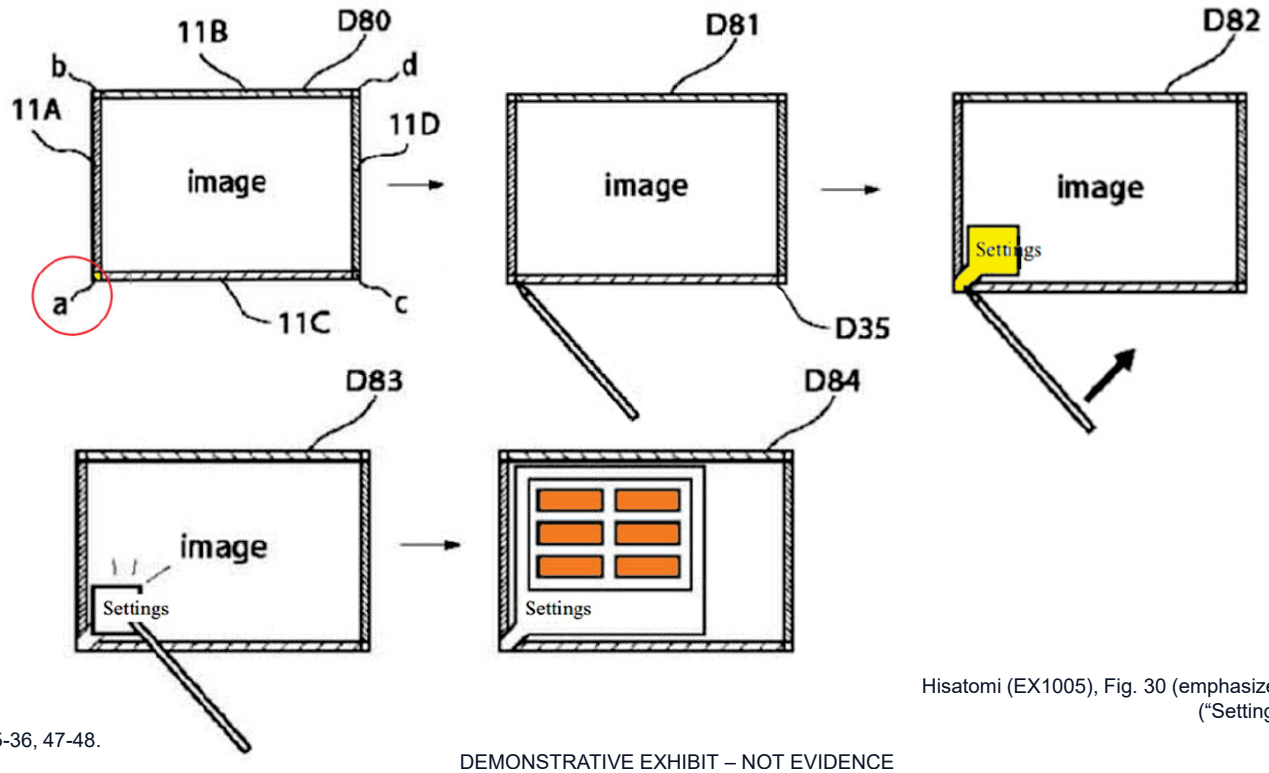
Hisatomi (EX1005), Fig. 7.



Hisatomi (EX1005), Fig. 28 (excerpt).

Petition, 33-34.

Hisatomi Figure 30



Hisatomi (EX1005), Fig. 30 (emphasized, annotated) ("Settings" in original).

Petition, 35-36, 47-48.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

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Hisatomi – Two Alleged Differences from Claim 1

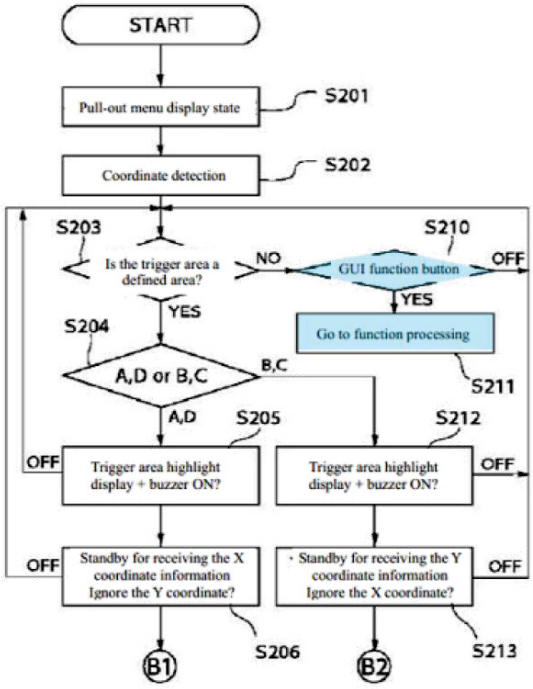
1) Making Hisatomi's icons "tap-activatable"
2) Whether Hisatomi's icons are "for … system functions"

- Making Hisatomi's icons "tap-activatable" using the common and well-known "tap" selection technique disclosed by Ren would have been obvious to a POSA
- Hisatomi discloses icons for system functions, even under PO's construction

Petition, 32-38; Petitioners' Reply, 1, 7-17.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

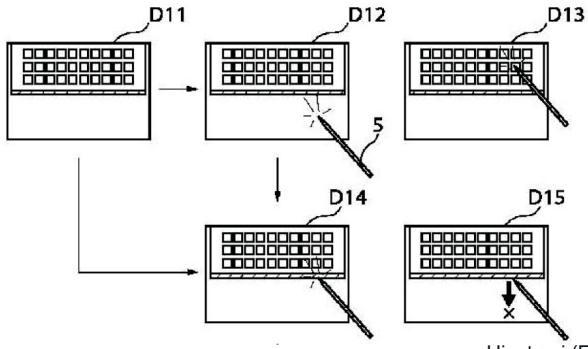
Hisatomi Figure 13 – Selection of GUI Menu Item



Hisatomi (EX1005), Fig. 13 (emphasized).

> [0055] In step S203, it is determined whether or not the coordinate value detected in step S102 is included in any of the pull-out menu display trigger areas 11A to 11D. If it is not included, as shown on screen D13 in FIG. 15, it is determined whether or not the specific function button (GUI function button) in the pull-out menu was selected by the input device 05 (S210); if it is selected, the selected function will be processed (S211). If it is not selected, the process will return to step s203 and the reception standby state will be sustained. Moreover, as shown on screens D12 and D14 in FIG. 15,

Hisatomi (EX1005) at ¶ 55, *see also* ¶¶ 3, 15.



Hisatomi (EX1005), Fig. 15 (excerpt).

Petition, 34-35; Petitioners' Reply, 12.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

40

Hisatomi At Least Renders Obvious "Tap-Activatable" Icons

- Hisatomi at least left it to the designer to choose the strategy used to "select" the disclosed icons
  - Board: "At best, Hisatomi appears to be silent as to the particular pen gesture used to select icons in a pull-out menu."

ID (Paper 24) at 29.

- It would have been obvious to use the common and well-known selection technique of a "tap," which is Ren's *Direct Off* strategy, to select Hisatomi's icons

Ren (EX1006) at 391, 403, 405, 410.

Petition, 32, 34, 36-38; Pet. Reply, 6, 12-13.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

Motivations to Make Hisatomi's Icons "Tap-Activatable"

- PO incorrectly argues that Petitioners must show a problem or deficiency in Hisatomi to prevail

PO Response at 27-28.

> Google also argues that it does not *1003 need to show that there was a known problem with the prior art system in order to articulate the required rational underpinning for the proposed combination. We agree.
>
> The Court in *KSR* described many potential rationales that could make a modification or combination of prior art references obvious to a skilled artisan. 550 U.S. at 417-22, 127 S.Ct. 1727; *see also* MPEP § 2143.

Unwired Planet, LLC v. Google Inc., 841 F.3d 995 (Fed. Cir. 2016), 1002-1003.

Petitioners' Reply, 11.

Motivations to Make Hisatomi's Icons "Tap-Activatable"

1) "Tap" was a commonly used and well-known gesture for selection of icons or buttons, and confirmed by Ren as "familiar" to users
2) "Tap" was one of a handful of selection techniques well-known to a POSA for selecting icons or buttons like Hisatomi's, as confirmed by Ren
3) Tap and touch were interchangeable with design tradeoffs
4) There was motivation to use tap for icons in interfaces that also used gestures like touch and glide
5) Hisatomi and Ren are from the same technology area and address the same set of challenges – *Selection of targets in Pen-based interfaces for PDAs*
6) Ren teaches lower error rates for "tap" as compared to "touch" consistent with POSA knowledge
7) Ren teaches desirability to use tap and touch in dense displays and for PDAs
8) A POSA would have implemented "tap" for Hisatomi's icons with no more than predictable results due to its widespread use

Petition, 36-38; Petitioners' Reply, 6-15.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

“Tap” Was a Common and Well-Known Gesture

“Tap” was well-known to a POSA and commonly used in touch user interfaces

EX1001, 4:41-42. The “tapping” illustrated in FIG. 4 was a well-known technique for selecting a target in a GUI, like that disclosed by Hisatomi, and was one of the most common in 2002 as well as today. In the most common usage, touch screen interaction mirrored standard mouse usage. Interfaces for mice typically used click and drag (where click meant a button press and release in the same or almost the same position and a drag involved moving the mouse while the button was held in a depressed state.) Similarly, interfaces for touch screens typically used “tap” and drag. The “tap” operated in the same way as a “click”, where the tap meant pressing the screen (with an object such as a finger or stylus) and releasing it in the same or almost the same position. In fact, the words “tap” and “click” are often used interchangeably for touch screens.

Bederson Dec. (EX1002) at ¶ 133.

touch screen use. That is, my code that was written to respond to mouse clicks worked without change to respond to touch screen taps. This is consistent with many publications that describe tapping a touch screen to select functions in the way I described. For example, a 1991 PhD dissertation by Dean Rubine described not only his own touch screen system as using taps to select functions (e.g., “Let us suppose that the knob responds to two gestures: it may be turned or it may be tapped.” p. 67.), but also described other publications that described such taps (e.g., “In Minsky’s system, buttons for each Logo operation were displayed on the screen. Tapping a button caused it to execute; touching a button and dragging it caused it to be moved.” EX1015, p. 29. Figure 2.11 shows basic PenPoint gestures including “Tap” from Go Corporation. p. 34.).

Bederson Dec. (EX1002) at ¶ 134.

Petition, 36-37.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

“Tap” Was a Common and Well-Known Gesture

PO’s Expert

Q. … So you would agree that a tap was a common gesture in 2002 to activate an icon on a touch user interface?
A. Yes, I do.

Rosenberg Tr. (EX1052) at 106:24-107:1; *see also id.* at 23:17-23 (“Tap was extremely well known.”).

File History

Applicant further submits that at the time of the invention, tap gestures were the most intuitive gestures for selecting and activating graphic user interface elements on a touch screen. It was therefore counterintuitive, at the time of the invention, to provide a graphic representation of a function in a touch screen user interface and not enable activating the function in response to a tap gesture on the representation. This argument is supported by US Patent No. 6,757,001

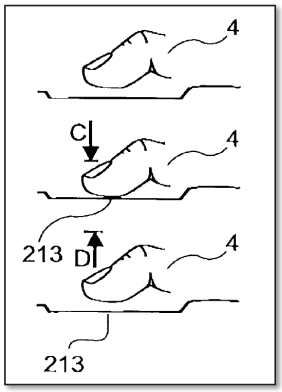
’993 Patent File History (EX1003) at 321-322.

Petitioners’ Reply, 13-14.

Ren Discloses Tap-Activatable Icons

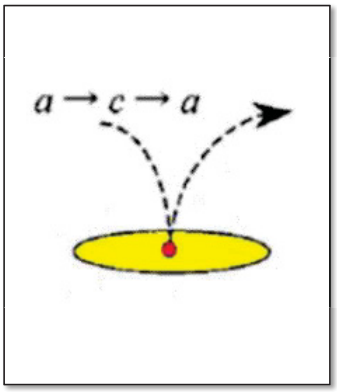
- No dispute Ren's *Direct Off a→c→a* route is a "tap" as claimed

'993 Patent



EX1001, FIG. 4.

Ren



EX1006 at FIG. 3 (excerpt, emphasized).

PO's Expert

Q. … And you agree that the direct off strategy taught by Ren meets your construction of tap-activatable; is that right?

...

A. Yes. Direct off, in the terminology of Ren, Ren uses direct off. I would equate that to what one of skill in the art would understand as tap. ... the answer to your question is yes, direct off in Ren is equivalent to tap.

Rosenberg Tr. (EX1052) at 82:11-23.

Petitioners' Expert

the below excerpt of FIG. 3, the *Direct Off* route *a→c→a* reflects a typical "tap" selection technique for activating a function corresponding to the target, consistent with the "tapping C, D on corresponding icon 213" described in the '993 Patent.

Bederson Dec. (EX1002) at ¶ 135.

Petition, 6-7, 36-37; Petitioners' Reply, 6, 13-14.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

46

Ren Teaches "Tap" Was Familiar, "Touch" and "Tap" Common

Ren

> On the other hand, *In-Out* selection strategies would not be efficient in dense displays. In dense displays the *Direct On* and *Direct Off* strategies (*In* strategy group) can be used. For instance, the *Direct Off* strategy (which is in the *Off* strategy group) is the same as the familiar mouse technique.

Ren (EX1006) at 403.

> The *Direct On* and *Direct Off* strategies are already in common use. The *Slide Touch* strategy corresponds to the "first-contact" strategy [Potter et al. 1988]. The *Slide Off*, *Space On*, and *Space Touch* strategies were new strategies designed by Ren and Moriya [1997a].

Ren (EX1006) at 391.

Petition, 12-13, 38.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

"Tap" Was One of the Handful of Well-Known Selection Techniques

Petitioners' Expert

disclosed by Ren. The tap selection technique was one of a handful of well-known selection techniques for selecting a target (such as an icon or menu) in a GUI at the priority date of the '993 patent. This is also explicitly taught by Ren. EX1006, 390, 403. Ren also teaches the desirability of using the tap or *Direct Off* technique,

Bederson Dec. (EX1002) at ¶ 136, *see also* ¶ 133 (touch screens typically used "tap" and also "drag").

PO's Expert

Q. Were there any touch-sensitive handheld devices in 2002 that used a drag action to activate an icon?
A. Oh, without -- I mean, I haven't studied this, but I would say the answer is extremely likely, yes. Drag was -- touch was extremely well known. Tap was extremely well known. Drag was extremely well known. It's -- these were all options for UI designers. Different GUI widgets had – graphical user interface widgets had default behaviors that exercised all of those behaviors.

Rosenberg Tr. (EX1052) at 23:17-24:2.

Petition, 36-38; Petitioners' Reply, 13-14.

Motivations to Make Hisatomi's Icons "Tap-Activatable"

PO's expert agrees there were benefits to "tap" with design tradeoffs, and there were specific motivations to use "tap"

Q. What would a POSA have thought were the benefits of using tap in 2002?
...
A. The benefit of using a tap? Well, again, just, you know, my answer is couched in trade offs. There's -- there's always trade offs when it comes to user interface design, experience versus inexperienced users, speed, accuracy, graphical design, clutter, all of these things come into play, but potentially depending on the situation, you could have – the benefit of a tap would primarily be in allowing multiple other user interface gesture techniques, such as you could have one function activate with the touch. You could have a second function activate with a tap or associated with the liftoff. You could support drag -- drag or drag and drop, we discussed the difference -- you know, the non-difference between those terms in most cases. If -- if everything always fully activates at touch, then it may preclude other interaction styles, such as long press, double tap, you know, double click, if you will, tap, so action on liftoff, or drag. So if you have a system that you want to have multiple interaction styles having something not necessarily activate right away on the first touch, which you may not want, it gives you more dimensions of freedom, if you will.

Design tradeoffs known to a POSA

Motivation to use "tap" in a user interface that uses "drag"

Rosenberg Tr. (EX1052) at 107:3-108:3; *see also* Rosenberg Dec. (2013) at ¶ 97; Bederson Supp. Dec. (EX1051) at ¶¶ 64-65.

Petitioners' Reply, 14.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

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Motivations to Make Hisatomi's Icons "Tap-Activatable"

Petitioners' expert explained the application of design considerations to Hisatomi

so as to teach away from the use of "tap." As Dr. Rosenberg appears to agree, a POSA would have appreciated the importance to balance user interface design considerations such as speed and accuracy. Rosenberg Dep., 89:13-23, 107:3-108:22. However, Hisatomi does not teach the desire for speed over accuracy. Hisatomi describes an embodiment of an image editing device, which a POSA would have expected to have no particular need for speed of input (such as might be desired for a bank ATM where the user is familiar with the numerical keypad layout, or video game interface), and instead likely would have prioritized accuracy. Hisatomi teaches, for example, that four menus (A-D) with icons may be provided via the pull-out menus. Hisatomi, 0020-22. Although Dr. Rosenberg

suggests speed might be the primary goal of choice for character entry (EX2013, ¶98), he provides no basis for this conclusion. Hisatomi's embodiment for editing images, unlike an ATM or a video game, has no implicit requirement for speed in terms of making selections of menu functions. The designer may have therefore been motivated to prioritize accuracy for menus that edit or add special effects to the image. EX1005, 0022 (menu C).

Bederson Supp. Dec. (EX1051) at ¶¶ 64-65.

Petitioners' Reply, 14-15.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

Motivations to Make Hisatomi's Icons "Tap-Activatable"

- PO admits "touch" and "tap" are interchangeable, as already known
- PO is wrong that Ren preferred *Direct On* ("touch")

PO's Response

> While Ren does state that both Direct On (touch) and Direct Off (tap, in one variant) can be used, this states no more than was already known – both were technically viable for dense displays. However, between the two, Ren was clear as to which was preferred: Direct On (touch). EX2013, ¶¶87-89.

PO's Response at 24.

PO's Expert

> together." Exhibit 1002, ¶136. But in fact, Ren states that both Direct On and Direct Off "can be used" in dense displays. EX1006, at 20. This states no more than was already known – both were technically viable for dense displays. Ren explicitly states no preference for one over the other. It follows from this alone

Rosenberg Dec. (EX2013) at ¶ 87.

Petitioners' Reply, 7.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

51

Ren Teaches Strategies for Small Pen-Based Systems

Ren

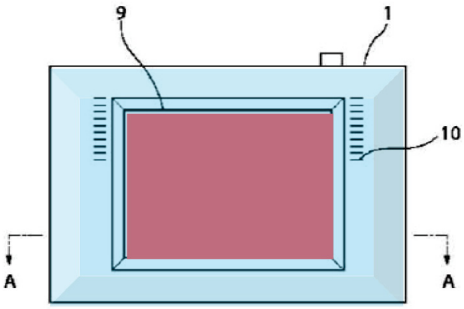
1. INTRODUCTION

Pen-based systems (incorporating a small touch-sensitive screen) have emerged as an important access technology having carved out a large niche in the computer market. Pen-based input is well suited to jotting down text and accessing information in mobile computing situations. "Notepads" made pen-based systems more popular a few years ago; however, not enough empirical tests have been performed to determine how we can improve their usage and efficiency. Goldberg and Richardson [1993], MacKenzie et al. [1994], Venolia and Neiberg [1994], and MacKenzie and Zhang [1999] are a few exceptions.

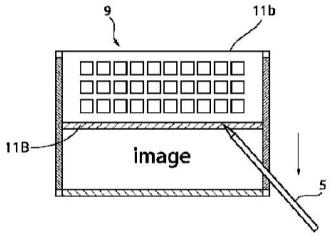
In small pen-based systems, accessing information by the selection of a target is more often attempted than by inputting handwritten data. Common targets are menus, data (one character of the text or graphic segment, etc.), ranges etc., and the selection of keys on a software keyboard displayed on a screen. As the amount of information displayed on the screen is increasing, users have to select smaller targets. The trade-off between the size and accessibility of targets and the amount of information presented on the screen is a fundamental problem in human-computer design. This is especially obvious in mobile products, such as personal digital assistants (PDAs), personal information managers (PIMs), and other mobile pen-based applications.

Ren (EX1006) at 385; *see also* Bederson Dec. (EX1002) at ¶ 82.

Hisatomi



Hisatomi (EX1005), Fig. 3 (emphasized, device (blue), display (red).



Hisatomi (EX1005), Fig. 7.

Petition, 12-13, 28, 31.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

52

Ren Teaches “Tap-Activatable” Icons Were Obvious

- Ren teaches to use “tap” or “touch” for dense displays
- Ren teaches no preference for “touch” over “tap” for dense displays
- Ren teaches a reason a designer might choose “tap”: it is the same as the mouse technique familiar to users.

> On the other hand, *In-Out* selection strategies would not be efficient in dense displays. In dense displays the *Direct On* and *Direct Off* strategies (*In* strategy group) can be used. For instance, the *Direct Off* strategy (which is in the *Off* strategy group) is the same as the familiar mouse technique. Here selection is affected after the pen has contacted the screen, moved into the target area, and been taken off the target area following visual confirmation. However, hand/eye coordination is essential when using the *Direct On* and *Direct Off* strategies. For the *Direct Off* strategy the pen must be within the target (i.e., “catching” the target) at the moment the pen is removed from the screen. In the *Direct On* strategy the pen approaches the screen and target area, and it is in the target area only momentarily.

Ren (EX1006) at 403.

Petition, 24-26.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

Ren Teaches Design Tradeoffs for “Tap” and “Touch”

- Ren teaches lower mean error rates for “tap” (*Direct Off*)

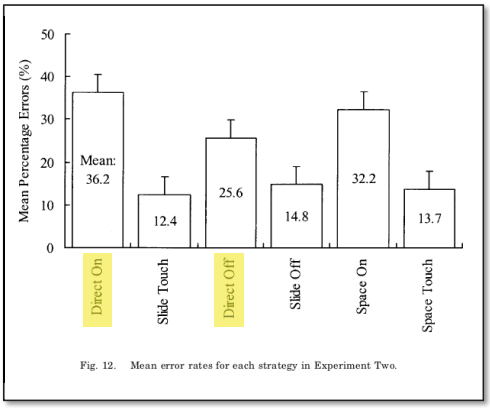


Fig. 12. Mean error rates for each strategy in Experiment Two.

Ren (EX1006) at 410.

- Ren teaches lower mean selection times for “touch” (*Direct On*)

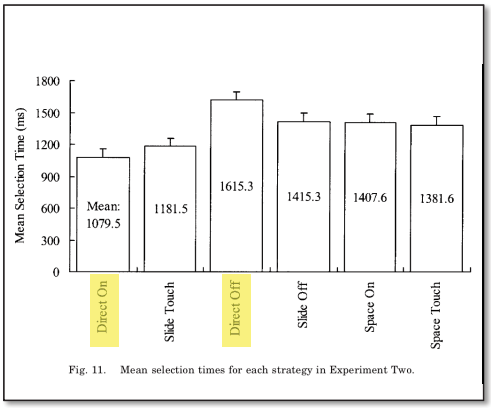


Fig. 11. Mean selection times for each strategy in Experiment Two.

Ren (EX1006) at 409.

Petitioners Reply, 8-9.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

Ren Does Not Teach Away From "Tap"

PO argues that Ren's lower error rates for "tap" are only relevant for smaller targets

- But Ren teaches error rates should still be considered for PDAs like Hisatomi's

the same results. The significant differences between selection strategies were changed by changing the target size. In other words, the error rates were influenced by the selection strategies when the targets were small. Conversely, error rates were not influenced by selection strategies when target sizes were increased beyond a certain size. These results are important factors in the design of strategies for selecting small targets in pen-based systems. In the case of the target size of 9 pixels no significant difference in error rate between the 6 strategies was observed. However, as the amount of information displayed on the screen is increasing, users have to select smaller targets because the width and height of screens are limited. This tendency to display more information simultaneously is especially obvious in portable pen-based systems, particularly, personal digital assistants (PDAs), personal information managers (PIMs), and other pocket-sized pen-based applications. For example, target sizes under 5 pixels have a significant effect on the differences between strategies.

Petitioners' Reply, 9.

Ren (EX1006) at 405.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

A POSA Given Hisatomi's PDA Would Have Looked to Ren

Hisatomi

[0012] The portable information processing device 01 is a notebook-sized portable information terminal (PDA) that is mounted with an image display screen 09 with the capability to display full-color image information in high definition, and receives the coordinate instructions mainly from a pen-type input device 05.

Hisatomi (EX1005) at ¶ 12.

Patent Owner's expert admitted Hisatomi disclosed a "PDA" with a "small image display"

increase. *Id.* Hisatomi's purpose is to provide function list pull-out menus that do not hinder any editing work on an image where both are simultaneously displayed on a small image display. EX1005, ¶0005.

58. The information processing device could be a personal digital assistant (PDA) or notebook computer (EX1005, ¶¶0012; 0243), a still camera, video camera, head mounted display, car navigation system (EX1005, ¶0243), or a computer workstation (EX1005, ¶0244). The image display may be that of either a portable device or a full sized display. EX1005, ¶0242. The image display screen

Petition, 10, 17-18; Petitioners' Reply, 9.

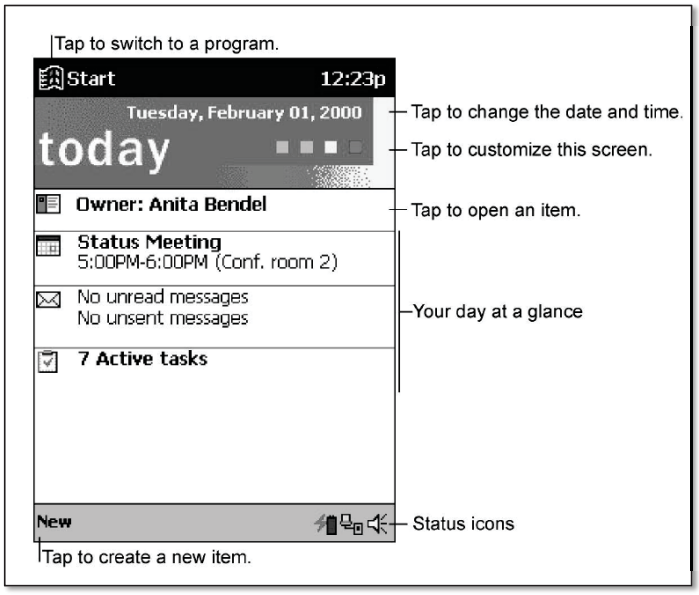
Rosenberg Dec. (EX2013) at ¶¶ 57-58.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

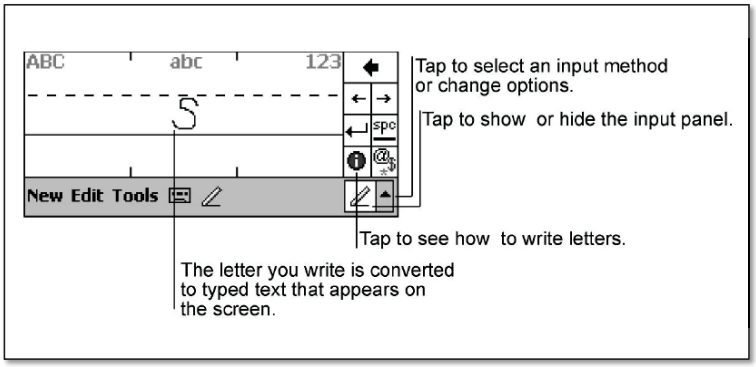
Ren Does Not Teach Away From “Tap”

A POSA would have known Pocket PCs in 2002 used tap-activatable “small targets” like Ren’s

Bederson Supp. Dec. (EX1051) at ¶ 46.



HP Jornada User Guide (EX1028) at 21.



HP Jornada User Guide (EX1028) at 26.

Petitioners' Reply, 8.

Ren Does Not Teach Away From "Tap"

PO argues: Ren teaches "touch" (*Direct On*) was superior to "tap" (*Direct Off*)

- Dr. Rosenberg admitted Ren explicitly states no preference

Rosenberg Dec. (EX2013) at ¶ 87.

- Disregards Ren's explicit teachings regarding error rates and icon size for PDAs.

Ren (EX1006) at 405.

- Incorrectly interprets Figure 10 – Ren states there was "no significant difference" in error rates for larger icons

Ren (EX1006) at 406-408; Bederson Supp. Dec. (EX1051) at ¶¶ 44-45.

PO argues: Ren's lower error rates for "tap" are skewed because the experiment included the *a*→*b*→*c*→*a* route

- Inclusion of the second route does not mean the targets are not tap-activatable
- No evidence the *a*→*c*→*a* route would not have also had lower error rates
- POSA would have known the *a*→*c*→*a* route alone would also have lower error rates

Petitioners' Reply, 6-9.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

Ren Does Not Teach Away From "Tap"

PO argues: "exchanging" "touch" for "tap" in Hisatomi's interface "would have denigrated the Hisatomi interface"

PO's Response at 28.

- Hisatomi does not teach reasons to prefer "touch" over "tap" such as for speed over accuracy
- Only support for alleged "denigration" are PO's mischaracterizations of Ren, but Ren does not criticize, discredit, or otherwise discourage the use of "tap"
- Advantages for "touch" are design tradeoffs, would not have dissuaded a POSA from using "tap"
- Requires a POSA reject their own knowledge regarding the benefits and intuitive nature of "tap"
- No evidence that Hisatomi would be *unlikely* to work using "tap"

Bederson Supp. Dec. (EX1051) at ¶¶ 47-48, 66; '993 File History, EX1003, 321-322.

> The prior art's mere disclosure of more than one alternative does not constitute a teaching away from any of these alternatives [so long as] such disclosure does not criticize, discredit, or otherwise discourage the [claimed] solution . . . .

In re Fulton, 391 F.3d 1195, 1201 (Fed. Cir. 2004).

> [J]ust because better alternatives exist in the prior art does not mean that an inferior combination is inapt for obviousness purposes.

In re Mouttet, 686 F.3d 1322, 1334 (Fed. Circ. 2012).

Petitioners' Reply, 8-11; ID (Paper 24) at 31.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

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Hisatomi Does Not Teach Away From “Tap-Activatable” Icons

- Hisatomi uses the broad term “select”
  - POSA would have applied design considerations
  - No teaching in Hisatomi away from “tap”
  - No teaching in Hisatomi of reasons to use “touch” over “tap”
  - No teaching to move away from common, well-known “tap” gesture
  - No teaching to disregard well-known reasons to use “tap”
  - No teaching in Hisatomi that its user interface would be “denigrated” or inoperable for its intended purpose if icons were selected by “tap” instead of “touch”

Bederson Supp. Dec. (EX1051) at ¶¶ 57-63.

Petitioners’ Reply, 11-14.

’993 Patent – Icons For System Functions

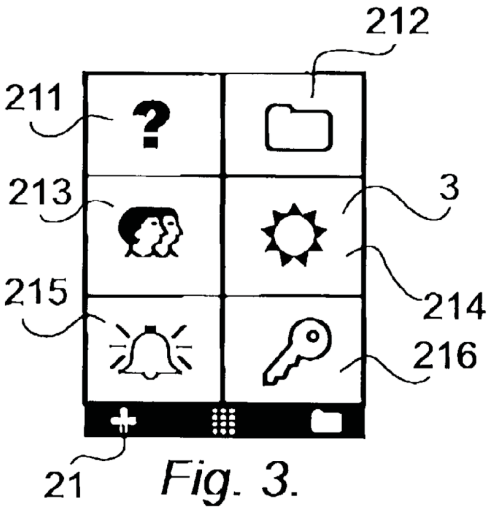


Fig. 3.

’993 Patent (EX1001), Fig. 3.

FIG. **3** shows that if the first function **21** is activated, then the display area **3** is adapted to display icons **211**, **212**, **213**, **214**, **215**, **216** representing services or functions depending on the current active application. One of the icons, in the figure exemplified by icon **211**, always represents a “help”-service, regardless of application. Any key that, because of lack of space on the display area, or because the key should be hidden from the active application, or because of any other reason is not shown on the display area of an active application, can be represented by one of the icons **212**, **213**, **214**, **215**, **216** that is shown when the first function **21** is activated.

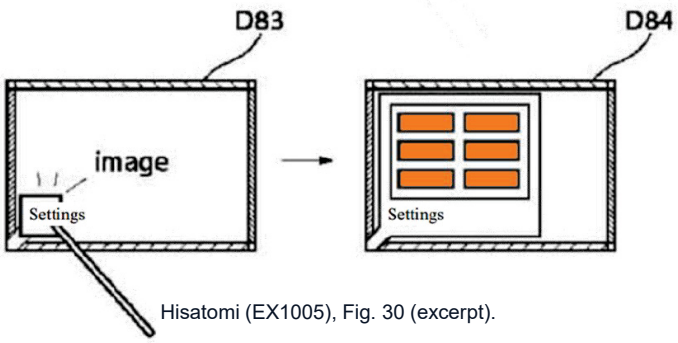
If for instance the active application handles a picture, then the icons that are shown when the first function is activated can be services such as “save to disk”, “send as SMS”, or “delete” and they can be settings such as “resolution”, “colour”, or “brightness”.

If no application is currently active on the computer unit, then the icons **211**, **212**, **213**, **214**, **215**, **216** are adapted to represent services or settings of the operations system of the computer unit, such as background picture, clock, alarm **215**, users **213**, help **211**, etc.

’993 Patent (EX1001), 4:20-40.

Petition, 5-6, 33; Petitioners' Reply, 3-5, 15-16.

Hisatomi Discloses Icons For System Functions



Hisatomi (EX1005), Fig. 30 (excerpt).

[0126] In such pop-up display state, as shown on screen D83 in FIG. 30, when the input device 05 is slid to the upper right and reaches the inside of the start button area (S706) and then goes OFF, the menu display process related to the start button will be executed, and the detailed settings menu as shown on screen D84 in FIG. 30 will be displayed (S707).

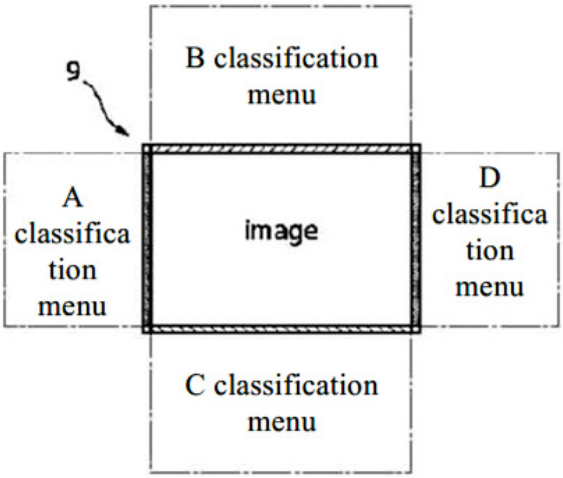
Hisatomi (EX1005), ¶ 126.

[0114] In other words, four corner positions of the image display screen 09 that avoided the pull-out menu display trigger areas 11A to 11D are set as trigger areas a, b, c and d, and functions that are rarely used such as special settings, etc. (for example, detailed settings, user settings, etc.) will be assigned to these areas.

Hisatomi (EX1005), ¶ 114.

Petition, 22-24; Petitioners' Reply, 15-16.

Hisatomi Discloses Icons For System Functions



Hisatomi (EX1005), Fig. 6.

[0022] As a specific example of functions stored in the A to D classification menus, in the A classification menu, a search function that searches for a desired image from the images that have been taken and saved in the past is summarized; in the B classification menu, the character input function that adds characters to the image is summarized; and in the C classification menu, the processing and editing function that adds special effects to the image are summarized. Moreover, the B classification menu is displayed as a pull-out menu in the image display screen 09, various functional processes can be performed, so by placing the B classification menu at a location at the top of the image display screen 09 to be described later with reference to FIG. 7, when writing to an image or selecting a function, it will be possible to prevent the input device 05 or hand from hiding the image.

[0023] In the D classification menu, the functions that specify the save destination of the data of image that has undergone the image processing, such as saving and organizing functions, etc., are summarized.

Hisatomi (EX1005),¶¶ 22-23.

Petition, 30, 33; Petitioners' Reply, 16.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

Hisatomi Discloses Icons for System Functions

- PO's arguments rely on their continually changing interpretation of the claim regarding an "active application"

PO's Arguments:

- "These are application functions, not system functions."

  PO's Response at 31.
- "they are exactly the types of functions that the '993 Patent specification described as encompassed by the unclaimed embodiment that is activated when a user actives the graphic while a currently active application is running."

  PO's Response at 31.
- "an icon presented within an application is not an icon for a system function, regardless of whether the function that it represents will ultimately involve a call to an operating system function."

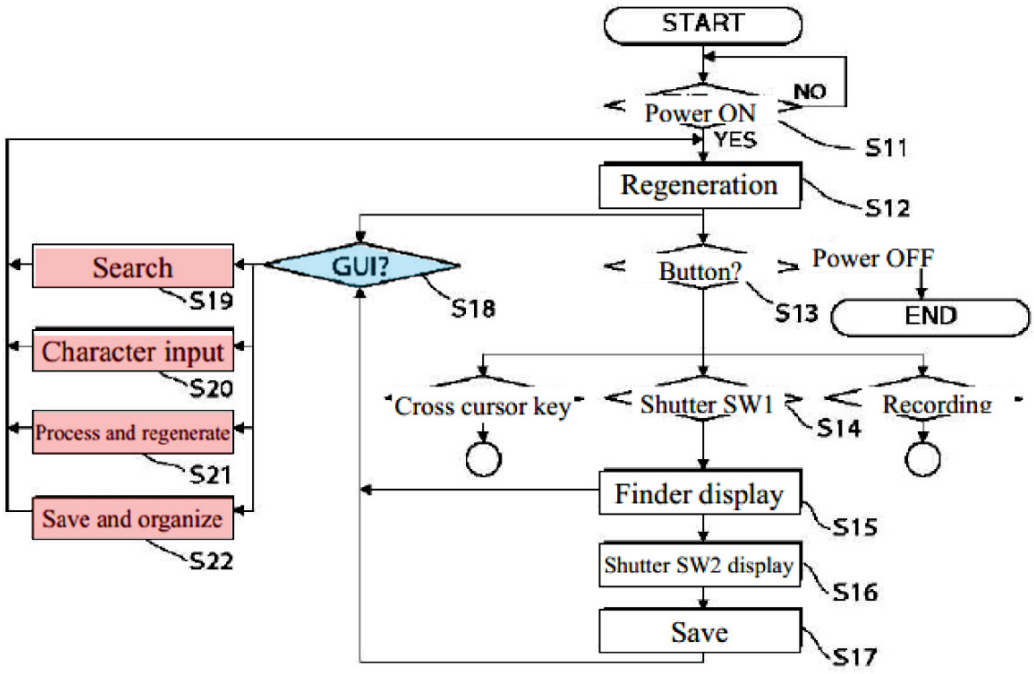
  PO's Response at 32.
- "the Hisatomi device presents icons for an application – a digital camera application."

  PO's Response at 32-33.
- "Hisatomi discloses icons activatable within a camera application, which are not icons for system functions."

  PO's Sur-reply at 11.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

Hisatomi Discloses Icons For System Functions



Hisatomi (EX1005), Fig. 9 (emphasized).

- No user interaction required to launch an application or close an application

  Petitioners' Reply, 17

- Camera part ≠ camera application

Petition, 30, 33; Petitioners' Reply, 15-17.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

65

Hisatomi Discloses Icons for System Functions

- Hisatomi's interface is not limited to image editing; nor is the problem to be solved tied to a digital camera

Petitioners' Reply, 17

Hisatomi

[0243] In addition, this invention can also be applied to a device accompanying with a screen of image display such as a still camera, a video camera, a notebook computer, a head mounted display, a car navigation system, or the like.

Hisatomi (EX1005),¶ 243, *see also* ¶¶ 1, 4-7.

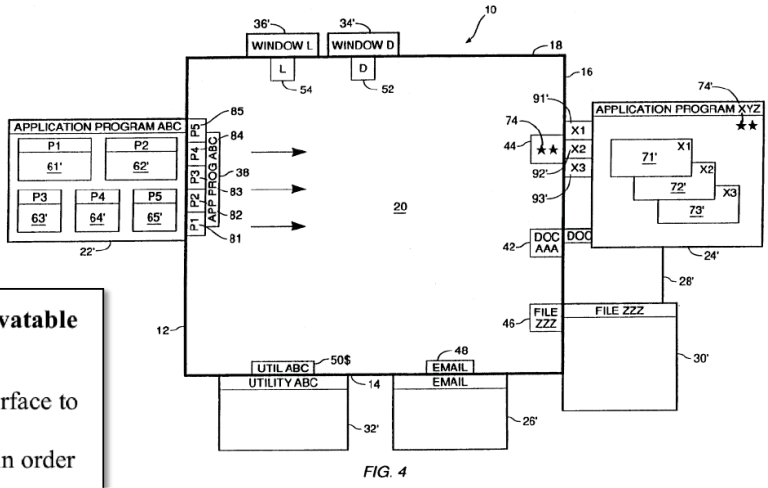


FIG. 4

US Patent No. 5,305,435 to Bronson (EX1012), FIG. 4.

Petitioners' Expert

2. User Interfaces Comprising a State Where Tap-Activatable Icons Are Absent to Avoid a Cluttered Screen

61. It was well known at the time of the '993 patent for a user interface to include a state in which tap-activatable icons are absent, or mostly absent, in order to avoid a cluttered workspace.

Bederson Dec. (EX1002) at ¶¶ 61-62.

Petition, 9; Petitioners' Reply, 17.

Hisatomi Renders Obvious “System Functions”

4	The computer readable medium of claim 1, wherein the plurality of pre-designated system functions comprises a help function.
5	The computer readable medium of claim 1, wherein the plurality of pre-designated system functions comprises a clock function.
6	The computer readable medium of claim 1, wherein the plurality of pre-designated system functions comprises an alarm function.

Petition, 54-63.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

Ground 2
Claims 1-8 are Obvious in light of Hansen (Ex. 1029) and Gillespie (Ex. 1030)

Hansen's Tap-Absent State

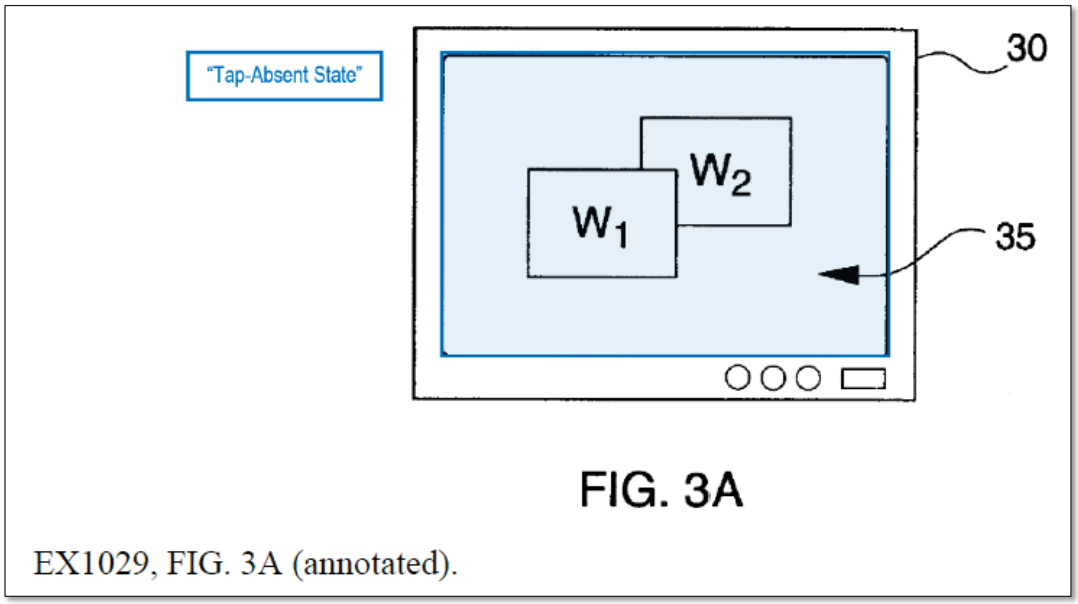


FIG. 3A

EX1029, FIG. 3A (annotated).

Petition, 67.

Hansen's Tap-Present State

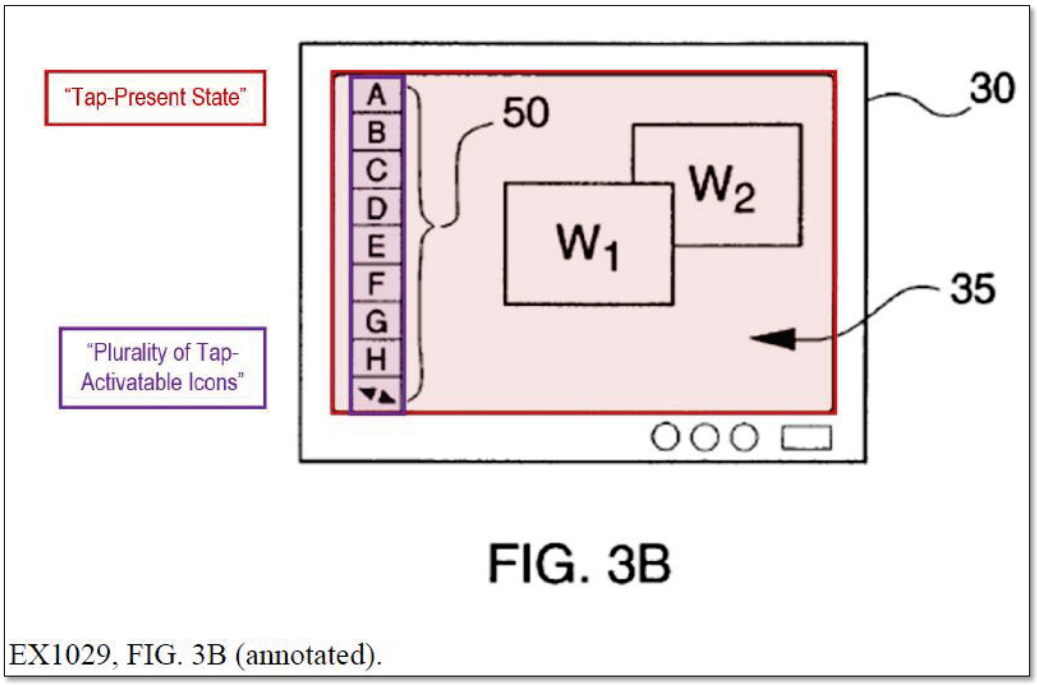
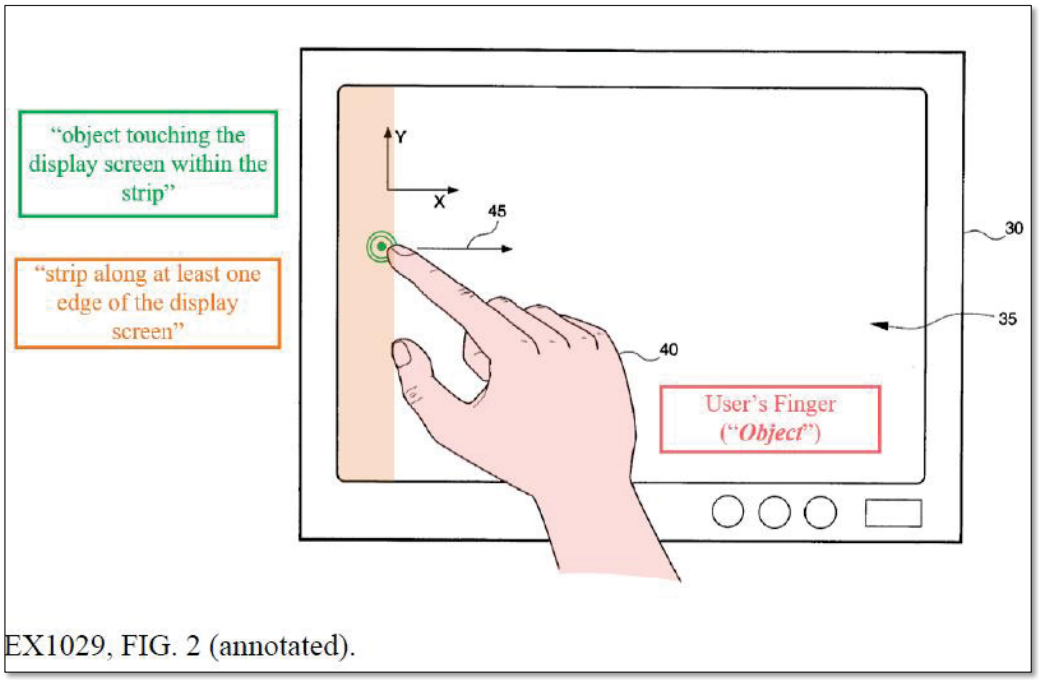


FIG. 3B

EX1029, FIG. 3B (annotated).

Petition, 65.

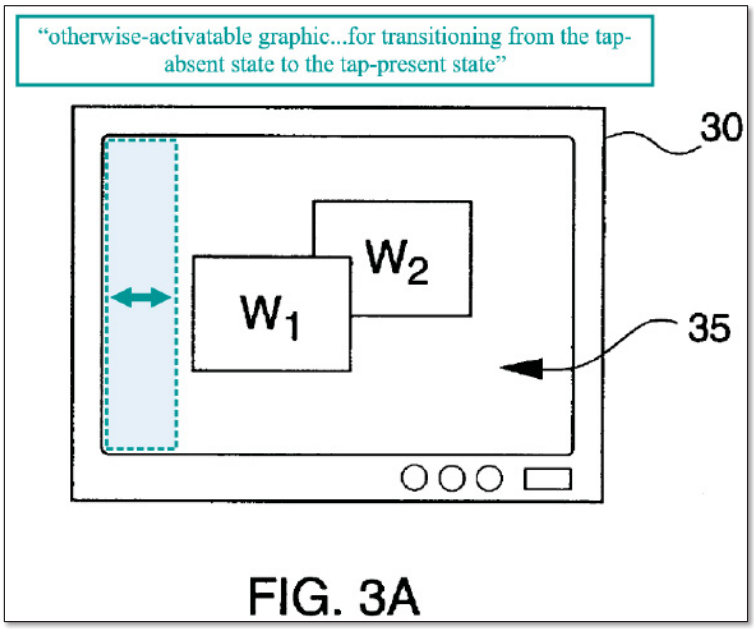
Hansen's Multi-Step Gesture



EX1029, FIG. 2 (annotated).

Petition, 71.

Hansen + Gillespie



EX1029, FIG. 3A
(annotated and modified to incorporate Gillespie's visual convention, e.g., dashed lines 426, 428).

Petition, 69.

’993 Patent, Claim 1

1.pre	A non-transitory computer readable medium storing instructions, which, when executed by a processor of **an electronic device** having a touch-sensitive display screen, cause the processor to enable a user interface of the device,
1.a	the user interface comprising at least two states, namely,
1.b	(a) a tap-present state, wherein a plurality of tap-activatable icons for a respective plurality of pre-designated **system functions** are present, each system function being activated in response to a tap on its respective icon, and
1.c	(b) **a tap-absent state**, wherein tap-activatable icons are absent but **an otherwise-activatable graphic is present in a strip along at least one edge of the display screen** for transitioning the user interface from the tap-absent state to the tap-present state in response to a multi-step user gesture comprising
1.d	(i) an object touching the display screen within the strip, and (ii) the object gliding on the display screen away from and out of the strip.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

’993 Patent, Claim 1

1.pre	A non-transitory computer readable medium storing instructions, which, when executed by a processor of **an electronic device** having a touch-sensitive display screen, cause the processor to enable a user interface of the device,

Hansen Discloses an "Electronic Device"

> 1. A non-transitory computer readable medium storing instructions, which, when executed by a processor of an electronic device having a touch-sensitive display screen, cause the processor to enable a user interface of the device, the user

EX1001 at 6:50-53 (claim 1).

> We do not find Neonode's argument persuasive at this stage, because claim 1 does not explicitly require that the recited "electronic device" have a processor and touch-sensitive display screen within a single housing. Though they may be separate components attached together with connectors, the parts of Hansen's computer system function in a unified and interdependent way for implementing Hansen's user interface. Thus, we find Petitioner's arguments regarding the preamble of claim 1 sufficiently persuasive on the preliminary record, and we do not need to determine, at this stage, whether or to what extent the preamble of claim 1 is limiting.

Institution Decision (Paper 24) at 41-42.

Petition, 63-64; Reply, 18-19.

Hansen Discloses an "Electronic Device"

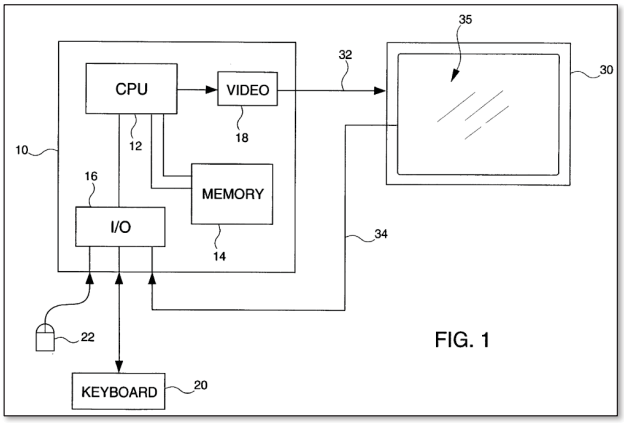


FIG. 1

Hansen (EX1029), FIG. 1.

We do not find Neonode's argument persuasive at this stage, because claim 1 does not explicitly require that the recited "electronic device" have a processor and touch-sensitive display screen within a single housing. Though they may be separate components attached together with connectors, the parts of Hansen's computer system function in a unified and interdependent way for implementing Hansen's user interface. Thus, we find Petitioner's arguments regarding the preamble of claim 1 sufficiently persuasive on the preliminary record, and we do not need to determine, at this stage, whether or to what extent the preamble of claim 1 is limiting.

Institution Decision (Paper 24) at 41-42.

Petition, 63-64; Reply, 18-19.

Hansen Discloses an "Electronic Device"

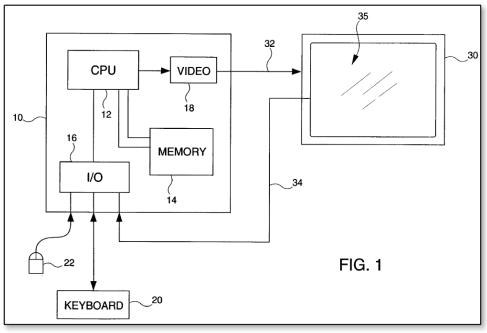


FIG. 1

Hansen (EX1029), FIG. 1.

Referring now to the drawings, FIG. **1** is a block diagram of a computer system in which the method according to the present invention is performed. The computer system comprises a computer board **10**, which includes a Central Processing Unit (CPU) **12**, a memory unit **14**, an input/output port **16** and a video controller **18**. The computer system also includes a keyboard **20**, a mouse **22**, and a video monitor **30**. The keyboard **20** and the mouse **22** are both

Hansen (EX1029) at 3:49-57.

the use of a mouse or a keyboard." EX1029, 4:27-30, 6:26-29. When describing this computer system, Hansen does not describe or otherwise limit the type of housing used for the system, leaving to a POSA implementing its system the form factor in which the components would be packaged. *See* EX1029, 3:49-4:26. In fact, a POSA would have known that Hansen's computer board 10 is not a standalone device, but is instead a subcomponent.

Bederson Decl. (EX1051) at ¶85.

Petition, 63-64; Reply, 18-19.

Hansen Discloses an "Electronic Device"

EX1058

In the next generation of personal computers, it is desirable to remove barriers that exist between the user and the computer system itself. It is desirable that the user not be required to input commands using a keyboard or computer mouse so that the user becomes more interactive with the computer system. Also, it is desirable that an operating

Hansen (EX1029) at 2:4-8.

86. Second, Hansen describes its invention as useful to the "the next generation of personal computers," which a POSA would have understood included many different types of electronic devices, including those that have all of the components that Hansen describes as part of its computer system. *See* EX1029, 2:4-15. For example, IBM debuted the ThinkPad 730TE in 1995, a year after Hansen's priority date and seven years before the priority date of the '993 patent. Pen Lab Review: IBM ThinkPad 730TE (Nov./Dec. 1995) (EX1058).

Bederson Decl. (EX1051) at ¶86.

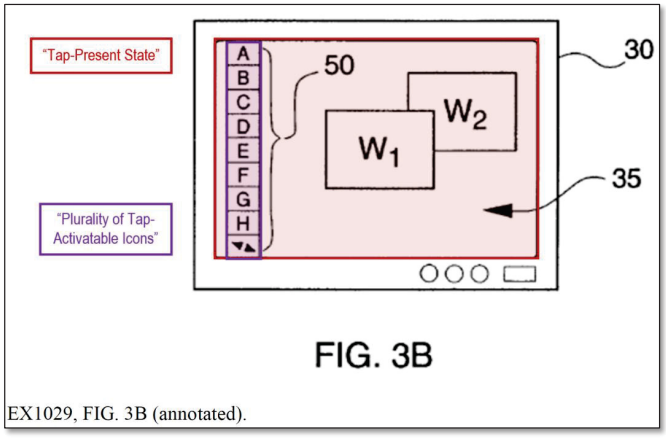
Reply, 18-19.

’993 Patent, Claim 1

1.b	(a) a tap-present state, wherein a plurality of tap-activatable icons for a respective plurality of pre-designated **system functions** are present, each system function being activated in response to a tap on its respective icon, and

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

Hansen Discloses "System Functions"



EX1029, FIG. 3B (annotated).

The CPU **12** displays a plurality of icons **50** on the touch-sensitive screen **35** if the first electrical signal matches the first predetermined electrical signal, or first predetermined user input stroke, as shown in FIG. **3**B. Each icon A-H corresponds to a computer program that can be run in the working window that appears on the screen **35** as a result of the user performing the first predetermined input stroke. In the preferred embodiment, the plurality of icons **50** are displayed in a line along a predetermined edge of the monitor **30**. The display shown in FIG. **3**B remains on the video monitor until the CPU **12** detects a second predetermined user input stroke.

Hansen (EX1029) at 5:14-25.

functions." EX1029, 5:17-36. In discussing prior art personal computer operating systems, Hansen defines "icons" (e.g., icons 50) as "graphical representations of various computer programs [that] are displayed on a computer screen," and a POSA would have understood a computer program to be at least one type of "system function." *Id.*, 1:34-43. Each of icons 50 can be selected by

Bederson Decl. (EX1002), ¶187.

Petition, 64-66; Reply, 19-20.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

80

Hansen Discloses "System Functions"

28. First, the ordinary meaning of "system functions" is not limited to "services or settings of the operating system." A POSA would understand the term "function" is not limited to services or settings, and does not exclude applications, as Neonode suggests. The Microsoft Computer Dictionary, for example, does not restrict a "function" to a "routine"—it also includes a "program." EX1057, 228. Thus, an application (which is a program, *see id.* at 31), would be within the scope of the ordinary meaning of the term "system function."

Bederson Supp Decl (EX1051) at ¶28.

function *n.* **1.** The purpose of, or the action carried out by, a program or routine. **2.** A general term for a subroutine. **3.** In some languages, such as Pascal, a subroutine that returns a value. *See also* function call, procedure, routine, subroutine.

EX1057 at 228.

Reply, 3-5.

Hansen Discloses "System Functions"

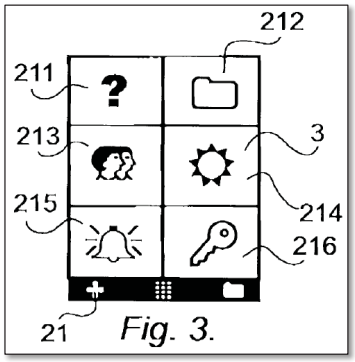


Fig. 3.

If no application is currently active on the computer unit, then the icons **211**, **212**, **213**, **214**, **215**, **216** are adapted to represent services or settings of the operations system of the computer unit, such as background picture, clock, alarm **215**, users **213**, help **211**, etc.

993 Patent (EX1001) at FIG. 3, 4:36-40.

32. Third, the specification and prosecution history does not support Neonode's construction, and confirms that Neonode's inclusion of "services and settings" and exclusion of "applications" is arbitrary. The specification describes, for example, that "services or settings of the operations system" may include "background picture, clock, alarm 215, users 13, help 211, etc." EX1001, 4:38-40. A POSA would recognize that a clock, alarm, and help functions could be implemented as "applications," and the '993 patent does not exclude such a possibility. The specification also describes a "keyboard function" and a "task and

Bederson Supp Decl (EX1051) at ¶32.

Reply, 3-5, 19-20.

Hansen Discloses "System Functions"

90. Hansen discloses that "[e]ach icon A-H corresponds to a computer program that can be run in the working window that appears on the screen 35 as a result of the user performing the first predetermined input stroke." EX1029, 5:17-20. Thus, consistent with the way in which the applicant used the term "system function" during original prosecution of the '993 patent, Hansen discloses that the plurality of icons 50 are "icons for a respective plurality of pre-designated system functions."

Bederson Supp. Decl. (EX1051), ¶90.

Reply 19-20.

’993 Patent, Claim 1

1.c	(b) **a tap-absent state**, wherein tap-activatable icons are absent but an otherwise-activatable graphic is present in a strip along at least one edge of the display screen for transitioning the user interface from the tap-absent state to the tap-present state in response to a multi-step user gesture comprising

Hansen Discloses "Tap-Absent State"

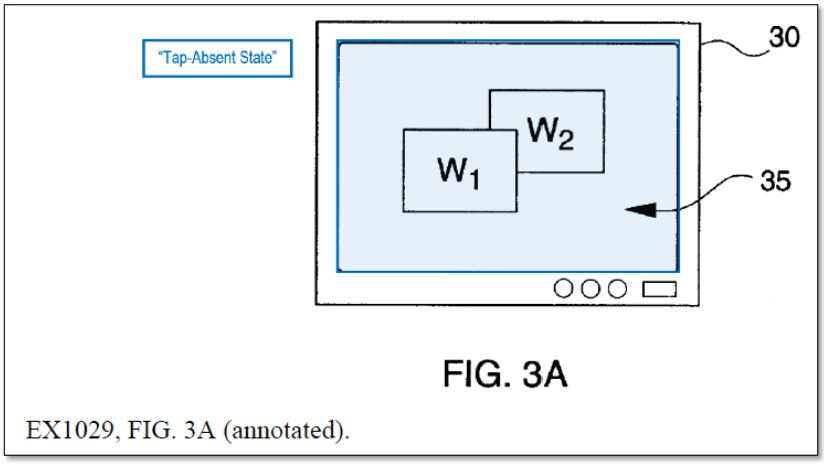


FIG. 3A

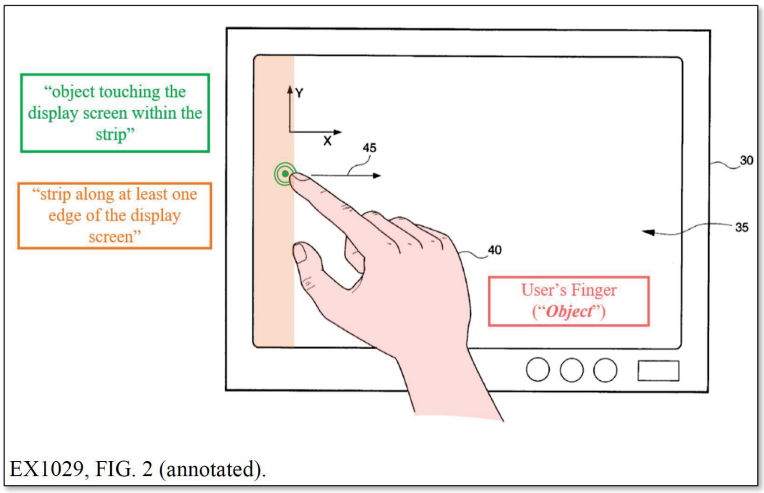
EX1029, FIG. 3A (annotated).

FIGS. **3**A–**3**C illustrate the outcome on the video monitor **30** when the user performs the first predetermined input stroke on the touch-sensitive screen **35** as described above. FIG. **3**A illustrates the video monitor **30** before the user has drawn the first predetermined input stroke to bring forth the working window. The video monitor **30** is showing any of a number of windows w**1**, w**2** as are commonly displayed by a computer system.

Hansen (EX1029) at 5:6-13.

Petition, 66-67; Reply, 20.

Hansen Discloses "Tap-Absent State"



EX1029, FIG. 2 (annotated).

189. With respect to FIG. 3A, Hansen describes that "video monitor 30 is showing any of a number of windows w1, w2 . . . ." EX1029, 5:11-12 (emphasis added). A POSA would have understood that, in a case where the user has not yet executed any programs and therefore not opened any windows, the display would not contain any windows and instead look similar to the blank display in FIG. 2. Thus, in this case, there can be no doubt that Hansen discloses a state in which "tap-activatable icons are absent," as claimed.

190. Applicant previously argued that "Hansen's computer system, prior to opening windows wl and w2, provides tap-activatable icons for opening these windows." EX1003, 156. However, this interpretation find no support in Hansen. Regardless, it would have at least been an obvious design choice to a POSA to open the windows w1 and w2 from icons 50 after a user provided the first predetermined input, leaving no tappable icons on the screen before the first predetermined input.

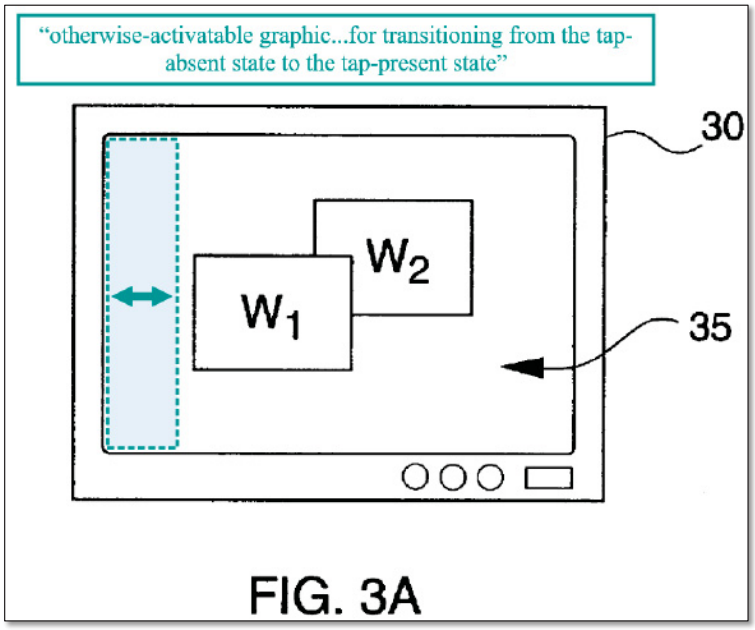
Bederson Decl. (EX1002), ¶¶189-190.

Petition, 66-67, 71; Reply, 20.

’993 Patent, Claim 1

1.c	(b) a tap-absent state, wherein tap-activatable icons are absent but **an otherwise-activatable graphic is present in a strip along at least one edge of the display screen** for transitioning the user interface from the tap-absent state to the tap-present state in response to a multi-step user gesture comprising

Obvious to Combine Hansen and Gillespie



EX1029, FIG. 3A
(annotated and modified to incorporate Gillespie's visual convention, e.g., dashed lines 426, 428).

106. Given these usability challenges to Hansen's interface, a POSA would have been motivated to modify the interface to include one or more indicators that visually represent Hansen's "predetermined area" within which a touch input can be provided to initiate an input stroke. To perform this modification, a POSA would have turned to well-known techniques for providing such indicators, such as Gillespie's technique of using visual conventions to "**indicate control regions that respond specifically to finger motions** and/or finger taps, either at all times or only when the touch screen has been activated in a special way." EX1030, ¶[0056] (emphasis added). Given the various types of visual conventions disclosed in Gillespie, a POSA would have understood that such a modification could be performed in various ways. EX1030, ¶[0059].

Bederson Decl. (EX1002), ¶106.

Petition, 24-27, 68-70; Reply, 20-21.

Obvious to Combine Hansen and Gillespie

dow on the screen. Often a computer screen may have numerous windows open and overlapping each other, thereby making the screen appear cluttered and disorganized.

Hansen (EX1029) at 1:50-53.

world. Finally, it is desirable to have an operating system where the user can easily eliminate extra windows that appear on a computer so that the screen does not become cluttered.

Hansen (EX1029) at 2:12-15.

or a keyboard. Furthermore, the method of the present invention does not clutter the screen by producing numerous haphazardly placed windows on the screen. By restricting

Hansen (EX1029) at 6:29-31.

on the application program that is being run. Once the user has finished with the working window, it is moved off the monitor without cluttering the previously displayed windows. Finally, the present method of generating a working

Hansen (EX1029) at 6:34-37.

Thus, the clutter with which Hansen is concerned is the clutter of windows displayed on the screen. The affordances taught by Gillespie and that would have been obvious to integrate into Hansen are not working windows. Rather, they are visual conventions to "indicate control regions that respond specifically to finger motions and/or finger taps, either at all times or only when the touch screen has been activated in a special way." EX1030, ¶[0056]. Accordingly, a POSA would not have understood incorporation of Gillespie affordances into Hansen as contrary to or otherwise frustrating the advantages gained by Hansen's system.

Bederson Decl. (EX1051), ¶92.

Petition, 24-27, 68-70; Reply, 20-21.

Obvious to Combine Hansen and Gillespie

filled with words and symbols to guide the user. Indeed, one key principles of design was to "make things visible," which included clearly labeling functions such that, "[i]f the user forgets the functions, the controls serve as reminders." EX1032, 12, 15. "Visibility acts as a good reminder of what can be done and allows the control to specify how the action is to be performed." EX1032, 15. These principles were known to be true for all types of devices (e.g., telephones) that users interact with on a daily basis, regardless of the level of skill of the user, because designers understood that sometimes all users could use a good reminder.

Bederson Decl. (EX1051), ¶94.

Petition, 24-27, 68-70; Reply, 20-21.

Secondary Considerations

PO's Evidence Does Not Meet Nexus Requirements

> In order to accord substantial weight to secondary considerations in an obviousness analysis, "the evidence of secondary considerations must have a `nexus' to the claims, i.e., there must be `a legally and factually sufficient connection' between the evidence and the patented invention." *Henny Penny Corp. v. Frymaster LLC*, 938 F.3d 1324, 1332 (Fed. Cir. 2019) (quoting *Demaco Corp. v. F. Von Langsdorff Licensing Ltd.*, 851 F.2d 1387, 1392 (Fed. Cir. 1988)). "The patentee bears the burden of showing that a nexus exists." *WMS Gaming Inc. v. Int'l Game Tech.*, 184 F.3d 1339, 1359 (Fed. Cir. 1999).

Fox Factory, Inc. v. SRAM, LLC, 944 F. 3d 1366, 1373 (Fed. Cir. 2019).

> That is, presuming nexus is appropriate "when the patentee shows that the asserted objective evidence is tied to a specific product and that product `embodies the claimed features, and is coextensive with them.'" *Polaris Indus., Inc. v. Arctic Cat, Inc.*, 882 F.3d 1056, 1072 (Fed. Cir. 2018) (quoting *Brown & Williamson Tobacco Corp. v. Philip Morris Inc.*, 229 F.3d 1120, 1130 (Fed. Cir. 2000)). Conversely, "[w]hen the thing that is commercially successful is not coextensive with the patented invention—for example, if the patented invention is only a component of a commercially successful machine or process," the patentee is not entitled to a presumption of nexus. *Demaco*, 851 F.2d at 1392.

Fox Factory, Inc. v. SRAM, LLC, 944 F. 3d 1366, 1373-74 (Fed. Cir. 2019).

Petitioners' Reply, 25-27.

Secondary Considerations

- PO's alleged evidence of non-obviousness should be rejected:
  - (1) No nexus
    - PO did not prove coextensiveness → *no presumption of nexus*
    - No direct showing of nexus to the allegedly novel limitations of claim 1
  - (2) No actual commercial success
    - No expert testimony, no market analysis
    - 26,991 sales corrected to 9,640 shipments, no corroboration for others
    - Relies on "pre-orders" and units for employees
  - (3) No industry praise, expert skepticism, or "respect" for the claimed invention
    - No link to the allegedly non-obvious limitations

Petitioners' Reply, 25-29.

PO's Evidence Does Not Meet Nexus Requirements

A patent claim is not coextensive with a product that includes a "critical" unclaimed feature that is claimed by a different patent and that materially impacts the product's functionality by "lead[ing] to a chainring that will retain a chain in even the worst conditions."

Fox Factory, Inc. v. SRAM, LLC, 944 F. 3d 1366, 1375 (Fed. Cir. 2019).

Neonode's products include a critical unclaimed feature claimed by a different patent

implementation of Goertz's gesture-based interface. *Id*. So, Goertz conceived and developed an optical sensing technology (which later became known as zForce) in order to enable further development of the gesture-based interface, and by October 2001 had produced a second prototype incorporating the optical sensing technology. *Id*. Neonode filed an application to patent the optical sensing technology in Sweden on November 2, 2001. EX2017. Notably, the specification

PO Response at 14.

Petitioners' Reply, 26-27.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

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Secondary Considerations – PO Failed to Prove a Nexus

The Neonode devices did not transition states in response to “an object touching **the display screen within the strip**”

> Q. And are part -- are those icons part of the -- the screen? The display screen?
> **A. No, they're -- they're within the touch sensitive area, but they're below the display.**

Shain Tr. (EX1053) at 18:2-5.

> Q. And then each -- each of the N1 and N2 devices, they have three -- three icons or images below the -- the display?
> **A. Yes.**

Shain Tr. (EX1053) at 17:3-6.

Shain Tr. (EX1053) at Exhibits 3 and 4.

Petitioners' Reply, 26-27.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

95

Secondary Considerations – PO Failed to Prove a Nexus

Mr. Shain acknowledged he had insufficient understanding of the Neonode devices and the ’993 patent

Q. And in preparing your declaration, did you perform any kind of technical analysis related to the patent at issue?

A. No.

Shain Tr. (EX1053) at 12:12-15

Q. Okay. And did you review that patent in preparation for your deposition today?

A. No.

Shain Tr. (EX1053) at 11:6-8

Q. If a user received a calendar -- or had a calendar appointment set up, would it show a notification on the status screen?

A. I don't know. I have to really check what happens in these situations. My basic -- I have a basic understanding of the user interface, and I'm kind of extrapo -- or trying to figure out what I think would happen -- would have happened or what I expect to have happened, but I -- I don't recall receiving a -- a -- you know, a calendar notification or a text notification. I don't remember what exactly occurred. So these are just conjecture. So I should really not -- not say for sure.

Shain Tr. (EX1053) at 19:21-20:8

Petitioners' Reply, 26-27.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

96

Secondary Considerations – No Commercial Success

Mr. Martensson disputed and revised his own testimony

- ~~26,991 sales of N2~~ → 9,640 N2 shipped
- *9,640 included units for Neonode and manufacturer employees*
- 8,000 units of N2 to network operator → *no corroboration*
- 5,000 units of N1 → *no corroboration*

bankruptcy in 2008. The Excel spreadsheet documents sales of 26,991 units of the Neonode N2 phone. In addition, Neonode sold 8,000 units to a network operator in India, for a total of 34,991 units of the N2 phone. Furthermore, Neonode sold approximately 5,000 units of the N1 phone. So in all, Neonode's records presently available document approximately sales of approximately 40,000 N1 and N2 phones.

Martensson Dec. (EX2022) at ¶ 6; *see* Martensson Tr. (EX1054) at 18:22-19:25.

Q. And so parsing through that. In Paragraph 6 of your declaration, you said the Excel spreadsheet document sales of 26,991 units of the Neonode N2 phone, right?
A. **Yeah.**
Q. And you're correcting that number to now be 9,640 units?
A. **That's correct.**

Martensson Tr. (EX1054) at 19:18-25.

Petitioners' Reply, 27-28.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

97

Secondary Considerations – No Commercial Success

- PO's Witnesses unsure of meaning of "pre order"
- No other evidence of preorders
- No market analysis of significance of "preorders"

Marcus Bäcklund

9. To the best of my recollection, Neonode had over 100,000 Internet pre-orders, over 300 N1 units per day, which required the customer to pay a substantial down payment to secure the customer's place on the handset's waiting list. These pre-orders were in addition to the over 20,000 pre-orders Neonode received following its initial brand release in December 2002.

Bäcklund Dec. (EX2016) at ¶ 9.

12 Q. And after a customer has secured their place on
13 the waiting list, does that guarantee them a phone?
14 **A. No, it didn't.**

Bäcklund Tr. (EX1056) at 29:12-14.

Per Bystedt

commercial success as a startup company. To the best of my recollection, Neonode sold 50,000 N1 and N2 phones. Also, to the best of my recollection, Neonode had in the order of 100,000 pre-orders from consumers and network operators for the phones that it was unable to fulfill.

Bystedt Dec. (EX2015) at ¶ 11.

21 **A. My recollection is that there were preorders**
22 **before I invested. But whether that was preorders or**
23 **people signing up their interest, I don't remember.**

Bystedt Tr. (EX1054) at 23:21-23

Petitioners' Reply, 27-28.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

Additional Slides

Patent Owner's Expert Dr. Rosenberg

Q. Any other reasons a user interface designer in 2002 would have chosen to use the tap gesture?
A. Well, that's what comes to mind. There's the potential of how tap effects accuracy, but as you saw, we -- that's not just so clear cut to -- to say that tap is always more accurate or touch is always more accurate. We see a size dependency in Ren, which, you know, had a few dozen subjects for each experiment. We see sometimes in the smaller sizes, one was more accurate than the other. At the larger sizes, touch was more accurate than tap. So there -- there would need to be some investigation as to potentially how accuracy would affect the interface given all the dimensions -- dimensions in terms of variables that could be manipulated, size of the display, size of the targets, density of the targets, the amount of clutter, the interaction styles that you want to support.

Rosenberg Tr. (EX1052) at 108:4-22

Q. As part of your work for Boeing, did you work on any handheld devices?
A. I did, yes.
Q. Did those handheld devices have touch interfaces?
A. They did, yes.
Q. Did any of those touch interfaces have tap-activatable targets?
A. I can't recall, but, again, the -- the UI widgets typically that we use, some of them default to tap and some of them default to touch. Buttons are typically touch. Drop downs are typically tap. Open and close are typically tap, minimize/maximize/close.

Rosenberg Tr. (EX1052) at 13:15-14:2

Petitioners' Reply, 13-14.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

Patent Owner's Expert Dr. Rosenberg

Q. Okay. All right. And you agree that the direct off strategy taught by Ren meets your construction of tap-activatable; is that right?
A. You said direct off?
Q. Yes.
A. Yes. Direct off, in the terminology of Ren, Ren uses direct off. I would equate that to what one of skill in the art would understand as tap. Now, Ren -- Ren does have several two variants of direct off, ABCA and ACA. So I -- I'll just add that in there, but -- but in general, I think the answer to your question is yes, direct off in Ren is equivalent to tap.

Rosenberg Tr. (EX1052) at 82:11-23

Q. And so does the ABCA variant, does that meet your definition of tap -activatable?
A. It -- it depends on how -- I mean, for the specifics of a system, it depends on how it's programmed, but I would say in general, yes. In general, yes, because what's important is was the stylus or finger or mouse cursor on the target at the moment that the finger or stylus or mouse button was released. That's the salient part here.

Rosenberg Tr. (EX1052) at 83:19-84:2.

Petitioners' Reply, 3, 6, 9.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE