

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

<b>Application Data Sheet 37 CFR 1.76</b>		Attorney Docket Number	069366-000002USC3
		Application Number	
Title of Invention	METHOD AND APPARATUS FOR MANAGING DIGITAL FILES		
The application data sheet is part of the provisional or nonprovisional application for which it is being submitted. The following form contains the bibliographic data arranged in a format specified by the United States Patent and Trademark Office as outlined in 37 CFR 1.76. This document may be completed electronically and submitted to the Office in electronic format using the Electronic Filing System (EFS) or the document may be printed and included in a paper filed application.			

### Secrecy Order 37 CFR 5.2:

<input type="checkbox"/>	Portions or all of the application associated with this Application Data Sheet may fall under a Secrecy Order pursuant to 37 CFR 5.2 (Paper filers only. Applications that fall under Secrecy Order may not be filed electronically.)
--------------------------	---

### Inventor Information:

Inventor 1					Remove
Legal Name					
Prefix	Given Name	Middle Name	Family Name	Suffix	
	Christopher	J.	Desmond		
Residence Information (Select One) <input checked="" type="radio"/> US Residency <input type="radio"/> Non US Residency <input type="radio"/> Active US Military Service					
City	Glen Ellyn	State/Province	IL	Country of Residence	US

#### Mailing Address of Inventor:

Address 1	980 Oxford Rd.				
Address 2					
City	Glen Ellyn	State/Province	IL		
Postal Code	60137	Country i	US		

Inventor 2					Remove
Legal Name					
Prefix	Given Name	Middle Name	Family Name	Suffix	
	Nancy	L.	Desmond		
Residence Information (Select One) <input checked="" type="radio"/> US Residency <input type="radio"/> Non US Residency <input type="radio"/> Active US Military Service					
City	Glen Ellyn	State/Province	IL	Country of Residence	US

#### Mailing Address of Inventor:

Address 1	980 Oxford Rd.				
Address 2					
City	Glen Ellyn	State/Province	IL		
Postal Code	60137	Country i	US		

Inventor 3					Remove
Legal Name					
Prefix	Given Name	Middle Name	Family Name	Suffix	
	L.	Michael	Taylor		
Residence Information (Select One) <input checked="" type="radio"/> US Residency <input type="radio"/> Non US Residency <input type="radio"/> Active US Military Service					

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<b>Application Data Sheet 37 CFR 1.76</b>		Attorney Docket Number	069366-000002USC3		
		Application Number			
Title of Invention	METHOD AND APPARATUS FOR MANAGING DIGITAL FILES				
City	Chicago	State/Province	IL	Country of Residence	US
<b>Mailing Address of Inventor:</b>					
Address 1	1036 N. Woods St. #1				
Address 2					
City	Chicago	State/Province	IL		
Postal Code	60622	Country	US		
All Inventors Must Be Listed - Additional Inventor Information blocks may be generated within this form by selecting the <b>Add</b> button.				<input type="button" value="Add"/>	

**Correspondence Information:**

Enter either Customer Number or complete the Correspondence Information section below. For further information see 37 CFR 1.33(a).	
<input type="checkbox"/> An Address is being provided for the correspondence information of this application.	
Customer Number	70001
Email Address	<input type="button" value="Add Email"/> <input type="button" value="Remove Email"/>

**Application Information:**

Title of the Invention	METHOD AND APPARATUS FOR MANAGING DIGITAL FILES		
Attorney Docket Number	069366-000002USC3	Small Entity Status Claimed	<input checked="" type="checkbox"/>
Application Type	Nonprovisional		
Subject Matter	Utility		
Total Number of Drawing Sheets (if any)	50	Suggested Figure for Publication (if any)	

**Filing By Reference:**

Only complete this section when filing an application by reference under 35 U.S.C. 111(c) and 37 CFR 1.57(a). Do not complete this section if application papers including a specification and any drawings are being filed. Any domestic benefit or foreign priority information must be provided in the appropriate section(s) below (i.e., "Domestic Benefit/National Stage Information" and "Foreign Priority Information").

For the purposes of a filing date under 37 CFR 1.53(b), the description and any drawings of the present application are replaced by this reference to the previously filed application, subject to conditions and requirements of 37 CFR 1.57(a).

Application number of the previously filed application	Filing date (YYYY-MM-DD)	Intellectual Property Authority or Country

**Publication Information:**

<input type="checkbox"/> Request Early Publication (Fee required at time of Request 37 CFR 1.219)
<input type="checkbox"/> <b>Request Not to Publish.</b> I hereby request that the attached application not be published under 35 U.S.C. 122(b) and certify that the invention disclosed in the attached application <b>has not and will not</b> be the subject of an application filed in another country, or under a multilateral international agreement, that requires publication at eighteen months after filing.

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**Representative Information:**

Representative information should be provided for all practitioners having a power of attorney in the application. Providing this information in the Application Data Sheet does not constitute a power of attorney in the application (see 37 CFR 1.32). Either enter Customer Number or complete the Representative Name section below. If both sections are completed the customer Number will be used for the Representative Information during processing.

Please Select One:	<input checked="" type="radio"/> Customer Number	<input type="radio"/> US Patent Practitioner	<input type="radio"/> Limited Recognition (37 CFR 11.9)
Customer Number	70001		

**Domestic Benefit/National Stage Information:**

This section allows for the applicant to either claim benefit under 35 U.S.C. 119(e), 120, 121, 365(c), or 386(c) or indicate National Stage entry from a PCT application. Providing benefit claim information in the Application Data Sheet constitutes the specific reference required by 35 U.S.C. 119(e) or 120, and 37 CFR 1.78.

When referring to the current application, please leave the "Application Number" field blank.

Prior Application Status	Pending		<a href="#">Remove</a>		
Application Number	Continuity Type	Prior Application Number	Filing or 371(c) Date (YYYY-MM-DD)		
	Continuation of	16/536300	2019-08-08		
Prior Application Status	Pending		<a href="#">Remove</a>		
Application Number	Continuity Type	Prior Application Number	Filing or 371(c) Date (YYYY-MM-DD)		
16/536300	Continuation of	15/375927	2016-12-12		
Prior Application Status	Patented		<a href="#">Remove</a>		
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)	Patent Number	Issue Date (YYYY-MM-DD)
15/375927	Continuation of	14/193426	2014-02-28	9552376	2017-01-24
Prior Application Status	Patented		<a href="#">Remove</a>		
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)	Patent Number	Issue Date (YYYY-MM-DD)
14/193426	Continuation in part of	13/157214	2011-06-09	9098531	2015-08-04
Additional Domestic Benefit/National Stage Data may be generated within this form by selecting the <b>Add</b> button.					

**Foreign Priority Information:**

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

<b>Application Data Sheet 37 CFR 1.76</b>		Attorney Docket Number	069366-000002USC3
		Application Number	
Title of Invention	METHOD AND APPARATUS FOR MANAGING DIGITAL FILES		

This section allows for the applicant to claim priority to a foreign application. Providing this information in the application data sheet constitutes the claim for priority as required by 35 U.S.C. 119(b) and 37 CFR 1.55. When priority is claimed to a foreign application that is eligible for retrieval under the priority document exchange program (PDX)<sup>1</sup> the information will be used by the Office to automatically attempt retrieval pursuant to 37 CFR 1.55(i)(1) and (2). Under the PDX program, applicant bears the ultimate responsibility for ensuring that a copy of the foreign application is received by the Office from the participating foreign intellectual property office, or a certified copy of the foreign priority application is filed, within the time period specified in 37 CFR 1.55(g)(1).

Application Number	Country <sup>1</sup>	Filing Date (YYYY-MM-DD)	Access Code <sup>1</sup> (if applicable)

Additional Foreign Priority Data may be generated within this form by selecting the **Add** button.

### Statement under 37 CFR 1.55 or 1.78 for AIA (First Inventor to File) Transition Applications

This application (1) claims priority to or the benefit of an application filed before March 16, 2013 and (2) also contains, or contained at any time, a claim to a claimed invention that has an effective filing date on or after March 16, 2013.

NOTE: By providing this statement under 37 CFR 1.55 or 1.78, this application, with a filing date on or after March 16, 2013, will be examined under the first inventor to file provisions of the AIA.



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## Authorization or Opt-Out of Authorization to Permit Access:

When this Application Data Sheet is properly signed and filed with the application, applicant has provided written authority to permit a participating foreign intellectual property (IP) office access to the instant application-as-filed (see paragraph A in subsection 1 below) and the European Patent Office (EPO) access to any search results from the instant application (see paragraph B in subsection 1 below).

Should applicant choose not to provide an authorization identified in subsection 1 below, applicant **must opt-out** of the authorization by checking the corresponding box A or B or both in subsection 2 below.

**NOTE:** This section of the Application Data Sheet is **ONLY** reviewed and processed with the **INITIAL** filing of an application. After the initial filing of an application, an Application Data Sheet cannot be used to provide or rescind authorization for access by a foreign IP office(s). Instead, Form PTO/SB/39 or PTO/SB/69 must be used as appropriate.

### 1. Authorization to Permit Access by a Foreign Intellectual Property Office(s)

**A. Priority Document Exchange (PDX)** - Unless box A in subsection 2 (opt-out of authorization) is checked, the undersigned hereby **grants the USPTO authority** to provide the European Patent Office (EPO), the Japan Patent Office (JPO), the Korean Intellectual Property Office (KIPO), the State Intellectual Property Office of the People's Republic of China (SIPO), the World Intellectual Property Organization (WIPO), and any other foreign intellectual property office participating with the USPTO in a bilateral or multilateral priority document exchange agreement in which a foreign application claiming priority to the instant patent application is filed, access to: (1) the instant patent application-as-filed and its related bibliographic data, (2) any foreign or domestic application to which priority or benefit is claimed by the instant application and its related bibliographic data, and (3) the date of filing of this Authorization. See 37 CFR 1.14(h)(1).

**B. Search Results from U.S. Application to EPO** - Unless box B in subsection 2 (opt-out of authorization) is checked, the undersigned hereby **grants the USPTO authority** to provide the EPO access to the bibliographic data and search results from the instant patent application when a European patent application claiming priority to the instant patent application is filed. See 37 CFR 1.14(h)(2).

The applicant is reminded that the EPO's Rule 141(1) EPC (European Patent Convention) requires applicants to submit a copy of search results from the instant application without delay in a European patent application that claims priority to the instant application.

### 2. Opt-Out of Authorizations to Permit Access by a Foreign Intellectual Property Office(s)

A. Applicant **DOES NOT** authorize the USPTO to permit a participating foreign IP office access to the instant application-as-filed. If this box is checked, the USPTO will not be providing a participating foreign IP office with any documents and information identified in subsection 1A above.

B. Applicant **DOES NOT** authorize the USPTO to transmit to the EPO any search results from the instant patent application. If this box is checked, the USPTO will not be providing the EPO with search results from the instant application.

**NOTE:** Once the application has published or is otherwise publicly available, the USPTO may provide access to the application in accordance with 37 CFR 1.14.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

<b>Application Data Sheet 37 CFR 1.76</b>		Attorney Docket Number	069366-000002USC3
		Application Number	
Title of Invention	METHOD AND APPARATUS FOR MANAGING DIGITAL FILES		

**Applicant Information:**

Providing assignment information in this section does not substitute for compliance with any requirement of part 3 of Title 37 of CFR to have an assignment recorded by the Office.			
<b>Applicant 1</b>			
If the applicant is the inventor (or the remaining joint inventor or inventors under 37 CFR 1.45), this section should not be completed. The information to be provided in this section is the name and address of the legal representative who is the applicant under 37 CFR 1.43; or the name and address of the assignee, person to whom the inventor is under an obligation to assign the invention, or person who otherwise shows sufficient proprietary interest in the matter who is the applicant under 37 CFR 1.46. If the applicant is an applicant under 37 CFR 1.46 (assignee, person to whom the inventor is obligated to assign, or person who otherwise shows sufficient proprietary interest) together with one or more joint inventors, then the joint inventor or inventors who are also the applicant should be identified in this section.			
<input type="button" value="Clear"/>			
<input checked="" type="radio"/> Assignee	<input type="radio"/> Legal Representative under 35 U.S.C. 117	<input type="radio"/> Joint Inventor	
<input type="radio"/> Person to whom the inventor is obligated to assign.		<input type="radio"/> Person who shows sufficient proprietary interest	
If applicant is the legal representative, indicate the authority to file the patent application, the inventor is:			
Name of the Deceased or Legally Incapacitated Inventor: <input type="text"/>			
If the Applicant is an Organization check here. <input checked="" type="checkbox"/>			
Organization Name	NCM IP Holdings, LLC		
<b>Mailing Address Information For Applicant:</b>			
Address 1	526 Crescent Blvd.		
Address 2	Suite 233		
City	Glen Ellyn	State/Province	IL
Country	US	Postal Code	60137
Phone Number		Fax Number	
Email Address			
Additional Applicant Data may be generated within this form by selecting the Add button.			

**Assignee Information including Non-Applicant Assignee Information:**

Providing assignment information in this section does not substitute for compliance with any requirement of part 3 of Title 37 of CFR to have an assignment recorded by the Office.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

<b>Application Data Sheet 37 CFR 1.76</b>		Attorney Docket Number	069366-000002USC3	
		Application Number		
Title of Invention	METHOD AND APPARATUS FOR MANAGING DIGITAL FILES			

<b>Assignee 1</b>				
Complete this section if assignee information, including non-applicant assignee information, is desired to be included on the patent application publication. An assignee-applicant identified in the "Applicant Information" section will appear on the patent application publication as an applicant. For an assignee-applicant, complete this section only if identification as an assignee is also desired on the patent application publication.				
If the Assignee or Non-Applicant Assignee is an Organization check here. <input type="checkbox"/>				
Prefix	Given Name	Middle Name	Family Name	Suffix
<b>Mailing Address Information For Assignee including Non-Applicant Assignee:</b>				
Address 1				
Address 2				
City		State/Province		
Country <sup>i</sup>		Postal Code		
Phone Number		Fax Number		
Email Address				
Additional Assignee or Non-Applicant Assignee Data may be generated within this form by selecting the Add button.				

**Signature:**

**NOTE:** This Application Data Sheet must be signed in accordance with 37 CFR 1.33(b). However, if this Application Data Sheet is submitted with the **INITIAL** filing of the application and either box A or B is **not** checked in subsection 2 of the "Authorization or Opt-Out of Authorization to Permit Access" section, then this form must also be signed in accordance with 37 CFR 1.14(c).

This Application Data Sheet **must** be signed by a patent practitioner if one or more of the applicants is a **juristic entity** (e.g., corporation or association). If the applicant is two or more joint inventors, this form must be signed by a patent practitioner, **all** joint inventors who are the applicant, or one or more joint inventor-applicants who have been given power of attorney (e.g., see USPTO Form PTO/AIA/81) on behalf of **all** joint inventor-applicants.

See 37 CFR 1.4(d) for the manner of making signatures and certifications.

Signature	/Bradley M. Taub/		Date (YYYY-MM-DD)	2019-09-20
First Name	Bradley	Last Name	Taub	Registration Number 67300
Additional Signature may be generated within this form by selecting the Add button.				

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

<b>Application Data Sheet 37 CFR 1.76</b>		Attorney Docket Number	069366-000002USC3
		Application Number	
Title of Invention	METHOD AND APPARATUS FOR MANAGING DIGITAL FILES		

This collection of information is required by 37 CFR 1.76. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 23 minutes to complete, including gathering, preparing, and submitting the completed application data sheet form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. **DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

## Privacy Act Statement

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

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

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether the Freedom of Information Act requires disclosure of these records.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the international Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspections or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

Electronic Patent Application Fee Transmittal				
<b>Application Number:</b>				
<b>Filing Date:</b>				
<b>Title of Invention:</b>		METHOD AND APPARATUS FOR MANAGING DIGITAL FILES		
<b>First Named Inventor/Applicant Name:</b>		Christopher J. Desmond		
<b>Filer:</b>		Bradley Michael Taub		
<b>Attorney Docket Number:</b>		069366-000002USC3		
Filed as Small Entity				
<b>Filing Fees for Track I Prioritized Examination - Nonprovisional Application under 35 USC 111(a)</b>				
Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
<b>Basic Filing:</b>				
UTILITY FILING FEE (ELECTRONIC FILING)	4011	1	75	75
UTILITY SEARCH FEE	2111	1	330	330
UTILITY EXAMINATION FEE	2311	1	380	380
REQUEST FOR PRIORITIZED EXAMINATION	2817	1	2000	2000
<b>Pages:</b>				
<b>Claims:</b>				
CLAIMS IN EXCESS OF 20	2202	2	50	100
<b>Miscellaneous-Filing:</b>				

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
PUBL. FEE- EARLY, VOLUNTARY, OR NORMAL	1504	1	0	0
PROCESSING FEE, EXCEPT PROV. APPLS.	2830	1	70	70
<b>Petition:</b>				
<b>Patent-Appeals-and-Interference:</b>				
<b>Post-Allowance-and-Post-Issuance:</b>				
<b>Extension-of-Time:</b>				
<b>Miscellaneous:</b>				
<b>Total in USD (\$)</b>				<b>2955</b>

<b>Electronic Acknowledgement Receipt</b>	
<b>EFS ID:</b>	37229297
<b>Application Number:</b>	16578238
<b>International Application Number:</b>	
<b>Confirmation Number:</b>	4358
<b>Title of Invention:</b>	METHOD AND APPARATUS FOR MANAGING DIGITAL FILES
<b>First Named Inventor/Applicant Name:</b>	Christopher J. Desmond
<b>Customer Number:</b>	70001
<b>Filer:</b>	Bradley Michael Taub
<b>Filer Authorized By:</b>	
<b>Attorney Docket Number:</b>	069366-000002USC3
<b>Receipt Date:</b>	20-SEP-2019
<b>Filing Date:</b>	
<b>Time Stamp:</b>	21:41:50
<b>Application Type:</b>	Utility under 35 USC 111(a)

**Payment information:**

Submitted with Payment	yes
Payment Type	DA
Payment was successfully received in RAM	\$2955
RAM confirmation Number	E20199JL42281426
Deposit Account	504181
Authorized User	Bradley Taub

The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:

37 CFR 1.16 (National application filing, search, and examination fees)

37 CFR 1.17 (Patent application and reexamination processing fees)



37 CFR 1.19 (Document supply fees)  
 37 CFR 1.20 (Post Issuance fees)  
 37 CFR 1.21 (Miscellaneous fees and charges)

**File Listing:**

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Specification	069366-2USC3_Specification.pdf	3221497	no	58
			9035a034f98dc4603ba3256f3106def0024f710d		

**Warnings:**

**Information:**

2	Drawings-only black and white line drawings	069366-2USC3_Drawings.pdf	1314858	no	50
			b7ab10ba3685bfc4670c718a83f1d6b77e2be26c		

**Warnings:**

**Information:**

3	Oath or Declaration filed	069366-2USC3_Declaration.pdf	177140	no	3
			925d335ea4797e4c8d591f8e0ae1ae58a86af92c		

**Warnings:**

**Information:**

4	Power of Attorney	NCM_IPHoldingsLLC_POA.pdf	330719	no	2
			6163ac99ef04a77c603a7fd499174c35231aea0a		

**Warnings:**

**Information:**

5	TrackOne Request	069366-2USC3_Track_One_Request.pdf	134066	no	2
			f6670d19e71984ea8b47c4dde4f02fc9c2d837ac		

**Warnings:**

**Information:**

6	Preliminary Amendment	069366-2USC3_Preliminary_Amendment.pdf	139319	no	8
			c974fcd0329428e5725456ab387881049eb3636f		

**Warnings:**

**Information:**

7	Application Data Sheet	069366-000002USC3-ADS.pdf	122536	no	9
			402cb699947e6292d7e04a7e4be99c5788d1db5a		

**Warnings:**

**Information:**

This is not an USPTO supplied ADS fillable form

8	Fee Worksheet (SB06)	fee-info.pdf	41878	no	2
			a2b7276c29d1ce980e06967266f08db54dbd3510		

**Warnings:**

**Information:**

**Total Files Size (in bytes):** 5482013

**This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.**

**New Applications Under 35 U.S.C. 111**

**If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.**

**National Stage of an International Application under 35 U.S.C. 371**


**If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.**

**New International Application Filed with the USPTO as a Receiving Office**

**If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.**

**FIG. 1**

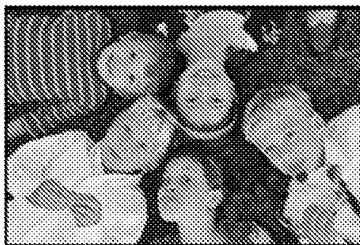
Select All    Select None  
Delete Selected



1 File(s) Selected

**File Attributes:**  
Date: September 2, 2010 [change](#)  
Location: Yellowstone, MT, USA [change](#)  
People: Christopher Desmond, Nancy Desmond  
Event: Fly Fishing in Yellowstone  
Comments: Add  
Keywords: Add  
Album: Add  
Star Ranking: ●●●●●  
Sharing Rights: Add  
Recipe: Add  
Document Type: Add  
File Name: IMG 123 [change](#)

## FIG. 2

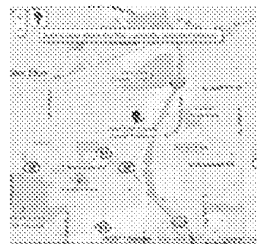


Comments:  
Suzanne and Anthony's Wedding Party where the cousins posed for a photo in the grass. Note, Jack with the lollipop and the photographer with his shoe in the photo

People:  
Jack Wong  
CJ Wong  
Mary Firestone  
Zoe Peika  
Nick Persons

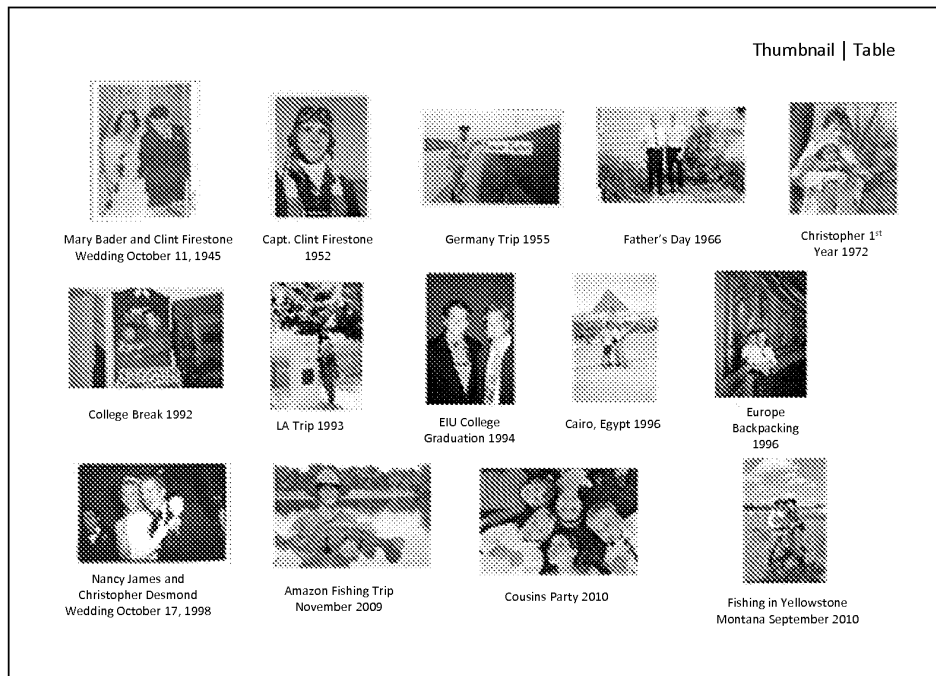
Event: Suzanne & Anthony's Wedding Reception 2010

Camera Details: more

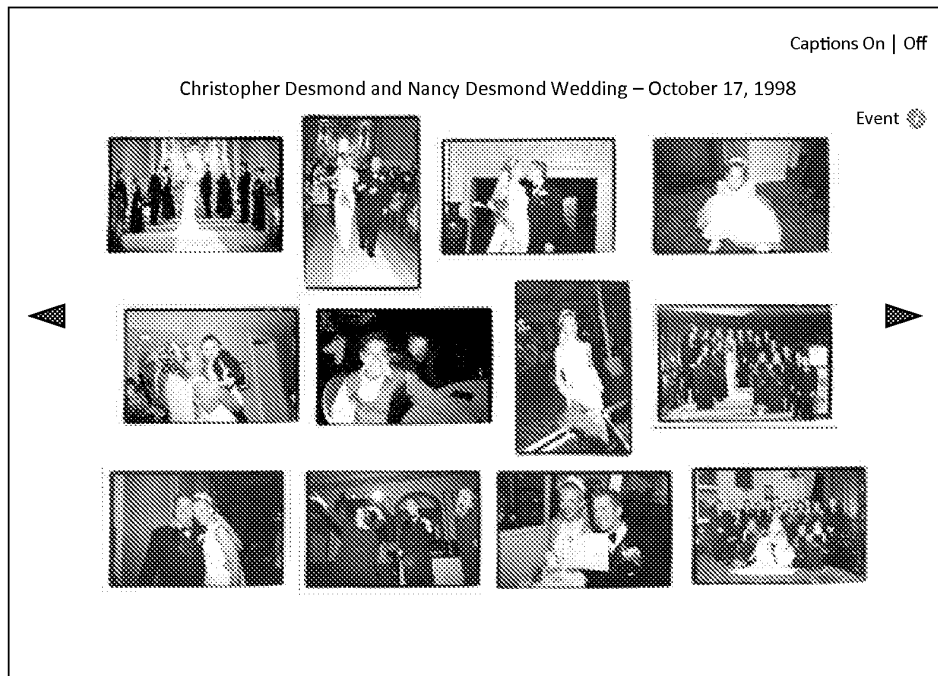


Location:  
Historical Society  
Lisle, IL 60532

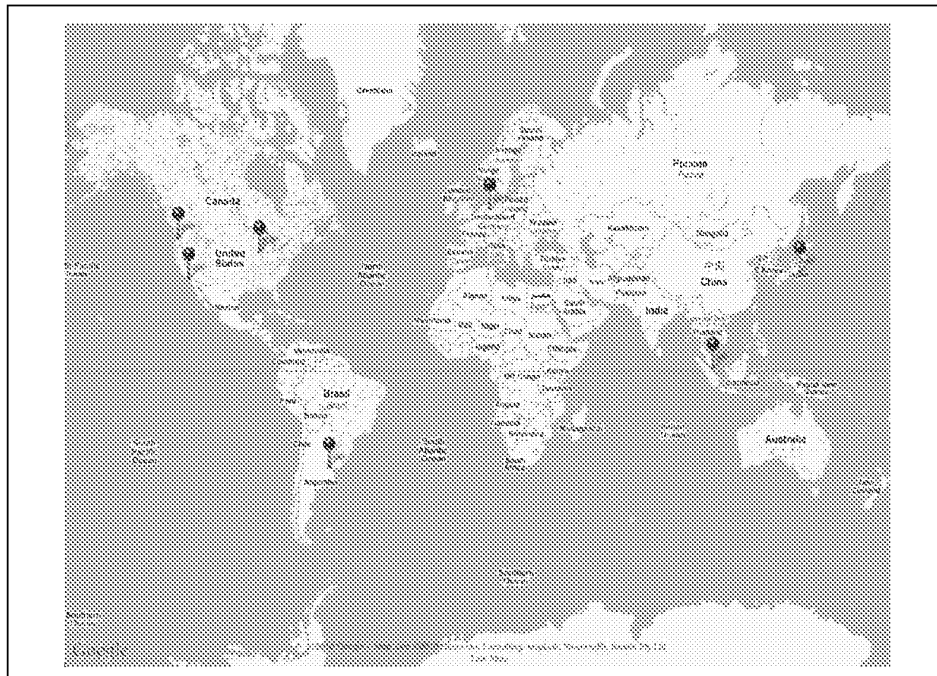
**FIG. 3**



**FIG. 4**



**FIG. 5**




**FIG. 6**





**FIG. 7**



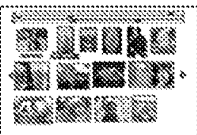



**Clinton Dewitt Firestone IV**

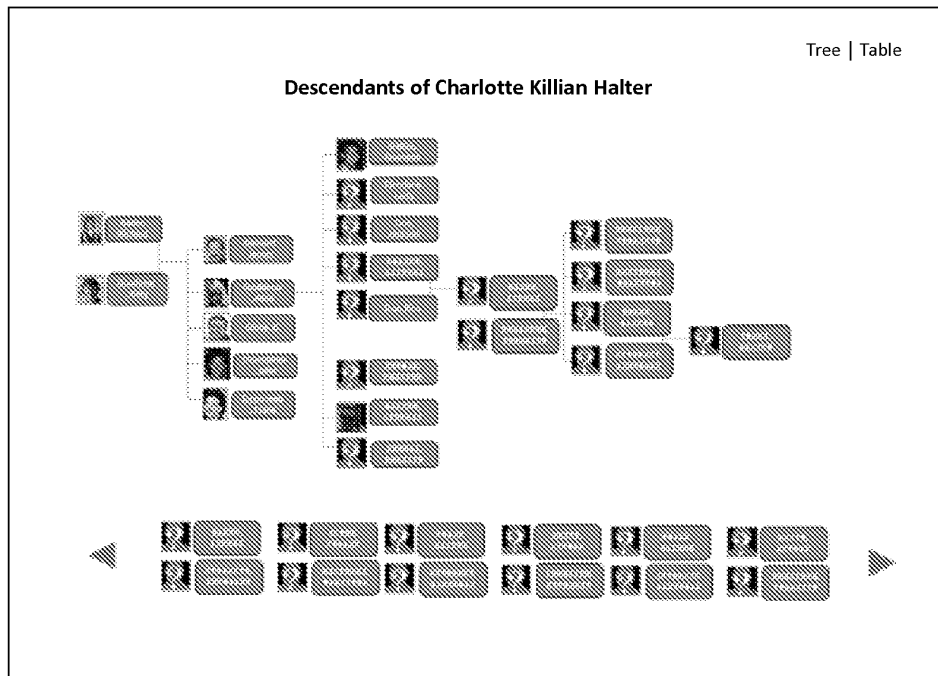
Birth: July 12, 1896  
Death: April 29, 1971  
Parents: [Clinton Dewitt Firestone III](#) and [Viola Miller](#)  
Comments: He was a WWII U.S. Air force pilot and POW in WWII and veteran honorably discharged in December of 1947. He worked for 44 years for the Firestone Tire and Rubber Company in retail, wholesale and original equipment sales, marketing and management. He was born in Akron, OH and is buried in Columbiana, OH.

[Edit bio](#)

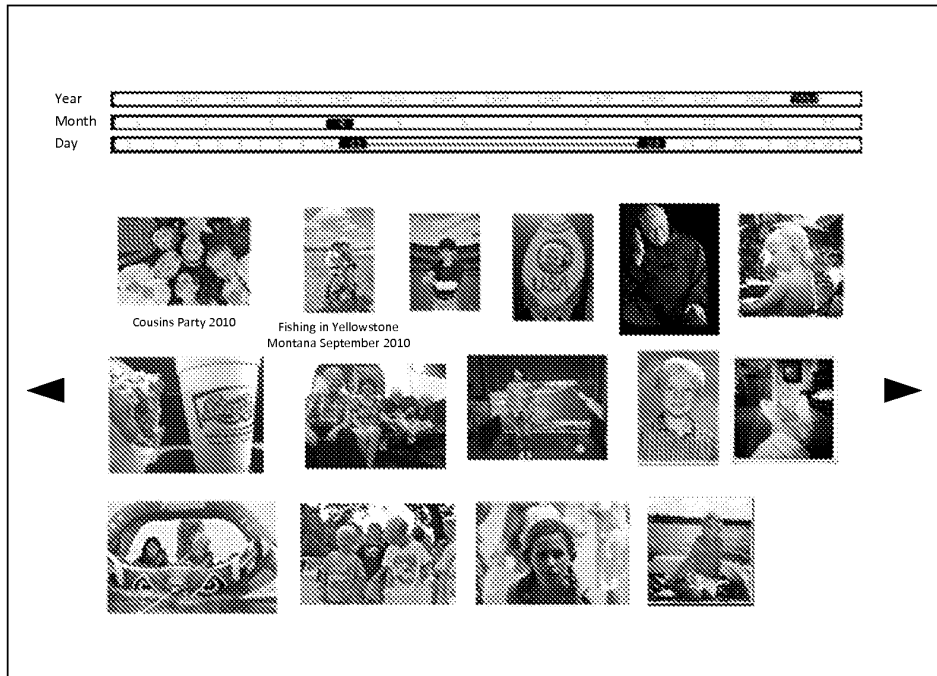
Locations      Timeline      Family Tree      Recipes



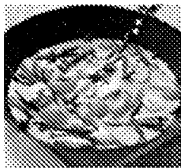
**FIG. 8**



**FIG. 9**



**FIG. 10**



**Desmond's Yellow Thai Chicken Curry**

**Curry Mix**

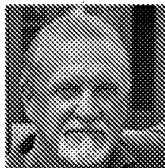
- Coconut milk (400 ml) – DO NOT SHAKE IT UP
- 800 gram of chicken (4 chicken breast)
- Fish sauce (Nam Pla) Thai Bamboo Garden – Bottle
- Garlic (2 cloves)
- Broccoli ( 2cups chopped)
- 2 Peppers (chopped)
- 2 Carrots (chopped)

- 1 Zucchini (chopped)
- Thai Basil (8 leaves)
- Lemon Grass (in jar) 1 teaspoon
- Chinese Ginger Root (in jar) 1 teaspoon

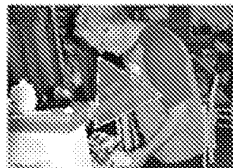
**Rice**

- Thai Rice (something that only takes 2 cups of water)
- Dice chicken in bowl and add two tablespoons of fish sauce. Let marinate for 20 minutes.
- Take thick part of coconut milk out into pan (about 4 tablespoons), Curry paste, 1 spoon of lemon grass, 1 spoon of ginger and garlic. Heat over high with boil and THEN stir for 1 minute. Add meat (uncooked) and fry until cooked over high heat
- Add milk, brown sugar and salt. Bring back to slight boil and constantly stir. Add veggies and soy sauce. Cook for about 10-14 minutes COVERED until veggies are cooked. Serve with a smile.

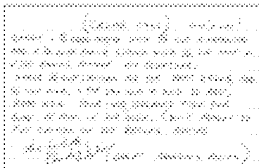
**Chef: Barry Desmond**



**Video on How to Make It**



**Original Handwritten Recipe**



**FIG. 11**

Thumbnail | Table

Album/Event	Date	Location	# Photos	# Videos	# Docs
Jack Monk's Arrival	26-Dec-2003	Chicago, IL	69	4	4
Mike Testy's First Birthday	13-Sep-1983	Minneapolis, MN	54	21	0
Cubs Beat Cards 1998	5-Aug-1998	Chicago, IL	36	2,199	2
Jack Monk's Arrival	29-Dec-2003	Chicago, IL	69	4	4
Mike Testy's 2nd Birthday	13-Sep-1983	Minneapolis, MN	54	21	0
Cubs Beat Cards 1998	5-Aug-1998	Chicago, IL	36	2,199	2
Jack Monk's Arrival	29-Dec-2003	Chicago, IL	69	4	4
Mike Testy's 3rd Birthday	13-Sep-1983	Minneapolis, MN	54	21	0
Cubs Beat Cards 1998	5-Aug-1998	Chicago, IL	36	2,199	2
Jack Wrigley Monk's Arrival	29-Dec-2003	Chicago, IL	69	4	4
Mike Testy's 4th Birthday	13-Sep-1983	Minneapolis, MN	54	21	0
Cubs Beat Cards 1998	5-Aug-1998	Chicago, IL	36	2,199	2
Nancy Learns How to Ride a Bike	21-Jul-1978	St. Louis, MO	76	2	0

**FIG. 12**

Thumbnail | Table

Album/Event	Date	Location	# Photos	# Videos	# Docs
Jack Monk's Arrival	26-Dec-2003	Chicago, IL	69	4	4
Mike Testy's First Birthday	13-Sep-1983	Minneapolis, MN	54	21	0
Cubs Beat Cards 1998	5-Aug-1998	Chicago, IL	36	2,199	2
Jack Monk's Arrival	29-Dec-2003	Chicago, IL	69	4	4
Mike Testy's 2nd Birthday	13-Sep-1983	Minneapolis, MN	54	21	0
Cubs Beat Cards 1998	5-Aug-1998	Chicago, IL	36	2,199	2
Jack Monk's Arrival	29-Dec-2003	Chicago, IL	69	4	4
Mike Testy's 3rd Birthday	13-Sep-1983	Minneapolis, MN	54	21	0
Cubs Beat Cards 1998	5-Aug-1998	Chicago, IL	36	2,199	2
Jack Wrigley Monk's Arrival	29-Dec-2003	Chicago, IL	69	4	4
Mike Testy's 4th Birthday	13-Sep-1983	Minneapolis, MN	54	21	0
Cubs Beat Cards 1998	5-Aug-1998	Chicago, IL	36	2,199	2
Nancy Learns How to Ride a Bike	21-Jul-1978	St. Louis, MO	76	2	0



**FIG. 13**

Thumbnail | Table

Last Name	# People	# Photos	# Videos	# Docs
+ Alberts	2	8	0	0
+ Annex	2	7	0	0
+ Bade	3	8	0	0
+ Bacon	4	8	0	0
+ Bates	5	7	1	0
+ Boone	6	6	2	2
+ Danas	7	5	4	1
+ Danes	8	7	3	2
- Monk (All)	2	499	4	14
Monk, CJ	1	200	2	7
Monk, Jack	1	199	2	7
+ Firestone	21	1249	17	39
+ Moore	1	4	6	3
+ Slythe	1	9	0	9
+ Stein	2	249	1	3
+ Testy	4	788	2	12

**FIG. 14**

Thumbnail | Table

Last Name	Relationship	# Photos	# Videos	# Docs
Alberts, John	Cousin	8	0	0
Killian, Jack	Son	7	0	0
Killian, Brian	Nephew	8	0	0
Killian, Kevin	Nephew	8	0	0
Killian, Sarah	Daughter-in-law	7	1	0
Killian, John	Great Nephew	6	2	2
Killian, Mark	Great Nephew	5	4	1
Killian, Louis	Great Grandson	7	3	2
Killian, John	Grandson	499	4	14
 Monk, CJ	Great Grandson	200	2	7
 Monk, Jack	Great Grandson	199	2	7
Firestone, Mike	Third Cousin	1249	17	39
Moore, Bertha	Great Niece	4	6	3
Slythe, Sarah	Sister	9	0	9
Killian, John	Brother	249	1	3
Killian, Mike	Brother	788	2	12



**FIG. 15**

Thumbnail | Table

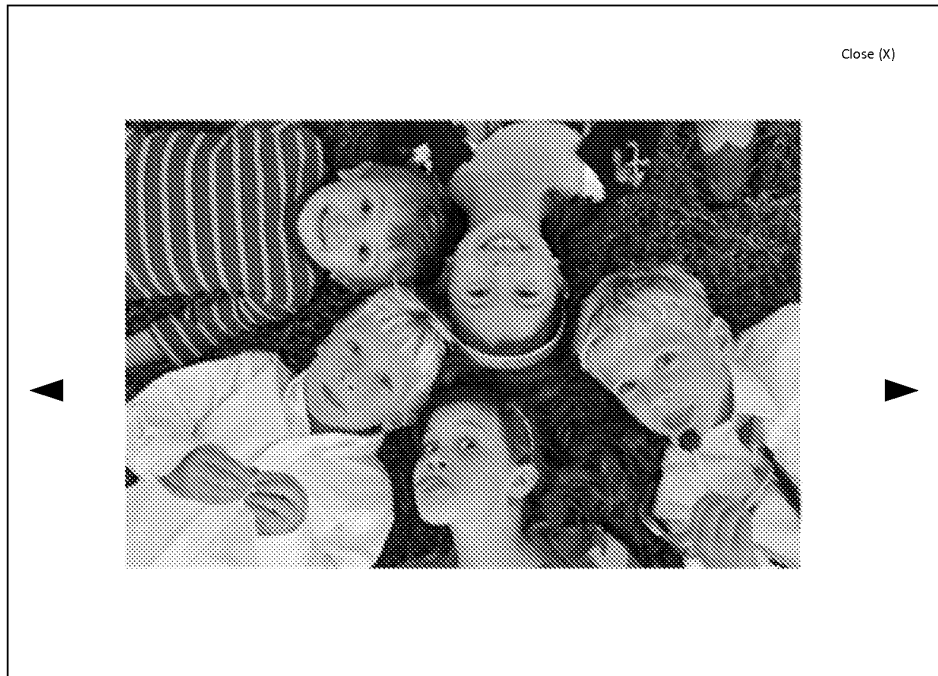
Location Name	Address	City	State	Country	# Photos	# Videos	# Docs
Dom		Cologne		Germany	3	2	0
Lucilla & Roberto		Montalcino		Italy	6	1	0
Lisle Home	898 West St	Lisle	IL	USA	45	12	2
College	545 Market	Akron	OH	USA	64	2	0
Amazon Trip		Manus		Brazil	235	8	2
Cabin	999 Pine	Lake Geneva	WI	USA	98	2	0
Grad School	903 Plymouth	Charleston	IL	USA	1256	32	4
Griffith Park	298 Glencarin	Los Feliz	CA	USA	12	0	0
LA Equestrian Ctr	568 Horse Dr	Glendale	CA	USA	4	4	0
Del Coronado	12 Coronado Dr	Coronado	CA	USA	321	4	0
Fenway Park	123 Yawke	Boston	MA	USA	57	3	5
Wrigley Field	1190 W Addison	Chicago	IL	USA	498	7	3
Home	444 Main	Anywhere	IL	USA	10,987	49	9
GA Grill Party	321 Silver	Macon	GA	USA	15	0	0
Pike's Market	786 Market	Seattle	WA	USA	18	1	0
Raffels	345 Fong	Singapore		Singapore	23	2	0

**FIG. 16**

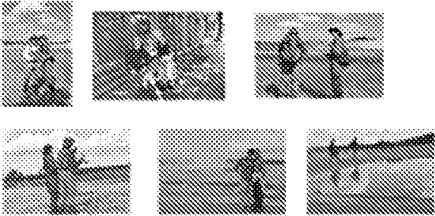
Category | Card | Table

Recipe	Chef	Date	Category
Blacks Yellow Thai Chicken Curry	Jack Black	31 Jan 2010	Dinner
Skinny Germans	Gerda	29 Dec 2003	Breakfast
KFC in a Bag	The Kernal	13 Sept 1988	Anytime
Shit on a Shingle	George James	5 Aug 1998	Anytime
Mrs. Fields Cookies	Mrs. Fields	21 July 1978	Dessert
Chicken Pot Pie	Jack Black	31 Jan 2010	Dinner
Roll Your Own Dough	Vito Spadavecchio	29 Dec 2003	Dinner
Pizza ala Franciscan	Charles Faso	13 Sept 1988	Dinner
Meatball Delight	Ben Delight	5 Aug 1998	Dinner
Almond Cookies	Lori James	21 July 1978	Dessert
Jumpin Jack Flap Jacks	Jack Jack	31 Jan 2010	Breakfast
Vicki's Chow Mein	Vicki Firestone	29 Dec 2003	Dinner
Fat Steak	Barry Monk	13 Sept 1988	Dinner
Mud Pie	Nancy Monk	5 Aug 1998	Dessert
Caesar Salad	Christopher Monk	21 July 1978	Anytime
Daddio Pancakes	Barry Monk	2 March 2011	Breakfast

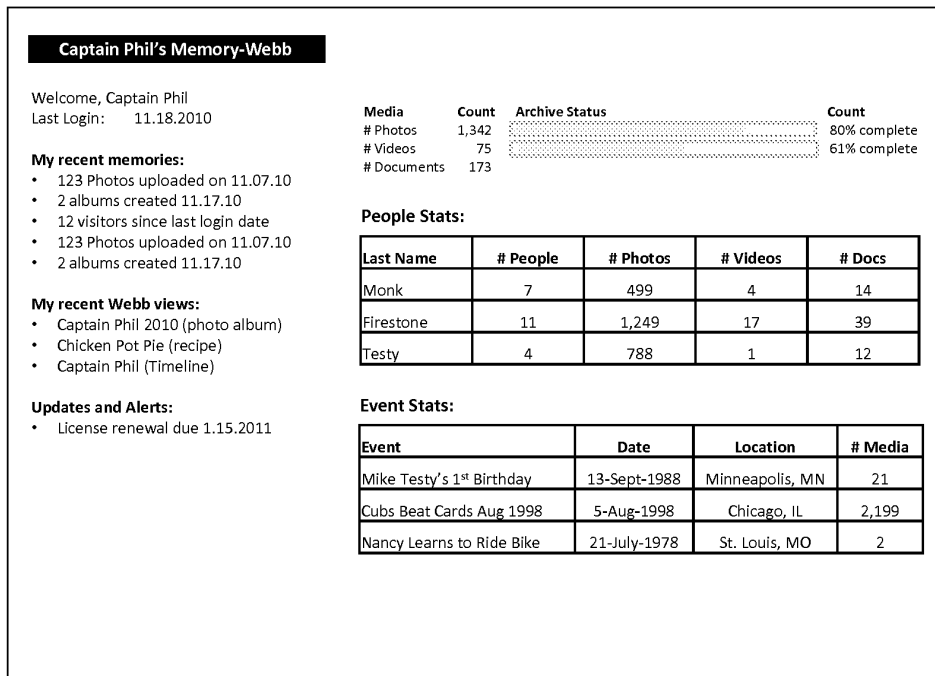
**FIG. 17**



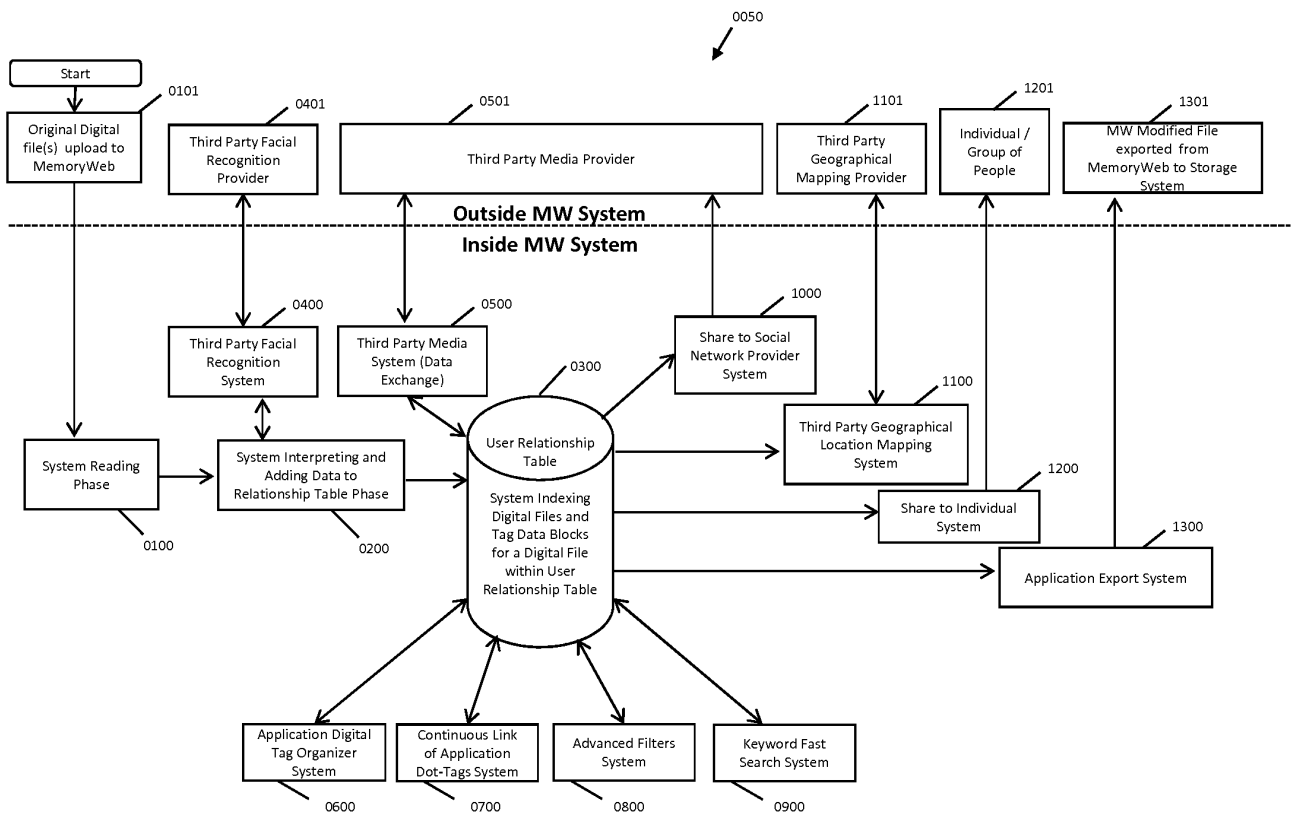
**FIG. 18**

	<p><b>Advanced Search Filter</b></p> <p>Keywords: Add</p> <p>Date: Add</p> <p>Location: Chicago, IL USA Yellowstone, MT USA Cologne, Germany</p> <p>People: Mike Cubbie Mary Lamb Christopher Monk Nancy Monk Dwight Schrut</p> <p>Event: Jack's 1<sup>st</sup> Birthday Fly Fishing in Yellowstone Raking Leaves Christmas 2010 Thanksgiving 2010 July 4<sup>th</sup> Parade</p> <p>Album: Add</p> <p>Star Ranking: Add</p> <p>Sharing Rights: Add</p> <p>Document Type: Add</p>
--	---

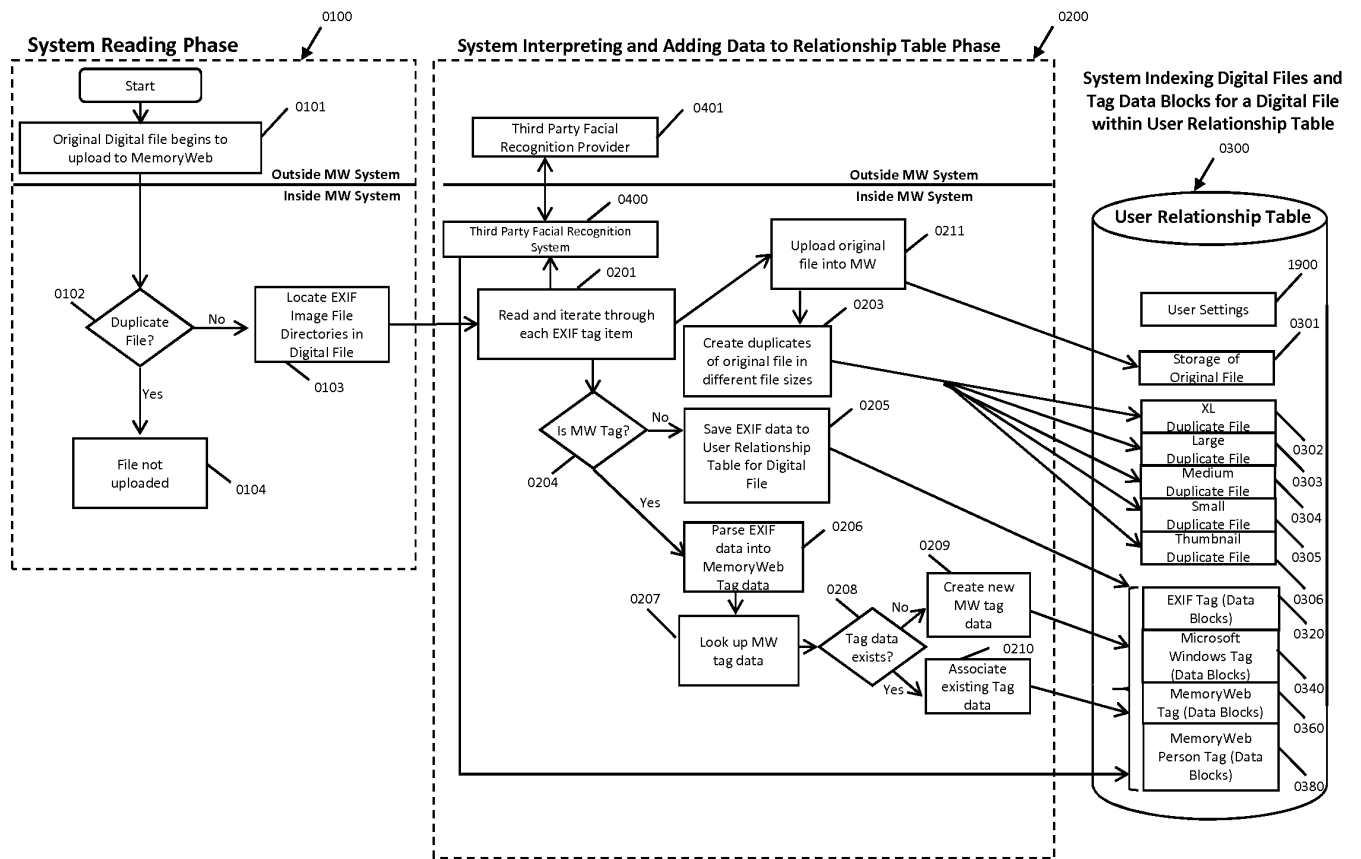
**FIG. 19**



**FIG. 20**



**FIG. 21**



**FIG. 22**

**EXIF Tags version 2.3 Image File Directories  
(Data Blocks)**

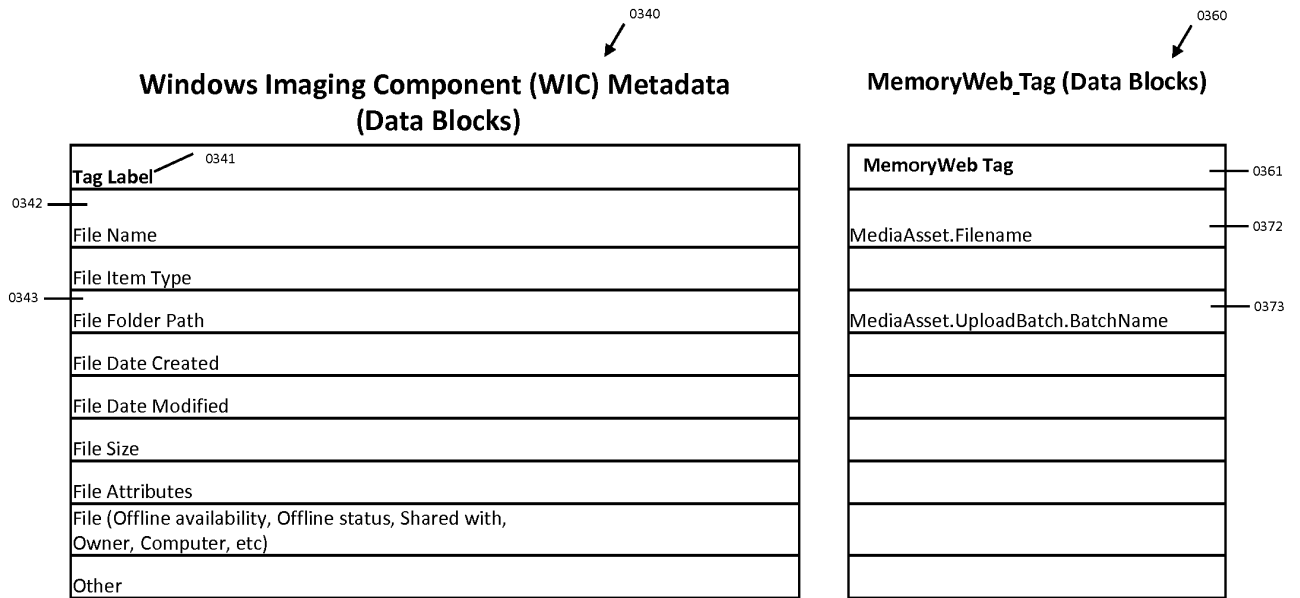
	Tag Labels <sup>0321</sup>	EXIF Family Group Name <sup>0322</sup>	Location <sup>0323</sup>
0324	Description Title	IFD0	0x9c9b or 0x010e
	Description Subject	IFD0	0x9c9f
0325	Description Rating		N/A
	Description Tags	IFD0	0x9c9e
	Description Comments	IFD0	0x9c9c
	Origin Authors	IFD0	0x9c9d
0326	Origin Date Taken	ExifIFD <sup>0334</sup>	0x9003 <sup>0335</sup>
	Origin Date Acquired		N/A
	Origin Copyright	IFD0	0x8298
	<i>Image (Image ID, Dimensions, Width Height, etc)</i>		<i>Multiple</i>
0327	Width		0xbc80
0328	Height		0xbc81
	<i>Camera (Camera Maker, Camera Model, etc)</i>		<i>Multiple</i>
	<i>Advanced Photo (Lens Maker, Lens Model, etc)</i>		<i>Multiple</i>
0329	User Comment	ExifIFD	0x9286
0330	GPS Latitude	GPS	0x0002
0331	GPS Latitude Ref	GPS	0x0003
0332	GPS Longitude	GPS	0x0004
0333	GPS Longitude Ref	GPS	0x0005
	GPS Altitude	GPS	0x0006

**MemoryWeb\_Tag (Data Blocks)**

MemoryWeb Tag <sup>0360</sup>
MediaAsset.Caption <sup>0361</sup>
MediaAsset.StarRanking <sup>0362</sup>
MediaAsset.DateCreated <sup>0363</sup>
MediaAsset.Width <sup>0364</sup>
MediaAsset.Height <sup>0365</sup>
This is used to inject information that do not currently have EXIF standardized tags including Collection, People, Location Name, Recipe Name, Person Tag Data Blocks (0380), etc. <sup>0366</sup>
MediaAsset.Location.Latitude <sup>0367</sup>
MediaAsset.Location.Longitude <sup>0368</sup>
MediaAsset.Location.Latitude <sup>0369</sup>
MediaAsset.Location.Longitude <sup>0370</sup>
MediaAsset.Location.Longitude <sup>0371</sup>



**FIG. 23**



**FIG. 24**

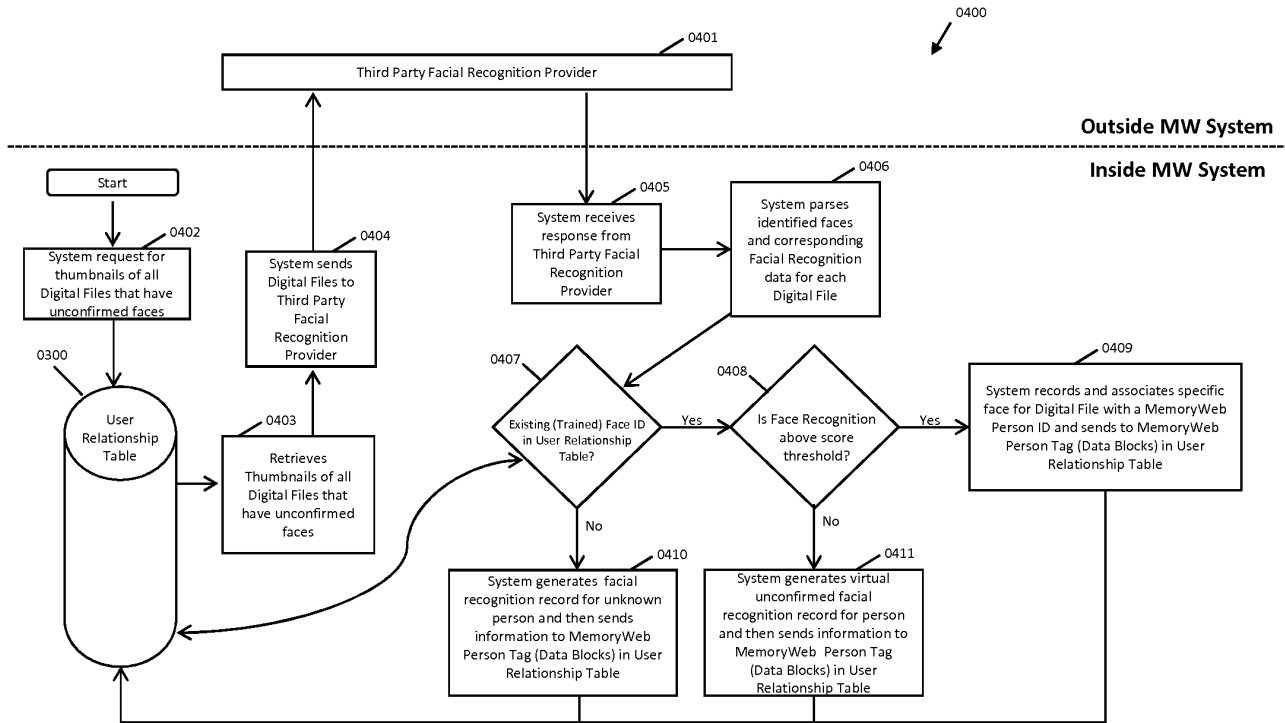
0380

↓

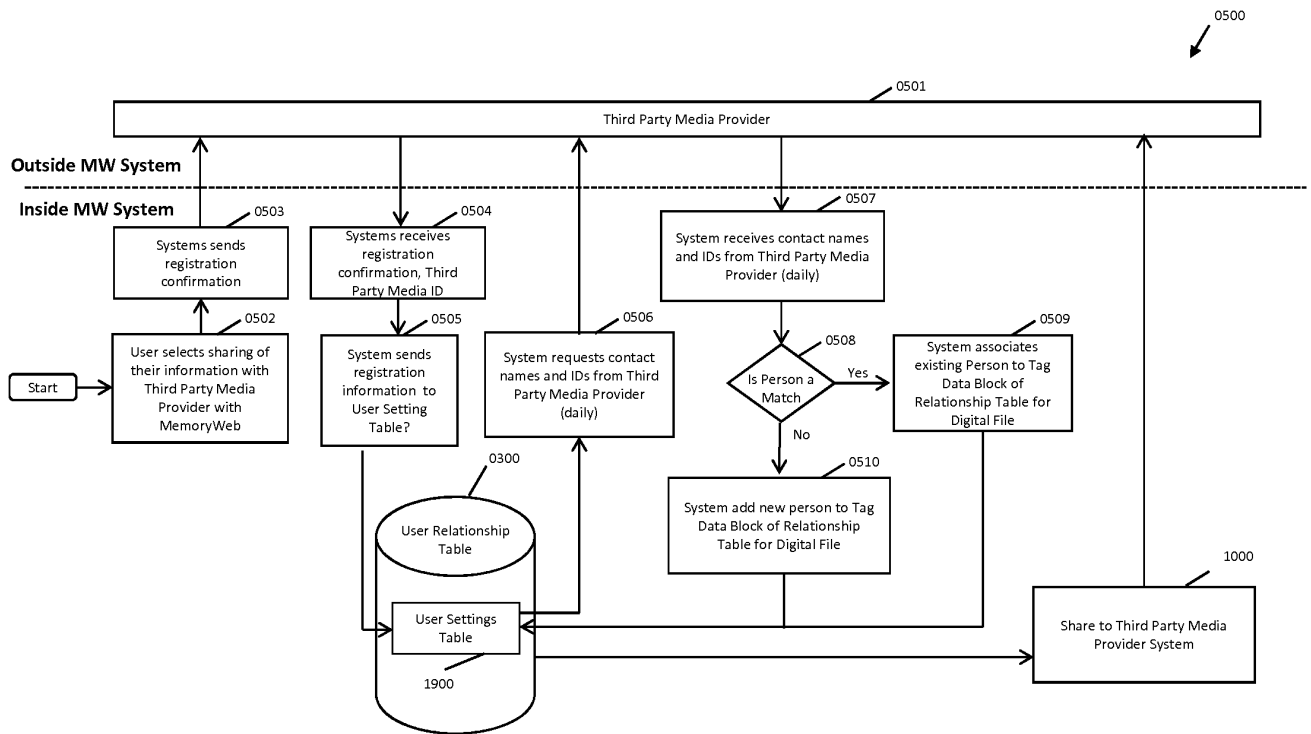
**MemoryWeb\_Person Tag (Data Blocks)**

Person Name	0395
Nickname	0381
Birthdate	0382
Date of Death	0383
Biography	0384
Mother	0385
Father	0386
Brother 1 , Brother 2 , ...	0387
Sister 1 , Sister 2 , ...	0388
Daughter 1 , Daughter 2 , ...	0389
Son 1 , Son 2 . ...	0390
Spouse 1 , Spouse 2 , ...	0391
Facial Recognition Data (Taylor?)	0392
Facebook ID	0393
pets	0394
...	0396

**FIG. 25**



**FIG. 26**



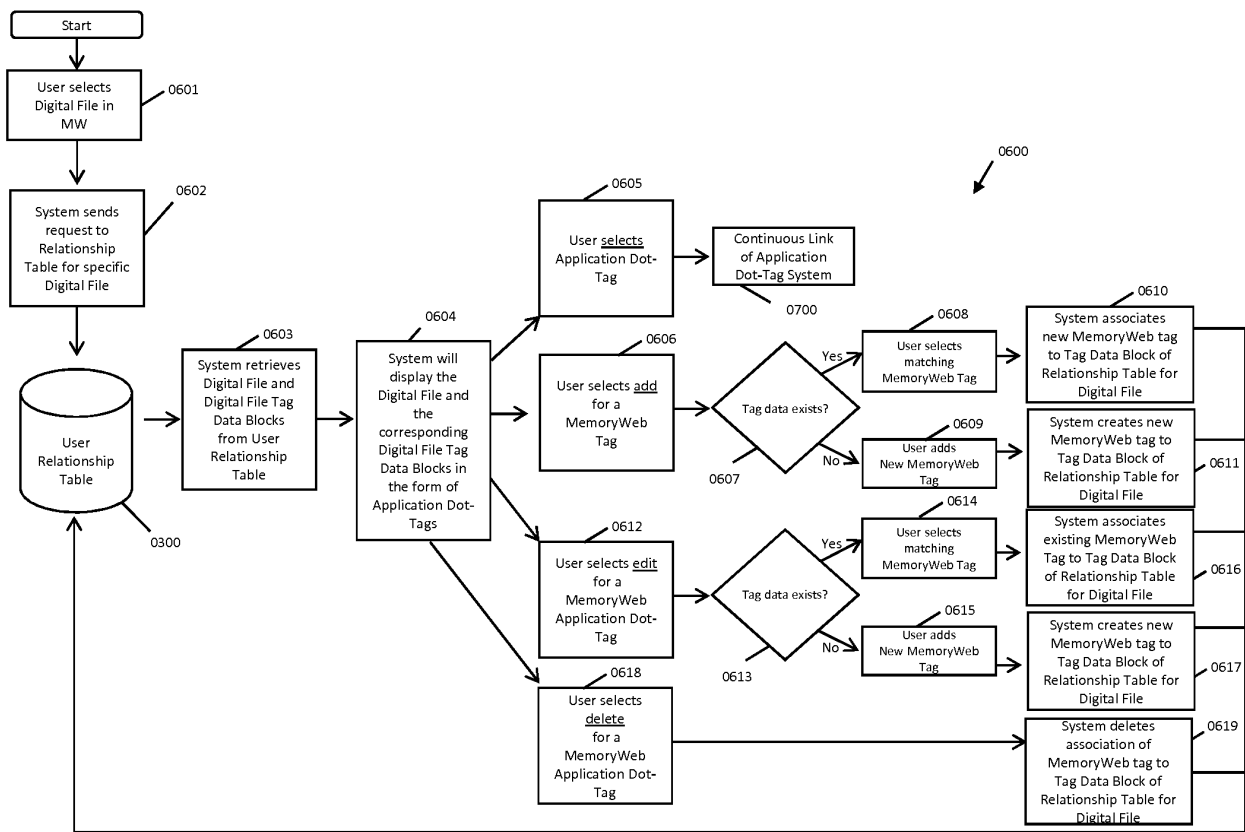
**FIG. 27**

1900

Item

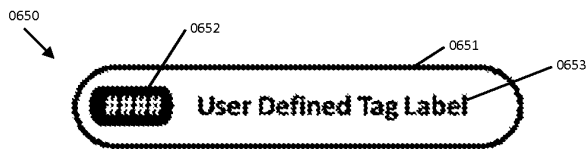
1901	User's Name
1902	Payment ID
1903	Password
1904	Account Type
1905	User's email
1906	Language preference
1907	Date format
1908	Email notifications
1909	Contacts (with third Party Social Media)
1910	Facebook ID
1911	API Token
1912	Payment Date
1913	...

**FIG. 28**



**FIG. 29**

**Structure**

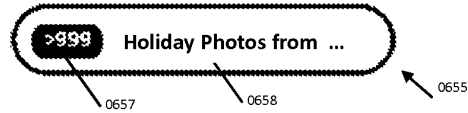


**Examples**

**Within Character Limit for Labels and Numbers**



**Exceeds Character Limit for Label and Numbers**



Dotted Application Dot-Tag denotes partial relationship. In this example, person is a half-sibling to another person.



FIG. 30

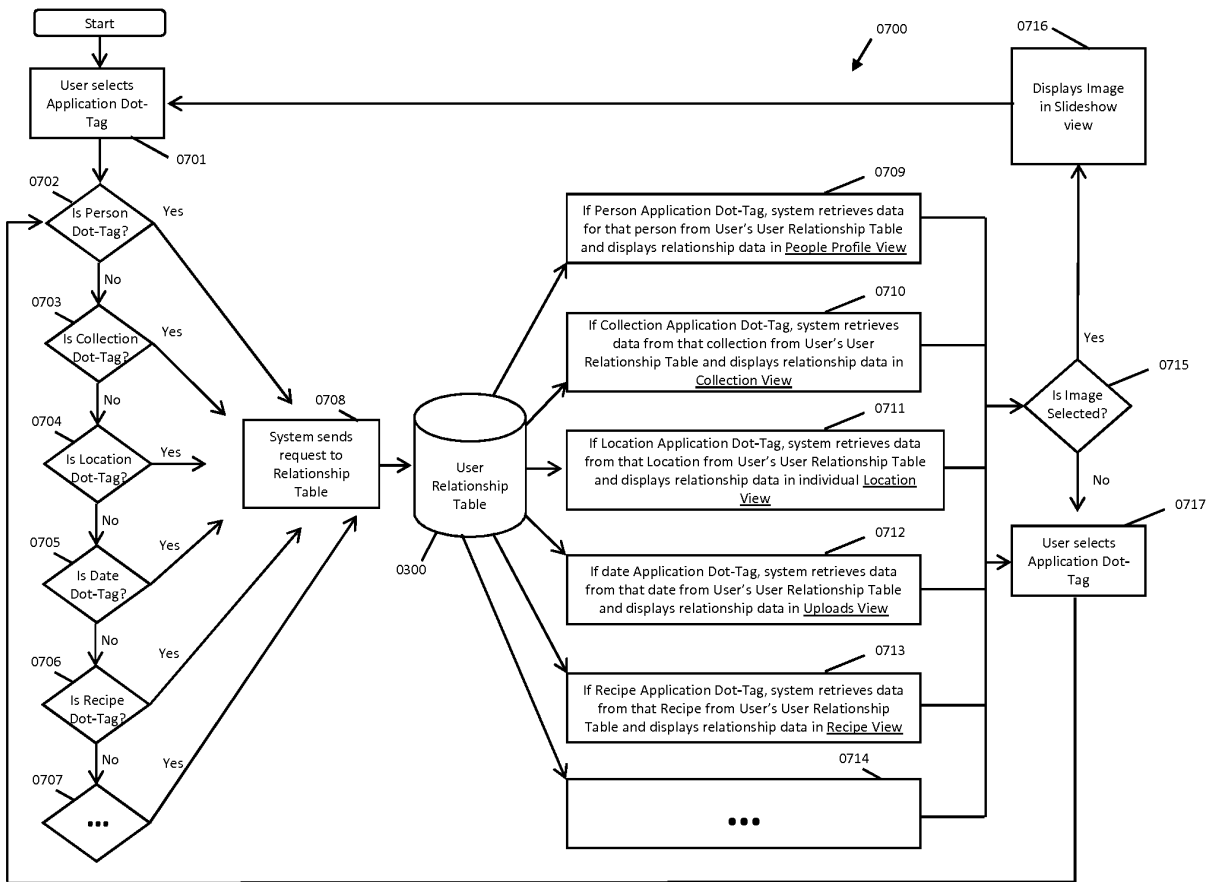
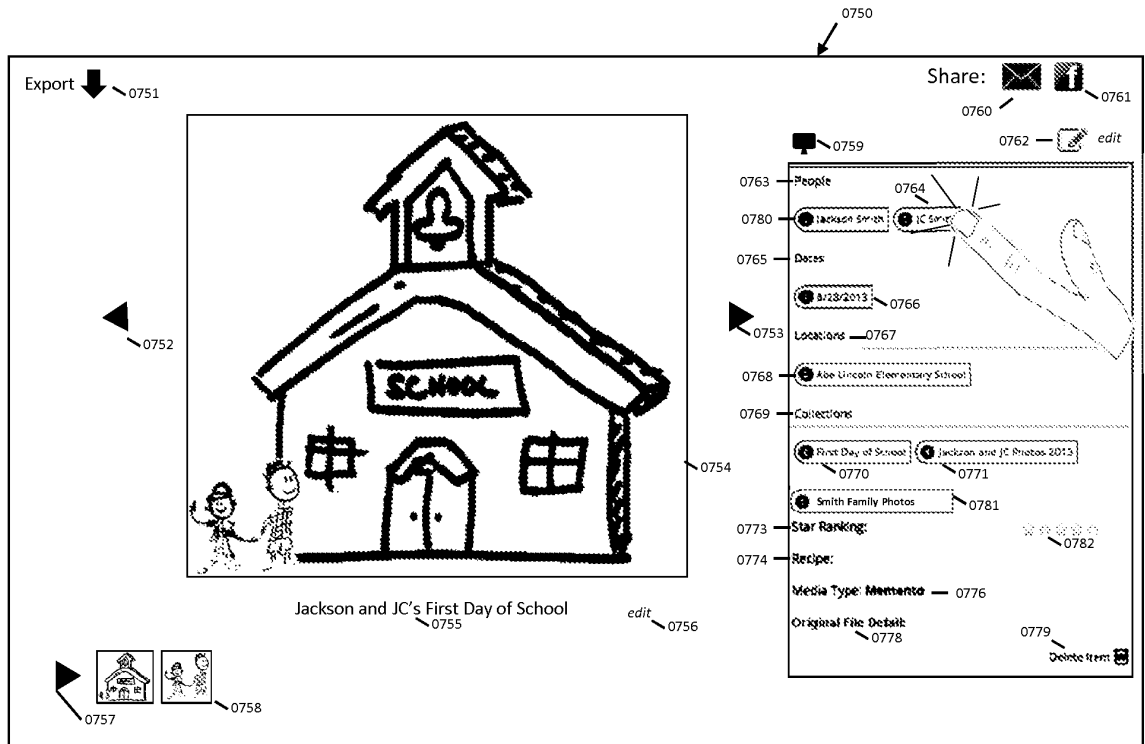




FIG. 31



**FIG. 32**

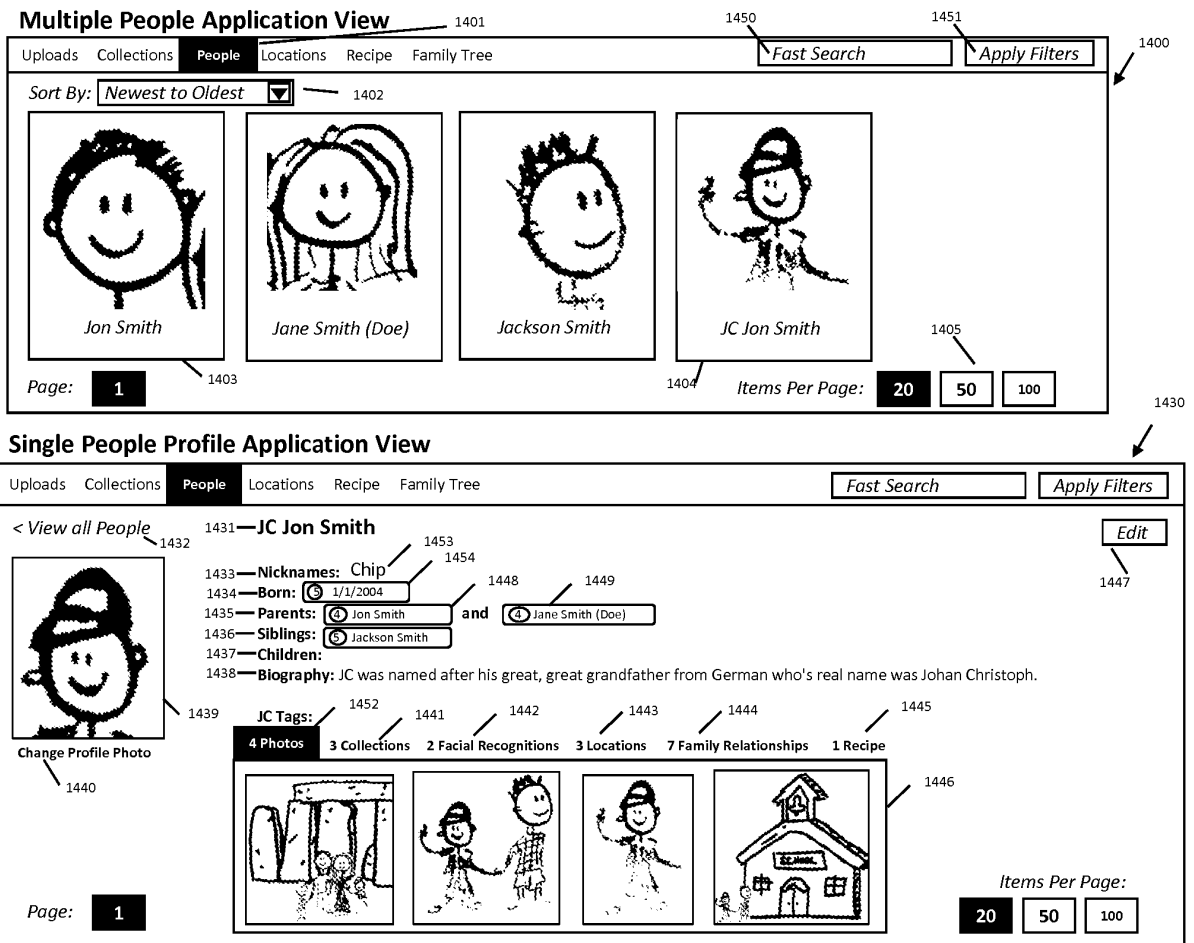
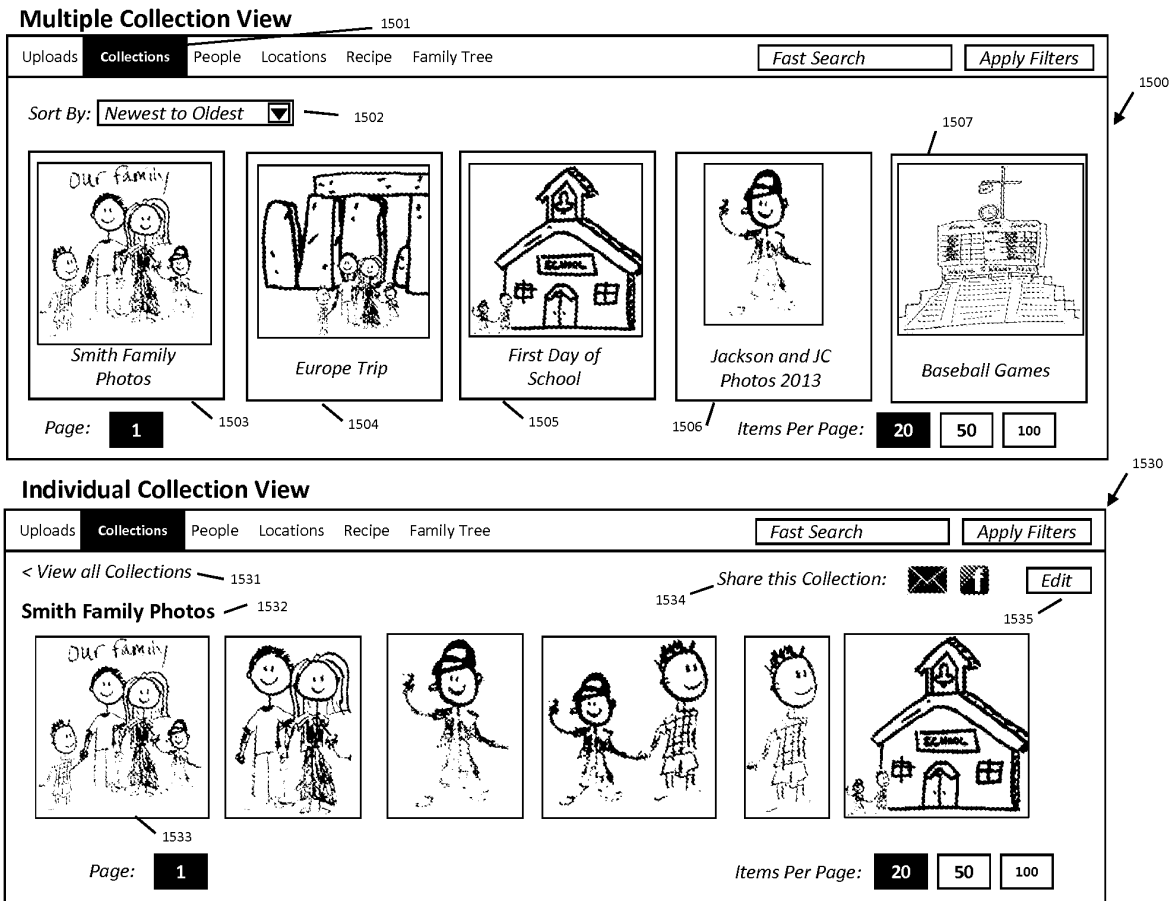


FIG. 33



**FIG. 34**

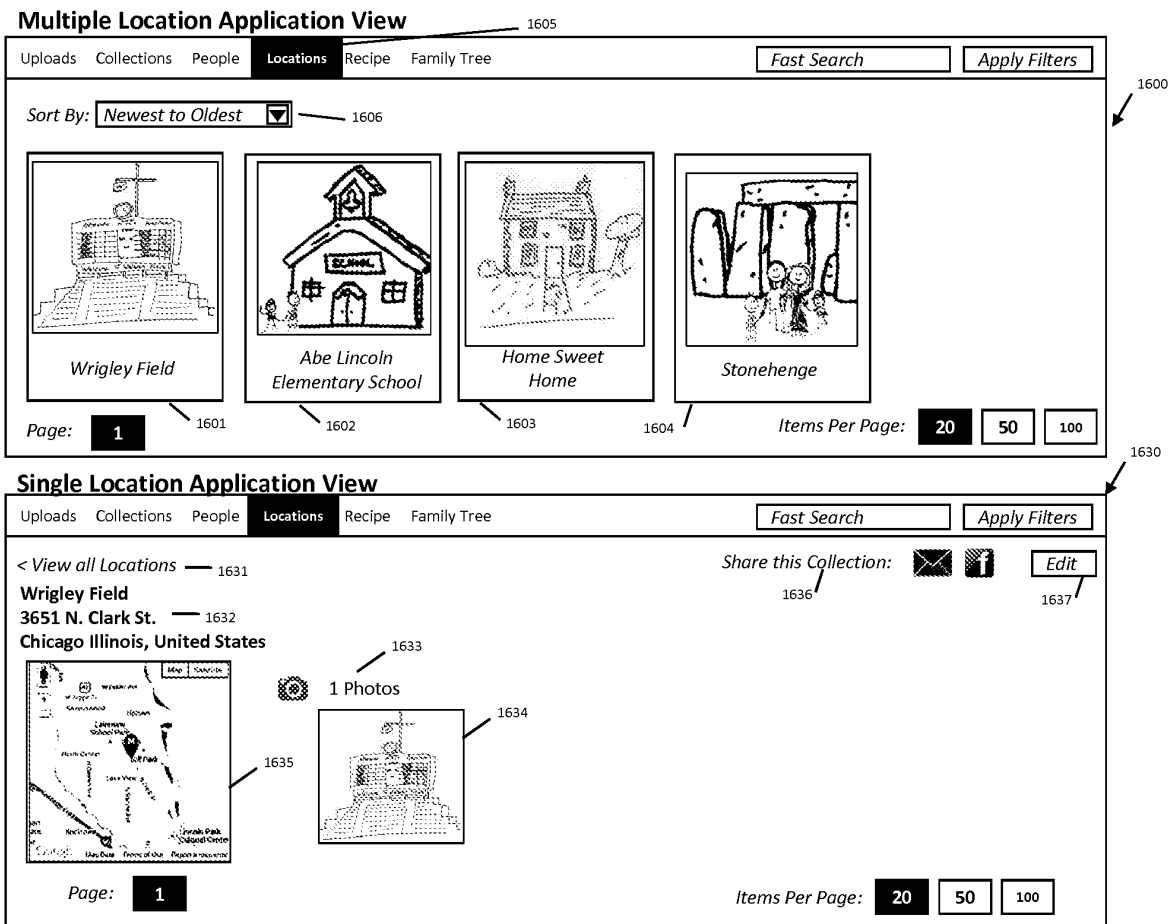
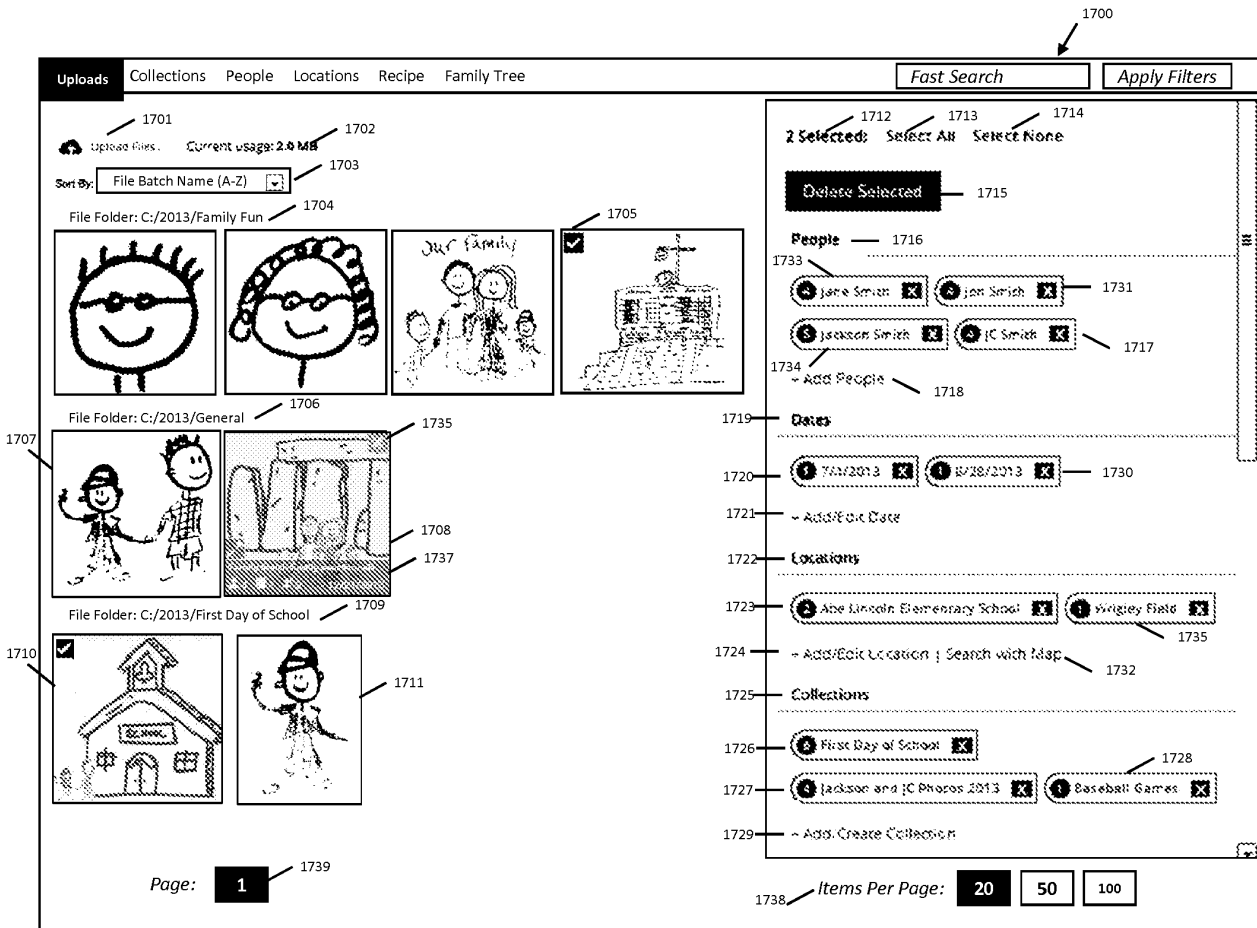
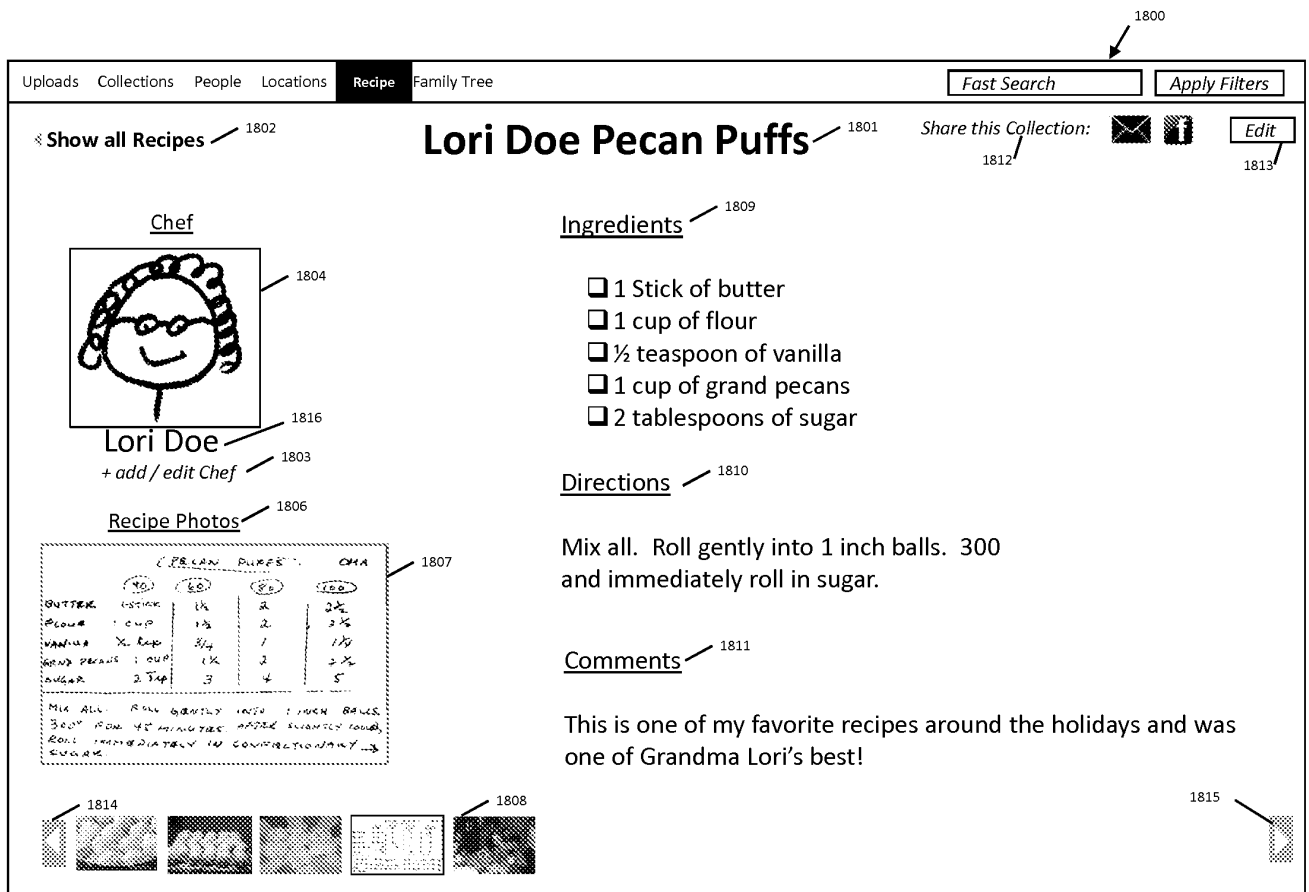


FIG. 35



**FIG. 36**



**FIG. 37**

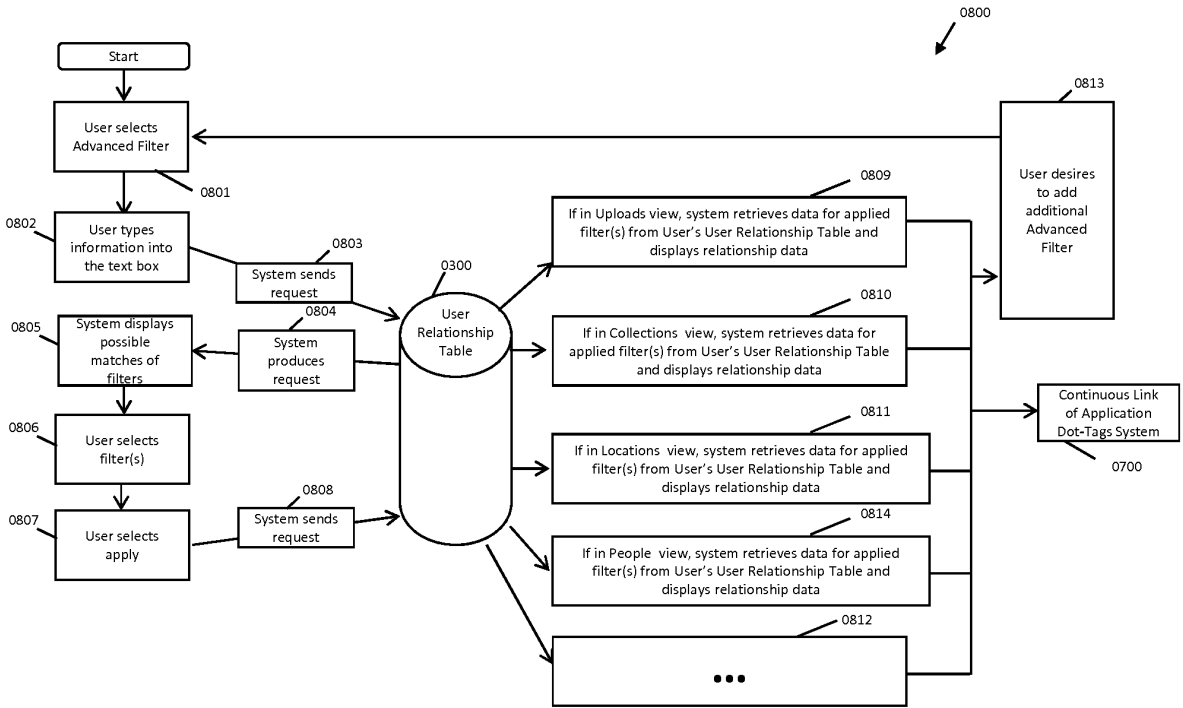
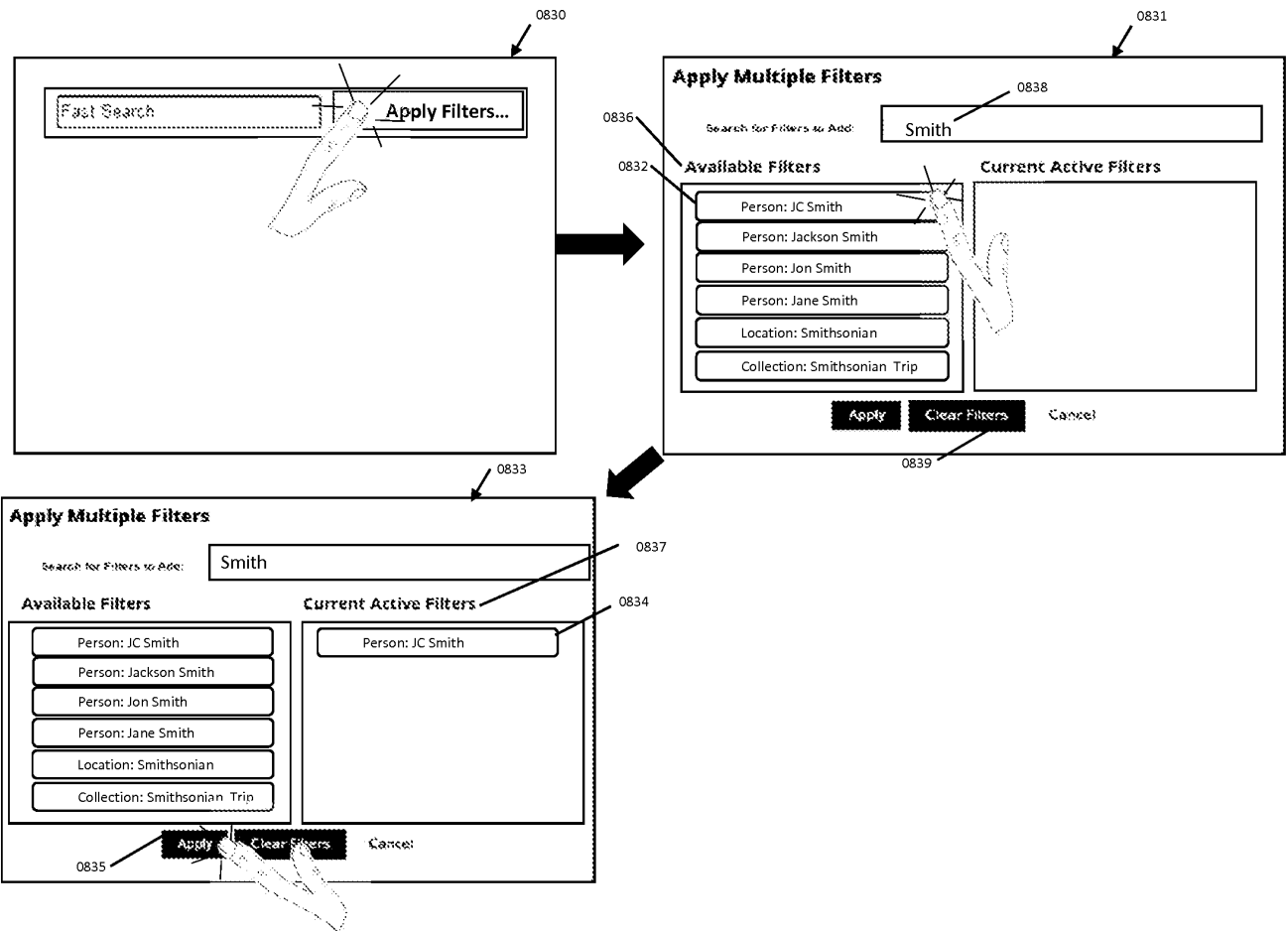


FIG. 38





**FIG. 39**

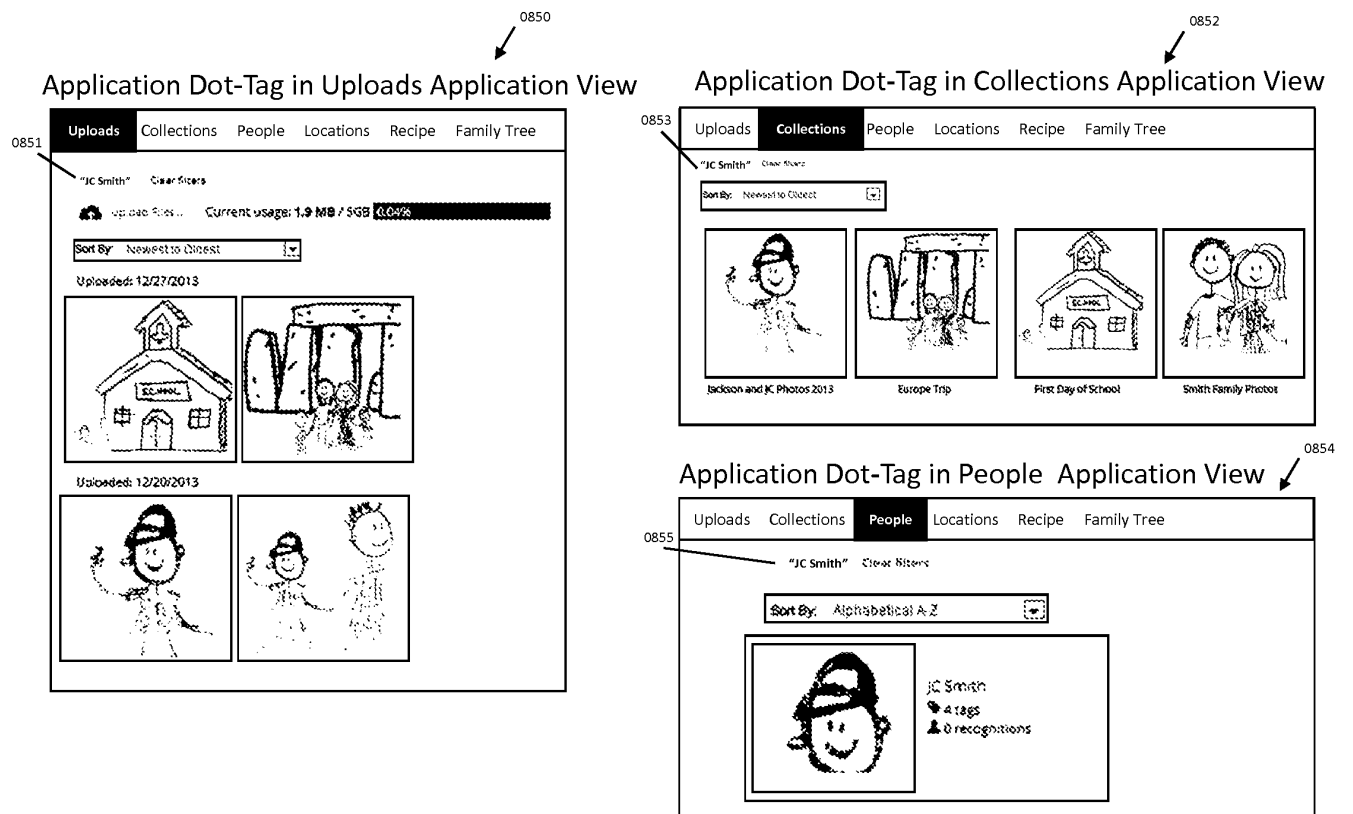
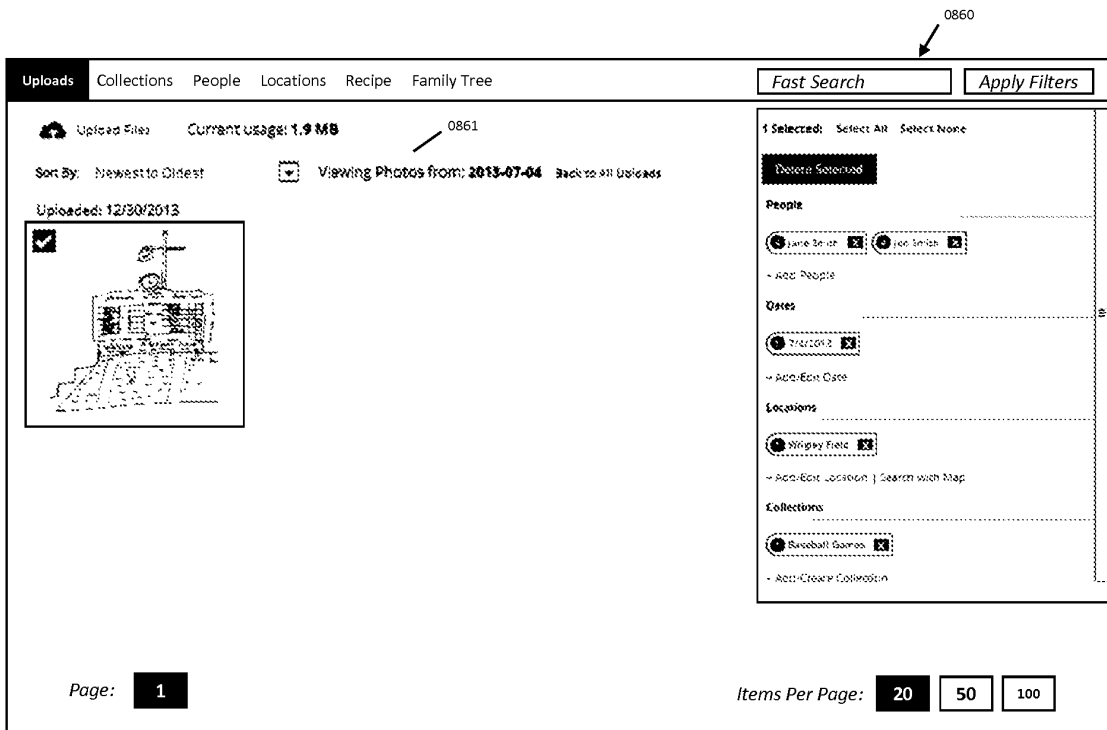
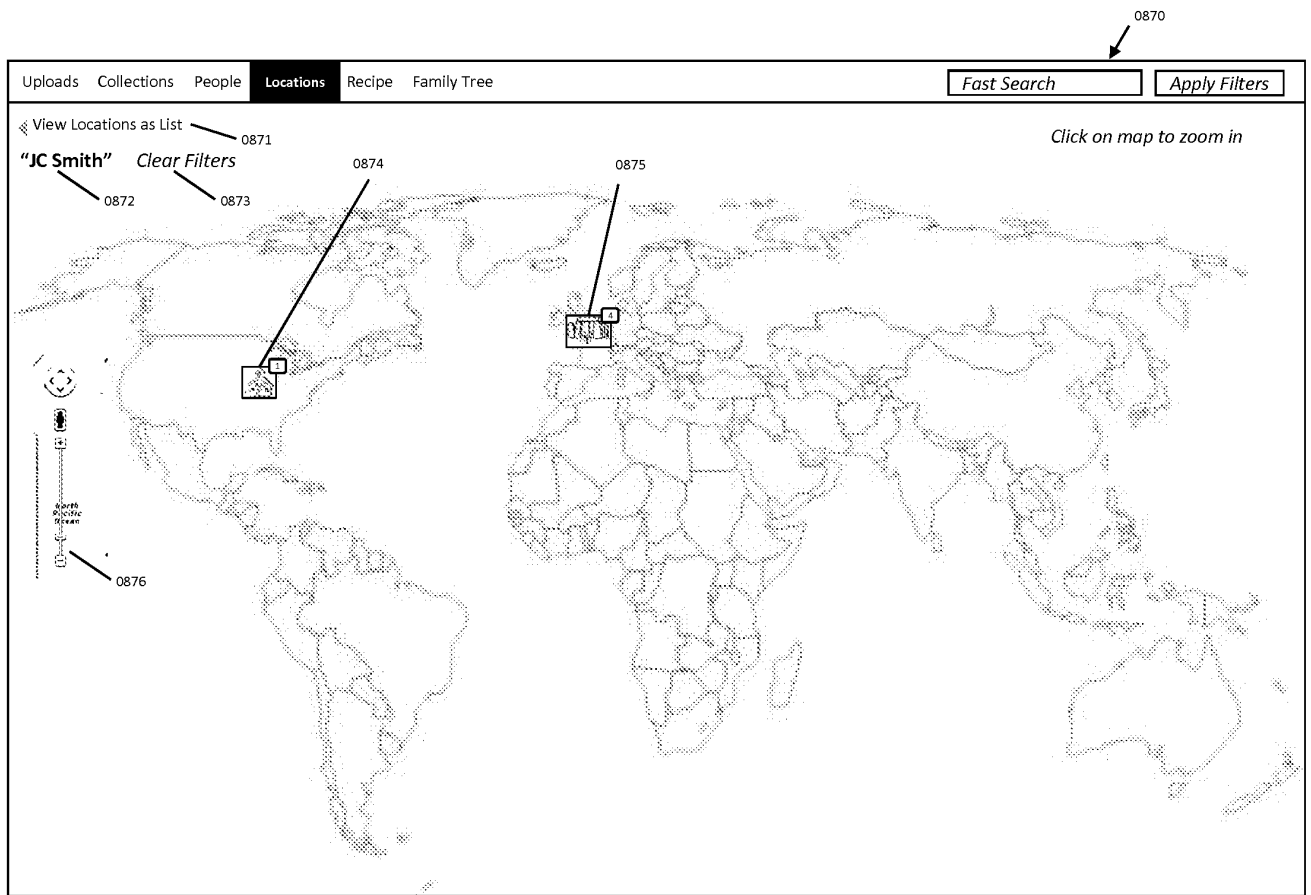


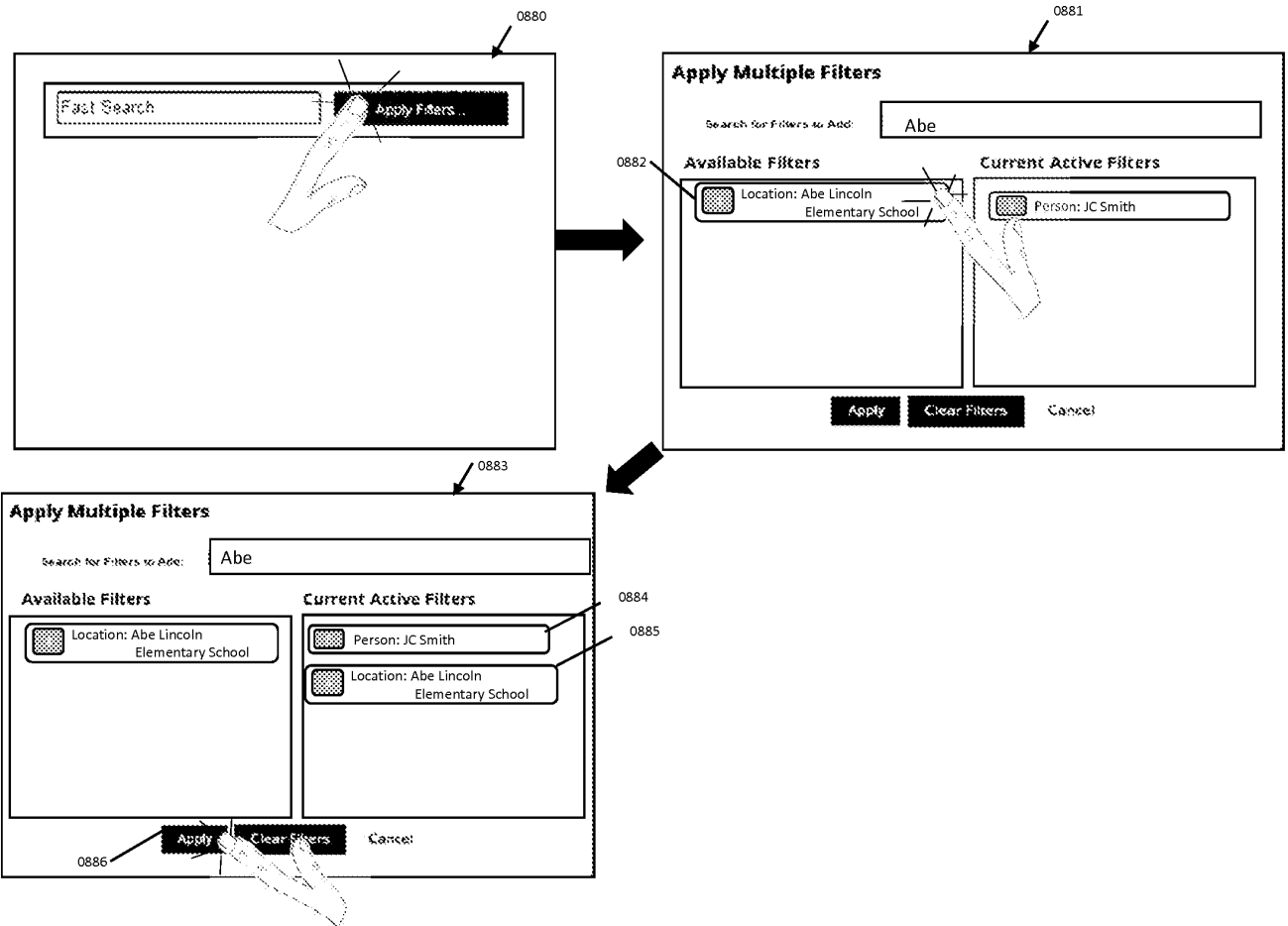
FIG. 40



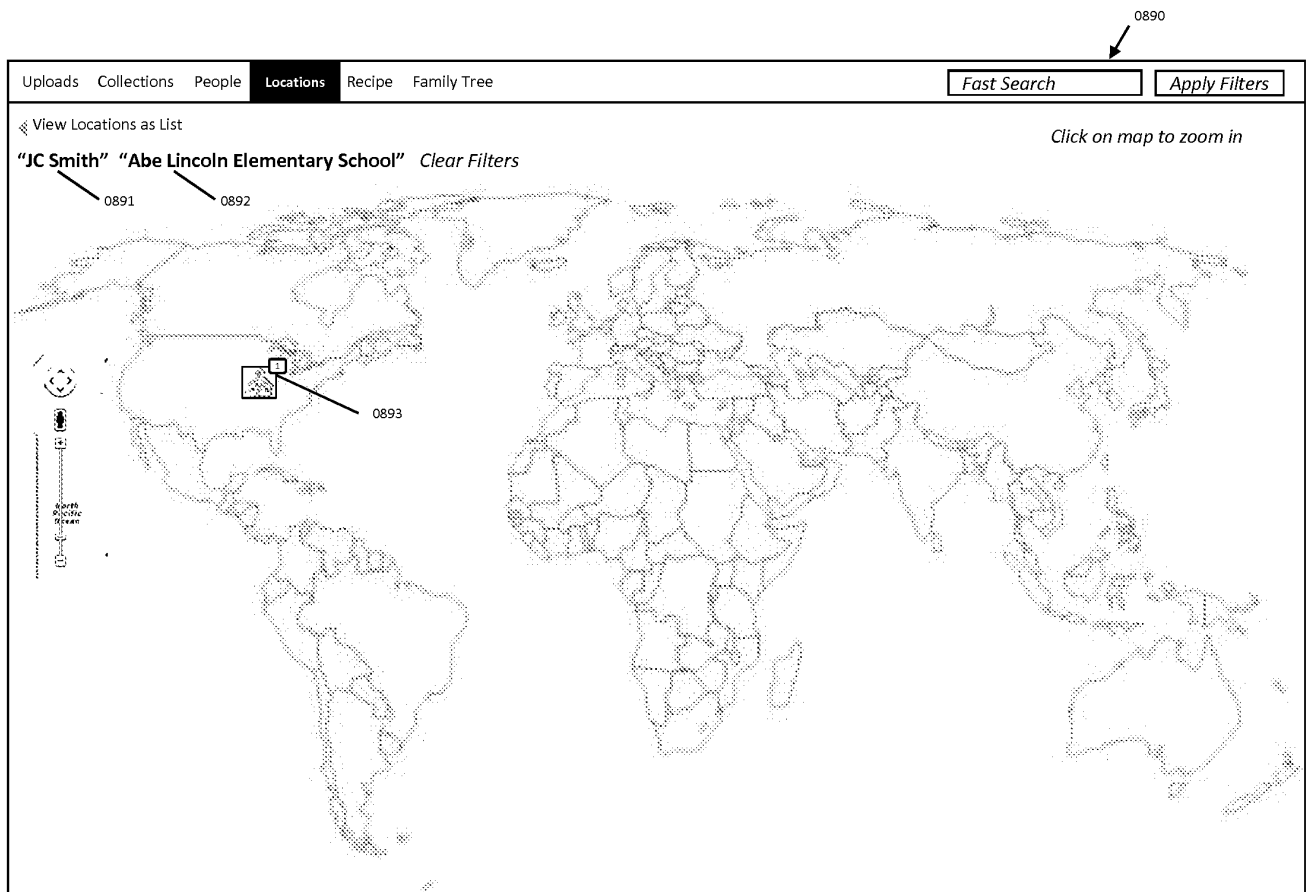
**FIG. 41**



**FIG. 42**



**FIG. 43**



**FIG. 44**

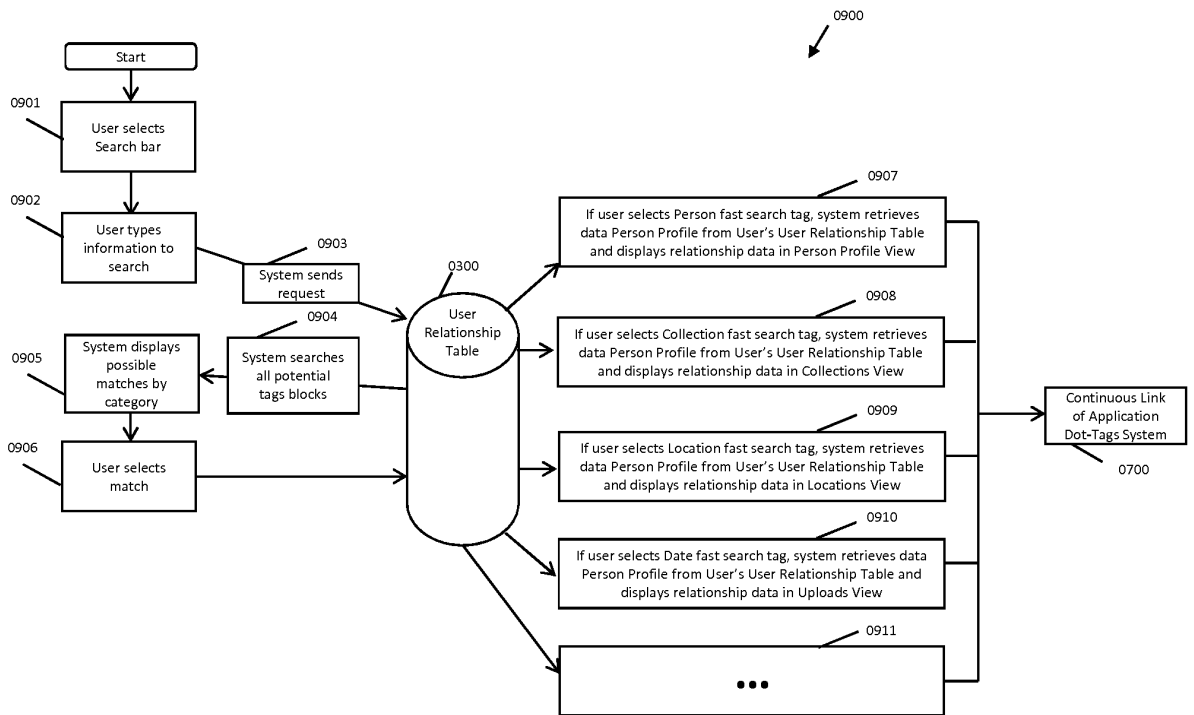
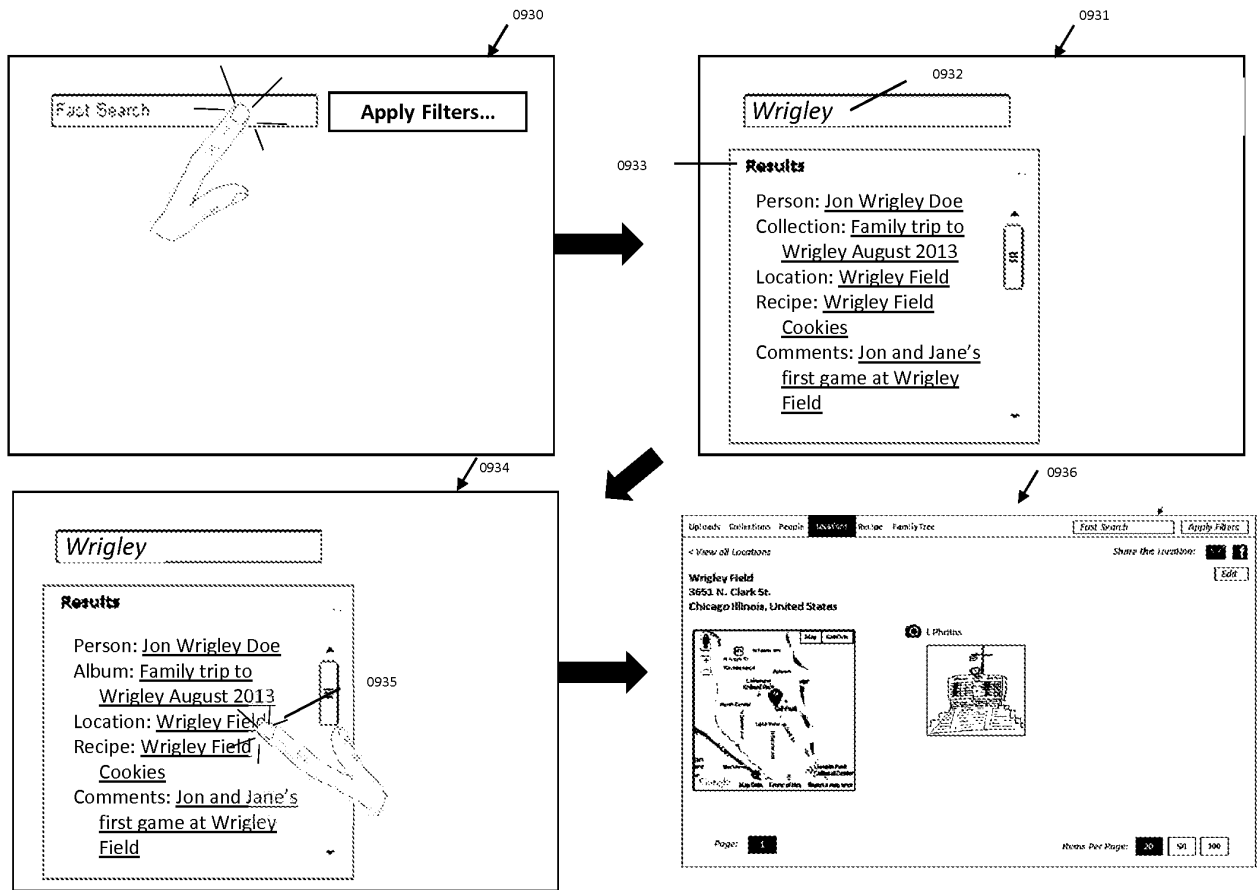
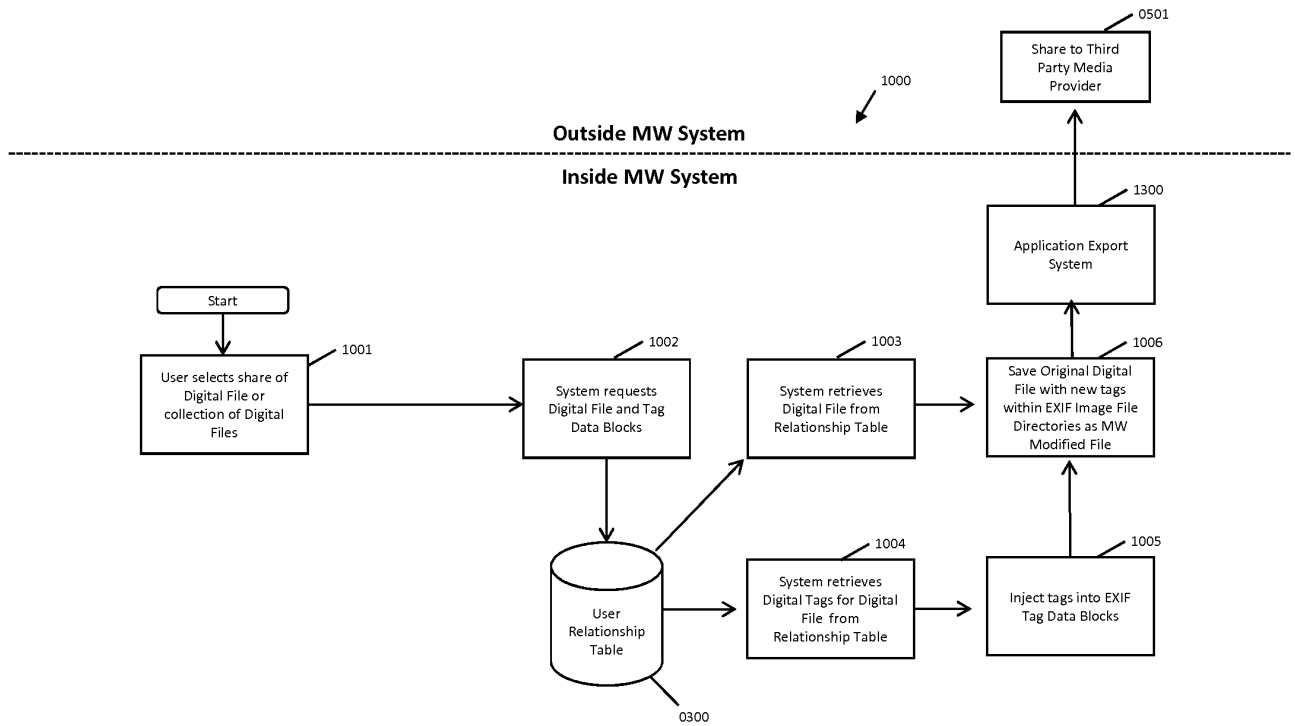


FIG. 45

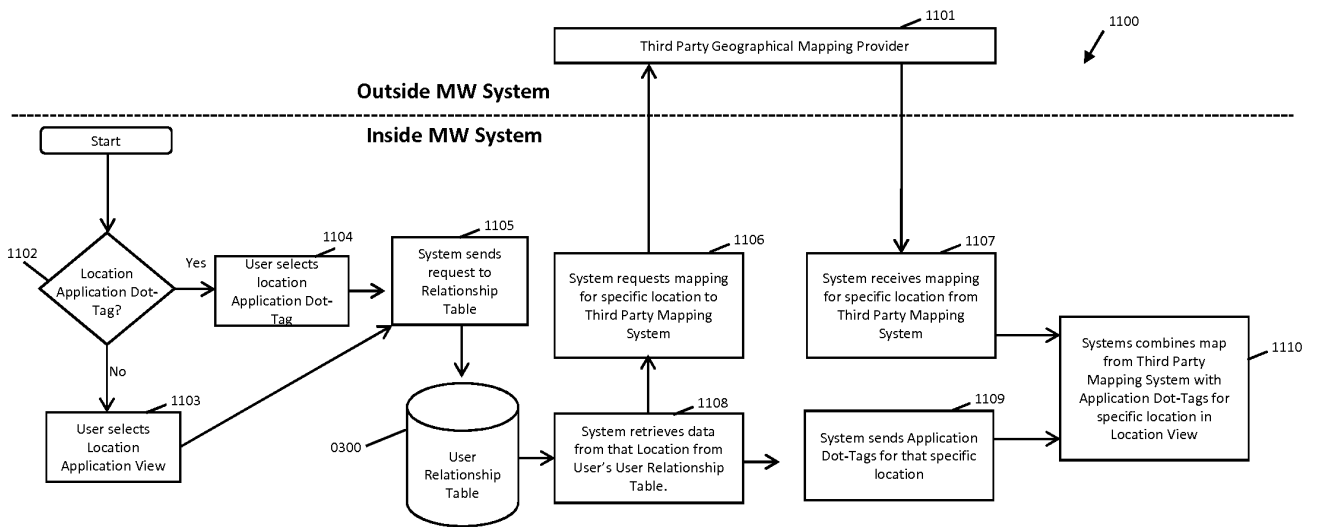


**FIG. 46**

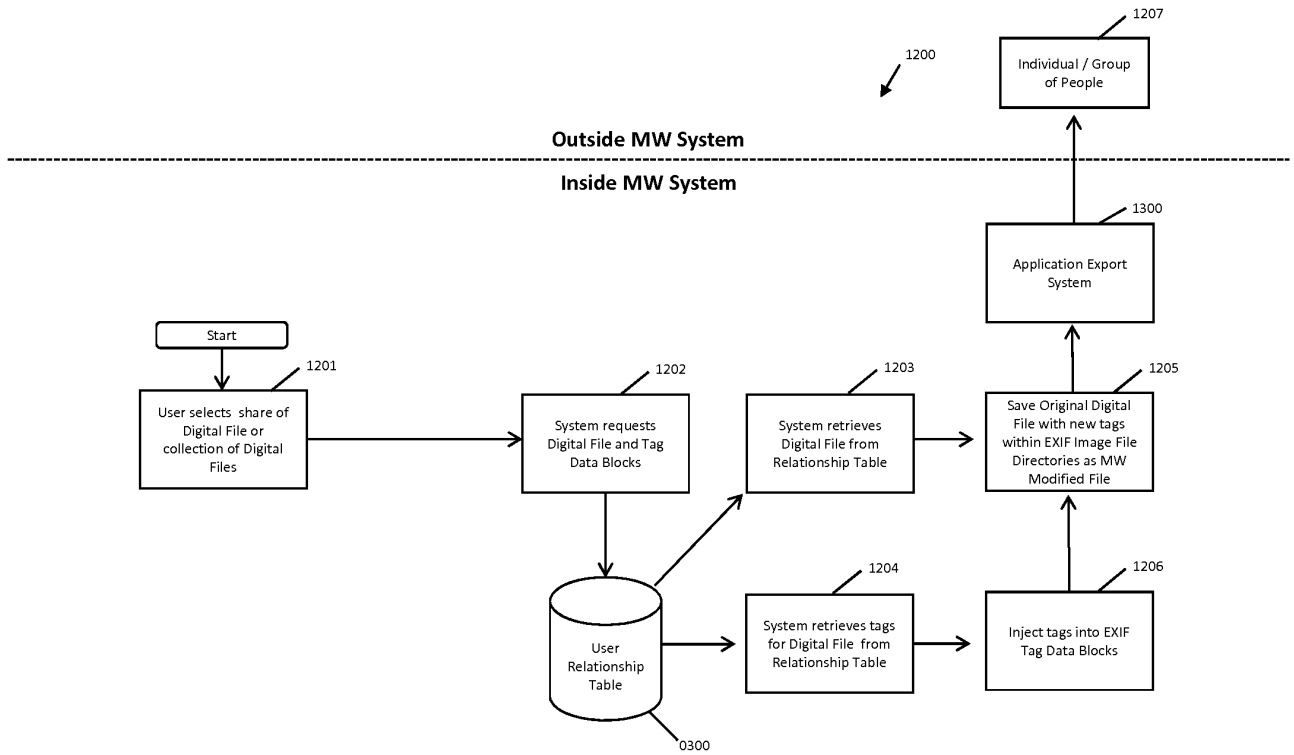




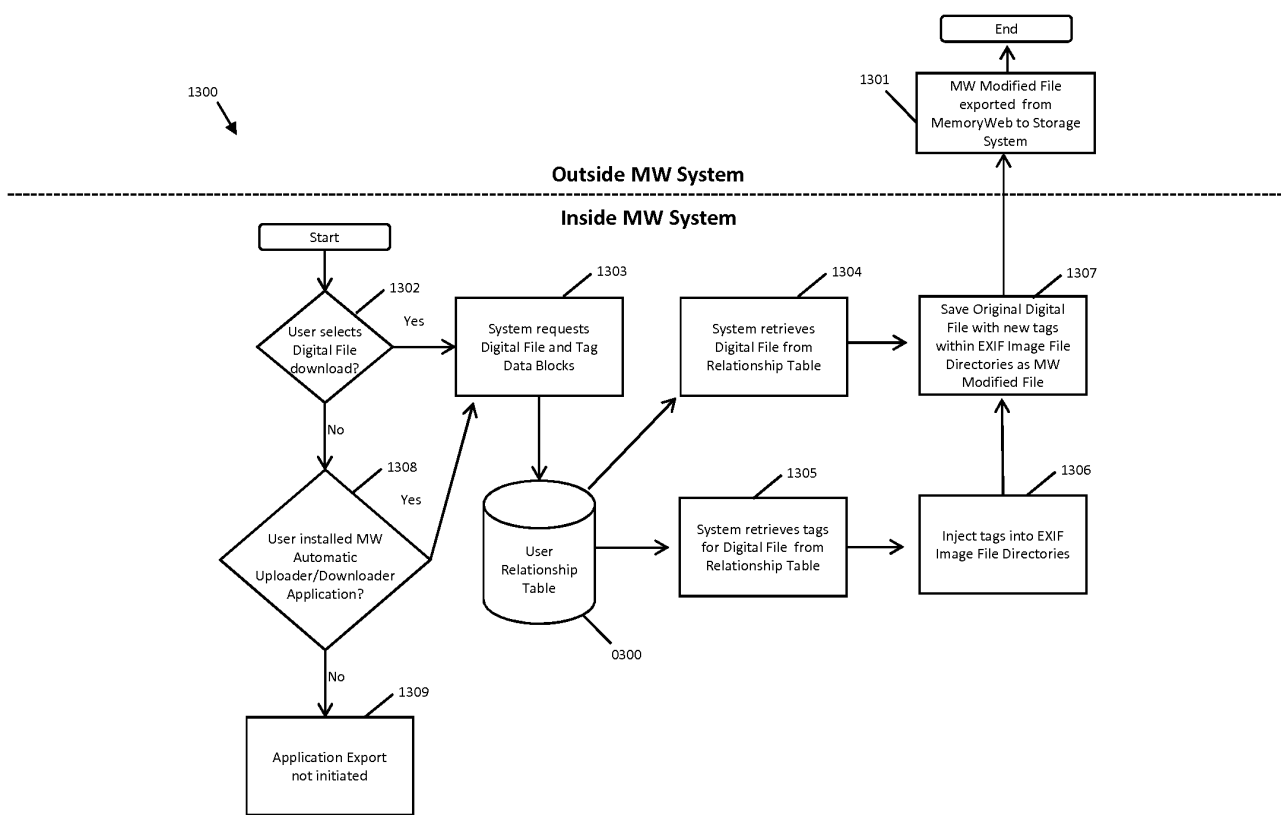
**FIG. 47**





**FIG. 48**



**FIG. 49**



**FIG. 50**

	1401 Sample EXIF Image File Directories and ExifTool family 1 group names	1402  Original File EXIF Tag Data	1403  MW Modified File Tag Data
	Description Title		
	Description Subject		
1404	Description Rating	1416	1410
	Description Tags		
1405	Description Comments	1417	1411
	Origin (Authors, Date Taken, Date Acquired, Copyright)		
	Image (Image ID, Dimensions, Width, Height, etc.)		
	Camera (Camera Maker, Camera Model, etc.)		
	Advanced Photo (Lens Maker, Lens Model, etc.)		
1406	GPS Latitude	1418	1412
1407	GPS Longitude	1419	1413
	File Name	IMG_3826.JPG	IMG_3826.JPG
	File Item Type	JPG	JPG
1408	File Folder Path	1420	1414
1409	File Date Created	1421	1415
	File Date Modified		
	File Size	2.42 MB	2.42 MB
	File Attributes	A	A
	File (Offline availability, Offline status, Shared with, Owner, Computer, etc.)		

**RULES 63 AND 67 (37 C.F.R. 1.63 and 1.67)  
DECLARATION**

FOR UTILITY/DESIGN/CIP/PCT NATIONAL APPLICATIONS

As a below named inventor of the invention titled METHOD AND APPARATUS FOR MANAGING DIGITAL FILES, I hereby declare that:

This declaration is directed to:

- The attached application, or
- United States application or PCT international application number 14/193,426 filed on February 28, 2014.

The above-identified application was made or authorized to be made by me.

I believe that I am the original inventor or an original joint inventor of a claimed invention in the application.

I hereby state that I have reviewed and understand the contents of the above-identified application.

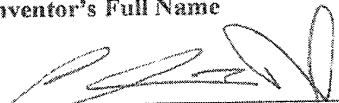
I acknowledge the duty to disclose all information known to me to be material to patentability of this application as defined in 37 CFR § 1.56. If this is a continuation-in-part (CIP) application, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States application in the manner provided by the first paragraph of 35 U.S.C. § 112, I acknowledge the duty to disclose to the Office all information known to me to be material to patentability of the application as defined in 37 CFR § 1.56 which became available between the filing date of the prior application and the national or PCT international filing date of this application.

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true.

I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both, and that any such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Christopher J. Desmond  
Inventor's Full Name

Sept 4, 2015  
Date

  
Inventor's Signature

**RULES 63 AND 67 (37 C.F.R. 1.63 and 1.67)  
DECLARATION**

FOR UTILITY/DESIGN/CIP/PCT NATIONAL APPLICATIONS

As a below named inventor of the invention titled METHOD AND APPARATUS FOR MANAGING DIGITAL FILES, I hereby declare that:

This declaration is directed to:

- The attached application, or
- United States application or PCT international application number 14/193,426 filed on February 28, 2014.

The above-identified application was made or authorized to be made by me.

I believe that I am the original inventor or an original joint inventor of a claimed invention in the application.

I hereby state that I have reviewed and understand the contents of the above-identified application.

I acknowledge the duty to disclose all information known to me to be material to patentability of this application as defined in 37 CFR § 1.56. If this is a continuation-in-part (CIP) application, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States application in the manner provided by the first paragraph of 35 U.S.C. § 112, I acknowledge the duty to disclose to the Office all information known to me to be material to patentability of the application as defined in 37 CFR § 1.56 which became available between the filing date of the prior application and the national or PCT international filing date of this application.

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true.

I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both, and that any such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Nancy L. Desmond  
Inventor's Full Name

Sept. 4, 2015  
Date

*Nancy L. Desmond*  
Inventor's Signature

Customer No. 70001

Declaration  
Atty. Docket No. 069366-000002USP1

**RULES 63 AND 67 (37 C.F.R. 1.63 and 1.67)  
DECLARATION**

FOR UTILITY/DESIGN/CIP/PCT NATIONAL APPLICATIONS

As a below named inventor of the invention titled **METHOD AND APPARATUS FOR MANAGING DIGITAL FILES**, I hereby declare that:

This declaration is directed to:

- The attached application, or  
 United States application or PCT international application number 14/193,426 filed on February 28, 2014.

The above-identified application was made or authorized to be made by me.

I believe that I am the original inventor or an original joint inventor of a claimed invention in the application.

I hereby state that I have reviewed and understand the contents of the above-identified application.

I acknowledge the duty to disclose all information known to me to be material to patentability of this application as defined in 37 CFR § 1.56. If this is a continuation-in-part (CIP) application, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States application in the manner provided by the first paragraph of 35 U.S.C. § 112, I acknowledge the duty to disclose to the Office all information known to me to be material to patentability of the application as defined in 37 CFR § 1.56 which became available between the filing date of the prior application and the national or PCT international filing date of this application.

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true.

I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both, and that any such willful false statements may jeopardize the validity of the application or any patent issued thereon.

L. Michael Taylor  
Inventor's Full Name

9/9/2015  
Date

  
Inventor's Signature

## TRANSMITTAL FOR POWER OF ATTORNEY TO ONE OR MORE REGISTERED PRACTITIONERS

NOTE: This form is to be submitted with the Power of Attorney by Applicant form (PTO/AIA/82B) to identify the application to which the Power of Attorney is directed, in accordance with 37 CFR 1.5, unless the application number and filing date are identified in the Power of Attorney by Applicant form. If neither form PTO/AIA/82A nor form PTO/AIA82B identifies the application to which the Power of Attorney is directed, the Power of Attorney will not be recognized in the application.

Application Number	Not Yet Assigned
Filing Date	September 20, 2019
First Named Inventor	Christopher J. Desmond
Title	METHOD AND APPARATUS FOR MANAGING DIGITAL FILES
Art Unit	Not Yet Assigned
Examiner Name	Not Yet Assigned
Attorney Docket Number	069366-000002USC3

<b>SIGNATURE of Applicant or Patent Practitioner</b>			
Signature	/Bradley M. Taub/	Date (Optional)	September 20, 2019
Name	Bradley M. Taub	Registration Number	67300
Title (if Applicant is a juristic entity)			
Applicant Name (if Applicant is a juristic entity)			
<p><b>NOTE:</b> This form must be signed in accordance with 37 CFR 1.33. See 37 CFR 1.4(d) for signature requirements and certifications. If more than one applicant, use multiple forms.</p>			
<input type="checkbox"/> *Total of _____ forms are submitted.			

This collection of information is required by 37 CFR 1.131, 1.32, and 1.33. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 3 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

*If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.*



## POWER OF ATTORNEY BY APPLICANT

I hereby revoke all previous powers of attorney given in the application identified in either the attached transmittal letter or the boxes below.

Application Number	Filing Date

(Note: The boxes above may be left blank if information is provided on form PTO/AIA/82A.)

- I hereby appoint the Patent Practitioner(s) associated with the following Customer Number as my/our attorney(s) or agent(s), and to transact all business in the United States Patent and Trademark Office connected therewith for the application referenced in the attached transmittal letter (form PTO/AIA/82A) or identified above: 70001
- OR**
- I hereby appoint Practitioner(s) named in the attached list (form PTO/AIA/82C) as my/our attorney(s) or agent(s), and to transact all business in the United States Patent and Trademark Office connected therewith for the patent application referenced in the attached transmittal letter (form PTO/AIA/82A) or identified above. (Note: Complete form PTO/AIA/82C.)

**Please recognize or change the correspondence address for the application identified in the attached transmittal letter or the boxes above to:**

- The address associated with the above-mentioned Customer Number
- OR**
- The address associated with Customer Number:
- OR**

Firm or Individual Name

Address

City

State

Zip

Country

Telephone

Email

I am the Applicant (if the Applicant is a juristic entity, list the Applicant name in the box):

NCM IP Holdings, LLC

- Inventor or Joint Inventor (title not required below)
- Legal Representative of a Deceased or Legally Incapacitated Inventor (title not required below)
- Assignee or Person to Whom the Inventor is Under an Obligation to Assign (provide signer's title if applicant is a juristic entity)
- Person Who Otherwise Shows Sufficient Proprietary Interest (e.g., a petition under 37 CFR 1.46(b)(2) was granted in the application or is concurrently being filed with this document) (provide signer's title if applicant is a juristic entity)

**SIGNATURE of Applicant for Patent**

The undersigned (whose title is supplied below) is authorized to act on behalf of the applicant (e.g., where the applicant is a juristic entity).

Signature



Date (Optional)

Aug 20, 2019

Name

Christopher Desmond

Title

**NOTE:** Signature - This form must be signed by the applicant in accordance with 37 CFR 1.33. See 37 CFR 1.4 for signature requirements and certifications. If more than one applicant, use multiple forms.

Total of \_\_\_\_\_ forms are submitted.

This collection of information is required by 37 CFR 1.131, 1.32, and 1.33. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 3 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

*If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.*

**CERTIFICATION AND REQUEST FOR PRIORITIZED EXAMINATION  
 UNDER 37 CFR 1.102(e)** (Page 1 of 1)

First Named Inventor:	Christopher J. Desmond	Nonprovisional Application Number (if known):	
Title of Invention:	METHOD AND APPARATUS FOR MANAGING DIGITAL FILES		

**APPLICANT HEREBY CERTIFIES THE FOLLOWING AND REQUESTS PRIORITIZED EXAMINATION FOR THE ABOVE-IDENTIFIED APPLICATION.**

1. The processing fee set forth in 37 CFR 1.17(i)(1) and the prioritized examination fee set forth in 37 CFR 1.17(c) have been filed with the request. The publication fee requirement is met because that fee, set forth in 37 CFR 1.18(d), is currently \$0. The basic filing fee, search fee, and examination fee are filed with the request or have been already been paid. I understand that any required excess claims fees or application size fee must be paid for the application.
2. I understand that the application may not contain, or be amended to contain, more than four independent claims, more than thirty total claims, or any multiple dependent claims, and that any request for an extension of time will cause an outstanding Track I request to be dismissed.
3. The applicable box is checked below:
  - I.  **Original Application (Track One) - Prioritized Examination under § 1.102(e)(1)**
    - i. (a) The application is an original nonprovisional utility application filed under 35 U.S.C. 111(a). This certification and request is being filed with the utility application via EFS-Web.  
 ---OR---
      - (b) The application is an original nonprovisional plant application filed under 35 U.S.C. 111(a). This certification and request is being filed with the plant application in paper.
    - ii. An executed inventor's oath or declaration under 37 CFR 1.63 or 37 CFR 1.64 for each inventor, or the application data sheet meeting the conditions specified in 37 CFR 1.53(f)(3)(i) is filed with the application.
  - II.  **Request for Continued Examination - Prioritized Examination under § 1.102(e)(2)**
    - i. A request for continued examination has been filed with, or prior to, this form.
    - ii. If the application is a utility application, this certification and request is being filed via EFS-Web.
    - iii. The application is an original nonprovisional utility application filed under 35 U.S.C. 111(a), or is a national stage entry under 35 U.S.C. 371.
    - iv. This certification and request is being filed prior to the mailing of a first Office action responsive to the request for continued examination.
    - v. No prior request for continued examination has been granted prioritized examination status under 37 CFR 1.102(e)(2).

Signature /Bradley M. Taub/	Date September 20, 2019
Name (Print/Typed) Bradley M. Taub	Practitioner Registration Number 67300

**Note:** This form must be signed in accordance with 37 CFR 1.33. See 37 CFR 1.4(d) for signature requirements and certifications. Submit multiple forms if more than one signature is required.\*

\*Total of \_\_\_\_\_ forms are submitted.

## Privacy Act Statement

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

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

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (*i.e.*, GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

**PATENT**

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Serial No. : Unassigned Confirmation No.: Unassigned  
Applicant : NCM IP Holdings, LLC  
Filed : September 20, 2019  
Title : METHOD AND APPARATUS FOR MANAGING DIGITAL FILES  
  
TC/A.U. : Unassigned  
Examiner : Unassigned  
Docket No. : 069366-000002USC3  
Customer No. : 70001

**FIRST PRELIMINARY AMENDMENT**

Commissioner for Patents – **via EFS**  
P.O. Box 1450  
Alexandria, Virginia 22313

Dear Commissioner:

The Applicant respectfully requests that prior to the examination of the above-captioned patent application that this First Preliminary Amendment be entered.

The Applicant’s **Amendments to the Specification** begin on Page 2 of this paper.

The Applicant’s **Listing of the Claims** begins on Page 3 of this paper.

The Applicant’s **Remarks** begin on Page 8 of this paper.

**AMENDMENTS TO THE SPECIFICATION:**

*Please replace the Cross Reference to Related Applications Section on page two, after the Title and before the Field of the Invention Section with the following marked-up Section:*

**--CROSS-REFERENCE TO RELATED APPLICATIONS**

[0001] This application is a continuation of pending U.S. Patent Application No. 16/536,300, filed August 8, 2019, which is a continuation of U.S. Patent Application No. 15/375,927, filed December 12, 2016, now U.S. Patent No. 10,423,658, which is a continuation of U.S. Patent Application No. 14/193,426, filed February 28, 2014, now U.S. Patent No. 9,552,376, which is a continuation-in-part of ~~and claims priority to pending U.S. Patent Application No. 13/157,214, filed June 9, 2011, now U.S. Patent No. 9,098,531, each of which is hereby incorporated by reference~~ herein in its entirety.--

**LISTING OF THE CLAIMS**

This listing of claims will replace all prior versions, and listings, of claims in the application.

**Listing of Claims:**

1-29. (Canceled)

30. (New) A method comprising:

causing a map view to be displayed on an interface, the map view including:

- (i) an interactive map;
- (ii) a first selectable thumbnail image at a first location on the interactive map;
- (iii) a first count image associated with the first selectable thumbnail image, the first count image including a first number indicative of a number of digital files in a first set of digital files, the first set of digital files including digital files associated with the first location, the first set of digital files including any combination of photographs or videos or both;
- (iv) a second selectable thumbnail image at a second location on the interactive map; and
- (v) a second count image associated with the second selectable thumbnail image, the second count image including a second number indicative of a number of digital files in a second set of digital files, the second set of digital files including digital files associated with the second location, the second set of digital files including any combination of photographs or videos or both;

responsive to an input that is indicative of a selection of the first selectable thumbnail image, causing a first location view to be displayed on the interface, the first location view including (i) a first location name associated with the first location and (ii) a representation of at least a portion of the digital files in the first set of digital files; and

responsive to an input that is indicative of a selection of the second selectable thumbnail image, causing a second location view to be displayed on the interface, the second location view including (i) a second location name associated with the second

location and (ii) a representation of at least a portion of the digital files in the second set of digital files.

31. (New) The method of claim 30, further comprising, subsequent to the map view being displayed on the interface, responsive to an input that is indicative of a filter selection, modifying the first count image, the second count image, or both.

32. (New) The method of claim 30, further comprising, subsequent to the map view being displayed on the interface, responsive to an input that is indicative of zooming in on the interactive map, modifying the first count image, the second count image, or both.

33. (New) The method of claim 30, further comprising, subsequent to the map view being displayed on the interface, responsive to an input that is indicative of zooming out of the interactive map, modifying the first count image, the second count image, or both.

34. (New) The method of claim 30, wherein the first selectable thumbnail image is a first collection cover image and wherein the second selectable thumbnail image is a second collection cover image that is different than the first cover image.

35. (New) The method of claim 30, wherein the representations of each of the digital files in the first set of digital files are not overlaid on the interactive map, and wherein the representations of each of the digital files in the second set of digital files are not overlaid on the interactive map.

36. (New) The method of claim 30, wherein the at least a portion of the digital files in the first set of digital files includes all of the digital files in the first set of digital files and the at least a portion of the digital files in the second set of digital files includes all of the digital files in the second set of digital files.

37. (New) The method of claim 30, wherein the first selectable thumbnail image includes a representation of at least one of the digital files in the first set of digital files, and wherein the second selectable thumbnail image includes a representation of at least one of the digital files in the second set of digital files.

38. (New) The method of claim 30, further comprising:  
responsive to an input indicative of a selection of a first one of the displayed representations in the first location view, causing a first digital file associated with the first representation in the first location view to be displayed on the interface;  
and

responsive to an input indicative of a selection of a first one of the displayed representations in the second location view, causing a first digital file associated with the first representation in the second location view to be displayed on the interface.

39. (New) The method of claim 30, further comprising:  
receiving alphanumeric text as a tag;  
associating the tag with a first digital file in the first set of digital files;  
receiving a request to export the first digital file; and  
responsive to receiving the request to export, exporting the first digital file by causing the first digital file to be communicated along with the tag.
40. (New) A method comprising:  
causing a map view to be displayed on an interface, the map view including:  
(i) an interactive map;  
(ii) a first selectable thumbnail image at a first location on the interactive map;  
and  
(iii) a second selectable thumbnail image at a second location on the interactive map;  
responsive to an input that is indicative of a selection of the first selectable thumbnail image, causing a first location view to be displayed on the interface, the first location view including (i) a first location name associated with the first location and (ii) at least a portion of one digital file in a first set of digital files, each of the digital files in the first set of digital files being produced from outputs of one or more digital imaging devices, the first set of digital files including digital files associated with the first location; and  
responsive to an input that is indicative of a selection of the second selectable thumbnail image, causing a second location view to be displayed on the interface, the second location view including (i) a second location name associated with the second location and (ii) at least a portion of one digital file in a second set of digital files, each of the digital files in the second set of digital files being produced from outputs of the one or more digital imaging devices, the second set of digital files including digital files associated with the second location.



41. (New) The method of claim 40, wherein the map view further includes a first indication feature associated with the first selectable thumbnail image, the first indication feature being based on a number of digital files in the first set of digital files.
42. (New) The method of claim 41, wherein the first indication feature is connected to the first selectable thumbnail image.
43. (New) The method of claim 41, wherein the first indication feature includes a first number indicative of the number of digital files in the first set of digital files.
44. (New) The method of claim 41, wherein the map view further includes a second indication feature associated with the second selectable thumbnail image, the second indication feature being based on a number of digital files in the second set of digital files.
45. (New) The method of claim 44, wherein the second indication feature is connected to the second selectable thumbnail image.
46. (New) The method of claim 44, wherein the second indication feature includes a second number indicative of the number of digital files in the second set of digital files.
47. (New) The method of claim 41, further comprising, subsequent to the map view being displayed on the interface, responsive to an input that is indicative of zooming in on the interactive map, modifying the first indication feature.
48. (New) The method of claim 41, further comprising, subsequent to the map view being displayed on the interface, responsive to an input that is indicative of zooming out on the interactive map, modifying the first indication feature.
49. (New) A method comprising:
  - causing a map view to be displayed on an interface, the map view including:
    - (i) an interactive map;
    - (ii) a first selectable thumbnail image at a first location on the interactive map;

and

    - (iii) a first count image associated with the first selectable thumbnail image, the first count image including a first number indicative of a number of digital files produced from outputs of one or more digital imaging devices, the first set of digital files including digital files associated with the first location;

responsive to an input that is indicative of zooming in on the interactive map, modifying the first count image such that the first count image includes a second number that is different from the first number; and

responsive to an input that is indicative of zooming out on the interactive map, modifying the first count image such that the first count image includes a third number that is different from the first number.

50. (New) The method of claim 49, wherein the map view further includes:

(iv) a second selectable thumbnail image at a second location on the interactive map; and

(v) a second count image associated with the second selectable thumbnail image, the second count image including a fourth number indicative of a number of digital files produced from outputs of the one or more digital imaging devices, the second set of digital files including digital files associated with the second location;

wherein the method further comprises:

responsive to the input that is indicative of zooming in on the interactive map, modifying the second count image such that the second count image includes a fifth number that is different from the fourth number; and

responsive to the input that is indicative of zooming out on the interactive map, modifying the second count image such that the second count image includes a sixth number that is different from the fourth number.

51. (New) The method of claim 49, further comprising, responsive to an input that is indicative of a selection of the first selectable thumbnail image, causing a first location view to be displayed on the interface, the first location view including (i) a first location name associated with the first location and (ii) at least a portion of at least one of the digital files in the first set of digital files.

**REMARKS**

Claims 1-29 are pending and are now canceled. New 30-51 are claims are added. No claims are amended. No new matter is added. After entering this first preliminary amendment, claims 30-51 will be pending.

The specification has been amended to indicate the benefit of priority.

**CONCLUSION**

Applicant is concurrently submitting filing fees. It is believed that no additional fees are due at this time; however, should any additional fees be required (except for payment of the issue fee), the Director is authorized to deduct the additional fees (except for the issue fee) from Nixon Peabody Deposit Account No. 50-4181, Order No. 069366-000002USC3.

Respectfully submitted,

Date: September 20, 2019

/Bradley M. Taub, Reg. No. 67,300/

BRADLEY M. TAUB

Registration No. 67,300

NIXON PEABODY LLP

70 West Madison, Suite 3500

Chicago, Illinois 60602

(312) 425-8563 – Direct

(312) 425-3909 – Facsimile

ATTORNEYS FOR APPLICANT

**Nixon Peabody LLP**  
**Customer No.: 70001**

**PATENT**  
**069366-000002USP1**

**APPLICATION FOR UNITED STATES LETTERS PATENT**

**for**

**METHOD AND APPARATUS FOR MANAGING DIGITAL FILES**

**by**

**CHRISTOPHER DESMOND**

**NANCY DESMOND**

## **METHOD AND APPARATUS FOR MANAGING DIGITAL FILES**

### **CROSS-REFERENCE TO RELATED APPLICATIONS**

[0001] This application is a continuation-in-part of and claims priority to pending U.S. Patent Application No. 13/157,214, filed June 9, 2011, which is incorporated herein in its entirety.

### **FIELD OF THE INVENTION**

[0002] The present invention relates generally to the management of digital files and, more particularly, to a computer-implemented system and method for managing and using digital files such as digital photographs.

### **BACKGROUND OF THE INVENTION**

[0003] Prior to the invention of digital photography, people tended to share photos by displaying printed copies in frames and albums, or would store them in a container in hope of preserving these assets for future use or future generations. Important photos would often be inscribed on the back with significant details (people, location, event, etc.) to preserve the memory of that particular occasion. Many people would share their memories by assembling an album that could be viewed with others. Occasionally, extra copies of special photos were printed for friends, relatives, etc. At one time, film slide shows were also a popular medium for sharing photo memories.

[0004] With the evolution of digital files, there has been explosive growth in the number of individuals taking digital photos, converting old photos to digital copies, making movies and gathering digital documents and in the sheer number of files people are capturing digitally. Today, virtually every personal computing device contains some kind of photo, movie or other type of digital file creator/player/viewer/storer/etc.

[0005] At the same time, there is little to no cost for people to store large amounts of photos in various “containers” of the modern age. Facebook, Flickr, Shutterfly and countless other social media and specialty digital files sites allow users to post and share images to a community with a frequency and ease that continues to feed the fire of the digital revolution. However, they don’t allow much organization of digital tags, dynamic viewing of digital files,

and the ability to export the digital files with new digital tags. Questionable and ever-changing privacy terms for user/account information, including digital files, have also left the marketplace leery of posting their full digital archive and associated context to these sites.

**[0006]** What is needed to complement the widespread availability of digital files is a medium that allows people to organize, view, preserve and share these files with all the memory details captured, connected and vivified via an interactive interface. Such a solution would allow digital files, including documents, photos, videos and audio, to tell a full story now, and for generations to come.

### SUMMARY

**[0007]** In accordance with one embodiment, a computer-implemented method of associating digital tags with digital files comprises (1) storing, on one or more non-transitory computer-readable storage media, a plurality of digital files, each of the digital files having embedded therein content data and metadata including tags; (2) receiving, via a user interface device of a client device, a first tag label containing alphanumeric text created and inputted by a user of the client device; (3) modifying, using a controller device, a selected first one of the tags of the metadata in a first of the digital files to include the first tag label; (4) receiving, via the user interface device or another user interface device, an instruction to search for all of the digital files having at least the first tag label; (5) responsive to receiving the instruction, automatically searching for all of the digital files having at least the first tag label; and (6) displaying, on a video display device associated with the client device, a first indication of the first tag label.

**[0008]** In another embodiment a computer-implemented method of associating digital tags with digital files comprises storing, on one or more non-transitory computer-readable storage media, a plurality of digital files, each of the digital files having a content data portion and a metadata portion including tags; displaying, on a video display device associated with a client device, a first graphical representation of a first tag label of a first of the tags and associated with a first of the digital files; receiving, via a user interface device of the client device, a selection by a user of the client device of the first graphical representation of the first tag label as a search filter criterion or a search string entered via the user interface device corresponding to the first tag label; responsive to the receiving, automatically searching through the digital files, using at least the first tag label as a search filter, for the digital files satisfying at

least the search filter criterion; and displaying, on the video display device, an indication of the first tag label and a representation of the number of the digital files satisfying at least the search filter criterion.

**[0009]** In accordance with a further embodiment, a web-based digital file storage system comprises a digital file repository for storing and retrieving digital files; a digital tagging system permitting the user to assign a plurality of digital tags to each of the digital files, wherein the digital tagging system comprises at least one type of data selected from the group consisting of a person's name, a location, a recipe, a date, a family relationship, a person's profile, an event name, a rating, and a document type; a search filter, wherein the search filter allows the digital files to be searched according to a plurality of types of data; and a user interface that presents the digital files on a user's screen based on the digital tags, wherein the user interface further comprises a digital tag image, the digital tag image having at least one type of data represented thereon with text.

**[0010]** As described in detail below, the various embodiments provide much-needed platforms that save a user significant time, provide significant information with minimal screen space, and provide an appealing and customizable interface that will enhance the user experience.

#### **BRIEF DESCRIPTION OF THE DRAWINGS**

**[0011]** The invention may best be understood by reference to the following description taken in conjunction with the accompanying drawings, in which:

**[0012]** FIG. 1 is a screenshot of an organizational functionality view of one embodiment of the disclosed system.

**[0013]** FIG. 2 is a screenshot of a photo detail view of one embodiment of the disclosed system.

**[0014]** FIG. 3 is a screenshot of a gallery view of an event or album of one embodiment of the disclosed system.

**[0015]** FIG. 4 is screenshot of an individual event or album view of one embodiment of the disclosed system.

**[0016]** FIG. 5 is a screenshot of a location view of one embodiment of the disclosed system.

**[0017]** FIG. 6 is a screenshot of a people thumbnail view of one embodiment of the disclosed system.

**[0018]** FIG. 7 is a screenshot of a people profile view of one embodiment of the disclosed system.

**[0019]** FIG. 8 is a screenshot of a family tree view of one embodiment of the disclosed system.

**[0020]** FIG. 9 is a screenshot of a timeline view of one embodiment of the disclosed system.

**[0021]** FIG. 10 is a screenshot of a recipe chart, according to one embodiment of the disclosed system.

**[0022]** FIG. 11 is a screenshot of an album chart view of one embodiment of the disclosed system.

**[0023]** FIG. 12 is a screenshot of an event chart view of one embodiment of the disclosed system.

**[0024]** FIG. 13 is a screenshot of a people chart view of one embodiment of the disclosed system.

**[0025]** FIG. 14 is a screenshot of a family tree chart view of one embodiment of the disclosed system.

**[0026]** FIG. 15 is a screenshot of a location chart view of one embodiment of the disclosed system.

**[0027]** FIG. 16 is a screenshot of a recipe chart view of one embodiment of the disclosed system.

**[0028]** FIG. 17 is a screenshot of a slideshow view of one embodiment of the disclosed system.

**[0029]** FIG. 18 is a screenshot of an advanced search filter view of one embodiment of the disclosed system.

**[0030]** FIG. 19 is a screenshot of a homepage view of one embodiment of the disclosed system.

**[0031]** FIG. 20 is a diagram of the Overall System Process Flow of MemoryWeb.

**[0032]** FIG. 21 is a diagram of the System for Reading Phase, System Interpreting, and Adding Digital File and Corresponding Data to Relationship Table Phase.



- [0033] FIG. 22 is a table of the EXIF and MemoryWeb Tag Data Blocks
- [0034] FIG. 23 is a table of the Microsoft Windows and MemoryWeb Tag Data Blocks.
- [0035] FIG. 24 is a table of the MemoryWeb Person Tag Data Blocks.
- [0036] FIG. 25 is a diagram of the Third Party Facial Recognition System.
- [0037] FIG. 26 is a diagram of the Third Party Media System (Data Exchange).
- [0038] FIG. 27 is a table of the User Settings Table.
- [0039] FIG. 28 is a diagram of the Application Digital Tag Organizer System.
- [0040] FIG. 29 is an illustration of the Application Dot-Tag Shape and Content.
- [0041] FIG. 30 is a diagram of the Continuous Link of Application Dot-Tag System.
- [0042] FIG. 31 is an illustration of the Slideshow View of Digital File and Application Dot-Tags.
- [0043] FIG. 32 is a screenshot of People Application Views.
- [0044] FIG. 33 is a screenshot of Collection Application Views.
- [0045] FIG. 34 is a screenshot of Location Application Views.
- [0046] FIG. 35 is screenshot of Uploads Application View.
- [0047] FIG. 36 is a screenshot of Recipe Application View.
- [0048] FIG. 37 is a diagram of the Advanced Filters System.
- [0049] FIG. 38 is a screenshot of Adding the First Application Dot-Tag using Advanced Filter.
- [0050] FIG. 39 is a screenshot of Single Application Dot-Tag Filter for Each Application View.
- [0051] FIG. 40 is a screenshot of Single Application Dot-Tag Filter for Date in Uploads Application View.
- [0052] FIG. 41 is a screenshot of the Single Application Dot-Tag Filter in Location Application View.
- [0053] FIG. 42 is a screenshot of Adding Another Application Dot-Tag Filter.
- [0054] FIG. 43 is a screenshot of the Multi-Dot-Tag Filter in Location Application View.
- [0055] FIG. 44 is a diagram of the Keyword Fast Search System.
- [0056] FIG. 45 is a screenshot illustration of Using Keyword Fast Search.

[0057] FIG. 46 is a diagram of the Share to Third Party Social Network Provider System.

[0058] FIG. 47 is a diagram of the Third Party Location Mapping System.

[0059] FIG. 48 is a diagram of the Share to Individual System.

[0060] FIG. 49 is a diagram of the Application Export System.

[0061] FIG 50 is a table illustrating the Digital File Image File Directory Data Blocks of JPG Photo within Microsoft Before and After MemoryWeb.

### **DETAILED DESCRIPTION OF ILLUSTRATED EMBODIMENTS**

[0062] Although the invention will be described in connection with certain preferred embodiments, it will be understood that the invention is not limited to those particular embodiments. On the contrary, the invention is intended to cover all alternatives, modifications, and equivalent arrangements as may be included within the spirit and scope of the invention as defined by the appended claims.

[0063] The present disclosure relates to one or more of the following features, elements or combinations thereof. A web-based digital file storage system is disclosed. The storage system may include a digital file repository for storing and retrieving digital files, such as photos, a digital tagging system configured to assign digital tags to the digital files, a sorting system, and a user interface.

[0064] The digital tagging system may include various types of data, such as a person's name, a location, a recipe, a date, a family relationship to the user, an event name, a rating, sharing rights, file type and a document name. The sorting system can allow the digital files to be searched and sorted according to a plurality of types of data and can be used for creating and organizing special views. The user interface may be user-configurable, and can present the digital files on a user's screen based on these user inputs.

[0065] The digital file repository may be accessible over the Internet. The sorting system may provide a user with the ability to search based on a plurality of digital tags. The disclosed system may also provide a way to track relationships between users, so that a family tree can be displayed.

[0066] Recipes may also be linked to a person's name, with, for example, a video and digital copy of original hand-written recipe to create a recipe view.

**[0067]** Moreover, the digital files and data can be exported as a single file with the digital tagging embedded within the exported file.

**[0068]** In another embodiment, a method of storing digital photographs is disclosed. The method may include the steps of storing a digital photograph in a file repository, associating a plurality of digital tags having different tag types with the digital photograph, providing a search function that permits searching by a plurality of digital tag types and provides a search result, and providing a user-configurable output to display the search result. The digital tag types may include, for example, a person's name, a location, a recipe, a date, a relationship, an event name, a rating, file type and a document type. The method may include a further step of providing access to the file repository via the Internet. The method may also allow for tracking relationships between users so that a family tree can be displayed.

**[0069]** Additional features of the disclosure will become apparent to those skilled in the art upon consideration of the following detailed description of preferred embodiments exemplifying the best mode of carrying out the invention as presently perceived.

**[0070]** The presently disclosed method and application (herein alternatively referred to as a "system") provides users with an Internet-based interactive platform to gather, organize, view, share and archive digital files using a proprietary organization system and export tagging process. As used herein, the word "tag" refers to any type of digital data that can be assigned to a file to describe some aspect of that file through a tagging process. For images, the tagging is preferably in EXIF format. For videos, documents and other file formats, any appropriate format may be used. The disclosed system allows users to create, view and share digital files, which could represent, for example, the memories a user has collected from the past and present, and could incorporate additional memories for generations to come. As outlined herein, various embodiments are disclosed that can accomplish these and other goals.

**[0071]** One disclosed embodiment includes an import feature. Users can import media files from users' favorite sources (e.g., computers, mobile phones, social networks, etc.). If any meta-tag information is embedded within the media (e.g., date taken and GPS coordinates), the system could automatically read and utilize it for the user. Digital files, media, meta-tags, and other data discussed herein may be saved to one or more file repositories (also referred to as a database herein).

**[0072]** In another aspect of the disclosed system, organizational functionality is provided. Similar to the concept of writing certain information “on the back of a photo,” the system’s digital tagging system and organizing feature allows a user to arrange large amounts of digital files with tags that can characterize and document the digital file(s). Digital files can be individually or group organized at the same time for many tags including, but not limited to, a person’s name, family relationships of the subjects to the user and between each other (e.g., mother/father), location, date, event, album, comments, document type (e.g., birth certificate, poetry), recipe, ranking or rating, and sharing rights. Tags can be assigned to a single file at a time, or to a plurality of files at once. For example, if a user wishes to assign the tag “grandma” to 100 photos at once, the system provides a way for a user to select all 100 photos and enter the tag only once. An example of the manner in which digital photos can be organized is presented is seen in FIG. 1.

**[0073]** Yet another feature is the multiple views from which a user can display his or her digital media files and their tagged attributes. Using a user interface (e.g. a keyboard, mouse, or touch screen), users can select individual files, groups of files meeting specific criteria, or all files in their account from which to create views. These views may alternately take the form of a chart. These views will be auto-populated based upon either tag information already associated with the digital file upon import or the tags assigned to the digital files by the user within the aforementioned organization functionality. Each digital file can be enlarged, from any view or chart, by clicking an information (“i”) button to show an enlarged version of the digital media file with all the tags that are assigned to that digital file, as illustrated in FIG. 2. In another embodiment, the user interface may be user-configurable, as discussed further herein.

**[0074]** The following views are shown with particularity. In FIG. 1, the gallery view allows the user to see all the digital media that are associated within a group such as an event or custom album. The gallery view for either events or albums is illustrated in FIG. 3.

**[0075]** As shown in FIG. 2, an individual album or event view allows one to see the files associated with a specific group. For example, one can view the digital files that relate to a group of files called “Trip to Italy 2011.” The individual album or event view is illustrated in FIG. 4.

**[0076]** A location view, as shown in FIG. 5, identifies within an interactive map (Google map shown as an example), where digital files were taken or originated. The location

view can also provide additional outputs such as a journey route that identifies the specific locations for an event or trip that can be customized by users.

[0077] A people view, as shown in FIG. 6, shows thumbnail photos of all the people in the system that can be clicked in for a people profile view. A people profile view, as shown in FIG. 7, shows a profile picture of an individual, their birth/death information, family relationships, overview (comments) on the person, as well as links to other views that contain that individual in the system.

[0078] A family tree view, as shown in FIG. 8, can illustrate interactive family trees where one can see the family tree of an individual or family. If a user clicks on an individual within the family tree, it will take him or her to the people profile view of that person.

[0079] The timeline view, as shown in FIG. 9, will be an interactive timeline that allows you to set ranges of digital files by year, month and day. The digital files shown in the timeline will also be interactive and if the user clicks on a digital file or group of digital files (e.g., event or album), the user will then view the information related to the digital file(s).

[0080] A recipe view, as shown in FIG. 10, will show a recipe along with any digital files that are associated with it. For example, a cherished family recipe may show a digital copy of the original handwritten recipe, a photo of the family member who was the chef and a video of the family member making the recipe.

[0081] Each of the aforementioned views may also be seen in a chart format view that is interactive when any item on the chart is clicked, the user will then be taken to a new screen that details all relevant digital files (and file types) for the clicked item.

[0082] For album or event chart views, as shown in FIGs. 11 and 12, the elements listed in those charts will include individuals who are part of each album/event, number of digital files, date and other pertinent information.

[0083] A people view, shown in FIG. 13, may demonstrate all the names of individuals that are in the system in an alphabetical listing. Such a people view can also contain details on each person such as the number of photos and videos that are associated with that person. The user can click on that person to pull up the profile view of the individual or click on the number of photos to see all the photos associated with that person.

[0084] In the family tree chart view, shown in FIG. 14, family lineage can be viewed in multiple ways. For example, a user can set himself as the tree anchor and then see a tree of all

people entered into the database related to the user. The user could also set a contact as the tree anchor and then just view the descendants of that individual.

**[0085]** For a location chart view, as show in FIG. 15, listings of all the locations that are in the system are displayed along with the number of digital files, as well as names of persons associated with each. A user can click on the location to see all the digital media files that are associated with a specific location.

**[0086]** A recipe chart, as shown in FIG. 16, can show recipes that uploaded to the system. Along with the ingredients and steps of each recipe, this view can identify the chef(s) name, number of photos and videos associated with each.

**[0087]** For any of the views, the user can click on the digital file to start a slideshow feature that will allow them to scroll through an enlarged view of the digital file as illustrated in FIG. 17.

**[0088]** Another aspect of the disclosure is the search filter. This filter allows users to select one or more criteria that will narrow down their results to just those digital files matching input criteria. The entire system can be filtered by, for example, key words (or plurality of key words), event names, location, people, albums, star rating, file type, document type, and dates. A user may filter based on more than one criterion at a time. To help users quickly identify digital files that may still need to be organized, the advanced search filter also allows users to isolate files that have no date, no location, no people, no specific date/range, no upload date information or are lacking any other tag.

**[0089]** It should be noted that in one embodiment, searching via key word will search through all tagged information (user populated or auto-generated upon import). For example, if a user searched for the term "Ohio," the system would search for that term associated with any file in any way. If the user had files with Ohio as a state, file name, street name, person's name, file comment, etc., all would be retrieved.

**[0090]** Settings applied in the advanced search filter can cumulatively carry over to any subsequent pages until new criteria are selected. For example, a user can apply a filter to retrieve files associated with a particular person. Then the user can set a date range to further narrow results to show only those files for that selected person within the date range. Any pages viewed from that point forward throughout the entire site would only contain files associated with person and the date range specified. The advanced search filter is illustrated in FIG. 18.

**[0091]** Yet another feature can be a user's homepage, as illustrated in FIG. 19, that can summarize the user's content within the system including relevant information in the system. It is contemplated that a user's homepage may show a summary of the total number of photos, videos, documents and audio files that the user has uploaded. In this embodiment, for each group of digital files (e.g., photos), the percent of files that has been organized with pertinent data such as date, name(s) and location can be noted. In addition, the homepage can show a list of people that are in the system and the respective count for photos, videos, documents and audio files associated with each person. Also contemplated is a summary of the events, albums and locations that have been entered into the system. The user homepage may serve as an executive summary dashboard of one's entire system and can be modified to provide data in an executive summary format for a user.

**[0092]** Another feature is that the entire system including the dynamic views can be presented in a wide range of user outputs—e.g. on the user's computer, smartphone or tablet display. The user may choose to present the digital files in any of the various types of ways disclosed herein. Other ways of outputting the files are also possible. The user can create and modify various sharing rights so that third parties may view the files and if desired, provide comments, apply tags or even download/copy the files for their own use.

**[0093]** Still another embodiment can provide export functionality. Once a user has used the organization functionality to assign information to data file(s), a user may want to export the data file in its original form (e.g., .jpg, .mp4, etc.) with the tags embedded within the digital file in the form of EXIF tags. In other words, a user can export his or her entire set of digital files, or may choose a subset based on keywords and tags. The exported digital files can include key tags and attributes users have assigned, and in one embodiment, such tags and attributes can be embedded within the digital files. For example, each exported digital file may be imbedded with user-entered data such as the people, location, and event name. This feature will allow the users to back up their files to another source (e.g., external computer hard drive) or to transport it to another venue (e.g., another website that is used for viewing and/or sharing digital files such as a social media website) where it can be viewed with these attributes. This export feature can provide users with the advantage of never losing key data that was stored simply because the user chooses to move its digital files to a new digital archiving system.

**[0094]** A method is also disclosed. The method may include the steps of storing a digital file in a file repository, associating a plurality of digital tags having different tag types with the digital file, providing a search function that permits simultaneously searching by a plurality of digital tag types and provides a search result, and providing a user-configurable output to display the search result. The digital tag types may include, for example, a person's name, a location, a recipe, a date, a relationship between individuals, an event name, a rating, and a document type.

**[0095]** Under the disclosed method, access may be provided to the repository via the Internet. Relationships between users may also be tracked such that a family tree can be displayed. A recipe may also be linked to a user or person. Finally, the method may include the step of outputting a digital file and its associated digital tags into a single file.

**[0096]** While the disclosure is susceptible to various modifications and alternative forms, specific exemplary embodiments thereof have been shown by way of example in the drawings and have herein been described in detail. It should be understood, however, that there is no intent to limit the disclosure to the particular forms disclosed, but on the contrary, the intention is to cover all modifications, equivalents, and alternatives falling within the spirit and scope of the disclosure as defined by the appended claims.

**[0097]** A plurality of advantages arise from the various features of the present disclosure. It will be noted that alternative embodiments of various components of the disclosure may not include all of the features described yet still benefit from at least some of the advantages of such features. Those of ordinary skill in the art may readily devise their own implementations of a digital file organization system that incorporate one or more of the features of the present disclosure and fall within the spirit and scope of the disclosure.

**[0098]** Application (also called "MemoryWeb Application" or "System") – The Application is an online program constructed using a mix of freeware code as well as custom-built proprietary coding with an interface that has many functions including: 1) the ability to import, associate and embed Digital Tags to Digital Files by using existing Tags of a Digital File as well as the Application's custom Digital Tag options (also called the Application Digital Tag Organizer) for use in the Application; 2) view, sort, annotate, and share Digital Files from the various Application Views; 3) navigate using the proprietary Application Dot-Tag System; 4) filter Digital Files using the Application Advanced Filter System or Fast Search System; 5) store



the Digital Files through an interactive Storage System through a User Relationship Table; and 6) export the Digital Files with the Digital Tags embedded within the Digital Files. This Application has already been disclosed in U.S. Patent Application No. 13/157,214 and incorporated herein by reference. This Application is also being trademarked as “MemoryWeb” with the US Commissioner for Trademarks on December 26, 2013 under application No.: 86/152,930. The Application may be accessible over various user interfaces that may use the Internet and via applications that would be used on mobile communication devices such as smart phones (e.g., iPhones), Personal Digital Assistants (PDAs) and Tablets (e.g., iPads).

**[0099]**     Application Views – The Application Views utilizes the Application’s ability to associate Digital Tags to Digital Files and display them in customized views such as Uploads, Collections, Slideshow, Location, Timeline, Family Tree, People Profile, and Recipes.

**[00100]**    Application Advanced Filter System – A function that provides search capabilities using one or more Digital Tags within the Application, resulting in a narrowed output display of the applied filters to display one or more Digital Files and viewed in one or more Application Views. The Application Advanced Filter System can allow Digital Files to be searched and sorted according to a plurality of types of data and can be used for creating and organizing special views. The user interface may be user-configurable, and can present the Digital Files on a user’s screen based on these user inputs.

**[00101]**    Application Dot-Tag – The manner in which a Digital Tag is displayed within the Application using pill-shaped indicators that can reside near a file’s image or overlaid on the file’s image. MemoryWeb Tags are illustrated as Application Dot-Tags within the Application to help the user organize their Digital Files with key components of related information such as people, date of file, location, collection, star ranking, and recipe. The MemoryWeb Application Dot-Tag is more than just text (as traditional tagging systems) because Memory-Web Application Dot-Tags act as mini search engines that allow the user to see how many matching files there are to that MemoryWeb Tag and if selected will take the user to the corresponding Application View to illustrate the linked search results of that Application Dot-Tag. However, it should be understood that other shapes and indicators are contemplated by the present invention, and may even be user-configurable. For example, the indicator may take the form of a sticky note, a different shape, a dotted shape, or any number of variations of indicators that may be functional in displaying one or more words. Colors may also be used to indicate differing

categories of indicators, or differing associations/intersection of the indicators. Within the pill-shaped indicator, the specific Digital Tag information is used to display information about a Digital File. Throughout this document, the Application Dot-Tag is shown as illustrated in FIG. 29 (indicators 0650, 0654, 0655 and 0656).

**[00102]** Application Digital Tag Organizer System – Within the Application, a function for assigning one or more Digital Tags to one or more Digital Files at the same time through the Application Dot-Tag Organizer System. This feature allows Digital Tags to be assigned to items such as photos, videos, audio files, and documents. The information created from this functionality drives the outputs for the Application Views. The Application Digital Tag Organizer System will allow the tagging of key items as date, GPS location, star ranking, people (both name and facial recognition), album(s), family relationships, a date, event name, sharing rights, file type, document name, and recipes. Each of the Digital Tags is user-configurable.

**[00103]** Application Export System – Ability to export Digital File(s) from the Application, with the Digital Tags that were created within or imported/uploaded into the Application, embedded inside the Digital File. The Digital Tags within the exported Digital File can then be viewed and used by any other applications that can read EXIF tags.

**[00104]** Application Programming Interface (“API”) – The Application Programming Interface (API) is the system that interacts with other communication points or services over HTTP via a POST, GET, PUT, DELETE methods. The API provides a way for users to access their MemoryWeb data outside of the web browser on mobile devices or other web connected devices. The actions within the API deliver MemoryWeb Digital Files and Digital Tags along with all meta data associated with such files and tags.

**[00105]** MW Automatic Uploader/Downloader Application – Separate from the main MemoryWeb Application, there are additional proprietary applications created by MemoryWeb for user to upload and download (export) Digital files to and from the main MemoryWeb Application. The first is the MW Automatic Uploader/Downloader built for Window’s compatible computers. The second is the MW Automatic Uploader/Downloader build for MAC computer. Both of the MW Automatic Uploader/Downloader applications can be installed on the user’s computer to automatically upload the desired Digital Files from their computer to the main MemoryWeb Application. In addition, the MW Automatic Uploader/Downloader

applications allow for Digital Files to be exported from the main MemoryWeb Application to a desired folder on the user's computer with the updated tags embedded within the Digital File.

**[00106]** Storage System – A storage system can be a cloud-based Storage System (e.g., Amazon's AWS, Dropbox, Box.net, Deutsche Telecom's Cloud, etc.), hard-drive, server, or any venue that allows one's information to be stored. The storage system would act as a database and file repository for storage and retrieval of Digital Files to and from the Application.

**[00107]** Digital Files – An electronic file that can be in various file formats (e.g., PNG, JPEG, PDF, TIFF, MP3, MP4, WAV, and GIF) that are of items such as photos, videos, audio files, and documents.

**[00108]** Digital Tags –The word “Digital Tag” refers to any type of digital data that can be assigned to a file to distinguish and describe some aspect of that file through a tagging process. Digital Tags will be comprised of various groups of digital data including:

- a) EXIF Tags – EXIF stands for “Exchangeable Image File Format” and is a standard that specifies the formats for images, sound, video, and ancillary tags. The EXIF standard is an Open Standard produced by the Standardization Committee and is detailed within their document called Standard of the Camera & Imaging Products Association. Standard of the Camera & Imaging Products Association, CIPA DC-008 Translation-2012. Exchangeable image file format for digital still cameras: EXIF Version 2.3. Established on April, 2010 and Revised on December, 2012. Prepared by: Standardization Committee. EXIF tags are also called “meta tags” or “metadata.” The EXIF information is formatted according to the TIFF specification, and may be found in JPG, TIFF, PNG, JP2, PGF, MIFF, HDP, PSP and XCF images, as well as many TIFF-based RAW images, and even some AVI and MOV videos. The EXIF meta information is organized into different Image File Directories (IFD's) within an image. The names of these IFD's correspond to the ExifTool family 1 group names.

**[00109]** When Digital Files are captured with digital cameras (including smartphones), scanners and other systems handling image, video and sound files, certain EXIF tags are automatically populated within the Digital File and can cover a broad spectrum of information such as:

- Descriptions (e.g., Title, Subject, Star Ratings, Tags, People, Comments)
- Origin (e.g., Authors, Date taken, Copyright)

- Image information (e.g., dimensions, color representation and size)
- Camera Setting Information (e.g., camera maker, camera model), including static information such as the camera model and make, and information that varies with each image such as orientation (rotation), aperture, shutter speed, focal length, metering mode, and ISO speed information.
- Advanced Photo Information (e.g., lens maker, lens model, contrast, brightness, EXIF version, etc.)
- File Information (e.g., file name, item type (e.g., JPG file), date created, date modified, size, etc.)
- A thumbnail for previewing the picture on the camera's LCD screen, in file managers, or in photo manipulation software.
- Global Positioning System (GPS) information that is also known as geocoding.

The Application will auto-populate any existing EXIF Tags from the original Digital File upon upload into the Applications (as illustrated in FIG. 21) and put this information into the Users Relationship Table on the Storage System.

- b) Extensible Metadata Platform (XMP) – This is Adobe's Extensible Metadata Platform (XMP) format for labeling metadata within an Adobe file.
- c) Png Textual Data (tEXt) — This is Portable Network Graphics (PNG) metadata format for labeling within a PNG file.
- d) Microsoft Windows Tags — These are Microsoft Windows File Attributes that are stored in Data Blocks from Microsoft's system.
- e) MemoryWeb Tags — These tags are typically developed within MemoryWeb and can relate to People Names, Recipes, Collections, Location Name, Family Relationships (also discussed in MemoryWeb Person Tags), Social Network Data (e.g., ID, contact IDs, etc.), File Folder Batch Name. This would be folder directory name that includes the name of each folder that eventually leads to the folder that the digital file was actually stored within the User's PC. This is used to help the user organize data within MemoryWeb based upon the users organization system used on their PC. Facial Recognition Data, and other type of tags that are user defined.

- f) MemoryWeb Person Tags – These user defined tags within MemoryWeb are specific to each person profile including such areas as Nicknames, Birthdates, Date of Birth, Date of Death, Biography, Family Relationships (e.g., Mother, Father, Brother, Sister, Daughter, Son, Spouse, etc.), Pets, and Firsts (e.g., First Steps, First Words, First time riding a bike, etc.).

[00110] The combination of all the aforementioned tags is collectively referred to as “Digital Tags.” The list of groups and Digital Tag types will grow as technology in this area improves over time. These Digital Tags are also referred to as “File DNA” for MemoryWeb.

[00111] User Relationship Table – Within the Application, each User will store the data related to Digital Files, Digital Tags, User Settings, and other specific information related to a User’s repository of information is kept within the User Relationship Table.

[00112] Data Blocks – Within the User Relationship Table, there are Data Blocks that will store information related to EXIF Tags, Microsoft Windows Tags, MemoryWeb Tags, and MemoryWeb Person Tags. These Data Blocks are used to generate the information that is displayed in such key components such as the Application Views and Application Dot-Tags.

Custom Code – Proprietary scripts and code developed by MemoryWeb to enable key functions such as Dot-Tag relationships and ability to embed new user-defined tags into a file and/or override existing EXIF tags and the ability to navigate the application and it’s functions via connections drawn from the associated tags

[00113] Open Source Libraries – Non-proprietary code taken from the free, open source community integrated that is used by the Application.

[00114] User Interface – The Application may be accessible over various “User Interfaces” including Personal Computers (e.g., Macs, Windows, etc.), Personal Digital Assistants (PDA) (e.g., iPhones) and Tablets (e.g., iPad). The User Interfaces can be controlled through the Application using various tools such as a keyboard, mouse, and touch screen.

[00115] The present invention relates to an Application that has many functions including: 1) the ability to import, associate and embed Digital Tags to Digital Files by using existing Tags of a Digital File as well as the Application’s custom Digital Tag options (also called the Application Digital Tag Organizer) for use in the Application; 2) view, sort, annotate, and share Digital Files from the various Application Views; 3) navigate using the proprietary Application Dot-Tag System; 4) filter Digital Files using the Application Advanced Filter

System or Fast Search System; 5) store the Digital Files through an interactive Storage System through a User Relationship Table; and 6) export the Digital Files with the Digital Tags embedded within the Digital Files.

**[00116]** Prior to the invention of digital photography, people tended to share photos by displaying printed copies in frames and albums or would store them in a container in hope of preserving these assets for future use or future generations. Important photos would often be inscribed on the back with significant details (people, location, and event) to preserve the memory of that particular occasion. Many people would share their memories by assembling an album that could be viewed with others. Occasionally, extra copies of special photos may have been printed for friends, relatives, etc. At one time, film slide shows were also a popular medium for sharing photo memories.

**[00117]** With the evolution of Digital Files, there has been explosive growth in the number of individuals taking digital photos, converting old photos to digital copies, making movies and gathering digital documents and in the sheer number of files people are capturing digitally. Today, virtually every personal computing device contains some kind of photo, movie or other type of digital file creator/player/viewer/storer/etc.

**[00118]** At the same time, there is little to no cost for people to store large amounts of photos in various “containers” of the modern age. Facebook, Flickr, Shutterfly and countless other social media and specialty Digital Files sites allow users to post and share images to a community with a frequency and ease that continues to feed the fire of the digital revolution. However, they don’t allow much organization of Digital Tags, dynamic viewing of Digital Files, and the ability to export the Digital Files with new Digital Tags. Questionable and ever-changing privacy terms for user/account information, including digital files, have also left the marketplace leery of posting their full digital archive and associated context to these sites.

**[00119]** What is needed to complement the widespread availability of Digital Files is a medium that allows people to organize, view, navigate, search, preserve and share these files with all the memory details captured, connected and vivified via an interactive interface. Such a solution would allow Digital Files, including documents, photos, videos and audio, to tell a full story now, and for generations to come.

**[00120]** As disclosed in detail herein, the application provides the much needed platform that saves a user significant time, provides significant information with minimal screen

space, and provides an appealing and customizable interface that will enhance the user experience.

**[00121]** Anytime the MemoryWeb Application exchanges information with an external Storage System or User Interface such as a phone, tablet, computer or other internet based user device, the interaction with the MemoryWeb Application involves Application Programming Interface (API). The API's allow each system to call the specific Digital Files and Digital Tags associated with each request so they can be viewed.

**[00122]** Additional features of the disclosure will become apparent to those skilled in the art upon consideration of the following detailed description of preferred embodiments exemplifying the best mode of carrying out the invention as presently perceived.

**[00123]** The present disclosure relates to one or more of the following features, elements or combinations thereof. The Application allows the importation of Digital Files and then the association of Digital Tags to the Digital Files by using existing EXIF Tags of a Digital File as well as the Application's custom organization of Digital Tags for use in the Application. The Application then allows the Digital Files to be viewed, sorted, annotated, navigated, and shared using the various Application Views. The Application can also filter Digital Files using the Application Advanced Filter System functionality. The Digital Files can be stored through a Storage System that interacts with the Application. In addition, the Application allows for Digital Files to be exported with the Application's Digital Tags embedded within the Digital Files.

**[00124]** The Application may be accessible over various user interfaces that may use the Internet and via applications that would be used on User Interfaces such as Personal Digital Assistants (PDA) (e.g., iPhones) and Tablets (e.g., iPad).

**[00125]** The presently disclosed Application provides users with an interactive platform to gather, organize, view, share and archive Digital Files using a proprietary organization system called the Application Digital Tag Organizer and export the modified Digital files with the Application's Digital Tags embedded within the Digital Files using the Application Export feature.

**[00126]** The Application allows users to create, navigate, search, view and share Digital Files, which could represent, for example, the memories a user has collected from the

past and present, and could incorporate additional memories for generations to come. As outlined herein, various embodiments are disclosed that can accomplish these and other goals.

#### Description of embodiments

**[00127]** In FIG. 20, the overall process flow of MemoryWeb is depicted. Each of the boxes depicted that are Inside the Memory-Web System (0050) are detailed additional figures within this application. However, to help illustrate the overall process flow, FIG. 20 was created. In FIG. 20, the process begins when original digital file(s) are uploaded to MemoryWeb (0101). This process can take place in a variety of ways including when a user manually selects uploads from the Uploads Application View (see FIG. 35 indicator 1701), installs the a MW Automatic Uploader/Downloader Application on their computer, or imports Digital Files from the users' other sources (e.g., mobile phones, social networks, etc.).

**[00128]** Once a file is uploaded, the System Reading Phase (0100) begins. Information from the System Reading Phase is then sent to the System Interpreting and Adding Data to Relationship Table Phase (0200). During this phase, information is passed back and forth to the Third Party Facial Recognition System (0400) to the Third Party Facial Recognition Provider (0401). The system will also coordinate between the Third Party Social Media (Data Exchange) (0500) and then to various Third Party Media Providers (0501). Another key step from the System Interpreting and Adding Data to Relationship Table Phase is adding both the Digital Files and the corresponding tags to the User Relationship Table (0300). As illustrated in subsequent figures within the patent application, the User Relationship Table serves as the key repository for all of the user's data that generates virtually every display from the application. From the User Relationship Table, the user can use the Applications Digital Tag Organizer System (0600), the Continuous Link of the Application Dot-Tag System (0700), the Advanced Filters System (0800), or the Keyword Fast Search System (0900). The user can also share Digital File(s) through the Share to Social Network Provider System (1000) to a Third Party Social Network Provider (0501) that is outside the MemoryWeb system or use the Share to Individual System (1200) to a Person (1201) that is Outside the MemoryWeb system using the data from the User Relationship Table. To help generate some of the map views, the system will utilize a Third Party Geographical Mapping System (1100) that connects to a Third Party Geographical Mapping Provider (1101) that is Outside the MemoryWeb system. The user can also export Digital Files with the Digital Tags embedded within the Digital File using the



Application Export System (1300) that will send a MemoryWeb Modified File from MemoryWeb (1301) to a designated location by the User that is outside the MemoryWeb system.

**[00129]** As illustrated in FIG. 21, the System Reading Phase (0100) is described in further detail. The System Reading Phase will first check if the digital file is a duplicate file (0102) that is already in the User's collection. If the file is a duplicate, it will not be uploaded (0104). However, if it is a new file for the user, the System Reading Phase will then locate the EXIF Image File Directories in the digital file (0103) and then send that information to the System Interpreting and Adding Data to Relationship Table Phase (0200).

**[00130]** As further illustrated in FIG. 21, the System Interpreting and Adding Data to Relationship Table Phase will take the EXIF Image File Directories sent from the System Reading Phase and read and iterate through each EXIF tag item (0201). At this time, the system will identify faces from the digital file and then send this information to the Third Party Facial Recognition System (0400) that will coordinate with the Third Party Facial Recognition Provider (0401) that is outside the MemoryWeb. When the Third Party Facial Recognition System (0400) sends back data related to facial recognition of faces in the Digital File, it comes back then the system sends information related to people facial recognition tags to the MemoryWeb Person Tag (Data Blocks) within the User Relationship Table (0300). The detailed process of the Third Party Facial Recognition System (0400) is further explained in FIG. 25.

**[00131]** During the Read & Integrate Through Each EXIF Tag item (0201) the process will also upload a the original Digital File in MemoryWeb (0211), the process will also store a copy of the original file within the User Relationship Table (0300) and create five duplicate copies (0203) of different resolution sizes as follows: XL Duplicate File (0302), Large Duplicate File (0303), Medium Duplicate File (0304), Small Duplicate File (0304), and a Thumbnail Duplicate File (0306). Each duplicate file is used in different parts of the application depending upon the photo size needed for such areas within the Application such as Application Views, Application Dot-Tags, and Application Digital Tag Organizer System.

**[00132]** Another embodiment during the Read and iterate through each EXIF tag item (0201) stage is determining if a MemoryWeb tag exists (0204). A MemoryWeb tag is a Digital Tag that is currently being used as an Application Dot-Tag within the Application. If it is not a Digital Tag that MemoryWeb is currently using, the application will Save EXIF data to the User Relationship Table for Digital File (0205) and send this to the User Relationship table. This is

done in case there are EXIF data that are desired to be used in future releases of the Application. For the Digital Tags that are being used in the Application, the system will Parse EXIF data into MemoryWeb Tags (0206), look up MW tag data (0207) and determine if a Digital Tag currently exists (0208). If a Digital Tag does not exist, the system will Create a new MW tag data ((0209) and send this to the appropriate Data Blocks within the User Relationship Table (0300). If Digital Tag data does exist, the system will Associate existing tag data ((0210) to the appropriate Data Blocks within the User Relationship Table (0300).

**[00133]** The third and final area within FIG. 21 is the System Indexing Digital Files and Tag Data Blocks for a Digital File within the User Relationship table (0300). In the User Relationship Table, the user's information system information stored such as User Settings (0390). Copies of the Original Digital File (0301), XL Duplicate File (0302), Large Duplicate File (0303), Medium Duplicate File (0304), Small Duplicate File (0304), and Thumbnail Duplicate File (0306) are stored. The final area of the User Relationship Table relates to the data blocks including EXIF Tag (Data Blocks) (0320), Microsoft Windows Tag (Data Blocks) (0320), MemoryWeb Tag (Data Blocks) (0360), and MemoryWeb Person Tag (Data Blocks) (0380).

**[00134]** In FIG. 22, there are two charts that illustrate EXIF and MemoryWeb Tag Data Blocks. The first chart illustrates the EXIF Tags Version 2.3 (Data Blocks) (0320). For the EXIF Tags Version 2.3 (Data Blocks) (0320), the information from this table is an expert from an Open Source Library code produced by the Standardization Committee that is detailed within their document called Standard of the Camera & Imaging Products Association. While all the EXIF tags that are contained within a Digital File are read (as previously illustrated in FIG. 21 within the System Interpreting and Adding Data to Relationship Table Phase (0200)) and are stored within the system's User Relationship Table (0300), a summary of the primary EXIF tags that are currently used within MemoryWeb are illustrated in the EXIF Tag Blocks (0320). The EXIF tag information is organized into different Image File Directories (IFD's) or "Data Blocks" within an image and organized in the column heading of Tag Label (0321). The names of these IFD's correspond to an EXIF standard for ExifTool family 1 group names that are depicted in the column heading of EXIF Group (0322). The IFD's are stored within a specific data block location within a Digital File and these locations have a standard name of the specific location (0323) within the Digital File. The primary EXIF tags that are read and used by MemoryWeb to generate Application Dot-Tags are: Description Title (0324), Description Rating (0325), Origin

Date Taken (0326), Digital File Width (0327), Digital File Height (0328), User Comment (0329), GPS Latitude (0330), GPS Latitude Ref (0331), GPS Longitude (0332), and GPS Longitude Ref (0333).

**[00135]** In FIG. 22, the second chart illustrates the MemoryWeb Tag (Data Blocks) (0360) that overlap with standard EXIF Tag blocks. As previously illustrated in FIG. 21, the EXIF Tag Data blocks are read and brought into the User Relationship Table (0300). When the data is stored within the system's User Relationship Table, they are also stored with the corresponding EXIF tag label as illustrated in the column called MemoryWeb Tag (0361). For example, when a Digital File is brought into MemoryWeb and the system reads the Origin Date Taken (0326) for the EXIF Tag block, the system will denote this in the MemoryWeb table as MediaAsset.DateCreated (0364). This designation is very important as it allows MemoryWeb to re-inject any updated or new MemoryWeb Tag data into the corresponding standard EXIF Tag blocks of a Digital File when it is exported from MemoryWeb (as previously illustrated in FIG. 20 with the Application Export System (1300)). Continuing with this example, if the Origin Date Taken is modified within the MemoryWeb system, when the file is exported through the Application Export System (1300), the new updated date from MemoryWeb (0364) will be mapped to the EXIF Tag Data block with the Tag Label of Origin Date Taken (0326) with the EXIF Group called ExifIFD (0334) and the Location called 0x9003 (0335).

**[00136]** In situations where there is no standard EXIF Tag data block for the MemoryWeb Tag for such items such as Collections, People Location Name, Recipe Name, etc. (0367), they are mapped to a general EXIF Tag data block called User Comment (0329). As the standards for EXIF Tag data blocks change, the system can be mapped to any new specific EXIF Tag data blocks. For example, if an EXIF Tag Data block is made for Recipe Name, the MemoryWeb Tag related to Recipe Name will be mapped specifically to that new EXIF Tag data block as opposed to User Comment.

**[00137]** In FIG. 23, there are two charts that illustrate Microsoft Windows and MemoryWeb Tag Data Blocks. The first chart illustrates the standard Windows Imaging Component (WIC) Metadata (Data Blocks) (0340). Microsoft Windows has their metadata tag blocks contained in areas called Tag Labels (0341). The primary WIC Metadata data blocks that are read and used by MemoryWeb to generate Application Dot-Tags are: File Name (0342) and File Folder Path (0343). The corresponding MemoryWeb Tag data blocks (0360) for the WIC

metadata tag blocks are called MediaAsset.Filename (0372) for the Microsoft file name and MediaAsset.UploadBatch.Batchname (0373) for the Microsoft File Folder Path. The ability for MemoryWeb to read the File Folder Path from Microsoft is a unique process used within MemoryWeb to help the user organize their photos based upon the organization methods they have already used within Microsoft. For example, if the user stored a group of photos on their Microsoft computer in the file directory C:/Photos/2013/First Day of School, MemoryWeb will automatically place the photos that were located within that Microsoft File Folder Path into a MemoryWeb Application Dot-Tag under a collection called "First Day of School" based upon the last folder within the file folder path. An example of the Application Dot-Tag that would be generated from the File Folder Path is in FIG. 31 with the label "First Day of School" (0770). In addition, MemoryWeb will allow the user to view the photos that are within a specific File Folder Path in the MemoryWeb Uploads Application View so that the user can organize photos from the same File Folder Path. An example of how this will be illustrated within MemoryWeb's Uploads Application View is in FIG. 35 with the grouping of photos with the File Path Name C:/Photos/2013/First Day of School (0709).

**[00138]** In FIG. 24, the MemoryWeb Person Tag Data Blocks (0380) that are contained with a User Relationship Table are illustrated. For any person that is added within a user's account, various MemoryWeb Person Tag Data Blocks are stored including: Person Name (0395), Nickname (0381), Birthdate (0382), Date of Death (0383), Biography (0384), Mother (0385), Father (0386), Brother(s) (0387), Sister(s) (0388), Daughter(s) (0389), Son(s) (0390), Spouse(s) (0391), Facial Recognition (0392), FacebookID (0393), Pets (0394), and other data blocks that will be added in the future as the Application grows (0396). These data blocks are primarily used in the People Profile Application View as illustrated in FIG. 32 (indicator 1430). One embodiment within the MemoryWeb Person Tag Data Block contains the FacebookID (0393). As illustrated in FIG. 26 (indicator 0507), information from Third Party Media Providers will be exchanged within MemoryWeb and the user's FacebookID will be provided and stored within the MemoryWeb Person Tag Data Block. In addition, any of the User's contacts from Facebook will also be downloaded into the corresponding MemoryWeb Person Tag Data Blocks for any matching persons within the User's MemoryWeb account. The information from the Third Party Media Providers that are stored within MemoryWeb will be

used to provide “push notifications” to the user for various items such as when the user or any one of its contacts posts a photo to that Social Media venue.

**[00139]** As illustrated in FIG. 25, the Third Party Facial Recognition System (0400) is described in further detail. As photos are imported or uploaded into the Application, the systems will request thumbnail Digital Files (0404) from the User Relationship Table (0300). On a routine basis (e.g., daily), the system will retrieve all the thumbnails of Digital Files with unconfirmed faces (0403) and then send those Digital Files (0404) to the Third Party Recognition Provider (0401). The Third Party Facial Recognition Provider (0401) uses their algorithms to find location of eyes, nose, mouth and many other points for each face detected in the photo. They will also determine gender, check if the person is smiling, have eyes open, lips sealed or wearing glasses. The Third Party Facial Recognition Provider will use their algorithms to associate potential matches of faces for the user’s collection of photos. For each face, the system will send back attributes including gender (male, female), glasses (true, false), smiling (true, false), lips (sealed, parted), eyes, (open, closed), mood (happy, sad, angry, surprised, disgusted, scared, neutral), field in the response has two subfields: value (string) and confidence (integer). For each attribute, the Third Party Facial Recognition Provider will assign percentages of confidence (0% to 100%) for each attribute that can be used by the MemoryWeb Application to utilize.

**[00140]** The Third Party Facial Recognition Provider will then send the information relating to a person back to MemoryWeb (0405). The MemoryWeb Application parses the identified faces and corresponding Facial Recognition data for each Digital File (0406). The system will interact with the User Relationship Table and determine if the face is an existing (i.e., “trained”) face in MemoryWeb where there is a Face ID in the User Relationship Table (0407). If not, the system generates a facial recognition record for unknown person and then sends information to MemoryWeb Person Tag (Data Blocks) in User Relationship Table (0410). If yes, the system will then determine if the face is above the system’s thresholds for confirming a face is a specific person in the user’s MemoryWeb system (0408). If no, system generates virtual unconfirmed facial recognition record for person and then sends information to MemoryWeb Person Tag (Data Blocks) in User Relationship Table (0411). If yes, the system records and associates specific face for Digital File with a MemoryWeb Person ID and sends to MemoryWeb Person Tag (Data Blocks) in User Relationship Table (0409).

**[00141]** Typically, the ability to confirm and deny facial recognition matches will be within the People Profile Application View as illustrated in FIG. 32 within the facial recognitions area (indicator 1442). The system will also have other facial resonations area where the user can confirm or deny the suggested facial recognitions of a person for a Digital File. When the user denies the suggested facial recognition, the system dis-associates potential person match Tag, search's the user's collection for other potential matches, and then sends information to Tag Data Block of Relationship Table for the Digital File. If the user accepts the suggested facial recognition, the system sends this facial recognition tag confirmation to the User Relationship Table for the Digital File. Once a confirmation is made, the newly associated Digital File will have that confirmed person Application Dot-Tag associated to that Digital File for all Application Views. Each time an accepted or denied facial recognition is made for a specific person, the specific data points used for facial recognition is improved and sent to the Third Party Facial Recognition Provider for more accurate confirmations of that person during the next run for that person.

**[00142]** As illustrated in FIG. 26, the Third Party Media System (Data Exchange) (0500) is described in further detail. There are numerous types of third party media systems that are contemplated for MemoryWeb including social network providers (e.g., Facebook, Twitter, and LinkedIn) and other photo sites (e.g., Flickr and Picasa). In addition, it is contemplated for the ability to print Digital Files from MemoryWeb using third party print providers such as Walgreens or Shutterfly. Further contemplated solutions might be from digital file warehouses such as Dropbox and box.net. All of the Third Party Media Systems will interact with MemoryWeb using the same system that is described within FIG. 26. The Third Party Social Media System starts when the user initiates sharing of their information with Third Party Media Provider with MemoryWeb (0502). When this is initiated, the system will send registration information (0503) to the Third Party Media Provider (0501). Once received, the Third Party Media Provider will send back a confirmation with the Third Party Social Media ID (0504) and then the system will send the information (0505) to the User Settings Table (0390) within the User Relationship Table (0300). The system will then send daily requests from the User Relationship Table for contact names and IDs (0506) to the Social Media Provider (0506). If there are new contact names that are not part of the user's current people, the system will receive new contact names and IDs from the Social Media Provider (0501). The user will have the

ability to confirm or deny matches (0508) with their contacts within MemoryWeb. If there is a match, the system will associate the existing person within MemoryWeb to the same ID of the person within the Third Party Social Media platform (0509) and then send this to the User Relationship Table. If there is not a match, the system will add this additional contact as a new person and send (0510) this to the User Relationship Table. If the user wants to share or print Digital Files from MemoryWeb, they can do this with the Share to Third Party Media Provider System (1000) that is further detailed within FIG. 46.

**[00143]** In FIG. 27, the MemoryWeb User Settings Table is illustrated. As illustrated in the User Settings Table (1900), various data blocks of information is stored including the User's Name (1901), Payment ID (1902) that is used with third party payment providers, Password (1903), Account Type (1904) (i.e., free or paid account), User's email (1905), Language preference (1906), Date format preference (1907), Email notification (1908) preferences, the ability to share Contacts (with third Party Social Media) (1909), Facebook ID (1910), API Token (1911), Payment Date (1912) and other settings that will evolve as the Application grows (1913).

**[00144]** In FIG. 28, the Application Digital Tag Organizer System (0600) is illustrated. Within various Application Views the user can select, add, delete and edit MemoryWeb Tags for such areas as people, date, location, collections, star rankings, and recipes. An illustration of an Uploads Application View where MemoryWeb Tags for a Digital File can be selected, added, deleted, or edited is illustrated in FIG. 35. The Application Digital Tag Organizer System begins when the user selects one or more Digital Files in MemoryWeb (0601). The system then sends a request to the User Relationship Table for the specific Digital File (0602). The system then retrieves the Digital File and the Digital File Tag Data Blocks (0603) from the User Relationship Table (0300). Next, the system will display the Digital File and the corresponding Digital File Tag Data Blocks in the form of Application Dot-Tags (0604). An example of how the system can illustrate a Digital File with the corresponding Application Dot-Tags is in FIG. 31 (indicators 0780, 0765, 0766, 0768, 0770, and 0771).

**[00145]** If the user selects an Application Dot-Tag (0605), the system will utilize the Continuous Link of Application Dot-Tags System (0700) to produce the results of that Application Dot-Tag within one of the Application Views that is later illustrated in FIG. 30.

**[00146]** If the user selects add for a MemoryWeb Tag (0606), the user can add a new MemoryWeb Tag. When the user begins to type in text to add a tag, the system will produce suggestions on matching MemoryWeb Tags or the option to add a new tag (0607). If a matching tag is selected (0608), the system associates the new MemoryWeb tag to the Tag Block of the Relationship Table for the Digital File (0610). Alternatively, if the tag does not exist the user can create a new MemoryWeb Tag (0609) and then the system associates the new MemoryWeb tag to the Tag Block of the Relationship Table for the Digital File (0611).

**[00147]** If the user selects edit for a MemoryWeb Application Dot-Tag (0612), the user can add information text to edit the MemoryWeb Tag and the system will produce suggestions or matching MemoryWeb tags or the option to add a new tag (0613). If there is a match within the user's system, the matching MemoryWeb Tag will appear and the user can select the MemoryWeb Tag (0614). Once the matching tag is selected, the system associates the new MemoryWeb tag to the Tag Block of the Relationship Table for the Digital File (0616). Alternatively, the user can create a new MemoryWeb Tag (0615) and then the system associates the new MemoryWeb tag to the Tag Block of the Relationship Table for the Digital File (0617). If the user selects delete for a MemoryWeb Application Dot-Tag (0618), the system deletes the association of MemoryWeb tag to Tag Data Block of Relationship Table for Digital File (0619).

**[00148]** In FIG. 29, the Application Dot-Tag Shape and Content is illustrated (0650). MemoryWeb Tags are illustrated as Application Dot-Tags within the Application to help the user organize their Digital Files with key components of related information such as people, date of file, location, collection, star ranking, and recipe. The MemoryWeb Application Dot-Tag is more than just text (as traditional tagging systems) because Memory-Web Application Dot-Tags act as mini search engines that allow the user to see how many matching files there are to that MemoryWeb Tag and if selected will take the user to the corresponding Application View to illustrate the linked search results of that Application Dot-Tag (as illustrated in FIG. 30). In essence, the Application Dot-Tags operate as mini search engines for the user's Digital Tags.

**[00149]** The structure of an Application Dot-Tag (0650) can take on an solid-line enclosed shape of a pill, dot or similar depiction (0651) and within the shape the name of the MemoryWeb Tag is displayed (0653) along with the number of Digital Files (0652) that are also associated with that same MemoryWeb Tag. FIG. 29 further illustrates more examples of the Application Dot-Tags. If the number of Digital Files associated with a specific MemoryWeb



Tag is less than a certain number (e.g., 1000), the actual number of Digital Files associated with that MemoryWeb Tag is displayed. In FIG. 29, this is illustrated with an Application Dot-Tag that has 453 files that are associated with the location of Cologne, Germany (0654). However, if the number of Digital Files associated with a specific MemoryWeb tag are greater than the character length, a greater sign along with a number sequence that is less than the total number of associated Digital Files will be displayed (0655). In FIG. 29, this is illustrated with an Application Dot-Tag that has “>999” (0657) as the number of Digital Files with the exact same MemoryWeb Tag and if the name of the MemoryWeb tag is longer than the text sequence, only a portion of the MemoryWeb tag will be displayed along with an ellipse as illustrated with “Holiday Photos from...” (0658). Finally, the Application Dot-Tag may be illustrated with a dotted or similar distinction (as opposed to a solid line) to help indicate a partial relationship (0656). In the illustration in FIG. 29, the dotted line is to indicate that only some of the selected Digital Files have the MemoryWeb Tag of Frank Smith.

**[00150]** In FIG. 30, the Continuous Link of Dot Tag System is illustrated (0700). When a user selects an Application Dot-Tag, it will take them to the corresponding Application View that relates to the type of MemoryWeb Tag. The Continuous Link of Application Dot-Tag System begins when a user selects an Application Dot-Tag (0701).

**[00151]** If the Application Dot-Tag is a Person (0702), the system will send a request to display the requested information (0708) to the User Relationship Table (0300). A sample illustration of how a user can select a person Application Dot-Tag is in FIG. 31 (indicator 0764). For a person tag, the system receives data for that person from the User Relationship Table and displays the relationship data in a People Profile View (0709). A sample illustration of a selected Person Application Dot-Tag is in FIG. 32 (indicator 1430).

**[00152]** If the Application Dot-Tag is a Collection (0703), the system will send a request to display the requested information (0708) to the User Relationship Table (0300). A sample illustration of a collection Application Dot-Tag that can be selected is in FIG. 31 (indicator 0781). For a collection tag, the system receives data for that collection from the User Relationship Table and displays the relationship data in a Collection View (0710). A sample illustration of a selected Collection Application Dot-Tag within a Collection View is in FIG. 33 (indicator 1530).

**[00153]** If the Application Dot-Tag is a Location (0704), the system will send a request to display the requested information (0708) to the User Relationship Table (0300). A sample illustration of a location Application Dot-Tag that can be selected is in FIG. 31 (indicator 0768). For a location tag, the system receives data for that location from the User Relationship Table and displays the relationship data in a Location View (0711). A sample illustration of a selected Location Application Dot-Tag within a Location View is in FIG. 34 (indicator 1630).

**[00154]** If the Application Dot-Tag is a Date (0705), the system will send a request to display the requested information (0708) to the User Relationship Table (0300). A sample illustration of a date Application Dot-Tag that can be selected is in FIG. 31 (indicator 0766). For a date tag, the system receives data for that date from the User Relationship Table and displays the relationship data in Uploads View with that date filtered (0712). A sample illustration of a selected Date Application Dot-Tag within Uploads View is in FIG. 40 (indicator 0861).

**[00155]** If the Application Dot-Tag is a Recipe (0706), the system will send a request to display the requested information (0708) to the User Relationship Table (0300). For a recipe tag, the system receives data for that recipe from the User Relationship Table and displays the relationship data in a Recipe View with that date filtered (0713). A sample illustration of a selected Date Application Dot-Tag within Recipe View is in FIG. 36 (indicator 1800).

**[00156]** The Application is contemplated to have additional types of Application Dot-Tags (0707) in the future including Family Trees, Timespan, etc. and each of these MemoryWeb Tags will go through the same continuous link of Application Dot-Tag process. For an additional type of Application Dot-Tag, the system will receive data from the User Relationship Table and displays the relationship data in the corresponding view for that type of Application Dot-Tag (0714).

**[00157]** If within any of the Application Views the user selects a Digital File (0715), the Digital File is then displayed in a Slideshow View (0716) where the user can again select an Application Dot-Tag (0701) and start the continuous link of Application Dot-Tag functionality over again. Also within an Application View, if the user selects another Application Dot-Tag (0717), the entire continuous link of Application Dot-Tag functionality begins again and sends the request back to ask if the newly selected Application Dot-Tag is a person (0702).

**[00158]** In FIG. 31, the Slideshow view of a Digital File, Application Dot-Tags, and comments are illustrated (0750). When viewing a Digital File or group of Digital Files within

the Slideshow Application View (0750), the selected Digital File is displayed in the center of the screen (0754). If the user wants to export this photo with all the associated MemoryWeb Tags, they can select export (0751) which will initiate the Application Export System as illustrated in FIG. 49. If the user wants to see the Digital File that is one file before the selected Digital File, they select the left arrow (0752) or they can select the right arrow (0753) to display the next photo in the sequence. Below the Digital File, the comments (0755) that are specific to that Digital file are depicted. If the user wants to edit the comments, they select edit (0756). If the user would like to see a moving slideshow of all the photos that are part of the group of Digital Files, they can select on the play sign (0757) or simply click the specific thumbnail of a Digital File (0758) to be displayed. The user can also have the slideshow in a full screen slideshow by selecting the full screen icon (0759). If the user wants to share the individual Digital file via email, they can select the mail icon (0760) or share it through a third party median provider, in this case Facebook (0761). A more detailed description on how the share functionality works is in FIG. 46 (indicator 1000).

**[00159]** In FIG. 31, each Application Dot-Tag that is associated with a Digital File is illustrated to the right of the Digital File under each major MemoryWeb Tag area. For this example, the People area (0763) has Application Dot-Tags of Jackson Smith (0780) and JC Smith (0764) associated with the selected Digital File. In the Dates area (0765), the Application Dot-Tag of August 28, 2013 (0766) is associated with the selected Digital File. In the Locations Area (0767), the Application Dot-Tag of Abe Lincoln Elementary School (0768) in the location associated with the selected Digital File. In the Collections Area (0769), the Application Dot-Tags of First Day of School (0770) and Jackson and JC Photos 2013 (0771) are associated with the selected Digital File. The Star Rankings Area (0782) shows that four out of five stars (0773) was selected for this Digital File. If the Digital File is associated with a Recipe (0774) the Application Dot-Tag would be illustrated in this area. The Media Type area indicates that this is a Memento (0776). If the user wants to delete this Digital File from the Application, they can select the Delete Item function (0779). If the user wants to edit the Application Dot-Tags, they can select the edit icon (0762) and all the MemoryWeb Tag areas will be in edit mode as later illustrated in FIG. 35. Finally, any original Digital File detail (e.g., file name, camera specifications, etc.) is illustrated (0778).

**[00160]** In FIG. 32, both of the People Application Views are illustrated. The first People Application View (1400) is used to display all the people that were created within the user's Application. This view can be seen by selecting "People" (1401) from any of the Application Views within the Application. The people can be listed in various sort orders through a drop-down (1402) such as: Newest to Oldest (added), Oldest to Newest (added), Alphabetical (A-Z), Alphabetical (Z-A), etc. Additional sorts are contemplated such as age sort. For each person, a thumbnail of their face along with their name is depicted. In this figure, Jon Smith (1403) and JC Jon Smith (1404) along with some other people are illustrated. Also, the user can determine if they want to have 20, 50 or 100 people shown at one time (1405) by selecting the corresponding number box. At the top of every Application View within the Application, the user can select Fast Search (1450) that is further described in FIG. 44. Also at the top of every Application View within the Application, the user can select Apply Filters (1451) that is further described in FIGs. 37 – 43.

**[00161]** In the second People Application View within FIG. 32, a single people profile (1430) is illustrated. The individual's name is displayed at the top of the page (1431) along with their Nicknames (1433), when they were Born (1434), who their parents are (1435), Siblings (1436), Children (1437), and the person's Biography (1438). The Person Profile Photo of that individual is illustrated (1439) and if the user wants to change the profile photo, they can change by selecting change profile photo (1440). For each person, the system can allow the user to quickly see all the tags that are associated to a person. In this example, the system illustrates that there are four photos (1452) associated with that person and will also illustrate thumbnails of each of the four photos (1446). These thumbnails can be selected and then the user will be taken to the slideshow view for that Digital File. If the user selects Collections (1441), all of the collections that the person has been tagged within will be displayed. If the user selects Facial Recognitions (1442), all the faces that are confirmed or need to be confirmed are displayed. This is the area where the user can select to confirm or deny a suggested facial recognition through the Third Party Facial Recognition System that is illustrated in FIG. 25. If the user selects Locations (1443), all of the Locations that the specific person has been tagged within will be displayed. If the user selects Family Relationships (1444), the seven people that the user is associated with will be displayed in a family chart or tree. If the user selects Recipe (1445), all the recipe's that the user has been tagged within will be displayed. If the user wants to edit any

details within the individual people profile, they can select edit (1447) and all the fields will allow the ability to edit the details. If the user selects any of the Application Dot-Tags such as the individuals mother Jane Smith (Doe) (1449), the application will utilize the Continuous Link of Application Dot-Tag System (see FIG. 30) and take the user to an individual people profile view of Jane Smith (Doe). If the user selects View all People (1432), the Application will go back to the multiple People View (1400).

**[00162]** In FIG. 33, both of the Collection Application Views are illustrated. The first Collection Application View is used to display all the collections that were created within the user's Application (1500). This view can be seen by selecting "Collections" (1501) from any of the Application Views within the Application. The collections can be listed in various sort orders through a drop-down (1502) such as: Newest to Oldest (added), Oldest to Newest (added), Alphabetical (A-Z), Alphabetical (Z-A), etc. For each collection, a thumbnail of a Digital File from that collection depicted. In this figure, Smith Family Photos (1503), Europe Trip (1504), First Day of School (1505), Jackson and JC Photos 2013 (1506), and Baseball Games (1507) is illustrated. At the top of every Application View within the Application, the user can select Fast Search that is further described in FIG. 44. Also at the top of every Application View within the Application, the user can select Apply Filters that is further described in FIGs. 37 – 43.

**[00163]** In the second Collections Application View within FIG. 33, a single collection (1530) is illustrated. The individual collection name is displayed at the top of the page (1532). Thumbnails of each Digital File within the specific collections are illustrated. In this example, the system shows photos (1533) associated with the Smith Family Photos Collection. If the user wants to edit any Digital Files within the collection, they can select edit (1535) and then the user can add or delete any Digital Files as well as set the cover photo for a collection. If the user wants to share this collection (1534), they can select a method to share and this will take the user through the Share to Third Party Media Provider System illustrated later in FIG. 46. If the user selects View all Collections (1531), the Application will go back to the multiple Collection View (1500).

**[00164]** In FIG. 34, both of the Location Application Views are illustrated. The first Location Application View is used to display all the locations that were created within the user's Application (1600). This view can be seen by selecting "Locations" (1605) from any of the Application Views within the Application. The locations can be listed in various sort orders

though a drop-down (1606) such as: Newest to Oldest (added), Oldest to Newest (added), Alphabetical (A-Z), Alphabetical (Z-A), etc. For each location, a thumbnail of a Digital File from that location depicted. In this figure, Wrigley Field (1601), Abe Lincoln Elementary School (1602), Home Sweet Home (1603), and Stonehenge (1604) is illustrated. What is also contemplated instead of a Digital File from that location is that a zoomed in image of a map from the specific location using the Third Party Geographical Mapping System later depicted in FIG. 47. At the top of every Application View within the Application, the user can select Fast Search that is further described in FIG. 44. Also at the top of every Application View within the Application, the user can select Apply Filters that is further described in FIGS. 37 – 43.

**[00165]** In the second Locations Application View within FIG. 34, a single location (1630) is illustrated. The individual location name is displayed at the top of the page (1632). Thumbnails of each Digital File within the specific collections are illustrated. In this example, the system illustrates a one photo (1633) taken at Wrigley Field (1634) that is associated with the location called Wrigley Field. If the user wants to edit any Digital Files within the collection, they can select edit (1637) and then the user can add or delete any Digital Files. If the user wants to share the Digital Files associated with this location (1636), they can select a method to share and this will take the user through the Share to Third Party Media Provider System illustrated later in FIG. 46. If the user selects View all Collections (1631), the Application will go back to the multiple Collection View (1600). As part of the individual Location View, an interactive map displaying a zoomed-in image of the specific location is displayed (1635).

**[00166]** In FIG. 35, the Uploads Application View and how it uses the Application Digital Tag Organizer System is illustrated (1700). Similar to the concept of writing certain information “on the back of a photo,” the system’s digital tagging system (also called Application Digital Tag Organizer) allows a user to select large amounts of Digital Files and add Digital Tags that can characterize and document the digital file(s). Digital Files can be individually or group organized at the same time for many tags including, but not limited to, a person’s name, family relationships of the subjects to the user and between each other (e.g., mother/father), location, date, album, comments, document type (e.g., birth certificate, poetry), recipe, ranking or rating, and sharing rights. One or more Digital Files can be selected at the same time and displayed with an overlaid check mark when activated (1705 and 1710) and then Digital Tags can be assigned to a single file at a time or to a plurality of files at once. For

example, if a user wishes to assign the tag “grandma” to 100 photos at once, the system provides a way for a user to select all 100 photos (1713) and enter the tag only once. In addition, the system does include an indicator that appears when a user hovers over the Digital File providing all the relevant Digital Tags associated with that specific Digital File (1737) and in this example it shows the caption of “Family Smith finally sees Stonehenge,” that four People are tagged to this photo, one collection is tagged to this photo, there are zero people recognized through Facial Recognition, and the date of this photo is from December 21, 2013. If the user wants to delete a single photo from uploads, they can click on the “x” (1735) that is displayed when the user hovers over the Digital File thumbnail. When there are multiple Digital Files, the user can determine how many images are displayed at one time in the Items Per Page Buttons (1738) that include such numbers at 20, 50 and 100 on the page at the same time. When there is are more Digital Files that items per page, they are automatically grouped by pages and a Page Button (1739) can be selected to see the next set of Digital Files.

**[00167]** In the Uploads Location View, Digital Files can be directly uploaded to the Application by selecting Upload Files (1701) and the user will have the option to select the specific Digital Files to be uploaded from their Storage System. Users also have the option to install the MemoryWeb Download Application that can be installed on either a Microsoft or MAC computer that will automatically upload and sync photos to and from the users Storage System to the MemoryWeb Application. Also displayed is the amount of space being used by the user within the Application (1702). Uploads of Digital Files can be listed in various sort orders though a drop-down (1703) such as: Newest to Oldest (added), Oldest to Newest (added), Alphabetical (A-Z), Alphabetical (Z-A), etc. In addition, the Digital Files can be sorted by File Batch Name (A-Z) or File Batch Name (Z-A). In FIG. 35, the sort of File Batch Name (A-Z) is selected (1703) and this provides three groups of Digital Files with the names File Folder C:/2013/Family Fun (1704), File Folder C:/2013/General (1706), and of File Folder C:/2013/First Day of School (1709). The File Batch Name is created when Digital Files are uploaded to the Application. The File Batch Name allows the user to see the file directory of how they had their Digital Files stored from another Storage System (e.g., on their computer hard drive) that allows for easier organization within the MemoryWeb Application. For example, in the sort of File Folder C:/2013/General (1706), two digital files (1707 and 1708) are illustrated that came from the exact same file folder path of the Users Storage system upon upload. At the

top of every Application View within the Application, the user can select Fast Search that is further described in FIG. 44. Also at the top of every Application View within the Application, the user can select Apply Filters that is further described in FIGs. 37 – 43.

**[00168]** On the right side of FIG. 35, the associated Application Dot-Tags along with the ability to organize one or more Digital Files at the same time is illustrated. At the top of the screen, it shows how two Digital Files are selected (1712) that correspond to the selected (checked) Digital Files (1705 and 1710). Below this area illustrates all the Application Dot-Tags that are associated with the two selected Digital Files. The user has the option to select all (1713) the Digital Files being viewed in the Uploads View as well as selecting none (1714). By selecting all, the user can administer Application Dot-Tags to all the selected Digital Files at the same time. If the user wants to delete Digital Files, they can select the Digital Files to be deleted and then select the Delete Selection (1715) option.

**[00169]** In FIG. 35, each Application Dot-Tag that is associated with the selected Digital File(s) is illustrated. For this example, the People area (1716) has Application Dot-Tags of Jackson Smith (1734), Jane Smith (1733), Jon Smith (1731, and JC Smith (1717) that are associated with the two selected Digital Files (1710 and 1705). If the user wants to add a person to all the selected Digital Files, they can click on “+Add People” (1718) that will display a pop-up where the user can search for an existing person within the user’s existing people within the Application or add a new person to the user’s group of people within the Application. It is contemplated to have a Facial Recognition suggestions appear in this area of the Application that will allow users to confirm or deny a recognized person to a specific Digital File. However, the current version of the People area is useful for situations where a face is not recognized, but the user desires to tag a person to a Digital File, they can manually assign a Person Application Dot-Tag to that Digital File for an existing person (e.g., if the person’s back is turned, it is a document that contains that person, a piece of art created by that person, etc.).

**[00170]** In the Dates area (1719), the organize functionality for assigning a Digital Tag of a date within the Digital File(s) is illustrated. Upon upload, the date when the Digital File was created is automatically read by the Application and illustrated as an Application Dot-Tag (1720 and 1730). As illustrated in the Dates area, the Application Dot-Tags of July 4, 2013 (1720) and August 28, 2013 (1730) are illustrated as they correspond to the dates that are associated with each of the selected Digital Files. If the user wants to change the date for all the selected Digital



Files, they can click on “+Add/Edit Date” (1721) that will display a pop-up where the user can add a new date for the selected digital files within the Application. This is a very useful feature when an incorrect date is assigned to a digital file (e.g., if a photo from October 31, 1951 was digitized on December 31, 2012, the digitized dates would show as an Application Dot-Tag that the user can change in this section to the correct date of October 31, 1951).

**[00171]** In the Locations area (1722), the organize functionality for assigning Digital Tags of locations within the Digital File(s) is illustrated. Upon upload, the GPS location of where the Digital File was created (if applicable) is automatically read by the Application and illustrated as an Application Dot-Tag for locations of the selected files. In the locations area, the Application Dot-Tags of Abe Lincoln Elementary School (1723) and Wrigley Field (1735) are illustrated as they correspond to the locations that are associated with each of the selected Digital Files. If the user wants to change the location for all the selected Digital Files, they can click on “+Add/Edit location” (1724) that will display a pop-up where the user can search for an existing location within the user’s existing locations within the Application or add a new location to the user’s group of locations within the Application. Another added function to assign a location to the selected Digital Files is to use Search with Map (1732) that utilizes the Application’s Third Party Geographical Mapping System that is further illustrated in FIG. 47 that allows the user to type in any relevant information (e.g., location name, address, state, etc.) and then the Application will search and pinpoint that location on a map.

**[00172]** In the Collections Area (1725), the organize functionality for assigning Digital Tags of albums within the Digital File(s) is illustrated. Digital Files can be associated to multiple albums. As illustrated in the Collections area, the Application Dot-Tags of First Day of School (1726), Jackson and JC Photos 2013 (1727), and Baseball Games (1728) are associated with the Collections for the selected Digital Files. If the user wants to add a Collection to all the selected Digital Files, they can click on “+Add/Create Collection” (1729) that will display a pop-up where the user can search for an existing Collection within the user’s existing Collections within the Application or add a new Collection to the user’s group of Collections within the Application.

**[00173]** Within the Uploads View, the ability to perform similar tagging of Star Rankings, Recipes, Family Relationships, and Media Types / Document Type are also contemplated as part of the Application Digital Tag Organizer System. For Star Rankings, it is

contemplated to assign MemoryWeb Tags of star rankings within the Digital File(s). Upon upload, if the star ranking is already contained within the Digital File, it is automatically read by the Application and illustrated as an Application Dot-Tag. The user can select one or more Digital Files and then apply a star ranking between 1 and 5 in the Uploads Application View. For Recipes, it is contemplated to assign MemoryWeb Tags of Recipes to Digital File(s). The user can select one or more Digital Files and then type within the “Recipe” search bar to either add a new recipe or associate the Digital File(s) to an existing recipe. Digital Files can be associated to multiple recipes. For Media Type / Document Type, the user can choose from a list of common document types (e.g., Birth Certificate, Death Certificate, Marriage Certificate, etc.) can be utilized for common document type associations. Once a document type is assigned to one or more Digital Files, the document type appears within an Application Dot-Tag. Digital Files can be associated to multiple document types.

[00174] In FIG. 36, an individual recipe view (1800) allows one to see all the information that is associated with a specific recipe. The name of the specific recipe is displayed at the top of the page (1801) and the People Profile picture of the “chef” associated with the recipe is illustrated (1804). If no chef is assigned, the user can select the “+add/edit chef” (1803) to either choose an existing person from the user’s People in the Application or add a new person.

[00175] The view of various Digital Files within the recipe (1808) along with scrolling through the Digital Files using the arrow icons (1814 and 1815), the ability to share this recipe with others by selecting the sharing icon (1812), As the Digital Files are selected on using the film strip on the bottom, a larger thumbnail illustrating the Digital File is shown (1807). The recipe view also allows you to choose a chef for the recipe from the people within the user’s Application. When a chef is selected, the profile picture (1804) of the person along with their name as an Application Dot-Tag (1816) is displayed. For each recipe, the user can insert the ingredients (1809), directions (1810), and comments (1811). Each of these areas can be edited by selecting the edit button (1813). Another contemplated feature allows the user to apply star rankings for the recipe as well as categorize they type of recipe (e.g., appetizer, entrée, etc.). It is further contemplated that the Digital Files within the individual recipe view may also include videos where they can be watched showing the chef making the recipe. It is also contemplated that the recipes will be interactive with external sources (e.g., the Food Network) so that recipes

can be shared or imported with the Application and that visitors to the account will be able to post/share comments about the recipe. It is further contemplated that the user can print the recipe using a print icon.

**[00176]** In FIG. 37, the Advanced Filters System is illustrated (0800). This feature allows the user to narrow the Digital Files being viewed within the Application Views by searching the user's entire collection of MemoryWeb Tags within the Application and then displaying the filtered information in one of the Application Views. Advanced Filters System can be filtered by such items as key words (or plurality of key words), event names, location, people, albums, star rating, file type, document type, and dates. A user may filter based on more than one criterion at a time. To help users quickly identify Digital Files that may still need to be organized, the advanced search filter also allows users to isolate files that have no date, no location, no people, no specific date/range, and no upload date information or are lacking any other tag. The Advanced Search Filter can be used within many of the views the Application to narrow the set of Digital Files being viewed. For example, you can use the Advanced Filter Button to only show the map view of locations a specific person has traveled in their lifetime.

**[00177]** When a user selects the "Advanced Filters" from almost any Application View (0801) (the button can be seen in FIGs. 32, 33, 34, 35, and 36), a pop-up will appear that allows the user to type in text into the text box (0802). As the user is typing, the system sends a request (0803) to the User Relationship Table (0300) to look up any possible MemoryWeb Tag matches. The system will then produce the request (0804) and illustrate the potential matches of the filters to the user (0805). As the user types in another letter, the process of sending a request (0803) to the User Relationship Table (0300), producing results (0804) and producing a new set of results (0805) is re-run. If the user selects one of the suggested MemoryWeb tags (0806) and then selects to apply this filter (0807), the system will send this request to the User Relationship Table (0300). This portion of the Advanced Filter System is further illustrated in FIG. 38.

**[00178]** If the Advanced Filter System is applied within the Uploads View, the system retrieves data for the applied filter(s) from the User's Relationship Table and displays the relationship data (0809). An example of this output is later illustrated in FIG. 39 (indicator 0850).

**[00179]** If the Advanced Filter System is applied within the Collections View, the system retrieves data for the applied filter(s) from the User's Relationship Table and displays the

relationship data (0810). An example of this output is later illustrated in FIG. 39 (indicator 0852).

**[00180]** If the Advanced Filter System is applied within the Locations View, the system retrieves data for the applied filter(s) from the User's Relationship Table and displays the relationship data (0811). An example of this output is later illustrated in FIG. 40 (indicator 0856).

**[00181]** If the Advanced Filter System is applied within the People View, the system retrieves data for the applied filter(s) from the User's Relationship Table and displays the relationship data (0814). An example of this output is later illustrated in FIG. 39 (indicator 0854).

**[00182]** If the Advanced Filter System is applied within other contemplated views within the Application such as Recipe, Family Trees, Timespan, etc. the system retrieves data for the applied filter(s) from the User's Relationship Table and displays the relationship data (0812).

**[00183]** If the user decides to add an additional filter (0813), the process is repeated when the user selects "Advanced Filter" (0801) while the pre-existing filters are still applied. An example of this process is later illustrated in FIG. 42 and FIG. 43. If the user selects an Application Dot-Tag, then the continuous Link of Application Dot-Tags System is engaged as illustrated in FIG. 30 (0700).

**[00184]** In FIG. 38, the process of the Adding the First Application Dot-Tag using the Advanced Filter is illustrated. This is a visual depiction of the process that was illustrated in FIG. 37. In Stage 1 (0830), the user selects "Apply Filters." This takes the user to Stage 2 where the Application generates the Apply Multiple Filters box (0831). The user can then type in the alphanumeric text search criteria within the Advanced Filters text box (0838). In this example, the word "Smith" was typed within the text box. As the alphanumeric text is typed within the text box, the application automatically generates the available filters (0836) that meet the criteria. In this example, the user selects the Application Dot-Tag of a person named JC Smith (0832). In Stage 3, "Apply" is selected and then the application lists the Application Dot-Tag of a Person named JC Smith as a current active filter (0837). This filter will then be applied to each Application view that is further illustrated in FIGs. 39 through 41. If the user wants to clear all the filters, they can select "clear filters" (0839).

**[00185]** In FIG. 39, an illustration of the results for a Single Application Dot-Tag Filter for each Application view is depicted. If the Advanced Filter is applied in the Uploads Application View (0850), the filter of “JC Smith” (0851) is illustrated and only the Digital Files that contain the person JC Smith are illustrated. If the Advanced Filter is applied in the Collections Application View (0852), the filter of “JC Smith” (0853) is illustrated and only the Collections that contain the person JC Smith are illustrated. If the Advanced Filter is applied in the People Application View (0854), the filter of “JC Smith” (0855) is illustrated and only the person named JC Smith is illustrated.

**[00186]** In FIG. 40, an illustration of the results for a Single Application Dot-Tag Filter for a date within the Uploads Application View is depicted (0860). If the Advanced Filter is applied using a date filter within the Uploads Application View (0861), the filter date of “2013-07-04” (0876) is illustrated and only the Digital Files that contain that date are illustrated.

**[00187]** In FIG. 41, an illustration of the results for a Single Application Dot-Tag Filter in the Location Application View is depicted (0870). Within the Location Application View the Digital Files are displayed within an interactive map (Google map shown as an example). The Location View can also provide additional outputs such as a journey route that identifies the specific locations for an event or trip that can be customized by users. In this view, individual or groups of Digital Files are illustrated as photo thumbnails (see indicators 0874 and 0875) on the map and the user can select the thumbnail to see all the Digital Files with the same location (as seen FIG 34 (indicator 1630)) or the user can use the interactive map and narrow the map view by either using the zoom in / zoom out bar (0876) on the left or simply selecting the map. Note that the pinned locations include a thumbnail of the Digital File (or Collection cover) and the number of Digital Files for that location.

**[00188]** If the Advanced Filter is applied in the Locations Application View, the filter of “JC Smith” (0872) is illustrated and only the Digital Files that contain the person JC Smith are illustrated with their geographic location on the map. The user can select to clear this filter (0873) or see this Advanced Filter with the view of locations as a list (0871). In FIG. 41, there are two illustrated on the map (0874 and 0875).

**[00189]** In FIG. 42, the process of the Adding another Application Dot-Tag using the Advanced Filter is illustrated. Continuing on the process that was illustrated in FIG. 38 where the first Application Dot-Tag filter of “Person: JC Smith” was applied, the ability to add a

second Application Dot-Tag if further illustrated in FIG. 42. As with FIG. 38, FIG. 42 is a visual depiction of the process that was illustrated in FIG. 37. In Stage 1 (0880), the user selects “Apply Filters.” This takes the user to Stage 2 where the Application generates the Apply Multiple Filters box (0881). The user can then type in the text search criteria for the second Advanced Filter within the Advanced Filters text box. In this example, the word “Abe” was typed within the text box. As the alphanumeric text is typed within the text box, the application automatically generates the available filters that meet the criteria. In this example, the user selects the Application Dot-Tag of a location named Abe Lincoln Elementary School (0882). In Stage 3 (0883), the application lists the Application Dot-Tags of both the Person named JC Smith (0884) as well as the location of Abe Lincoln Elementary School (0885) as part of the Current Active Filters. The user then selects “Apply” (0886) to see these filters illustrated in the Application Views. This filter will then be applied to each Application view as previously illustrated in FIGs. 39 through 41.

**[00190]** In FIG. 43, an illustration of the results for Adding Another Application Dot-Tag Filter in the Location Application View is depicted (0890). Continuing on the process that was illustrated in FIG. 42, in FIG. 43 (0890) the Application Dot-Tag filters of “Person: JC Smith” (0891) and “Location: Abe Lincoln Elementary School” (0892) are illustrated. There is one overlapping location that contains both filters for a Digital File that is illustrated on the map (0893).

**[00191]** In FIG. 44, the Fast Search System is illustrated (0900). Throughout the Application, groups or individual Digital Files can be searched quickly using the Fast Search bar that is at the top of each Application View. Once a key word or phrase is entered into this area, the user’s entire collection of Digital Tags within the Application that includes all the Digital tags are searched for potential matches. This feature allows the user to search their entire collection of MemoryWeb Tags within the Application and then displays the information grouped by people, collections, locations, documents, and recipes. The Fast Search System can be searched by such items as key words (or plurality of key words), event names, location, people, albums, star rating, file type, document type, and dates.

**[00192]** When a user selects the Fast Search bar from almost any Application View (0901), the user can type in alphanumeric text into the text box (0902). As the user is typing, the system sends a request (0903) to the User Relationship Table (0300) to look up any possible

MemoryWeb Tag matches. The system will then produce the request (0904) and illustrate the potential matches by category for the user (0905). As the user types in another letter, the process of sending a request (0903) to the User Relationship Table (0300), producing results (0904) and producing a new set of results (0905) is re-run. If the user selects one of the suggested MemoryWeb tags (0906), the system will send this request to the User Relationship Table (0300). This process is further illustrated in FIG. 45.

**[00193]** If the user selects a person Fast Search tag, the system retrieves data for the person from the User's Relationship Table and displays the relationship data (0907) in the Person Profile View as illustrated in FIG. 32 (indicator 1430).

**[00194]** If the user selects a collection Fast Search tag, the system retrieves data for the collection from the User's Relationship Table and displays the relationship data (0908) in the Collection View as illustrated in FIG. 33 (indicator (1530)).

**[00195]** If the user selects a location Fast Search tag, the system retrieves data for the location from the User's Relationship Table and displays the relationship data (0909) in the Location View as illustrated in FIG. 34 (indicator 1630).

**[00196]** If the user selects a date Fast Search tag, the system retrieves data for the date from the User's Relationship Table and displays the relationship data (0910) in the Uploads View as illustrated in FIG. 40 (indicator 1861).

**[00197]** If the Fast Search System is applied within other contemplated views within the Application such as Family Trees, Timespan, etc. the system retrieves data for the search from the User's Relationship Table and displays the relationship data (0911). As part of the contemplated search process is to also search comments related to a Digital File.

**[00198]** In FIG. 45, the process of using the Keyword Fast Search is illustrated. This is a visual depiction of the process that was illustrated in FIG. 44. In Stage 1 (0930), the user selects the Fast Search bar at the top of one of the Application Views. This takes the user to Stage 2 (0931) where the user can then type in the alphanumeric text search criteria within the Fast Search text box (0932). In this example, the word "Wrigley" was typed within the text box. As the alphanumeric text is typed within the text box, the application automatically generates the available MemoryWeb Tag results (0933) that meet the criteria. Note how the results are organized by various MemoryWeb Tag categories such as Person, Collection, Location, Recipe, and comments. In Stage 3 (0934), the user selects one of the results. In this example, the user

selects the location of Wrigley Field (0935). When the user selects a specific MemoryWeb Tag, it takes them to Stage 4 where the information related to that tag is displayed in the corresponding view as discussed within FIG. 44. For the example where the user selected the Location of Wrigley Field, the user was taken to the individual locations Application View where the location of Wrigley Field and the corresponding Digital Files are displayed (0936).

**[00199]** In FIG. 46, the Share to Third Party Media Provider System (1000) is illustrated. This feature allows the user to share Digital Files from MemoryWeb directly to a third party application. The process begins when the user selects to share a Digital File or collection of Digital Files within the MemoryWeb Application (1001). Examples of where the user can select share can be seen in FIG. 31 (indicator 0760), FIG. 33 (indicator 1534), FIG. 34 (indicator 1636), and FIG. 36 (indicator 1812). Once the request is made, the system requests the Digital File and Tag Data Blocks (1002) from the User Relationship Table (0300). The system then retrieves the Digital File from the User Relationship Table (1003). At the same time, the system will also retrieve the Digital Tags from the Relationship Table (1004). The system will then inject the tags to the corresponding EXIF Tag Data Blocks (1005). The mapping of the EXIF Tag Data Blocks and those of MemoryWeb Data Blocks is illustrated in FIG. 22. Note, for any tags that were modified within the MemoryWeb application, only the new tag information will be transferred into the EXIF Tag Data Blocks. The system then combines the EXIF Tag Data Blocks and embeds them within the Original Digital File (1006). The application then exports the Digital File with the new EXIF Tag Data Blocks using the Application Export System (1300) which then sends the Digital File outside the MemoryWeb Application to the Third Party Media Provider (0501).

**[00200]** In FIG. 47, the Third Party Geographical Mapping System is illustrated (1100). When Digital Files are imported into MemoryWeb, if there is any GPS data available from the EXIF Tags (See FIG. 22 (indicators 0330, 0331, 0332, and 0333)), the system will utilize this data and automatically create a MemoryWeb location tag within the Application (See FIG. 22 (indicators 0368, 0369, 0370 and 0371)). However, if the GPS coordinates were missing from a Digital File when it was imported into the Application (See FIG. 50 (indicators 1418 and 1419)), the user can add the Location (which the application will automatically add the associated GPS tags) to the Digital File using the Application Digital Tag Organization System (see FIG. 28). As locations are associated with a Digital File, the Application can interact with a



Third Party Geographical Mapping System to pull maps that correspond to the exact location of Digital Files that have a location tag (see FIG. 34 (indicator 1630 and FIG. 40, indicator 0875)). In addition, the Application utilizes a world map view to illustrate all the locations that are associated to one or more Digital Files for a user within the Location Application View (see FIG. 41 (indicator 0880)).

**[00201]** The Third Party Geographical Mapping System begins when a Location Application Dot Tag (1102) is selected (1104), the system will send a request (1105) to the User Relationship Table (0300). Examples of when Location Application Dot-Tags can be selected are illustrated in FIG. 31 (indicator 0768 and FIG. 35, indicators 1723 and 1735). In FIG. 47 if the Locations Application View is selected (1103), the system will send a request (1105) to the User Relationship Table. The Location Application View can be selected from almost any Application view as illustrated in FIG. 34(indicator 1605). When either a single location or the world map view is selected, the system will retrieve the data (1108) from the User Relationship Table (0300) and send a request (1106) to the Third Party Geographical Mapping Provider (1101) who generates the map request and then sends the information back to the system for the specific location (1107). At the same time, the Application Dot-Tags and Digital Files associated with the location or map request are retrieved and then sent (1109) to the Locations Application view. The system will combine the map information along with the Application Dot-Tags and Digital Files and display this information within the Location Application View (1100). Examples of a single Location Application View can be seen in FIG. 34 (indicator 1630) and FIG. 40 (indicator 0875), and an example of a world map view can be seen in FIG. 41 (indicator 0880).

**[00202]** In FIG. 48, the Share to Individual System is illustrated (1200). The Share to an individual person or a group of people starts when a user initiates share of a Digital File or a Collection of Digital Files (1201). Examples of where the user share functions are illustrates are in FIG. 31 (indicators 0760 and 0761), FIG. 33 (indicator 1534), FIG. 34 (indicator 1636), and FIG. 36 (indicator 1812). Next, the system requests the Digital File and Tag Data Blocks (1202) from the User Relationship Table (0300). They system will retrieve corresponding Digital File (or collection of Digital Files) (1203) from the User Relationship Table.

**[00203]** At the same time, the system will also retrieve the Digital Tags of the Digital File from the Relationship Table (1204). The system will then inject the tags to the

corresponding EXIF Tag Data Blocks (1206). The mapping of the EXIF Tag Data Blocks and those of MemoryWeb Data Blocks is illustrated in FIG. 22. Note, for any tags that were modified within the MemoryWeb application, only the new tag information will be transferred into the EXIF Tag Data Blocks. The system then combines the EXIF Tag Data Blocks and embeds them within the Original Digital File (1205). The application then exports the Digital File with the new EXIF Tag Data Blocks using the Application Export System (1300) which then sends the Digital File outside the MemoryWeb Application to an Individual or Group of People (1207).

**[00204]** In FIG. 49, the Application Export System is illustrated (1300). The Application Export System starts when a user selects the export of a Digital File within the application (1302) or has installed the MW Automatic Uploader/Downloader Application (1308). An example of where the user can select the export of a Digital file within the Application is FIG. 31 (indicator 0751). If the user has installed the MW Automatic Uploader/Downloader Application, the export functionality of the user's entire collection of Digital Files will be downloaded to the User's desired folder on their computer with the Digital Tags embedded within the Digital Files. If neither a user initiated download nor the MW Automatic Uploader/Downloader Application is not used, then the Application Export is not initiated (1309). For either a user initiated download or one using the MW Automatic Uploader/Downloader Application, the system requests the Digital File(s) and Tag Data Blocks (1303) from the User Relationship Table (0300). They system will retrieve corresponding Digital File (or collection of Digital Files) (1304) from the User Relationship Table. At the same time, the system will also retrieve the Digital Tags of the Digital File from the User Relationship Table (1305). The system will then inject the tags to the corresponding EXIF Tag Data Blocks (1306). The mapping of the EXIF Tag Data Blocks and those of MemoryWeb Data Blocks is illustrated in FIG. 22. Note, for any tags that were modified within the MemoryWeb application, only the new tag information will be transferred into the EXIF Tag Data Blocks. The system then combines the EXIF Tag Data Blocks and embeds them within the Original Digital File(s) (1307). The application then exports the Digital File(s) with the new EXIF Tag Data Blocks to the desired Storage System of the user (1301).

**[00205]** In FIG. 50, there are three charts for the Digital File Image File Directory Data Blocks of JPG Photo within Microsoft Before and After MemoryWeb. This Figure is

meant to demonstrate how the EXIF Tag Data Blocks for a Digital File (in this example a JPG file) prior to the use of MemoryWeb Application appear and then how these EXIF Tag Data Blocks are populated with Digital Tags upon export from the MemoryWeb Application.

**[00206]** The first chart illustrates common EXIF Tags (Data Blocks) (1401) and lists certain common the EXIfTool Family 1 Group names that are displayed in the file properties of a JPG file when using Microsoft Windows (these are the same EXIF Tag Blocks that were illustrated in FIG. 22 (indicator 1320)). In the second chart (1402), the Digital Tags associated with the original Digital File are displayed. In the third chart (1403), the updated Digital Tags for the same original Digital File once exported from the MemoryWeb Application is displayed.

**[00207]** In the second chart (1402), the original Digital File prior to import to the MemoryWeb Application did not have Digital Tags for data blocks such as Description Rating (1416), Description Comments (1417), GPS Latitude (1418), GPS Longitude (1419). Also in the second chart the Digital Tags for the data blocks of File Folder Path (1420) and File Date Created (1421) are illustrated.

**[00208]** In the third chart (1403), the original Digital File that was exported from the MemoryWeb Application now contains new or modified Digital Tags for certain data blocks. For example, a star rating of four out of five stars (1410) with the new MW Modified Digital File is now associated with the Description Rating (1404) where it was blank (1416) with the original file before using the MemoryWeb Application.

**[00209]** Another example is the listing of MemoryWeb Tags within the Description Comments data block (1411) as: CAPTION: Jackson and JC's first day at school!, PERSON: Jackson Smith, JC Smith, LOCATION NAME: Abe Lincoln Elementary School, COLLECTION: First Day of School, COLLECTION: Jackson and JC Photos 2013, DATE: 8/28/2013. All of these Digital Tags are now associated with the Description Comments (1405) where it was blank (1417) with the original file before using the MemoryWeb Application.

**[00210]** Also updated in the MW Modified Digital File are the GPS Latitude (1412) and GPS Longitude (1413) as Digital Tags that were assigned in the MemoryWeb Application using the location feature with the Application Digital Tag Organizer System. These tags now replace the blank tags (indicators 1418 and 1419) that were in the original file before using the MemoryWeb Application.

**[00211]** A final example is how the date was modified in the MemoryWeb Application where a new date of August 28, 2013 (1415) was assigned to the Digital File. This replaced the old date that was originally tagged with a date of November 1, 2013 (1421). In a typical Digital File, only the date and perhaps the GPS location if taken with certain newer photo device is pre-populated in a Digital File. For the example in FIG. 50, the Digital File may have been created or scanned on November 1, 2013, but with the MemoryWeb Application Digital Tag Organizer System the user was able to correctly assign the date the photo was taken and now this date is always part of the Digital File within the MemoryWeb Application, but also when the Digital File is exported from MemoryWeb.

**[00212]** A benefit of the Export System is that users can export a single Digital File or their entire set of Digital Files (using the MW Automatic Uploader/Downloader Application), with all the updated Digital Tags from the MemoryWeb Application embedded within the Digital File(s). This feature is unique as it will allow the users to back up their files to another source (e.g., external computer hard drive) or to transport it to another venue (e.g., another website that is used for viewing and/or sharing Digital Files such as a social media website) where it can be viewed with these Digital Tag attributes. This export feature can provide users with the advantage of never losing key data that was stored simply because the user chooses to move its Digital Files to a new digital system.

**[00213]** The application also contemplates the use of a Family Tree Application View where the individual people that have been created within the Application can be displayed with family relationships. This view can illustrate interactive family trees where one can see the family tree of an individual or family. Any family relationships created in the user's personal profile are already pre-populated by the Application for the Family Tree View. If a user selects on an individual within the family tree, it will take them to the people profile Application View of that person. Family Trees can quickly be viewed with the family tree drop-down sort feature. As with other areas within the Application, the family tree view can be narrowed down using an Advanced Filters System. For matching family members, the system will have drag/drop functionality to make new associations to a family tree. It is also contemplated that various family tree views could be displayed (e.g., pedigree chart, fan chart, directs descendants chart, etc.). In addition, it is contemplated that family tree relationships from either data files (e.g., GEDCOM files) or other sources (e.g., Family Search database) would either be imported into

the user's versions of the Application or utilize these sources in associating the family tree information.

**[00214]** Another Application View that is contemplated is Timespan or Timeline. The Timeline Application View will have an interactive timeline to display the dates within the Digital Files of the Application for a user. The timeline view acts as an interactive filter or funnel of Digital Files whereas when the user starts to define the parameters of dates towards the bottom, the information above it is filtered to display the major groups of Digital Files that meets the selected date range criteria in various formats until you are able to view an individual Digital File. This funnel approach is designed to allow the user to appreciate the vast amount of data that can be associated with a date range, but then allow them to filter the information with the user's desired criteria. This will be a very useful tool when users want to see the growth and progress of an individual as well as memorialize a lifetime of a friend or family member.

**[00215]** While the disclosure is susceptible to various modifications and alternative forms, specific exemplary embodiments thereof have been shown by way of example in the drawings and have herein been described in detail. It should be understood, however, that there is no intent to limit the disclosure to the particular forms disclosed, but on the contrary, the intention is to cover all modifications, equivalents, and alternatives falling within the spirit and scope of the disclosure as defined by the appended claims.

## CLAIMS

1. A computer-implemented method of associating digital tags with digital files, comprising:

storing, on one or more non-transitory computer-readable storage media, a plurality of digital files, each of the digital files having embedded therein content data and metadata including tags;

receiving, via a user interface device of a client device, a first tag label containing alphanumeric text created and inputted by a user of the client device;

modifying, using a controller device, a selected first one of the tags of the metadata in a first of the digital files to include the first tag label;

receiving, via the user interface device or another user interface device, an instruction to search for all of the digital files having at least the first tag label;

responsive to receiving the instruction, automatically searching for all of the digital files having at least the first tag label; and

displaying, on a video display device associated with the client device, a first indication of the first tag label.

2. The computer-implemented method of claim 1, further comprising displaying, on the video display, indicia of each and every other tag label, if any, created and inputted by the user and embedded in the metadata of the first digital file, together with the first indication.

3. The computer-implemented method of claim 1, further comprising:

receiving, via the user interface device, a second tag label containing alphanumeric text created and inputted by the user;

modifying, using the controller device, a selected second one of the tags of the metadata embedded in a second of the digital files to include the second tag label;

receiving, via the user interface device or the other user interface device, a second instruction to search for all of the digital files having at least the second tag label;

responsive to receiving the second instruction, automatically searching for all of the digital files having at least the second tag label; and

displaying, on a video display device associated with the client device, a second indication of the second tag label.

4. The computer-implemented method of claim 3, further comprising displaying, on the video display, indicia of each and every other tag label, if any, created and inputted by the user and embedded in the metadata of the second digital file, together with the second indication.

5. The computer-implemented method of claim 4, wherein the first tag label along with each and every other tag label, if any, created and inputted by the user and embedded in the metadata of the first digital file comprise a first set of tags, and wherein the second tag label along with each and every other tag label, if any, created and inputted by the user and embedded in the metadata of the second digital file comprise a second set of tags distinct from the first set of tags.

6. The computer-implemented method of claim 3, further comprising:  
receiving, via the user interface device, an instruction to associate the second tag label with the first tag label, wherein the association indicates a relationship between the content data of the first of the digital files and the corresponding content data of the second of the digital files;  
responsive to receiving the instruction, associating the second tag label with the first tag label; and

responsive to an automatic search through the digital files returning either the first of the digital files or the second of the digital files, displaying, on the video display, an indication of the association between the first of the digital files and the second of the digital files.

7. The computer-implemented method of claim 3, further comprising displaying, on the video display device, a second count value corresponding to the number of the digital files having the second tag label.

8. The computer-implemented method of claim 1, wherein the content data includes a digital photograph or image or video, a digital audio file, a digital document, a digital food recipe having an ingredients portion and at least one digital photograph or image or video, a family tree record indicating familial relationships among related persons, a profile record including biographical information about a living organism, or a timespan record including a time-based series of occurrences.

9. The computer-implemented method of claim 8, wherein the content data includes a digital food recipe having at least an ingredients portion and at least one digital photograph or image or video, and wherein the first tag label includes an identity of a human source or human authorship of the digital food recipe or a name associated with the digital food recipe.

10. The computer-implemented method of claim 1, further comprising:  
receiving a request from the client device to export the first of the digital files from the storage media to another storage medium; and  
responsive to receiving the request to export, causing the first of the digital files to be communicated, without removing the first tag label, from the storage media to the other storage medium.

11. The computer-implemented method of claim 1, wherein the content data of the first of the digital files is of a first type, the method further comprising:  
associating the first tag label with a further one of the digital files having embedded therein content data of a second type that is different than the first type,  
wherein the first count value includes the further one of the digital files.

12. The computer-implemented method of claim 11, wherein the first type is a digital photograph or image or a video, and wherein the second type is a digital audio file, a digital document, or a digital food recipe.

13. The computer-implemented method of claim 1, wherein the first tag label is indicative of an identity of a person associated with the content data, a digital collection related to the content data, a geographic location associated with the content data, or a date associated with the content data.

14. The computer-implemented method of claim 1, further comprising displaying, on the video display device, a first count value corresponding to the number of the digital files having the first tag label.

15. The computer-implemented method of claim 1, wherein the content data includes a digital photograph or image or video, the metadata including a geotag indicative of geographic coordinates where the digital photograph or image or video was taken, the method further comprising:

displaying, on the video display device, a representation of a map, all of the digital files having at least the first tag label being members of a first set of digital files, the first set of digital files including at least a first geotag and a second geotag; and

displaying a first thumbnail at a first location corresponding to the geographic coordinates of the first geotag on the map, a second thumbnail at a second location



corresponding to the geographic coordinates of the second geotag on the map, and the alphanumeric text of the first tag label.

16. The computer-implemented method of claim 15, the first thumbnail including a scaled representation of at least one of the digital images in the first set of digital files having the first geotag, and the second thumbnail including a scaled representation of at least one of the digital images in the first set of digital files having the second geotag.

17. The computer-implemented method of claim 16, further comprising displaying proximate the first thumbnail a count value corresponding to the number of digital photographs or images or videos in the first set of digital files having the first geotag, and displaying proximate the second thumbnail a count value corresponding to the number of digital photographs or images or videos in the first set of digital files having the second geotag.

18. The computer-implemented method of claim 17, wherein the content data of a second of the digital files of the first set of digital files includes a digital food recipe, the method further comprising associating the digital food recipe with the first geotag or the second geotag.

19. The computer-implemented method of claim 1, wherein the metadata of a second of the digital files includes a second tag label containing alphanumeric text created and inputted by the user, the method further comprising:

displaying a first count value corresponding to the number of the digital files having the first tag label;

responsive to automatically searching for all of the digital files having at least the first tag label, receiving a second instruction to search for all of the digital files having at least the second tag label;

responsive to receiving the second instruction, automatically searching for all of the digital files having at least the second tag label; and

dynamically updating the first count value to reflect the number of the digital files having both the first tag label and the second tag label, and displaying in real time the updated first count value on the video display device.

20. The computer-implemented method of claim 19, further comprising displaying on the video display device a second count value corresponding to the number of the digital files having the second tag label.

21. A computer-implemented method of associating digital tags with digital files, comprising:

storing, on one or more non-transitory computer-readable storage media, a plurality of digital files, each of the digital files having a content data portion and a metadata portion including tags;

displaying, on a video display device associated with a client device, a first graphical representation of a first tag label of a first of the tags and associated with a first of the digital files;

receiving, via a user interface device of the client device, a selection by a user of the client device of the first graphical representation of the first tag label as a search filter criterion or a search string entered via the user interface device corresponding to the first tag label;

responsive to the receiving, automatically searching through the digital files, using at least the first tag label as a search filter, for the digital files satisfying at least the search filter criterion; and

displaying, on the video display device, an indication of the first tag label and a representation of the number of the digital files satisfying at least the search filter criterion.

22. The computer-implemented method of claim 21, further comprising:

receiving, via the user interface device, alphanumeric text created and inputted by the user as the first tag label; and

associating, using a computer, the first tag label with the first digital file in a computer database.

22. The computer-implemented method of claim 22, further comprising:

receiving from the client device a request to export the first digital file from the storage media to another storage medium remote from the client device;

responsive to receiving the request to export, modifying the first tag of the first digital file to include the first tag label created and inputted by the user in the first digital file and storing the modified first digital file in a non-proprietary format such that the first tag label is preserved during exporting; and

responsive to the storing the modified first digital file, exporting the modified first digital file by causing the modified first digital file to be communicated, without removing the first tag

label and in the non-proprietary format, from the storage media to the other remote storage medium.

23. The computer-implemented method of claim 22, wherein the other remote storage medium is operatively coupled to or incorporated in a computer system running a destination operating system different from an operating system on the client device, and wherein the modified first digital file with the modified first tag is stored on the other remote storage medium after the exporting.

24. The computer-implemented method of claim 23, wherein the computer system includes a mobile telephony device, a personal computer, a tablet computer, a laptop computer, a television, a wearable gadget having a computer, a digital camera, a printer, or a personal data assistant having a computer.

25. The computer-implemented method of claim 22, wherein the metadata of the first digital file is formatted according to an exchangeable image file format (EXIF) having a Comment field, and wherein the modified first tag is stored in the Comment field of the metadata of the first digital file as alphanumeric text corresponding to the first tag label.

26. The computer-implemented method of claim 21, wherein the first tag label is automatically created by extracting information from a first of the tags of the metadata of the first digital file and converting the extracted information to the first tag label to be used as the search filter criterion when selected by the user.

27. The computer-implemented method of claim 26, wherein the extracted information includes a date or a location associated with when or where a digital photograph or image or video was taken or created or recorded or scanned by a digital imaging device.

28. The computer-implemented method of claim 27, wherein the metadata is formatted according to an exchangeable image file format (EXIF), and wherein the first digital file is formatted according to a JPEG, PNG, TIFF, or GIF image file format.

29. A web-based digital file storage system comprising:

a digital file repository for storing and retrieving digital files;

a digital tagging system permitting the user to assign a plurality of digital tags to each of the digital files, wherein the digital tagging system comprises at least one type of data selected from the group consisting of a person's name, a location, a recipe, a date, a family relationship, a person's profile, an event name, a rating, and a document type;

a search filter, wherein the search filter allows the digital files to be searched according to a plurality of types of data; and

a user interface that presents the digital files on a user's screen based on the digital tags, wherein the user interface further comprises a digital tag image, the digital tag image having at least one type of data represented thereon with text.

**ABSTRACT OF THE DISCLOSURE**

A computer-implemented method of associating digital tags with digital files comprises storing a plurality of digital files having embedded therein content data and metadata including tags; receiving, via a user interface device of a client device, a first tag label containing alphanumeric text created and inputted by a user of the client device; modifying, using a controller device, a selected first one of the tags of the metadata in a first of the digital files to include the first tag label; receiving, via the user interface device or another user interface device, an instruction to search for all of the digital files having at least the first tag label; responsive to receiving the instruction, automatically searching for all of the digital files having at least the first tag label; and displaying, on a video display device associated with the client device, a first indication of the first tag label.



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**FORMALITIES LETTER**

70001  
NIXON PEABODY LLP  
70 West Madison Street, Suite 3500  
CHICAGO, IL 60602



Date Mailed: 10/04/2019

**NOTICE TO FILE CORRECTED APPLICATION PAPERS**

***Filing Date Granted***

An application number and filing date have been accorded to this application. The application is informal since it does not comply with the regulations for the reason(s) indicated below. Applicant is given **TWO MONTHS** from the date of this Notice within which to correct the informalities indicated below. Extensions of time may be obtained by filing a petition accompanied by the extension fee under the provisions of 37 CFR 1.136(a).

The required item(s) identified below must be timely submitted to avoid abandonment:

- Replacement drawings in compliance with 37 CFR 1.84 and 37 CFR 1.121(d) are required. The drawings submitted are not acceptable because:
  - The drawings must be reasonably free from erasures and must be free from alterations, overwriting, interlineations, folds, and copy marks. See Figure(s) 29, 31.
  - Numbers, letters, and reference characters on the drawings must measure at least 0.32 cm (1/8 inch) in height. See Figure(s) 31.
  - The drawings submitted to the Office are not electronically reproducible because portions of figures 31 are missing and/or blurry.

Applicant is cautioned that correction of the above items may cause the specification and drawings page count to exceed 100 pages. If the specification and drawings exceed 100 pages, applicant will need to submit the required application size fee.

Replies must be received in the USPTO within the set time period or must include a proper Certificate of Mailing or Transmission under 37 CFR 1.8 with a mailing or transmission date within the set time period. For more information and a suggested format, see Form PTO/SB/92 and MPEP 512.

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**PATENT APPLICATION FEE DETERMINATION RECORD**

Substitute for Form PTO-875

Application or Docket Number  
16/578,238

**APPLICATION AS FILED - PART I**

(Column 1)		(Column 2)	SMALL ENTITY		OR	OTHER THAN SMALL ENTITY	
FOR	NUMBER FILED	NUMBER EXTRA	RATE(\$)	FEE(\$)		RATE(\$)	FEE(\$)
BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A	75		N/A	
SEARCH FEE (37 CFR 1.16(k), (l), or (m))	N/A	N/A	N/A	330		N/A	
EXAMINATION FEE (37 CFR 1.16(e), (p), or (q))	N/A	N/A	N/A	380		N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	22	minus 20 = *	x 50 =	100	OR		
INDEPENDENT CLAIMS (37 CFR 1.16(h))	3	minus 3 = *	x 230 =	0.00			
APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$310 (\$155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).			0.00			
MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))				0.00			
			TOTAL	885		TOTAL	

\* If the difference in column 1 is less than zero, enter "0" in column 2.

**APPLICATION AS AMENDED - PART II**

(Column 1)		(Column 2)	(Column 3)	SMALL ENTITY		OR	OTHER THAN SMALL ENTITY	
AMENDMENT A	CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE(\$)	ADDITIONAL FEE(\$)		RATE(\$)	ADDITIONAL FEE(\$)
Total (37 CFR 1.16(i))	*	Minus **	=	x	=	OR	x	=
Independent (37 CFR 1.16(h))	*	Minus ***	=	x	=	OR	x	=
Application Size Fee (37 CFR 1.16(s))						OR		
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))						OR		
				TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE	

(Column 1)		(Column 2)	(Column 3)	SMALL ENTITY		OR	OTHER THAN SMALL ENTITY	
AMENDMENT B	CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE(\$)	ADDITIONAL FEE(\$)		RATE(\$)	ADDITIONAL FEE(\$)
Total (37 CFR 1.16(i))	*	Minus **	=	x	=	OR	x	=
Independent (37 CFR 1.16(h))	*	Minus ***	=	x	=	OR	x	=
Application Size Fee (37 CFR 1.16(s))						OR		
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))						OR		
				TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE	

\* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.  
 \*\* If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".  
 \*\*\* If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".  
 The "Highest Number Previously Paid For" (Total or Independent) is the highest found in the appropriate box in column 1.





UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

Table with 7 columns: APPLICATION NUMBER, FILING or 371(c) DATE, GRP ART UNIT, FIL FEE REC'D, ATTY.DOCKET.NO, TOT CLAIMS, IND CLAIMS. Row 1: 16/578,238, 09/20/2019, 2676, 885, 069366-000002USC3, 22, 3

CONFIRMATION NO. 4358

FILING RECEIPT

70001
NIXON PEABODY LLP
70 West Madison Street, Suite 3500
CHICAGO, IL 60602



Date Mailed: 10/04/2019

Receipt is acknowledged of this non-provisional utility patent application. The application will be taken up for examination in due course. Applicant will be notified as to the results of the examination. Any correspondence concerning the application must include the following identification information: the U.S. APPLICATION NUMBER, FILING DATE, NAME OF FIRST INVENTOR, and TITLE OF INVENTION. Fees transmitted by check or draft are subject to collection.

Please verify the accuracy of the data presented on this receipt. If an error is noted on this Filing Receipt, please submit a written request for a corrected Filing Receipt, including a properly marked-up ADS showing the changes with strike-through for deletions and underlining for additions. If you received a "Notice to File Missing Parts" or other Notice requiring a response for this application, please submit any request for correction to this Filing Receipt with your reply to the Notice. When the USPTO processes the reply to the Notice, the USPTO will generate another Filing Receipt incorporating the requested corrections provided that the request is grantable.

Inventor(s)

Christopher J. Desmond, Glen Ellyn, IL;
Nancy L. Desmond, Glen Ellyn, IL;
L. Michael Taylor, Chicago, IL;

Applicant(s)

NCM IP Holdings, LLC, Glen Ellyn, IL;

Power of Attorney: The patent practitioners associated with Customer Number 70001

Domestic Priority data as claimed by applicant

This application is a CON of 16/536,300 08/08/2019
which is a CON of 15/375,927 12/12/2016 PAT 10423658
which is a CON of 14/193,426 02/28/2014 PAT 9552376
which is a CIP of 13/157,214 06/09/2011 PAT 9098531

Foreign Applications for which priority is claimed (You may be eligible to benefit from the Patent Prosecution Highway program at the USPTO. Please see http://www.uspto.gov for more information.) - None.

Foreign application information must be provided in an Application Data Sheet in order to constitute a claim to foreign priority. See 37 CFR 1.55 and 1.76.

Permission to Access Application via Priority Document Exchange: Yes

Permission to Access Search Results: Yes

Applicant may provide or rescind an authorization for access using Form PTO/SB/39 or Form PTO/SB/69 as appropriate.

**If Required, Foreign Filing License Granted:** 10/03/2019

The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is **US 16/578,238**

**Projected Publication Date:** To Be Determined - pending completion of Corrected Papers

**Non-Publication Request:** No

**Early Publication Request:** No

**\*\* SMALL ENTITY \*\***

**Title**

METHOD AND APPARATUS FOR MANAGING DIGITAL FILES

**Preliminary Class**

358

**Statement under 37 CFR 1.55 or 1.78 for AIA (First Inventor to File) Transition Applications:** No

### **PROTECTING YOUR INVENTION OUTSIDE THE UNITED STATES**

Since the rights granted by a U.S. patent extend only throughout the territory of the United States and have no effect in a foreign country, an inventor who wishes patent protection in another country must apply for a patent in a specific country or in regional patent offices. Applicants may wish to consider the filing of an international application under the Patent Cooperation Treaty (PCT). An international (PCT) application generally has the same effect as a regular national patent application in each PCT-member country. The PCT process **simplifies** the filing of patent applications on the same invention in member countries, but **does not result** in a grant of "an international patent" and does not eliminate the need of applicants to file additional documents and fees in countries where patent protection is desired.

Almost every country has its own patent law, and a person desiring a patent in a particular country must make an application for patent in that country in accordance with its particular laws. Since the laws of many countries differ in various respects from the patent law of the United States, applicants are advised to seek guidance from specific foreign countries to ensure that patent rights are not lost prematurely.

Applicants also are advised that in the case of inventions made in the United States, the Director of the USPTO must issue a license before applicants can apply for a patent in a foreign country. The filing of a U.S. patent application serves as a request for a foreign filing license. The application's filing receipt contains further information and guidance as to the status of applicant's license for foreign filing.

Applicants may wish to consult the USPTO booklet, "General Information Concerning Patents" (specifically, the section entitled "Treaties and Foreign Patents") for more information on timeframes and deadlines for filing foreign patent applications. The guide is available either by contacting the USPTO Contact Center at 800-786-9199, or it can be viewed on the USPTO website at <http://www.uspto.gov/web/offices/pac/doc/general/index.html>.

For information on preventing theft of your intellectual property (patents, trademarks and copyrights), you may wish to consult the U.S. Government website, <http://www.stopfakes.gov>. Part of a Department of Commerce initiative, this website includes self-help "toolkits" giving innovators guidance on how to protect intellectual property in specific

page 2 of 4

countries such as China, Korea and Mexico. For questions regarding patent enforcement issues, applicants may call the U.S. Government hotline at 1-866-999-HALT (1-866-999-4258).

**LICENSE FOR FOREIGN FILING UNDER  
Title 35, United States Code, Section 184  
Title 37, Code of Federal Regulations, 5.11 & 5.15**

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This license is to be retained by the licensee and may be used at any time on or after the effective date thereof unless it is revoked. This license is automatically transferred to any related applications(s) filed under 37 CFR 1.53(d). This license is not retroactive.

The grant of a license does not in any way lessen the responsibility of a licensee for the security of the subject matter as imposed by any Government contract or the provisions of existing laws relating to espionage and the national security or the export of technical data. Licensees should apprise themselves of current regulations especially with respect to certain countries, of other agencies, particularly the Office of Defense Trade Controls, Department of State (with respect to Arms, Munitions and Implements of War (22 CFR 121-128)); the Bureau of Industry and Security, Department of Commerce (15 CFR parts 730-774); the Office of Foreign Assets Control, Department of Treasury (31 CFR Parts 500+) and the Department of Energy.

**NOT GRANTED**

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technology, manufacture products, deliver services, and grow your business, visit <http://www.SelectUSA.gov> or call +1-202-482-6800.

**PATENT**

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Serial No. : 16/578,238 Confirmation No.: 4358  
Applicant : NCM IP Holdings, LLC  
Filed : September 20, 2019  
Title : METHOD AND APPARATUS FOR MANAGING DIGITAL FILES  
  
TC/A.U. : 2676  
Examiner : Not Yet Assigned  
Docket No. : 069366-000002USC3  
Customer No. : 70001

**RESPONSE TO NOTICE TO FILE CORRECTED APPLICATION PAPERS**

Mail Stop: Missing Parts – via EFS  
Commissioner for Patents  
Alexandria, Virginia 22313-1450

Dear Commissioner:

This paper responds to the Notice to File Corrected Application Papers mailed October 4, 2019, for the above-referenced patent application. The shortened statutory period for response is two months from the mailing date, *i.e.*, by December 4, 2019. This Response is being filed within that time period.

The Applicant respectfully submits replacement drawing sheets for FIGs. 29 and 31 which is believed to be in compliance with 37 CFR 1.84 and 1.121(d).

It is believed that no fees are due; should any additional fees be deemed necessary, the Commissioner is authorized to deduct the necessary fees (except for payment of the issue fee) from Nixon Peabody LLP, Deposit Account No. 50-4181, Order No. 069366-000002USC3.

Respectfully submitted,

Date: October 11, 2019

/Bradley M. Taub – Reg. No. 67,300/  
BRADLEY M. TAUB  
Reg. No. 67,300  
Nixon Peabody LLP  
70 West Madison Street, Suite 3500  
Chicago, Illinois 60602  
(312) 425-8563 - Direct  
ATTORNEYS FOR APPLICANT

## Electronic Acknowledgement Receipt

<b>EFS ID:</b>	37439823
<b>Application Number:</b>	16578238
<b>International Application Number:</b>	
<b>Confirmation Number:</b>	4358
<b>Title of Invention:</b>	METHOD AND APPARATUS FOR MANAGING DIGITAL FILES
<b>First Named Inventor/Applicant Name:</b>	Christopher J. Desmond
<b>Customer Number:</b>	70001
<b>Filer:</b>	Bradley Michael Taub
<b>Filer Authorized By:</b>	
<b>Attorney Docket Number:</b>	069366-000002USC3
<b>Receipt Date:</b>	11-OCT-2019
<b>Filing Date:</b>	20-SEP-2019
<b>Time Stamp:</b>	17:57:50
<b>Application Type:</b>	Utility under 35 USC 111(a)

### Payment information:

Submitted with Payment	no
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### File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Drawings-only black and white line drawings	069366-2USC3_Replacement_S heets.pdf	203479  21bd9f17c11e8ba136e7e53de21de0d7811 a65bd	no	2

### Warnings:

Information:					
2	Applicant Response to Pre-Exam Formalities Notice	069366-2USC3_Response_to_Notice_to_File_Corrected_Application_Papers.pdf	87920	no	1
			32112a873e7982257299d43422f189efb7acd0b7		
Warnings:					
Information:					
Total Files Size (in bytes):				291399	
<p><b>This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.</b></p> <p><b><u>New Applications Under 35 U.S.C. 111</u></b>  If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.</p> <p><b><u>National Stage of an International Application under 35 U.S.C. 371</u></b>  If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.</p> <p><b><u>New International Application Filed with the USPTO as a Receiving Office</u></b>  If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.</p>					

FIG. 29

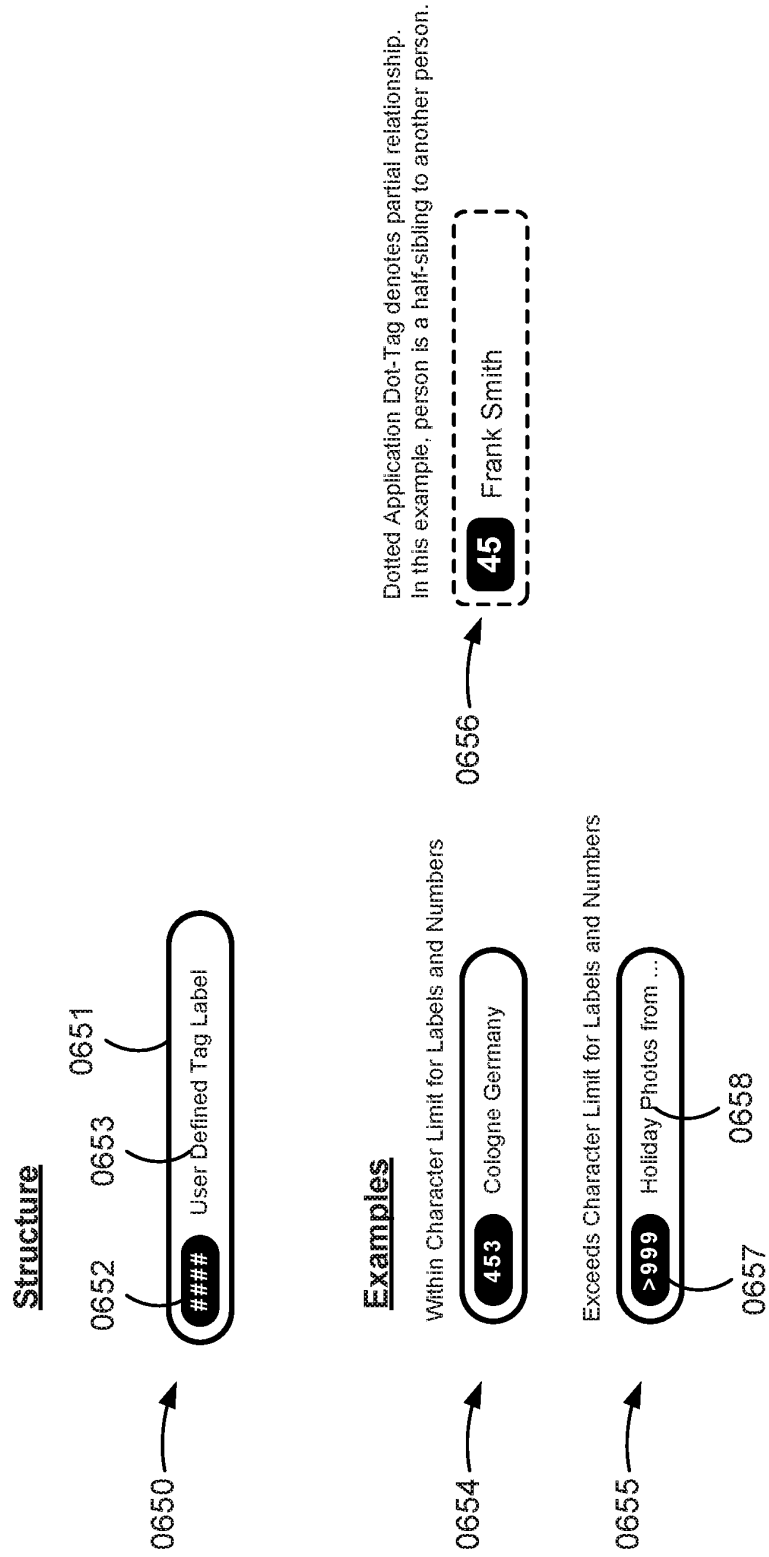
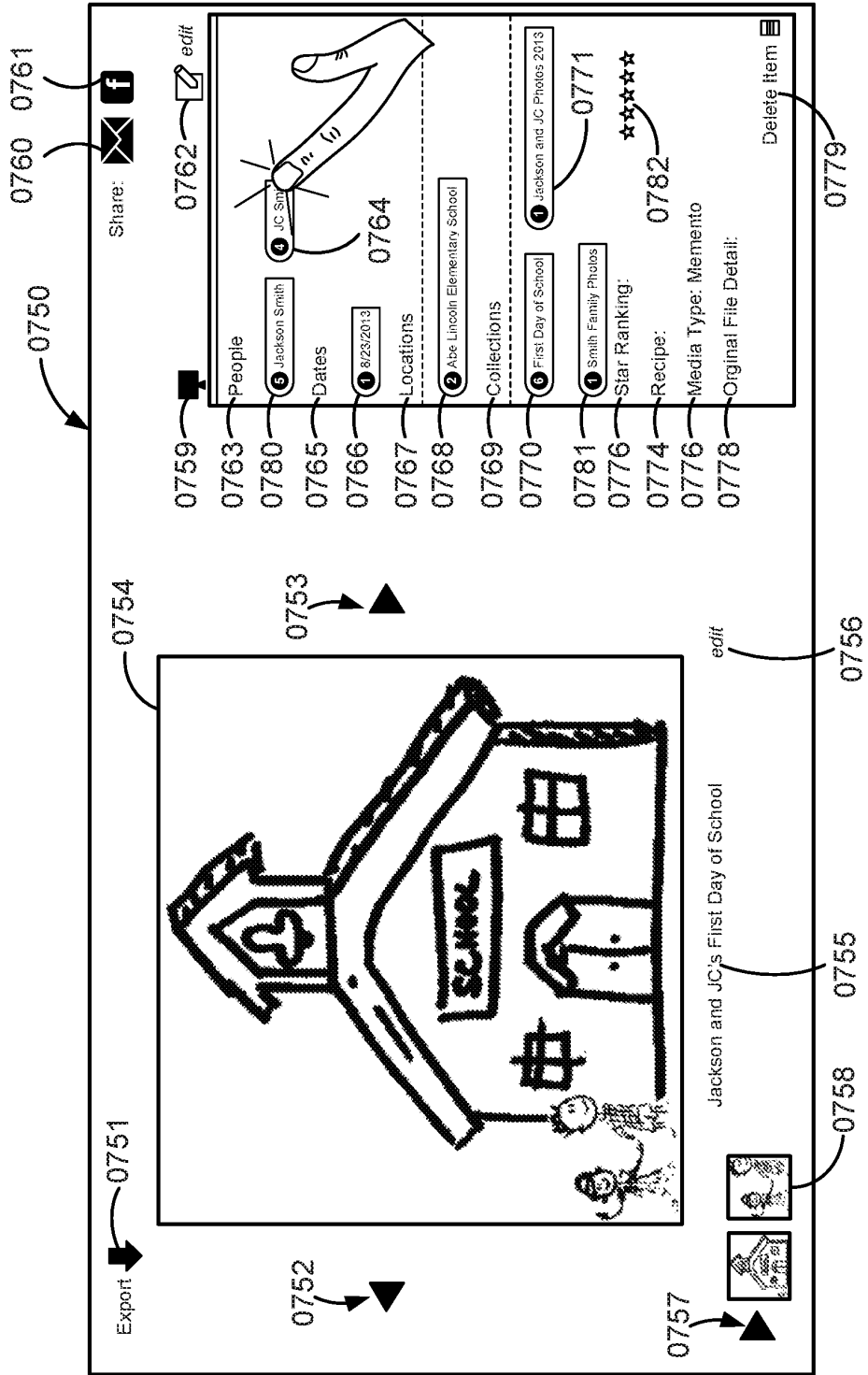




FIG. 31



**PATENT APPLICATION FEE DETERMINATION RECORD**

Substitute for Form PTO-875

Application or Docket Number  
16/578,238

**APPLICATION AS FILED - PART I**

(Column 1)		(Column 2)	SMALL ENTITY		OR	OTHER THAN SMALL ENTITY	
FOR	NUMBER FILED	NUMBER EXTRA	RATE(\$)	FEE(\$)		RATE(\$)	FEE(\$)
BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A	75		N/A	
SEARCH FEE (37 CFR 1.16(k), (l), or (m))	N/A	N/A	N/A	330		N/A	
EXAMINATION FEE (37 CFR 1.16(e), (p), or (q))	N/A	N/A	N/A	380		N/A	
TOTAL CLAIMS (37 CFR 1.16(j))	22	minus 20 = *	x 50 =	100	OR		
INDEPENDENT CLAIMS (37 CFR 1.16(h))	3	minus 3 = *	x 230 =	0.00			
APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$310 (\$155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).			0.00			
MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))				0.00			
			TOTAL	885		TOTAL	

\* If the difference in column 1 is less than zero, enter "0" in column 2.

**APPLICATION AS AMENDED - PART II**

(Column 1)		(Column 2)	(Column 3)	SMALL ENTITY		OR	OTHER THAN SMALL ENTITY		
AMENDMENT A		CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE(\$)	ADDITIONAL FEE(\$)	RATE(\$)	ADDITIONAL FEE(\$)	
	Total (37 CFR 1.16(i))	*	Minus	**	=	x	=	x	=
	Independent (37 CFR 1.16(h))	*	Minus	***	=	x	=	x	=
	Application Size Fee (37 CFR 1.16(s))								
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))									
				TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE		
AMENDMENT B		CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE(\$)	ADDITIONAL FEE(\$)	RATE(\$)	ADDITIONAL FEE(\$)	
	Total (37 CFR 1.16(i))	*	Minus	**	=	x	=	x	=
	Independent (37 CFR 1.16(h))	*	Minus	***	=	x	=	x	=
	Application Size Fee (37 CFR 1.16(s))								
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))									
				TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE		

\* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.  
 \*\* If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".  
 \*\*\* If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".  
 The "Highest Number Previously Paid For" (Total or Independent) is the highest found in the appropriate box in column 1.



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Table with 7 columns: APPLICATION NUMBER, FILING or 371(c) DATE, GRP ART UNIT, FIL FEE REC'D, ATTY.DOCKET.NO, TOT CLAIMS, IND CLAIMS. Row 1: 16/578,238, 09/20/2019, 2676, 885, 069366-000002USC3, 22, 3

CONFIRMATION NO. 4358

UPDATED FILING RECEIPT

70001
NIXON PEABODY LLP
70 West Madison Street, Suite 3500
CHICAGO, IL 60602



Date Mailed: 10/18/2019

Receipt is acknowledged of this non-provisional utility patent application. The application will be taken up for examination in due course. Applicant will be notified as to the results of the examination. Any correspondence concerning the application must include the following identification information: the U.S. APPLICATION NUMBER, FILING DATE, NAME OF FIRST INVENTOR, and TITLE OF INVENTION. Fees transmitted by check or draft are subject to collection.

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Christopher J. Desmond, Glen Ellyn, IL;
Nancy L. Desmond, Glen Ellyn, IL;
L. Michael Taylor, Chicago, IL;

Applicant(s)

NCM IP Holdings, LLC, Glen Ellyn, IL;

Power of Attorney: The patent practitioners associated with Customer Number 70001

Domestic Priority data as claimed by applicant

This application is a CON of 16/536,300 08/08/2019
which is a CON of 15/375,927 12/12/2016 PAT 10423658
which is a CON of 14/193,426 02/28/2014 PAT 9552376
which is a CIP of 13/157,214 06/09/2011 PAT 9098531

Foreign Applications for which priority is claimed (You may be eligible to benefit from the Patent Prosecution Highway program at the USPTO. Please see http://www.uspto.gov for more information.) - None.

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Permission to Access Application via Priority Document Exchange: Yes

Permission to Access Search Results: Yes

Applicant may provide or rescind an authorization for access using Form PTO/SB/39 or Form PTO/SB/69 as appropriate.

**If Required, Foreign Filing License Granted:** 10/03/2019

The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is **US 16/578,238**

**Projected Publication Date:** 01/23/2020

**Non-Publication Request:** No

**Early Publication Request:** No

**\*\* SMALL ENTITY \*\***

**Title**

METHOD AND APPARATUS FOR MANAGING DIGITAL FILES

**Preliminary Class**

358

**Statement under 37 CFR 1.55 or 1.78 for AIA (First Inventor to File) Transition Applications:** No

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**LICENSE FOR FOREIGN FILING UNDER  
Title 35, United States Code, Section 184  
Title 37, Code of Federal Regulations, 5.11 & 5.15**

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This license is to be retained by the licensee and may be used at any time on or after the effective date thereof unless it is revoked. This license is automatically transferred to any related applications(s) filed under 37 CFR 1.53(d). This license is not retroactive.

The grant of a license does not in any way lessen the responsibility of a licensee for the security of the subject matter as imposed by any Government contract or the provisions of existing laws relating to espionage and the national security or the export of technical data. Licensees should apprise themselves of current regulations especially with respect to certain countries, of other agencies, particularly the Office of Defense Trade Controls, Department of State (with respect to Arms, Munitions and Implements of War (22 CFR 121-128)); the Bureau of Industry and Security, Department of Commerce (15 CFR parts 730-774); the Office of Foreign Assets Control, Department of Treasury (31 CFR Parts 500+) and the Department of Energy.

**NOT GRANTED**

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---

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The United States represents the largest, most dynamic marketplace in the world and is an unparalleled location for business investment, innovation, and commercialization of new technologies. The U.S. offers tremendous resources and advantages for those who invest and manufacture goods here. Through SelectUSA, our nation works to promote and facilitate business investment. SelectUSA provides information assistance to the international investor community; serves as an ombudsman for existing and potential investors; advocates on behalf of U.S. cities, states, and regions competing for global investment; and counsels U.S. economic development organizations on investment attraction best practices. To learn more about why the United States is the best country in the world to develop

technology, manufacture products, deliver services, and grow your business, visit <http://www.SelectUSA.gov> or call +1-202-482-6800.



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
16/578,238	09/20/2019	Christopher J. Desmond	069366-000002USC3	4358

70001                      7590                      10/23/2019  
NIXON PEABODY LLP  
70 West Madison Street, Suite 3500  
CHICAGO, IL 60602

EXAMINER
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ART UNIT	PAPER NUMBER
2165	

NOTIFICATION DATE	DELIVERY MODE
10/23/2019	ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

docketingchicago@nixonpeabody.com  
ipairlink@nixonpeabody.com

<b><i>Decision Granting Request for Prioritized Examination (Track I)</i></b>	<b>Application No.</b> 16/578,238	<b>Applicant(s)</b> Desmond et al.	
	<b>Examiner</b> BRIAN W BROWN	<b>Art Unit</b> OPET	<b>AIA (FITF) Status</b> No
<p>1. THE REQUEST FILED <u>20 September 2019</u> IS <b>GRANTED</b> .</p> <p>The above-identified application has met the requirements for prioritized examination</p> <p>A. <input checked="" type="checkbox"/> for an original nonprovisional application (Track I).</p> <p>B. <input type="checkbox"/> for an application undergoing continued examination (RCE).</p> <p>2. <b>The above-identified application will undergo prioritized examination.</b> The application will be accorded special status throughout its entire course of prosecution until one of the following occurs:</p> <p>A. filing a <b><u>petition for extension of time</u></b> to extend the time period for filing a reply;</p> <p>B. filing an <b><u>amendment to amend the application to contain more than four independent claims, more than thirty total claims</u></b>, or a multiple dependent claim;</p> <p>C. filing a <b><u>request for continued examination</u></b> ;</p> <p>D. filing a notice of appeal;</p> <p>E. filing a request for suspension of action;</p> <p>F. mailing of a notice of allowance;</p> <p>G. mailing of a final Office action;</p> <p>H. completion of examination as defined in 37 CFR 41.102; or</p> <p>I. abandonment of the application.</p> <p>Telephone inquiries with regard to this decision should be directed to BRIAN BROWN at (571)272-5338. In his/her absence, calls may be directed to Petition Help Desk at (571) 272-3282.</p>			
/BRIAN W BROWN/ Petitions Examiner, OPET			



List of References for Applicant's <b>FIRST INFORMATION DISCLOSURE STATEMENT</b>  Page 1 of 14	Atty. Docket No. 069366-000002USC3	Serial No. 16/578,238
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	A5	7,475,060	01/06/2009	Toyama
	A6	7,480,669	01/20/2009	Lo
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	A8	7,822,746	10/26/2010	Svendsen
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	A30	8,285,483	10/9/2012	Amer-Yahia
	A31	8,307,029	11/6/2012	Davis
	A32	8,315,959	11/20/2012	Zheng
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	A35	8,380,039	2/19/2013	Luo
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	A37	8,390,702	3/5/2013	Bhatt
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	A40	8,429,156	4/23/2013	Buchmueller
	A41	8,447,120	5/21/2013	Ji
	A42	8,452,855	5/28/2013	Higgins
	A43	8,458,115	6/4/2013	Cai
	A44	8,463,931	6/11/2013	Evans
	A45	8,484,223	07/09/2013	Ota
	A46	8,489,115	7/16/2013	Rodriguez
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	A67	8,594,702	11/26/2013	Naaman
	A68	8,606,021	12/10/2013	Conwell
	A69	8,626,699	1/7/2014	Xie
	A70	8,671,154	3/11/2014	Davis
	A71	8,676,001	3/18/2014	Brucher
	A72	8,706,406	4/22/2014	Kalaboukis
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	A80	8,799,371	8/5/2014	Davis
	A81	8,805,165	8/12/2014	Luo

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	A103	9,015,617	4/21/2015	Stapleton
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	A106	9,031,953	5/12/2015	Rathnavelu
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	A108	9,055,037	6/9/2015	Evans
	A109	9,063,226	6/23/2015	Zheng

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	A113	9,104,729	8/11/2015	Dong
	A114	9,104,915	8/11/2015	Conwell
	A115	9,110,903	8/18/2015	Martinez
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	A126	9,261,376	2/16/2016	Zheng
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	A128	9,311,396	04/12/2016	Meadow
	A129	9,336,240	5/10/2016	Bhatt
	A130	9,372,931	6/21/2016	Capt
	A131	9,390,104	7/12/2016	Thomee
	A132	9,405,981	8/2/2016	Li
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	A171	9,942,121	4/10/2018	Poletto
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	A181	10,235,444	3/19/2019	Poletto
	A182	10,242,051	3/26/2019	Shinn
	A183	10,282,752	5/7/2019	Athsani
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	Applicant: NCM IP Holdings, LLC	
	Filing Date: September 20, 2019	Group: 2165

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List of References for Applicant's <b>FIRST INFORMATION DISCLOSURE STATEMENT</b>  Page 11 of 14	Atty. Docket No. 069366-000002USC3	Serial No. 16/578,238
	Applicant: NCM IP Holdings, LLC	
	Filing Date: September 20, 2019	Group: 2165

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List of References for Applicant's <b>FIRST INFORMATION DISCLOSURE STATEMENT</b>  Page 12 of 14	Atty. Docket No. 069366-000002USC3	Serial No. 16/578,238
	Applicant: NCM IP Holdings, LLC	
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<b>Electronic Acknowledgement Receipt</b>	
<b>EFS ID:</b>	37703961
<b>Application Number:</b>	16578238
<b>International Application Number:</b>	
<b>Confirmation Number:</b>	4358
<b>Title of Invention:</b>	METHOD AND APPARATUS FOR MANAGING DIGITAL FILES
<b>First Named Inventor/Applicant Name:</b>	Christopher J. Desmond
<b>Customer Number:</b>	70001
<b>Filer:</b>	Bradley Michael Taub
<b>Filer Authorized By:</b>	
<b>Attorney Docket Number:</b>	069366-000002USC3
<b>Receipt Date:</b>	13-NOV-2019
<b>Filing Date:</b>	20-SEP-2019
<b>Time Stamp:</b>	13:03:36
<b>Application Type:</b>	Utility under 35 USC 111(a)

**Payment information:**

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**File Listing:**

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Foreign Reference	CN102591922B_.pdf	13554659 <small>0d17d799309f46f7d50def04231c82820e97b0a22</small>	no	13

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**New Applications Under 35 U.S.C. 111**

**If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.**

**National Stage of an International Application under 35 U.S.C. 371**

**If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.**

**New International Application Filed with the USPTO as a Receiving Office**

**If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.**



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## Bibliographic data: CN102591922 (B) — 2015-10-28

### Granular metadata for digital content

**Inventor(s):** GAMMILL KEVIN, ; LAW STACEY, ; PORTER SCOTT, ; KIPMAN ALEX ABEN-ATHAR, ; BAR-ZEEV AVI, ; PEREZ KATHRYN STONE

**Applicant(s):** MICROSOFT CORP

**Classification:** - international: **G06F17/30**  
- cooperative: **G06F16/489 (EP); G06F16/907 (EP); G06F16/9535 (EP)**

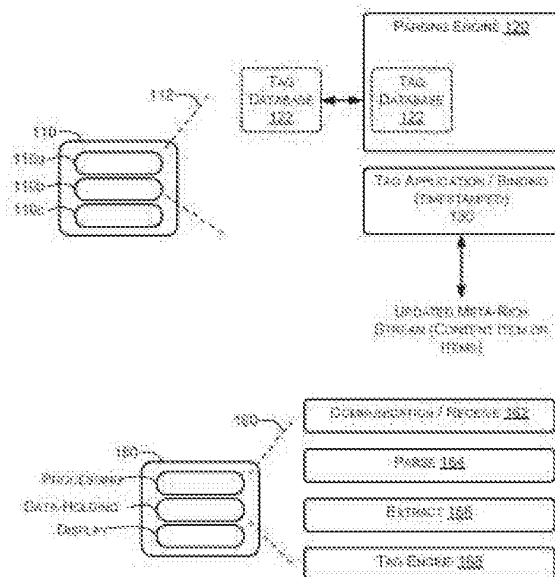
**Application number:** CN201110428547 20111219 Global Dossier

**Priority number (s):** US20100973643 20101220

**Also published as:** CN102591922 (A) HK1172713 (A1) US2012158755 (A1)

### Abstract of CN102591922 (A)

The invention discloses granular metadata for digital content. Accordingly, the present discussion is directed in one respect, to a method of associating metadata with a digital content item and then controlling the presentation of that item in accordance with metadata-associated controls/constraints. The method may include determining a time-specific portion of a digital content item with which a user desires to associate a metadata item; associating the metadata item with the time-specific portion of the digital content item. During subsequent consumption of the digital content item by the user or another, the metadata item is presented synchronously in co location



with the time-specific portion of the digital content item, where such presentation is constrained or controlled in response to user-controlled filters implemented through a social network.



(12) 发明专利

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(45) 授权公告日 2015. 10. 28

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(22) 申请日 2011. 12. 19 US 20100023553 A1, 2010. 01. 28, 全文.

(30) 优先权数据 12/973, 643 2010. 12. 20 US US 2009/0144392 A1, 2009. 06. 04, 说明书 [0030]-[0053] 段.

(73) 专利权人 微软技术许可有限责任公司  
地址 美国华盛顿

(72) 发明人 K·甘米尔 S·劳 S·波特  
A·A·基普曼 A·巴 泽埃夫  
K·S·佩雷

(74) 专利代理机构 上海专利商标事务所有限公司 31100  
代理人 蔡悦

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G06F 17/30(2006. 01)

(56) 对比文件  
US 20090049408 A1, 2009. 02. 19, 说明书 [0010] [0050] 段.

审查员 李佳

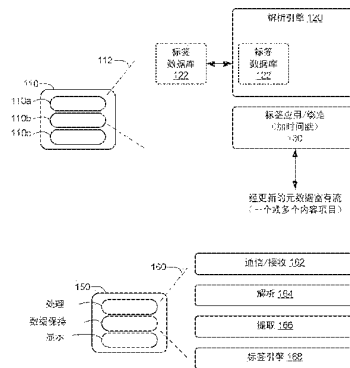
权利要求书1页 说明书6页 附图3页

(54) 发明名称

用于数字内容的粒度元数据

(57) 摘要

本发明公开了用于数字内容的粒度元数据。因此,本讨论在一个方面涉及一种将元数据与数字内容项目相关联并且随后根据元数据关联的控制/约束来控制该项目的呈现的方法。该方法可包括确定数字内容项目中用户期望将其与元数据项相关联的时间专用部分;将该元数据项与数字内容项目的该时间专用部分相关联。在该用户或另一人对数字内容项目的后续消费期间,元数据项连同数字内容项目的该时间专用部分被同步呈现,其中这样的呈现是响应于通过社交网络实现的用户控制的过滤器来约束或控制的。



CN 102591922 B

1. 一种将元数据与数字内容项目相关联的方法 (200), 所述方法包括:

确定 (204) 用户期望将元数据项与其相关联的一个数字内容项目中的时间专用部分; 将所述元数据项与所述数字内容项目中的所述时间专用部分相关联 (206); 以及在所述用户或另一人对所述数字内容项目的后续消费期间, 响应于由用户控制的过滤器过滤的指示如何呈现所述数字内容项的相关联的元数据项来由消费用户在所述数字内容项目中的时间专用部分处控制所述数字内容项的消费, 其中所述控制所述数字内容项的消费包括校正、替换和修改所述数字内容项中的至少一个。

2. 如权利要求 1 所述的方法, 其特征在于, 在主设备上呈现所述数字内容项目期间动态实时地实现对所述元数据项的关联。

3. 如权利要求 2 所述的方法, 其特征在于, 通过使用与所述主设备不同的伴随设备来实现对所述元数据项的关联。

4. 如权利要求 1 所述的方法, 其特征在于, 在所述后续消费期间, 在主消费设备上呈现所述数字内容项目, 且在伴随消费设备上呈现所述元数据项。

5. 如权利要求 1 所述的方法, 其特征在于, 所述元数据项是文本注释。

6. 如权利要求 5 所述的方法, 其特征在于, 所述元数据项是与所述数字内容项目相关联的校正, 或者是与同所述数字内容项目相关联的其他元数据项相关联的校正。

7. 如权利要求 1 所述的方法, 其特征在于, 所述元数据项是音频剪辑。

8. 如权利要求 1 所述的方法, 其特征在于, 所述元数据项是图像。

9. 如权利要求 1 所述的方法, 其特征在于, 所述元数据项被封装到模块化信道中, 所述模块化信道覆盖所述数字内容项目且与所述数字内容项目一起呈现。

10. 如权利要求 1 所述的方法, 其特征在于, 多个元数据项与所述数字内容项目中的多个个体时间专用部分相关联, 且其中所述用户控制的过滤器可用于仅仅允许呈现来自所选用户群体的元数据项。

## 用于数字内容的粒度元数据

### 技术领域

[0001] 本发明涉及通信技术,尤其涉及对内容的呈现技术。

### 背景技术

[0002] 因特网容纳了日益增长的数字内容阵列,这些数字内容由各种各样的用户以不同方式及在不同平台上消费。在某些情况下,该内容可能是不适宜的,或者可能以其它方式激发消费者控制如何消费该内容。例如,父母可能希望内容仅在白天时间出现,此时可在例如观看电视节目时观察孩子。然而,现有控制在其实现时是粗糙的,并且不允许数字内容片段既是部分不适宜的又是部分可接受的,或者不允许这些评价转换成对消费的有效和粒度的控制。

[0003] 标签是用于标记不适宜或其它内容实质的常用机制,例如用于分类化地标记项目(例如,将视频剪辑标记为诸如“有趣”、“与工作无关”等)。然而,常规标签机制在标签信息不是非常细小粒度的意义上相当受限。例如,将电影标识为“令人压抑的”的标签并不多说电影的什么方面或部分具有该特性。确实提供较高粒度水平的解决方案非常少,并且这些方案通常涉及难以过滤和正确使用的大量信息。而且,这些信息没有在很可能对标签/元数据所提供的描述感兴趣的用户群体之中有效地共享。

### 发明内容

[0004] 因此,本讨论在一个方面涉及一种将元数据与数字内容项目相关联的方法。该方法可包括确定数字内容项目中的用户期望将其与元数据项相关联的时间专用部分,以及将该元数据项与数字内容项目的该时间专用部分相关联。在用户或他人对数字内容项目的后续消费期间,元数据项连同数字内容项目的时间专用部分被同步呈现,其中响应于通过社交网络实现的用户控制的过滤器约束或控制这种呈现。

[0005] 提供本发明内容以便以简化形式介绍在以下具体实施方式中进一步描述的一些概念。本发明内容并不旨在标识所要求保护主题的关键特征或必要特征,也不旨在用于限制所要求保护主题的范围。此外,所要求保护的主体不限于解决在本发明的任一部分中提及的任何或所有缺点的实现。

### 附图说明

[0006] 图1示出执行用于处理项目以关联时间专用元数据的指令的示例性计算设备的系统,其中时间专用元数据最终用于控制或以其它方式影响数字内容项目的呈现和消费。

[0007] 图2示出用于将标签绑定至内容项目的时间专用部分并且随后使用这些标签来控制内容项目的消费的示例性方法。

[0008] 图3示出用于呈现具有基于用户消费约束/控制而选择的元数据项的内容项目的方法的一个实施例。



### 具体实施方式

[0009] 图 1 示出了用于处理数字内容项目 102 的系统 100。数字内容项目可以由用户消费的任何类型,如音频文件、视频、电影、静止照片、电子书等。通过任何可行信道检索内容项目,包括通过社交网络推荐、直接选择、推断的兴趣推荐等。

[0010] 系统 100 还包括通过可执行指令来执行的系统,可执行指令例如是由计算设备 110 执行和实例化的指令 112。计算设备 110 被示为离散单元,但是应理解可使用具有多个不同逻辑和物理域的多个不同设备。因此,“模块”、“引擎”、“处理器”、“存储设备”、“存储器”等应被理解为在分布式或其它意义上可离散地实现。除了分布式实现,可在不同的无行动者处容纳或由其执行各种功能。构想了这些行动者尽管是独立的但是将在具有整个系统功能性的知识的情况下执行它们的功能,并且因此将特别预期它们的功能性与他方所提供的功能性吻合。

[0011] 示例计算设备 110 可包括各种组件,诸如处理子系统 110a,数据保持子系统 110b 和显示子系统 110c。同样,这仅仅是示例,并且这些组件可以是分布式的、不同的、跨越的、聚集的或者其它方式。处理子系统(例如,包括过程)和数据保持子系统(例如,RAM,硬盘存储)通常将执行这些组件通常所期望的指令,诸如存储和执行诸如指令 112 之类的指令。

[0012] 可在解析引擎 120 内以及在解析引擎 120 处接收数字内容项目 102,解析引擎 120 可与标签数据库交互,标签数据库可被不同地实现或者处于分布式安排或其它安排。例如,解析引擎 120 可与处于各种位置的标签数据库 122 交互。

[0013] 解析引擎的下游是标签应用引擎 130,标签应用引擎 130 特别地将标签绑定至可消费内容项目的元数据富有版本。在所有外观上,元数据富有内容项目看起来与其修改前完全一样并且通过某些机制是可消费的,其中这些机制在功能和呈现上与消费未修改项目时所使用的的那些机制相同。

[0014] 然而,元数据富有版本确实包含用时间戳数据表示的多个解析的位置,达到这种时间数据尚未由内容流所固有以及从内容流可提取的程度。与时间专用部分相关联的是元数据项,元数据项的应用由用户响应于所消费内容项目的实体部分来控制。因此,可用 NC-17、R、PG-13 或注册消费成熟级别的任何其它适当方案来标记加时间戳的分配。可应用任何标签或评级方案。可将特定部分标记为包含裸体、粗俗等。可将其它部分标记为仅当父母在房间里时(例如,如由深度相机和视觉软件检测)才可播放。这些只是几个非限制性示例。

[0015] 内容评级和推荐还可通过社交网络产生。例如,如果视频剪辑的特定部分接收到许多评论(诸如关于它是不适宜的评论),那么这种反馈可被用于自动调谐和控制对项目的标签应用。标签甚至可能简单地引导父母或其它监督用户查看内容项目的特定部分以独立地判断它的可接受性。

[0016] 作为标签应用的下游,元数据富有版本被更新(140)成内容流或存储位置,使得后续检索将拉取经修改的项目。

[0017] 图 1 示出附加设备 150,该设备在其可寻找和允许消费数字内容项目的意义上用作“调谐器”。如在另一示例中,呈现了处理、数据保持和显示功能,其中处理器执行存储在数据保持子系统内的可执行指令。调谐器可被用于设备域分组中,其中一个或多个设备充当主设备,而其它的则充当辅设备。

[0018] 指令 160 用于接收 (162) 元数据富有项目且解析 (164) 流以提取 (166) 标签。然后标签引擎 168 将标签与要执行的约束 / 控制动作相匹配。然后控制调谐器设备使得根据与给定标签相关联的约束 / 控制动作发生消费。最终结果是可根据元数据关联控制 / 约束来控制消费, 和 / 或可同步呈现元数据以与内容项目的特定标识部分对齐。除了控制和约束或者作为其替换, 可将元数据提供给用户以增强或补充原始资料的体验, 无论元数据是特别地通过标签或以其它方式来实现的。例如, 元数据项可包括连同数字内容的时间专用部分同步呈现的图像。作为另一示例, 元数据项可包括连同数字内容的时间专用部分同步呈现的音频剪辑。

[0019] 控制或约束动作可包括跳过资料的特定加时间戳部分, 播放可接受的替换填充物, 向父母提供解释在特定部分 (例如, 来自电视节目的场景) 出现的问题的机会, 降低音量水平, 视觉地遮挡不适宜的内容等。这些只是非限制性示例, 可按大量方式来约束或控制 (或增强或补充) 消费, 所有这些至少在其本质上由本公开所构想到。

[0020] 此外, 在一些实现中, 多个元数据项可与数字内容项目的多个个体时间专用部分相关联。在此类实现中, 用户控制的过滤器可被操作以允许仅呈现来自所选用户群体的元数据项。另外, 在此类实现中, 可从外部源接收多个候选元数据项, 并且过滤器可限制对此类多个候选元数据项的呈现使得仅向用户呈现来自所选用户群体的元数据项。在一些情况下, 所选用户群体可具有组身份, 该组身份具有对消费数字内容项目和经过滤的元数据项的用户的所建立的亲和性。而且, 在一些情况下, 可根据个体用户与该用户的亲和性生成所选用户群体。

[0021] 例如, 上述系统可被实现以允许用户通过以具有他们正在播放的内容项目的特定帧的消息或其它信息的形式绑定元数据项而与各种群体 (例如, 他们的朋友) 异步地共享他们的娱乐体验。相应地, 用户可提供过滤参数来约束消费, 以选择查看来自他们的朋友的评论。这种机制可允许通过将诸如评论和注释之类的元数据项绑定至由用户的朋友查看的内容项目来将这些元数据项自动推至这些朋友。例如, 这种丰富的内容可通过社交网络来分发。更具体地, 可生成指示元数据项何时与数字内容项目相关联的通知并且通过社交网络将该通知发布至与用户相关联的群体。相应地, 可向用户通知内容片段何时被其朋友或其他群体注释。用户可根据需要经由向系统输入来扼制此类通知。另一方面, 用户可提供过滤参数以选择查看来自较大社区的评论。在一些情况下, 用户可提供输入以过滤掉由特定人或特定组的人所提供的元数据项。此外, 用户可提供输入以关闭与内容项目相关联的元数据项的呈现。

[0022] 在一些实现中, 上述系统可利用包括社交层的层系统。此类社交层可以是模块化的、时间同步的、事件触发的、多格式化的, 等等。在一些实现中, 此类层可呈现在屏幕的指定用户界面 (UI) 区域中或呈现在伴随设备上。例如, 当用户决定向视频添加注释时, 他们可选择向层系统发出用户希望添加评论的通知的 UI 元件, 并且系统可自动暂停体验 (即, 内容项目的呈现) 以允许用户添加诸如文本、视频或音频注释之类的元数据项。可将元数据项存储在社交层服务上并且将其向下推送至视频的其他观看者。在一些实现中, 作为默认操作, 可将由用户创建的元数据项推送至评论者的朋友, 并且如果他们明确地使得较大订阅者社区能够查看注释, 则其他群体 (例如, 非朋友) 可访问该内容。

[0023] 因此, 应当清楚本描述进一步涵盖各种使用和制造方法。图 2 的 200 处示出一个

示例性使用方法。首先,在 202 处,该方法包括检索数字内容项目。在 204 处,检查内容项目以标识内容项目的实质或可保证对内容消费的控制和约束的其他条件。在该方法中以及在以上设备示例中,在第三方评级的情况下可能不需要检查。

[0024] 在 206 处,利用适当的标签来链接 / 绑定在 204 中所标识的内容项目的时间专用部分,如上所述,该标签可呈现在各种位置的数据库存储中。

[0025] 在 208 处,使用引擎或其他适当机制来产生数字内容项目的元数据富有版本。在许多情况下,将通过社交网络或其他适当的传输、分发、更新等方法来分发元数据富有版本。

[0026] 在 210 处,例如在调谐器设备处接收元数据富有版本。调谐器设备可以是任何类型的计算机,包括智能电话、HDTV、膝上型计算机、导航系统或其他便携式设备。实际上,调谐器可按伴随对和较大的组来操作。例如,一个设备(例如,智能电话)可用作当在伴随设备上消费内容(例如,在 HDTV 上播放的电影)时操作的注释工具。相应地,在一些实现中,采用文本注释形式的元数据项可结合内容项目在主消费设备上的呈现被同步地呈现在伴随消费设备上。

[0027] 同样,在适当的时候,可在并非离散计算设备的安排中实现调谐器的各部分。

[0028] 在 212 处,解析内容流。然后,提取(214)标签,并且标签引擎处理标签且产生对数字内容项目的呈现和消费的所得约束或控制(216)。

[0029] 在以上各示例方法和系统中,可按各种方式使用伴随设备。在上述一个示例中,伴随设备可用作注释工具以将内容项目“标记”为它正被呈现。伴随设备还可充当辅调谐器以在主设备正呈现内容项目时显示元数据。在一些实现中,伴随设备可在数字内容项目的呈现期间动态地实现元数据项与数字内容项目的一部分的实时关联。因此,用户可在内容项目的呈现期间利用元数据或通过执行其他约束和 / 或控制操作来丰富内容项目。

[0030] 在一些实现中,元数据项可包括与数字内容项目或同数字内容项目相关联的其他元数据项相关联的校正。在一个示例中,用户可在内容项目呈现期间动态实时地向内容项目或元数据项提供校正。而且,在一些实现中,当在主设备上呈现内容项目时可通过伴随设备提供校正。在利用从各个群体聚集的元数据项的实现中,注释可由系统用于收集关于由系统所提供的信息的校正数据。

[0031] 此外,注释还可由系统管理员用于对向用户示出的数据作出校正。例如,用户可注意到歌曲艺术家被不正确地关联到一段音乐。系统可标记该信息以便系统管理员验证,或者系统可允许其他订阅者对信息的准确性投票,并且其结果可确定是否对数据作出校正。

[0032] 与内容项目的特定部分相关联的标签动作可包括校正、跳过、替换、修改、或控制和约束消费的任何其他动作,或与原始资料一起简单地显示补充 / 增强的内容。可通过将元数据项封装到模块化信道中来实现元数据的添加,该模块化信道覆盖 / 垫起 (overlay/underlay) 内容流并且可用于与数字内容项目的并行呈现和消费。

[0033] 当利用用户群体来生成评级、标签、推荐等时,用户可控制此类推荐、评级、标签等所基于的用户群体。例如,只有所选的父母组才可被允许影响某内容的评级。图 3 示出用于呈现内容项目以及选择性地呈现特定群体元数据项的方法的实施例。在 302 处,初始化内容项目的回放。在 304 处,确定与数字内容项目相关联的社交层或信道是否与特定媒体标识相匹配。例如,媒体标识可对应于用户,且可将各种经批准群体链接到该用户以及先前

设定的消费控制过滤器设置。如果确定社交层对应于媒体标识,则方法移动至 306。否则,该方法移至 310。

[0034] 在 306 处,确定对应于媒体 ID 的社交层是否被设置成将来自朋友的元数据项与内容项目的呈现同步地呈现并且过滤掉来自其他群体的元数据项。如果确定社交层被设置成呈现来自朋友的元数据项且过滤掉来自其他群体的元数据项,则方法移至 308。否则,该方法移至 312。

[0035] 在 308 处,在数字内容项目的时间线上的相应记号或时间戳处加载由用户的朋友生成的元数据项或注释。

[0036] 在 310 处,确定社交层被设置成没有群体并且在没有呈现元数据项的情况下播放数字内容项目。

[0037] 在 312 处,确定社交层是否被设置成呈现来自部分或全部群体的元数据项。如果确定社交层被设置成呈现来自部分或全部群体的元数据项,则方法移至 314。否则,该方法移至 310。

[0038] 在 314 处,在数字内容项目的时间线上的相应记号或时间戳处加载由部分或全部群体生成的元数据项或注释。

[0039] 在 316 处,开始呈现利用元数据项来丰富的内容项目。更具体地,在 318 处,利用数字内容项目的时间同步标记来同步社交层。在 320 处,渲染数字内容。在 322 处,触发社交层以在数字内容项目的时间专用部分同步呈现元数据项。在 324 处,利用任何元数据项来更新社交层。在 326 处,经渲染的层用内容项目来烘烤 (toast) 以提供元数据项和内容项目的同步呈现。

[0040] 在 328 处,确定用户是否与社交层交互。例如,用户可通过向内容项目提供诸如注释或校正之类的元数据项来与社交层交互。作为另一示例,用户可提供输入以调整内容项目的消费约束 / 控制。如果确定用户与社交层交互,则方法移至 330。否则,方法返回 320 且渲染内容以供呈现。

[0041] 在 330 处,社交层被渲染成包括用户的经更新的交互。一旦渲染了经更新的社交层,方法就返回 320 且利用用户的经更新的交互来渲染数字内容以供向用户呈现。例如,数字内容项目可被渲染成包括由用户生成的注释。作为另一示例,数字内容项目可被渲染成基于用户对消费约束 / 控制的调整来调整呈现。

[0042] 如所指示的,一些实施例可能需要将这些方法绑定至计算设备,该计算设备可包括处理子系统、数据保持子系统以及显示子系统作为其主要组件。再进一步,此处所述的方法和过程可被实现为计算机应用、计算机服务、计算机 API、计算机库、和 / 或其他计算机程序产品。

[0043] 当前示例中的处理子系统可包括被配置成执行一个或多个指令的一个或多个物理设备。例如,处理子系统可被配置成执行一个或多个指令,该一个或多个指令是一个或多个应用、服务、程序、例程、库、对象、组件、数据结构、或其他逻辑构造的一部分。可实现此类指令以执行任务、实现数据类型、变换一个或多个设备的状态、或以其他方式得到期望结果。

[0044] 可使用一个或多个处理器来执行软件指令。另外或另选地,一个或多个硬件或固件逻辑机器可被配置成执行硬件或固件指令。逻辑子系统的处理器可以是单核或多核,且

在其上执行的程序可被配置为并行或分布式处理。逻辑子系统可以任选地包括遍布两个或多个设备的独立组件,所述设备可远程放置和/或被配置为进行协同处理。该逻辑子系统的的一个或多个方面可被虚拟化并由以云计算配置进行配置的可远程访问的联网计算设备执行。

[0045] 数据保持子系统 104 可包括一个或多个物理、非瞬时设备,这些设备被配置成保持数据和/或可由该逻辑子系统执行的指令,以实现此处描述的方法和过程。当实现了此类方法和过程时,可变换数据保存子系统的状态(例如,以保存不同数据)。数据保持子系统可进一步包括可移动介质和/或内置设备。此外,它可包括光学存储器设备(例如,CD、DVD、HD-DVD、蓝光盘等)、半导体存储器设备(例如,RAM、EPROM、EEPROM等)和/或磁存储器设备(例如,硬盘驱动器、软盘驱动器、磁带驱动器、MRAM等)等等。以下特性可描述数据保持组件。易失性、非易失性、动态、静态、读/写、只读、随机存取、顺序存取、位置可寻址、文件可寻址、以及内容可寻址。

[0046] 术语“模块”、“程序”和“引擎”可用于描述被实现为执行一个或多个特定功能的计算系统的一方面。在某些情况下,可以经由执行由数据保持子系统所保持的指令的逻辑/处理子系统来实例化这样的模块、程序或引擎。应当理解,可以从同一应用、服务、代码块、对象、库、例程、API、函数等来实例化不同的模块、程序和/或引擎。同样,可以由不同的应用、服务、代码块、对象、例程、API、函数等来实例化同一模块、程序和/或引擎。术语“模块”、“程序”和“引擎”意在涵盖单个或成组的可执行文件、数据文件、库、驱动程序、脚本、数据库记录等。

[0047] 应当理解,如此处所使用的“服务”可以是跨越多个用户会话可执行的、而且对一个或更多系统组件、程序和/或其他服务可用的应用程序。在一些实现中,服务可以响应于来自客户机的请求而在服务器上运行。

[0048] 当被包括时,显示子系统可用于呈现由数据保持子系统所保持的数据的可视表示。由于此处所描述的方法和过程改变了由数据保存子系统保存的数据,并由此转变了数据保存子系统的状态,因此同样可以转变显示子系统的状态以可视地表示底层数据中的改变。显示子系统可包括利用几乎任何类型的技术的一个或多个显示设备。可将此类显示设备与处理子系统和/或数据保持子系统结合在共享外壳中,或此类显示设备可以是外围显示设备。

[0049] 应该理解,此处所述的配置和/或方法在本质上是示例性的,且这些具体实施例或示例不是限制意义,因为多个变体是可能的。此处所述的具体例程或方法可表示任何数量的处理策略中的一个或更多个。由此,所示出的各个动作可以按所示顺序执行、按其他顺序执行、并行地执行、或者在某些情况下省略。同样,可以改变上述过程的次序。

[0050] 本发明的主题包括各种过程、系统和配置的所有新颖和非显而易见的组合和子组合、和此处所公开的其他特征、功能、动作、和/或特性、以及其任何和全部等效物。

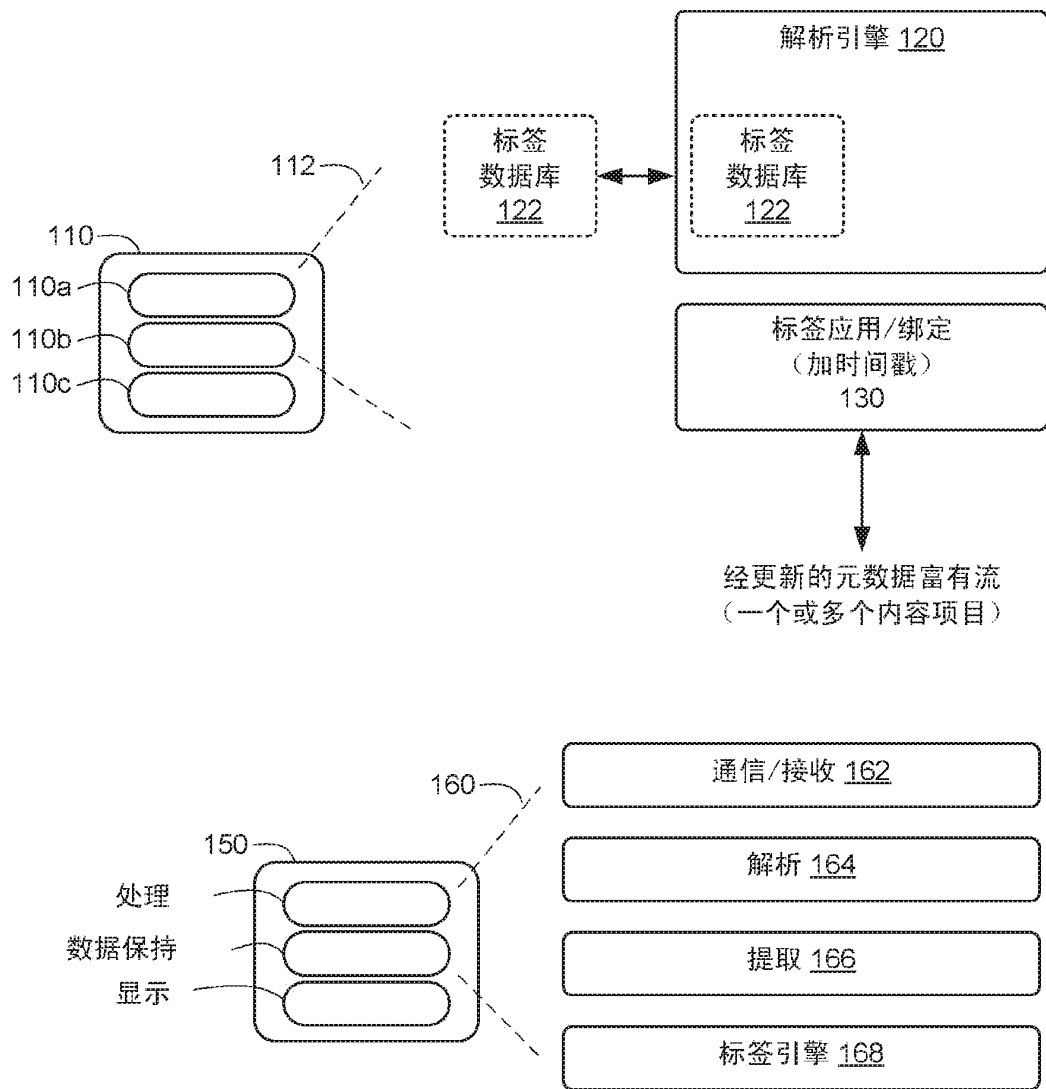


图 1

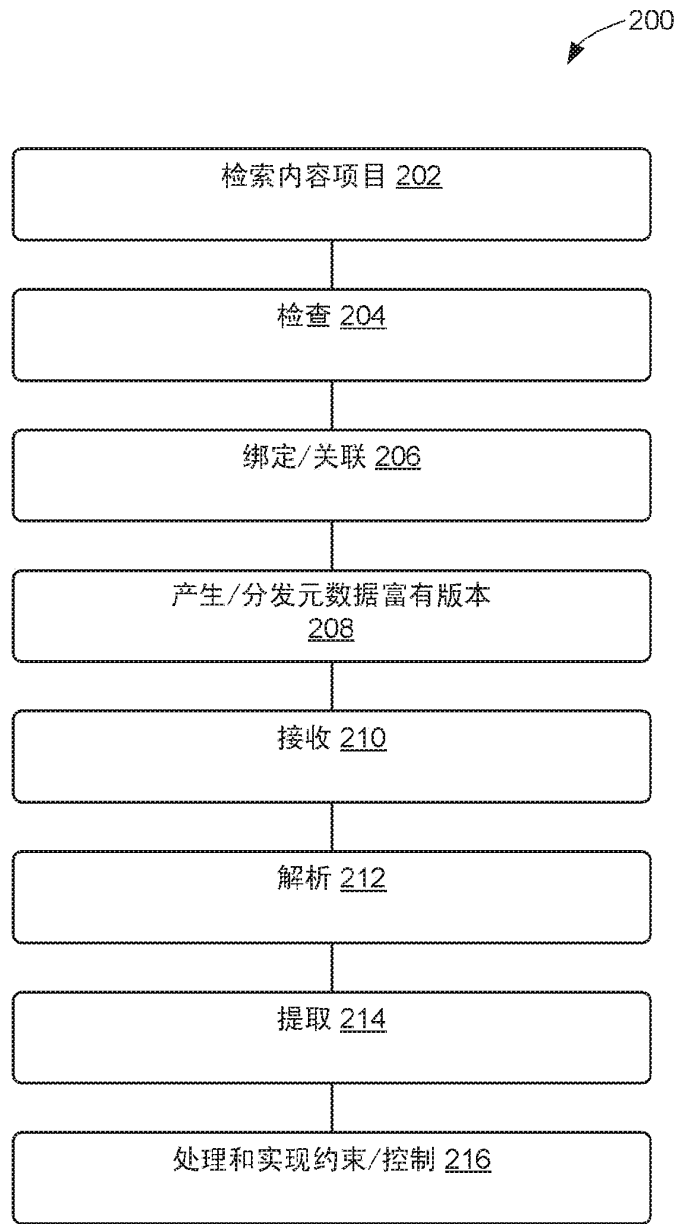


图 2

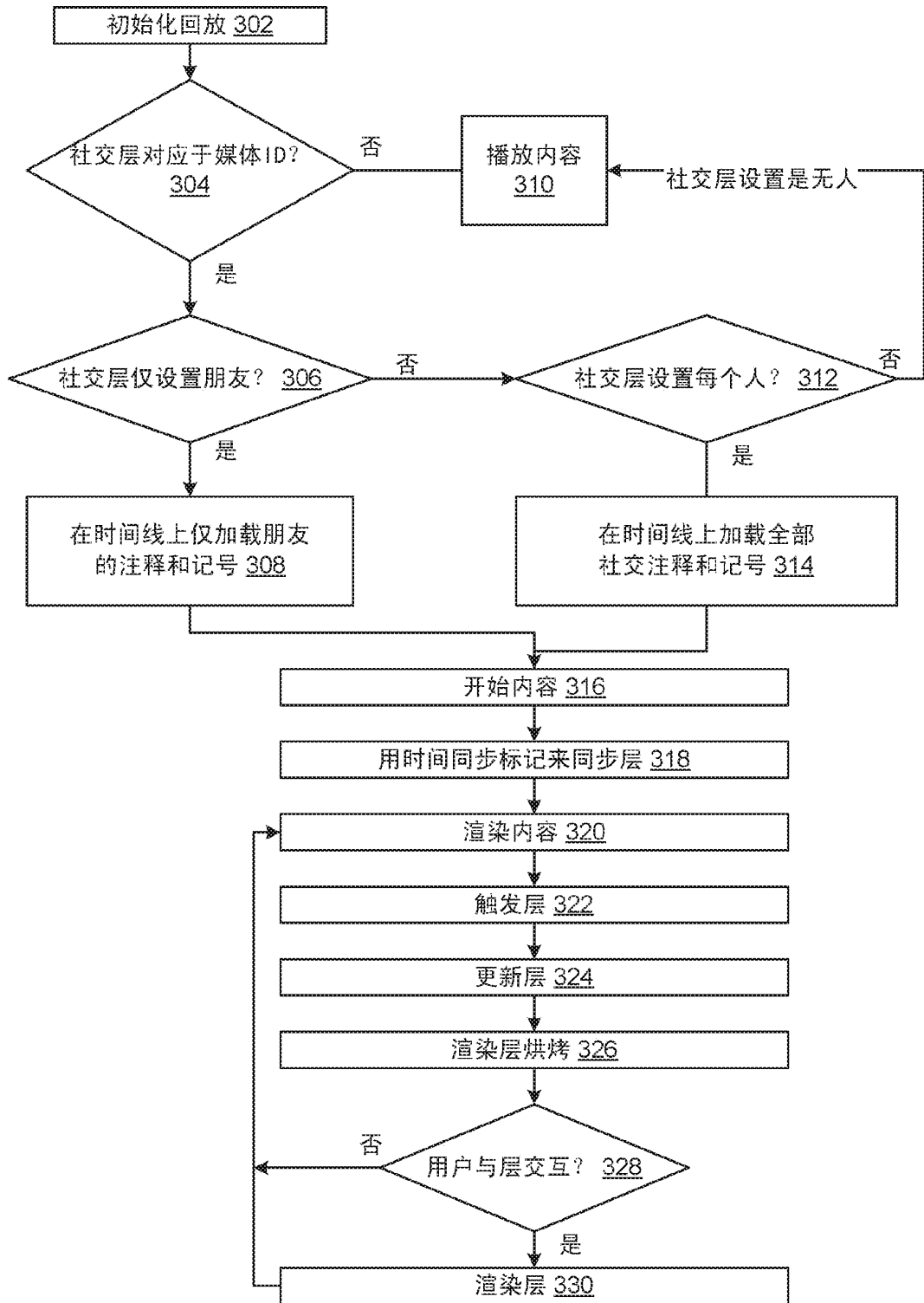


图 3





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(73) Proprietor: **BlackBerry Limited  
Waterloo, ON N2K 0A7 (CA)**

(72) Inventors:  
• **D'Souza, Stephen  
Kanata Ontario K2K 3K2 (CA)**

• **Glennie, Robin Roy  
Waterloo Ontario N2L 3L3 (CA)**

(74) Representative: **Hibbert, Juliet Jane Grace et al  
Kilburn & Strode LLP  
Lacon London  
84 Theobalds Road  
London WC1X 8NL (GB)**

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Note: Within nine months of the publication of the mention of the grant of the European patent in the European Patent Bulletin, any person may give notice to the European Patent Office of opposition to that patent, in accordance with the Implementing Regulations. Notice of opposition shall not be deemed to have been filed until the opposition fee has been paid. (Art. 99(1) European Patent Convention).

**Description**

CROSS REFERENCE TO RELATED APPLICATIONS

[0001] This application claims priority from U.S. Provisional Pat. App. Ser. No. 61/365,116, filed on July 16, 2010.

FIELD OF THE TECHNOLOGY

[0002] The technology disclosed herein (the "technology") relates to controlling zoom in a media module in a communication device.

[0003] US2008/239103 describes a method and apparatus for controlling the display of a portable electronic device having a user input device and a camera function; the portable electronic device including a photosensor chip having a sensor array of a predetermined number of rows and columns of pixels for converting radiant energy into electronic signals representing an image for display via a viewfinder. The method comprises selecting via the user input a zoom level and viewfinder resolution for the camera application, and in the event the zoom level is 1x then scaling the predetermined number of rows and columns of pixels to the selected viewfinder resolution and generating an image corresponding thereto; and in the event the zoom level is greater than 1x then cropping a region of interest of the predetermined number of rows and columns of pixels in accordance with the zoom level and then scaling the cropped region of interest in accordance with the viewfinder resolution and generating an image corresponding thereto.

[0004] US2008/204462 describes a map user interface, including a first view transmitted from a server computer system to the client computer system, the first view including a first map and the initial path displayed on the first map, the initial path being from a starting location via at least one intermediate location to an end location, a deletion selector, selection of the deletion selector causing transmission of a deletion command being indicative of removal, of a selected one of the locations, and a second view generated in response to the transmission of the deletion command, the second view including a second map and the modified path displayed on the second map, the modified path including all of the locations but not including the selected location.

[0005] US2002/135601 describes a digital map display zooming method for continuously enlarging and reducing a displayed portion of a digital map as map information in digital form within a display screen is provided which comprises the steps of displaying the displayed portion of the digital map at the display screen, displaying a scroll part within the display screen for shifting the displayed portion, making the scroll part function as a scale setting part for carrying out enlarging and reducing operations of the displayed portion of the digital map within the display screen, and carrying out enlarging and reducing operations of the displayed portion of the digital map within

the display screen by shifting a shifting operation part of the scale setting part.

BRIEF DESCRIPTION OF THE DRAWINGS

[0006]

FIG. 1 illustrates a communication system including a mobile communication device to which example implementations of the technology can be applied.

FIG. 2 illustrates methods of the technology

FIG. 3 illustrates a handheld communication device.

FIG. 4 illustrates a block diagram of a handheld communications device.

FIG. 5 illustrates a zoom bar of the technology in a portrait device display.

FIG. 6 illustrates a zoom bar of the technology in a landscape device display.

FIG. 7 illustrates a zoom bar of the technology.

DETAILED DESCRIPTION

[0007] Reference will now be made in detail to implementations of the technology. Each example is provided by way of explanation of the technology only, not as a limitation of the technology. It will be apparent to those skilled in the art that various modifications and variations can be made in the present technology without departing from the scope of the technology. For instance, features described as part of one implementation can be used on another implementation to yield a still further implementation. Thus, it is intended that the present technology cover such modifications and variations that come within the technology.

[0008] As may be appreciated from FIG. 3, an exemplary mobile communication device 300 (as an example of 103) comprises a display 322 located above a keyboard 332 constituting a user input means and suitable for accommodating textual input to the device 300. In some implementations, the keyboard 332 can be part of a touch screen display. The front face 370 of the device 300 has a navigation row 380. As shown, the device 300 is of uni-body construction, also known as a "candy-bar" design.

[0009] The device 300 may include an auxiliary input that acts as a cursor navigation tool 327 and that may be also exteriorly located upon the front face 370 of the device 300. Its front face location allows the tool to be thumb-actuable, e.g., like the keys of the keyboard 332. Some implementations provide the navigation tool 327 in the form of a trackball 321 that may be utilized to instruct two-dimensional screen cursor movement in substantially any direction, as well as act as an actuator when the trackball 321 is depressed like a button. Other implementations can provide the navigation tool in the form of a trackpad, a touch screen, a touchpad, a pointing stick, joystick, graphics tablet, or combinations thereof. The placement of the navigation tool 327 may be above the

keyboard **332** and below the display screen **322**; here, the navigation tool **327** may avoid interference during keyboarding and does not block the operator's view of the display screen **322** during use.

[0010] The device **300** may be configured to send and receive messages. The device **300** includes a body **371** that may, in some implementations, be configured to be held in one hand by an operator of the device **300** during text entry. A display **322** is included that is located on a frontface **370** of the body **371** and upon which information is displayed to the operator, e.g., during text entry. The device **300** may also be configured to send and receive voice communications such as mobile telephone calls. The device **300** also can include a camera (not shown) to allow the device **300** to take electronic photographs that can be referred to as photos or pictures. Further, the device **300** can be configured to operate a web browser. [0011] In order to facilitate an understanding of environments in which example implementations described herein can operate reference is made to FIG. 1 that shows, in block diagram form, a communication system **100** in which implementations of the technology can be applied. The communication system **100** may comprise a number of mobile communication devices **103**, e.g., **300**, that may be connected to the remainder of system **100** in any of several different ways. Accordingly, several instances of mobile communication devices **103** are depicted in FIG. 1 employing different example ways of connecting to system **100**.

[0012] These figures are exemplary only, and those persons skilled in the art will appreciate that some additional elements and modifications may be necessary to make the communication device, e.g., **103** operate in particular network environments. While in the illustrated implementations, the communication devices, e.g., **103** may comprise smart phones, in other implementations, however, the communication devices may comprise personal digital assistants (PDA), tablet computers, laptop computers, desktop computers, servers, or other communication devices capable of sending and receiving electronic messages.

[0013] Mobile communication devices **103** are connected to a wireless network **101** that may comprise one or more of a Wireless Wide Area Network (WWAN) **102** and a Wireless Local Area Network (WLAN) **104** or other suitable network arrangements. In some implementations, the mobile communication devices **103** are configured to communicate over both the WWAN **102** and WLAN **104**, and to roam between these networks. In some implementations, the wireless network **101** may comprise multiple WWANs **102** and WLANs **104**.

[0014] The WWAN **102** may be implemented as any suitable wireless access network technology. By way of example, but not limitation, the WWAN **102** may be implemented as a wireless network that includes a number of transceiver base stations **108** where each of the base stations **108** provides wireless Radio Frequency (RF) coverage to a corresponding area or cell. The WWAN

**102** is typically operated by a mobile network service provider that provides subscription packages to users of the mobile communication devices **103**. In some implementations, the WWAN **102** conforms to one or more of the following wireless network types: Mobitex Radio Network, DataTAC, GSM (Global System for Mobile Communication), GPRS (General Packet Radio System), TDMA (Time Division Multiple Access), CDMA (Code Division Multiple Access), CDPD (Cellular Digital Packet Data), iDEN (integrated Digital Enhanced Network), EvDO (Evolution-Data Optimized) CDMA2000, EDGE (Enhanced Data rates for GSM Evolution), UMTS (Universal Mobile Telecommunication Systems), HSPDA (High-Speed Downlink Packet Access), IEEE 802.16e (also referred to as Worldwide Interoperability for Microwave Access or "WiMAX"), or various other networks. Although WWAN **102** is described as a "Wide-Area" network, that term is intended herein also to incorporate wireless Metropolitan Area Networks (WMAN) and other similar technologies for providing coordinated service wirelessly over an area larger than that covered by typical WLANs.

[0015] The WWAN **102** may further comprise a wireless network gateway **110** that connects the mobile communication devices **103** to transport facilities **112**, and through the transport facilities **112** to a wireless connector system **120**. Transport facilities may include one or more private networks or lines, the Internet, a virtual private network, or any other suitable network. The wireless connector system **120** may be operated, for example, by an organization or enterprise such as a corporation, university, or governmental department, which allows access to a network **124** such as an internal or enterprise network (e.g., an intranet) and its resources, or the wireless connector system **120** may be operated by a mobile network provider. In some implementations, the network **124** may be realized using the Internet rather than or in addition to an internal or enterprise network.

[0016] The wireless network gateway **110** provides an interface between the wireless connector system **120** and the WWAN **102**, which facilitates communication between the mobile communication devices **103** and other devices (not shown) connected, directly or indirectly, to the WWAN **102**. Accordingly, communications sent via the mobile communication devices **103** are transported via the WWAN **102** and the wireless network gateway **110** through transport facilities **112** to the wireless connector system **120**. Communications sent from the wireless connector system **120** are received by the wireless network gateway **110** and transported via the WWAN **102** to the mobile communication devices **103**.

[0017] The WLAN **104** comprises a wireless network that, in some implementations, conforms to IEEE 802.11x standards (sometimes referred to as Wi-Fi TM) such as, for example, the IEEE 802.11a, 802.11b and/or 802.11g standard. Other communication protocols may be used for the WLAN **104** in other implementations such as, for example, IEEE 802.11n, IEEE 802.16e (also referred to as Worldwide Interoperability for Microwave Ac-

cess or "WiMAX"), or IEEE 802.20 (also referred to as Mobile Wireless Broadband Access). The WLAN 104 includes one or more wireless RF Access Points (AP) 114 (one of which is shown in FIG. 1) that collectively provide a WLAN coverage area.

[0018] The WLAN 104 may be a personal network of the user, an enterprise network, or a hotspot offered by an internet service provider (ISP), a mobile network provider, or a property owner in a public or semi-public area, for example. The access points 114 are connected to an access point (AP) interface 116 that may connect to the wireless connector system 120 directly (for example, if the access point 114 is part of an enterprise WLAN 104 in which the wireless connector system 120 resides), or indirectly as indicated by the dashed line in FIG. 1 via the transport facilities 112 if the access point 114 is a personal Wi-Fi network or Wi-Fi hotspot (in which case a mechanism for securely connecting to the wireless connector system 120, such as a virtual private network (VPN), may be used). The AP interface 116 provides translation and routing services between the access points 114 and the wireless connector system 120 to facilitate communication, directly or indirectly, with the wireless connector system 120.

[0019] The wireless connector system 120 may be implemented as one or more servers, and is typically located behind a firewall 113. The wireless connector system 120 manages communications, including email, Hypertext Transfer Protocol (HTTP), and HTTP Secure (HTTPS) communications to and from a set of managed mobile communication devices 103. The wireless connector system 120 also provides administrative control and management capabilities over users and mobile communication devices 103 that may connect to the wireless connector system 120.

[0020] The wireless connector system 120 allows the mobile communication devices 103 to access the network 124 and connected resources and services such as a messaging server 132 (for example, a Microsoft Exchange Server®, IBM Lotus Domino®, or Novell GroupWise™ email server), a content server 134 for providing content such as Internet content or content from an organization's internal servers, application servers 136 for implementing server-based applications such as instant messaging (IM) applications to mobile communication devices 103, and intranet file services.

[0021] The wireless connector system 120 typically provides a secure exchange of data (e.g., email messages, personal information manager (PIM) data, and IM data) with the mobile communication devices 103. In some implementations, communications between the wireless connector system 120 and the mobile communication devices 103 are encrypted. In some implementations, communications are encrypted using a symmetric encryption key implemented using Advanced Encryption Standard (AES) or Triple Data Encryption Standard (Triple DES) encryption. Private encryption keys are generated in a secure, two-way authenticated environment and

are used for both encryption and decryption of data. In some implementations, the private encryption key is stored only in the user's mailbox on the messaging server 132 and on the mobile communication device 103, and can typically be regenerated by the user on mobile communication devices 103. Data sent to the mobile communication devices 103 is encrypted by the wireless connector system 120 using the private encryption key retrieved from the user's mailbox. The encrypted data, when received on the mobile communication devices 103, is decrypted using the private encryption key stored in memory. Similarly, data sent to the wireless connector system 120 from the mobile communication devices 103 is encrypted using the private encryption key stored in the memory of the mobile communication device 103. The encrypted data, when received on the wireless connector system 120, is decrypted using the private encryption key retrieved from the user's mailbox.

[0022] The wireless network gateway 110 is adapted to send data packets received from the mobile communication device 103 over the WWAN 102 to the wireless connector system 120. The wireless connector system 120 then sends the data packets to the appropriate connection point such as the messaging server 132 or content servers 134 or application server 136. Conversely, the wireless connector system 120 sends data packets received, for example, from the messaging server 132 or content servers 134 or application servers 136 to the wireless network gateway 110 that then transmit the data packets to the destination mobile communication device 103. The AP interfaces 116 of the WLAN 104 provide similar sending functions between the mobile communication device 103, the wireless connector system 120 and network connection point such as the messaging server 132, content server 134 and application server 136.

[0023] The network 124 may comprise a private local area network, metropolitan area network, wide area network, the public Internet or combinations thereof and may include virtual networks constructed using any of these, alone, or in combination. A mobile communication device 103 may alternatively connect to the wireless connector system 120 using a computer 117, such as desktop or notebook computer, via the network 124. A link 106 may be provided for exchanging information between the mobile communication device 103 and a computer 117 connected to the wireless connector system 120. The link 106 may comprise one or both of a physical interface and short-range wireless communication interface. The physical interface may comprise one or combinations of an Ethernet connection, Universal Serial Bus (USB) connection, Firewire™ (also known as an IEEE 1394 interface) connection, or other serial data connection, via respective ports or interfaces of the mobile communication device 103 and computer 117. The short-range wireless communication interface may be a personal area network (PAN) interface. A Personal Area Network is a wireless point-to-point connection meaning no physical cables are

used to connect the two end points. The short-range wireless communication interface may comprise one or a combination of an infrared (IR) connection such as an Infrared Data Association (IrDA) connection, a short-range radio frequency (RF) connection such as one specified by IEEE 802.15.1 or the BLUETOOTH special interest group, or IEEE 802.15.3a, also referred to as UltraWideband (UWB), or other PAN connection.

[0024] It will be appreciated that the above-described communication system is provided for the purpose of illustration only, and that the above-described communication system comprises one possible communication network configuration of a multitude of possible configurations for use with the mobile communication devices 103. Suitable variations of the communication system will be understood to a person of skill in the art and are intended to fall within the scope of the present disclosure.

[0025] Referring to FIG. 4, a block diagram of a communication device, such as 300 and 103, in accordance with an exemplary implementation is illustrated. As shown, the device 400 includes a microprocessor 438 that controls the operation of the communication device 400. A communication subsystem 411 performs communication transmission and reception with the wireless network 419. The microprocessor 438 further can be communicatively coupled with an auxiliary input/output (I/O) subsystem 428 that can be communicatively coupled to the communication device 400. In at least one implementation, the microprocessor 438 can be communicatively coupled to a serial port (for example, a Universal Serial Bus port) 430 that can allow for communication with other devices or systems via the serial port 430. A display 422 (e.g., 322) can be communicatively coupled to microprocessor 438 to allow for displaying of information to an operator of the communication device 400. When the communication device 400 is equipped with a keyboard 432 (e.g., 332), the keyboard can also be communicatively coupled with the microprocessor 438. The communication device 400 can include a speaker 434, a microphone 436, random access memory (RAM) 426, and flash memory 424 all of which may be communicatively coupled to the microprocessor 438. Other similar components may be provided on the communication device 400 as well and optionally communicatively coupled to the microprocessor 438. Other communication subsystems 440 and other communication device subsystems 442 are generally indicated as being functionally connected with the microprocessor 438 as well. An example of a communication subsystem 440 is a short range communication system such as BLUETOOTH® communication module or a WI-FI® communication module (a communication module in compliance with IEEE 802.11b) and associated circuits and components. Additionally, the microprocessor 438 is able to perform operating system functions and enables execution of programs on the communication device 400. In some implementations not all of the above components may be included in the communication device 400. For example, in at least one im-

plementation the keyboard 432 is not provided as a separate component and is instead integrated with a touch screen as described below.

[0026] The auxiliary I/O subsystem 428 can take the form of a variety of different navigation tools (multi-directional or single-directional) such as a trackball navigation tool 321 as illustrated in the exemplary implementation shown in FIG. 3, or a thumbwheel, a navigation pad, a joystick, touch-sensitive interface, or other I/O interface.

These navigation tools may be located on the front surface of the communication device 400 or may be located on any exterior surface of the communication device 400. Other auxiliary I/O subsystems may include external display devices and externally connected keyboards (not shown). While the above examples have been provided in relation to the auxiliary I/O subsystem 428, other subsystems capable of providing input or receiving output from the communication device 400 are considered within the scope of this disclosure. Additionally, other keys may be placed along the side of the communication device 300 to function as escape keys, volume control keys, scrolling keys, power switches, or user programmable keys, and may likewise be programmed accordingly.

[0027] The keyboard 432 can include a plurality of keys that can be of a physical nature such as actuatable buttons, or the buttons can be of a software nature, typically constituted by representations of physical keys on a display screen 422 (referred to herein as "virtual keys"). It is also contemplated that the user input can be provided as a combination of the two types of keys. Each key of the plurality of keys is associated with at least one action which can be the input of a character, a command or a function. In this context, "characters" are contemplated to exemplarily include alphabetic letters, language symbols, numbers, punctuation, insignias, icons, pictures, and even a blank space.

[0028] In the case of virtual keys, the indicia for the respective keys are shown on the display screen 422, which in one implementation is enabled by touching the display screen 422, for example, with a stylus, finger, or other pointer, to generate the character or activate the indicated command or function. Some examples of display screens 422 capable of detecting a touch include resistive, capacitive, projected capacitive, infrared and surface acoustic wave (SAW) touch screens.

[0029] Physical and virtual keys can be combined in many different ways as appreciated by those skilled in the art. In one implementation, physical and virtual keys are combined such that the plurality of enabled keys for a particular program or feature of the communication device 400 is shown on the display screen 422 in the same configuration as the physical keys. Using this configuration, the operator can select the appropriate physical key corresponding to what is shown on the display screen 422. Thus, the desired character, command or function is obtained by depressing the physical key corresponding to the character, command or function displayed at a corresponding position on the display screen 422, rather

than touching the display screen **422**.

[0030] Furthermore, the communication device, e.g. **400** is equipped with components to enable operation of various programs, as shown in FIG. 4. In an exemplary implementation, the flash memory **424** is enabled to provide a storage location for the operating system **457**, device programs **458**, and data. The operating system **457** is generally configured to manage other programs **458** that are also stored in memory **424** and executable on the processor **438**. The operating system **457** honors requests for services made by programs **458** through pre-defined program interfaces. More specifically, the operating system **457** typically determines the order in which multiple programs **458** are executed on the processor **438** and the execution time allotted for each program **458**, manages the sharing of memory **424** among multiple programs **458**, handles input and output to and from other device subsystems **442**, and so on. In addition, operators can typically interact directly with the operating system **457** through a user interface usually including the keyboard **432** and display screen **422**. While in an exemplary implementation the operating system **457** is stored in flash memory **424**, the operating system **457** in other implementations is stored in read-only memory (ROM) or similar storage element (not shown). As those skilled in the art will appreciate, the operating system **457**, device program **458** or parts thereof may be loaded in RAM **426** or other volatile memory.

[0031] In some implementations, the flash memory **424** may contain programs **458** for execution on the device **400**, including - but not limited to - an address book **452**, a personal information manager (PIM) **454**, and a device state **450**. Furthermore, programs **458** and other information **456** including data can be segregated upon storage in the flash memory **424** of the device **400**.

[0032] When the communication device **400** is enabled for two-way communication within the wireless communication network **419**, the device **400** can send and receive signals from a mobile communication service. Examples of communication systems enabled for two-way communication include, but are not limited to, the General Packet Radio Service (GPRS) network, the Universal Mobile Telecommunication Service (UMTS) network, the Enhanced Data for Global Evolution (EDGE) network, the Code Division Multiple Access (CDMA) network, High-Speed Packet Access (HSPA) networks, Universal Mobile Telecommunication Service Time Division Duplexing (UMTS-TDD), Ultra Mobile Broadband (UMB) networks, Worldwide Interoperability for Microwave Access (WiMAX), and other networks that can be used for data and voice, or just data or voice. For the systems listed above, the communication device **400** may use a unique identifier to enable the communication device **400** to transmit and receive signals from the communication network **419**. Other systems may not use such identifying information. GPRS, UMTS, and EDGE use a Subscriber Identity Module (SIM) in order to allow communication with the communication network **419**. Likewise, most CD-

MA systems use a Removable User Identity Module (RUIM) in order to communicate with the CDMA network. The RUIM and SIM card can be used in multiple different communication devices **400**. The communication device **400** may be able to operate some features without a SIM/RUIM card, but the device **400** will not be able to communicate with the network **419**. A SIM/RUIM interface **444** located within the communication device **400** allows for removal or insertion of a SIM/RUIM card (not shown). The SIM/RUIM card features memory and holds key configurations **451**, and other information **453** such as identification and subscriber related information. With a properly enabled communication device **400**, two-way communication between the communication device **400** and communication network **419** is possible.

[0033] If the communication device **400** is enabled as described above or the communication network **419** does not use such enablement, the two-way communication enabled communication device **400** is able to both transmit and receive information from the communication network **419**. The transfer of communication can be from the communication device **400** or to the communication device **400**. In order to communicate with the communication network **419**, the device **400** can be equipped with an integral or internal antenna **418** for transmitting signals to the communication network **419**. Likewise the device **400** can be equipped with another antenna **416** for receiving communication from the communication network **419**. These antennae (**416**, **418**) in another exemplary implementation are combined into a single antenna (not shown). As one skilled in the art would appreciate, the antenna or antennae (**416**, **418**) in another implementation can be externally mounted on the communication device **400**.

[0034] When equipped for two-way communication, the communication device **400** features a communication subsystem **411**. As is understood in the art, this communication subsystem **411** is modified so that the communication system **411** can support the operational needs of the communication device **400**. The subsystem **411** includes a transmitter **414** and receiver **412** including the associated antenna or antennae (**416**, **418**) as described above, local oscillators (LOs) **413**, and a processing module that in the presently described exemplary implementation is a digital signal processor (DSP) **420**.

[0035] It is contemplated that communication by the communication device **400** with the wireless network **419** can be any type of communication that both the wireless network **419** and communication device **400** are enabled to transmit, receive and process. In general, these can be classified as voice and data. Voice communication generally refers to communication in which signals for audible sounds are transmitted by the communication device **400** through the communication network **419**. Data generally refers to all other types of communication that the communication device **400** is capable of performing within the constraints of the wireless network **419**.

[0036] Example device programs that can depend on

such data include email, contacts and calendars. For each such program, synchronization with home-based versions of the program can be desirable for either or both of their long term and short term utility. As an example, emails are often time-sensitive, so substantially real time (or near-real time) synchronization may be desired. Contacts, on the other hand, can be usually updated less frequently without inconvenience. Therefore, the utility of the communication device 400 is enhanced when connectable within a communication system, and when connectable on a wireless basis in a network 419 in which voice, text messaging, and other data transfer are accommodated. Device 400 can include programs such as a web browser, a file browser, and client programs for interacting with server programs. Devices, e.g., 103, 300, 400, for use in the technology can be characterized by an identification number assigned to the device. Such identification numbers cannot be changed and are locked to each device.

[0037] Multimedia-enabled smart phones, e.g., 300, can incorporate modules, e.g., other device subsystems 442, for various media applications, e.g., still camera, video camera, attachment viewer. The particular module, and the performance of that module, for a given application can vary across smart phone models. For example, smart phone camera modules that perform digital zoom at 2x, 3x, and even 6x are known.

[0038] Digital zoom is a method of decreasing (narrowing) the apparent angle of view of a digital photographic or video image. Typically, digital zoom is performed by cropping an image to a centered area with the same aspect ratio as the original image, and (optionally) interpolating the result back to the pixel dimensions of the original image. Digital zoom is accomplished electronically, without adjustment of the camera's optics. No optical resolution is gained in the process. However, on devices such as smart phones, digital zoom is useful.

[0039] Implementations of the present technology include devices, e.g., 103, 300, 400, computer program products, and computer implemented methods for integration of the zoom function of various media modules having differing zoom performance using a single framework. Media modules include still cameras and video cameras. Zoom can include both digital and optical zoom. Implementations of the present technology offer particular utility with respect to digital zoom.

[0040] The program code for the technology can be written in Java. Java is normally compiled to byte-code which the Java virtual machine (JVM) then either interprets or "just-in-time" compiles to machine code, and then executes. The Java program code can be common across devices, stored among programs 458, and loaded into flash memory 424 for execution by processor(s) 438. The camera module is known to the operating system 457. The operating system 457, typically written in a language such as C++, is typically device-specific.

[0041] Referring to FIG 2, the technology can request media module zoom specifications 202, e.g., zoom

range, via the operating system 457. The technology also can request display specifications 204, e.g., size, orientation, via the operating system 457. Upon receiving the zoom range 206 the technology can divide the zoom range in to  $n$  discrete steps 210. The number of discrete steps can be set in the program code, or can be adjustable. In some implementations,  $n$  is set by program code to five (5).

[0042] Continuing to refer to FIG. 2, and also referring to FIG. 5 (display 422 in portrait orientation) and FIG. 6 (display 422 in landscape orientation), after receiving device display specification 208 and receiving media module zoom specification 206, the technology can present 212 a zoom bar 510, shown in FIG. 5 and FIG. 6 as a vertically oriented zoom bar 510 on the right side of the device display 422 selectable by a user to each of the  $n$  steps, without displaying the numerical value of the zoom. Zoom bar 510 includes an indicator of increasing zoom direction 512, an indicator of decreasing zoom direction 514, and a slider bar 516 disposed substantially therebetween. The slider bar illustrated in FIG. 5 and FIG. 6 shows relative zoom level 518 as white, and in FIG. 7 as uncross-hatched. Referring to FIG 7, the levels of an  $n = 5$  slider bar 516 are shown. Level 1 is "no zoom." Level 5 is "full zoom." While a zoom bar has been disclosed, the zoom indicator of the technology can take other forms, e.g., a zoom circle with zoom level indicated by angle portions, a zoom circle with zoom level indicated by concentric geometric objects (e.g., circles).

[0043] The technology receives user input regarding a zoom level 214 and then performs zoom on the displayed image 216 and displays the relative zoom level in the zoom bar 218. User input regarding zoom level can be accepted through various means, including "pinching" on a touch screen (i.e., placing two fingers on the screen and spreading the fingers farther apart or bringing the fingers closer together), use of "+" and "-" keys of keyboard 423 to increase and decrease the zoom level respectively, touching a touch screen nearer to the desired zoom level than to other zoom levels, and other actions appropriate to the nature of the device.

[0044] In some implementations, the technology continues to display the zoom bar 510 for a predetermined period of time. In some implementations, the technology continues to display the zoom bar 510 while the device selection means remains selecting the zoom bar 510. In some implementations, the technology terminates the zoom bar display upon selecting Level 1 "no zoom." In some implementations, zoom can be enabled and disabled by user action received by the device. If zoom is disabled, the zoom bar 510 does not appear for zoom. Note that optical zoom can be independent of zoom.

[0045] In this fashion, program code written in a platform independent language, can be used to query, via the device OS, for media module specifications and display specifications to present a uniform graphical zoom control offering  $n$  discrete zoom steps via the device display, accept user input regarding zoom level, and display

the selected zoom level.

[0046] In summary, the technology includes processor resources-implemented methods, computer program products, and systems for controlling zoom in a media module in an electronic device. In various implementations the technology can request media module zoom specifications. Media module zoom specifications comprising zoom range are received. The received zoom range can be divided in to  $n$  discrete steps. A zoom bar can be presented on the device display. The zoom bar can include an indicator of increasing zoom direction, an indicator of decreasing zoom direction, and a slider bar. The slider bar can be disposed substantially between the indicators. The slider bar can display zoom level as one of the  $n$  discrete steps from a first step equal to no zoom level, and an  $n$ th step equal to full zoom level. User input regarding a zoom level can be received. Zoom to the received zoom level can be performed on the displayed image. The relative zoom level can be displayed in the zoom bar.

[0047] In some implementations the zoom bar can occupy a space substantially along the margin of an edge of the display. In some implementations the zoom bar size in the dimension along a line connecting the indicators can be substantially greater than the zoom bar size perpendicular to the line connecting the indicators. In some implementations, prior to presenting a zoom bar on the device display, device display specifications can be requested, and device display specifications comprising display size and display orientation can be received, and the zoom bar size in the dimension along the line connecting the indicators can be greater than one half of the display size in the dimension parallel to the line connecting the indicators. In some implementations  $n$  can be one of: fixed and selectable. In some implementations the media module can be one of a still camera module and a video camera module. In some implementations the zoom bar can be terminated from the display upon at least one of: selection of the lowest of the  $n$  levels, expiration of a predetermined period of time, termination of selection of the zoom bar by the device selection means.

[0048] The technology can take the form of hardware, software or both hardware and software elements. In some implementations, the technology is implemented in software, which includes but is not limited to firmware, resident software, microcode, a Field Programmable Gate Array (FPGA) or Application-Specific Integrated Circuit (ASIC), etc. In particular, for real-time or near real-time use, an FPGA or ASIC implementation is desirable.

[0049] Furthermore, the present technology can take the form of a computer program product comprising program modules accessible from computer-usable or computer-readable medium storing program code for use by or in connection with one or more computers, processors, or instruction execution system. For the purposes of this description, a computer-usable or computer readable medium can be any apparatus that can contain, store,

communicate, propagate, or transport the program for use by or in connection with the instruction execution system, apparatus, or device. The medium can be non-transitory (e.g., an electronic, magnetic, optical, electromagnetic, infrared, or semiconductor system or apparatus or device, or transitory (e.g., a signal). Examples of a non-transitory computer-readable medium include a semiconductor or solid state memory, magnetic tape, a removable computer diskette, a random access memory (RAM), a read-only memory (ROM), a rigid magnetic disk and an optical disk. Current examples of optical disks include compact disk - read only memory (CD-ROM), compact disk - read/write (CD-R/W) and DVD. Both processors and program code for implementing each as aspect of the technology can be centralized or distributed (or a combination thereof) as known to those skilled in the art.

[0050] A data processing system suitable for storing a computer program product of the present technology and for executing the program code of the computer program product will include at least one processor resource coupled directly or indirectly to memory elements through a system bus. The memory elements can include local memory employed during actual execution of the program code, bulk storage, and cache memories that provide temporary storage of at least some program code in order to reduce the number of times code must be retrieved from bulk storage during execution. Input/output or I/O devices (including but not limited to keyboards, displays, pointing devices, etc.) can be coupled to the system either directly or through intervening I/O controllers. Network adapters can also be coupled to the system to enable the data processing system to become coupled to other data processing systems or remote printers or storage devices through intervening private or public networks. Modems, cable modem and Ethernet cards are just a few of the currently available types of network adapters. Such systems can be centralized or distributed, e.g., in peer-to-peer and client/server configurations. In some implementations, the data processing system is implemented using one or both of FPGAs and ASICs.

#### Claims

1. A processor resources-implemented method for controlling zoom in a media module in a mobile communication device, the communication device comprising a plurality of different media modules, wherein the media modules comprise at least a still camera module and a video camera module, each media module having associated differing zoom specifications, the method comprising, for one of the different media modules of the plurality of media modules:

requesting the media module zoom specifications (202);  
receiving the media module zoom specifications



comprising zoom range (206);  
dividing the received zoom range in to  $n$  discrete steps (210);  
presenting a zoom bar on the device display (212), wherein the zoom bar (510) comprises:

an indicator of increasing zoom direction (512),  
an indicator of decreasing zoom direction (514), and  
a slider bar (516):

the slider bar disposed between the indicators, and  
the slider bar displaying zoom level (518) as one of the  $n$  discrete steps from a first step equal to no zoom level, and an  $n$ th step equal to full zoom level;

receiving user input regarding a zoom level (214);  
performing zoom on the displayed image to a level corresponding to the received input (216); and  
displaying the relative zoom level in the zoom bar (218).

2. The processor resources-implemented method of Claim 1:  
wherein the zoom bar occupies a space along the margin of an edge of the display.
3. The processor resources-implemented method of any one of Claim 1 and Claim 2:  
wherein the zoom bar size in the dimension along a line connecting the indicators is greater than the zoom bar size perpendicular to the line connecting the indicators.
4. The processor resources-implemented method of any one of Claim 1 through Claim 3:

further comprising, prior to presenting a zoom bar on the device display:

requesting device display specifications (204), and  
receiving device display specifications comprising display size and display orientation (208); and

wherein the zoom bar size in the dimension along the line connecting the indicators is greater than one half of the display size in the dimension parallel to the line connecting the indicators.

5. The processor resources-implemented method of any one of Claim 1 through Claim 4

wherein  $n$  is one of: fixed or selectable.

6. The processor resources-implemented method of any one of Claim 1 through Claim 5  
wherein the media module is one of a still camera module or a video camera module.
7. The processor resources-implemented method of any one of Claim 1 through Claim 6 further comprising terminating the zoom bar from the display upon at least one of:

selection of the lowest of the  $n$  levels, expiration of a predetermined period of time,  
termination of selection of the zoom bar by the device selection means.

8. A computer program product for controlling zoom in a media module in a communication device, the computer program product comprising:

at least one non-transitory computer readable medium; and  
at least one program module:

stored on the at least one medium, and operable upon execution by processor resources to perform the processor-implemented method of any one of Claim 1 through Claim 7.

9. A mobile communication device comprising:

a plurality of media modules, wherein the media modules comprise at least a still camera module and a video camera module, each media module having associated zoom specifications; and  
at least one processor resource,  
the mobile communication device being configured to perform the method of any one of Claim 1 through Claim 7.

#### Patentansprüche

1. Prozessorressourcenimplementiertes Verfahren zum Steuern von Zoom in einem Medienmodul in einem mobilen Kommunikationsgerät, wobei das Kommunikationsgerät mehrere verschiedene Medienmodule umfasst, wobei die Medienmodule zumindest ein Standbildkameramodul und ein Videokameramodul umfassen, wobei jedes Medienmodul voneinander abweichende Zoomspezifikationen assoziiert aufweist, wobei das Verfahren, für eines der verschiedenen Medienmodule der mehreren Medienmodule, umfasst:

Anfordern der Medienmodulzoomspezifikatio-

- nen (202);  
Empfangen der Medienmodulzoomspezifikationen, die Zoombereich umfassen (206);  
Aufteilen des empfangenen Zoombereichs in n diskrete Schritte (210);  
Darstellen einer Zoomleiste auf der Geräteanzeige (212), wobei die Zoomleiste (510) umfasst:
- einen Indikator für zunehmende Zoomrichtung (512);  
einen Indikator für abnehmende Zoomrichtung (514), und  
eine Schieberleiste (516):
- wobei die Schieberleiste zwischen den Indikatoren angeordnet ist, und die Schieberleiste eine Zoomstufe (518) als einen der n diskreten Schritte von einem ersten Schritt, der gleich keiner Zoomstufe ist, zu einem n-ten Schritt, der gleich volle Zoomstufe ist, anzeigt;
- Empfangen einer Benutzereingabe bezüglich einer Zoomstufe (214);  
Ausführen von Zoom auf das angezeigte Bild bis zu einer Stufe, die der empfangenen Eingabe entspricht (216); und  
Anzeigen der relativen Zoomstufe in der Zoomleiste (218) .
2. Prozessorressourcenimplementiertes Verfahren nach Anspruch 1,  
wobei die Zoomleiste einen Raum entlang des Rands einer Kante der Anzeige belegt.
3. Prozessorressourcenimplementiertes Verfahren nach einem der Ansprüche 1 und 2,  
wobei die Zoomleistengröße in der Ausdehnung entlang einer Linie, die die Indikatoren verbindet, größer als die Zoomleistengröße senkrecht zur Linie, die die Indikatoren verbindet, ist.
4. Prozessorressourcenimplementiertes Verfahren nach einem der Ansprüche 1 bis 3,  
ferner umfassend, vor dem Darstellen einer Zoomleiste auf der Geräteanzeige:
- Anfordern von Geräteanzeigenspezifikationen (204), und  
Empfangen von Geräteanzeigenspezifikationen, die Anzeigengröße und Anzeigenausrichtung umfassen (208); und  
wobei die Zoomleistengröße in der Ausdehnung entlang der Linie, die die Indikatoren verbindet, größer als die Hälfte der Zoomleistengröße parallel zur Linie, die die Indikatoren verbindet, ist.
5. Prozessorressourcenimplementiertes Verfahren nach einem der Ansprüche 1 bis 4,  
wobei n eines von festgelegt oder auswählbar ist.
6. Prozessorressourcenimplementiertes Verfahren nach einem der Ansprüche 1 bis 5,  
wobei das Medienmodul eines von einem Standbildkameramodul oder einem Videokameramodul ist.
7. Prozessorressourcenimplementiertes Verfahren nach einem der Ansprüche 1 bis 6,  
ferner umfassend das Beenden der Zoomleiste auf der Anzeige auf zumindest eines von Folgendem hin:  
Auswahl der niedrigsten der n Stufen, Ablaufen einer vorgegebenen Zeitperiode, Beenden der Auswahl der Zoomleiste durch das Geräteauswahlmittel.
8. Computerprogrammprodukt zum Steuern von Zoom in einem Medienmodul in einem Kommunikationsgerät, das Computerprogrammprodukt umfassend:  
zumindest ein nichtflüchtiges maschinenlesbares Medium; und  
zumindest ein Programmmodul,  
welches auf dem zumindest einen Medium gespeichert ist, und  
auf Ausführung durch Prozessorressourcen hin zum Ausführen des prozessorimplementierten Verfahrens nach einem der Ansprüche 1 bis 7 betriebsfähig ist.
9. Mobiles Kommunikationsgerät, umfassend:  
mehrere Medienmodule, wobei die Medienmodule zumindest ein Standbildkameramodul und ein Videokameramodul umfassen, wobei jedes Medienmodul assoziierte Zoomspezifikationen aufweist; und  
zumindest eine Prozessorressource,  
wobei das mobile Kommunikationsgerät zum Ausführen des Verfahrens nach einem der Ansprüche 1 bis 7 konfiguriert ist.

## Revendications

1. Procédé mis en œuvre par des ressources de processeur pour commander un zoom dans un module multimédia dans un dispositif de communication mobile, le dispositif de communication mobile comprenant une pluralité de modules multimédias différents, dans lequel les modules multimédias comprennent au moins un module de caméra fixe et un module de caméra vidéo, chaque module multimédia présentant des spécifications de zoom associées différentes, le procédé comprenant, pour l'un des modules multimédias différents de la pluralité de mo-

dules multimédias, les étapes consistant à :

demander les spécifications de zoom de module multimédia (202) ;  
recevoir les spécifications de zoom de module multimédia, notamment une plage de zoom (206) ;  
diviser la plage de zoom reçue en  $n$  pas discrets (210) ;  
présenter une barre de zoom sur l'affichage de dispositif (212), où la barre de zoom (510) comprend :

un indicateur de direction de zoom croissante (512) ;  
un indicateur de direction de zoom décroissante (514) ; et  
une barre de défilement (516) :

la barre de défilement étant disposée entre les indicateurs ; et  
la barre de défilement affichant le niveau de zoom (518) en tant que l'un des «  $n$  » pas discrets, depuis un premier pas égal à un niveau de zoom nul, et un  $n$ ième pas égal à un niveau de zoom complet ;

recevoir une entrée d'utilisateur concernant un niveau de zoom (214) ;  
mettre en œuvre un zoom sur l'image affichée à un niveau correspondant à l'entrée reçue (216) ; et  
afficher le niveau de zoom relatif dans la barre de zoom (218) .

2. Procédé mis en œuvre par des ressources de processeur selon la revendication 1, dans lequel la barre de zoom occupe un espace le long de la marge d'un bord de l'affichage. 40
3. Procédé mis en œuvre par des ressources de processeur selon l'une quelconque de la revendication 1 et de la revendication 2, dans lequel la taille de barre de zoom dans la dimension le long d'une ligne reliant les indicateurs est supérieure à la taille de barre de zoom perpendiculaire à la ligne reliant les indicateurs. 45
4. Procédé mis en œuvre par des ressources de processeur selon l'une quelconque de la revendication 1 à la revendication 3, comprenant en outre, avant de présenter une barre de zoom sur l'affichage de dispositif, les étapes consistant à : 50
  - demander des spécifications d'affichage de dispositif (204) ; et
  - recevoir des spécifications d'affichage de dis-

positif comprenant une taille d'affichage et une orientation d'affichage (208) ; et dans lequel la taille de barre de zoom dans la dimension le long de la ligne reliant les indicateurs est supérieure à la moitié de la taille d'affichage dans la dimension parallèle à la ligne reliant les indicateurs.

5. Procédé mis en œuvre par des ressources de processeur selon l'une quelconque de la revendication 1 à la revendication 4, dans lequel  $n$  est soit fixe, soit sélectionnable. 10
6. Procédé mis en œuvre par des ressources de processeur selon l'une quelconque de la revendication 1 à la revendication 5, dans lequel le module multimédia est l'un d'un module de caméra fixe ou d'un module de caméra vidéo. 15
7. Procédé mis en œuvre par des ressources de processeur selon l'une quelconque de la revendications 1 à la revendication 6, comprenant en outre l'étape consistant à mettre fin à la barre de zoom à partir de l'affichage suite à au moins l'une de : la sélection du plus bas des  $n$  niveaux, l'expiration d'une période de temps prédéterminée, la fin de la sélection de la barre de zoom par le moyen de sélection de dispositif. 20
8. Produit-programme informatique pour commander un zoom dans un module multimédia dans un dispositif de communication mobile, le produit-programme informatique comprenant : 25
  - au moins un support non transitoire lisible par ordinateur ; et
  - au moins un module de programme :
    - stocké sur au moins un support ; et
    - exploitable, suite à l'exécution par des ressources de processeur, de manière à mettre en œuvre le procédé mis en œuvre par processeur selon l'une quelconque de la revendication 1 à la revendication 7. 30
9. Dispositif de communication mobile, comprenant : 35
  - une pluralité de modules multimédias, où les modules multimédias comprennent au moins un module de caméra fixe et un module de caméra vidéo, chaque module multimédia présentant des spécifications de zoom associées ; et
  - au moins une ressource de processeur ;
  - le dispositif de communication mobile étant configuré de manière à mettre en œuvre le procédé selon l'une quelconque de la revendication 1 à la revendication 7. 40

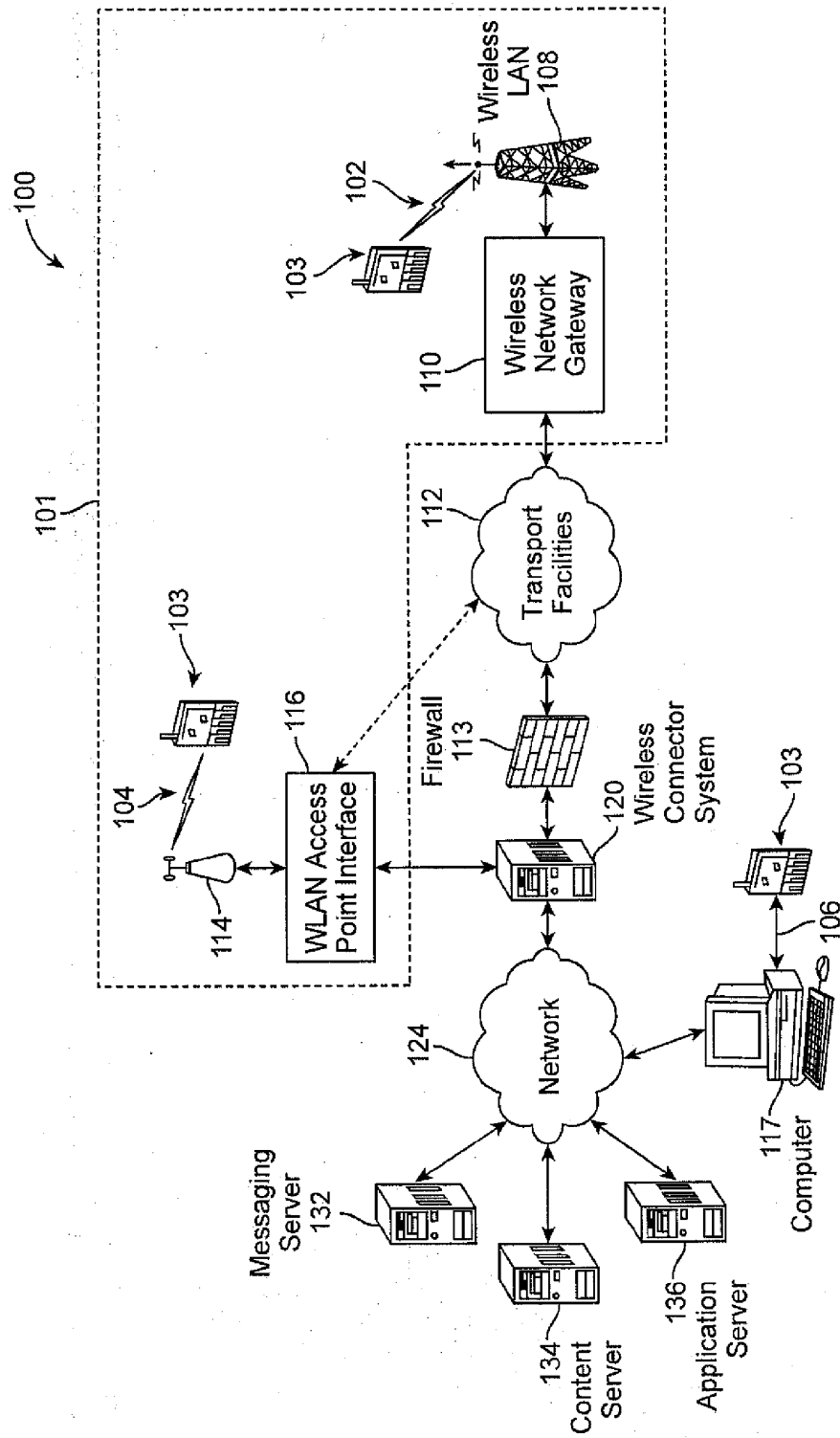


FIG. 1

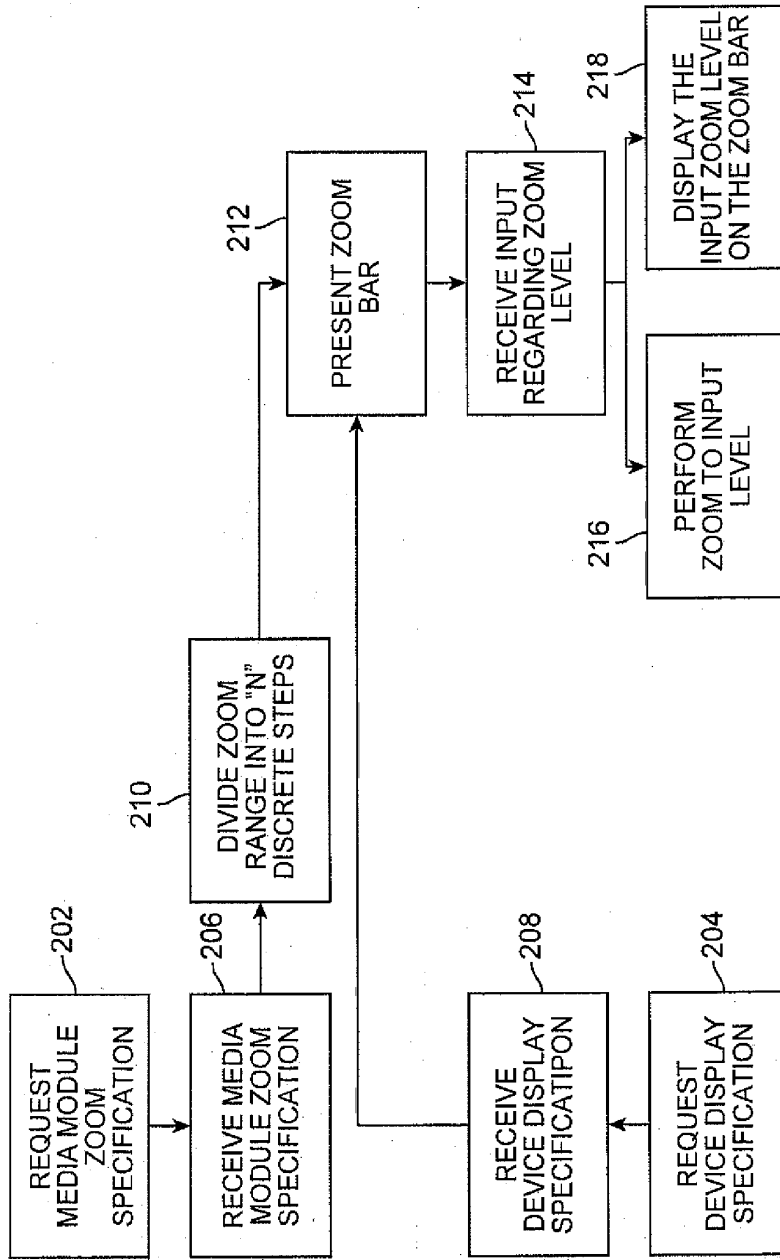


FIG. 2

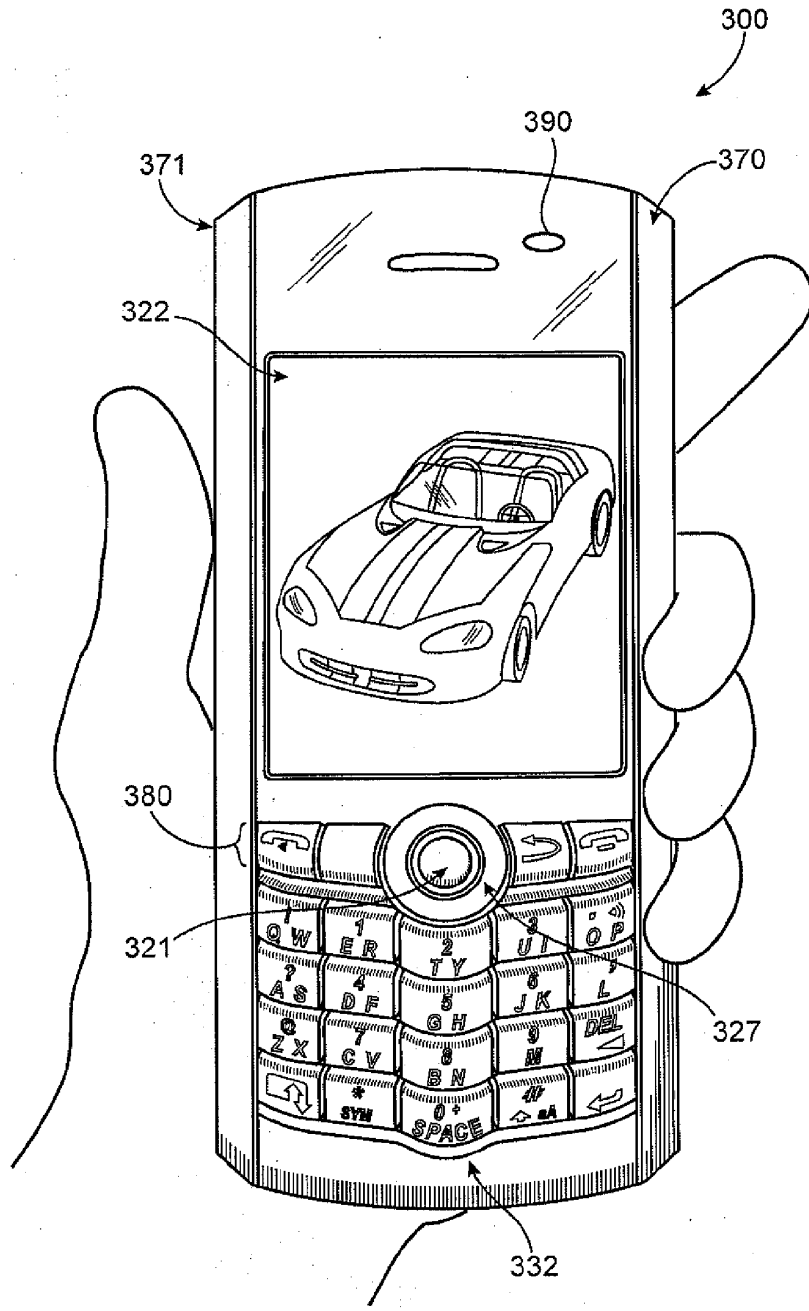


FIG. 3

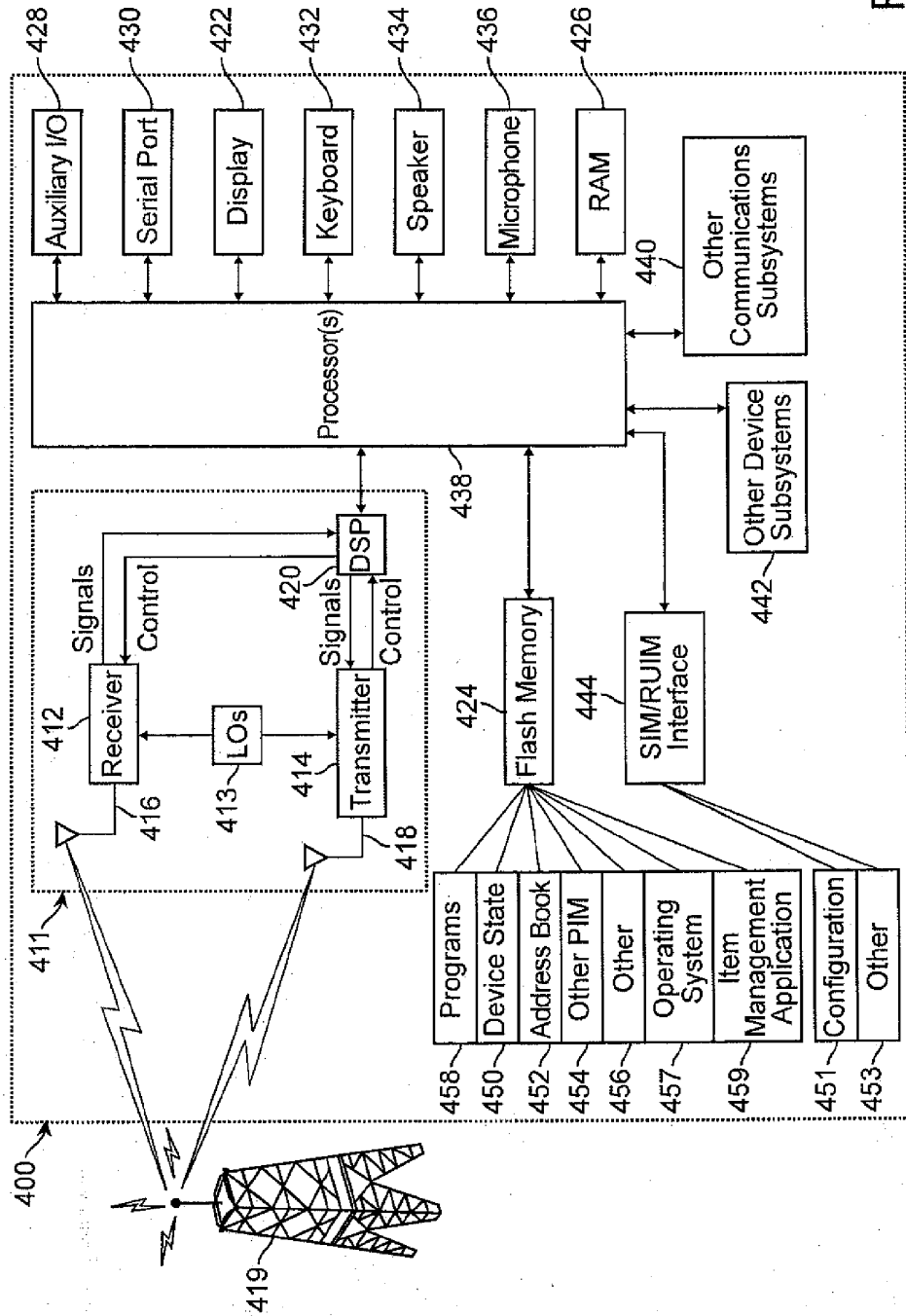


FIG. 4

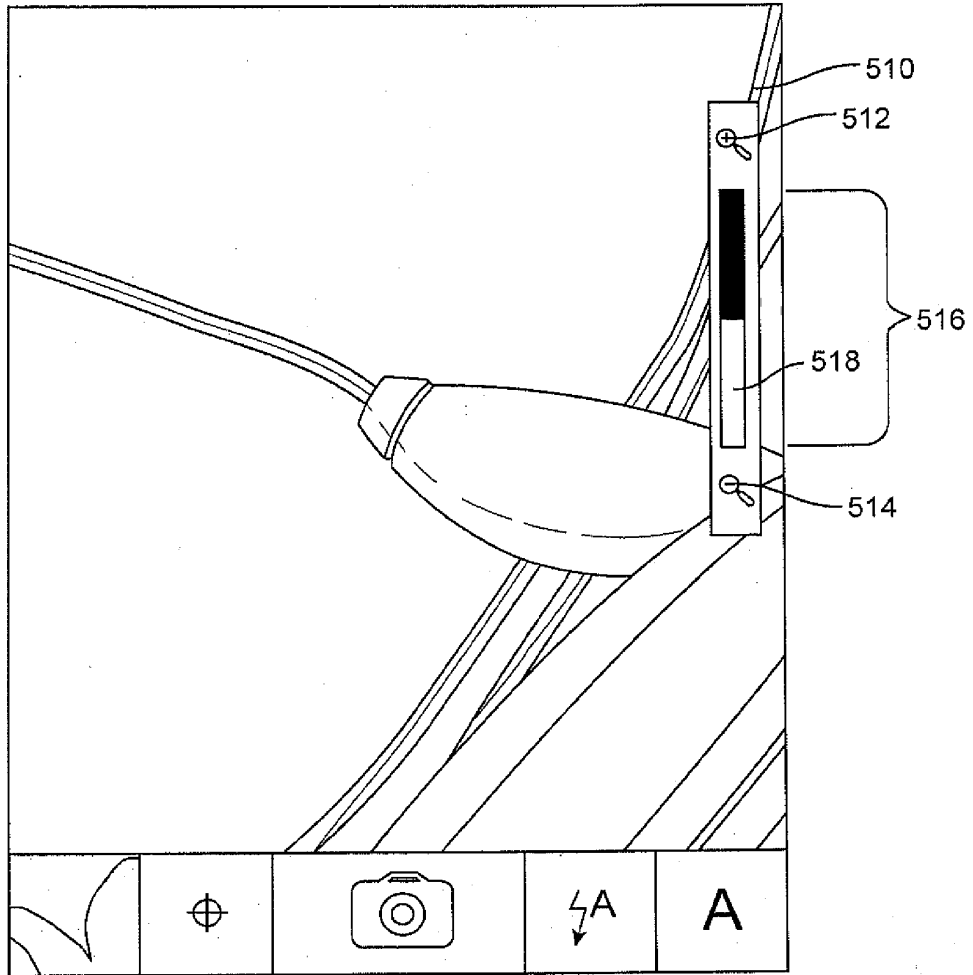


FIG. 5



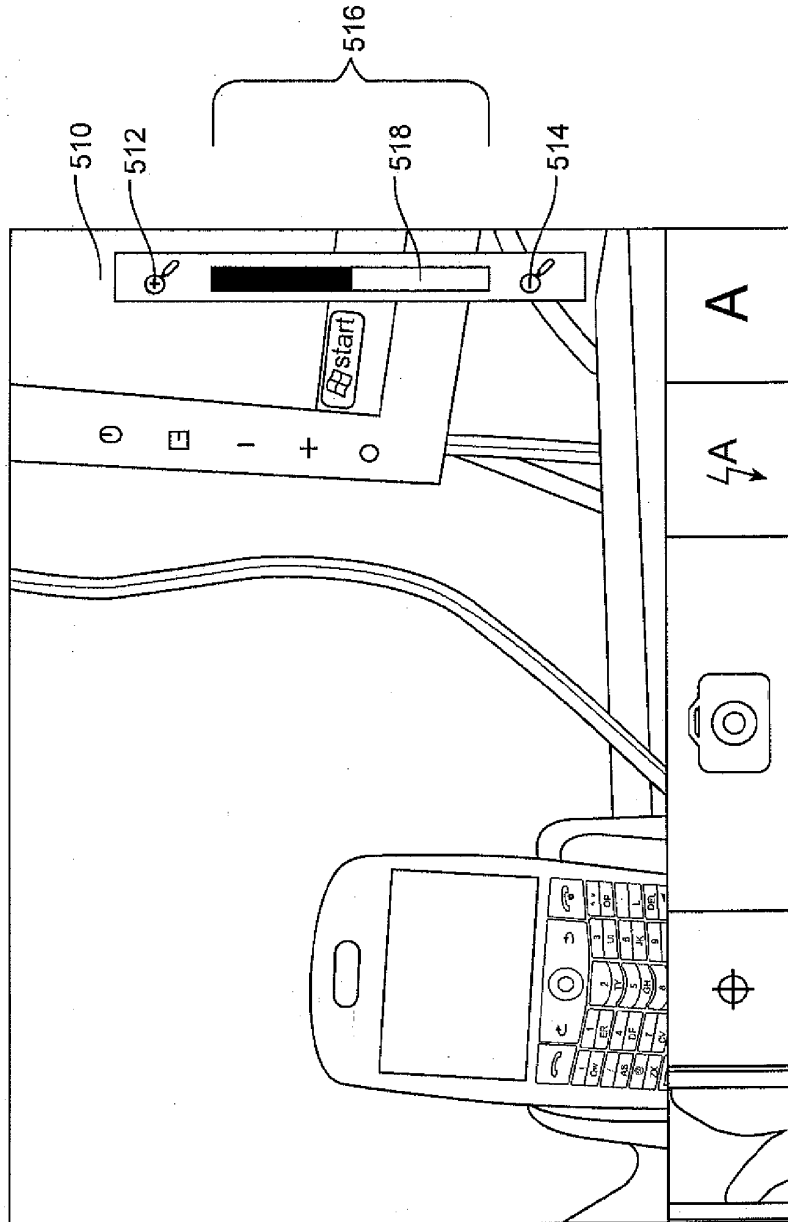


FIG. 6

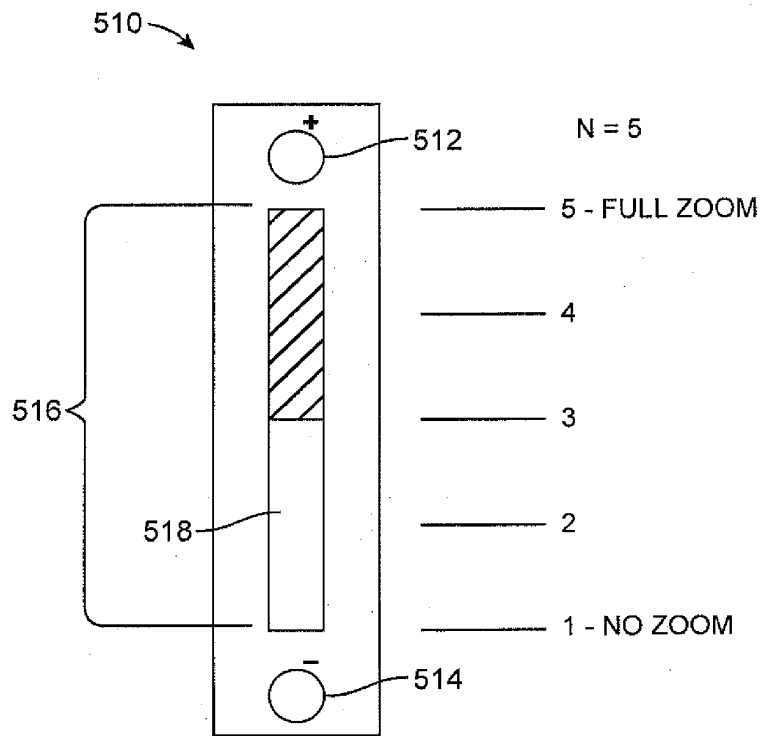


FIG. 7

## EP 2 410 414 B1

### REFERENCES CITED IN THE DESCRIPTION

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(72) Inventor: **Mikawa, Chiaki**  
**Ohta-ku, Tokyo (JP)**

(74) Representative: **Garner, Jonathan Charles Stapleton**  
**Canon Europe Ltd**  
**European Patent Department**  
**3 The Square**  
**Stockley Park**  
**Uxbridge, Middlesex UB11 1ET (GB)**

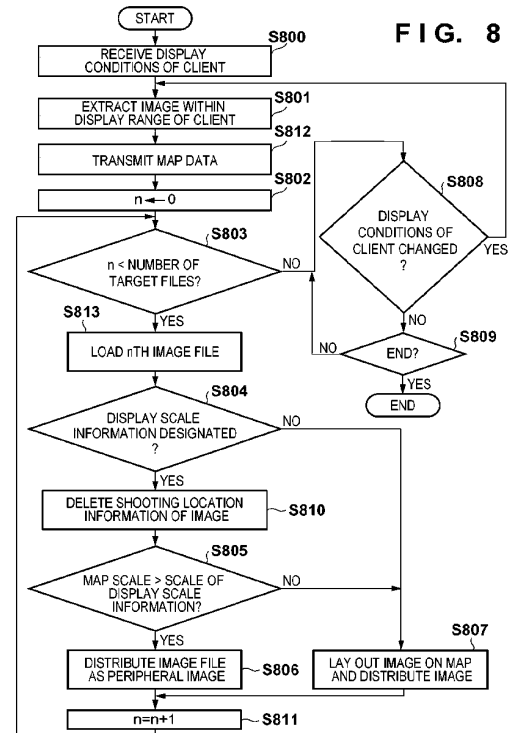
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(71) Applicant: **Canon Kabushiki Kaisha**  
**Tokyo 146-8501 (JP)**

(54) **Image processing system, image-distribution server or client device, control method therefor, program, and storage medium**

(57) A method for an image processing system comprising an image-source device (100), an image-distribution server (101) and a client device (102), the method comprising: uploading from the image-source device to the image-distribution server at least one image file, the image file including image data, location data identifying a location associated with the image, and restriction information designating a largest scale of map on which the image may be displayed; receiving at the image-distribution server the image file uploaded from the image-source device; receiving from a user at the client device (102) information designating a map display scale, which map display scale identifies a scale of a map that is to be displayed at the client device (102); generating, at the image-distribution server (101) and/or the client device (102), display data for displaying a map and the image; and displaying the display data on a display means of the client device (102); characterized in that in a case that the user designated map display scale is smaller than the scale of the map designated by the restriction information of the image file, the display data is generated so as to overlay the image file on the map at a position determined in accordance with the location data (S807), and, in a case that the user designated map display scale is larger than the scale of the map designated by the restriction information of the image file, the display data is generated so as to arrange the image file and the map in a configuration other than overlaying the image at a position determined in accordance with the

location data (S806).



EP 2 466 869 A3



EUROPEAN SEARCH REPORT

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The present search report has been drawn up for all claims				
Place of search		Date of completion of the search	Examiner	
The Hague		23 December 2016	Thollot, Julien	
CATEGORY OF CITED DOCUMENTS				
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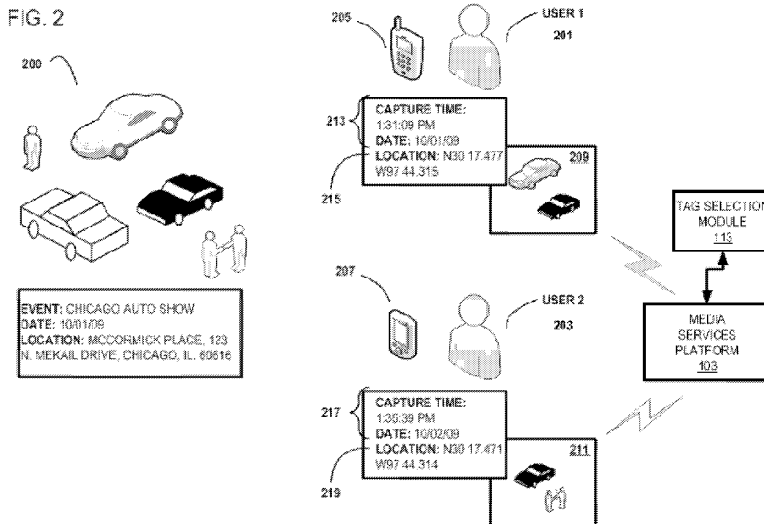
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- (71) **Applicant (for all designated States except US):** NOKIA CORPORATION [FI/FI]; Keilalahdentie 4, FIN-02150 Espoo (FI).
- (72) **Inventor; and**
- (75) **Inventor/Applicant (for US only):** KANKAINEN, Mikko [FI/FI]; Mannerheimintie 37 A 4, FIN-00250 Helsinki (FI).
- (74) **Agent:** NOKIA CORPORATION; IPR Department, Virpi Tognetty, Keilalahdentie 4, FIN-02150 Espoo (FI).

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(54) **Title:** METHOD AND APPARATUS FOR TAGGING MEDIA ITEMS



(57) **Abstract:** An approach is provided for tagging media items based on spatiotemporal data. A request to tag a media item having spatiotemporal data is received, wherein the request corresponds to a user. A determination is made whether the spatiotemporal data satisfies a predetermined criterion, and a tag specified by another user is retrieved if the spatiotemporal data satisfies the predetermined criterion. The retrieved tag is then transmitted in response to the request.



## METHOD AND APPARATUS FOR TAGGING MEDIA ITEMS

### BACKGROUND

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Users of camera ready cellular phones, digital cameras, video recorders and music players can only store so many items to the device's internal memory. Likewise, external storage mediums such as memory cards are limited in capacity, especially for those users with significant music files, pictures, video and other media in which they would like to access on demand. As a result, more people are using online or network based media storage services and applications to maintain their media items. These services allow a user to easily store, access, organize and even share their media items with other people. However, categorizing these media items, particular on mobile devices with small form factors, can be burdensome. Namely, users may be required to enter a description of the media, using a limited keyboard, for organizing the media and providing effective captions. Additionally, creating such descriptions for the categories can itself be challenging, thereby potentially discouraging users from uploading their media items.

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### SOME EXAMPLE EMBODIMENTS

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Therefore, there is a need for an approach to enable the most convenient and relevant tagging of media items.

According to one embodiment, a method comprises causing, at least in part, receipt of a request to tag a media item having spatiotemporal data, wherein the request corresponds to a user. The method also comprises determining whether the spatiotemporal data satisfies a predetermined criterion. The method further comprises retrieving a tag specified by another user if the spatiotemporal data satisfies the predetermined criterion, wherein the retrieved tag is associated with other spatiotemporal data. Still further, the method comprises causing, at least in part, transmission of the retrieved tag in response to the request.

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According to another embodiment, an apparatus comprises at least one processor. The apparatus also comprises at least one memory including computer program code, the at least one memory and the computer program code configured to, with the at least one processor, cause the apparatus to perform at least the following: receipt of a request to tag a media item having spatiotemporal data, wherein the request corresponds to a user; determine whether the spatiotemporal data satisfies a predetermined criterion; retrieve a tag specified by another user if the spatiotemporal data satisfies the predetermined criterion, wherein the retrieved tag is associated with other spatiotemporal data; and initiate transmission of the retrieved tag in response to the request.

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According to one embodiment, an apparatus comprises means for causing, at least in part, receipt of a request to tag a media item having spatiotemporal data, wherein the request corresponds to a user. The apparatus also comprises means for determining whether the spatiotemporal data satisfies a predetermined criterion. The apparatus also comprises means for retrieving a tag  
5 specified by another user if the spatiotemporal data satisfies the predetermined criterion, wherein the retrieved tag is associated with other spatiotemporal data. Still further, the apparatus also comprises means for causing, at least in part, transmission of the retrieved tag in response to the request.

10 According to another embodiment, a method comprises generating a request to tag a media item having spatiotemporal data, wherein the request corresponds to a user. The method also comprises causing, at least in part, transmission of the request to a media services platform. Moreover, the method comprises receiving, in response to the request, one or more tags, associated with another user, having spatiotemporal proximity to the spatiotemporal data of the  
15 media item. Still further, the method comprises selecting one of the received tags to tag the media item.

According to another embodiment, an apparatus comprises at least one processor. The apparatus also comprises at least one memory including computer program code, the at least one memory  
20 and the computer program code configured to, with the at least one processor, cause the apparatus to perform at least the following: generate a request to tag a media item having spatiotemporal data, wherein the request corresponds to a user; initiate transmission of the request to a media services platform; receive, in response to the request, one or more tags, associated with another user, having spatiotemporal proximity to the spatiotemporal data of the  
25 media item; and select one of the received tags to tag the media item.

According to yet another embodiment, an apparatus comprises means for generating a request to tag a media item having spatiotemporal data, wherein the request corresponds to a user. The apparatus also comprises means for causing, at least in part, transmission of the request to a  
30 media services platform. Moreover, the apparatus also comprises means for receiving, in response to the request, one or more tags, associated with another user, having spatiotemporal proximity to the spatiotemporal data of the media item. Still further, the apparatus also comprises means for selecting one of the received tags to tag the media item.

35 Still other aspects, features and advantages of the invention are readily apparent from the following detailed description, simply by illustrating a number of particular embodiments and implementations, including the best mode contemplated for carrying out the invention. The invention is also capable of other and different embodiments, and its several details can be modified in various obvious respects, all without departing from the spirit and scope of the

invention. Accordingly, the drawings and description are to be regarded as illustrative in nature, and not as restrictive.

#### BRIEF DESCRIPTION OF THE DRAWINGS

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The embodiments of the invention are illustrated by way of example, and not by way of limitation, in the figures of the accompanying drawings:

FIG. 1 is a diagram of a system capable of enabling the tagging of media items by a user based on spatiotemporal data associated with the media items of other users, according to one embodiment;

10 FIG. 2 is a diagram depicting the interaction between a media services platform and one or more users of user equipment (UE) in attendance at a common venue., according to one embodiment;

FIGS. 3a and 3b is a diagram of a media services interface configured to enable user tagging of media items, according to one embodiment;

15 FIGS. 4 and 5 are flowcharts of the process through which media items may be selectively tagged based on predetermined criterion, according to one embodiment;

FIGS. 6a and 6b are flowcharts of the process for tagging media items based on spatiotemporal data, according to one embodiment;

FIG. 7 is a diagram of hardware that can be used to implement an embodiment of the invention;

20 FIG. 8 is a diagram of a chip set that can be used to implement an embodiment of the invention; and

FIG. 9 is a diagram of a mobile terminal (e.g., handset) that can be used to implement an embodiment of the invention.

#### DESCRIPTION OF SOME EMBODIMENTS

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Examples of a method, apparatus, and computer program for enabling the convenient tagging of media items are disclosed. In the following description, for the purposes of explanation, numerous specific details are set forth in order to provide a thorough understanding of the embodiments of the invention. It is apparent, however, to one skilled in the art that the  
30 embodiments of the invention may be practiced without these specific details or with an equivalent arrangement. In other instances, well-known structures and devices are shown in block diagram form in order to avoid unnecessarily obscuring the embodiments of the invention.

35 FIG. 1 is a diagram of a system capable of enabling the tagging of media items by a user based on spatiotemporal data associated with the media items of other users, according to one embodiment.

As mentioned, the uploading of media has gained greater acceptance, as users are presented with the capability to capture media using various devices. By way of example, some popular social networking sites allow users to upload digital images to the site, categorize them, edit them and make them viewable by those with the appropriate access privileges (e.g., friends and family).

The images can even be tagged, wherein the user is allowed to associate descriptive words with a particular image to make them searchable. Tags for a particular image are represented as a tag cloud in which more popular tags feature a larger text size. The popularity of a tag is generally based on the amount of times a particular tag is searched via an interface to the media storage service or social networking site, a prioritization assigned to it during tag creation or other criteria.

Unfortunately, tags that appear in a tag cloud tend to be more generic in nature as the user relies on commonly used words to describe the image. Moreover, as the same generic descriptive word is used to describe other images, the relevancy and popularity of a particular tag diminishes. The only alternative for the user is to enter new, more specific tags that describe the step, place, person, object or situation the image represents; a time consuming if not tedious undertaking, especially for those with a multitude of images.

Also, as used herein, the term “tag” refers to any descriptive word, phrase or combination thereof intended to provide a description of or relate to a particular media item. Tags may be associated with media items to enable them to be more readily searched or retrieved from a database. Furthermore, a user may engage in the process of “tagging” a particular media item, whereby they are assigning or creating a keyword or phrase to associate with a specific media item. It is contemplated that the spatiotemporal data for a particular media item desired to be tagged may be evaluated against a predetermined criterion to enable the automated selection, recommendation and/or assignment of tags to said media item. In this way, the amount of time and effort typically required on the part of the user in tagging one or more media items is significantly reduced while at the same time enhancing the likelihood that only the most relevant tags are assigned to the media item.

System 100 of FIG. 1, according to certain embodiments, provides a convenient approach to tag media items. As used herein, the term “media item” refers to any arrangement or combination of image, audio or video data capable of being processed—i.e., played or captured—by a media device. Exemplary media items may include, but are not limited to video recordings, audio recordings, and digital images including scanned representations of objects or combinations thereof. Media devices for capturing, storing, playing, rendering or other forms of processing of said media items may include, but are not limited to a video recorder or player, digital camera, audio recorder or player (e.g., MP3 player), document presentment tool, etc. Various smart phones, Personal Digital Assistants (PDAs) and portable computing devices may also feature one or more of the above described media devices integrated therein. Although various embodiments are described with respect to imaging devices such as cameras, it is contemplated that the approach described herein may be used with any of the aforementioned devices.

As shown, the system 100 comprises a user equipment (UE) 101 having connectivity to a media services platform 103 via a communication network 105. Although only one UE 101 is depicted, it is contemplated that multiple UEs can be employed and concurrent obtain the services of the platform 103. By way of example, the communication network 105 of system 100 includes one or more networks such as a data network (not shown), a wireless network (not shown), a telephony network (not shown), or any combination thereof. It is contemplated that the data network may be any local area network (LAN), metropolitan area network (MAN), wide area network (WAN), a public data network (e.g., the Internet), or any other suitable packet-switched network, such as a commercially owned, proprietary packet-switched network, e.g., a proprietary cable or fiber-optic network. In addition, the wireless network may be, for example, a cellular network and may employ various technologies including enhanced data rates for global evolution (EDGE), general packet radio service (GPRS), global system for mobile communications (GSM), Internet protocol multimedia subsystem (IMS), universal mobile telecommunications system (UMTS), etc., as well as any other suitable wireless medium, e.g., worldwide interoperability for microwave access (WiMAX), Long Term Evolution (LTE) networks, code division multiple access (CDMA), wideband code division multiple access (WCDMA), wireless fidelity (WiFi), satellite, mobile ad-hoc network (MANET), and the like.

The UE 101 is any type of mobile terminal, fixed terminal, or portable terminal including a mobile handset, station, unit, device, multimedia computer, multimedia tablet, Internet node, communicator, desktop computer, laptop computer, Personal Digital Assistants (PDAs), or any combination thereof. It is also contemplated that the UE 101 can support any type of interface to the user (such as “wearable” circuitry, etc.). Moreover, the UE 101 may execute one or more software applications or utilities, including but not limited to those for enabling or facilitating network access and communication, internet browsing, social networking, e-mail communication, file sharing and data transfer, word processing, data entry, spreadsheet processing, mathematical computation, etc. These applications and utilities may also be interoperable, so as to enable the execution of various features of the aforementioned application and utilities to be simultaneously executed to enable specific user tasks.

As an example, the UE 101 may have operable thereon a media services interface 107 for enabling it to exchange media items 109 over the network 105 with a media services platform 103. The media services interface 107 may be a dedicated media management application (e.g., a web service application), an internet browser from whence the user may establish a session with the media services platform 103 or the like. With respect to one embodiment, the media services interface 107 is a software application medium through which the user of the UE 101 can access media items 109 from, transmit media items 109 to or synchronize media items 109 between the media services platform 103 and the UE 101. As such, the media services interface 107 enables convenient transfer and storing of media items to the media services platform 103; an alternative

to storing them to local memory or to physically connectable/removable storage modules (e.g., plug-n-play memory cards) available to the UE 101. In instances where the media services platform is directly executable upon the UE 101, however, the media services interface 107 enables direct interaction with local memory or physically connectable/removable storage modules associated with the UE 101.

In accord with the exemplary embodiment, the media services platform 103 is a network accessible application, hosted by a media services platform provider. The media services platform, according to one embodiment, is a hosted solution that enables a user to conveniently store, organize and share media items with other users having the proper access rights and permissions to the media services platform 103. As such, a user of UE 101 typically accesses the media services platform 103 through interface 107 via a registration and/or login process. This in turn enables profile information corresponding to the user to be created (for first time registration) or recalled (for subsequent login) from a member profiles database 111b—a database for maintaining profile information pertaining to the various registered or affiliated members (e.g., all users) of the media services platform 103. The profile may indicate, among other things, the name and contact details of the user, unique settings and preferences of the user, specific user interface options, file access and sharing right settings, etc.

In addition to the user profile, any media items belonging to or associated with the various registered or affiliated members of the media services platform 103 are maintained within a member media items 111a database. Generally, the media items 111a are maintained in association with a specific user profile, enabling only those media items related to the user in question to be accessed or recalled. Thus, for example, an image associated with the user of the UE 101 may be displayed in association with the user's profile data upon entry to the media services platform 103.

In the exemplary embodiment, the media services platform 103 also maintains spatiotemporal data 115 associated with each of the media items stored to the member media items database 111a. As used herein, the term "spatiotemporal data" refers to any data that conveys a particular moment in space and time for a particular object in question, i.e. a media item. Spatiotemporal data is often used in applications where understanding of an object's relative change in location, position or perspective from moment-to-moment is critical. This may include applications such as Geographic Information Systems (GIS), environmental data management systems and multimedia databases. For a media item, the spatiotemporal data includes at least a specific time stamp associated with the moment of capture of the media item and information relating the position and/or location of the media capture device at the moment of capture.

The spatiotemporal data 115 of a particular media item can be relayed to a tag selection module 113 also associated with the media services platform 103. In particular, the tag selection module 113 is an apparatus that is executable by, integrated with or operable in connection with the media services platform 103 for selecting, assigning or recommending to a user one or more tags to be associated with a media item in question. As will be discussed later with respect to FIGS 5, 6a and 6b, the tag selection module analyzes spatiotemporal data of the media item in question relative to a predetermined criterion. This predetermined criterion may include a proximity threshold value—i.e., a range of acceptance of spatiotemporal proximity as measured in space and time—of the media item in question to that of other media items 111a. So, for example, the predetermined proximity can be based on a combination of a particular degree of longitudinal or latitudinal variance, radius or distance from a point of origin and an extent of time elapsed (a timeframe or variance). Spatiotemporal data within the range of applicability may then be used by the tag selection module 113 to identify and then inform the user of other tags that may also correspond to the media item in question. Means of calculating, measuring, formatting and representing spatiotemporal data may vary from one application to the next, and does not limit the scope of the exemplary embodiments presented herein.

Exemplary media services platforms 103 may include online content management services, file storage systems integral to other web-based applications, file sharing applications, or the like. Also, media services platforms 103 interact with a social networking service 117 (such as FACEBOOK or MYSPACE), where images, videos, documents or audio files are frequently shared between users on a permission only basis. In various implementations, the media services platform 103 may even be integrated within a particular user device, i.e., a cell phone, smartphone, PDA, etc.

In general, the media services interface 107 and the media services platform 103 communicate with each other and other components of the communication network 105 using well known, new or still developing protocols. In this context, a protocol includes a set of rules defining how the network nodes within the communication network 105 interact with each other based on information sent over the communication links. The protocols are effective at different layers of operation within each node, from generating and receiving physical signals of various types, to selecting a link for transferring those signals, to the format of information indicated by those signals, to identifying which software application executing on a computer system sends or receives the information. The conceptually different layers of protocols for exchanging information over a network are described in the Open Systems Interconnection (OSI) Reference Model.

Communications between the network nodes are typically effected by exchanging discrete packets of data. Each packet typically comprises (1) header information associated with a particular

protocol, and (2) payload information that follows the header information and contains information that may be processed independently of that particular protocol. In some protocols, the packet includes (3) trailer information following the payload and indicating the end of the payload information. The header includes information such as the source of the packet, its  
5 destination, the length of the payload, and other properties used by the protocol. Often, the data in the payload for the particular protocol includes a header and payload for a different protocol associated with a different, higher layer of the OSI Reference Model. The header for a particular protocol typically indicates a type for the next protocol contained in its payload. The higher layer protocol is said to be encapsulated in the lower layer protocol. The headers included in a packet  
10 traversing multiple heterogeneous networks, such as the Internet, typically include a physical (layer 1) header, a data-link (layer 2) header, an internetwork (layer 3) header and a transport (layer 4) header, and various application headers (layer 5, layer 6 and layer 7) as defined by the OSI Reference Model.

15 FIG. 2 is a diagram depicting the interaction between a media services platform and one or more users of user equipment (UE) as they attend a common venue. In certain embodiments, “common venue” refers a location, place, person, object, or premise in which users, e.g., user 1 201 and user 2 203, are positioned or located within relative proximity to the same location, place, person, object, or premise. The relative proximity of one user to the next with respect to a venue need  
20 not necessarily occur at the same time. In either case, the venue (e.g., step, object of interest) may be captured in one form or another by the user’s respective user equipment 205 and 207. For example, each user 1 and 2 may capture an image 209 and 211 of common venue 200 respectively and store this image to their user equipment. Specifically, the common venue 200 for this example is the Chicago Auto Show, occurring on 10/01/09 through 10/03/09 at McCormick  
25 Place, located at 123 N. Mekail Drive, Chicago, IL. 60616. It will be recognized that this particular address corresponds to a specific set of geographic coordinates, information that when processed with respect to specific time data is necessary for generating spatiotemporal data.

User 1 captures an image 209 of the venue at a time of 1:31:09 pm on date 10/01/09. This  
30 creates metadata, such as a timestamp 213, in association with the image 209, which is generally stored locally to the user equipment 205 along with the image. Also, assuming the media capture device (user equipment 205) in this case is an image ready cell phone, Smartphone or GIS enabled Personal Digital Assistant, the location in space of the user equipment 205 at the moment of capture is also recorded. In this example, location 215 corresponds to global coordinates  
35 expressed in a minutes/decimal format, where the longitude is N30 17.477 and latitude is W97 44.315.

Alternatively, the metadata associated with the image may be provided by other applications or integrated devices within the user’s equipment, such as a calendar application, voice recorder



application, video capture device, infrared (IR) sensing device or the like. For example, when capturing the image 209, the tag selection module 223 can enable the user to choose whether to associate metadata for a particular calendar with the captured image. In this case, the calendar metadata may include time interval data, time of calendar event capture or logging and perhaps venue name (e.g., Auto Show), associated contacts, guest speakers, and meeting location data. Location either could be taken from the calendar item or added directly based on location information detected by any sensor capabilities by the device—i.e., IR, internal antennae. Generally, any information may be useful as metadata, including communication data exchanged between the user and said user's colleagues pertaining to and during the time of the venue. Thus, chat, e-mail, text, user group messaging, conference calling or any other communication data relayed or generated during the venue may be useful in connection with the spatiotemporal data.

Similarly, user 2 also captures an image 211 of the same venue 200 at a time of 1:35:39 pm on 10/02/09, a day after the moment of capture of user 1. Through one or more of the aforementioned procedures, this results in the creation of a timestamp 217 in association with the image 211, which is generally stored locally to the user equipment 207 along with the image. Also, assuming the media capture device (user equipment 207) in this case is an image ready cell phone, Smartphone or GIS enabled Personal Digital Assistant, the location in space of the user equipment 205 at the moment of capture is also recorded. In this example, location 219 corresponds to global coordinates expressed in a minutes/decimal format, where the longitude is N30 17.471 and latitude is W97 44.314. The location of image capture for user 2 varies, albeit slightly, from that of user 1. This accounts for the seemingly different perspectives of venue 200 as captured in images 209 and 211. Though captured on different days and times from relatively different positions or locations, images 209 and 211 are of the same venue.

Although the above scenario is described with respect to the use of images, it is contemplated that any type of media may be utilized – e.g., audio, video, etc.

Reference is now made to FIGS. 3a and 3b, which depicts a media services interface configured to enable user tagging of media items, according to one embodiment. The description also proceeds with FIGS. 4 and 5, flowcharts of the process through which media items may be selectively tagged based on predetermined criterion, according to one embodiment. Ideally, in accord with an exemplary embodiment, tags generated for at least one of the images of a common venue should inform the selection or assignment of tags to be used for subsequently tagged images. For the purposes of explanation, it is assumed that while the steps performed in FIGS. 4 and 5 are identical for both users 1 and 2, the procedures are performed at separate times. Given that image 209 was captured first, it is assumed that it was stored and tagged by user 1 prior to the tagging of image 211 by user 2. Tags assigned to the image 211 include Auto Show, 2010

Mini, Chicago and McCormick Place. Indeed, as the frequency of images from other users associated with the same venue increases, the relevancy of the tags also increases.

5 Having captured image data 211 in conjunction with its spatiotemporal data 217/219, user 2 subsequently uploads the image 211 from the user equipment 207 to the media services platform 103. The timestamp 217 and location data 219 associated with each image is also sent to the media services platform 103. The aforementioned steps correspond to steps 400 and 401 of FIG 4. Once uploaded, user 2 may access image 211 (e.g., media item 1) from the media services platform 103 via a media services interface 300, shown in FIGS 3a-b. The interface 300 may be  
10 executed via the user equipment 207 employed by user 2 to capture the image or other user equipment. From the interface 300, user 2 may initiate a new tagging process or review the current tags as assigned (e.g., by the user) to the image thus far. As shown in FIG. 3, the current tags are Family, Fall, Friends, Fun and Cars, with Family and Fall being presented more prominently to represent their particular popularity. Generally, presentment of a collection of tags  
15 in a manner of varying prominence or format relative to a specific media item is referred to as a tag cloud. Of course, any means by which the associated tags are presented is within the scope of the embodiments herein. To enable the addition of tags to the existing collection (or tag cloud), the user initiates a tagging process by selecting the “New” button 301. This corresponds to step 403 of FIG. 4.

20 Selection of the “New” button 301 results in the transmission of a user request to receive tag suggestions from the tag selection module of the media services platform (step 500). Upon receipt of the request, the spatiotemporal data associated with the image is then passed along to the tag selection module, and analyzed to determine if it is within a predetermined spatiotemporal  
25 proximity of other images (steps 501 and 503 respectively). In the case of images 207 and 211 for example, the predetermined criteria may include an acceptable time variance (e.g., 3 days) and location variance (e.g.,  $\pm$  latitude/longitude) that clearly recognizes the spatiotemporal relationship between the two.

30 A check is also performed to determine whether those meeting the predetermined criterion (step 509) have any tags associated therewith (step 511). When the predetermined criterion is not met (step 505), or no tags are defined in association with those images that meet the spatiotemporal criterion (step 507), the requesting user 2 is alerted that no suggestions are forthcoming and/or prompted to enter user defined tags (step 527). This corresponds also to step 405 of FIG. 4,  
35 where if no tags are provided by the tag selection module (step 407) to USER 2 via the media services interface 300, the user is notified and prompted to create their own tags (steps 409 and 411).

Alternatively, if the predetermined criterion is met and tags are defined for those images (steps 503, 509-513), the tag selection module 113 performs an additional analysis (step 515) to determine if any of the identified tags match those already associated with the image in question. For example, with reference again to FIG. 3a, if any of the tags suggested by the tag selection  
5 module 113 were to include Family, Fall, Friends, Fun and Cars, these tags would be filtered out—i.e., not presented to the user as a suggestion. Of the remaining suggestions, if any were: (1) designated as a community tag in advance, such as by the operator of a venue for which the image to be tagged is associated; or (2) associated with a common or high frequency location  
10 respective to the venue, these tags may be automatically assigned to the image in question and/or elevated (featured more prominently) in the tag cloud (steps 519 and 521). In the latter case, high frequency of occurrence of a particular location corresponding to that of the venue as imaged, suggests the venue is a commonly known (static) landmark, object or place. As such, these tags are suggested irrespective of temporal data as a matter of user convenience.

15 In one embodiment, the tags that are provided by the tag selection module 113 can be predetermined, for instance, by the operator or promoter of the venue. That is, under the scenario involving the Auto Show, the promoter can supply tags that pertains to the categories of cars: e.g., luxury cars, exotic cars, etc. In the hosted solution embodiment, the service provider that maintains the media services platform 103 can arrange to disseminate these tags, and in turn, for  
20 example, supply the recipients of these tags information (e.g., web address, etc.) about the venue or other events of the promoter. As yet another consideration, the tag can be associated with the image based on an identified social networking group the user belongs to. For example, if the user is affiliated with the social networking group (e.g., auto enthusiasts club), the tag selection module may be configured to acquire tags associated with this particular social networking group.  
25 Tags provided may be based on the spatiotemporal data indicated.

Having met the predetermined criterion (step 413), the tags Auto Show, 2010 Mini, Chicago and McCormick Place associated with previously tagged image 209 are presented to USER 2 via the media services interface 303 (step 413). Again, the tags deemed most popular—i.e., high  
30 frequency of selection relative to the venue in question, or most relevant to the venue, are featured more prominently. The user can accept or reject the suggested tags (step 415), collectively or individually, by pressing the “OK” or “Cancel” buttons 305 and 307 respectively. If the user accepts, the suggested tags are added to the tag cloud associated with the image (steps 417 and 419). Subsequently, the user may synchronize their media items (e.g., images) stored on  
35 the user equipment with the newly tagged instances of the image as maintained by the media services platform (step 421). The media services platform may also record the newly formed tags associated with the image (step 525).

FIGS. 6a and 6b are flowcharts of the process for tagging media items based on spatiotemporal data, according to one embodiment. In one embodiment, the tag selection module 113 performs the process 600 and is implemented in, for instance, a chip set including a processor and a memory as shown FIG. 8. In step 601, the process entails causing, at least in part, receipt of a request to tag a media item having spatiotemporal data, wherein the request corresponds to a user. In step 603, the process entails determining whether the spatiotemporal data satisfies a predetermined criterion. In steps 605 the process entails retrieving a tag specified by another user if the spatiotemporal data satisfies the predetermined criterion, wherein the retrieved tag is associated with other spatiotemporal data. Finally, in step 607 the process entails causing, at least in part, transmission of the retrieved tag in response to the request.

In step 609 of FIG. 6a entails generating a request to tag a media item having spatiotemporal data, wherein the request corresponds to a user. In step 611 the process entails causing, at least in part, transmission of the request to a media services platform. In step 613, the process entails receiving, in response to the request, one or more tags, associated with another user, having spatiotemporal proximity to the spatiotemporal data of the media item. Finally, step 615 entails selecting one of the received tags to tag the media item.

The described processes and arrangement, according to certain embodiments, advantageously provide users with a convenient approach to tagging their media items, using more relevant tags. Also, the approach encourages the uploading of media items by the users so that they can avail themselves of community tags. From the perspective of the media services platform provider, the approach encourages increased ease of data collaboration. In other embodiments, the tag selection module may mark each tag with the device identifier of the capture device, so as to enable the media services platform 103 to uniquely identify the origin of designated tags. As a result, the media services platform 103 may readily employ policies for authenticating and validating tags. For example, the device data can later be utilized for identifying and subsequently addressing a user whose tags include improper or false information (e.g., foul language). Or, in yet another alternative embodiment, the authenticity or applicability of a tag to a particular image can be verified, and the creator of the tag or image can be reconciled accordingly by tracing back to the user via the device identifier. If a tag entitled "Rock Concert" is submitted for an image conveying an unwanted sales solicitation, the image and/or tag originator may be alerted, warned or even restricted for further access to the system.

The processes described herein for tagging media items based on spatiotemporal data may be advantageously implemented via software, hardware (e.g., general processor, Digital Signal Processing (DSP) chip, an Application Specific Integrated Circuit (ASIC), Field Programmable Gate Arrays (FPGAs), etc.), firmware or a combination thereof. Such exemplary hardware for performing the described functions is detailed below.

FIG. 7 illustrates a computer system 700 upon which an embodiment of the invention may be implemented. Although computer system 700 is depicted with respect to a particular device or equipment, it is contemplated that other devices or equipment (e.g., network elements, servers, etc.) within FIG. 7 can deploy the illustrated hardware and components of system 700. Computer system 700 is programmed (e.g., via computer program code or instructions) tag media items based on spatiotemporal data as described herein and includes a communication mechanism such as a bus 710 for passing information between other internal and external components of the computer system 700. Information (also called data) is represented as a physical expression of a measurable phenomenon, typically electric voltages, but including, in other embodiments, such phenomena as magnetic, electromagnetic, pressure, chemical, biological, molecular, atomic, sub-atomic and quantum interactions. For example, north and south magnetic fields, or a zero and non-zero electric voltage, represent two states (0, 1) of a binary digit (bit). Other phenomena can represent digits of a higher base. A superposition of multiple simultaneous quantum states before measurement represents a quantum bit (qubit). A sequence of one or more digits constitutes digital data that is used to represent a number or code for a character. In some embodiments, information called analog data is represented by a near continuum of measurable values within a particular range. Computer system 700, or a portion thereof, constitutes a means for performing one or more steps of tagging media items based on spatiotemporal data.

A bus 710 includes one or more parallel conductors of information so that information is transferred quickly among devices coupled to the bus 710. One or more processors 702 for processing information are coupled with the bus 710.

A processor 702 performs a set of operations on information as specified by computer program code related tag media items based on spatiotemporal data. The computer program code is a set of instructions or statements providing instructions for the operation of the processor and/or the computer system to perform specified functions. The code, for example, may be written in a computer programming language that is compiled into a native instruction set of the processor. The code may also be written directly using the native instruction set (e.g., machine language). The set of operations include bringing information in from the bus 710 and placing information on the bus 710. The set of operations also typically include comparing two or more units of information, shifting positions of units of information, and combining two or more units of information, such as by addition or multiplication or logical operations like OR, exclusive OR (XOR), and AND. Each operation of the set of operations that can be performed by the processor is represented to the processor by information called instructions, such as an operation code of one or more digits. A sequence of operations to be executed by the processor 702, such as a sequence of operation codes, constitute processor instructions, also called computer system instructions or, simply, computer instructions. Processors may be implemented as mechanical,

electrical, magnetic, optical, chemical or quantum components, among others, alone or in combination.

5 Computer system 700 also includes a memory 704 coupled to bus 710. The memory 704, such as a random access memory (RAM) or other dynamic storage device, stores information including processor instructions tagging media items based on spatiotemporal data. Dynamic memory allows information stored therein to be changed by the computer system 700. RAM allows a unit of information stored at a location called a memory address to be stored and retrieved independently of information at neighboring addresses. The memory 704 is also used by the  
10 processor 702 to store temporary values during execution of processor instructions. The computer system 700 also includes a read only memory (ROM) 706 or other static storage device coupled to the bus 710 for storing static information, including instructions, that is not changed by the computer system 700. Some memory is composed of volatile storage that loses the information stored thereon when power is lost. Also coupled to bus 710 is a non-volatile  
15 (persistent) storage device 708, such as a magnetic disk, optical disk or flash card, for storing information, including instructions, that persists even when the computer system 700 is turned off or otherwise loses power.

Information, including instructions tagging media items based on spatiotemporal data, is provided  
20 to the bus 710 for use by the processor from an external input device 712, such as a keyboard containing alphanumeric keys operated by a human user, or a sensor. A sensor detects conditions in its vicinity and transforms those detections into physical expression compatible with the measurable phenomenon used to represent information in computer system 700. Other external devices coupled to bus 710, used primarily for interacting with humans, include a display device  
25 714, such as a cathode ray tube (CRT) or a liquid crystal display (LCD), or plasma screen or printer for presenting text or images, and a pointing device 716, such as a mouse or a trackball or cursor direction keys, or motion sensor, for controlling a position of a small cursor image presented on the display 714 and issuing commands associated with graphical elements presented on the display 714. In some embodiments, for example, in embodiments in which the computer  
30 system 700 performs all functions automatically without human input, one or more of external input device 712, display device 714 and pointing device 716 is omitted.

In the illustrated embodiment, special purpose hardware, such as an application specific integrated circuit (ASIC) 720, is coupled to bus 710. The special purpose hardware is configured to  
35 perform operations not performed by processor 702 quickly enough for special purposes. Examples of application specific ICs include graphics accelerator cards for generating images for display 714, cryptographic boards for encrypting and decrypting messages sent over a network, speech recognition, and interfaces to special external devices, such as robotic arms and medical

scanning equipment that repeatedly perform some complex sequence of operations that are more efficiently implemented in hardware.

Computer system 700 also includes one or more instances of a communications interface 770  
5 coupled to bus 710. Communication interface 770 provides a one-way or two-way  
communication coupling to a variety of external devices that operate with their own processors,  
such as printers, scanners and external disks. In general the coupling is with a network link 778  
that is connected to a local network 780 to which a variety of external devices with their own  
10 processors are connected. For example, communication interface 770 may be a parallel port or a  
serial port or a universal serial bus (USB) port on a personal computer. In some embodiments,  
communications interface 770 is an integrated services digital network (ISDN) card or a digital  
subscriber line (DSL) card or a telephone modem that provides an information communication  
connection to a corresponding type of telephone line. In some embodiments, a communication  
15 interface 770 is a cable modem that converts signals on bus 710 into signals for a communication  
connection over a coaxial cable or into optical signals for a communication connection over a  
fiber optic cable. As another example, communications interface 770 may be a local area network  
(LAN) card to provide a data communication connection to a compatible LAN, such as Ethernet.  
Wireless links may also be implemented. For wireless links, the communications interface 770  
20 sends or receives or both sends and receives electrical, acoustic or electromagnetic signals,  
including infrared and optical signals, that carry information streams, such as digital data. For  
example, in wireless handheld devices, such as mobile telephones like cell phones, the  
communications interface 770 includes a radio band electromagnetic transmitter and receiver  
called a radio transceiver. In certain embodiments, the communications interface 770 enables  
connection to the communication network 105 for tagging media items via UE 101.

25  
The term computer-readable medium is used herein to refer to any medium that participates in  
providing information to processor 702, including instructions for execution. Such a medium may  
take many forms, including, but not limited to, non-volatile media, volatile media and transmission  
media. Non-volatile media include, for example, optical or magnetic disks, such as storage device  
30 708. Volatile media include, for example, dynamic memory 704. Transmission media include, for  
example, coaxial cables, copper wire, fiber optic cables, and carrier waves that travel through  
space without wires or cables, such as acoustic waves and electromagnetic waves, including radio,  
optical and infrared waves. Signals include man-made transient variations in amplitude,  
frequency, phase, polarization or other physical properties transmitted through the transmission  
35 media. Common forms of computer-readable media include, for example, a floppy disk, a flexible  
disk, hard disk, magnetic tape, any other magnetic medium, a CD-ROM, CDRW, DVD, any other  
optical medium, punch cards, paper tape, optical mark sheets, any other physical medium with  
patterns of holes or other optically recognizable indicia, a RAM, a PROM, an EPROM, a  
FLASH-EPROM, any other memory chip or cartridge, a carrier wave, or any other medium from

which a computer can read. The term computer-readable storage medium is used herein to refer to any computer-readable medium except transmission media.

5 Logic encoded in one or more tangible media includes one or both of processor instructions on a computer-readable storage media and special purpose hardware, such as ASIC 720.

10 Network link 778 typically provides information communication using transmission media through one or more networks to other devices that use or process the information. For example, network link 778 may provide a connection through local network 780 to a host computer 782 or to equipment 784 operated by an Internet Service Provider (ISP). ISP equipment 784 in turn provides data communication services through the public, world-wide packet-switching communication network of networks now commonly referred to as the Internet 790.

15 A computer called a server host 792 connected to the Internet hosts a process that provides a service in response to information received over the Internet. For example, server host 792 hosts a process that provides information representing video data for presentation at display 714. It is contemplated that the components of system 700 can be deployed in various configurations within other computer systems, e.g., host 782 and server 792.

20 At least some embodiments of the invention are related to the use of computer system 700 for implementing some or all of the techniques described herein. According to one embodiment of the invention, those techniques are performed by computer system 700 in response to processor 702 executing one or more sequences of one or more processor instructions contained in memory 704. Such instructions, also called computer instructions, software and program code, may be  
25 read into memory 704 from another computer-readable medium such as storage device 708 or network link 778. Execution of the sequences of instructions contained in memory 704 causes processor 702 to perform one or more of the method steps described herein. In alternative embodiments, hardware, such as ASIC 720, may be used in place of or in combination with software to implement the invention. Thus, embodiments of the invention are not limited to any  
30 specific combination of hardware and software, unless otherwise explicitly stated herein.

The signals transmitted over network link 778 and other networks through communications interface 770, carry information to and from computer system 700. Computer system 700 can send and receive information, including program code, through the networks 780, 790 among  
35 others, through network link 778 and communications interface 770. In an example using the Internet 790, a server host 792 transmits program code for a particular application, requested by a message sent from computer 700, through Internet 790, ISP equipment 784, local network 780 and communications interface 770. The received code may be executed by processor 702 as it is received, or may be stored in memory 704 or in storage device 708 or other non-volatile storage



for later execution, or both. In this manner, computer system 700 may obtain application program code in the form of signals on a carrier wave.

5 Various forms of computer readable media may be involved in carrying one or more sequence of instructions or data or both to processor 702 for execution. For example, instructions and data may initially be carried on a magnetic disk of a remote computer such as host 782. The remote computer loads the instructions and data into its dynamic memory and sends the instructions and data over a telephone line using a modem. A modem local to the computer system 700 receives the instructions and data on a telephone line and uses an infra-red transmitter to convert the  
10 instructions and data to a signal on an infra-red carrier wave serving as the network link 778. An infrared detector serving as communications interface 770 receives the instructions and data carried in the infrared signal and places information representing the instructions and data onto bus 710. Bus 710 carries the information to memory 704 from which processor 702 retrieves and executes the instructions using some of the data sent with the instructions. The instructions and  
15 data received in memory 704 may optionally be stored on storage device 708, either before or after execution by the processor 702.

FIG. 8 illustrates a chip set 800 upon which an embodiment of the invention may be implemented. Chip set 800 is programmed to tag media items as described herein and includes, for instance, the  
20 processor and memory components described with respect to FIG. \*~ incorporated in one or more physical packages (e.g., chips). By way of example, a physical package includes an arrangement of one or more materials, components, and/or wires on a structural assembly (e.g., a baseboard) to provide one or more characteristics such as physical strength, conservation of size, and/or limitation of electrical interaction. It is contemplated that in certain embodiments the chip set can be implemented in a single chip. Chip set 800, or a portion thereof, constitutes a means  
25 for performing one or more steps of tagging media items based on spatiotemporal data.

In one embodiment, the chip set 800 includes a communication mechanism such as a bus 801 for passing information among the components of the chip set 800. A processor 803 has connectivity  
30 to the bus 801 to execute instructions and process information stored in, for example, a memory 805. The processor 803 may include one or more processing cores with each core configured to perform independently. A multi-core processor enables multiprocessing within a single physical package. Examples of a multi-core processor include two, four, eight, or greater numbers of processing cores. Alternatively or in addition, the processor 803 may include one or more  
35 microprocessors configured in tandem via the bus 801 to enable independent execution of instructions, pipelining, and multithreading. The processor 803 may also be accompanied with one or more specialized components to perform certain processing functions and tasks such as one or more digital signal processors (DSP) 807, or one or more application-specific integrated circuits (ASIC) 809. A DSP 807 typically is configured to process real-world signals (e.g.,

sound) in real time independently of the processor 803. Similarly, an ASIC 809 can be configured to performed specialized functions not easily performed by a general purposed processor. Other specialized components to aid in performing the inventive functions described herein include one or more field programmable gate arrays (FPGA) (not shown), one or more controllers (not shown), or one or more other special-purpose computer chips.

The processor 803 and accompanying components have connectivity to the memory 805 via the bus 801. The memory 805 includes both dynamic memory (e.g., RAM, magnetic disk, writable optical disk, etc.) and static memory (e.g., ROM, CD-ROM, etc.) for storing executable instructions that when executed perform the inventive steps described herein to tag media items based on spatiotemporal data. The memory 805 also stores the data associated with or generated by the execution of the inventive steps.

FIG. 9 is a diagram of exemplary components of a mobile terminal (e.g., handset) for communications, which is capable of operating in the system of FIG. 1, according to one embodiment. In some embodiments, mobile terminal 900, or a portion thereof, constitutes a means for performing one or more steps of tagging media items based on spatiotemporal data. Generally, a radio receiver is often defined in terms of front-end and back-end characteristics. The front-end of the receiver encompasses all of the Radio Frequency (RF) circuitry whereas the back-end encompasses all of the base-band processing circuitry. As used in this application, the term "circuitry" refers to both: (1) hardware-only implementations (such as implementations in only analog and/or digital circuitry), and (2) to combinations of circuitry and software (and/or firmware) (such as, if applicable to the particular context, to a combination of processor(s), including digital signal processor(s), software, and memory(ies) that work together to cause an apparatus, such as a mobile phone or server, to perform various functions). This definition of "circuitry" applies to all uses of this term in this application, including in any claims. As a further example, as used in this application and if applicable to the particular context, the term "circuitry" would also cover an implementation of merely a processor (or multiple processors) and its (or their) accompanying software/or firmware. The term "circuitry" would also cover if applicable to the particular context, for example, a baseband integrated circuit or applications processor integrated circuit in a mobile phone or a similar integrated circuit in a cellular network device or other network devices.

Pertinent internal components of the telephone include a Main Control Unit (MCU) 903, a Digital Signal Processor (DSP) 905, and a receiver/transmitter unit including a microphone gain control unit and a speaker gain control unit. A main display unit 907 provides a display to the user in support of various applications and mobile terminal functions that perform or support the steps of tagging media items based on spatiotemporal data. The display 9 includes display circuitry configured to display at least a portion of a user interface of the mobile terminal (e.g., mobile

telephone). Additionally, the display 907 and display circuitry are configured to facilitate user control of at least some functions of the mobile terminal. An audio function circuitry 909 includes a microphone 911 and microphone amplifier that amplifies the speech signal output from the microphone 911. The amplified speech signal output from the microphone 911 is fed to a  
5 coder/decoder (CODEC) 913.

A radio section 915 amplifies power and converts frequency in order to communicate with a base station, which is included in a mobile communication system, via antenna 917. The power amplifier (PA) 919 and the transmitter/modulation circuitry are operationally responsive to the  
10 MCU 903, with an output from the PA 919 coupled to the duplexer 921 or circulator or antenna switch, as known in the art. The PA 919 also couples to a battery interface and power control unit 920.

In use, a user of mobile terminal 901 speaks into the microphone 911 and his or her voice along  
15 with any detected background noise is converted into an analog voltage. The analog voltage is then converted into a digital signal through the Analog to Digital Converter (ADC) 923. The control unit 903 routes the digital signal into the DSP 905 for processing therein, such as speech encoding, channel encoding, encrypting, and interleaving. In one embodiment, the processed voice signals are encoded, by units not separately shown, using a cellular transmission protocol  
20 such as global evolution (EDGE), general packet radio service (GPRS), global system for mobile communications (GSM), Internet protocol multimedia subsystem (IMS), universal mobile telecommunications system (UMTS), etc., as well as any other suitable wireless medium, e.g., microwave access (WiMAX), Long Term Evolution (LTE) networks, code division multiple access (CDMA), wideband code division multiple access (WCDMA), wireless fidelity (WiFi),  
25 satellite, and the like.

The encoded signals are then routed to an equalizer 925 for compensation of any frequency-dependent impairments that occur during transmission through the air such as phase and amplitude distortion. After equalizing the bit stream, the modulator 927 combines the signal with a RF  
30 signal generated in the RF interface 929. The modulator 927 generates a sine wave by way of frequency or phase modulation. In order to prepare the signal for transmission, an up-converter 931 combines the sine wave output from the modulator 927 with another sine wave generated by a synthesizer 933 to achieve the desired frequency of transmission. The signal is then sent through a PA 919 to increase the signal to an appropriate power level. In practical systems, the  
35 PA 919 acts as a variable gain amplifier whose gain is controlled by the DSP 905 from information received from a network base station. The signal is then filtered within the duplexer 921 and optionally sent to an antenna coupler 935 to match impedances to provide maximum power transfer. Finally, the signal is transmitted via antenna 917 to a local base station. An automatic gain control (AGC) can be supplied to control the gain of the final stages of the

receiver. The signals may be forwarded from there to a remote telephone which may be another cellular telephone, other mobile phone or a land-line connected to a Public Switched Telephone Network (PSTN), or other telephony networks.

5 Voice signals transmitted to the mobile terminal 901 are received via antenna 917 and immediately amplified by a low noise amplifier (LNA) 937. A down-converter 939 lowers the carrier frequency while the demodulator 941 strips away the RF leaving only a digital bit stream. The signal then goes through the equalizer 925 and is processed by the DSP 905. A Digital to Analog Converter (DAC) 943 converts the signal and the resulting output is transmitted to the user  
10 through the speaker 945, all under control of a Main Control Unit (MCU) 903—which can be implemented as a Central Processing Unit (CPU) (not shown).

The MCU 903 receives various signals including input signals from the keyboard 947. The keyboard 947 and/or the MCU 903 in combination with other user input components (e.g., the  
15 microphone 911) comprise a user interface circuitry for managing user input. The MCU 903 runs a user interface software to facilitate user control of at least some functions of the mobile terminal 901 to tag media items based on spatiotemporal data. The MCU 903 also delivers a display command and a switch command to the display 907 and to the speech output switching controller, respectively. Further, the MCU 903 exchanges information with the DSP 905 and can access an  
20 optionally incorporated SIM card 949 and a memory 951. In addition, the MCU 903 executes various control functions required of the terminal. The DSP 905 may, depending upon the implementation, perform any of a variety of conventional digital processing functions on the voice signals. Additionally, DSP 905 determines the background noise level of the local environment from the signals detected by microphone 911 and sets the gain of microphone 911 to a level  
25 selected to compensate for the natural tendency of the user of the mobile terminal 901.

The CODEC 913 includes the ADC 923 and DAC 943. The memory 951 stores various data including call incoming tone data and is capable of storing other data including music data received via, e.g., the global Internet. The software module could reside in RAM memory, flash  
30 memory, registers, or any other form of writable storage medium known in the art. The memory device 951 may be, but not limited to, a single memory, CD, DVD, ROM, RAM, EEPROM, optical storage, or any other non-volatile storage medium capable of storing digital data.

An optionally incorporated SIM card 949 carries, for instance, important information, such as the  
35 cellular phone number, the carrier supplying service, subscription details, and security information. The SIM card 949 serves primarily to identify the mobile terminal 901 on a radio network. The card 949 also contains a memory for storing a personal telephone number registry, text messages, and user specific mobile terminal settings.

While the invention has been described in connection with a number of embodiments and implementations, the invention is not so limited but covers various obvious modifications and equivalent arrangements, which fall within the purview of the appended claims. Although features of the invention are expressed in certain combinations among the claims, it is contemplated that

5 these features can be arranged in any combination and order.

## CLAIMS

## WHAT IS CLAIMED IS:

1. A method comprising:  
causing, at least in part, receipt of a request to tag a media item having spatiotemporal data,  
5        wherein the request is associated at least in part with a user;  
determining whether the spatiotemporal data satisfies at least one predetermined criterion;  
determining to retrieve a tag associated at least in part with another user if the  
      spatiotemporal data satisfies the predetermined criterion, wherein the retrieved tag is  
      associated with other spatiotemporal data; and  
10        causing, at least in part, transmission of the retrieved tag in response to the request.
2. A method of claim 1, further comprising:  
causing, at least in part, receipt of another tag;  
associating the other tag with spatiotemporal data; and  
15        causing, at least in part, storage of the other tag among a plurality of tags.
3. A method of claim 2, further comprising:  
designating the other tag as a community tag to be provided as a suggestion for tagging of  
      another media item.  
20
4. A method according to any one of claims 2 and 3, further comprising:  
designating the other tag as an elevated tag to be provided as a suggestion for tagging of  
      another media item irrespective of temporal data.
- 25        5. A method according to any one of claims 1-4, wherein the predetermined criterion  
specifies a proximity threshold value.
6. A method according to any one of claims 1-5, further comprising:  
generating a list of popular tags as a suggestion for another media item having a particular  
30        spatiotemporal data.
7. A method according to any one of claims 1-6, further comprising:  
causing, at least in part, storage of a plurality of tags specified by an operator of a venue,  
      wherein one or more of the tags specified by the operator are provided as a suggestion to  
35        another media item if spatiotemporal data of the other media item satisfies the  
predetermined criterion with respect to the venue.

8. An apparatus comprising:  
at least one processor; and  
at least one memory including computer program code,  
the at least one memory and the computer program code for one or more programs  
5 configured to, with the at least one processor, cause the apparatus to perform at least the following:  
receive a request to tag a media item having spatiotemporal data, wherein the request  
corresponds to a user;  
determine whether the spatiotemporal data satisfies a predetermined criterion;  
10 retrieve a tag specified by another user if the spatiotemporal data satisfies the predetermined criterion, wherein the retrieved tag is associated with other spatiotemporal data; and  
initiate transmission of the retrieved tag in response to the request.
- 15 9. An apparatus of claim 8, wherein the apparatus is further caused, at least in part, to:  
receive another tag;  
associate the other tag with spatiotemporal data; and  
store the other tag among a plurality of tags.
- 20 10. An apparatus of claim 9, wherein the apparatus is further caused, at least in part, to:  
designate the other tag as a community tag to be provided as a suggestion for tagging of  
another media item.
- 25 11. An apparatus according to any one of claims 9 and 10, wherein the apparatus is further caused, at least in part, to:  
designate the other tag as an elevated tag to be provided as a suggestion for tagging of  
another media item irrespective of temporal data.
- 30 12. An apparatus according to any one of claims 8-11, wherein the predetermined criterion specifies a proximity threshold value.
- 35 13. An apparatus according to any one of claims 8-12, wherein the apparatus is further caused, at least in part, to:  
generate a list of popular tags as a suggestion for another media item having a particular spatiotemporal data.
14. An apparatus according to any one of claims 8-13, wherein the apparatus is further caused, at least in part, to:

store of a plurality of tags specified by an operator of a venue, wherein one or more of the tags specified by the operator are provided as a suggestion to another media item if spatiotemporal data of the other media item satisfies the predetermined criterion with respect to the venue.

5

15. A method comprising:

generating a request to tag a media item having spatiotemporal data, wherein the request corresponds to a user;

causing, at least in part, transmission of the request to a media services platform;

10 receiving, in response to the request, one or more tags, associated with another user, having spatiotemporal proximity to the spatiotemporal data of the media item; and

selecting one of the received tags to tag the media item.

16. A method of claim 15, further comprising:

15 causing, at least in part, capture of another media item having spatiotemporal data;

generating a new tag corresponding to the other media; and

causing, at least in part, uploading of the other media and the new tag to the media services platform for sharing the new tag.

20 17. A method according to any one of claims 15 and 16, further comprising:

causing, at least in part, capture of another media item having spatiotemporal data;

causing, at least in part, receipt of a list of popular tags as a suggestion for the other media item.

25 18. An apparatus comprising:

at least one processor; and

at least one memory including computer program code,

the at least one memory and the computer program code configured to, with the at least one processor, cause the apparatus to perform at least the following,

30 generate a request to tag a media item having spatiotemporal data, wherein the request corresponds to a user;

initiate transmission of the request to a media services platform;

receive, in response to the request, one or more tags, associated with another user, having spatiotemporal proximity to the spatiotemporal data of the media item; and

35 select one of the received tags to tag the media item.

19. An apparatus of claim 18, wherein the apparatus is further caused, at least in part, to:

capture of another media item having spatiotemporal data;

generate a new tag corresponding to the other media; and



upload of the other media and the new tag to the media services platform for sharing the new tag.

20. An apparatus according to any one of claims 18 and 19, wherein the apparatus is further  
5 caused, at least in part, to:  
capture of another media item having spatiotemporal data; and  
receive of a list of popular tags as a suggestion for the other media item.

21. An apparatus according to any one of claims 8-14, wherein the apparatus is a mobile  
10 phone further comprising:  
user interface circuitry and user interface software configured to facilitate user control of at  
least some functions of the mobile phone through use of a display and configured to  
respond to user input; and  
a display and display circuitry configured to display at least a portion of a user interface of the  
15 mobile phone, the display and display circuitry configured to facilitate user control of at  
least some functions of the mobile phone.

22. An apparatus according to any one of claims 18-20, wherein the apparatus is a mobile  
phone further comprising:  
20 user interface circuitry and user interface software configured to facilitate user control of at  
least some functions of the mobile phone through use of a display and configured to  
respond to user input; and  
a display and display circuitry configured to display at least a portion of a user interface of the  
mobile phone, the display and display circuitry configured to facilitate user control of at  
25 least some functions of the mobile phone.

23. A computer-readable storage medium carrying one or more sequences of one or more  
instructions which, when executed by one or more processors, cause an apparatus to perform at  
30 least a method of any one of claims 1-7.

24. A computer program product including one or more sequences of one or more  
instructions which, when executed by one or more processors, cause an apparatus to at least  
perform the steps of a method of any one of claims 1-7.

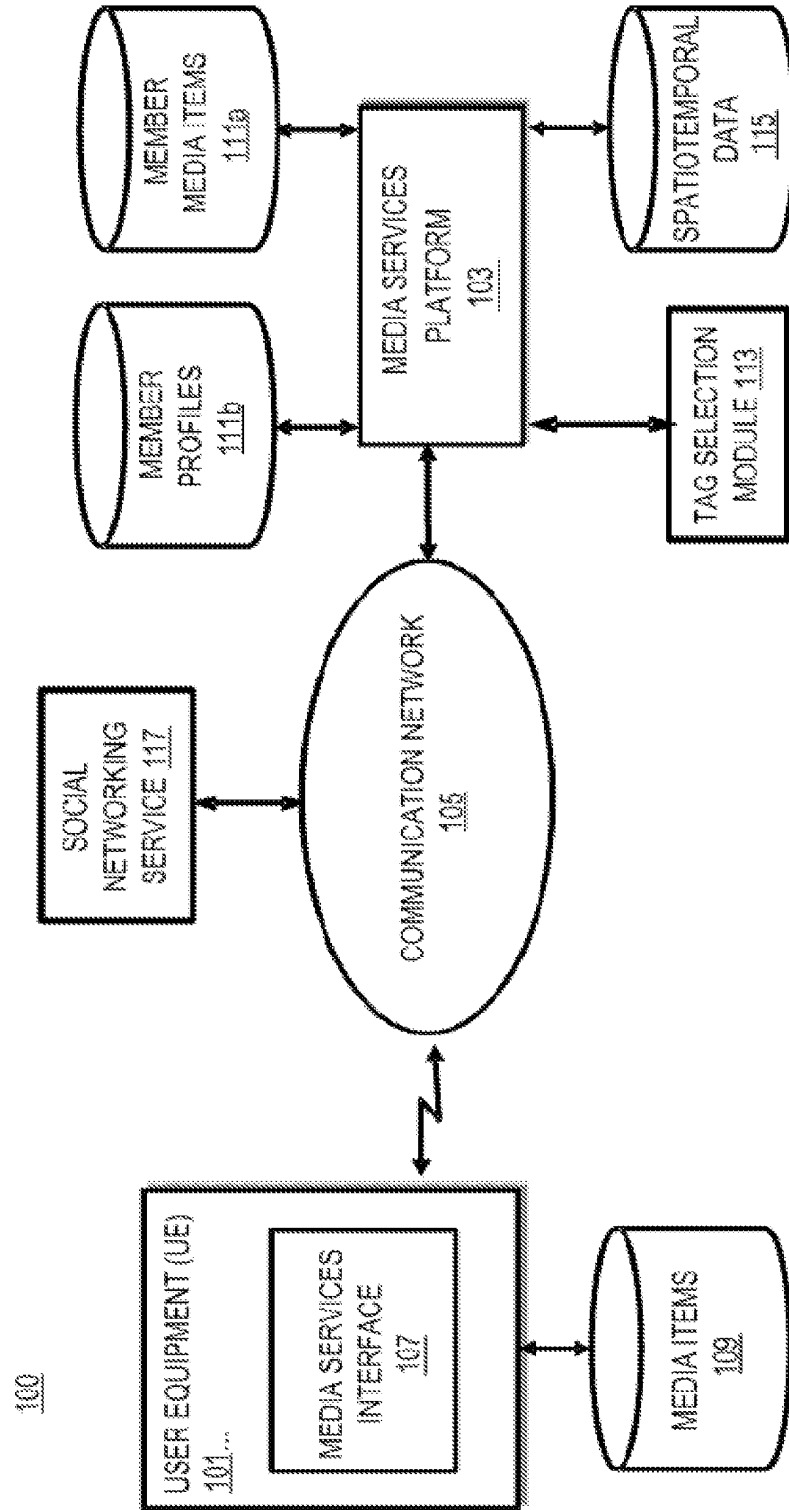
35 25. A computer-readable storage medium carrying one or more sequences of one or more  
instructions which, when executed by one or more processors, cause an apparatus to perform at  
least a method of any one of claims 15-17.

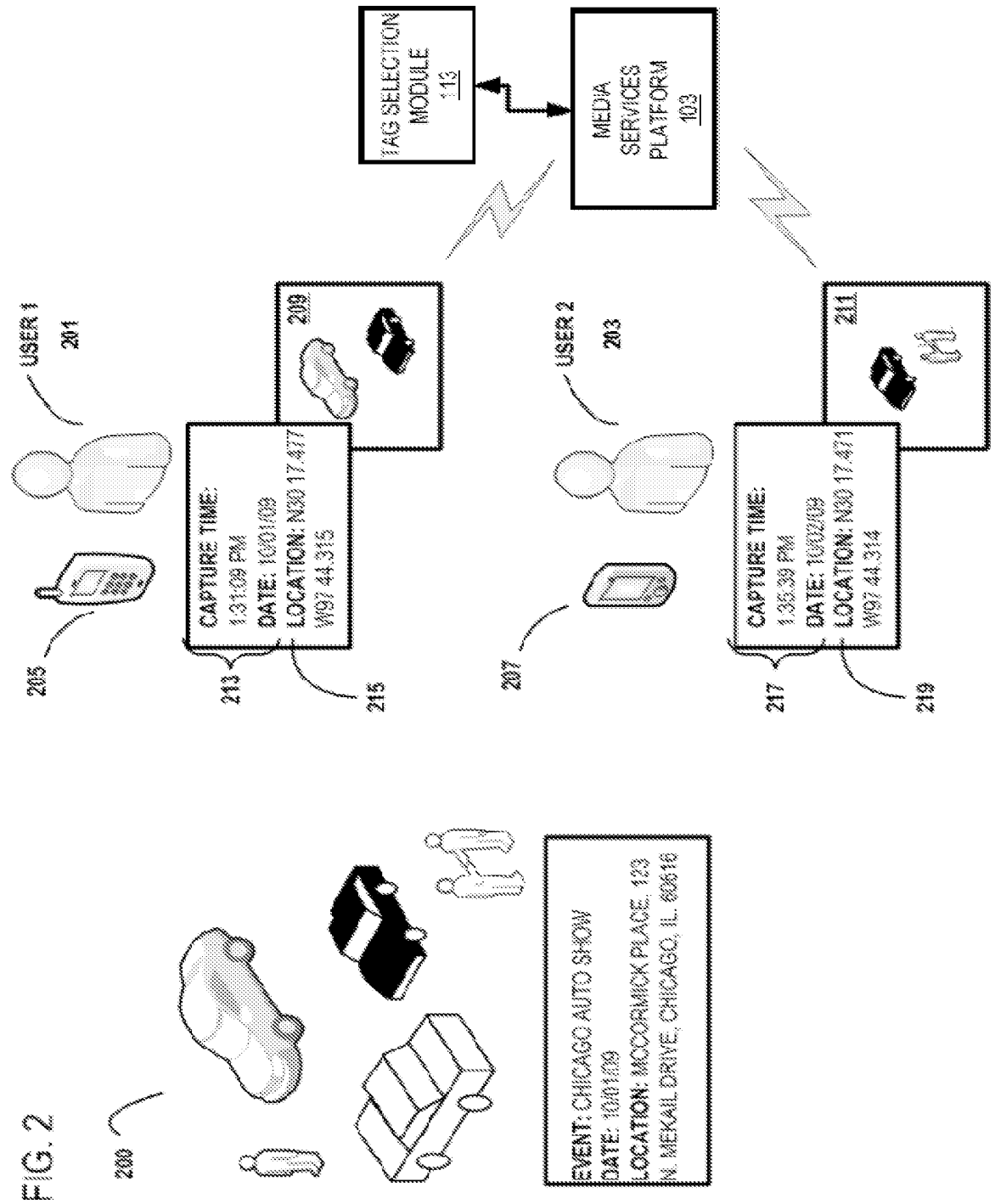
26. A computer program product including one or more sequences of one or more instructions which, when executed by one or more processors, cause an apparatus to at least perform the steps of a method of any one of claims 15-17.
- 5 27. An apparatus comprising means for performing a method of any one of claims 1-7.
28. An apparatus of claim 27, wherein the apparatus is a mobile phone further comprising: user interface circuitry and user interface software configured to facilitate user control of at least some functions of the mobile phone through use of a display and configured to  
10 respond to user input; and  
a display and display circuitry configured to display at least a portion of a user interface of the mobile phone, the display and display circuitry configured to facilitate user control of at least some functions of the mobile phone.
- 15 29. An apparatus comprising means for performing a method of any one of claims 15-17.
30. An apparatus of claim 29, wherein the apparatus is a mobile phone further comprising: user interface circuitry and user interface software configured to facilitate user control of at least some functions of the mobile phone through use of a display and configured to  
20 respond to user input; and  
a display and display circuitry configured to display at least a portion of a user interface of the mobile phone, the display and display circuitry configured to facilitate user control of at least some functions of the mobile phone.
- 25 31. A method comprising facilitating access to at least one interface configured to allow access to at least one service, the at least one service configured to perform a method of any one of claims 1-7.
- 30 32. A method comprising facilitating access to at least one interface configured to allow access to at least one service, the at least one service configured to perform a method of any one of claims 15-17.
33. A method comprising facilitating creating and/or facilitating modifying at least one device user interface element and/or functionality,  
35 the at least one device user interface element and/or functionality based at least in part on the following:  
data resulting from a method of any one of claims 1-7 and/or  
at least one signal resulting from a method of any one of claims 1-7.

34. A method comprising facilitating creating and/or facilitating modifying at least one device user interface element and/or functionality,  
the at least one device user interface element and/or functionality based at least in part on the following:

- 5                    data resulting from a method of any one of claims 15-17 and/or  
                      at least one signal resulting from a method of any one of claims 15-17.

FIG. 1





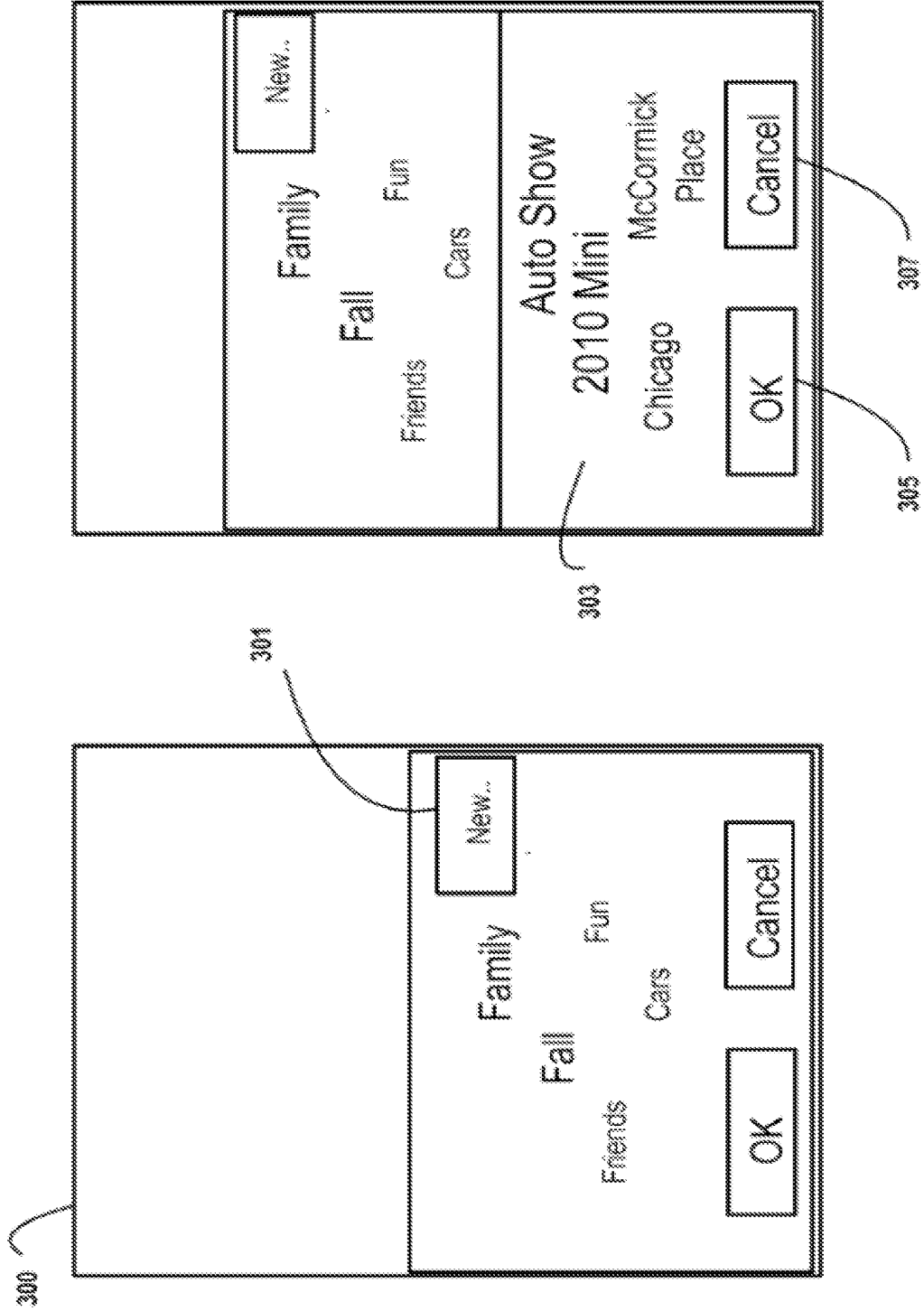


FIG 3b

FIG 3a

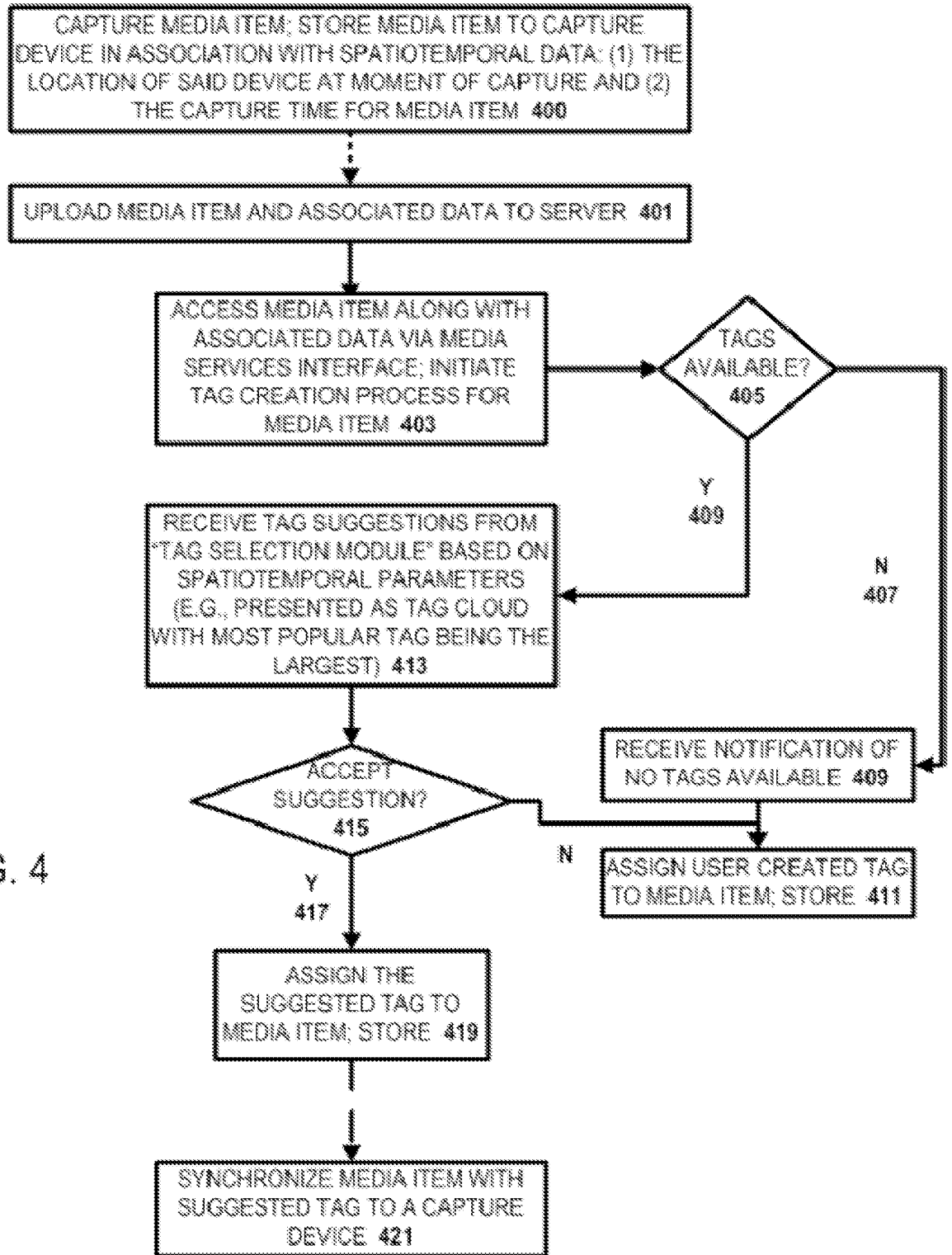


FIG. 4

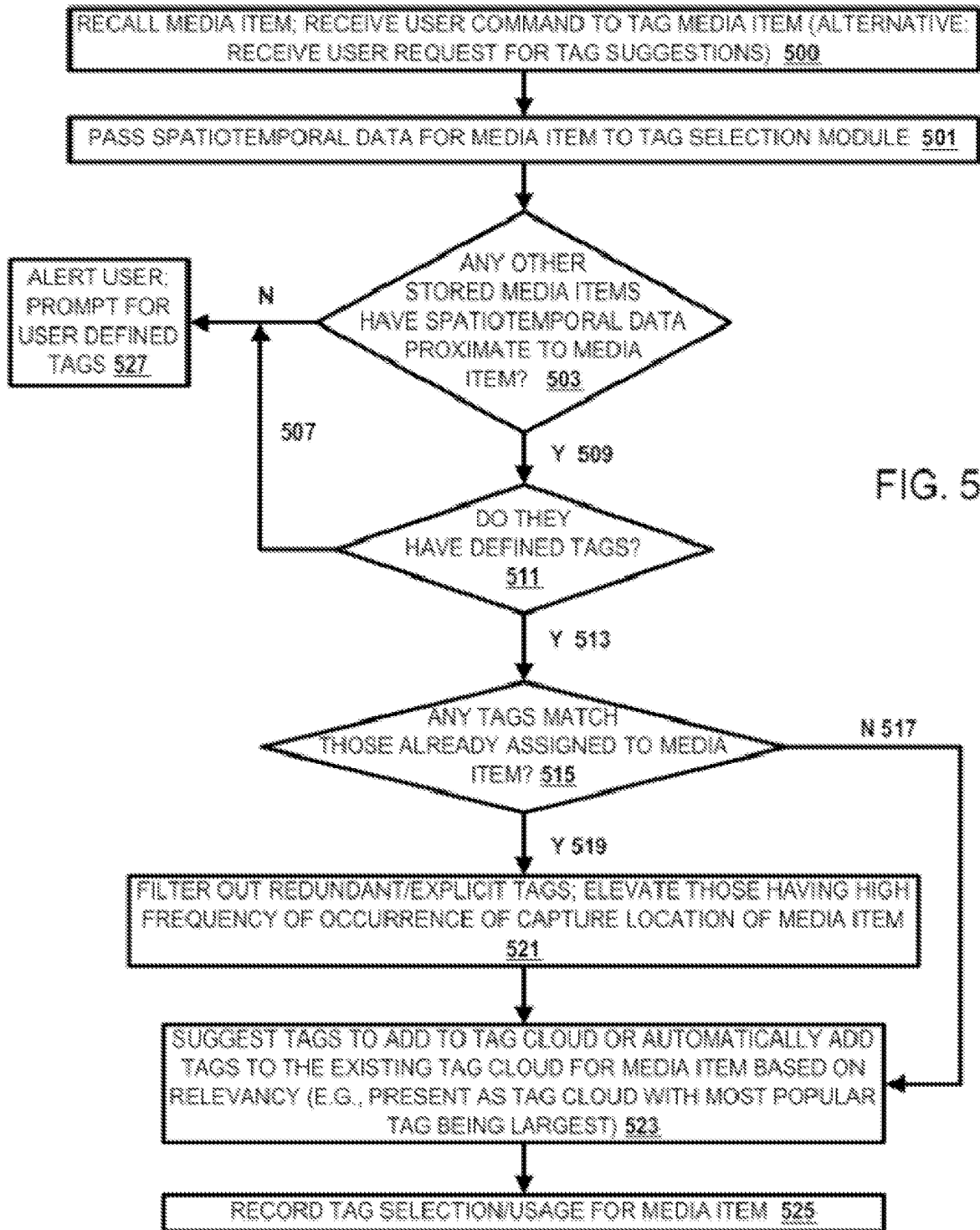


FIG. 5



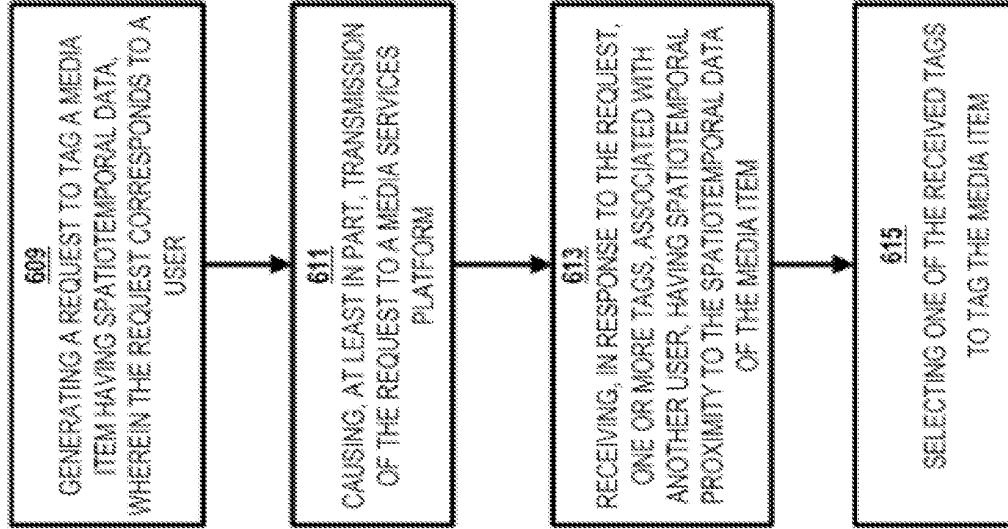


FIG. 6a

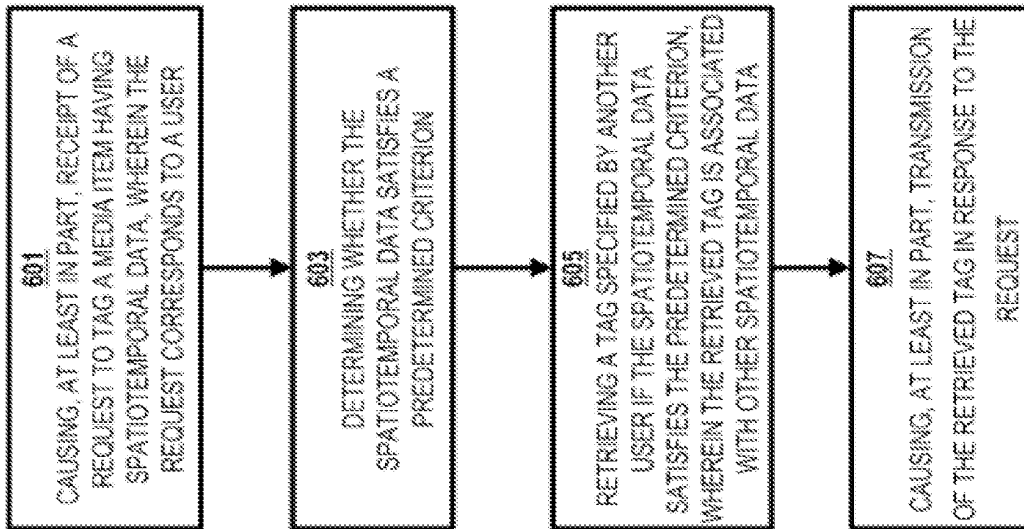


FIG. 6b

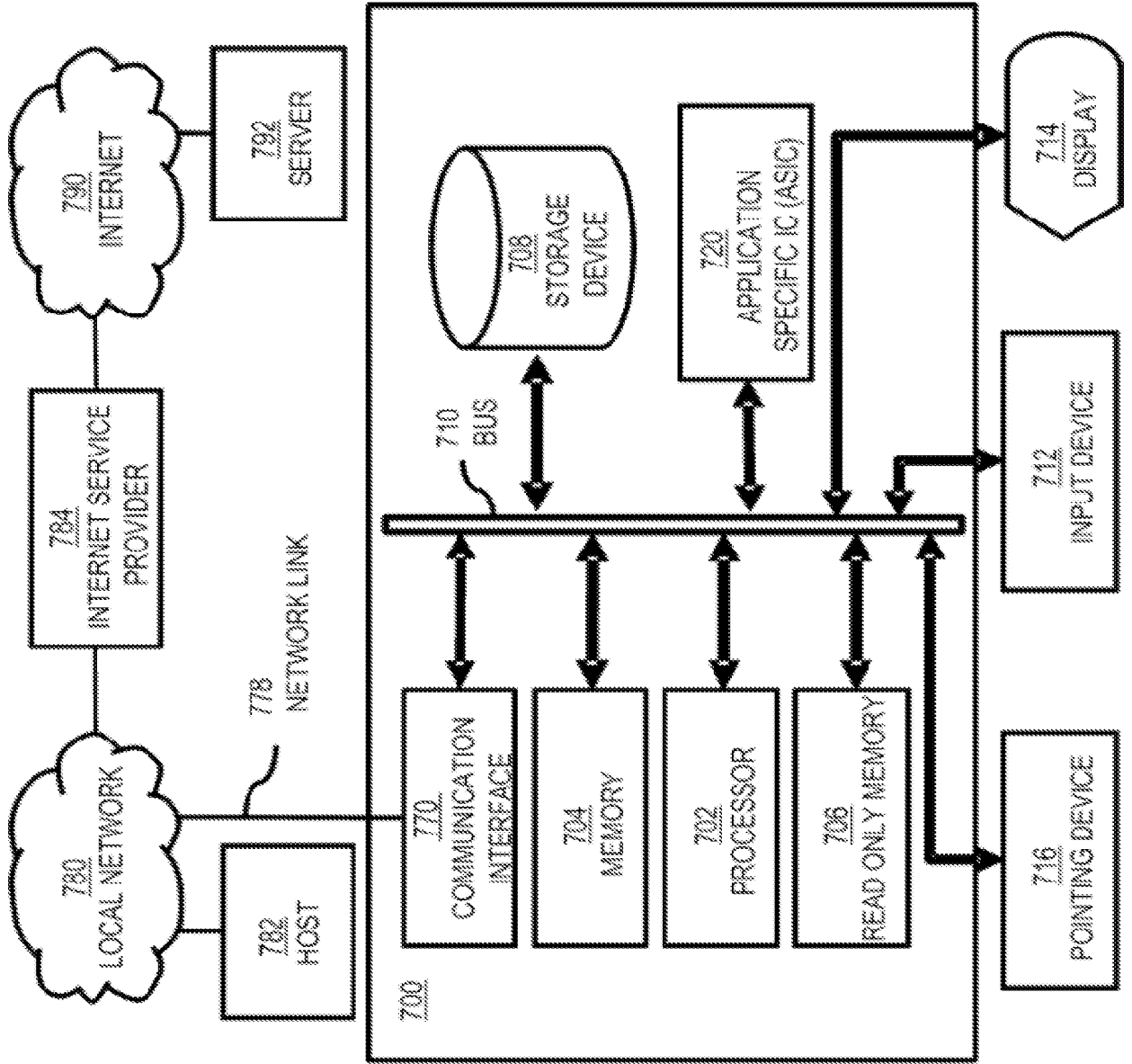


FIG. 7

FIG. 8

800

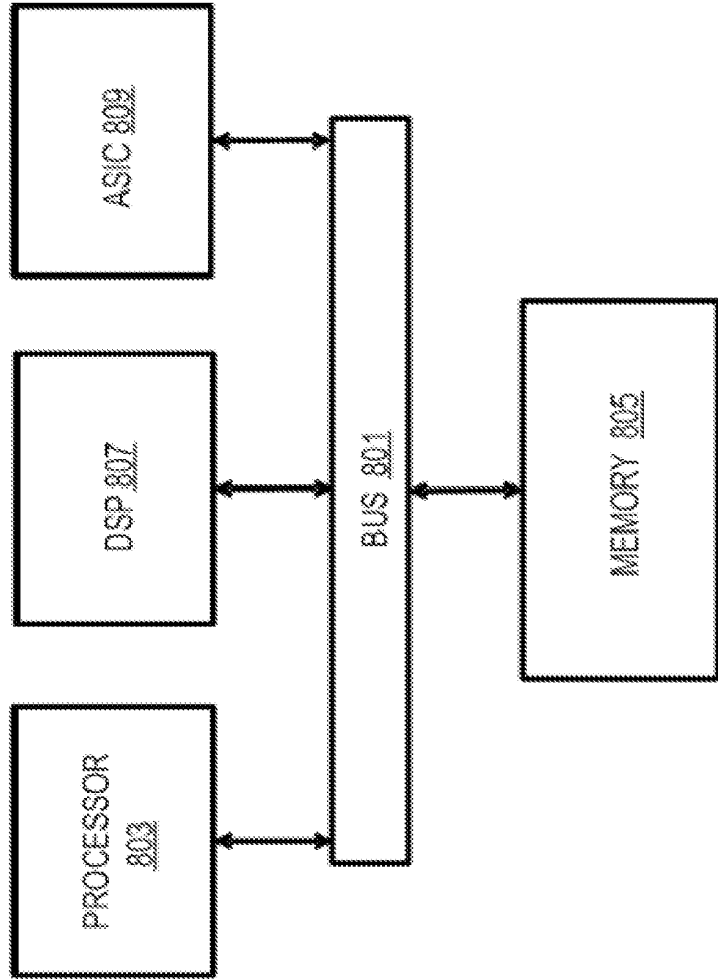
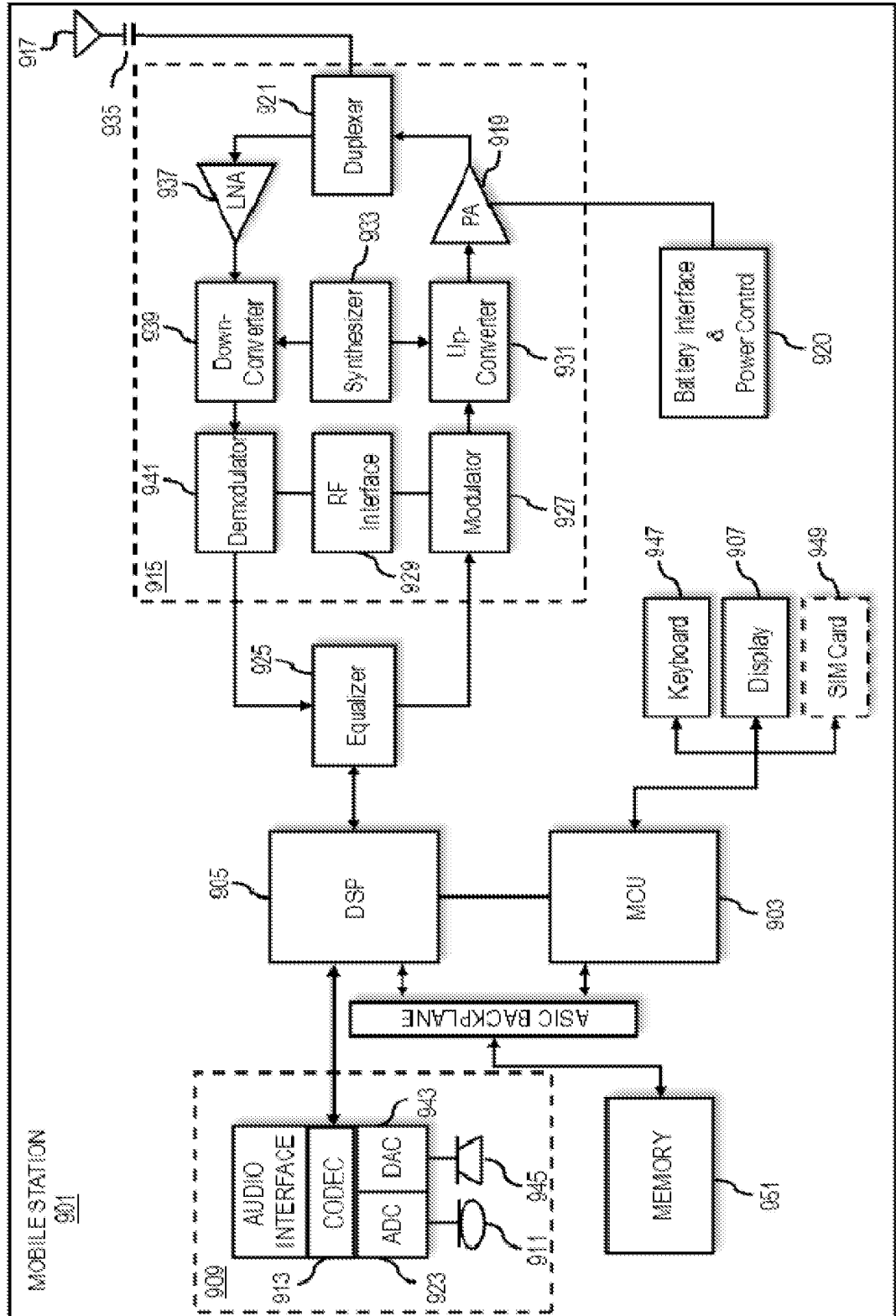


FIG. 9



**INTERNATIONAL SEARCH REPORT**

International application No. <b>PCT/FI2010/050899</b>
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<p>A. CLASSIFICATION OF SUBJECT MATTER</p> <p>See extra sheet</p> <p>According to International Patent Classification (IPC) or to both national classification and IPC</p>																	
<p>B. FIELDS SEARCHED</p> <p>Minimum documentation searched (classification system followed by classification symbols)</p> <p>IPC: G06F, G06Q, G08G, G09B, G11B</p> <p>Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched</p> <p>FI, SE, NO, DK</p> <p>Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)</p> <p>EPO-Internal</p>																	
<p>C. DOCUMENTS CONSIDERED TO BE RELEVANT</p> <table border="1"> <thead> <tr> <th align="center">Category*</th> <th align="center">Citation of document, with indication, where appropriate, of the relevant passages</th> <th align="center">Relevant to claim No.</th> </tr> </thead> <tbody> <tr> <td align="center">X</td> <td>US 2007/0118509 A1 (SVENDSEN H) 24 May 2007 (24.05.2007) [0005]-[0008], [0021]-[0027], [0034], [0041], [0048]-[0049], [0059], claims 1-27, figures 1, 4A</td> <td align="center">1-34</td> </tr> <tr> <td align="center">A</td> <td>US 2009/0164516 A1 (SVENDSEN H et al.) 25 June 2009 (25.06.2009) [0007], claims 1-36</td> <td align="center">1-34</td> </tr> <tr> <td align="center">A</td> <td>US 2009/0216435 A1 (ZHENG Y et al.) 27 August 2009 (27.08.2009) [0004]-[0005], claims 1-20</td> <td align="center">1-34</td> </tr> <tr> <td align="center">A</td> <td>US 2008/0148175 A1 (NAAMAN M et al.) 19 June 2008 (19.06.2008) [0010]-[0025], claims 1-3, 10, 13-15, 17-29, 31-34, 36</td> <td align="center">1-34</td> </tr> </tbody> </table>			Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.	X	US 2007/0118509 A1 (SVENDSEN H) 24 May 2007 (24.05.2007) [0005]-[0008], [0021]-[0027], [0034], [0041], [0048]-[0049], [0059], claims 1-27, figures 1, 4A	1-34	A	US 2009/0164516 A1 (SVENDSEN H et al.) 25 June 2009 (25.06.2009) [0007], claims 1-36	1-34	A	US 2009/0216435 A1 (ZHENG Y et al.) 27 August 2009 (27.08.2009) [0004]-[0005], claims 1-20	1-34	A	US 2008/0148175 A1 (NAAMAN M et al.) 19 June 2008 (19.06.2008) [0010]-[0025], claims 1-3, 10, 13-15, 17-29, 31-34, 36	1-34
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<p><input type="checkbox"/> Further documents are listed in the continuation of Box C.      <input checked="" type="checkbox"/> See patent family annex.</p>																	
<p>* Special categories of cited documents:</p> <table border="0"> <tr> <td>"A" document defining the general state of the art which is not considered to be of particular relevance</td> <td>"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention</td> </tr> <tr> <td>"E" earlier application or patent but published on or after the international filing date</td> <td>"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone</td> </tr> <tr> <td>"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)</td> <td>"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art</td> </tr> <tr> <td>"O" document referring to an oral disclosure, use, exhibition or other means</td> <td>"&amp;" document member of the same patent family</td> </tr> <tr> <td>"P" document published prior to the international filing date but later than the priority date claimed</td> <td></td> </tr> </table>			"A" document defining the general state of the art which is not considered to be of particular relevance	"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention	"E" earlier application or patent but published on or after the international filing date	"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone	"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art	"O" document referring to an oral disclosure, use, exhibition or other means	"&" document member of the same patent family	"P" document published prior to the international filing date but later than the priority date claimed						
"A" document defining the general state of the art which is not considered to be of particular relevance	"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention																
"E" earlier application or patent but published on or after the international filing date	"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone																
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art																
"O" document referring to an oral disclosure, use, exhibition or other means	"&" document member of the same patent family																
"P" document published prior to the international filing date but later than the priority date claimed																	
<p>Date of the actual completion of the international search</p> <p align="center"><b>07 March 2011 (07.03.2011)</b></p>		<p>Date of mailing of the international search report</p> <p align="center"><b>11 March 2011 (11.03.2011)</b></p>															
<p>Name and mailing address of the ISA/FI</p> <p>National Board of Patents and Registration of Finland P.O. Box 1160, FI-00101 HELSINKI, Finland Facsimile No. +358 9 6939 5328</p>		<p>Authorized officer</p> <p align="center">L Eronen</p> <p>Telephone No. +358 9 6939 500</p>															

**INTERNATIONAL SEARCH REPORT**  
**Information on patent family members**

International application No.  
PCT/FI2010/050899

Patent document cited in search report	Publication date	Patent family members(s)	Publication date
US 2007/0118509 A1	24/05/2007	WO 2007062293 A2	31/05/2007
.....			
US 2009/0164516 A1	25/06/2009	CN 101464881 A US 2009164429 A1	24/06/2009 25/06/2009
.....			
US 2009/0216435 A1	27/08/2009	WO 2009108457 A2 EP 2260457 A2	03/09/2009 15/12/2010
.....			
US 2008/0148175 A1	19/06/2008	None	
.....			

INTERNATIONAL SEARCH REPORT

International application No.  
PCT/FI2010/050899

CLASSIFICATION OF SUBJECT MATTER

Int.Cl.

**G06F 17/30** (2006.01)

**H04M 1/725** (2006.01)



- (51) **International Patent Classification:**  
*G06F 3/048* (2013.01)
- (21) **International Application Number:**  
PCT/US2012/046428
- (22) **International Filing Date:**  
12 July 2012 (12.07.2012)
- (25) **Filing Language:** English
- (26) **Publication Language:** English
- (30) **Priority Data:**  
13/198,071 4 August 2011 (04.08.2011) US
- (71) **Applicant (for all designated States except US):** FACEBOOK, INC. [US/US]; 1601 Willow Road, Menlo Park, CA 94025 (US).
- (72) **Inventors; and**
- (75) **Inventors/Applicants (for US only):** TSENG, Erick [US/US]; C/o Facebook, Inc., 1601 Willow Road, Menlo Park, CA 94025 (US). CAHILL, Matthew [US/US]; C/o Facebook, Inc., 1601 Willow Road, Menlo Park, CA 94025 (US).
- (74) **Agents:** HULSE, Robert, A. et al.; Fenwick & West Llp, Silicon Valley Center, 801 California Street, Mountain View, CA 94041 (US).
- (81) **Designated States (unless otherwise indicated, for every kind of national protection available):** AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.
- (84) **Designated States (unless otherwise indicated, for every kind of regional protection available):** ARIPO (BW, GH, GM, KE, LR, LS, MW, MZ, NA, RW, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, RU, TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM,

[Continued on next page]

(54) **Title:** DISPLAYING SOCIAL OPPORTUNITIES BY LOCATION ON A MAP

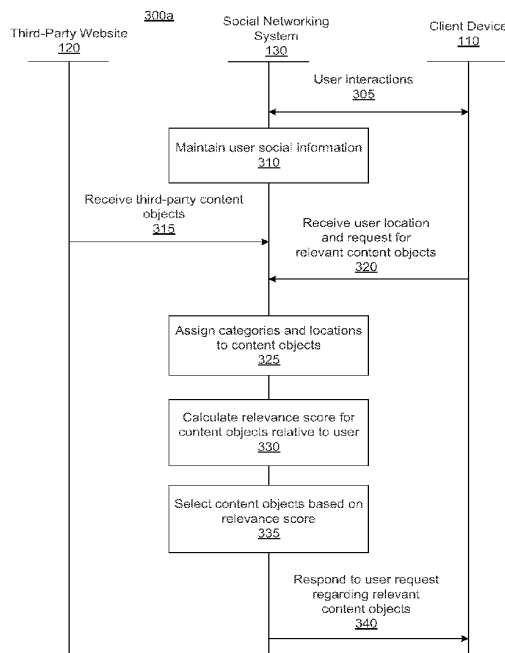


FIG. 3

(57) **Abstract:** A social networking system provides relevant content objects at the request of social networking system users. Relevance scores are determined for content objects by matching user location, user interests, and other social information to the content, location, and timing associated with content objects. A ranked list of content objects can be provided to the user, where the content objects are relevant to them based on their interests, location, and other social information. The system provides a user interface that displays a map containing pins, where each pin represents a content object in actionable proximity to a user. The content objects selected to be presented as pins to the user are those content objects with sufficiently high relevance scores. Multiple pins for a nearby area can be clustered. The user can switch between zoom levels for the map, thereby showing pins at varying distances from the user's current location.

WO 2013/019376 A1



**WO 2013/019376 A1**



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TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, **Published:**  
ML, MR, NE, SN, TD, TG).

— *with international search report (Art. 21(3))*

**DISPLAYING SOCIAL OPPORTUNITIES BY LOCATION ON A MAP****BACKGROUND**

**[0001]** This invention relates generally to social networking, and in particular to providing relevant information for a user of a social networking system based on user location and social information.

**[0002]** Social networking systems have become prevalent in recent years because they provide a useful environment in which users can connect to and communicate with other users. A variety of different types of social networking systems exist that provide mechanisms allowing users to interact within their social networks. In this context, a user may be an individual or any other entity, such as a business or other non-person entity. Accordingly, while enabling social communications among friends, a social networking system can also be a valuable tool for businesses to engage with potential consumers.

**[0003]** However, users of social networking systems traditionally have not been able to obtain information that is relevant and timely based on their interests, connections to others, and particular locations. Users have not yet been able to exploit the relationships and connections among members of a social networking website, nor the rich user information contained therein, in a meaningful way. Similarly, third-party content providers, such as businesses, also have not been able to exploit social networking systems to provide information at the appropriate time and place to best take advantage of a potential customer's interest.

**SUMMARY**

**[0004]** To enable a social networking system to provide relevant content objects at the request of social networking system users, embodiments of the invention provide a mechanism for matching user location, interests, and other social information with the content, location, and timing associated with content objects, including both third-party content objects and user generated content objects. In particular, embodiments of the invention enable relevance scores to be calculated for content objects with respect to relevance specific to a user of the social networking system, from which a ranked list of content objects can be provided to the user, where the content objects are relevant to them based on their interests, location, and other social information.

**[0005]** In one embodiment, the social networking system provides a user interface on a mobile device displays a map containing pins, where each pin represents a content object in actionable proximity to a user (e.g., a nearby friend, deal, etc.). The content objects selected

to be presented as pins to the user are those content objects with sufficiently high relevance scores. Multiple pins for a nearby area can be clustered. The user can switch between zoom levels for the map, thereby showing pins at varying distances from the user's current location (e.g., nearby, close, and far). In one embodiment, the zoom levels are based on the existence of relevant content rather than being predetermined distances from the user. In one embodiment, the system is configured to receive a request from the user to automatically select the content object with the highest relevance score instead of displaying the map of pins.

#### **BRIEF DESCRIPTION OF THE DRAWINGS**

[0006] FIG. 1 is a network diagram of one embodiment of a system for responding to the requests of social networking system user regarding nearby, relevant activities.

[0007] FIG. 2 is a diagram of a social networking system, in accordance with an embodiment of the invention.

[0008] FIG. 3 is an interaction diagram of one embodiment of a process for responding to a request for information relevant to a user of a social networking system based on user location and social information.

[0009] FIG. 4 is a series of sample screenshots illustrating how a client device may display information regarding nearby activities relevant to a user of a social networking system responsive to the user's request.

#### **DETAILED DESCRIPTION**

##### Overview of a Social Networking System Network

[0010] FIG. 1 is a network diagram of one embodiment of a system for responding to the requests of social networking system user (e.g., member) regarding nearby, relevant activities. The system 100 includes one or more user devices 110, one or more third-party content object provider 120, the social networking system 130 and a network 140. For purposes of illustration, the embodiment of the system 100 shown by FIG. 1 includes a single third-party content object provider 120 and a single user device 110. However, in other embodiments, the system 100 may include more user devices 110 and/or more third-party content object providers 120. In certain embodiments, the social networking system 130 is operated by the social network provider, whereas the third-party content object providers 120 are separate from the social networking system 130 in that they may be operated by different entities. In various embodiments, however, the social networking system 130 and the third-party content object providers 120 operate in conjunction to provide social networking services to users of the social networking system 130. In this sense, the social networking

system 130 provides a platform, or backbone, which other systems, such as third-party content object providers 120, may use to provide social networking services and functionalities to users across the Internet.

**[0011]** A user device 110 comprises one or more computing devices that can receive input from a user and can transmit and receive data via the network 140. For example, the user device 110 may be a desktop computer, a laptop computer, a smart phone, a personal digital assistant (PDAs) or any other device including computing functionality and data communication capabilities. The user device 110 is configured to communicate with the third-party content object provider 120 and the social networking system 130 via the network 140, which may comprise any combination of local area and/or wide area networks, using both wired and wireless communication systems. In one embodiment, the user device 110 displays content from the third-party content object provider 120 and/or from the social networking system 130.

**[0012]** The third-party content object provider 120 comprises one or more sources of content objects, which are communicated to the user device 110 at appropriate times. In one embodiment, the third-party content object provider 120 is a separate entity from the social networking system 130. For example, the third-party content object provider 120 is associated with a first domain while the social networking system 130 is associated with a separate social networking domain. In various embodiments, the third-party content object provider 120 is located on a website or alternatively a server, separate or in conjunction from the website or server that hosts the social networking system 130.

**[0013]** The third-party content objects, as the term is used herein, include any content object generated by a third-party content object provider 120 rather than by a user of the social networking system 130. Content objects generally may include information regarding things or activities of interest to the user. Third-party content objects include informational content objects, such as movie show times, movie reviews, restaurant reviews, restaurant menus, product information and reviews, etc., as well as incentive content objects, such as coupons, discount tickets, gift certificates, etc. according to one embodiment. In addition, some third-party content objects may include a combination of information and incentives. Other examples of content objects include event content objects associated with an event (e.g., a New Year's Eve party) or ad-hoc gathering objects (e.g., an impromptu gathering of 100 people in Union Square, San Francisco). Examples of content objects and the ways in which content objects may be presented or used are described below.

**[0014]** The social networking system 130 comprises one or more computing devices storing a social network, or a social graph, comprising a plurality of users and providing users of the social network with the ability to communicate and interact with other users of the social network. According to various embodiments, the social networking system 130 may comprise a website, or alternatively a server that can be accessed through a wired or wireless network 140 by user devices 110 or third-party content object providers 120. In use, users join the social networking system 130 and then add connections (i.e., relationships) to a number of other users of the social networking system 130 to whom they desire to be connected. As used herein, the term “friend” refers to any other user of the social networking system 130 to whom a user has formed a connection, association, or relationship via the social networking system 130. Connections may be added explicitly by a user or may be automatically created by the social networking systems 130 based on common characteristics of the users (e.g., users who are alumni of the same educational institution). For example, a first user specifically selects a particular other user to be a friend. Connections in the social networking system 130 are usually in both directions, but need not be, so the terms “user” and “friend” depend on the frame of reference. Connections between users of the social networking system 130 are usually bilateral, or “mutual,” but connections may also be unilateral, or “one-way.” For example, if Bob and Joe are both users of the social networking system 130 and connected to each other, Bob and Joe are each other’s connections. If, on the other hand, Bob wishes to connect to Joe to view data communicated to the social networking system by Joe but Joe does not wish to form a mutual connection, a unilateral connection may be established. The connection between users may be a direct connection; however, some embodiments of a social networking system allow the connection to be indirect via one or more levels of connections or degrees or separation. Using a social graph, therefore, a social networking system may keep track of many different types of objects and the interactions and connections among those objects, thereby maintaining an extremely rich store of socially relevant information.

**[0015]** In addition to establishing and maintaining connections between users and allowing interactions between users, the social networking system 130 provides users with the ability to take actions on various types of items, or objects, supported by the social networking system 130. These items may include groups or networks (where “networks” here refer not to physical communication networks, but rather social networks of people, entities, and concepts) to which users of the social networking system may belong, events or calendar entries in which a user might be interested, computer-based applications that a user may use

via the social networking system 130, transactions that allow users to buy or sell items via the service, and interactions with advertisements that a user may perform on or off the social networking system.

**[0016]** These are just a few examples of the items upon which a user may act on a social networking system, and many others are possible. A user may interact with anything that is capable of being represented in the social networking system 130 or by an external system of the third-party content object provider 120, which is separate from the social networking system 130 and coupled to the social networking system 130 via a network 140.

**[0017]** The social networking system 130 is also capable of linking a variety of entities. For example, the social networking system 130 enables users to interact with each other as well as receive content from third-party content object providers 120 or other entities, or to allow users to interact with these entities through an API or other communication channels.

**[0018]** The social networking system 130 also includes user-generated content objects, which enhances a user's interactions with the social networking system 130. User-generated content may include anything a user can add, upload, send, or "post," to the social networking system 130. For example, a user communicates posts to the social networking system 130 from a user device 110. Posts may include data such as status updates or other textual data, location information, photos, videos, links, music or other similar data and/or media. Content may also be added to the social networking system 130 by a third-party through a "communication channel," such as a newsfeed or stream.

**[0019]** Content objects, generally, represent single pieces of content that are represented as objects in the social networking system 130. In this way, users of the social networking system 130 are encouraged to communicate with each other by posting text and content objects of various types through various communication channels, increasing the interaction of users with each other and increasing the frequency with which users interact with the social networking system 130.

#### Social Networking System Architecture

**[0020]** FIG. 2 is a diagram of one embodiment of a social networking system 130. The embodiment of a social networking system 130 shown by FIG. 2 includes a web server 210, an action logger 215, an API request server 220, a relevance and ranking engine 225, a content object classifier 260, a notification controller 265, an action log 230, a third-party content object exposure log 270, an inference module 275, an authorization server 235, a search module 280, an ad targeting module 285, a user interface module 290, a user profile

store 240, a connection store 245, a third-party content store 250, and a location store 255. In other embodiments, the social networking system 130 may include additional, fewer, or different modules for various applications. Conventional components such as network interfaces, security mechanisms, load balancers, failover servers, management and network operations consoles, and the like are not shown so as to not obscure the details of the system.

**[0021]** As described above in conjunction with FIG. 1, the social networking system 130 comprises a computing system that allows users to communicate or otherwise interact with each other and access content as described herein. The social networking system 130 stores user profiles describing the users of a social network in a user profile store 240. The user profiles include biographic, demographic, and other types of descriptive information, such as work experience, educational history, hobbies or preferences, interests, location, and the like. For example, the user profile store 240 contains data structures with fields suitable for describing a user's profile. When a new object of a particular type is created, the social networking system 130 initializes a new data structure, i.e., a "node" of the corresponding type, assigns a unique object identifier to it, and begins to add data to the object as needed. This might occur, for example, when a user becomes a user of the social networking system 130, the social networking system 130 generates a new instance of a user profile in the user profile store 240, assigns a unique identifier to the user profile, and begins to populate the fields of the user profile with information provided by the user.

**[0022]** In addition, the user profile store 240 may include data structures suitable for describing a user's demographic data, behavioral data, and other social data. Demographic data typically includes data about the user, such as age, gender, location, etc., e.g., as included in the user's profile. Behavioral data typically includes information about the user's activities within the social networking system 130, such as specific actions (posts, likes, comments, etc.), activity levels, usage statistics, etc. Other social data comprises information about the user from within the social networking system 130 that is not strictly demographic or behavioral, such as interests or affinities, etc. In one embodiment, user's interests may be explicitly specified in the user's profile or interests that may be inferred from the user's activities in the social networking system (e.g., uploaded content, postings, reading of messages, etc). Additionally, the user profile store 240 includes logic for maintaining user interest information for users according to one or more categories. Categories may be general or specific, e.g., if a user "likes" an article about a brand of shoes the category may be the brand, or the general category of "shoes" or "clothing." Multiple categories may apply

to a single user interest. In addition, the user profile store 240 may be accessed by other aspects of the social networking system 130.

**[0023]** For example, the user profile store 240 includes logic for maintaining interest information for users according to one or more categories. Categories may be general or specific, e.g., if a user “likes” an article about a brand of shoes the category may be the brand, or the general category of “shoes” or “clothing.” Multiple categories may apply to a single user interest. In addition, the user profile store 240 may be accessed by other aspects of the social networking system 130.

**[0024]** The social networking system 130 further stores data describing one or more connections between different users in a user connection store 245. The connection information may indicate users who have similar or common work experience, group memberships, hobbies, educational history, or are in any way related or share common attributes. Additionally, the social networking system 130 includes user-defined connections between different users, allowing users to specify their relationships with other users. For example, user-defined connections allow users to generate relationships with other users that parallel the users’ real-life relationships, such as friends, co-workers, partners, and so forth. Users may select from predefined types of connections, or define their own connection types as needed. The connection store 245 includes data structures suitable for describing a user’s connections to other users, connections to third-party content object providers 120, or connections to other entities. The connection stores 245 may also associate a connection type with a user’s connections, which may be used in conjunction with the user’s privacy setting, to regulate access to information about the user. In addition, the connection store 245 may be accessed by other aspects of the social networking system 130.

**[0025]** The web server 210 links the social networking system to one or more user devices 110 and/or one or more third-party content object providers 120 via the network 140. The web server 210 serves web pages, as well as other web-related content, such as Java, Flash, XML, and so forth. The web server 210 may include a mail server or other messaging functionality for receiving and routing messages between the social networking system 130 and one or more user devices 110. The messages can be instant messages, queued messages (e.g., email), text and SMS messages, or any other suitable messaging format.

**[0026]** The Application Programming Interface (API) request server 220 allows one or more third-party content object providers 120 to access information from the social networking system 130 by calling one or more APIs. The API request server 220 also may allow third-party content object providers 120 to send information to the social networking system by



calling APIs. For example, a third-party content object provider 120 sends an API request to the social networking system 130 via the network 140 and the API request server 220 receives the API request. The API request server 220 processes the request by calling an API associated with the API request to generate an appropriate response, which the API request server 220 communicates to the third-party content object provider 120 via the network 140.

[0027] The action logger 215 is capable of receiving communications from the web server 210 about user actions on and/or off the social networking system 130. The action logger 215 populates the action log 230 with information about user actions, allowing the social networking system 130 to track or monitor various actions taken by its users within the social networking system 130 and outside of the social networking system 130. Any action that a particular user takes with respect to another user is associated with each user's profile, through information maintained in the action log 230 or in a similar database or other data repository. Examples of actions taken by a user within the social network 130 that are identified and stored may include, for example, adding a connection to another user, sending a message to another user, reading a message from another user, viewing content associated with another user, attending an event posted by another user or other actions interacting with another user. When a user takes an action within the social networking system 130, the action is recorded in the action log 230. In one embodiment, the social networking system maintains the action log 230 as a database of entries. When an action is taken within the social networking system 130, an entry for the action is added to the action log 230. The relevance and ranking engine 225 includes logic for calculating a relevance score for content objects (including both user-generated content objects and third-party content objects) relative to a user, for ranking the content objects by their relevance scores, and for selecting content objects for sending to users as notifications or as responses to user requests. To calculate the relevance score, the relevance and ranking engine 225 determines a location value by comparing the content object location and a current location for the user device 210, determines an interest value based on whether the content object categories are included in the user's interests, determines a time value based on whether the current time is within the delivery time range for the content object, and determines a connection value based on how many of the user's connections are associated with the content object. Then, the relevance and ranking engine 225 combines the location value, interest value, connection value, and time value to determine the relevance score for the content object with respect to the user. In one embodiment the values are higher for a better fit (closer proximity, great similarity, etc.) and approach a value of one, and are multiplied together to yield the relevance score. From

the relevance scores for each content object, the relevance and ranking engine 225 ranks the content objects for a user, e.g., from highest relevance score to lowest. The relevance and ranking engine 225 then can select content objects to send to a notification controller 265, or can serve the highest ranked content object directly to the user device 110 as a notification(s).

**[0028]** The content object classifier 260 includes logic for assigning each of the content objects a location, a category, and a delivery time range. Categories may reflect various categories of user interests, and may be associated with the interests themselves, e.g., a user “likes” an article about a brand of shoes and the category is the brand, or the article about the shoe brand is assigned a general category of “shoes” or “clothing.” Multiple categories may apply to a single content object. General or specific locations may be assigned to content objects as well, e.g., a city, a particular street name or intersection, or GPS coordinates. A delivery time range is assigned to each content object, e.g., using a useful range based on the hours the associated business is open.

**[0029]** Additionally, user actions may be associated with exposure to third-party content objects from one or more third-party content object providers 120. Thus, in conjunction with the action log 230, a third-party content object log 270 is maintained of user exposures to such objects and when the last exposure occurred. The action logger 215 receives data describing a user’s interaction with an object and stores it to the third-party content object log 270. The third-party content object log 270 includes logic for storing user exposures to third-party content objects and associations between users and objects. The exposure information can be used to determine whether to expose the user to the same or similar content objects, and for adjusting the ranking and selection of content objects on the basis of whether the user previously has been exposed to the same or similar content object. In addition, if a user becomes associated with a content object via an action, e.g., uses an incentive, goes to the location, etc., that information also is stored, and can be used for re-ranking and re-selecting the content objects.

**[0030]** The notification controller 265 provides information regarding content objects to the user device 110. Information may be pushed to the user device 110 as notifications, or information may be pulled to the user device responsive to a request received from the user device 110. In the push circumstance, notifications of content objects are initially pushed according to a default rate. Based on user engagement with the notifications, the notification controller 265 may adjust the rate in which notifications are provided to the user device 110. By adjusting the initial settings, the notification controller 265 provides notifications of content objects to the user device 110 when the user is more likely to engage with the

notifications. Information may be pulled to the user device at any time. Additionally, the type of content that is provided to the client device 110 may be updated based on the user engagement.

**[0031]** The authorization server 235 enforces one or more privacy settings of the users of the social networking system 130. A privacy setting of a user determines how particular information associated with a user can be shared. The privacy setting comprises the specification of particular information associated with a user and the specification of the entity or entities with whom the information can be shared. Examples of entities with which information can be shared may include other users, applications, external websites or any entity that can potentially access the information. The information that can be shared by a user comprises user profile information like profile photo, phone numbers associated with the user, user's connections, actions taken by the user such as adding a connection, changing user profile information and the like.

**[0032]** The useful social information that is tracked and maintained by a social networking system can be thought of in terms of a "social graph," which includes a plurality of nodes that are interconnected by a plurality of edges. Each node in the social graph may represent something that can act on and/or be acted upon by another node. Common examples of nodes include users, non-person entities, content objects, groups, events, messages, concepts, and any other things that can be represented by an object in a social networking system. An edge between two nodes in the social graph represents a particular kind of connection between the two nodes, which may result from an action that was performed by one of the nodes on the other node.

**[0033]** The social networking system 130 may receive a request to associate the web content with a node in the social networking system 130. An external website (e.g., of the third party content object provider 130) incorporates a tag into the markup language document for the web page(s) of the web content to claim ownership of the pages/domain in the context of the social networking system 130. In some cases, an entire domain or collection of web pages is associated with a unique identifier that associates the web pages with a node. Once established, the social networking system 130 tracks data associated with the node in the action log 230.

**[0034]** Data stored in the connection store 245, the user profile store 240 and the action log 230 allows the social networking system 120 to generate a social graph that uses nodes to identify various objects and edges connecting nodes to identify relationships between different objects. An edge between two nodes in the social graph represents a particular kind

of connection between the two nodes, which may result from an action that was performed by one of the nodes on the other node.

**[0035]** The third-party content object store 250 stores content objects received from third parties. The third-party content objects include informational content objects, such as movie show times, restaurant menus, etc., as well as incentive content objects, such as coupons, discount tickets, gift certificates, etc. In addition, some third-party content objects may include a combination of information and incentives.

**[0036]** The location store 255 stores location information received from user devices 110 associated with users. The location information used by the social networking system 130 may be obtained directly from user devices 110, e.g., at the time a notification is to be sent or at various predetermined time intervals, or the location information may be a last stored location received from the user device 110. In addition, the location store 255 may receive updated location information, e.g., in response to a change in the location of a user device 110. In one embodiment, if an updated location is received, the updated location is provided to the relevance and ranking engine 225 for re-ranking and/or re-selecting the third-party content objects in view of the updated location information.

**[0037]** In general, the selection or ranking of content objects may occur at varying intervals based on several variables, such as always at the beginning of a period during which a notification would be served, or every X minutes during a period during which notifications will be served, or every X minutes all the time (e.g., so that it's ready when a search happens), only in response to a change in location or expiration of a delivery time for a content object, etc. Alternatively, the ranking of content objects may occur as a result of user demand. The user may explicitly request the ranking by submitting a request for relevant information happening within the vicinity of the user. The request may be received in response to user selection of a "refresh" element included in a user application associated with the present disclosure. The request may also be implicit. For example, upon launching of the user application, a request may be automatically received for the ranking.

**[0038]** The social networking system 130 implements context search using a context search module 280. Context search results are search results that are relevant to the user based on their current location as well as their social information. In this way, the context search results are tailored to the user's interests, connections, and location at the time of the search. The context search module 280 incorporates location information, search results and relevance score information obtained from the relevance and ranking engine 225 in order to

provide a ranked list of search results and/or for selection of third-party content objects as the basis for serving notifications.

**[0039]** The ad pricing module 285 combines social information, the current time, and location information to provide relevant advertisements, in the form of notifications, to a user. Advertisements of increased relevance to a user are more likely to result in a purchase. Dividing consumers according to their interests based on social information allows merchants to calculate the value of their potential customers. Advertisements provided through the social networking system 130 may be priced according to the value of the customer to the merchant, as indicated by their social information.

**[0040]** In one embodiment, the UI (or User Interface) module 290 is configured to display a map containing pins on a user device 110, where each pin represents a content object in actionable proximity to a user (e.g., a nearby friend, deal, etc.). The content objects selected to be presented as pins to the user are those content objects with sufficiently high relevance scores. Multiple pins for a nearby area can be clustered. The UI module 290 provides the user with the ability to switch between zoom levels for the map, thereby showing pins at varying distances from the user's current location (e.g., nearby, close, and far). In one embodiment, the zoom levels are based on the existence of relevant content rather than being predetermined distances from the user.

**[0041]** In one embodiment, the UI module 290 is configured to display a ranked list of search results on a client device 110 that have been ranked by the context search module 280. The UI module 290 is additionally configured to generate an advertisement dashboard for merchants advertising through the social networking system 130. The advertisement dashboard allows merchants to control the distribution and price they pay for their advertisements. For both functions, the UI module is configured to generate a user interface that a client device 110 or a third-party content object provider (or merchant) 120 may interact with.

**[0042]** An inference module 275 determines overlapping interests between users in the social networking system 130. By determining the overlapping interests between a user and his or her friends, the inference module 275 may identify which interests may be imputed to the user based on the interests of the user's friends. Thus, through the user's friends, the inference module 275 allows the social networking system 130 to identify interests for the user that are not explicitly indicated by the user.

**[0043]** The third-party content object store 250 stores content objects received from third parties. The third-party content objects include informational content objects, such as movie

show times, movie reviews, restaurant reviews, restaurant menus, product information and reviews, etc., as well as incentive content objects, such as coupons, discount tickets, gift certificates, etc. In addition, some third-party content objects may include a combination of information and incentives.

**[0044]** The location store 255 stores location information received from user devices associated with users. The location information used by the social networking system 130 may be obtained directly from user devices 110, e.g., at the time a notification is to be sent or at various predetermined time intervals, or the location information may be a last stored location received from the user device 110. The location information may also be obtained along with a request from a user. In addition, the location store 255 may receive updated location information, e.g., in response to a change in the location of a user device 110. In one embodiment, if an updated location is received, the updated location is provided to the relevance and ranking engine 225 for re-ranking and or re-selection of the content objects in view of the updated location information.

Providing Location Based, Relevant Content Objects for a Social Networking System User

**[0045]** FIG. 3 is an interaction diagram of one embodiment of a process for responding to a request for information relevant to a user of a social networking system based on user location and social information.

**[0046]** Initially, users, via user devices 110 interact 305 with each other via the social networking system 130 and with the social networking system 130 directly, providing it information about the user such as user interest and connection information. The social networking system 130 maintains 310 the user social information (e.g., interest and connection information for each user. For example, the social networking system 130 may categorize the interest information into categories.

**[0047]** The social networking system 130 also receives 315 third-party content objects from one or more third parties 120. The third-party content objects may include informational content objects, such as movie show times, movie reviews, sale information, restaurant menus, etc., as well as incentive content objects, such as coupons, discount tickets, gift certificates, etc. In addition, some third-party content objects may include a combination of information and incentives.

**[0048]** The social networking system 130 receives 320 a request from a requesting user for information regarding relevant, nearby content objects. The user request may include information about the location of the user device 110. This information may be obtained

directly from the user device 110, e.g., at the time of the request, at the time a notification is to be sent or at various time intervals, or the social networking system 130 may retrieve a last stored location for the user device 110. In addition, when a user device 110 changes locations, the updated location information may be provided to the social networking system 130. Alternatively, the user may provide a location specifying a constraint on the kinds of content objects in which they are interested.

**[0049]** Content objects, (including both user-generated and third-party content objects) are assigned 325 categories, locations, and delivery time ranges. For example, categories may be established by the social networking system 130 that reflect various categories of interests of users of the social networking system 130. The categories may be associated with the interests themselves, e.g., if a user “likes” an article about a brand of shoes, the category may be the brand. Alternatively, the social networking system 130 may assign the article about the shoe brand a general category of “shoes” or “clothing.” The social networking system 130 may assign both of these categories to a single content object; thus, multiple categories may apply to a single content object. For example, for an incentive offering 20% off a specialty coffee drink at a particular coffee shop, the promotion may be assigned a category “food,” type “beverage,” and subtype “coffee.” These tags can be matched to categories associated with user interests.

**[0050]** Locations may be assigned to content objects as well. For example, a coupon for \$2.00 off of a movie ticket at a particular movie theater chain may apply to all theaters in the chain, or just one theatre. A location may be general, e.g., a city, or specific, e.g., a particular street name, or intersection, or GPS coordinate. One or more such locations are assigned to each content object. Finally, a delivery time range is assigned to a content object. The range may reflect appropriate hours for the item. For example, if the content object is a coupon for a donut store that is open only in the morning, the range for the notification likely would correspond to the hours during which the donut store is open, or some other useful range related to the open hours, e.g., fifteen minutes before opening to thirty minutes before closing.

**[0051]** The social networking system 130 calculates 330 a relevance score for each content object relative to the requesting user. The social networking system 130 uses the location, interest, time, and connection information for the user and the content objects to calculate the score. For example, the social networking system 130 may first calculate scores for each of these categories that are combined to get the relevance score.

[0052] In one embodiment, for each content object the social networking system 130 determines a location value based on the proximity between the content object location and a current location associated with the user device 110. The social networking system 130 also determines an interest value based on whether the category or categories assigned to the content object are included in the category or categories associated with the user's interests. The social networking system 130 also determines a time value based on whether the current time is within the delivery time range for the content object. For example, a discount coupon for lunch at a restaurant may be associated with lunch hours and is accordingly of higher interest during the hours commonly associated with lunch. And the social networking system 130 determines a connection value based on how many, if any, of the user's connections are associated with the content object. For example, a connection associated with the content object may include information or an incentive for a business that one of the user's connections is currently at, e.g., a connection of the user is at the frozen yogurt store that the incentive applies to. Then, the social networking system 130 combines the location value, interest value, connection value, and time value to determine the relevance score for the content object with respect to the user. In one embodiment the values are higher for a better fit (closer proximity, great similarity, etc.) and approach one, and are multiplied together to yield the relevance score.

[0053] From the relevance scores of the content objects, the social networking system 130 selects 335 the content objects for a user, e.g., from a ranking of highest relevance score to lowest, or by selection of the highest relevance scored items. The social networking system 130 responds to the user's request for relevant content objects. The content objects are provided to the user. In one embodiment, the UI module 290 renders information regarding the content objects, for example in the form of a map with pins. In one embodiment, the social networking system 130 receives a request user from a user for only a single content object. In this case, the social networking system provides the content object with the highest relevance score to the requesting user.

[0054] Once a user is exposed to a content object, the social networking system 130 stores that exposure. In addition, the social networking system 130 monitors whether the user uses an incentive associated with the content object, goes to the location of the information, or otherwise becomes associated with the content object, and if so, the social networking system 130 stores that information.

Map with Pins Illustrating Relevant, Nearby Content Objects Requested by a User



[0055] FIG. 4 is a series of sample screenshots illustrating how a client device 110 may display information regarding nearby activities relevant to a user of a social networking system 130 responsive to the user's request. In FIG. 4a, a map 410 illustrates the real world region around the requesting user. The map 410 displays a number of content objects 415 that have been determined to be the most relevant content objects according to their relevance scores, which are based in part on the requesting user's location.

[0056] Content objects are presented as pins (e.g., pins A 415a, B 415b, and C 415c) based on the real world locations where the requesting user may interact with the real world entity associated with the content objects. For example, the content object may be a third-party content object comprising a coupon for a free smoothie at a smoothie store. In this example, pin 415 may represent the location of the smoothie store where the coupon is redeemable. In another example, pin 415 may represent the location where three of their friends are currently located.

[0057] In some circumstances, multiple content objects presented to the requesting user as pins 415 may be in such close proximity in the real world, that the map 410 is unable to display the multiple pins in a separate, independently identifiable manner. In one embodiment, pins in close proximity are grouped into a single, differently shaped group pin 420 that represents multiple content objects at once. A group pin 420 may visually indicate the number of pins 415 contained within the group pin 420. For example, group pin 420a indicates that three separate pins are contained within the group pin 420a.

[0058] In response to a request for information from a user, map 410 initially displays the area immediately surrounding the user. The user, however, may change the real world area illustrated by map 410. The user may also change the level of zoom at which the surrounding real world area is shown. FIG. 4a further illustrates that the requesting user is presented with multiple zoom settings 405 to allow a requesting user to switch between different zoom levels of the surrounding environment. In the example embodiment of FIG. 4a, the zoom levels include the immediate vicinity of the requesting user 405a as the highest granularity zoom level, a nearby zoom level 405b including a larger swath of the surrounding area as compared with the immediate vicinity 405a, and a far away zoom level 405c that covers a much larger scope than the previous two zoom levels. FIG. 4a illustrates a map 410 displayed at the immediate vicinity 405a zoom level.

[0059] In one embodiment, the zoom levels are based on absolute distances from the requesting user. For example, in the immediate vicinity 405a, the map 410 may cover one square mile, whereas the nearby zoom level 405b covers five square miles, and the far away

zoom level 405c covers fifty square miles. In another embodiment, zoom levels may be based in part upon the geographical location of the users, whereby zoom levels are specified for various cities, states, and suburban areas. For example, if the user is located in the bay area of California, the far away zoom level 405c may be the entire bay area rather than fixed fifty mile distance.

**[0060]** Map 410 is configured to display only a limited number of pins 415 or block pins 420. The number of pins 415 or block pins 420 displayed may be determined by the social networking system 130 or the requesting user. In one embodiment, the number of pins 415 or block pins 420 is a fixed amount. In another embodiment, the number of pins 415 or block pins 420 is based on a relevance score threshold. Only content objects above the relevance score threshold are displayed as part of pins 415 or block pins 420. The relevance score threshold may vary depending upon the zoom level. For example, at a immediate vicinity zoom level 405a, there may be comparatively few content objects that are present to provide to the requesting user, and thus the relevance score threshold for this zoom level may be lower. In contrast, at a far away zoom level 405c, there may be many more content objects as compared to the immediate vicinity zoom level 405a case, and as a result the relevance score threshold for this zoom level may be higher. Thus, a requesting user changing from a smaller zoom level to a larger zoom level may reflect the user's interest in receiving information about more relevant content objects, despite the fact that they are further away from the requesting user's present location. Adjusting the relevance score threshold based on zoom level ensures that the user is always presented with a sufficient, but not excessive, number of pins 415 and block pins 420 to interact with.

**[0061]** FIG. 4b illustrates the map 410 at the nearby zoom level 405b. In the example embodiment of FIG. 4b, group pin 420b indicates that it includes six pins, for example group pin 420a and pins 420a, 420b, and 420c, along with three others that were not present in map 410 as displayed in FIG. 4a. FIG. 4b further includes two new pins 415d, and 415e.

**[0062]** FIG. 4c illustrates the map 410 at the far away zoom level 405c. Group pins 420d and 420c include ten and five pins, respectively. Pins 415g and 415f represent individual content objects that are sufficiently far from other pins to be displayed separately from group pins, despite the area covered by map 410.

**[0063]** FIG. 4d illustrates a user interface presenting a requesting user with more information about a selected content object 445 illustrated by a pin 415a. In one embodiment, map 410 still presents the selected pin, however the map has been reduced in size with respect to the total screen area of the user device 110. The user interface presents information about the

selected content object 445. The presented information may include, for example, the users of the social networking system 130 who have indicated affinity for the content object who are also connected to the requesting user through the social networking system, comments on the content object made by users connected with the requesting user through the social networking system, and/or a list of users connected with the requesting user through the social networking system who are currently present at the real-world location associated with the content object.

### Summary

**[0065]** The foregoing description of the embodiments of the invention has been presented for the purpose of illustration; it is not intended to be exhaustive or to limit the invention to the precise forms disclosed. Persons skilled in the relevant art can appreciate that many modifications and variations are possible in light of the above disclosure.

**[0066]** Some portions of this description describe the embodiments of the invention in terms of algorithms and symbolic representations of operations on information. These algorithmic descriptions and representations are commonly used by those skilled in the data processing arts to convey the substance of their work effectively to others skilled in the art. These operations, while described functionally, computationally, or logically, are understood to be implemented by computer programs or equivalent electrical circuits, microcode, or the like. Furthermore, it has also proven convenient at times, to refer to these arrangements of operations as modules, without loss of generality. The described operations and their associated modules may be embodied in software, firmware, hardware, or any combinations thereof.

**[0067]** Any of the steps, operations, or processes described herein may be performed or implemented with one or more hardware or software modules, alone or in combination with other devices. In one embodiment, a software module is implemented with a computer program product comprising a non-transitory computer-readable medium containing computer program code, which can be executed by a computer processor for performing any or all of the steps, operations, or processes described.

**[0068]** Embodiments of the invention may also relate to an apparatus for performing the operations herein. This apparatus may be specially constructed for the required purposes, and/or it may comprise a general-purpose computing device selectively activated or reconfigured by a computer program stored in the computer. Such a computer program may be stored in a non-transitory, tangible computer readable storage medium, or any type of

media suitable for storing electronic instructions, which may be coupled to a computer system bus. Furthermore, any computing systems referred to in the specification may include a single processor or may be architectures employing multiple processor designs for increased computing capability.

**[0069]** Embodiments of the invention may also relate to a product that is produced by a computing process described herein. Such a product may comprise information resulting from a computing process, where the information is stored on a non-transitory, tangible computer readable storage medium and may include any embodiment of a computer program product or other data combination described herein.

**[0070]** Finally, the language used in the specification has been principally selected for readability and instructional purposes, and it may not have been selected to delineate or circumscribe the inventive subject matter. It is therefore intended that the scope of the invention be limited not by this detailed description, but rather by any claims that issue on an application based hereon. Accordingly, the disclosure of the embodiments of the invention is intended to be illustrative, but not limiting, of the scope of the invention, which is set forth in the following claims.

What is claimed is:

1. A method for providing relevant information to a user of a social networking system, the method comprising:
  - maintaining social information for the user;
  - associating each of a plurality of content objects with a location, a category, and a time
  - receiving a request for information from a user device;
  - receiving a user location;
  - determining a relevance score for the content objects based on matching the user location and social information to the locations, categories, and times for the content objects;
  - ranking the content objects by their relevance scores; and
  - providing the ranked content objects to a notification controller for transmission to the user device.
2. The method of claim 1, wherein maintaining the social information comprises:
  - maintaining affinity information for the user according to one or more categories;
  - and
  - maintaining a plurality of connections between the user and other users of the social networking system.
3. The method of claim 1, wherein calculating the relevance score comprises:
  - determining a location value for the content object, the location value based on a proximity between the location associated with the content object and the user location.
4. The method of claim 1, wherein calculating the relevance score comprises:
  - determining an interest value for the content object, the interest value based on whether a category associated with the content object is included in the one or more categories associated with the affinity information for the user.
5. The method of claim 1, wherein calculating the relevance score comprises:
  - determining a time value for the content object, the time value based on whether a current time is within the delivery time range assigned to the content object.
6. The method of claim 1, wherein calculating the relevance score comprises:

determining a connection value for the content object, the connection value based on a number of the user's plurality of connections associated with the content object.

7. The method of claim 1, wherein calculating the relevance score comprises: combining a location value, an interest value, a connection value, and a time value to determine the relevance score.
8. The method of claim 1, wherein the time has an action associated with it, where the action can be performed by the user.
9. The method of claim 1, wherein the time is a time range that determines whether the content object is eligible to be received by the user.
10. The method of claim 1, wherein receiving a location of a user device associated with the user comprises receiving the location directly from the user device
11. The method of claim 10, wherein the location is received from the user device at predetermined intervals.
12. The method of claim 1, wherein the request received from the user includes the user location.
13. The method of claim 1, further comprising storing a user exposure to a provided content object.
14. The method of claim 13, further comprising adjusting the relevance scores of the content objects based on the user exposure to the provided content object.
15. The method of claim 1, further comprising:
  - receiving indication of an action by the user associated with a provided content object; and
  - storing an association between the user and the provided content object in response to the received indication.
16. The method of claim 1, transmitting a highest ranked content object from the ranked content objects to the user device for display to the user.
17. The method of claim 1, wherein the notification controller is configured for transmitting the ranked content objects to the user device for display to the user.
18. The method of claim 1, wherein the plurality of content objects comprises third-party content objects provided by third-parties, and content objects formed based on interactions of users with the social networking system.
19. A method for displaying information regarding relevant content objects to a social networking system user, the method comprising:

transmitting from a user device at a user location a request for information;  
receiving at the user device a ranked list of content objects, each content object comprising a location, a category, a rank, and a time, wherein the ranked list of content objects are ranked according to a relevance score determined based on matching the user location and a user's social information to the locations, categories, and times for the content objects;  
and

displaying a map comprising a plurality of pins displaying the locations of the content objects, wherein each pin is associated with a content object, and each pin displays the rank of the associated content object.

20. The method of claim 19, comprising:

displaying a plurality of selectable zoom levels that change a distance covered by the map.

21. The method of claim 19, wherein the zoom levels are based on fixed distances.

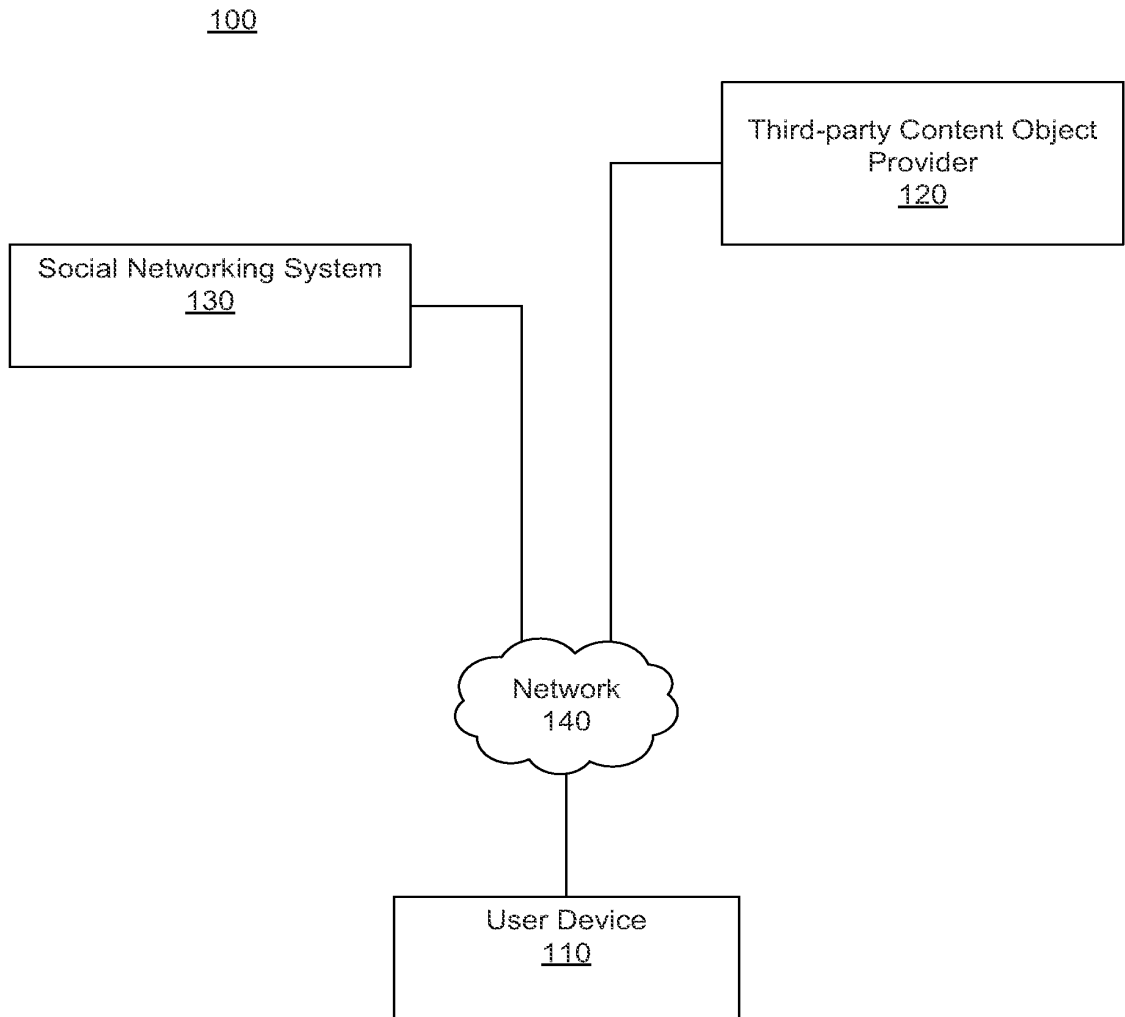
22. The method of claim 19, wherein the zoom levels are based on geographical regions.

23. The method of claim 19, wherein the zoom levels are based on relevance score thresholds.

24. The method of claim 19, comprising:

displaying a group pin representing the locations of a plurality of associated content objects, wherein the content objects associated with the group pins are located within a proximity of each other.

25. The method of claim 24, wherein the group pin displays the number of content objects it is associated with.



**FIG. 1**



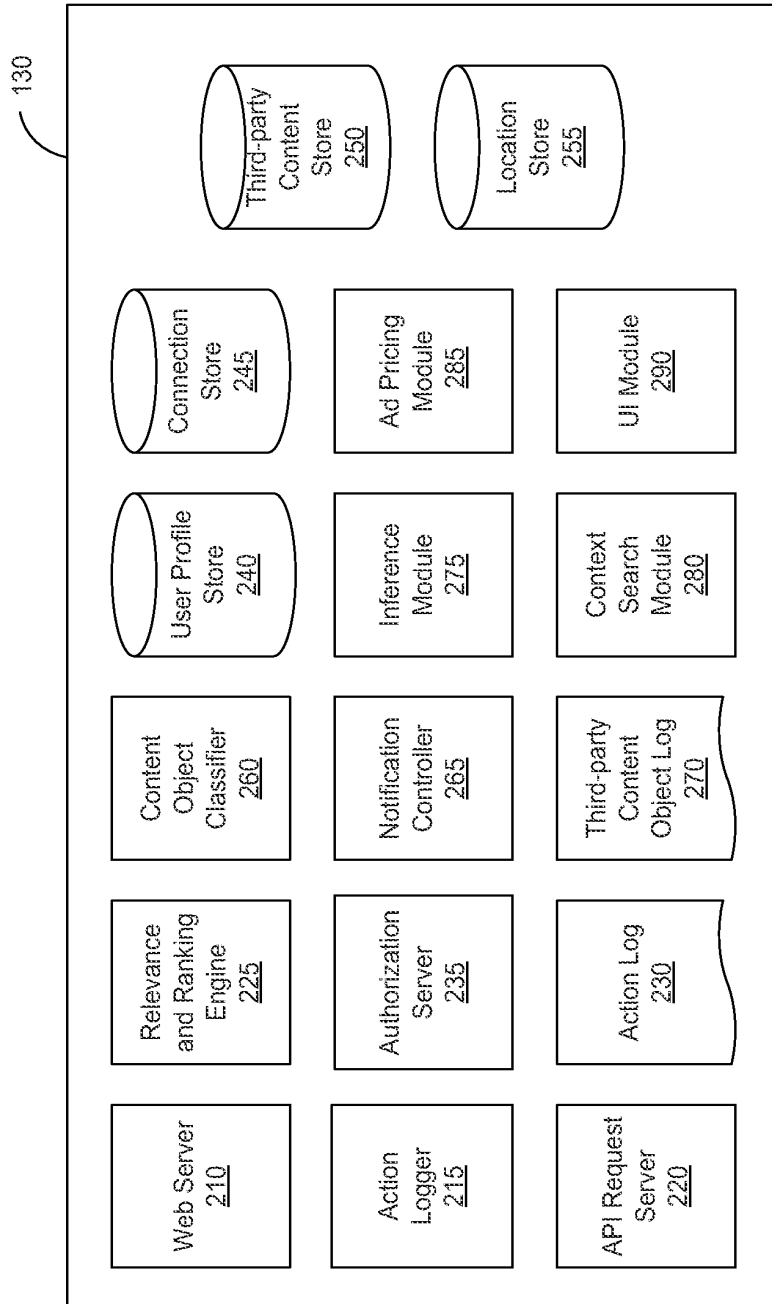


FIG. 2

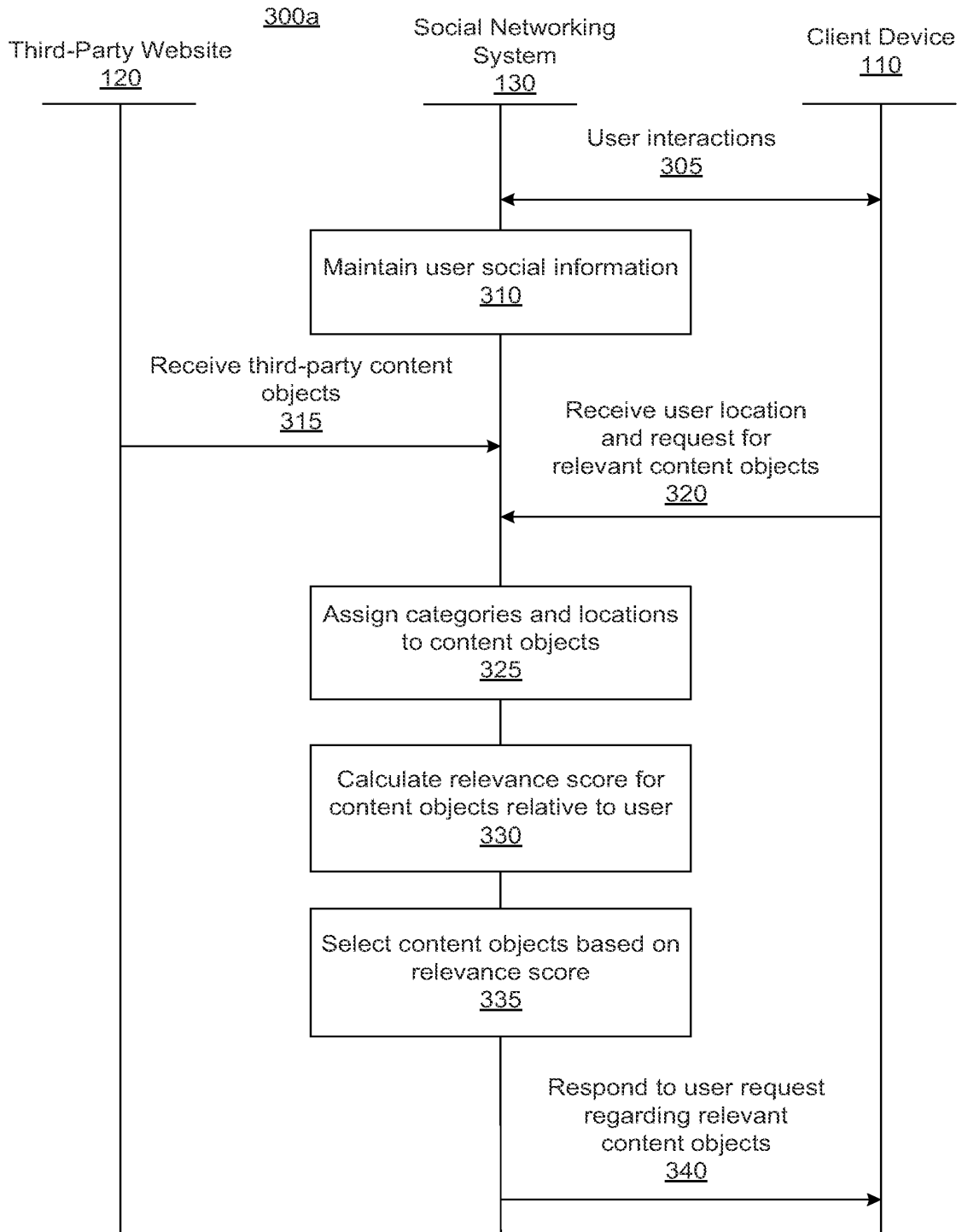
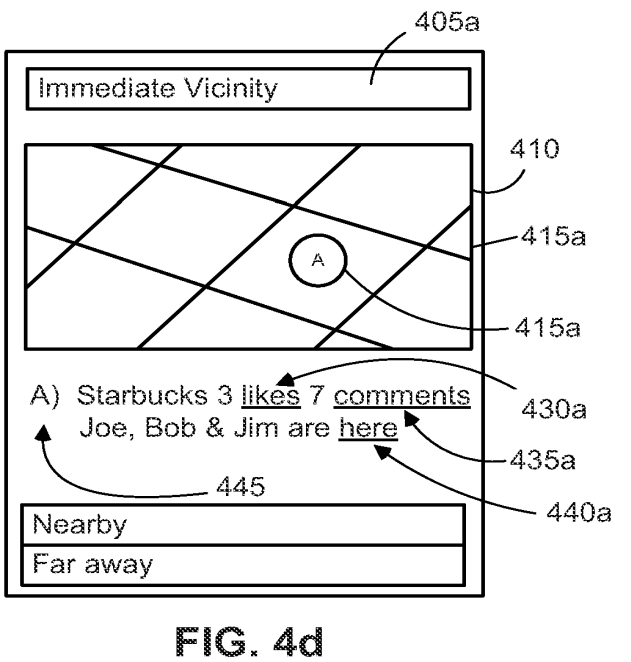
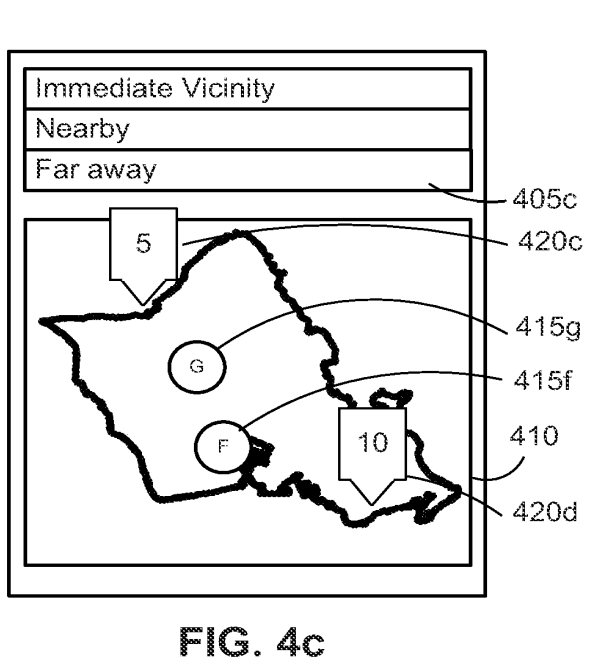
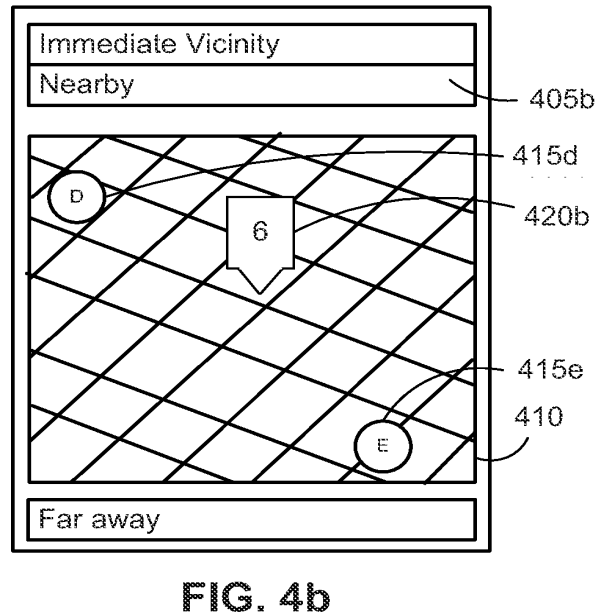
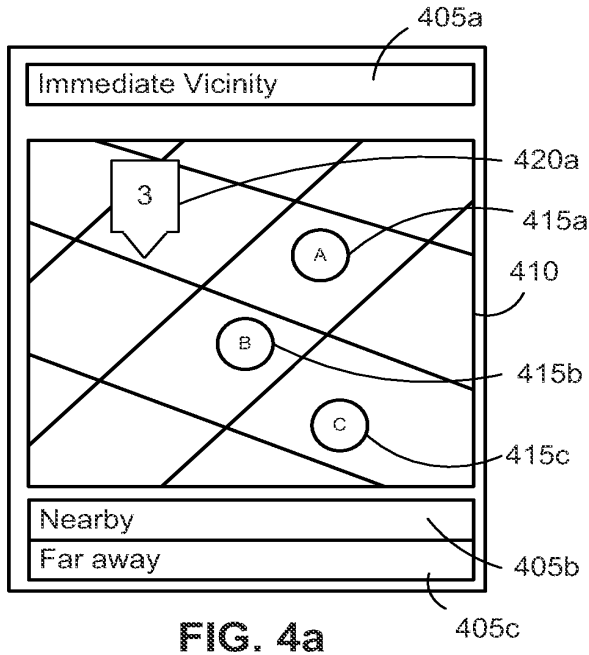


FIG. 3



**INTERNATIONAL SEARCH REPORT**

International application No.  
PCT/US2012/046428

<b>A. CLASSIFICATION OF SUBJECT MATTER</b> IPC(8) - G06F 3/048 (2012.01) USPC - 707/728 According to International Patent Classification (IPC) or to both national classification and IPC																			
<b>B. FIELDS SEARCHED</b> Minimum documentation searched (classification system followed by classification symbols) IPC(8) - G06F3/048, 15/16, 17/30; H04M 3/42 (2012.01) USPC - 707/728, E17.102; 715/835, 738 Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched Electronic data base consulted during the international search (name of data base and, where practicable, search terms used) Patbase, Orbit, Google Patent, ProQuest																			
<b>C. DOCUMENTS CONSIDERED TO BE RELEVANT</b> <table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:15%;">Category*</th> <th style="width:65%;">Citation of document, with indication, where appropriate, of the relevant passages</th> <th style="width:20%;">Relevant to claim No.</th> </tr> </thead> <tbody> <tr> <td>X</td> <td>US 2008/0214148 A1 (RAMER et al) 04 September 2008 (04.09.2008) entire document</td> <td>1-18</td> </tr> <tr> <td>Y</td> <td></td> <td>19-25</td> </tr> <tr> <td>Y</td> <td>US 2011/0004828 A1 (CALLICRATE et al) 06 January 2011 (06.01.2011) entire document</td> <td>19-25</td> </tr> <tr> <td>Y</td> <td>US 2009/0049408 A1 (NAAMAN et al) 19 February 2009 (19.02.2009) entire document</td> <td>19-25</td> </tr> <tr> <td>A</td> <td>US 2011/0083101 A1 (SHARON et al) 07 April 2011 (07.04.2011) entire document</td> <td>1-25</td> </tr> </tbody> </table>		Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.	X	US 2008/0214148 A1 (RAMER et al) 04 September 2008 (04.09.2008) entire document	1-18	Y		19-25	Y	US 2011/0004828 A1 (CALLICRATE et al) 06 January 2011 (06.01.2011) entire document	19-25	Y	US 2009/0049408 A1 (NAAMAN et al) 19 February 2009 (19.02.2009) entire document	19-25	A	US 2011/0083101 A1 (SHARON et al) 07 April 2011 (07.04.2011) entire document	1-25
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A	US 2011/0083101 A1 (SHARON et al) 07 April 2011 (07.04.2011) entire document	1-25																	
<input type="checkbox"/> Further documents are listed in the continuation of Box C.																			
* Special categories of cited documents: "A" document defining the general state of the art which is not considered to be of particular relevance "E" earlier application or patent but published on or after the international filing date "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) "O" document referring to an oral disclosure, use, exhibition or other means "P" document published prior to the international filing date but later than the priority date claimed "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art "&" document member of the same patent family																			
Date of the actual completion of the international search 12 September 2012	Date of mailing of the international search report <p align="center" style="font-size: 1.2em;"><b>28 SEP 2012</b></p>																		
Name and mailing address of the ISA/US Mail Stop PCT, Attn: ISA/US, Commissioner for Patents P.O. Box 1450, Alexandria, Virginia 22313-1450 Facsimile No. 571-273-3201	Authorized officer: <p align="center">Blaine R. Copenheaver</p> PCT Helpdesk: 571-272-4300 PCT OSP: 571-272-7774																		



Espacenet

Bibliographic data: WO2013099704 (A1) — 2013-07-04

INFORMATION PROCESSING DEVICE, INFORMATION PROCESSING METHOD,  
AND PROGRAM

**Inventor(s):** SUZUKI SATOSHI [JP]; TOBINAGA SHINICHIROU [JP];  
HOSHIHARA NORIYUKI [JP] ± (SUZUKI, SATOSHI, ; TOBINAGA,  
SHINICHIROU, ; HOSHIHARA, NORIYUKI)

**Applicant(s):** SONY CORP [JP]; SONY COMPUTER ENTERTAINMENT INC  
[JP] ± (SONY CORPORATION, ; SONY COMPUTER  
ENTERTAINMENT INC)

**Classification:** - international: G06F17/30; G06T1/00; G06T11/60; G09B29/00  
- cooperative: G06F3/033 (US); G06T11/00 (EP); G06T11/20  
(US); G09B29/006 (EP); G09B29/10 (EP)

**Application number:** WO2012JP82813 20121218 Global Dossier

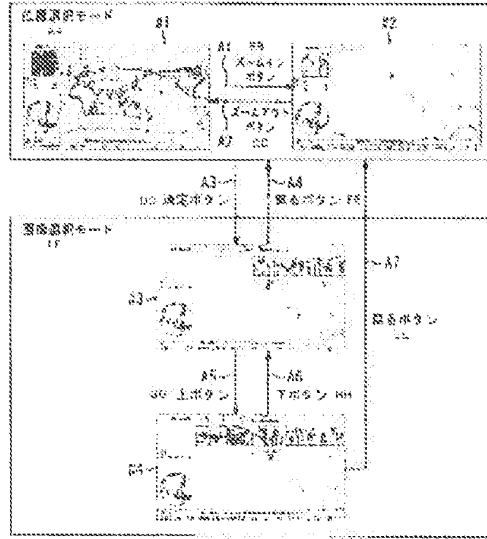
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EP2800083 (A4) EP3276594 (A1) more

Abstract of WO2013099704 (A1)

An information processing device constituting one aspect of this technology is provided with an acquisition unit and a display control unit. The acquisition unit acquires a plurality of images to which location information representing imaging locations is added. Using a scale and display region selected via user input, the display control unit displays a first map on which pointers indicating the imaging locations represented by the location information are displayed. Next to the first map, the display control unit also displays a fixed-scale second map, the display region of which is linked to the display region of the first map. This technology can be applied to a device that manages images taken by a digital camera.

1823



- A1 LOCATION SELECTION PAGE
- A2 ZOOM IN BUTTON
- A3 ZOOM OUT BUTTON
- A4 OR BUTTON
- A5 BACK BUTTON
- A6 HARD SELECTION
- A7 UP BUTTON
- A8 DOWN BUTTON

(12) 特許協力条約に基づいて公開された国際出願

(19) 世界知的所有権機関  
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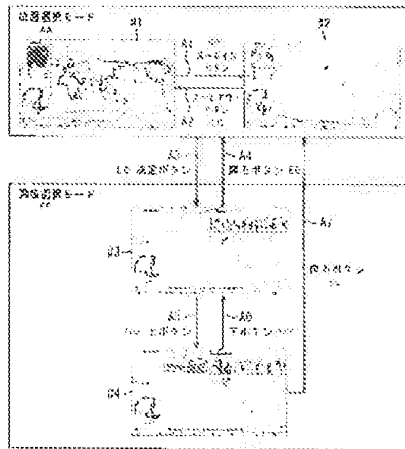
- (51) 国際特許分類:  
G09B 29/00 (2006.01) G06T 1/00 (2006.01)  
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- (21) 国際出願番号: PCT/JP2012/082813
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特願 2011-284750 2011年12月27日(27.12.2011) JP
- (71) 出願人: ソニー株式会社 (SONY CORPORATION) [JP/JP]; 〒1080075 東京都港区港南1丁目7番1号 Tokyo (JP). 株式会社ソニー・コンピュータエンタテインメント (SONY COMPUTER ENTERTAINMENT INC.) [JP/JP]; 〒1080075 東京都港区港南1丁目7番1号 Tokyo (JP).
- (72) 発明者: 鈴木 知 (SUZUKI, Satoshi); 〒1080075 東京都港区港南1丁目7番1号 ソニー株式会社内 Tokyo (JP). 飛永 真一郎 (TOBINAGA, Shinichiro); 〒1080075 東京都港区港南1丁目7番1号 ソニー株式会社内 Tokyo (JP).
- (74) 代理人: 亀谷 美明, 外 (KAMEYA, Yoshiaki et al.); 〒1600004 東京都新宿区四谷3-1-3 第一富澤ビル はづき国際特許事務所 四谷オフィス Tokyo (JP).
- (81) 指定国 (表示のない限り、全ての種類の国内保護が可能): AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BN, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PA, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

[続葉有]

(54) Title: INFORMATION PROCESSING DEVICE, INFORMATION PROCESSING METHOD, AND PROGRAM

(54) 発明の名称: 情報処理装置、情報処理方法、およびプログラム

(57)



- 27 表示制御部  
28 取得部  
29 表示部  
30 縮尺部  
31 撮像素子  
32 ズームレンズ  
33 地図  
34 縮尺  
35 拡大表示領域  
36 縮尺  
37 拡大表示領域

(57) Abstract: An information processing device constituting one aspect of this technology is provided with an acquisition unit and a display control unit. The acquisition unit acquires a plurality of images in which location information representing imaging locations is added. Using a scale and display region selected via user input, the display control unit displays a first map on which pointers indicating the imaging locations represented by the location information are displayed. Next to the first map, the display control unit also displays a fixed-scale second map, the display region of which is linked to the display region of the first map. This technology can be applied to a device that manages images taken by a digital camera.

(57) 要約: 本技術の一側面の情報処理装置は、撮影位置を表す位置情報が付加された複数の画像を取得する取得部と、前記位置情報により表される撮影位置を示すポイントが表示された第1の地図をユーザの操作に応じて縮尺と表示地域を切り換えて表示させ、縮尺が固定の第2の地図を、表示地域を前記第1の地図の表示地域に運動させて、前記第1の地図と並べて表示させる表示制御部とを備える。本技術は、デジタルカメラで撮影した画像を管理する装置に適用することができる。

WO 2013/099704 A1

(84) 指定国 (表示のない限り、全ての種類の広域保護が可能) ARIPO (BW, GE, GM, KE, LR, LS, MW, MZ, NA, RW, SD, SI, SZ, TZ, UG, ZM, ZW), ユーラシア (AM, AZ, BY, KG, KZ, RU, TJ, TM), ユーロッパ (AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM, TR),

OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

添付公開書類:

国際調査報告 (条約第 21 条(b))



## 明 細 書

発明の名称：情報処理装置、情報処理方法、およびプログラム  
技術分野

[0001] 本技術は、情報処理装置、情報処理方法、およびプログラムに関し、特に、画像の撮影位置を地図から直感的に確認することができるようにした情報処理装置、情報処理方法、およびプログラムに関する。

### 背景技術

[0002] 近年、GPS (Global Positioning System) センサを搭載したデジタルカメラなどの携帯端末が普及してきている。そのような測位機能を有する携帯端末で撮影を行った場合、画像データのファイルには、撮影日時の情報の他に、撮影位置の緯度経度を表す情報がメタデータとして付加される。

[0003] また、画像を管理するアプリケーションの中には、撮影位置の情報が付加された画像ファイルを取り込んだとき、各画像の撮影位置にポイントを配置した地図を表示させるものがある。これにより、ユーザは、どこで撮影した画像であるのかを確認しながら、画像を閲覧することができる。

### 先行技術文献

#### 特許文献

[0004] 特許文献1：特開2010-39583号公報

### 発明の概要

#### 発明が解決しようとする課題

[0005] 特に縮尺が大きい（表示地域が狭い）場合、地図の表示地域を切り換えたときに画像の撮影位置の関係が分かりづらくなることがある。例えば世界中の様々な位置で撮影された画像がある場合、縮尺が大きいときには全体を確認することができず、あるポイントを含む地域が世界地図全体においてどの辺の地域であるのかが直感的には分からない。

[0006] 本技術はこのような状況に鑑みてなされたものであり、画像の撮影位置を

地図から直感的に確認することができるようにするものである。

#### 課題を解決するための手段

- [0007] 本技術の一側面の情報処理装置は、撮影位置を表す位置情報が付加された複数の画像を取得する取得部と、前記位置情報により表される撮影位置を示すポイントが表示された第1の地図をユーザの操作に応じて縮尺と表示地域を切り換えて表示させ、縮尺が固定の第2の地図を、表示地域を前記第1の地図の表示地域に連動させて、前記第1の地図と並べて表示させる表示制御部とを備える。
- [0008] 前記表示制御部には、ユーザにより選択された前記ポイントが示す位置を含むように前記第1の地図の表示地域を切り換え、選択された前記ポイントが示す位置で撮影された前記画像の代表画を、前記第1の地図および前記第2の地図と並べて表示させることができる。
- [0009] 前記表示制御部には、選択された前記ポイントが示す位置で撮影された前記画像の時系列を表示させることができる。
- [0010] 前記表示制御部には、前記時系列を構成する前記画像を1枚ずつ表示させることができる。
- [0011] 前記表示制御部には、全ての前記ポイントが示す位置で撮影された前記画像の時系列を表示させることができる。
- [0012] 前記表示制御部には、前記時系列から選択された1枚の前記画像の撮影位置を含むように、前記第1の地図の表示地域を切り換えさせることができる。
- [0013] 前記表示制御部には、新たに選択された前記画像の撮影位置が、直前に選択されていた前記画像の撮影位置と異なる場合、前記第1の地図の表示地域を、直前に選択されていた前記画像の撮影位置を含む地域から、新たに選択された前記画像の撮影位置を含む地域までスクロールさせることができる。
- [0014] 前記表示制御部には、前記第1の地図の表示地域をスクロールさせるとき、各地域の前記第1の地図を、新たに選択された前記画像の撮影位置と直前に選択されていた前記画像の撮影位置の間の距離に応じて縮尺を変えて表示

させることができる。

- [0015] 前記表示制御部には、新たに選択された前記画像の撮影位置と直前に選択されていた前記画像の撮影位置の間の距離が長いほど最小の縮尺を小さくして、各地域の前記第1の地図を表示させることができる。
- [0016] 前記表示制御部には、前記第1の地図と前記第2の地図の表示を消し、前記時系列を構成する前記画像を1枚ずつ表示させることができる。
- [0017] 前記表示制御部には、新たに表示させる前記画像の撮影位置が直前に表示させていた前記画像の撮影位置と異なる場合、直前に表示させていた前記画像の撮影位置と新たに表示させる前記画像の撮影位置を結ぶ線上の各地域の地図からなるアニメーションを、新たに表示させる前記画像の表示前に表示させることができる。
- [0018] 前記表示制御部には、前記アニメーションを構成する各地域の地図を、新たに表示させる前記画像の撮影位置と直前に表示させていた前記画像の撮影位置の間の距離に応じて縮尺を変えて表示させることができる。
- [0019] 前記表示制御部には、新たに表示させる前記画像の撮影位置と直前に表示させていた前記画像の撮影位置の間の距離が長いほど最小の縮尺を小さくして、各地域の地図を表示させることができる。
- [0020] 前記表示制御部には、新たに表示させる前記画像の撮影位置と直前に表示させていた前記画像の撮影位置を結ぶ線上に軌跡を表す画像を表示させることができる。
- [0021] 前記第2の地図は、正射図法で表された地図であるようにすることができる。
- [0022] 本技術の一側面においては、撮影位置を表す位置情報が付加された複数の画像が取得され、前記位置情報により表される撮影位置を示すポイントが表示された第1の地図をユーザの操作に応じて縮尺と表示地域を切り換えて表示させ、縮尺が固定の第2の地図を、表示地域を前記第1の地図の表示地域に連動させて、前記第1の地図と並べて表示させる処理が行われる。

発明の効果

[0023] 本技術によれば、画像の撮影位置を地図から直感的に確認することができる。

#### 図面の簡単な説明

- [0024] [図1]本技術の一実施形態に係る情報処理装置の外観を示す図である。
- [図2]画像管理アプリケーションによる画面表示の切り換えの例を示す図である。
- [図3]図2の位置選択画面#1を示す図である。
- [図4]図2の位置選択画面#2を示す図である。
- [図5]図2の画像選択画面#3を示す図である。
- [図6]図2の画像選択画面#4を示す図である。
- [図7]情報処理装置のハードウェアの構成例を示すブロック図である。
- [図8]情報処理装置の機能構成例を示すブロック図である。
- [図9]画像管理アプリケーションの全体の動作について説明するフローチャートである。
- [図10]図9のステップS1において行われる位置選択モードの処理について説明するフローチャートである。
- [図11]図9のステップS2において行われる画像選択モードの処理について説明するフローチャートである。
- [図12]図9のステップS2において行われる画像選択モードの処理について説明する、図11に続くフローチャートである。
- [図13]画像選択画面における平面地図のスクロールの例を示す図である。
- [図14]画像選択画面における平面地図のスクロールの例を示す図である。
- [図15]平面地図の縮尺の変化について説明する図である。
- [図16]平面地図の縮尺の変化について説明する図である。
- [図17]図11のステップS38において行われるスライドショー再生処理1について説明するフローチャートである。
- [図18]図12のステップS51において行われるスライドショー再生処理2について説明するフローチャートである。

[図19]アニメーションについて説明する図である。

[図20]アニメーションの例を示す図である。

[図21]図20に続くアニメーションの例を示す図である。

[図22]図21に続くアニメーションの例を示す図である。

### 発明を実施するための形態

- [0025] 図1は、本技術の一実施形態に係る情報処理装置の外観を示す図である。
- [0026] 情報処理装置1には十字ボタンなどの各種のボタンが設けられたコントローラ2が接続される。ユーザはコントローラ2を用いて情報処理装置1を操作する。
- [0027] 情報処理装置1には、HDMI (High Definition Multimedia Interface) ケーブルなどのケーブル3を介して、LCD (Liquid Crystal Display) などのディスプレイを有する表示装置4が接続される。情報処理装置1から出力されたデータに基づいて、各種の画面が表示装置4のディスプレイに表示される。
- [0028] 情報処理装置1には、デジタルカメラやカメラ機能付きの携帯電話機などの携帯端末を用いて撮影された画像を取り込み、取り込んだ画像を管理するアプリケーションである画像管理アプリケーションが用意されている。画像の取り込みは、メモ리카ードやUSB (Universal Serial Bus) メモリなどの記録媒体を介して、または、情報処理装置1と携帯端末の間で行われる有線や無線の通信を介して行われる。
- [0029] 情報処理装置1が取り込む画像のファイルには撮影時刻の情報と撮影位置の情報がメタデータとして付加されている。各画像の撮影位置は、例えば緯度経度により表され、地図上の各画像の撮影位置にポインタを表示させるために用いられる。
- [0030] <画像管理アプリケーションの表示画面>
- 図2は、画像管理アプリケーションによって表示装置4のディスプレイに表示される画面の切り換えの例を示す図である。
- [0031] 画像管理アプリケーションの起動は例えば情報処理装置1のメニュー画面

からユーザが指示したときに行われる。画像管理アプリケーションのモードには、図2に示すように位置選択モードと画像選択モードがある。

[0032] 位置選択モードは、地図上に表示されたポイントの中から所定のポイントを選択するモードである。ポイントは、それが表示されている位置で撮影された画像があることを示す。ポイントが示す位置で撮影された画像には、ポイントが示す位置で撮影された画像だけでなく、ポイントが示す位置を中心とする所定の範囲内で撮影された画像が含まれる。

[0033] 画像選択モードは、位置選択モードで選択されたポイントの位置で撮影された画像の中から所定の画像を選択するモードである。

[0034] 画像管理アプリケーションが起動したとき、表示装置4のディスプレイには、例えば図2の左上の位置選択画面#1が表示される。

[0035] 図3は、図2の位置選択画面#1を示す図である。

[0036] 位置選択画面#1は、主に、平面地図領域11と、平面地図領域11の左側に形成された球状地図領域12およびポイント情報表示領域13から構成される。平面地図領域11の下にはメッセージ領域14が形成され、メッセージ領域14の下にはボタン説明領域15が形成される。

[0037] 位置選択画面#1の広い範囲を占める平面地図領域11には、メルカトル図法などの所定の投影法で表される地図が表示される。平面地図領域11の地図は、縮尺と、表示させる地域をユーザが選択することができるようになされており、そのときの表示地域内で撮影された画像がある場合、地図上にポイントが表示される。

[0038] 図3の例においては、世界全体を表す地図が平面地図領域11に表示されており、地図上にポイント21乃至28が表示されている。例えばポイント21は日本付近を示すポイントであり、これにより、日本国内で撮影された画像があることが表される。

[0039] また、図3の例においてはポイント21が選択された状態になっている。図3においてポイント21に斜線を付していることは、ポイント21が選択された状態になっており、他のポイントと異なる色で表示されていることを

表す。例えばカーソル移動ボタンを押すことによって、ユーザは他のポイントを選択することができる。

[0040] 球状地図領域 1 2 には、地球の形状を表す円が表示される。球状地図領域 1 2 に表示される円の中には正射図法などで表される地図、すなわち地球を遠方から見た状態を表す地図が表示される。球状地図領域 1 2 に表示される地図は縮尺が固定の広域の地図であり、その表示地域が、平面地図領域 1 1 に表示されている地図の表示に連動して切り換えられる。例えば平面地図領域 1 1 に表示されている地図から所定のポイントが選択されたとき、選択されたポイントを含む地域が中心などの所定の位置にくるように、球状地図領域 1 2 の地図の表示地域が切り換えられる。

[0041] 図 3 の例においては、平面地図領域 1 1 の地図からポイント 2 1 が選択されていることに連動して、日本付近の地域を含む地図が表示されている。

[0042] 以下、適宜、平面地図領域 1 1 に表示される地図を平面地図という。また、球状地図領域 1 2 に表示される地図を球状地図という。

[0043] ポイント情報表示領域 1 3 には、平面地図から選択されたポイントに関する情報が表示される。選択されたポイントに関する情報が表示される領域であるから、ポイント情報表示領域 1 3 の表示も、平面地図、球状地図の表示に連動して切り換えられることになる。

[0044] ポイント情報表示領域 1 3 には、選択されたポイントの位置で撮影された画像の中から選択された代表画 1 3 A と、選択されたポイントの位置で撮影された画像の数の情報が表示される。図 3 の例においては、ポイント 2 1 が示す位置で撮影された静止画の数が 4、動画の数が 3 2 6 であり、合計 3 3 0 の画像が、ポイント 2 1 が示す位置で撮影された画像として管理されていることを表す情報が表示されている。

[0045] メッセージ領域 1 4 には操作に関する各種のメッセージが表示される。

[0046] ボタン説明領域 1 5 には、コントローラ 2 のボタンに割り当てられた操作に関する情報が表示される。主な操作について説明すると、図 3 の例においては、ズーム、決定の各操作がコントローラ 2 の所定のボタンに割り当てら

れている。

- [0047] ズームは、平面地図の縮尺の拡大（ズームイン）、縮小（ズームアウト）に用いられる操作である。ズームインに割り当てられたボタンであるズームインボタンが押される毎に、縮尺が大きくなり、より狭い地域の平面地図が平面地図領域 11 に表示される。また、ズームアウトに割り当てられたボタンであるズームアウトボタンが押される毎に、縮尺が小さくなり、より広い地域の平面地図が平面地図領域 11 に表示される。
- [0048] 決定は、選択状態にあるポインタを決定するときに用いられる操作である。決定に割り当てられたボタンである決定ボタンが押されたとき、選択状態にあるポインタの選択が確定され、位置選択モードの画面に代えて、画像選択モードの画面が表示される。
- [0049] コントローラ 2 の十字ボタンには、平面地図上のポインタを切り換えるときに用いられる操作であるカーソル移動が割り当てられている。カーソル移動に割り当てられたボタンであるカーソル移動ボタンが押される毎に、選択状態となるポインタが、現在選択中のポインタから近傍にあるポインタに切り換えられる。
- [0050] ユーザは、このような構成を有する位置選択画面 # 1 を用いて、平面地図領域 11 に表示させる地域を選択することができる。また、ユーザは、平面地図領域 11 に表示させている地域の地球全体における位置を球状地図から確認し、ポインタの選択を行うことができる。
- [0051] 図 2 の説明に戻り、位置選択画面 # 1 が表示されている状態でズームインボタンが所定の回数だけ押されたとき、表示装置 4 のディスプレイには、矢印 A 1 の先に示すように、位置選択画面 # 1 に代えて位置選択画面 # 2 が表示される。平面地図領域 11 に表示される平面地図の縮尺は、ズームインボタンが押される毎に所定の量ずつ大きくなり、より狭い地域の平面地図が表示される。
- [0052] 図 4 は、図 2 の位置選択画面 # 2 を示す図である。
- [0053] 位置選択画面 # 2 の構成は図 3 を参照して説明した位置選択画面 # 1 の構



成と同じである。重複する説明については適宜省略する。ズームインボタンが押されることに応じて、平面地図領域11には、位置選択画面#1の平面地図の表示地域（世界全体）より狭い、日本国内の所定の地域の平面地図が表示される。なお、平面地図において、色を付している部分が海に対応し、それ以外の部分が陸地に対応する。

[0054] 図4の平面地図上にはポイント31乃至40が表示されている。上述したように、ポイントは画像の撮影位置を示し、ポイントの位置で撮影された画像には、ポイントの位置を中心とする所定の範囲内で撮影された画像が含まれるが、その所定の範囲は平面地図の縮尺に応じて切り換えられる。

[0055] 図4の例においてはポイント31乃至40のうちのポイント31が選択されている。ポイント情報表示領域13には、ポイント31の位置で撮影された画像の代表画である代表画13Aと、ポイント31の位置で撮影された画像の数の情報が表示されている。

[0056] 図2の説明に戻り、位置選択画面#2が表示されている状態でズームアウトボタンが所定の回数だけ押されたとき、表示装置4のディスプレイの表示は矢印A2の先に示す位置選択画面#1に戻る。平面地図領域11に表示される平面地図の縮尺は、ズームアウトボタンが押される毎に所定の量ずつ小さくなり、より広い地域の平面地図が表示される。

[0057] 位置選択画面#1または位置選択画面#2が表示されている状態で決定ボタンが一回押されたとき、矢印A3の先に示すように、画像管理アプリケーションのモードが位置選択モードから画像選択モードに切り換わる。表示装置4のディスプレイには、画像選択モードの画面である画像選択画面#3が表示される。

[0058] 図5は、図2の画像選択画面#3を示す図である。

[0059] 画像選択画面#3も、主に、平面地図領域11、球状地図領域12、およびポイント情報表示領域13から構成される。平面地図領域11の下にはメッセージ領域14が形成され、メッセージ領域14の下にはボタン説明領域15が形成される。

- [0060] 図5の画像選択画面#3は、日本国内のある地域の平面地図が平面地図領域11に表示されている位置選択画面#2において決定ボタンが一回押されたときの画面である。平面地図と球状地図の表示は位置選択画面#2の表示と同じである。
- [0061] 画像選択画面#3の平面地図領域11の上方には、平面地図に重ねて、水平方向の帯状の領域である時系列領域51が表示される。時系列領域51には、選択中のポイントであるポイント31の位置で撮影された画像の時系列が表示される。時系列を構成する画像の並び順は、例えば、メタデータとしてファイルに付加されている情報に基づいて特定される撮影時刻順である。
- [0062] 図5の例においては、時系列領域51の中央にカーソル52が表示され、カーソル52によって囲まれる形で画像61が表示されている。カーソル52によって囲まれる形で表示されている画像が、ユーザが選択した選択画像となる。画像61は、ポイント31が示す位置で撮影された画像のうちの例えば撮影時刻が最も前の画像である。
- [0063] 画像61の右側には、他の画像が一部重なる形で画像62乃至65が表示されている。後述するカーソル移動ボタンを押すことによって、ユーザは画像の時系列をその並びのままずらし、選択画像を他の画像に切り換えることができる。
- [0064] カーソル52の上の領域53には画像選択画面の表示モードを表す情報が表示される。画像選択画面の表示モードとして、選択中の1つのポイントの位置で撮影された画像の時系列を表示するモードと、全てのポイントの位置で撮影された画像、すなわち全ての画像の時系列を表示するモードが用意される。図5の例においては、画像選択画面#3の表示モードが、選択中のポイント（ポイント31）が示す位置で撮影された画像の時系列を表示するモードであることを示す「選択中のポイント」の文字が領域53に表示されている。
- [0065] カーソル52の下の領域54には選択画像が何枚目の画像であるのかを表す情報が表示される。図5の例においては、選択中のポイントの位置で撮影

された画像が49枚あり、そのうちの1枚目の画像が選択されていることを示す数字が領域54に表示されている。

[0066] ポインタ情報表示領域13には、選択中のポインタの位置の緯度経度の情報が表示される。

[0067] ボタン説明領域15には、画像選択モード時に選択可能な操作の説明が表示される。主な操作について説明すると、図5の例においては、スライドショー、表示切換、カーソル移動、再生、戻るの各操作がコントローラ2の所定のボタンに割り当てられている。

[0068] スライドショーは、選択中のポインタの位置で撮影された画像を対象としたスライドショーを開始するときに用いられる操作である。スライドショーに割り当てられたボタンであるスライドショーボタンが一回押されたとき、表示装置4のディスプレイには、画像選択画面#3に代えて、時系列領域51に表示されている時系列を構成する画像が1枚ずつ例えば撮影時刻順に拡大して表示される。

[0069] 表示切換は、画像選択画面の表示モードを切り換えるときに用いられる操作である。表示切り換えには例えばコントローラ2の十字ボタンの上ボタンと下ボタンが割り当てられている。1つのポインタの位置で撮影された画像の時系列を表示するモードが選択されている状態で上ボタンが一回押されたとき、画像選択画面の表示モードは全てのポインタの位置で撮影された画像の時系列を表示するモードに切り換えられる。反対に、全てのポインタの位置で撮影された画像の時系列を表示するモードが選択されている状態で下ボタンが一回押されたとき、画像選択画面の表示モードは1つのポインタの位置で撮影された画像の時系列を表示するモードに切り換えられる。

[0070] カーソル移動は、選択画像を切り換えるときに用いられる操作である。カーソル移動には例えばコントローラ2の十字ボタンの左ボタンと右ボタンが割り当てられている。左ボタンが一回押されたとき、画像の時系列全体が右方向に1画像分ずつずれ、選択画像がそれまで選択されていた画像の左隣の画像に切り換えられる。一方、右ボタンが一回押されたとき、時系列全体が

左方向に1画像分ずつずれ、選択画像がそれまで選択されていた画像の右隣の画像に切り換えられる。

[0071] 再生は、選択画像を拡大して表示させるときに用いられる操作である。再生に割り当てられたボタンである再生ボタンが押されたとき、表示装置4のディスプレイには、画像選択画面#3に代えて、選択画像が拡大して表示される。

[0072] 戻るは、画像管理アプリケーションのモードを画像選択モードから位置選択モードに切り換えるときに用いられる操作である。戻るに割り当てられたボタンである戻るボタンが押されたとき、表示装置4のディスプレイには位置選択画面が表示される。

[0073] このような構成を有する画像選択画面#3を用いて、ユーザは、ポインタ31が示す位置で撮影された画像の中から所定の画像を選択し、拡大して表示させることができる。また、ユーザは、ポインタ31が示す位置で撮影された画像のスライドショーを開始させることができる。

[0074] 図2の説明に戻り、画像選択画面#3が表示されている状態で戻るボタンが一回押されたとき、画像管理アプリケーションのモードが画像選択モードから位置選択モードに切り換わる。表示装置4のディスプレイの画面は、矢印A4の先に示すように、決定ボタンが押される前の状態の位置選択画面に戻る。

[0075] また、画像選択画面#3が表示されている状態で上ボタンが一回押されたとき、表示装置4のディスプレイには、矢印A5の先に示すように、画像選択画面#3に代えて画像選択画面#4が表示される。画像選択画面#4は、画像選択画面の表示モードが全てのポインタの位置で撮影された画像の時系列を表示するモードのときの画面である。

[0076] 図6は、図2の画像選択画面#4を示す図である。

[0077] 画像選択画面#4の構成は図5の画像選択画面#3の構成と同じである。重複する説明については適宜省略する。画像選択画面#4の時系列領域51には、全てのポインタの位置で撮影された画像の時系列が表示される。

- [0078] 図6の例においては、画像71乃至79が表示され、そのうちの画像75が選択されている。画像71乃至79のうちの画像75以外の画像は、他の画像が一部重なる形で表示される。
- [0079] 領域53には、画像選択画面#4の表示モードが、全てのポイントの位置で撮影された画像の時系列を表示するモードであることを示す「全てのポイント」の文字が表示されている。また、領域54には、画像が466枚あり、そのうちの143枚目の画像が選択されていることを示す数字が表示されている。
- [0080] このような構成を有する画像選択画面#4を用いて、ユーザは、全てのポイントの位置で撮影された画像の時系列の中から所定の画像を選択することができる。
- [0081] 右ボタンまたは左ボタンが押されることによって選択画像が切り換えられた場合、新たに選択された画像と直前に選択されていた画像の撮影位置が異なるときには、新たに選択された画像の撮影位置を含む地域を表示するように平面地図の表示が切り換えられる。また、平面地図の表示が切り換えられることに連動して、球状地図の表示も切り換えられる。
- [0082] また、ユーザは、画像選択画面#4を用いて、全てのポイントの位置で撮影された画像を対象としたスライドショーを開始させることができる。すなわち、画像選択画面の表示モードが全てのポイントの位置で撮影された画像の時系列を表示するモードである場合と1つのポイントの位置で撮影された画像の時系列を表示するモードである場合とで、スライドショーの対象となる画像が異なる。
- [0083] スライドショー時、新たに表示する画像と直前に表示されていた画像の撮影位置が異なるときには、直前に表示されていた画像の撮影位置から新たに表示する画像の撮影位置までの移動を表すアニメーションが、新たな画像の表示前に表示される。
- [0084] 選択画像が切り換えられた場合の平面地図の表示の切り換えと、スライドショー時に表示されるアニメーションについては後述する。

- [0085] 図2の説明に戻り、画像選択画面#4が表示されている状態で下ボタンが一回押されたとき、表示装置4のディスプレイには、矢印A6の先に示すように、画像選択画面#4に代えて画像選択画面#3が表示される。
- [0086] また、画像選択画面#4が表示されている状態で戻るボタンが一回押されたとき、画像管理アプリケーションのモードが画像選択モードから位置選択モードに切り換わる。表示装置4のディスプレイの画面は、矢印A7の先に示すように、決定ボタンが押される前の状態の位置選択画面に戻る。
- [0087] 以上のように、ユーザは、位置選択モードと画像選択モードを1回のボタン操作で切り換えることができる。また、ユーザは、画像選択モードを選択して画像選択画面を表示させた後、近隣の場所で撮影された画像のみの時系列を表示させるモードと、すべての画像の時系列を表示させるモードを1回のボタン操作で切り換えることができる。
- [0088] 以上のようにしてディスプレイの表示を切り換える情報処理装置1の一連の動作についてはフローチャートを参照して後述する。
- [0089] <情報処理装置1の構成例>
- 図7は、情報処理装置1のハードウェアの構成例を示すブロック図である。
- [0090] CPU (Central Processing Unit) 101、ROM (Read Only Memory) 102、RAM (Random Access Memory) 103は、バス104により相互に接続される。バス104には、さらに、入出力インタフェース105が接続される。入出力インタフェース105には、入力部106、出力部107、記憶部108、通信部109、およびドライブ110が接続される。
- [0091] 入力部106は、コントローラ2に対するユーザの操作を検出し、ユーザの操作の内容を表す信号をCPU101に出力する。出力部107は、画像管理アプリケーションの画面のデータをケーブル3を介して表示装置4に出力し、表示装置4のディスプレイの表示を制御する。記憶部108は、ハードディスクやフラッシュメモリなどよりなり、情報処理装置1に取り込まれ

た画像ファイルを記憶する。記憶部108に記憶された画像ファイルは画像管理アプリケーションにより適宜読み出される。

[0092] 通信部109は、ネットワークを介して接続された装置や、有線または無線の通信を介して接続された携帯端末との間でデータの送受信を行う。通信部109は、外部の機器から送信されてきた画像ファイルを記憶部108に出力し、記憶させる。ドライブ110は、情報処理装置1に装着された光ディスクやUSBメモリなどのリムーバブルメディア111を駆動させ、リムーバブルメディア111に記憶された画像ファイルを読み出す。ドライブ110は、リムーバブルメディア111から読み出した画像ファイルを記憶部108に出力し、記憶させる。

[0093] 図8は、情報処理装置1の機能構成例を示すブロック図である。

[0094] 図8に示す機能部のうちの少なくとも一部は、図7のCPU101により画像管理アプリケーションが実行されることによって実現される。情報処理装置1においては、画像取得部121と表示制御部122が実現される。

[0095] 画像取得部121は、記憶部108に記憶されている画像ファイルを取得する。また、画像取得部121は、ドライブ110を制御してリムーバブルメディア111から画像ファイルを読み出し、取得する。画像取得部121は、取得した画像ファイルを表示制御部122に出力する。表示制御部122に出力される画像ファイルには、画像データと、撮影時刻の情報や撮影位置の情報などのメタデータが含まれる。

[0096] 表示制御部122は、入力部106から供給される信号により表されるユーザの操作に応じて、図2等を参照して説明したようにして表示装置4のディスプレイの表示を制御する。

[0097] <情報処理装置1の動作>

ここで、以上のような構成を有する情報処理装置1の動作について説明する。

[0098] はじめに、図9のフローチャートを参照して、画像管理アプリケーションの全体の動作について説明する。図9の処理は、画像管理アプリケーション

が起動したときに開始される。画像管理アプリケーションが起動したとき、画像取得部 1 2 1 により画像ファイルが取得され、表示制御部 1 2 2 に供給される。

[0099] ステップ S 1 において、表示制御部 1 2 2 は位置選択モードの処理を行う。位置選択モードの処理により、情報処理装置 1 のディスプレイには上述したような位置選択画面が表示され、ユーザの操作に応じて画面表示が切り換えられる。位置選択モードの処理については図 1 0 のフローチャートを参照して後述する。

[0100] ステップ S 2 において、表示制御部 1 2 2 は画像選択モードの処理を行う。画像選択モードの処理により、情報処理装置 1 のディスプレイには上述したような画像選択画面が表示され、ユーザの操作に応じて画面表示が切り換えられる。画像選択モードの処理については図 1 1 および図 1 2 のフローチャートを参照して後述する。

[0101] 次に、図 1 0 のフローチャートを参照して、図 9 のステップ S 1 において行われる位置選択モードの処理について説明する。

[0102] ステップ S 1 1 において、表示制御部 1 2 2 は位置選択画面を表示させる。例えば、画像管理アプリケーションの起動直後の位置選択画面には、図 3 を参照して説明したような、世界全体の平面地図が平面地図領域 1 1 に表示される。

[0103] ステップ S 1 2 において、表示制御部 1 2 2 は、ズームインボタンまたはズームアウトボタンが押されたか否かを判定する。

[0104] ズームインボタンまたはズームアウトボタンが押されたときステップ S 1 2 において判定した場合、ステップ S 1 3 において、表示制御部 1 2 2 は、例えば、選択されているポインタの位置を中心として、平面地図領域 1 1 に表示されている平面地図の縮尺を切り換える。

[0105] 一方、ズームインボタンまたはズームアウトボタンが押されていないときステップ S 1 2 において判定した場合、ステップ S 1 4 において、表示制御部 1 2 2 は、カーソル移動ボタンが押されたか否かを判定する。



- [0106] カーソル移動ボタンが押されたらステップS 1 4において判定した場合、ステップS 1 5において、表示制御部1 2 2は、例えば新たに選択されたポイントが中心にくるように、平面地図領域1 1に表示させる平面地図の地域を切り換える。
- [0107] ステップS 1 6において、表示制御部1 2 2は、平面地図の表示を切り換えることに連動させて、例えば平面地図から選択されたポイントに対応する位置が中心にくるように球 状地図の表示地域を切り換える。
- [0108] なお、ステップS 1 5とS 1 6の処理は、図3に示すように世界全体の平面地図が平面地図領域1 1に表示されているときには行われず、ズームインボタンが所定の回数だけ押され、平面地図の縮尺が閾値より大きい場合にのみ行われるようにしてもよい。
- [0109] ステップS 1 7において、表示制御部1 2 2は、選択されたポイントの位置で撮影された画像の中から所定の画像を選択し、代表画としてポイント情報表示領域1 3に表示させる。また、表示制御部1 2 2は、画像の数を表す情報をポイント情報表示領域1 3に表示させる。
- [0110] ステップS 1 3、S 1 7の処理の後、または、ステップS 1 4においてカーソル移動ボタンが押されていないと判定した後、ステップS 1 8において、表示制御部1 2 2は、決定ボタンが押されたか否かを判定する。
- [0111] 決定ボタンが押されていないとステップS 1 8において判定した場合、表示制御部1 2 2は、ステップS 1 2に戻り、以上の処理を繰り返す。
- [0112] 一方、決定ボタンが押されたらステップS 1 8において判定した場合、ステップS 1 9において、表示制御部1 2 2は、画像管理アプリケーションのモードを画像選択モードに切り換える。その後、図9のステップS 1に戻り、それ以降の処理が行われる。
- [0113] 次に、図1 1および図1 2のフローチャートを参照して、図9のステップS 2において行われる画像選択モードの処理について説明する。
- [0114] ステップS 3 1において、表示制御部1 2 2は、位置選択画面から選択されたポイントの位置で撮影された画像の時系列を含む図5に示すような画像

選択画面を表示させる。

- [0115] ステップS 3 2において、表示制御部1 2 2は、上ボタンが押されたか否かを判定する。図5を参照して説明したように、コントローラ2の上ボタンには、画像選択画面の表示モードを、全てのポインタの位置で撮影された画像の時系列を表示するモードに切り換える操作が割り当てられている。
- [0116] 上ボタンが押されていないとステップS 3 2において判定した場合、ステップS 3 3において、表示制御部1 2 2は、カーソル移動ボタンが押されたか否かを判定する。
- [0117] カーソル移動ボタンが押されたらとステップS 3 3において判定した場合、ステップS 3 4において、表示制御部1 2 2は、画像の時系列全体を右方向または左方向にずらし、選択画像を切り換える。カーソル移動ボタンが押されていないとステップS 3 3において判定された場合、ステップS 3 4の処理はスキップされる。
- [0118] ステップS 3 5において、表示制御部1 2 2は、再生ボタンが押されたか否かを判定する。
- [0119] 再生ボタンが押されたらとステップS 3 5において判定した場合、ステップS 3 6において、表示制御部1 2 2は選択画像を再生する。
- [0120] 選択画像が静止画である場合、静止画の再生は、例えば、画像選択画面に代えて、静止画を画面全体に表示するようにして行われる。静止画の表示は所定の時間だけ続けられ、所定の時間経過後、ディスプレイの表示は画像選択画面の表示に戻る。また、選択画像が 動画である場合、動画の再生は、画像選択画面に代えて、再生した動画を画面全体に表示するようにして行われる。動画の再生が終了した後、ディスプレイの表示は画像選択画面の表示に戻る。再生ボタンが押されていないとステップS 3 5において判定された場合、ステップS 3 6の処理はスキップされる。
- [0121] ステップS 3 7において、表示制御部1 2 2は、スライドショーボタンが押されたか否かを判定する。
- [0122] スライドショーボタンが押されたらとステップS 3 7において判定した場合

、ステップS 3 8において、表示制御部1 2 2はスライドショー再生処理1を行う。スライドショー再生処理1により、選択中のポイントの位置で撮影された画像を対象としたスライドショーが行われる。スライドショー再生処理1については図1 7のフローチャートを参照して後述する。スライドショーボタンが押されていないとステップS 3 7において判定された場合、ステップS 3 8の処理はスキップされる。

- [0123] ステップS 3 9において、表示制御部1 2 2は、戻るボタンが押されたか否かを判定する。
- [0124] 戻るボタンが押されたらとステップS 3 9において判定した場合、ステップS 4 0において、表示制御部1 2 2は、画像管理アプリケーションのモードを位置選択モードに切り換える。その後、図9のステップS 2に戻り、それ以降の処理が行われる。
- [0125] 一方、戻るボタンが押されていないとステップS 3 9において判定した場合、ステップS 3 1に戻り、表示制御部1 2 2は、以上の処理を繰り返し行う。
- [0126] ステップS 3 2において上ボタンが押されたらと判定した場合、図1 2のステップS 4 1において、表示制御部1 2 2は、全てのポイントの位置で撮影された画像の時系列を含む図6に示すような画像選択画面を表示させる。
- [0127] ステップS 4 2において、表示制御部1 2 2は、下ボタンが押されたか否かを判定する。図5を参照して説明したように、コントローラ2の下ボタンには、画像選択画面の表示モードを、1つのポイントの位置で撮影された画像の時系列を表示するモードに切り換える操作が割り当てられている。
- [0128] 下ボタンが押されたらとステップS 4 2において判定した場合、図1 1のステップS 3 1に戻り、それ以降の処理が行われる。一方、下ボタンが押されていないとステップS 4 2において判定した場合、ステップS 4 3において、表示制御部1 2 2は、カーソル移動ボタンが押されたか否かを判定する。
- [0129] カーソル移動ボタンが押されたらとステップS 4 3において判定した場合、ステップS 4 4において、表示制御部1 2 2は、画像の時系列全体を右方向

または左方向にずらし、選択画像を切り換える。

[0130] ステップS45において、表示制御部122は、選択画像として新たに選択された画像の撮影位置と直前に選択されていた画像の撮影位置が異なるか否かを判定する。画像選択画面の表示モードが全てのポイントの位置で撮影された画像の時系列を表示するモードである場合、画像の時系列には異なるポイントの位置で撮影された画像が含まれる。

[0131] 新たに選択された画像の撮影位置と直前に選択されていた画像の撮影位置が異なるとステップS45において判定した場合、ステップS46において、表示制御部122は、例えば新たに選択された画像の撮影位置を示すポイントが中心にくるように、平面地図の表示地域を切り換える。

[0132] ステップS47において、表示制御部122は、平面地図の表示を切り換えることに連動させて、例えば新たに選択された画像の撮影位置を示すポイントを含む地域が中心にくるように球状地図の表示地域を切り換える。

[0133] 図13と図14は、新たに選択された画像の撮影位置と直前に選択されていた画像の撮影位置が異なる場合の画像選択画面の遷移の例を示す図である。

[0134] 図13の画面#11は、カーソル移動ボタンが押される前の画面である。画面#11の平面地図領域11には、米国の西海岸のある地域の平面地図が表示されており、その地域内の位置を示すポイント151が選択された状態になっている。球状地図領域12には米国の西海岸付近を中心とする球状地図が表示されている。

[0135] 時系列領域51には、全てのポイントの位置で撮影された画像のうちの一部の画像である画像161乃至169からなる時系列が表示されており、そのうちの画像165が選択されている。画像165はポイント151の位置で撮影された画像である。

[0136] 例えば、画像165の左隣の画像である画像164が日本国内で撮影された画像であり、カーソル移動ボタンが押されたことに応じて、画像164が新たに選択される場合について説明する。新たに選択された画像である画像

164の撮影位置と、直前に選択されていた画像である画像165の撮影位置が異なることになる。

[0137] この場合、平面地図領域11には、画像165の撮影位置である米国から、画像164の撮影位置である日本に向かう方向にある各地域の平面地図が順次表示される。すなわち、平面地図が、画面#11の状態から日本の方向に向かってスクロールして表示される。

[0138] 白抜き矢印A11の先に示す画面#12は、平面地図のスクロールの最中の画面である。平面地図領域11には、画像165の撮影位置である米国の西海岸付近の位置と、新たに選択された画像164が撮影された日本国内の位置を結ぶ線上にある太平洋のある地域の平面地図が表示されている。球状地図領域12には、平面地図領域11に表示されている地域付近を中心とする球状地図が表示される。

[0139] 平面地図領域11の表示地域が新たに選択された画像164の撮影位置に遠いから、画面#13の時系列領域51には、そのことを表す画像である画像181乃至189が表示されている。

[0140] 白抜き矢印A12の先に示す画面#13と図14の画面#14も、平面地図のスクロールの最中の画面である。時間の経過に伴って、平面地図領域11には、徐々に、日本に近い地域の平面地図が表示される。

[0141] 図14の白抜き矢印A13の先に示す画面#15は、平面地図のスクロールが終わった直後の画面である。画面#15の平面地図領域11には、新たに選択された画像164の撮影位置を中心とした日本国内の地域の平面地図が表示されている。また、平面地図上には、画像164の撮影位置を示すポイント201が選択された状態で表示されている。画面#15の球状地図領域12には、日本国付近を中心とする球状地図が表示されている。

[0142] 新たに選択した画像の撮影位置が直前に選択していた画像の撮影位置と異なる場合、このように平面地図がスクロールすることにより、ユーザは、それまで見ていた画像の撮影位置と新たに選択した画像の撮影位置との関係を容易に把握することができる。

- [0143] 平面地図のスクロールの際、平面地図は、直前に選択していた画像の撮影位置から新たに選択した画像の撮影位置までの距離に応じて縮尺を変えながら表示される。
- [0144] 図15と図16は、平面地図の縮尺の変化について説明する図である。
- [0145] 図15の位置P1は直前に選択していた画像である画像165の撮影位置であり、位置P2は新たに選択した画像である画像164の撮影位置である。平面地図領域11に表示される平面地図は、位置P1と位置P2を結ぶ線に沿って、順次、位置P1から位置P2に向かう方向にスクロールする。
- [0146] 枠F1乃至F5は、時刻t1乃至t5の各時刻における平面地図の表示地域を示す枠である。枠F1は、画像165の撮影位置である位置P1を中心付近に含む、スクロール開始直後の時刻t1における平面地図の表示地域を示す。枠F2は、時刻t1から所定の時間経過後の時刻t2における平面地図の表示地域を示す。枠F3は、時刻t2から所定の時間経過後の時刻t3における平面地図の表示地域を示す。枠F4は、時刻t3から所定の時間経過後の時刻t4における平面地図の表示地域を示す。枠F5は、画像164の撮影位置である位置P2を中心付近に含む、時刻t4から所定の時間経過後の時刻t5における平面地図の表示地域を示す。
- [0147] 枠F1乃至F5の大きさの違いから分かるように、スクロール開始直後の時刻t1から時刻t3まで、平面地図の縮尺が徐々に小さくなり、その後、時刻t5まで、平面地図の縮尺が徐々に大きくなる。
- [0148] 直前に選択していた画像である画像165の撮影位置が位置P1であり、新たに選択した画像である画像164の撮影位置が位置P3である場合について図16を参照して説明する。図16の場合の平面地図のスクロールの距離は、図15の場合の距離より長い。平面地図は、位置P1と位置P3を結ぶ線に沿って、順次、位置P1から位置P3に向かう方向にスクロールして表示される。
- [0149] 枠F11乃至F17は、時刻t11乃至t17の各時刻における平面地図の表示地域を示す枠である。枠F11は、画像165の撮影位置である位置

P 1 を中心付近に含む時刻  $t_{11}$  における平面地図の表示地域を示し、枠 F 1 7 は、画像 1 6 4 の撮影位置である位置 P 3 を中心付近に含む時刻  $t_{17}$  における平面地図の表示地域を示す。

[0150] この例においても、スクロール開始直後の時刻  $t_{11}$  から時刻  $t_{14}$  まで、平面地図の縮尺が徐々に小さくなり、その後、時刻  $t_{17}$  まで、平面地図の縮尺が徐々に大きくなる。縮尺が最も小さいときの表示地域を示す図 1 6 の枠 F 1 4 と図 1 5 の枠 F 3 を比較して分かるように、移動距離が長いほど最小の縮尺がより小さくなり、スクロールの途中において、より広い地域の平面地図が平面地図領域 1 1 に表示される。

[0151] このように、一旦ズームアウトしてからズームインするような平面地図を表示させることによって、ユーザは、スクロールの最中により広い範囲の地図を確認することができ、画像の撮影位置の関係をより簡単に把握することが可能となる。

[0152] なお、2 地点を結ぶ直線に沿って平面地図をスクロールさせるものとしたが、直前に選択していた画像の撮影位置と新たに選択した画像の撮影位置の間を結ぶ線であればどのような線に沿ってスクロールさせるようにしてもよい。

[0153] 図 1 2 の説明に戻り、ステップ S 4 3 においてカーソル移動ボタンが押されていないと判定された場合、ステップ S 4 4 乃至 S 4 7 の処理はスキップされる。また、ステップ S 4 5 において新たに選択された画像の撮影位置と直前に選択されていた画像の撮影位置が同じであると判定された場合、ステップ S 4 6、S 4 7 の処理はスキップされる。

[0154] ステップ S 4 8 において、表示制御部 1 2 2 は、再生ボタンが押されたか否かを判定する。

[0155] 再生ボタンが押されたとステップ S 4 8 において判定した場合、ステップ S 4 9 において、表示制御部 1 2 2 は選択画像を再生する。

[0156] ステップ S 5 0 において、表示制御部 1 2 2 は、スライドショーボタンが押されたか否かを判定する。

- [0157] スライドショーボタンが押されたらステップS50において判定した場合、ステップS51において、表示制御部122はスライドショー再生処理2を行う。スライドショー再生処理2により、全てのポイントの位置で撮影された画像を対象としたスライドショーが行われる。スライドショー再生処理2については図18のフローチャートを参照して後述する。スライドショーボタンが押されていないとステップS50において判定された場合、ステップS51の処理はスキップされる。
- [0158] ステップS52において、表示制御部122は、戻るボタンが押されたか否かを判定する。
- [0159] 戻るボタンが押されていないとステップS52において判定した場合、表示制御部122は、ステップS41に戻り、以上の処理を繰り返し行う。一方、戻るボタンが押されたらステップS52において判定した場合、表示制御部122は、図11のステップS40において動作モードを位置選択モードに切り換えた後、図1のステップS2以降の処理を行う。
- [0160] 次に、図17のフローチャートを参照して、図11のステップS38において行われるスライドショー再生処理1について説明する。スライドショー再生処理1は、いずれかのポイントの位置で撮影された画像の時系列を表示している場合において、その時系列を構成する画像を対象としてスライドショーを行う処理である。
- [0161] ステップS61において、表示制御部122は、時系列を構成する画像の中から1枚の画像を選択し、拡大して全画面に表示させる。例えば、選択中のポイントの位置で撮影された画像の中から1枚の画像が撮影順に選択され、表示される。同じ画像の表示は所定の時間だけ続けられる。
- [0162] ステップS62において、表示制御部122は、次の画像があるか否かを判定し、次の画像があると判定した場合、ステップS61に戻り、次の画像の表示を続ける。一方、選択中のポイントの位置で撮影された全ての画像を表示したことから、次の画像がないとステップS62において判定した場合、図17のステップS38に戻り、それ以降の処理を行う。



- [0163] 次に、図18のフローチャートを参照して、図12のステップS51において行われるスライドショー再生処理2について説明する。スライドショー再生処理2は、全てのポイントの位置で撮影された画像の時系列を表示している場合において、その時系列を構成する画像を対象としてスライドショーを行う処理である。
- [0164] ステップS71において、表示制御部122は、時系列を構成する画像の中から1枚の画像を選択し、拡大して全画面に表示させる。
- [0165] ステップS72において、表示制御部122は、次の画像があるか否かを判定し、次の画像があると判定した場合、ステップS73において、次に表示させる画像の撮影位置と直前に表示させていた画像の撮影位置が異なるか否かを判定する。
- [0166] 次に表示させる画像の撮影位置と直前に選択させていた画像の撮影位置が異なるとステップS73において判定した場合、ステップS74において、表示制御部122は、画像の撮影位置が変わったことを表すアニメーションを表示させる。
- [0167] 図19は、画像の撮影位置が変わったことを表すアニメーションについて説明する図である。画像の撮影位置が変わったときに表示されるアニメーションは、図13と図14を参照して説明した平面地図のスクロール時の表示と基本的に同様である。
- [0168] 図19の位置P11は直前に表示させていた画像の撮影位置であり、位置P12は次に表示させる画像の撮影位置である。位置P11で撮影された画像のうちの最後の画像を表示させた後、次に、位置P12で撮影された画像を表示させる場合について説明する。
- [0169] ディスプレイに全画面表示されるアニメーションは、位置P11と位置P12を結ぶ線上の各地域の地図から構成され、各地域の地図が順次表示される。順次表示される各地域の地図も、枠F21乃至F25に示すように、スクロール開始直後の時刻t21から時刻t23まで縮尺が徐々に小さくなり、その後、時刻t25まで縮尺が徐々に大きくなる。

- [0170] 図20乃至図22は、画像の撮影位置が変わったことを表すアニメーションの例を示す図である。
- [0171] 図20の画面#21は、図19の位置P11で撮影された画像のうちの最後の画像をディスプレイ全体に表示させる、アニメーション開始前の画面である。
- [0172] 位置P11で撮影された最後の画像を所定の時間だけ表示させた後、ディスプレイの表示は、白抜き矢印A21の先に示す画面#22に切り替わる。画面#22は、位置P11を含む地域の地図を表示する画面であり、地図上には、位置P11を示すポイント251と、ポイント251を囲む円252が表示される。ポイント251の近傍に撮影日時が表示される。
- [0173] 白抜き矢印A22の先に示す画面#23は、位置P12の方向に向かって地図の表示地域の移動を開始させた直後の画面である。画面#23においては、円252が画面#22の表示時より大きくなり、位置P12の方向に、表示地域の移動の軌跡を表す丸印の画像253が表示されている。
- [0174] 図21の画面#23乃至#26は、地図の表示地域を位置P12の方向に向かって移動させている最中の画面である。画面#23の画像261、262、画面#24の画像271乃至276、および画面#25の画像281、282により、表示地域の移動の軌跡が表される。表示地域の移動の軌跡を表す丸印の間隔は、そのときの地図の縮尺に応じて変化する。画面#25のポイント283は位置P12を示す。
- [0175] 図22の画面#27は、地図の表示地域の移動が終わった直後の画面である。画面#27のほぼ中央には、次に表示する画像の撮影位置を示すポイント283が表示される。ポイント283の近傍には、ポイント283を囲む円291と、次に表示する画像の撮影日時が表示される。
- [0176] 白抜き矢印A25の先に示す画面#28は、アニメーションの表示が終了し、図19の位置P12で撮影された画像のうちの最初の画像をディスプレイ全体に表示させる画面である。画面#28が表示された後、位置P12で撮影された画像のスライドショーが続けられる。

- [0177] このようなアニメーションが表示されることにより、ユーザは、選択した画像の撮影位置の関係を把握することができる。
- [0178] 図18の説明に戻り、ステップS74においてアニメーションの表示が行われた後、ステップS71に戻り、以上の処理が繰り返し行われる。ステップS73において次に表示させる画像の撮影位置と直前に表示させていた画像の撮影位置が同じであると判定された場合も同様に、ステップS71に戻り、以上の処理が繰り返し行われる。
- [0179] 一方、全ての画像を表示したことから、次の画像がないとステップS72において判定した場合、図18のステップS51に戻り、それ以降の処理が行われる。
- [0180] 以上のように、時系列から画像を選択することに応じて平面地図と広域の地図である球状地図の表示を切り換えることにより、ユーザの利便性を向上させることができる。
- [0181] <変形例>
- 上述したような画面表示が据え置き型の装置により行われるものとしたが、画像ファイルを取り込んだ携帯端末などの各種の装置により行われるようにしてもよい。
- [0182] [コンピュータの構成例]
- 上述した一連の処理は、ハードウェアにより実行することもできるし、ソフトウェアにより実行することもできる。一連の処理をソフトウェアにより実行する場合には、そのソフトウェアを構成するプログラムが、専用のハードウェアに組み込まれているコンピュータ、または、汎用のパーソナルコンピュータなどにインストールされる。
- [0183] インストールされるプログラムは、光ディスク（CD-ROM（Compact Disc-Read Only Memory）、DVD（Digital Versatile Disc）等）や半導体メモリなどよりなる図7のリムーバブルメディア111に記録して提供される。また、ローカルエリアネットワーク、インターネット、デジタル放送といった、有線また

は無線の伝送媒体を介して提供されるようにしてもよい。プログラムは、ROM102や記憶部108に、あらかじめインストールしておくことができる。

[0184] なお、コンピュータが実行するプログラムは、本明細書で説明する順序に沿って時系列に処理が行われるプログラムであっても良いし、並列に、あるいは呼び出しが行われたとき等の必要なタイミングで処理が行われるプログラムであっても良い。

[0185] 本技術の実施の形態は、上述した実施の形態に限定されるものではなく、本技術の要旨を逸脱しない範囲において種々の変更が可能である。

[0186] 例えば、本技術は、1つの機能をネットワークを介して複数の装置で分担、共同して処理するクラウドコンピューティングの構成をとることができる。

[0187] また、上述のフローチャートで説明した各ステップは、1つの装置で実行する他、複数の装置で分担して実行することができる。

[0188] さらに、1つのステップに複数の処理が含まれる場合には、その1つのステップに含まれる複数の処理は、1つの装置で実行する他、複数の装置で分担して実行することができる。

[0189] [構成の組み合わせ例]

本技術は、以下のような構成をとることもできる。

[0190] (1)

撮影位置を表す位置情報が付加された複数の画像を取得する取得部と、  
前記位置情報により表される撮影位置を示すポイントが表示された第1の地図をユーザの操作に応じて縮尺と表示地域を切り換えて表示させ、縮尺が固定の第2の地図を、表示地域を前記第1の地図の表示地域に連動させて、前記第1の地図と並べて表示させる表示制御部と  
を備える情報処理装置。

[0191] (2)

前記表示制御部は、ユーザにより選択された前記ポイントが示す位置を含

むように前記第1の地図の表示地域を切り換え、選択された前記ポイントが示す位置で撮影された前記画像の代表画を、前記第1の地図および前記第2の地図と並べて表示させる

前記(1)に記載の情報処理装置。

[0192] (3)

前記表示制御部は、選択された前記ポイントが示す位置で撮影された前記画像の時系列を表示させる

前記(2)に記載の情報処理装置。

[0193] (4)

前記表示制御部は、前記時系列を構成する前記画像を1枚ずつ表示させる  
前記(3)に記載の情報処理装置。

[0194] (5)

前記表示制御部は、全ての前記ポイントが示す位置で撮影された前記画像の時系列を表示させる

前記(2)に記載の情報処理装置。

[0195] (6)

前記表示制御部は、前記時系列から選択された1枚の前記画像の撮影位置を含むように、前記第1の地図の表示地域を切り換える

前記(5)に記載の情報処理装置。

[0196] (7)

前記表示制御部は、新たに選択された前記画像の撮影位置が、直前に選択されていた前記画像の撮影位置と異なる場合、前記第1の地図の表示地域を、直前に選択されていた前記画像の撮影位置を含む地域から、新たに選択された前記画像の撮影位置を含む地域までスクロールさせる

前記(6)に記載の情報処理装置。

[0197] (8)

前記表示制御部は、前記第1の地図の表示地域をスクロールさせるとき、各地域の前記第1の地図を、新たに選択された前記画像の撮影位置と直前に

選択されていた前記画像の撮影位置の間の距離に応じて縮尺を変えて表示させる

前記（７）に記載の情報処理装置。

[0198]（９）

前記表示制御部は、新たに選択された前記画像の撮影位置と直前に選択されていた前記画像の撮影位置の間の距離が長いほど最小の縮尺を小さくして、各地域の前記第１の地図を表示させる

前記（８）に記載の情報処理装置。

[0199]（１０）

前記表示制御部は、前記第１の地図と前記第２の地図の表示を消し、前記時系列を構成する前記画像を１枚ずつ表示させる

前記（５）乃至（９）のいずれかに記載の情報処理装置。

[0200]（１１）

前記表示制御部は、新たに表示させる前記画像の撮影位置が直前に表示させていた前記画像の撮影位置と異なる場合、直前に表示させていた前記画像の撮影位置と新たに表示させる前記画像の撮影位置を結ぶ線上の各地域の地図からなるアニメーションを、新たに表示させる前記画像の表示前に表示させる

前記（１０）に記載の情報処理装置。

[0201]（１２）

前記表示制御部は、前記アニメーションを構成する各地域の地図を、新たに表示させる前記画像の撮影位置と直前に表示させていた前記画像の撮影位置の間の距離に応じて縮尺を変えて表示させる

前記（１１）に記載の情報処理装置。

[0202]（１３）

前記表示制御部は、新たに表示させる前記画像の撮影位置と直前に表示させていた前記画像の撮影位置の間の距離が長いほど最小の縮尺を小さくして、各地域の地図を表示させる

前記（１２）に記載の情報処理装置。

[0203] （１４）

前記表示制御部は、新たに表示させる前記画像の撮影位置と直前に表示させていた前記画像の撮影位置を結ぶ線上に軌跡を表す画像を表示させる

前記（１１）乃至（１３）のいずれかに記載の情報処理装置。

[0204] （１５）

前記第２の地図は、正射図法で表された地図である

前記（１）乃至（１４）のいずれかに記載の情報処理装置。

[0205] （１６）

撮影位置を表す位置情報が付加された複数の画像を取得し、

前記位置情報により表される撮影位置を示すポインタが表示された第１の地図をユーザの操作に応じて縮尺と表示地域を切り換えて表示させ、縮尺が固定の第２の地図を、表示地域を前記第１の地図の表示地域に連動させて、

前記第１の地図と並べて表示させる

ステップを含む情報処理方法。

[0206] （１７）

撮影位置を表す位置情報が付加された複数の画像を取得し、

前記位置情報により表される撮影位置を示すポインタが表示された第１の地図をユーザの操作に応じて縮尺と表示地域を切り換えて表示させ、縮尺が固定の第２の地図を、表示地域を前記第１の地図の表示地域に連動させて、

前記第１の地図と並べて表示させる

ステップを含む処理をコンピュータに実行させるプログラム。

#### 符号の説明

[0207] １ 情報処理装置、 ２ コントローラ、 ３ ケーブル、 ４ 表示装置、 １２１

画像取得部、 １２２ 表示制御部

### 請求の範囲

- [請求項1] 撮影位置を表す位置情報が付加された複数の画像を取得する取得部と、
- 前記位置情報により表される撮影位置を示すポインタが表示された第1の地図をユーザの操作に応じて縮尺と表示地域を切り換えて表示させ、縮尺が固定の第2の地図を、表示地域を前記第1の地図の表示地域に連動させて、前記第1の地図と並べて表示させる表示制御部とを備える情報処理装置。
- [請求項2] 前記表示制御部は、ユーザにより選択された前記ポインタが示す位置を含むように前記第1の地図の表示地域を切り換え、選択された前記ポインタが示す位置で撮影された前記画像の代表画を、前記第1の地図および前記第2の地図と並べて表示させる
- 請求項1に記載の情報処理装置。
- [請求項3] 前記表示制御部は、選択された前記ポインタが示す位置で撮影された前記画像の時系列を表示させる
- 請求項2に記載の情報処理装置。
- [請求項4] 前記表示制御部は、前記時系列を構成する前記画像を1枚ずつ表示させる
- 請求項3に記載の情報処理装置。
- [請求項5] 前記表示制御部は、全ての前記ポインタが示す位置で撮影された前記画像の時系列を表示させる
- 請求項2に記載の情報処理装置。
- [請求項6] 前記表示制御部は、前記時系列から選択された1枚の前記画像の撮影位置を含むように、前記第1の地図の表示地域を切り換える
- 請求項5に記載の情報処理装置。
- [請求項7] 前記表示制御部は、新たに選択された前記画像の撮影位置が、直前に選択されていた前記画像の撮影位置と異なる場合、前記第1の地図の表示地域を、直前に選択されていた前記画像の撮影位置を含む地域



から、新たに選択された前記画像の撮影位置を含む地域までスクロールさせる

請求項 6 に記載の情報処理装置。

[請求項 8] 前記表示制御部は、前記第 1 の地図の表示地域をスクロールさせる  
とき、各地域の前記第 1 の地図を、新たに選択された前記画像の撮影  
位置と直前に選択されていた前記画像の撮影位置の間の距離に応じて  
縮尺を変えて表示させる

請求項 7 に記載の情報処理装置。

[請求項 9] 前記表示制御部は、新たに選択された前記画像の撮影位置と直前に  
選択されていた前記画像の撮影位置の間の距離が長いほど最小の縮尺  
を小さくして、各地域の前記第 1 の地図を表示させる

請求項 8 に記載の情報処理装置。

[請求項 10] 前記表示制御部は、前記第 1 の地図と前記第 2 の地図の表示を消し  
、前記時系列を構成する前記画像を 1 枚ずつ表示させる

請求項 5 に記載の情報処理装置。

[請求項 11] 前記表示制御部は、新たに表示させる前記画像の撮影位置が直前に  
表示させていた前記画像の撮影位置と異なる場合、直前に表示させて  
いた前記画像の撮影位置と新たに表示させる前記画像の撮影位置を結  
ぶ線上の各地域の地図からなるアニメーションを、新たに表示させる  
前記画像の表示前に表示させる

請求項 10 に記載の情報処理装置。

[請求項 12] 前記表示制御部は、前記アニメーションを構成する各地域の地図を  
、新たに表示させる前記画像の撮影位置と直前に表示させていた前記  
画像の撮影位置の間の距離に応じて縮尺を変えて表示させる

請求項 11 に記載の情報処理装置。

[請求項 13] 前記表示制御部は、新たに表示させる前記画像の撮影位置と直前に  
表示させていた前記画像の撮影位置の間の距離が長いほど最小の縮尺  
を小さくして、各地域の地図を表示させる

請求項 1 2 に記載の情報処理装置。

[請求項14] 前記表示制御部は、新たに表示させる前記画像の撮影位置と直前に表示させていた前記画像の撮影位置を結ぶ線上に軌跡を表す画像を表示させる

請求項 1 1 に記載の情報処理装置。

[請求項15] 前記第 2 の地図は、正射図法で表された地図である

請求項 1 に記載の情報処理装置。

[請求項16] 撮影位置を表す位置情報が付加された複数の画像を取得し、

前記位置情報により表される撮影位置を示すポイントが表示された第 1 の地図をユーザの操作に応じて縮尺と表示地域を切り換えて表示させ、縮尺が固定の第 2 の地図を、表示地域を前記第 1 の地図の表示地域に運動させて、前記第 1 の地図と並べて表示させる

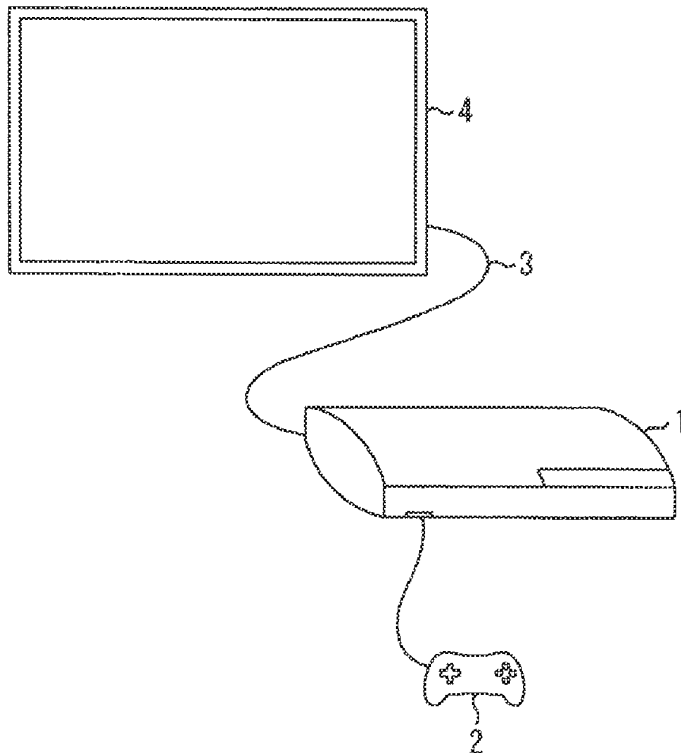
ステップを含む情報処理方法。

[請求項17] 撮影位置を表す位置情報が付加された複数の画像を取得し、

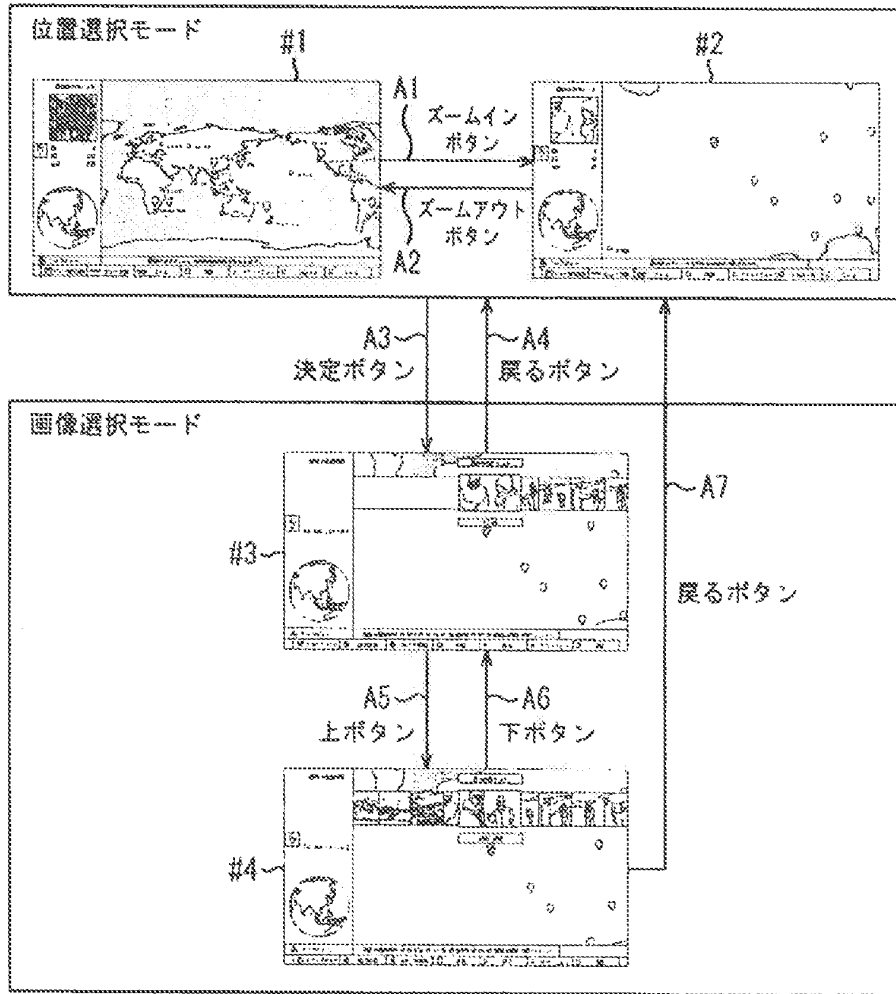
前記位置情報により表される撮影位置を示すポイントが表示された第 1 の地図をユーザの操作に応じて縮尺と表示地域を切り換えて表示させ、縮尺が固定の第 2 の地図を、表示地域を前記第 1 の地図の表示地域に運動させて、前記第 1 の地図と並べて表示させる

ステップを含む処理をコンピュータに実行させるプログラム。

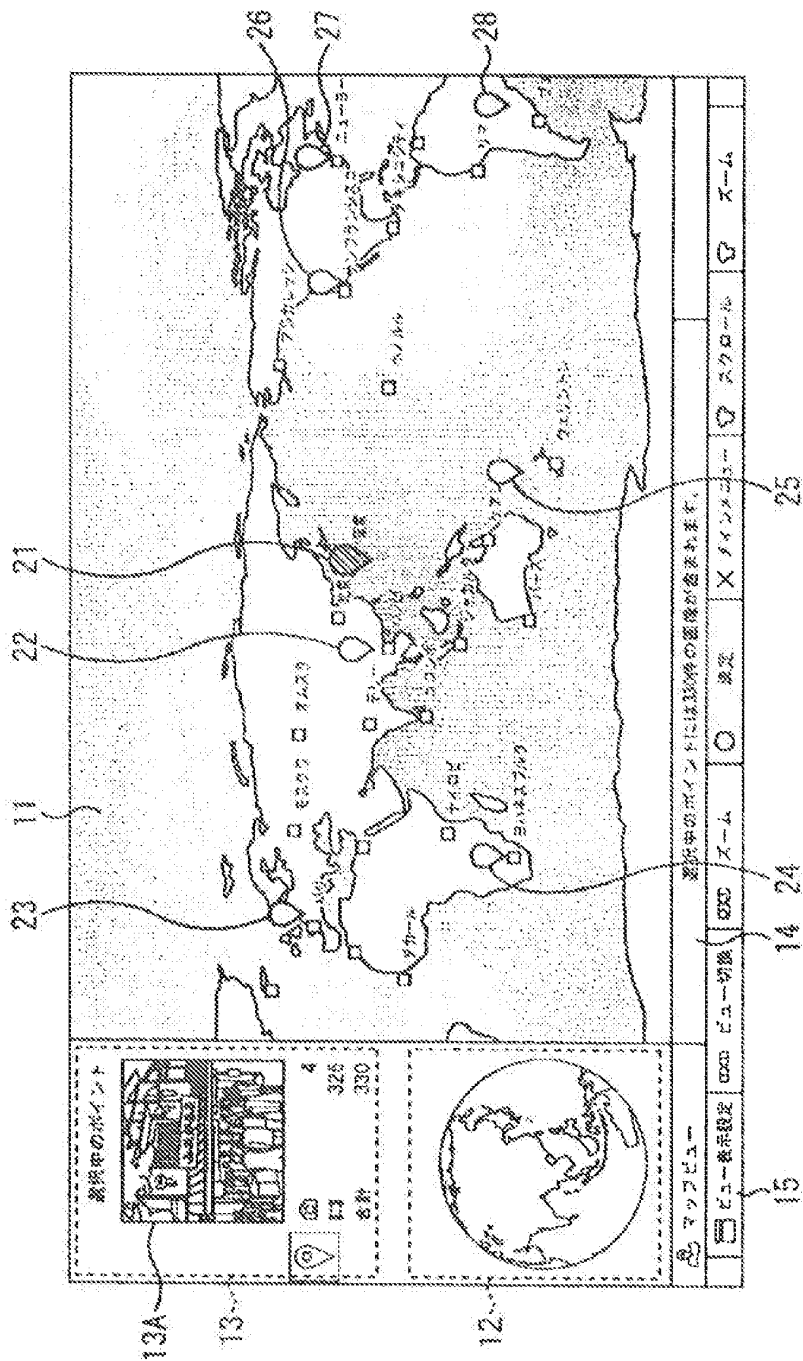
[圖1]



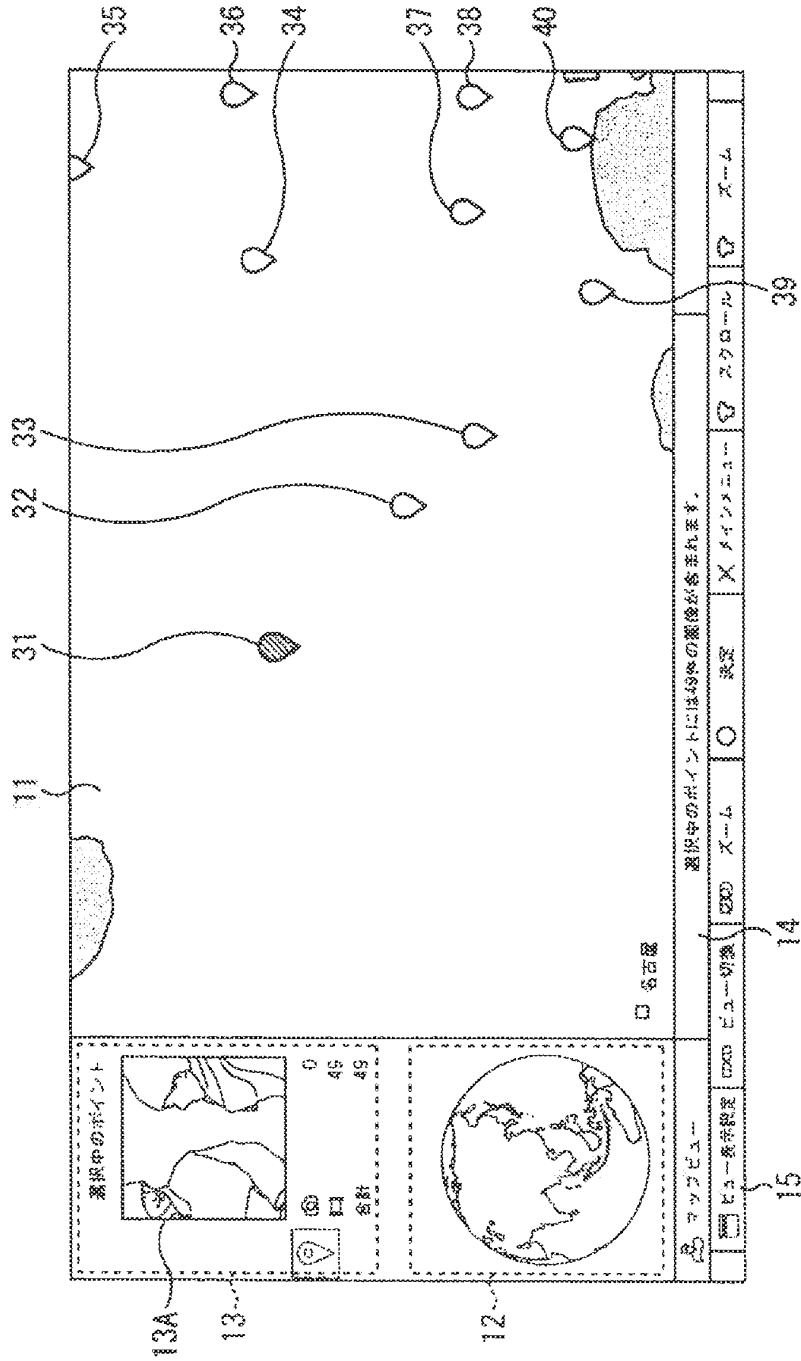
[図2]



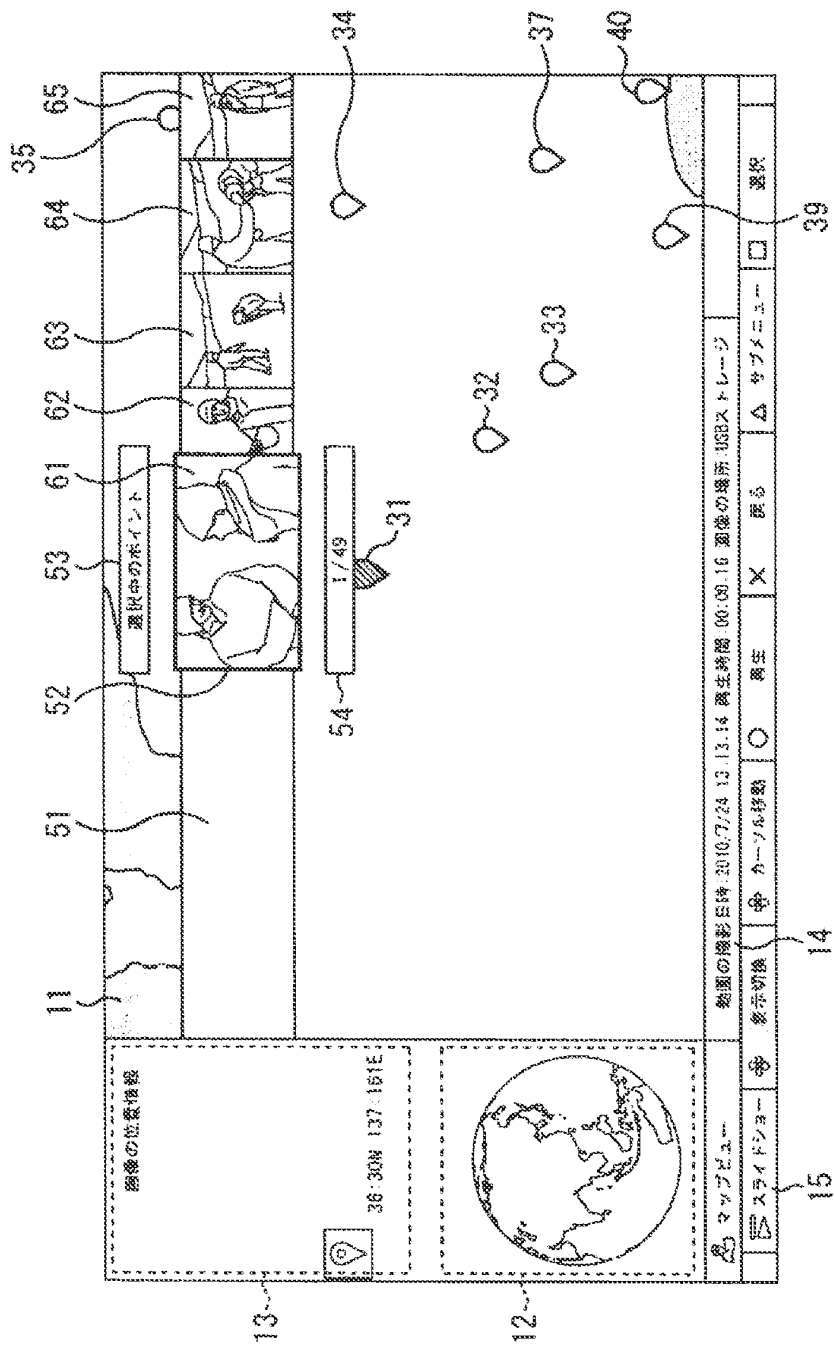
[図3]



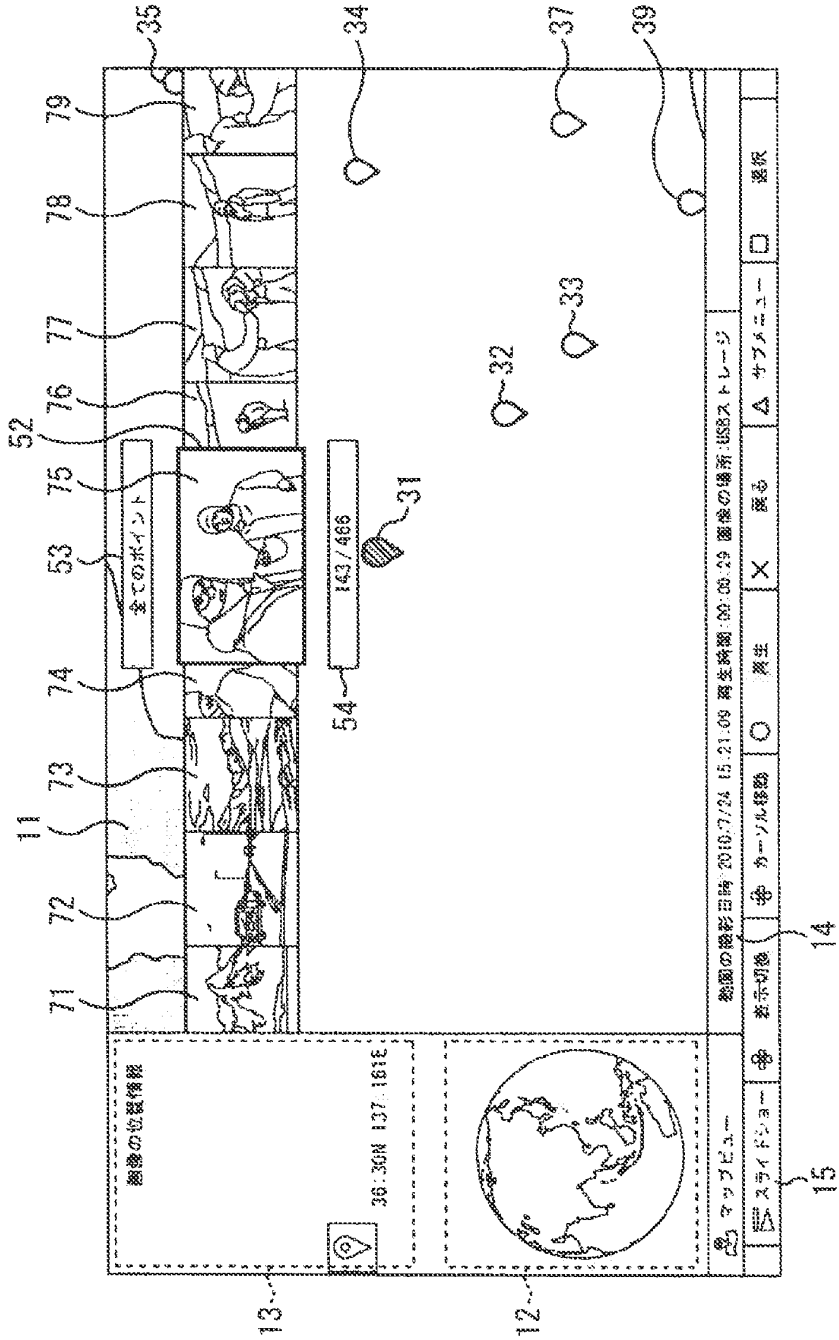
[図4]



[図5]

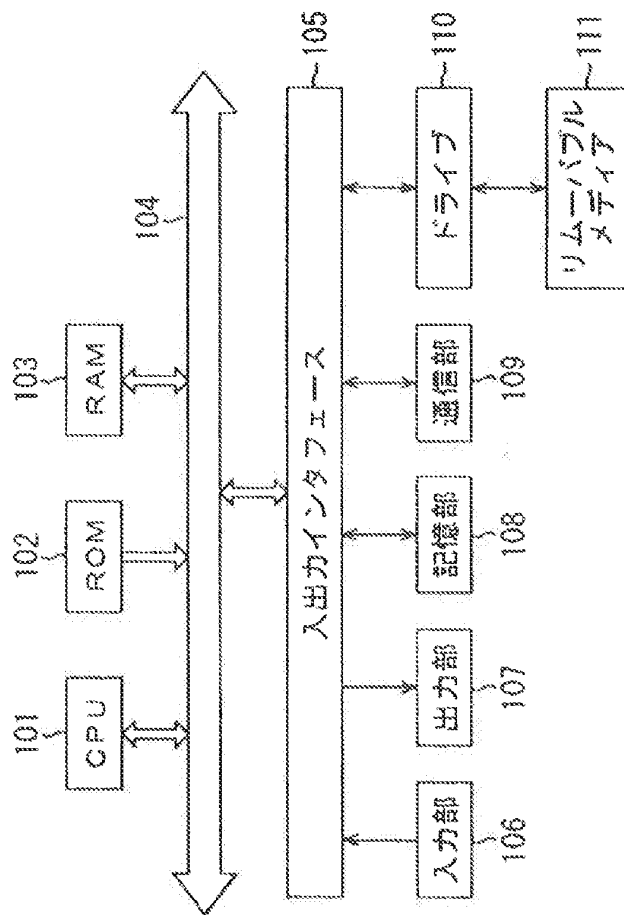


[図6]

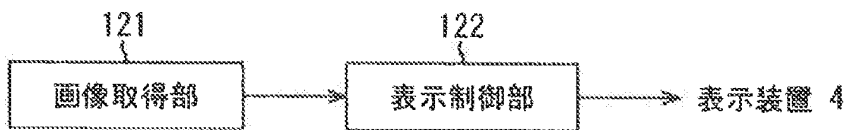




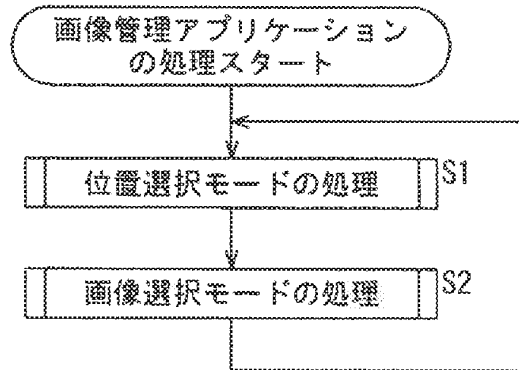
【図7】



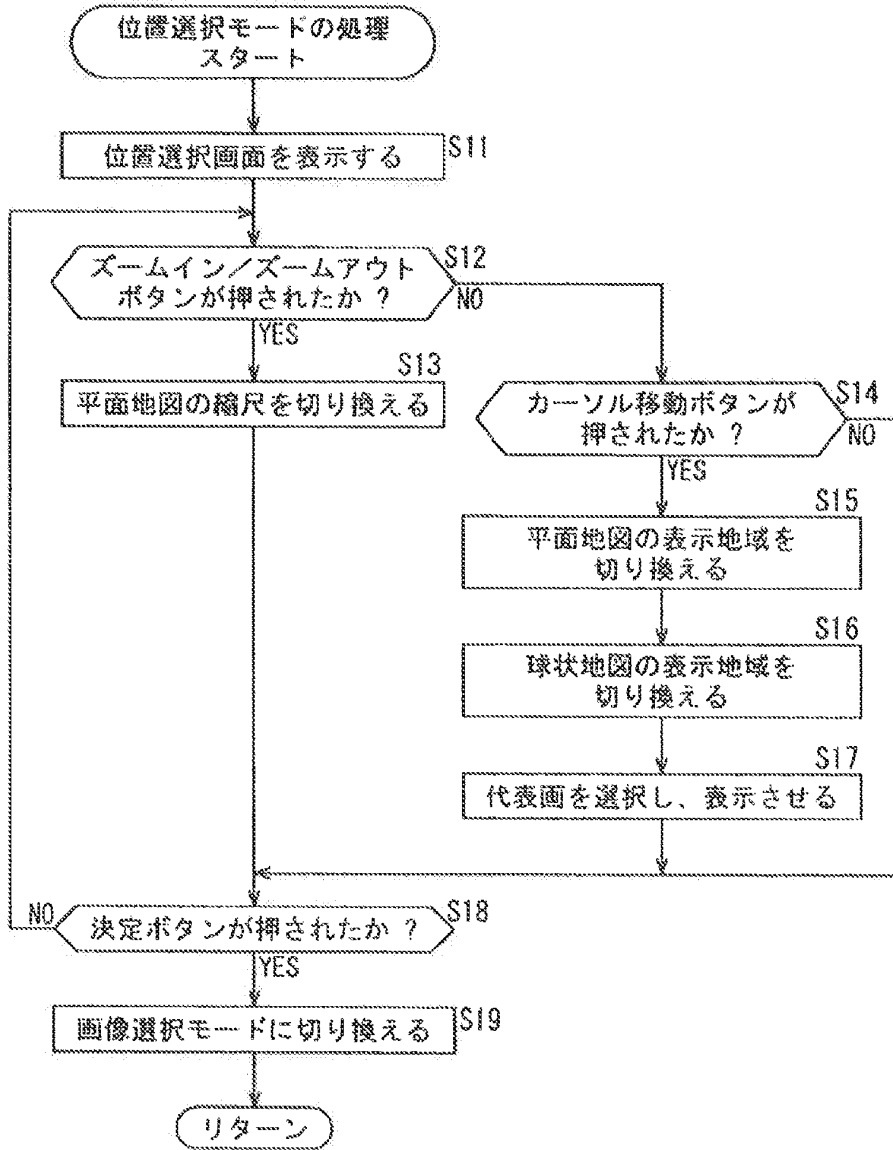
【図8】



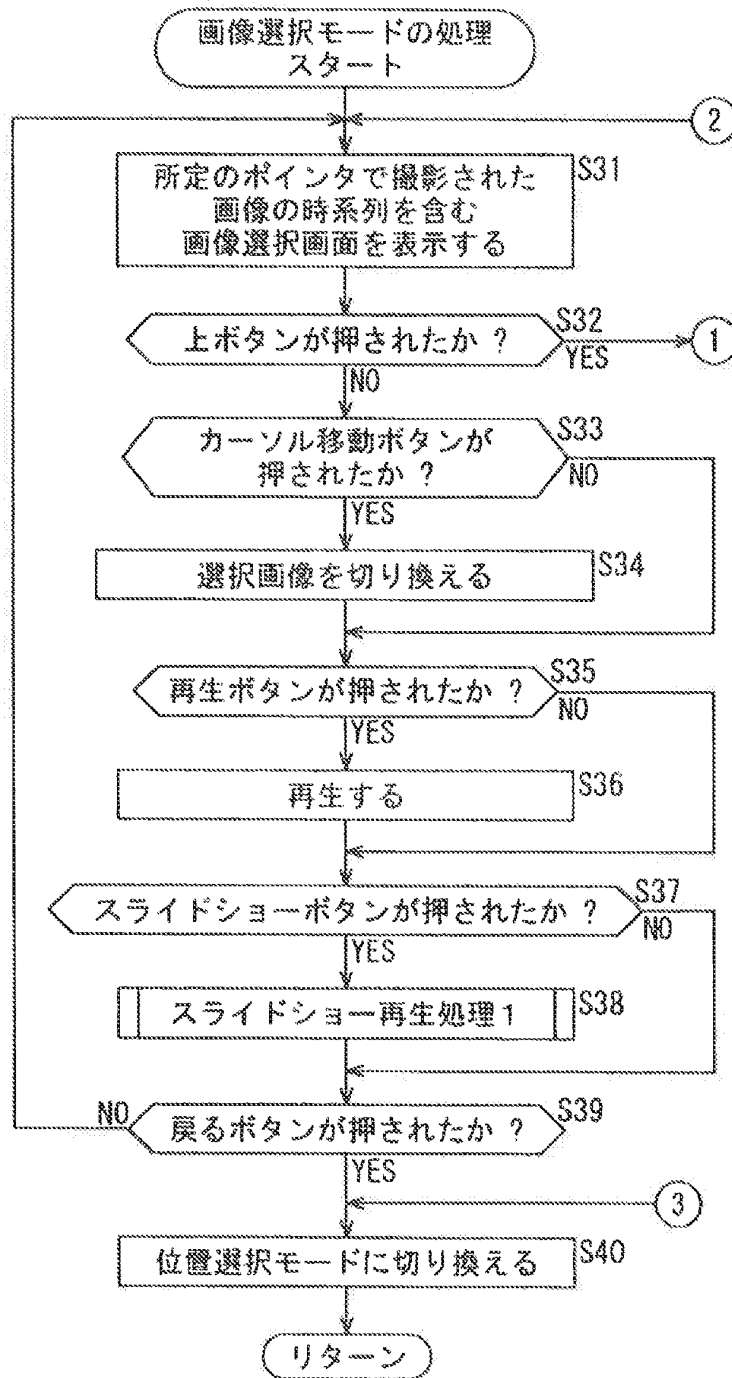
[図9]



[図10]



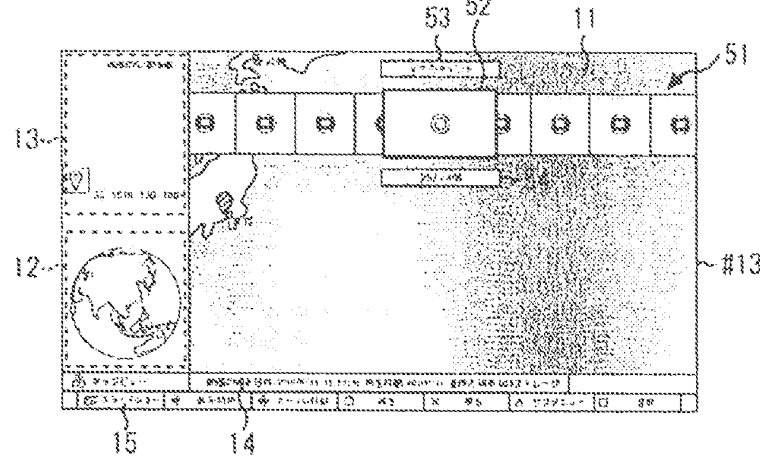
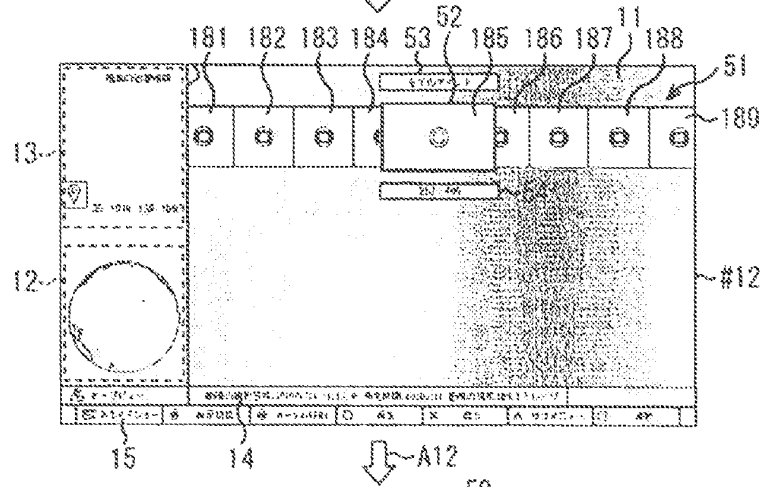
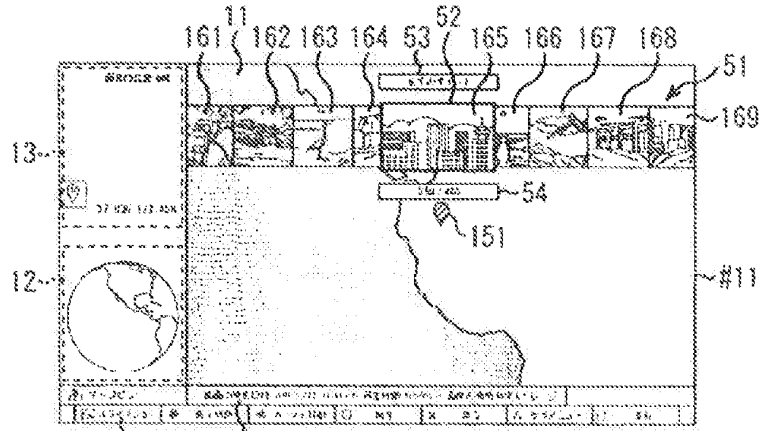
[図11]



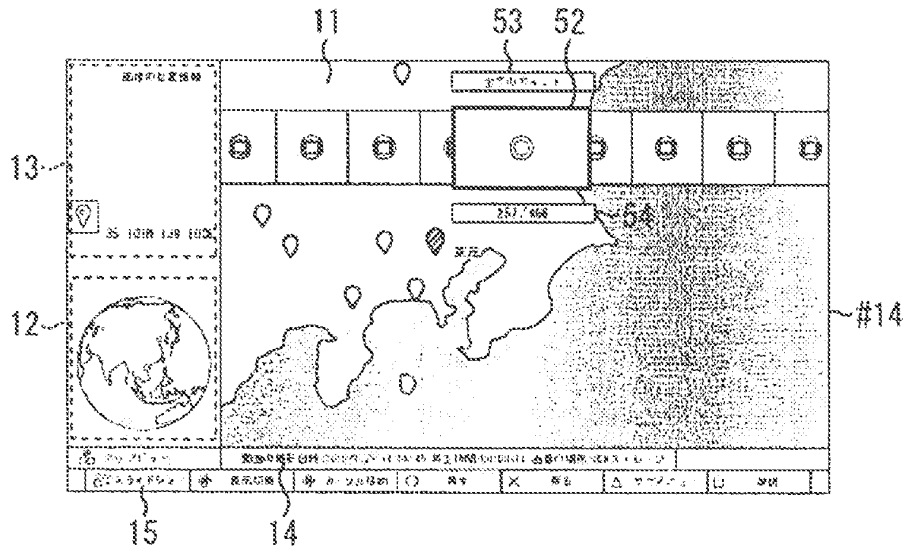
[図12]



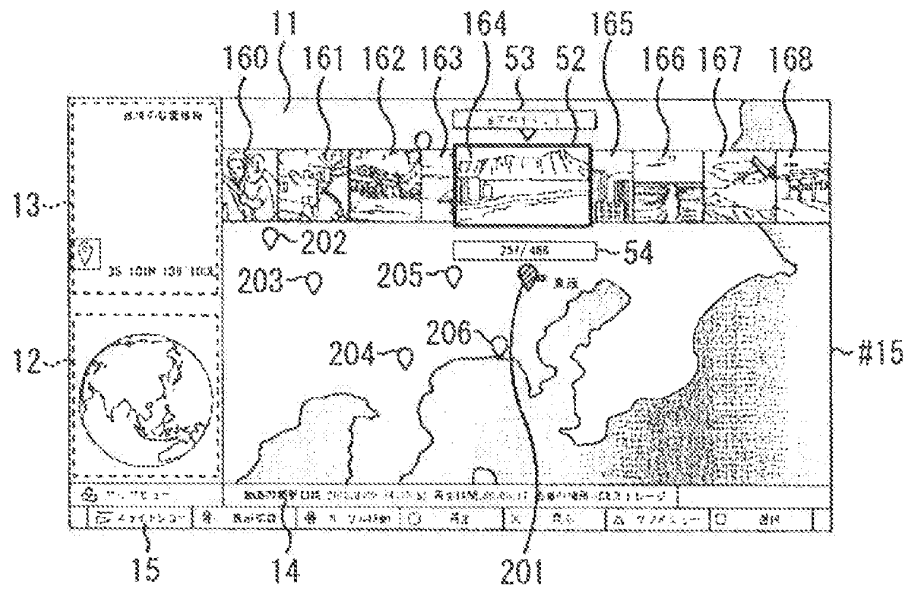
[013]



[図14]



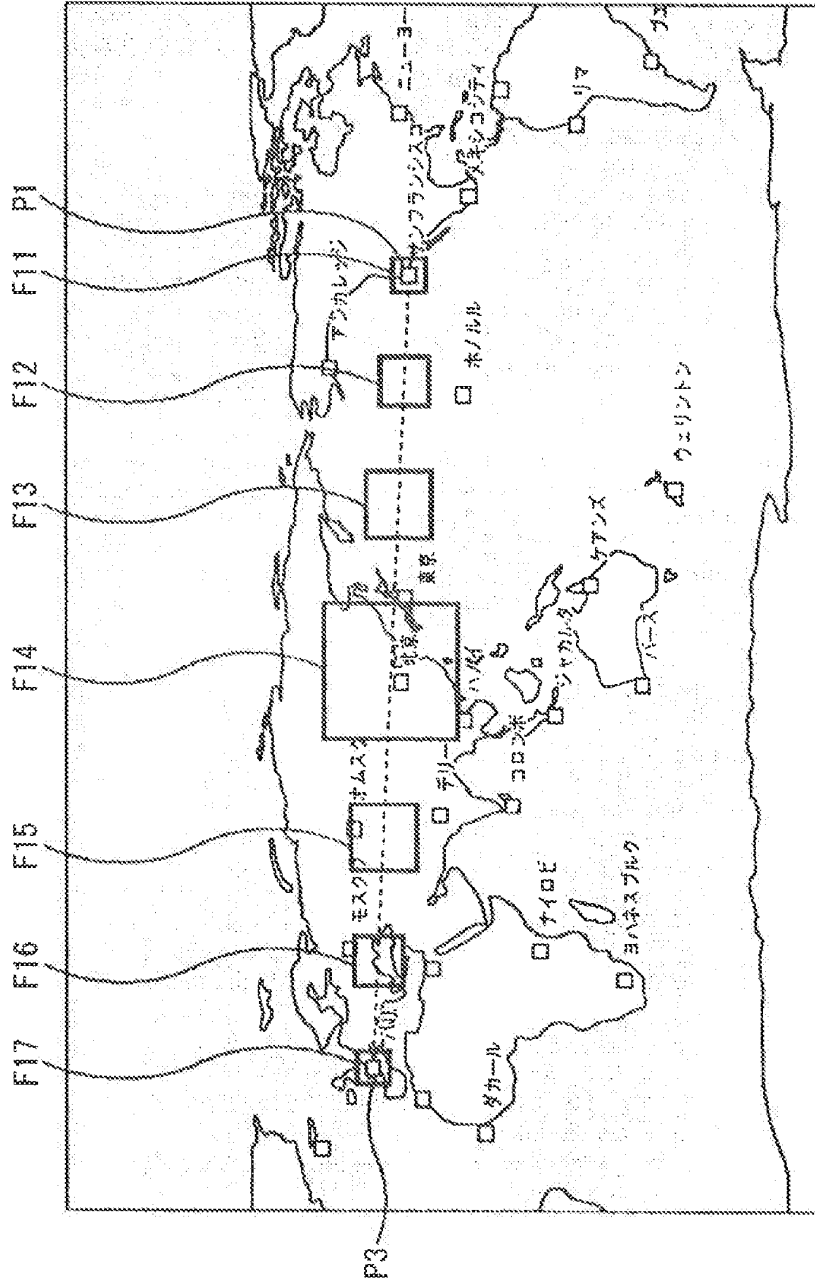
↓ A13



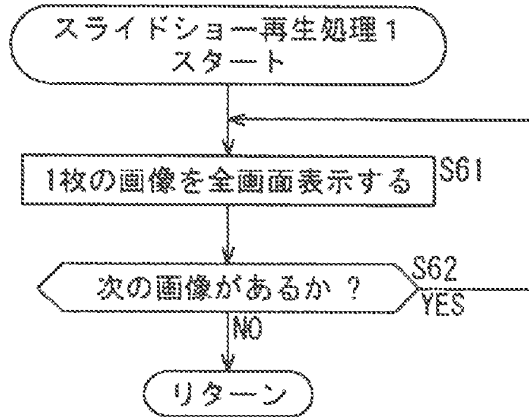




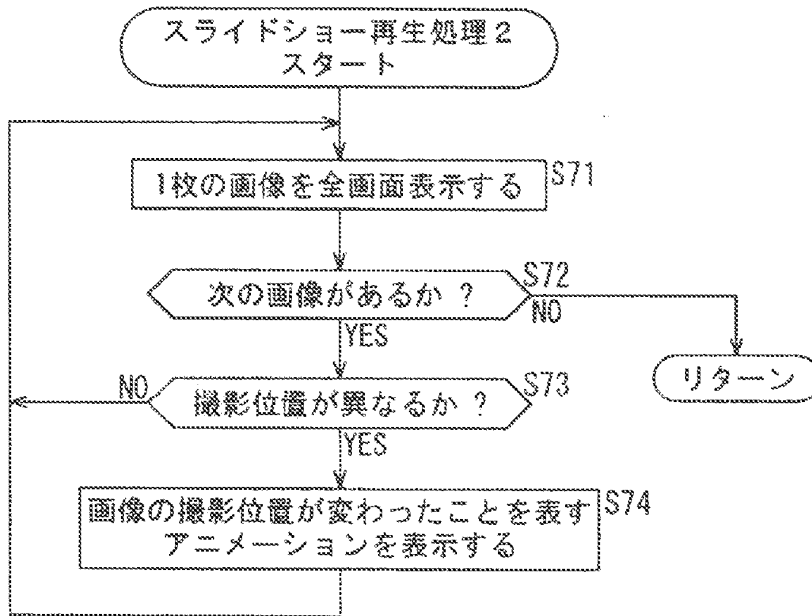
[図16]



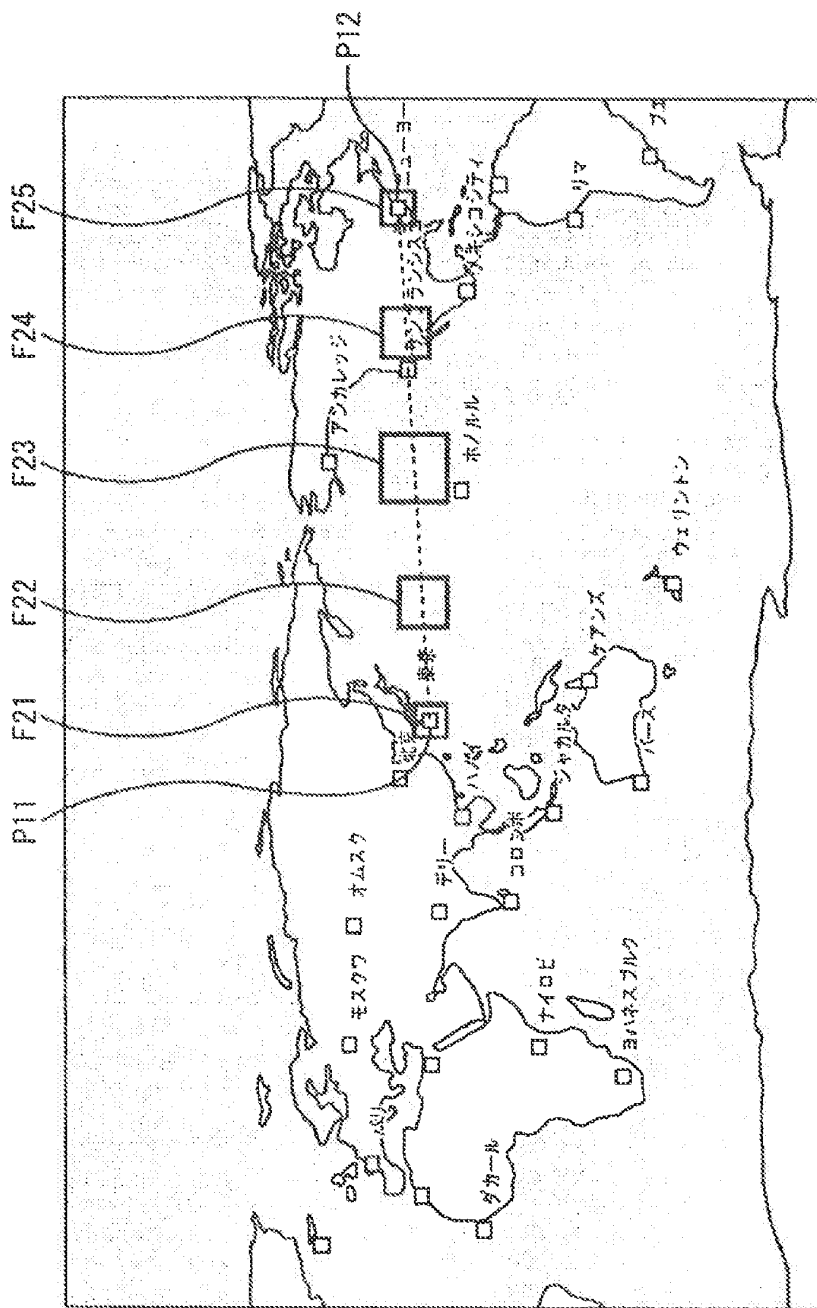
[図17]



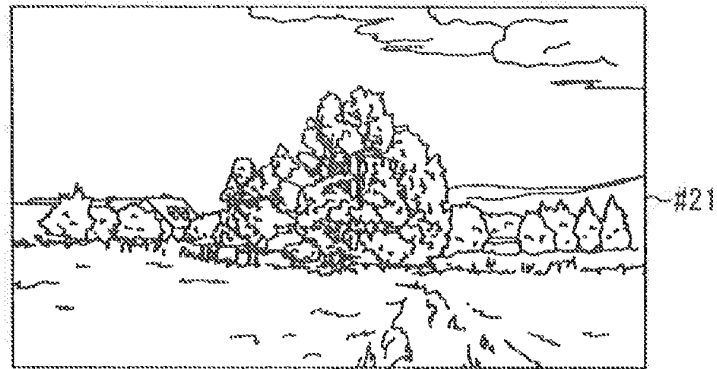
[図18]



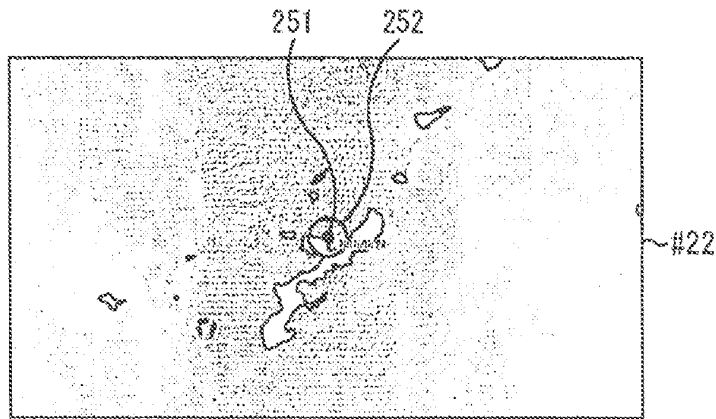
[図 19]



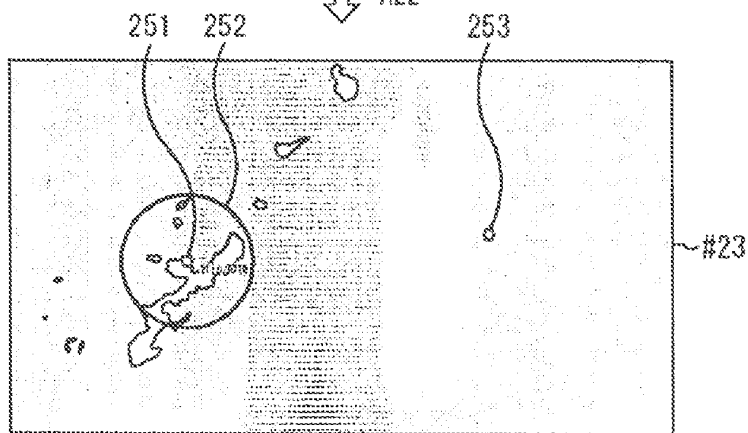
[圖20]



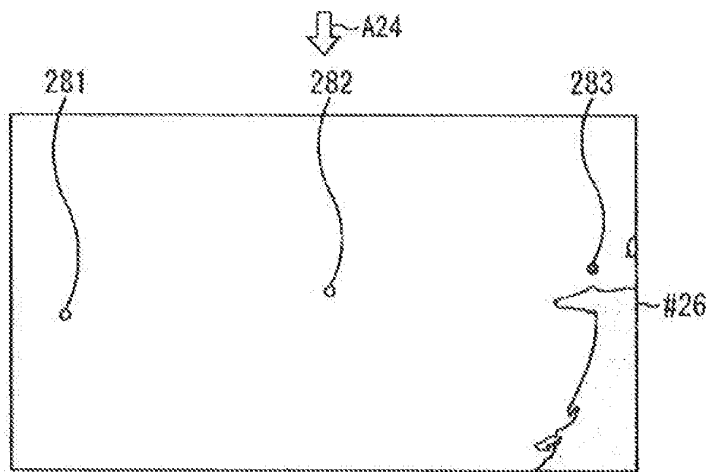
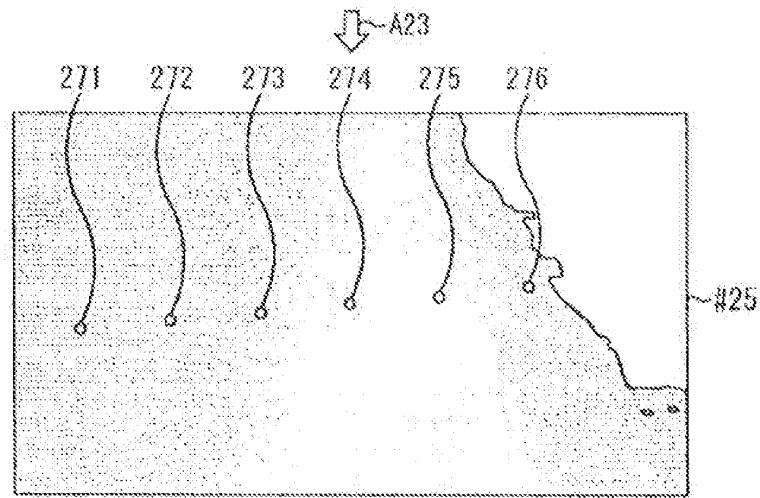
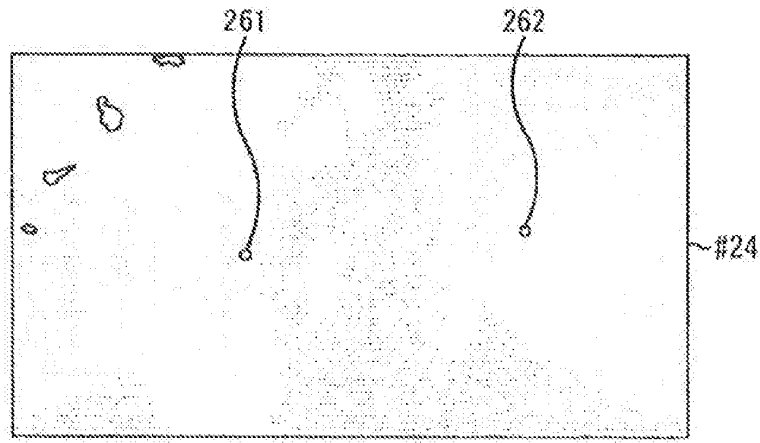
↓ A21



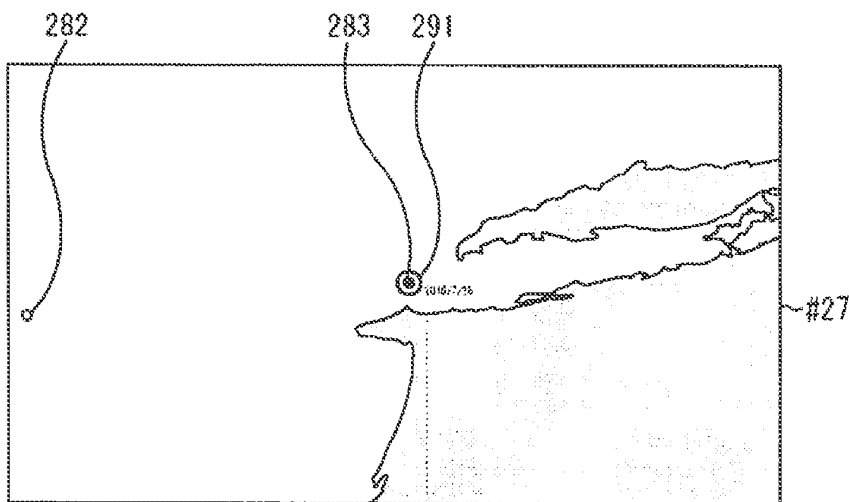
↓ A22



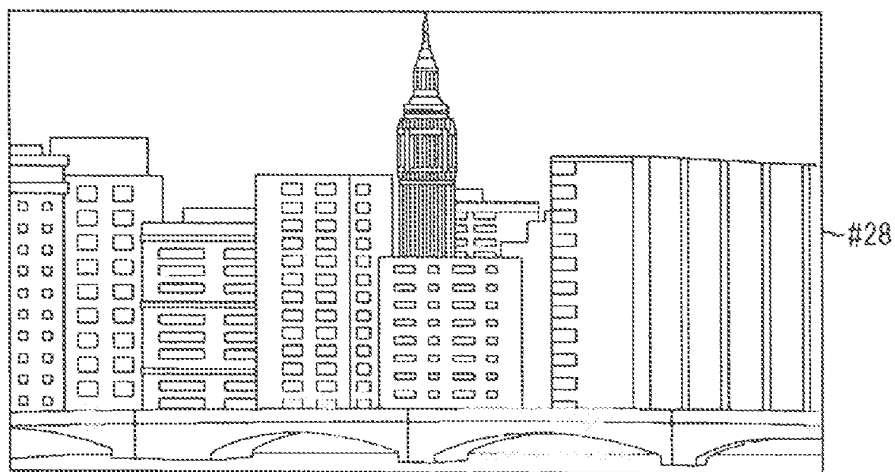
[圖21]



[圖22]



↓ A25



<p><b>INTERNATIONAL SEARCH REPORT</b></p> <p>International application No. <b>PCT/JP2012/082813</b></p>		<p><b>A. CLASSIFICATION OF SUBJECT MATTER</b></p> <p>G09B29/00(2006.01), G06F17/30(2006.01), G06F11/60(2006.01), G06F11/60(2006.01)</p> <p>According to International Patent Classification (IPC) or to both national classification and IPC</p>	
<p><b>B. FIELDS SEARCHED</b></p> <p>Minimum documentation searched (classification system followed by classification symbols)</p> <p>G09B29/00, G06F17/30, G06F11/60, G06F11/60</p>		<p>Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched</p> <p>Itsuayo Shiman Koho 1927-1996 Itsuayo Shiman Toroku Koho 1996-2013                  Kokai Itsuayo Shiman Koho 1971-2013 Toroku Itsuayo Shiman Koho 1994-2013</p>	
<p>Theoretical data base consulted during the international search (name of data base and, where practicable, search terms used)</p>			
<p><b>C. DOCUMENTS CONSIDERED TO BE RELEVANT</b></p>			
Category*	Number of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.	Category
A	US 7475660 B2 (PLANETRYE COMPANY LLC), on January 2009 (09.01.2009), entire text; all drawings; particularly, column 3, line 2 to column 9, line 16; fig. 3A, 3B & JP 2004-24888 A & EP 1475725 A2	1-17	A
A	JP 2001-18998 A (SONY CORP.), 10 July 2001 (10.07.2001), entire text; all drawings; particularly, paragraphs (0006) to (0007), (0030) to (0042); fig. 8 to 9 & US 2001/0040623 A1 & EP 1133150 A2 & DE 60037640 T2 & KR 10-2001-0070562 A & ES 2298122 13	1-11	A
<p>* Further documents are listed in the continuation of this C. <input type="checkbox"/> See parent family unity. <input type="checkbox"/></p>			
<p>Special categories of cited documents:                  (A) document defining the general state of the art which is not considered to be of particular relevance                  (A') earlier application or patent not published on or after the international filing date                  (A'') document which may have priority claims or which is cited to establish the publication date of another claim or other special reason (as specified)                  (O) document relating to an oral disclosure, use, exhibition or other means the priority date claimed                  (P) document published prior to the international filing date but not than the priority date claimed                  (X) earlier application or patent not published on or after the international filing date                  (X') document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone                  (X'') document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone                  (Y) document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is considered with one or more other such documents, such combination being citable to a person skilled in the art                  (X'') document member of the same patent family</p>			
<p>Date of the actual completion of the international search <b>03 April, 2013 (03.04.13)</b></p>		<p>Date of mailing of the international search report <b>16 April, 2013 (16.04.13)</b></p>	
<p>Name and mailing address of the ISA/                  Japanese Patent Office</p>		<p>Authorized officer</p>	
<p>Telephone No.</p>		<p>Telephone No.</p>	

A. 発明が属する分野の分類 (国際特許分類 (IPC)) Int.Cl. G06F29/00(2006,0101), G06F17/30(2006,0101), G06F1/00(2006,0101), G06F11/60(2006,0101)										
B. 調査を行った分野 調査を行った最小限資料 (国際特許分類 (IPC)) Int.Cl. G06F29/00, G06F17/30, G06F1/00, G06F11/60										
最小限資料以外の資料で調査を行った分野に含まれるもの <table border="0"> <tr> <td>日本国実用新案公報</td> <td>1922-1996年</td> </tr> <tr> <td>日本国公開実用新案公報</td> <td>1971-2013年</td> </tr> <tr> <td>日本国実用新案登録公報</td> <td>1996-2013年</td> </tr> <tr> <td>日本国登録実用新案公報</td> <td>1994-2013年</td> </tr> </table>			日本国実用新案公報	1922-1996年	日本国公開実用新案公報	1971-2013年	日本国実用新案登録公報	1996-2013年	日本国登録実用新案公報	1994-2013年
日本国実用新案公報	1922-1996年									
日本国公開実用新案公報	1971-2013年									
日本国実用新案登録公報	1996-2013年									
日本国登録実用新案公報	1994-2013年									
国際調査で利用した電子データベース (データベースの名称、調査に使用した用語)										
C. 関連すると認められる文献										
引用文献の カテゴリ*	引用文献名 及び一部の箇所が関連するときは、その関連する箇所の表示	関連する 請求項の番号								
A	US 7475060 B2 (PLANETEYE COMPANY LLC) 2009.01.06, 全文, 全図, 特に第8欄第2行-第9欄第16行, [図3A, 3B & JP 2004-334888 A & EP 1475725 A2 & KR 10-2004-0095751 A & CN 1551020 A	1-17								
A	JP 2001-189905 A (ソニー株式会社) 2001.07.10, 全文, 全図, 特に段落【0006】-【0007】, 【0030】-【0042】, [図8-9 & US 2001/0040629 A1 & EP 1133150 A2 & DE 60037640 T2 & KR 10-2001-0070363 A & ES 2298122 T3	1-17								
<input type="checkbox"/> C欄の縦書きに文献が列挙されている <input type="checkbox"/> カテゴリ「ソニエリ」に関する別紙を参照。										
* 引用文献のカテゴリ A. 特に関連のある文献でないが、一般的技術水準を示すもの B. 国際出願日前の出願又は特許であるが、国際出願日以後に公表されたもの C. 優先権主張を提起する文献又は他の文献の発明に若しくは他の特別な理由を確立するために引用する文献 (理由を付す) D. 直接に示す、使用、展覧等に関する文献 E. 国際出願日前で、かつ優先権主張の基礎となる出願										
の日後に公表された文献 (T) 国際出願日又は優先日後に公表された文献であって出願を支持するものでなく、発明の原理又は理論の理解のために引用するもの (X) 特に関連のある文献であり、当該文献のみで発明の新規性又は進歩性がないと考えられるもの (Y) 特に関連のある文献であって、当該文献と他の1以上の文献との、当業者にとって自明である組合せによって進歩性がないと考えられるもの (Z) 同一のソニエリ文献										
国際調査を完了した日 03.04.2013	国際調査報告の発露日 16.04.2013									
国際調査機関の名称及び住所 日本国特許庁 (I.S.A./J.P.) 郵便番号100-8915 東京都千代田区霞が関3丁目4番3号	特許庁調査官 (権限のある職員) 藤澤 和浩	2B 4410								
		電話番号 03-05881-1101 内線 3237								



**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

---

Applicant: NCM IP Holdings, LLC	Customer No.: 70001
Application No.: 16/578,238	Confirmation No.: 4358
Filed: September 20, 2019	Art Unit: 2165
Docket No.: 069366-000002USC3	Examiner: Not Yet Assigned
Title: METHOD AND APPARATUS FOR MANAGING DIGITAL FILES	

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**FIRST INFORMATION DISCLOSURE STATEMENT  
UNDER 37 C.F.R. §§ 1.97 and 1.98**

Commissioner for Patents – via EFS  
P.O. Box 1450  
Alexandria, VA 22313-1450

Dear Commissioner:

In compliance with the duty of disclosure under 37 C.F.R. § 1.56, it is respectfully requested that this Information Disclosure Statement be entered and the references listed on the attached List of References be considered by the Examiner and made of record.

In accordance with 37 C.F.R. § 1.98(a)(2)(ii), copies of the U.S. Patents and/or U.S. Patent Application Publications on the attached List of References are not being submitted.

Applicant would like to make the Examiner aware of the following applications to which this application claims priority: This application is a continuation of U.S. Patent Application No. 16/536,300, filed August 8, 2019, which is a continuation of U.S. Patent Application No. 15/375,927, filed December 12, 2016, now U.S. Patent No. 10,423,658, which is a continuation of U.S. Patent Application No. 14/193,426, filed February 28, 2014, now U.S. Patent No. 9,552,376, which is a continuation-in-part of and claims priority to U.S. Patent Application No. 13/157,214, filed June 9, 2011, now U.S. Patent No. 9,098,531.

Pursuant to 37 C.F.R. § 1.98(d) and M.P.E.P. § 609.02, copies of foreign patent documents and other documents that were previously cited and submitted in one or more of the parent application(s) in accordance with 37 C.F.R. § 1.98(a)-(c) need not be resubmitted in this application. It is the Applicant's belief that all such references on the attached List of References were previously cited and submitted in an Information Disclosure Statement in accordance with

37 C.F.R. § 1.98(a)-(c) in one or more of the above referenced U.S. Patent Applications to which this application claims priority under 35 U.S.C. § 120, except for references C1-C6 and D16-D27, copies of which are being submitted herewith.

In accordance with 37 C.F.R. §§ 1.97(g) and (h), this Information Disclosure Statement is not to be construed as a representation that a search has been made, and is not to be construed to be an admission that the information disclosed is, or is considered to be, prior art with respect to the present application or material to patentability as defined in 37 C.F.R. § 1.56.

This Information Disclosure Statement is being filed prior to the receipt of a first office action on the merits. Accordingly, pursuant to 37 C.F.R. § 1.97(b)(3), no fees are believed to be due in connection with the filing of this Information Disclosure Statement. However, should any fees be deemed necessary (except payment of the issue fee), the Director is authorized to charge any deficiency or to credit any overpayment to Nixon Peabody LLP Deposit Account No. 50-4181 (Order No. 069366-000002USC3).

Respectfully submitted,

Dated: November 13, 2019

/Bradley M. Taub, Reg. No. 67,300/

Bradley M. Taub

Reg. No. 67,300

NIXON PEABODY LLP

70 West Madison Street, Suite 3500

Chicago, Illinois 60602

312-425-8563 Direct Phone

ATTORNEYS FOR APPLICANT

<b>Doc Code: DIST.E.FILE</b> <b>Document Description: Electronic Terminal Disclaimer - Filed</b>		PTO/SB/26 U.S. Patent and Trademark Office Department of Commerce
Electronic Petition Request	<b>TERMINAL DISCLAIMER TO OBIATE A DOUBLE PATENTING REJECTION OVER A "PRIOR" PATENT</b>	
Application Number	16578238	
Filing Date	20-Sep-2019	
First Named Inventor	Christopher Desmond	
Attorney Docket Number	069366-000002USC3	
Title of Invention	METHOD AND APPARATUS FOR MANAGING DIGITAL FILES	
<input checked="" type="checkbox"/> Filing of terminal disclaimer does not obviate requirement for response under 37 CFR 1.111 to outstanding Office Action  <input checked="" type="checkbox"/> This electronic Terminal Disclaimer is not being used for a Joint Research Agreement.		
Owner	Percent Interest	
NCM IP Holdings, LLC	100%	
<p>The owner(s) with percent interest listed above in the instant application hereby disclaims, except as provided below, the terminal part of the statutory term of any patent granted on the instant application which would extend beyond the expiration date of the full statutory term of prior patent number(s)</p> <p>10423658 9552376</p> <p>as the term of said prior patent is presently shortened by any terminal disclaimer. The owner hereby agrees that any patent so granted on the instant application shall be enforceable only for and during such period that it and the prior patent are commonly owned. This agreement runs with any patent granted on the instant application and is binding upon the grantee, its successors or assigns.</p> <p>In making the above disclaimer, the owner does not disclaim the terminal part of the term of any patent granted on the instant application that would extend to the expiration date of the full statutory term of the prior patent, "as the term of said prior patent is presently shortened by any terminal disclaimer," in the event that said prior patent later:</p> <ul style="list-style-type: none"> <li>- expires for failure to pay a maintenance fee;</li> <li>- is held unenforceable;</li> <li>- is found invalid by a court of competent jurisdiction;</li> <li>- is statutorily disclaimed in whole or terminally disclaimed under 37 CFR 1.321;</li> <li>- has all claims canceled by a reexamination certificate;</li> <li>- is reissued; or</li> <li>- is in any manner terminated prior to the expiration of its full statutory term as presently shortened by any terminal disclaimer.</li> </ul>		

- Terminal disclaimer fee under 37 CFR 1.20(d) is included with Electronic Terminal Disclaimer request.
- I certify, in accordance with 37 CFR 1.4(d)(4), that the terminal disclaimer fee under 37 CFR 1.20(d) required for this terminal disclaimer has already been paid in the above-identified application.

Applicant claims the following fee status:

- Small Entity
- Micro Entity
- Regular Undiscounted

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

**THIS PORTION MUST BE COMPLETED BY THE SIGNATORY OR SIGNATORIES**

I certify, in accordance with 37 CFR 1.4(d)(4) that I am:

- An attorney or agent registered to practice before the Patent and Trademark Office who is of record in this application  
  
Registration Number 67300
- A sole inventor
- A joint inventor; I certify that I am authorized to sign this submission on behalf of all of the inventors as evidenced by the power of attorney in the application
- A joint inventor; all of whom are signing this request

Signature	/Bradley M. Taub/
Name	Bradley M. Taub

\*Statement under 37 CFR 3.73(b) is required if terminal disclaimer is signed by the assignee (owner).  
Form PTO/SB/96 may be used for making this certification. See MPEP § 324.

Electronic Patent Application Fee Transmittal				
<b>Application Number:</b>	16578238			
<b>Filing Date:</b>	20-Sep-2019			
<b>Title of Invention:</b>	METHOD AND APPARATUS FOR MANAGING DIGITAL FILES			
<b>First Named Inventor/Applicant Name:</b>	Christopher J. Desmond			
<b>Filer:</b>	Bradley Michael Taub/Brittany Hamson			
<b>Attorney Docket Number:</b>	069366-000002USC3			
Filed as Small Entity				
<b>Filing Fees for Utility under 35 USC 111(a)</b>				
Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
<b>Basic Filing:</b>				
STATUTORY OR TERMINAL DISCLAIMER	2814	1	160	160
<b>Pages:</b>				
<b>Claims:</b>				
<b>Miscellaneous-Filing:</b>				
<b>Petition:</b>				
<b>Patent-Appeals-and-Interference:</b>				
<b>Post-Allowance-and-Post-Issuance:</b>				

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
<b>Extension-of-Time:</b>				
<b>Miscellaneous:</b>				
<b>Total in USD (\$)</b>				<b>160</b>

Doc Code: DISQ.E.FILE  
Document Description: Electronic Terminal Disclaimer – Approved

Application No.: 16578238

Filing Date: 20-Sep-2019

Applicant/Patent under Reexamination: Desmond

Electronic Terminal Disclaimer filed on November 21, 2019

APPROVED

**This patent is subject to a terminal disclaimer**

DISAPPROVED

Approved/Disapproved by: Electronic Terminal Disclaimer automatically approved by EFS-Web

U.S. Patent and Trademark Office

## Electronic Acknowledgement Receipt

<b>EFS ID:</b>	37815174
<b>Application Number:</b>	16578238
<b>International Application Number:</b>	
<b>Confirmation Number:</b>	4358
<b>Title of Invention:</b>	METHOD AND APPARATUS FOR MANAGING DIGITAL FILES
<b>First Named Inventor/Applicant Name:</b>	Christopher J. Desmond
<b>Customer Number:</b>	70001
<b>Filer:</b>	Bradley Michael Taub/Brittany Hamson
<b>Filer Authorized By:</b>	Bradley Michael Taub
<b>Attorney Docket Number:</b>	069366-000002USC3
<b>Receipt Date:</b>	21-NOV-2019
<b>Filing Date:</b>	20-SEP-2019
<b>Time Stamp:</b>	13:49:31
<b>Application Type:</b>	Utility under 35 USC 111(a)

### Payment information:

Submitted with Payment	yes
Payment Type	DA
Payment was successfully received in RAM	\$160
RAM confirmation Number	E2019AKD49302757
Deposit Account	
Authorized User	

The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:



<b>File Listing:</b>					
<b>Document Number</b>	<b>Document Description</b>	<b>File Name</b>	<b>File Size(Bytes)/ Message Digest</b>	<b>Multi Part /.zip</b>	<b>Pages (if appl.)</b>
1	Terminal Disclaimer-Filed (Electronic)	eTerminal-Disclaimer.pdf	33423	no	2
			6f7e9a3c67bc4319fe5fc01d8d65ebaa36172ba5		
<b>Warnings:</b>					
<b>Information:</b>					
2	Fee Worksheet (SB06)	fee-info.pdf	30642	no	2
			b7c188084ff4915105c71318388ad3c3fb4a05bb		
<b>Warnings:</b>					
<b>Information:</b>					
<b>Total Files Size (in bytes):</b>			64065		
<p><b>This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.</b></p> <p><b><u>New Applications Under 35 U.S.C. 111</u></b>  If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.</p> <p><b><u>National Stage of an International Application under 35 U.S.C. 371</u></b>  If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.</p> <p><b><u>New International Application Filed with the USPTO as a Receiving Office</u></b>  If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.</p>					



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

NOTICE OF ALLOWANCE AND FEE(S) DUE

70001 7590 12/02/2019
NIXON PEABODY LLP
70 West Madison Street, Suite 3500
CHICAGO, IL 60602

EXAMINER

TRAN, LOC

ART UNIT PAPER NUMBER

2165

DATE MAILED: 12/02/2019

Table with 5 columns: APPLICATION NO., FILING DATE, FIRST NAMED INVENTOR, ATTORNEY DOCKET NO., CONFIRMATION NO.
16/578,238 09/20/2019 Christopher J. Desmond 069366-00002USC3 4358

TITLE OF INVENTION: METHOD AND APPARATUS FOR MANAGING DIGITAL FILES

Table with 7 columns: APPLN. TYPE, ENTITY STATUS, ISSUE FEE DUE, PUBLICATION FEE DUE, PREV. PAID ISSUE FEE, TOTAL FEE(S) DUE, DATE DUE
nonprovisional SMALL \$500 \$0.00 \$0.00 \$500 03/02/2020

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED. THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED. SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.

HOW TO REPLY TO THIS NOTICE:

I. Review the ENTITY STATUS shown above. If the ENTITY STATUS is shown as SMALL or MICRO, verify whether entitlement to that entity status still applies.

If the ENTITY STATUS is the same as shown above, pay the TOTAL FEE(S) DUE shown above.

If the ENTITY STATUS is changed from that shown above, on PART B - FEE(S) TRANSMITTAL, complete section number 5 titled "Change in Entity Status (from status indicated above)".

For purposes of this notice, small entity fees are 1/2 the amount of undiscounted fees, and micro entity fees are 1/2 the amount of small entity fees.

II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

IMPORTANT REMINDER: Maintenance fees are due in utility patents issuing on applications filed on or after Dec. 12, 1980. It is patentee's responsibility to ensure timely payment of maintenance fees when due. More information is available at www.uspto.gov/PatentMaintenanceFees.

**PART B - FEE(S) TRANSMITTAL**

Complete and send this form, together with applicable fee(s), by mail or fax, or via EFS-Web.

By mail, send to: Mail Stop ISSUE FEE  
 Commissioner for Patents  
 P.O. Box 1450  
 Alexandria, Virginia 22313-1450

By fax, send to: (571)-273-2885

**INSTRUCTIONS:** This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

70001 7590 12/02/2019  
**NIXON PEABODY LLP**  
 70 West Madison Street, Suite 3500  
 CHICAGO, IL 60602

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

**Certificate of Mailing or Transmission**

I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being transmitted to the USPTO via EFS-Web or by facsimile to (571) 273-2885, on the date below.

_____ (Typed or printed name)
_____ (Signature)
_____ (Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
16/578,238	09/20/2019	Christopher J. Desmond	069366-000002USC3	4358

TITLE OF INVENTION: METHOD AND APPARATUS FOR MANAGING DIGITAL FILES

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	SMALL	\$500	\$0.00	\$0.00	\$500	03/02/2020

EXAMINER	ART UNIT	CLASS-SUBCLASS
TRAN, LOC	2165	707-722000

<p>1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).</p> <p><input type="checkbox"/> Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.</p> <p><input type="checkbox"/> "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-09 or more recent) attached. <b>Use of a Customer Number is required.</b></p>	<p>2. For printing on the patent front page, list</p> <p>(1) The names of up to 3 registered patent attorneys or agents OR, alternatively, _____ 1</p> <p>(2) The name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed. _____ 2</p> <p>_____ 3</p>
---	---

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document must have been previously recorded, or filed for recordation, as set forth in 37 CFR 3.11 and 37 CFR 3.81(a). Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE \_\_\_\_\_ (B) RESIDENCE: (CITY and STATE OR COUNTRY) \_\_\_\_\_

Please check the appropriate assignee category or categories (will not be printed on the patent):  Individual  Corporation or other private group entity  Government

4a. Fees submitted:  Issue Fee  Publication Fee (if required)  Advance Order - # of Copies \_\_\_\_\_

4b. Method of Payment: (Please first reapply any previously paid fee shown above)

Electronic Payment via EFS-Web  Enclosed check  Non-electronic payment by credit card (Attach form PTO-2038)

The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment to Deposit Account No. \_\_\_\_\_

5. Change in Entity Status (from status indicated above)

Applicant certifying micro entity status. See 37 CFR 1.29 **NOTE:** Absent a valid certification of Micro Entity Status (see forms PTO/SB/15A and 15B), issue fee payment in the micro entity amount will not be accepted at the risk of application abandonment.

Applicant asserting small entity status. See 37 CFR 1.27 **NOTE:** If the application was previously under micro entity status, checking this box will be taken to be a notification of loss of entitlement to micro entity status.

Applicant changing to regular undiscounted fee status. **NOTE:** Checking this box will be taken to be a notification of loss of entitlement to small or micro entity status, as applicable.

NOTE: This form must be signed in accordance with 37 CFR 1.31 and 1.33. See 37 CFR 1.4 for signature requirements and certifications.

Authorized Signature \_\_\_\_\_ Date \_\_\_\_\_

Typed or printed name \_\_\_\_\_ Registration No. \_\_\_\_\_



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
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Table with 5 columns: APPLICATION NO., FILING DATE, FIRST NAMED INVENTOR, ATTORNEY DOCKET NO., CONFIRMATION NO.

70001 7590 12/02/2019
NIXON PEABODY LLP
70 West Madison Street, Suite 3500
CHICAGO, IL 60602

EXAMINER

TRAN, LOC

ART UNIT PAPER NUMBER

2165

DATE MAILED: 12/02/2019

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b)
(Applications filed on or after May 29, 2000)

The Office has discontinued providing a Patent Term Adjustment (PTA) calculation with the Notice of Allowance.

Section 1(h)(2) of the AIA Technical Corrections Act amended 35 U.S.C. 154(b)(3)(B)(i) to eliminate the requirement that the Office provide a patent term adjustment determination with the notice of allowance. See Revisions to Patent Term Adjustment, 78 Fed. Reg. 19416, 19417 (Apr. 1, 2013). Therefore, the Office is no longer providing an initial patent term adjustment determination with the notice of allowance. The Office will continue to provide a patent term adjustment determination with the Issue Notification Letter that is mailed to applicant approximately three weeks prior to the issue date of the patent, and will include the patent term adjustment on the patent. Any request for reconsideration of the patent term adjustment determination (or reinstatement of patent term adjustment) should follow the process outlined in 37 CFR 1.705.

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

## OMB Clearance and PRA Burden Statement for PTOL-85 Part B

The Paperwork Reduction Act (PRA) of 1995 requires Federal agencies to obtain Office of Management and Budget approval before requesting most types of information from the public. When OMB approves an agency request to collect information from the public, OMB (i) provides a valid OMB Control Number and expiration date for the agency to display on the instrument that will be used to collect the information and (ii) requires the agency to inform the public about the OMB Control Number's legal significance in accordance with 5 CFR 1320.5(b).

The information collected by PTOL-85 Part B is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 30 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 22313-1450. **DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.** Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

### Privacy Act Statement

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

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

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

<b>Notice of Allowability</b>	<b>Application No.</b> 16/578,238	<b>Applicant(s)</b> Desmond et al.	
	<b>Examiner</b> LOC TRAN	<b>Art Unit</b> 2165	<b>AIA (FITF) Status</b> No

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1.  This communication is responsive to a track one application filed on 09/20/2019.  
 A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on \_\_\_\_\_.
2.  An election was made by the applicant in response to a restriction requirement set forth during the interview on \_\_\_\_\_; the restriction requirement and election have been incorporated into this action.
3.  The allowed claim(s) is/are 40-48 and 52-62. As a result of the allowed claim(s), you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see [http://www.uspto.gov/patents/init\\_events/pph/index.jsp](http://www.uspto.gov/patents/init_events/pph/index.jsp) or send an inquiry to [PPHfeedback@uspto.gov](mailto:PPHfeedback@uspto.gov).
4.  Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

**Certified copies:**

- a)  All    b)  Some    \*c)  None of the:
1.  Certified copies of the priority documents have been received.
  2.  Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3.  Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5.  CORRECTED DRAWINGS (as "replacement sheets") must be submitted.  
 including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.  
**Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).**
6.  DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- |  |   |
|--|---|
| <ol style="list-style-type: none"> <li>1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)</li> <li>2. <input checked="" type="checkbox"/> Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date <u>11/13/2019</u>.</li> <li>3. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit of Biological Material _____.</li> <li>4. <input checked="" type="checkbox"/> Interview Summary (PTO-413), Paper No./Mail Date. <u>20191123</u>.</li> </ol> | <ol style="list-style-type: none"> <li>5. <input checked="" type="checkbox"/> Examiner's Amendment/Comment</li> <li>6. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance</li> <li>7. <input type="checkbox"/> Other _____.</li> </ol> |
|--|---|

/LOC TRAN/  
Examiner, Art Unit 2165

**Notice of Pre-AIA or AIA Status**

The present application is being examined under the pre-AIA first to invent provisions.

**EXAMINER'S AMENDMENT**

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Mr. Bradley M. Taub on 11/20/2019.

In the claims, amend the claims as indicated below:

1-39. (Canceled)

40. (Currently Amended) A method comprising:

responsive to a first input, causing a map view to be displayed on an interface, the

map view including:

(i) an interactive map;

(ii) a first location selectable thumbnail image at a first location on the interactive map; and

(iii) a second location selectable thumbnail image at a second location on the interactive map;

responsive to an input that is indicative of a selection of the first location selectable thumbnail image, causing a first location view to be displayed on the interface, the first location view including (i) a first location name associated

with the first location and (ii) a representation of at least a portion of one digital file in a first set of digital files, each of the digital files in the first set of digital files being produced from outputs of one or more digital imaging devices, the first set of digital files including digital files associated with the first location; [[and]]

responsive to an input that is indicative of a selection of the second location selectable thumbnail image, causing a second location view to be displayed on the interface, the second location view including (i) a second location name associated with the second location and (ii) a representation of at least a portion of one digital file in a second set of digital files, each of the digital files in the second set of digital files being produced from outputs of the one or more digital imaging devices, the second set of digital files including digital files associated with the second location; and

responsive to a second input that is subsequent to the first input, causing a people view to be displayed on the interface, the people view including:

(i) a first person selectable thumbnail image including a representation of a face of a first person, the first person being associated with a third set of digital files including digital photographs and videos;

(ii) a first name associated with the first person, the first name being displayed adjacent to the first person selectable thumbnail image;

(iii) a second person selectable thumbnail image including a representation of a face of a second person, the second person being associated



with a fourth set of digital files including digital photographs and videos; and

(iv) a second name associated with the second person, the second name being displayed adjacent to the second person selectable thumbnail image.

41. (Currently Amended) The method of claim 40, wherein the map view further includes a first indication feature associated with the first location selectable thumbnail image, the first indication feature being based on a number of digital files in the first set of digital files.

42. (Currently Amended) The method of claim 41, wherein the first indication feature is connected to the first location selectable thumbnail image.

43. (Previously Presented) The method of claim 41, wherein the first indication feature includes a first number indicative of the number of digital files in the first set of digital files.

44. (Currently Amended) The method of claim 41, wherein the map view further includes a second indication feature associated with the second location selectable thumbnail image, the second indication feature being based on a number of digital files in the second set of digital files.

45. (Currently Amended) The method of claim 44, wherein the second indication feature is connected to the second location selectable thumbnail image.

46. (Previously Presented) The method of claim 44, wherein the second indication feature includes a second number indicative of the number of digital files in the second set of digital files.

47. (Previously Presented) The method of claim 41, further comprising, subsequent to the map view being displayed on the interface, responsive to an input that is indicative of zooming in on the interactive map, modifying the first indication feature.

48. (Previously Presented) The method of claim 41, further comprising, subsequent to the map view being displayed on the interface, responsive to an input that is indicative of zooming out on the interactive map, modifying the first indication feature.

49-51. (Canceled)

52. (New) The method of claim 41, further comprising, subsequent to the map view being displayed on the interface, responsive to an input that is indicative of a filter selection, modifying the first indication feature.

53. (New) The method of claim 40, wherein the first location selectable thumbnail image is a first collection cover image and wherein the second location selectable thumbnail image is a second collection cover image that is different than the first collection cover image.

54. (New) The method of claim 40, wherein the first location selectable thumbnail image includes a representation of at least one of the digital files in the first set of digital files, and wherein the second location selectable thumbnail image includes a representation of at least one of the digital files in the second set of digital files.

55. (New) The method of claim 54 wherein the representation of the at least a portion of the one digital file in the first set of digital files is not overlaid on the interactive map, and wherein the representation of the at least a portion of the one digital file in the second set of digital files is not overlaid on the interactive map.

56. (New) The method of claim 40, wherein the first location view includes a representation of at least a portion of all of the digital files in the first set of digital files and the second location view includes a representation of at least a portion of all of the digital files in the second set of digital files.

57. (New) The method of claim 40, further comprising:

responsive to an input that is indicative of a selection, in the first location view, of the representation of the at least a portion of the one digital file in the first set of digital files, causing a first digital file to be displayed on the interface; and

responsive to an input that is indicative of a selection, in the second location view, of the representation of the at least a portion of the one digital file in the second set of digital files, causing a second digital file to be displayed on the interface.

58. (New) The method of claim 40, further comprising:

receiving alphanumeric text as a tag;

associating the tag with a first digital file in the first set of digital files;

receiving a request to export the first digital file; and

responsive to receiving the request to export, exporting the first digital file by causing the first digital file to be communicated along with the tag.

59. (New) The method of claim 40, further comprising, prior to receiving the first input, causing the interface to display a plurality of selectable elements, the plurality of selectable elements including a location selectable element and a people selectable element, wherein the first input is indicative of a selection of the location selectable

element, and wherein the second input is indicative of a selection of the people selectable element.

60. (New) The method of claim 40, wherein the name associated with the first person is displayed adjacent to the first person selectable thumbnail image and the second name associated with the second person is displayed adjacent to the second person selectable thumbnail image.

61. (New) The method of claim 40, further comprising responsive to an input that is indicative of a selection of the first person selectable thumbnail image, causing a first person view to be displayed on the interface, the first person view including (i) the first name and (ii) a representation of each digital file in the third set of digital files.

62. (New) The method of claim 61, further comprising responsive to an input that is indicative of a selection of the second person selectable thumbnail image, causing a second person view to be displayed on the interface, the second person view including (i) the second name and (ii) a representation of each digital file in the fourth set of digital files.

***Allowable Subject Matter***

Claims 40-48, 52-62 are allowed (claims 1-39, 49-51 are cancelled).

The following is an examiner's statement of reasons for allowance:

The prior art neither discloses nor suggests the following limitation, in combination with the remaining elements as disclosed in Claim 40:

“responsive to a second input that is subsequent to the first input, causing a people view to be displayed on the interface, the people view including:

- (i) a first person selectable thumbnail image including a representation of a face of a first person, the first person being associated with a third set of digital files including digital photographs and videos;
- (ii) a first name associated with the first person, the first name being displayed adjacent to the first person selectable thumbnail image;
- (iii) a second person selectable thumbnail image including a representation of a face of a second person, the second person being associated with a fourth set of digital files including digital photographs and videos; and
- (iv) a second name associated with the second person, the second name being displayed adjacent to the second person selectable thumbnail image”.

The closest prior art (Hibino et al: US 2009/0113350 A1) discloses similar

limitations of people view in figure 15 and paragraph 0052. However, Hibino et al do not explicitly disclose “responsive to a second input that is subsequent to the first input, causing a people view to be displayed on the interface, the people view including:

- (i) a first person selectable thumbnail image including a representation of a face of a first person, the first person being associated with a third set of digital files including digital photographs and videos;
- (ii) a first name associated with the first person, the first name being displayed adjacent to the first person selectable thumbnail image;

(iii) a second person selectable thumbnail image including a representation of a face of a second person, the second person being associated with a fourth set of digital files including digital photographs and videos; and

(iv) a second name associated with the second person, the second name being displayed adjacent to the second person selectable thumbnail image”.

Another close prior art, Tanaka et al (US 2006/0165380 A1), discloses a similar features of grouping pictures according to location information in figure 3, paragraphs 58, 60. However, Tanaka et al do not explicitly disclose:

“responsive to a second input that is subsequent to the first input, causing a people view to be displayed on the interface, the people view including:

(i) a first person selectable thumbnail image including a representation of a face of a first person, the first person being associated with a third set of digital files including digital photographs and videos;

(ii) a first name associated with the first person, the first name being displayed adjacent to the first person selectable thumbnail image;

(iii) a second person selectable thumbnail image including a representation of a face of a second person, the second person being associated with a fourth set of digital files including digital photographs and videos; and

(iv) a second name associated with the second person, the second name being displayed adjacent to the second person selectable thumbnail image”.

Any proper motivation for combining prior art elements has not been found because none of the above references explicitly teach the following limitation:

“responsive to a second input that is subsequent to the first input, causing a people view to be displayed on the interface, the people view including:

(i) a first person selectable thumbnail image including a representation of a face of a first person, the first person being associated with a third set of digital files including digital photographs and videos;

(ii) a first name associated with the first person, the first name being displayed adjacent to the first person selectable thumbnail image;

(iii) a second person selectable thumbnail image including a representation of a face of a second person, the second person being associated with a fourth set of digital files including digital photographs and videos; and

(iv) a second name associated with the second person, the second name being displayed adjacent to the second person selectable thumbnail image”. Therefore a

*Prima Facie* Case of Obviousness cannot be established.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Loc Tran whose telephone number is 571-272-8485. The examiner can normally be reached on Mon-Fri. 7:30am-5pm; First Fri Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Aleksandr Kerzhner can be reached on (571)-270-1760. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Application/Control Number: 16/578,238  
Art Unit: 2165

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/LOC TRAN/

Primary Examiner, Art Unit 2165.

<b><i>Examiner-Initiated Interview Summary</i></b>	<b>Application No.</b> 16/578,238	<b>Applicant(s)</b> Desmond et al.		
	<b>Examiner</b> LOC TRAN	<b>Art Unit</b> 2165	<b>AIA (First Inventor to File) Status</b> No	<b>Page</b> <b>1 of 2</b>

All participants (applicant, applicants representative, PTO personnel):

1. LOC TRAN (Primary Examiner); Telephonic                      2. Mr. Bradley M. Taub (Attorney of Record);  
Telephonic

**Date of Interview:** 20 November 2019

**Claims Discussed:** 40

**Brief Description of the main topic(s) of discussion:** Allowable Subject Matter was discussed. Double patenting was discussed. Examiner's amendment was authorized to advance the case. Terminal disclaimer was filed.

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**Issues Discussed:**

**Item(s) under 35 U.S.C. 103:**

**Double Patenting:**

/LOC TRAN/  
Examiner, Art Unit 2165

**Applicant is reminded that a complete written statement as to the substance of the interview must be made of record in the application file. It is the applicants responsibility to provide the written statement, unless the interview was initiated by the Examiner and the Examiner has indicated that a written summary will be provided. See MPEP 713.04**

Please further see:

MPEP 713.04

Title 37 Code of Federal Regulations (CFR) § 1.133 Interviews, paragraph (b)

37 CFR § 1.2 Business to be transacted in writing

U.S. Patent and Trademark Office  
PTOL-413/413b (Rev. 01/01/2015)

**Interview Summary**

Paper No. 20191122

**Applicant recordation instructions:** It is not necessary for applicant to provide a separate record of the substance of interview

**Examiner recordation instructions:** Examiners must summarize the substance of any interview of record. A complete and proper recordation of the substance of an interview should include the items listed in MPEP 713.04 for complete and proper recordation including the identification of the general thrust of each argument or issue discussed, a general indication of any other pertinent matters discussed regarding patentability and the general results or outcome of the interview, to include an indication as to whether or not agreement was reached on the issues raised.

<b>Notice of References Cited</b>	Application/Control No. 16/578,238	Applicant(s)/Patent Under Reexamination Desmond et al.	
	Examiner LOC TRAN	Art Unit 2165	Page 1 of 1

**U.S. PATENT DOCUMENTS**

*	Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	CPC Classification	US Classification
*	A US-20090113350-A1	04-2009	Hibino; Stacie Lynn	G06F16/41	715/853
*	B US-20060165380-A1	07-2006	Tanaka; Sho	G11B27/34	386/227
C					
D					
E					
F					
G					
H					
I					
J					
K					
L					
M					


**FOREIGN PATENT DOCUMENTS**

*	Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	CPC Classification
N					
O					
P					
Q					
R					
S					
T					

**NON-PATENT DOCUMENTS**

*	Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
U	
V	
W	
X	

\*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)  
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

<b>Search Notes</b> 	<b>Application/Control No.</b> 16/578,238	<b>Applicant(s)/Patent Under Reexamination</b> Desmond et al.
	<b>Examiner</b> LOC TRAN	<b>Art Unit</b> 2165

CPC - Searched*		
Symbol	Date	Examiner
G06F16/5866; G06F16/907; G06F16/901	11/23/2019	LT

CPC Combination Sets - Searched*		
Symbol	Date	Examiner


US Classification - Searched*			
Class	Subclass	Date	Examiner

\* See search history printout included with this form or the SEARCH NOTES box below to determine the scope of the search.

Search Notes		
Search Notes	Date	Examiner
G06F16/5866; G06F16/907; G06F16/901	11/23/2019	LT
Inventors Search On EAST	11/23/2019	LT
Inventive Concept/Claim(s) Search On EAST	11/23/2019	LT
NPL Search On IP.COM	11/23/2019	LT

Interference Search			
US Class/CPC Symbol	US Subclass/CPC Group	Date	Examiner
G06F16	5866;907;901	11/23/2019	LT


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<b>Issue Classification</b> 	<b>Application/Control No.</b> 16/578,238	<b>Applicant(s)/Patent Under Reexamination</b> Desmond et al.
	<b>Examiner</b> LOC TRAN	<b>Art Unit</b> 2165

CPC						
Symbol				Type	Version	
G06F		16		5866	F	2019-01-01
G06F		16		901	I	2019-01-01
G06F		16		51	I	2019-01-01
G06F		16		907	I	2019-01-01
G06F		3		0481	A	2013-01-01

CPC Combination Sets				
Symbol	Type	Set	Ranking	Version

NONE		<b>Total Claims Allowed:</b>	
(Assistant Examiner)	(Date)	20	
/LOC TRAN/ Examiner, Art Unit 2165	23 November 2019	O.G. Print Claim(s)	O.G. Print Figure
(Primary Examiner)	(Date)	1	1

<b>Issue Classification</b> 	<b>Application/Control No.</b> 16/578,238	<b>Applicant(s)/Patent Under Reexamination</b> Desmond et al.
	<b>Examiner</b> LOC TRAN	<b>Art Unit</b> 2165


<b>INTERNATIONAL CLASSIFICATION</b>			
<b>CLAIMED</b>			
G06F		16	58

<b>NON-CLAIMED</b>			

<b>US ORIGINAL CLASSIFICATION</b>	
<b>CLASS</b>	<b>SUBCLASS</b>

<b>CROSS REFERENCES(S)</b>						
<b>CLASS</b>	<b>SUBCLASS (ONE SUBCLASS PER BLOCK)</b>					

NONE		<b>Total Claims Allowed:</b>	
(Assistant Examiner)	(Date)	20	
/LOC TRAN/ Examiner, Art Unit 2165	23 November 2019	O.G. Print Claim(s)	O.G. Print Figure
(Primary Examiner)	(Date)	1	1

<b>Issue Classification</b> 	<b>Application/Control No.</b> 16/578,238	<b>Applicant(s)/Patent Under Reexamination</b> Desmond et al.
	<b>Examiner</b> LOC TRAN	<b>Art Unit</b> 2165

Claims renumbered in the same order as presented by applicant
  CPA
  T.D.
  R.1.47

CLAIMS															
Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original
-	1	-	10	-	19	-	28	-	37	7	46	13	55		
-	2	-	11	-	20	-	29	-	38	8	47	14	56		
-	3	-	12	-	21	-	30	-	39	9	48	15	57		
-	4	-	13	-	22	-	31	1	40	-	49	16	58		
-	5	-	14	-	23	-	32	2	41	-	50	17	59		
-	6	-	15	-	24	-	33	3	42	-	51	18	60		
-	7	-	16	-	25	-	34	4	43	10	52	19	61		
-	8	-	17	-	26	-	35	5	44	11	53	20	62		
-	9	-	18	-	27	-	36	6	45	12	54				

NONE		<b>Total Claims Allowed:</b>	
(Assistant Examiner)	(Date)	20	
/LOC TRAN/ Examiner, Art Unit 2165	23 November 2019	O.G. Print Claim(s)	O.G. Print Figure
(Primary Examiner)	(Date)	1	1



**EAST Search History**

**EAST Search History (Prior Art)**

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	5	"20090113350"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2019/11/23 17:58
L2	3	"20060165380"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2019/11/23 17:58
L3	3456	((("DESMOND") near3 ("Christopher")) OR ((("DESMOND") near3 ("Nancy")) OR ((("TAYLOR") near3 ("L")))).INV.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	OFF	2019/11/23 17:58
L4	11	("20060165380"   "20070282908"   "20090113350"   "20090265631"   "5694514"   "6629104"   "7372976"   "7480669"   "7694236"   "8150844"   "8484223").PN.	US-PGPUB; USPAT	OR	OFF	2019/11/23 17:58
L5	3559	(G06F16/5866).cpc.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	OFF	2019/11/23 17:58
L6	5185	(digital\$4 same (repositor\$4 or database or system)) and ((relationship or organization) same (photo\$3 with tag\$4 or annotat\$3))	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	OFF	2019/11/23 17:58
L7	91	L5 and L6	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	OFF	2019/11/23 17:58
L8	8	L7 and @ad < ("20110609")	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	OFF	2019/11/23 17:58
L9	2652	(G06F16/907).cpc.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	OFF	2019/11/23 17:58
L10	43	L6 and L9	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	OFF	2019/11/23 17:58
L11	15	L10 and @ad < ("20110609")	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	OFF	2019/11/23 17:58

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L12	777	(G06F16/901).cpc.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	OFF	2019/11/23 17:58
L13	10	L6 and L12	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	OFF	2019/11/23 17:58
L14	0	L13 and @ad < ("20110609")	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	OFF	2019/11/23 17:58
L15	16	((digital near (photos or image or picture) or video) with (geotag or (geographic\$2 near coordinate))) with location with map	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	OFF	2019/11/23 17:58
L16	12	((digital near (photos or image or picture) or video) with (geotag or (geographic\$2 near coordinate))) with location with map with (click\$3 or tap\$4 or touch\$3 or point\$3)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	OFF	2019/11/23 17:58
L17	0	L16 and @ad < ("20110609")	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	OFF	2019/11/23 17:58
L18	267	((digital near (photos or image or picture) or video) with (geotag or (geographic\$2 near coordinate)))	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	OFF	2019/11/23 17:58
L19	14	((digital near (photos or image or picture) or video) with (geotag or (geographic\$2 near coordinate))) with location with map with (click\$3 or tap\$4 or touch\$3 or point\$3)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2019/11/23 17:58
L20	14	((digital near (photos or image or picture) or video) with (geotag or (geographic\$2 near coordinate))) with location with map with (click\$3 or tap\$4 or touch\$3 or point\$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2019/11/23 17:58
L21	1	L20 and @ad < ("20110609")	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2019/11/23 17:58
L22	14	((digital near (photos or image or picture) or video) same ((geotag or (geographic\$2 near coordinate))) with location with map with (click\$3 or tap\$4 or touch\$3 or point\$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2019/11/23 17:58
L23	1	L22 and @ad < ("20110609")	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2019/11/23 17:58
L24	11	("20060165380"   "20070282908"   "20090113350"   "20090265631"	US-PGPUB; USPAT	OR	OFF	2019/11/23 17:58

		"5694514"   "6629104"   "7372976"   "7480669"   "7694236"   "8150844"   "8484223").PN.				
L25	0	L24 and (((digital near (photos or image or picture)) or video) same (geotag or (geographic\$2 near coordinate)))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2019/11/23 17:58
L26	11	L24 and ((digital near (photos or image or picture)) or video)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2019/11/23 17:58
L27	11	L26 and @ad < ("20110609")	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2019/11/23 17:58
L28	5	"20090113350"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2019/11/23 17:58
L29	3	"20060165380"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2019/11/23 17:58
L40	5	"2009049408"	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	OFF	2019/11/23 17:58
L41	5	"20090113350"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2019/11/23 17:58
L42	3	"20060165380"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2019/11/23 17:58
L43	3456	((("DESMOND") near3 ("Christopher")) OR (("DESMOND") near3 ("Nancy")) OR (("TAYLOR") near3 ("L"))).INV.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	OFF	2019/11/23 17:58
L44	11	("20060165380"   "20070282908"   "20090113350"   "20090265631"   "5694514"   "6629104"   "7372976"   "7480669"   "7694236"   "8150844"   "8484223").PN.	US-PGPUB; USPAT	OR	OFF	2019/11/23 17:58
L45	3559	(G06F16/5866).cpc.	US-PGPUB; USPAT; USOCR;	OR	OFF	2019/11/23 17:58

			EPO; JPO; DERWENT			
L46	5185	(digital\$4 same (repositor\$4 or database or system)) and ((relationship or organization) same (photo\$3 with tag\$4 or annotat\$3))	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	OFF	2019/11/23 17:58
L47	91	L45 and L46	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	OFF	2019/11/23 17:58
L48	8	L47 and @ad < ("20110609")	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	OFF	2019/11/23 17:58
L49	2652	(G06F16/907).cpc.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	OFF	2019/11/23 17:58
L50	43	L46 and L49	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	OFF	2019/11/23 17:58
L51	15	L50 and @ad < ("20110609")	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	OFF	2019/11/23 17:58
L52	777	(G06F16/901).cpc.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	OFF	2019/11/23 17:58
L53	10	L46 and L52	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	OFF	2019/11/23 17:58
L54	0	L53 and @ad < ("20110609")	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	OFF	2019/11/23 17:58
L55	16	((((digital near (photos or image or picture)) or video) with (geotag or (geographic\$2 near coordinate)))) with location with map	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	OFF	2019/11/23 17:58
L56	12	((((digital near (photos or image or picture)) or video) with (geotag or (geographic\$2 near coordinate)))) with location with map with (click\$3 or tap\$4 or touch\$3 or point\$3)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	OFF	2019/11/23 17:58
L57	0	L56 and @ad < ("20110609")	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	OFF	2019/11/23 17:58
L58	267	((((digital near (photos or image or picture)) or video) with (geotag or (geographic\$2 near coordinate))))	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	OFF	2019/11/23 17:58
L59	14	((((digital near (photos or image or picture)) or video) with (geotag or (geographic\$2 near coordinate)))) with location with map with (click\$3	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2019/11/23 17:58

		or tap\$4 or touch\$3 or point\$3)				
L60	14	((digital near (photos or image or picture)) or video) with (geotag or (geographic\$2 near coordinate))) with location with map with (click\$3 or tap\$4 or touch\$3 or point\$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2019/11/23 17:58
L61	1	L60 and @ad < ("20110609")	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2019/11/23 17:58
L62	14	((digital near (photos or image or picture)) or video) same ((geotag or (geographic\$2 near coordinate))) with location with map with (click\$3 or tap\$4 or touch\$3 or point\$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2019/11/23 17:58
L63	1	L62 and @ad < ("20110609")	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2019/11/23 17:58
L64	11	("20060165380"   "20070282908"   "20090113350"   "20090265631"   "5694514"   "6629104"   "7372976"   "7480669"   "7694236"   "8150844"   "8484223").PN.	US-PGPUB; USPAT	OR	OFF	2019/11/23 17:58
L65	0	L64 and ((digital near (photos or image or picture)) or video) same (geotag or (geographic\$2 near coordinate)))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2019/11/23 17:58
L66	11	L64 and ((digital near (photos or image or picture)) or video)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2019/11/23 17:58
L67	11	L66 and @ad < ("20110609")	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2019/11/23 17:58
L68	5	"20090113350"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2019/11/23 17:58
L69	3	"20060165380"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2019/11/23 17:59

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L70	5	"2009049408"	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	OFF	2019/11/23 17:59
L81	5	"20090113350"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2019/11/23 17:59
L82	3	"20060165380"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2019/11/23 17:59
L83	3456	((("DESMOND") near3 ("Christopher")) OR (("DESMOND") near3 ("Nancy"))) OR (("TAYLOR") near3 ("L")).INV.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	OFF	2019/11/23 17:59
L84	11	("20060165380"   "20070282908"   "20090113350"   "20090265631"   "5694514"   "6629104"   "7372976"   "7480669"   "7694236"   "8150844"   "8484223").PN.	US-PGPUB; USPAT	OR	OFF	2019/11/23 17:59
L85	3559	(G06F16/5866).cpc.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	OFF	2019/11/23 17:59
L86	5185	(digital\$4 same (repositor\$4 or database or system)) and ((relationship or organization) same (photo\$3 with tag\$4 or annotat\$3))	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	OFF	2019/11/23 17:59
L87	91	L85 and L86	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	OFF	2019/11/23 17:59
L88	8	L87 and @ad < ("20110609")	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	OFF	2019/11/23 17:59
L89	2652	(G06F16/907).cpc.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	OFF	2019/11/23 17:59
L90	43	L86 and L89	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	OFF	2019/11/23 17:59
L91	15	L90 and @ad < ("20110609")	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	OFF	2019/11/23 17:59
L92	777	(G06F16/901).cpc.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	OFF	2019/11/23 17:59
L93	10	L86 and L92	US-PGPUB; USPAT; USOCR;	OR	OFF	2019/11/23 17:59

			EPO; JPO; DERWENT			
L94	0	L93 and @ad < ("20110609")	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	OFF	2019/11/23 17:59
L95	16	((digital near (photos or image or picture)) or video) with (geotag or (geographic\$2 near coordinate))) with location with map	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	OFF	2019/11/23 17:59
L96	12	((digital near (photos or image or picture)) or video) with (geotag or (geographic\$2 near coordinate))) with location with map with (click\$3 or tap\$4 or touch\$3 or point\$3)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	OFF	2019/11/23 17:59
L97	0	L96 and @ad < ("20110609")	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	OFF	2019/11/23 17:59
L98	267	((digital near (photos or image or picture)) or video) with (geotag or (geographic\$2 near coordinate)))	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	OFF	2019/11/23 17:59
L99	14	((digital near (photos or image or picture)) or video) with (geotag or (geographic\$2 near coordinate))) with location with map with (click\$3 or tap\$4 or touch\$3 or point\$3)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2019/11/23 17:59
L100	14	((digital near (photos or image or picture)) or video) with (geotag or (geographic\$2 near coordinate))) with location with map with (click\$3 or tap\$4 or touch\$3 or point\$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2019/11/23 17:59
L101	1	L100 and @ad < ("20110609")	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2019/11/23 17:59
L102	14	((digital near (photos or image or picture)) or video) same ((geotag or (geographic\$2 near coordinate))) with location with map with (click\$3 or tap\$4 or touch\$3 or point\$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2019/11/23 17:59
L103	1	L102 and @ad < ("20110609")	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2019/11/23 17:59
L104	11	("20060165380"   "20070282908"   "20090113350"   "20090265631"   "5694514"   "6629104"   "7372976"   "7480669"   "7694236"   "8150844"   "8484223").PN.	US-PGPUB; USPAT	OR	OFF	2019/11/23 17:59
L105	0	L104 and (((digital near (photos or image or picture)) or video) same (geotag or (geographic\$2 near	US-PGPUB; USPAT; USOCR; FPRS; EPO;	OR	ON	2019/11/23 17:59

		coordinate)))	JPO; DERWENT; IBM_TDB			
L106	11	L104 and ((digital near (photos or image or picture)) or video)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2019/11/23 17:59
L107	11	L106 and @ad < ("20110609")	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2019/11/23 17:59
L108	5	"20090113350"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2019/11/23 17:59
L109	3	"20060165380"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2019/11/23 17:59
L110	5	"2009049408"	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	OFF	2019/11/23 17:59
L111	5	"20090113350"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2019/11/23 17:59
L112	3	"20060165380"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2019/11/23 17:59
L113	3456	((("DESMOND") near3 ("Christopher")) OR (("DESMOND") near3 ("Nancy")) OR (("TAYLOR") near3 ("L"))).INV.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	OFF	2019/11/23 17:59
L114	11	("20060165380"   "20070282908"   "20090113350"   "20090265631"   "5694514"   "6629104"   "7372976"   "7480669"   "7694236"   "8150844"   "8484223").PN.	US-PGPUB; USPAT	OR	OFF	2019/11/23 17:59
L115	3559	(G06F16/5866).cpc.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	OFF	2019/11/23 17:59
L116	5185	(digital\$4 same (repositor\$4 or database or system)) and ((relationship or organization) same (photo\$3 with tag\$4 or annotat\$3))	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	OFF	2019/11/23 17:59



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L117	91	L115 and L116	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	OFF	2019/11/23 17:59
L118	8	L117 and @ad < ("20110609")	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	OFF	2019/11/23 17:59
L119	2652	(G06F16/907).cpc.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	OFF	2019/11/23 17:59
L120	43	L116 and L119	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	OFF	2019/11/23 17:59
L121	15	L120 and @ad < ("20110609")	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	OFF	2019/11/23 17:59
L122	777	(G06F16/901).cpc.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	OFF	2019/11/23 17:59
L123	10	L116 and L122	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	OFF	2019/11/23 17:59
L124	0	L123 and @ad < ("20110609")	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	OFF	2019/11/23 17:59
L125	16	(((digital near (photos or image or picture)) or video) with (geotag or (geographic\$2 near coordinate))) with location with map	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	OFF	2019/11/23 17:59
L126	12	(((digital near (photos or image or picture)) or video) with (geotag or (geographic\$2 near coordinate))) with location with map with (click\$3 or tap\$4 or touch\$3 or point\$3)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	OFF	2019/11/23 17:59
L127	0	L126 and @ad < ("20110609")	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	OFF	2019/11/23 17:59
L128	267	(((digital near (photos or image or picture)) or video) with (geotag or (geographic\$2 near coordinate)))	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	OFF	2019/11/23 17:59
L129	14	(((digital near (photos or image or picture)) or video) with (geotag or (geographic\$2 near coordinate))) with location with map with (click\$3 or tap\$4 or touch\$3 or point\$3)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2019/11/23 17:59
L130	14	(((digital near (photos or image or picture)) or video) with (geotag or (geographic\$2 near coordinate))) with location with map with (click\$3 or tap\$4 or touch\$3 or point\$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT;	OR	ON	2019/11/23 17:59

			IBM_TDB			
L131	1	L130 and @ad < ("20110609")	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2019/11/23 17:59
L132	14	((digital near (photos or image or picture)) or video) same ((geotag or (geographic\$2 near coordinate))) with location with map with (click\$3 or tap\$4 or touch\$3 or point\$3))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2019/11/23 17:59
L133	1	L132 and @ad < ("20110609")	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2019/11/23 17:59
L134	11	("20060165380"   "20070282908"   "20090113350"   "20090265631"   "5694514"   "6629104"   "7372976"   "7480669"   "7694236"   "8150844"   "8484223").PN.	US-PGPUB; USPAT	OR	OFF	2019/11/23 17:59
L135	0	L134 and ((digital near (photos or image or picture)) or video) same (geotag or (geographic\$2 near coordinate)))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2019/11/23 17:59
L136	11	L134 and ((digital near (photos or image or picture)) or video)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2019/11/23 17:59
L137	11	L136 and @ad < ("20110609")	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2019/11/23 17:59
L138	5	"20090113350"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2019/11/23 17:59
L139	3	"20060165380"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2019/11/23 17:59
L140	5	"2009049408"	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	OFF	2019/11/23 17:59
L163	148	(name with face with (picture or photo) with video)	US-PGPUB; USPAT; USOCR;	OR	ON	2019/11/23 18:15

EAST Search History

			FPRS; EPO; JPO; DERWENT; IBM_TDB			
L164	46	(name with face with (picture or photo) with video with view\$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2019/11/23 18:15
L165	9	164 and @ad < ("20110609")	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2019/11/23 18:16

**EAST Search History (Interference)**

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L30	1400	((("DESMOND") near3 ("Christopher")) OR ((("DESMOND") near3 ("Nancy")) OR ((("TAYLOR") near3 ("L")))).INV.	US-PGPUB; USPAT	OR	ON	2019/11/23 17:58
L31	2661	(G06F16/5866).cpc.	US-PGPUB; USPAT	OR	ON	2019/11/23 17:58
L32	2177	(G06F16/907).cpc.	US-PGPUB; USPAT	OR	ON	2019/11/23 17:58
L33	567	(G06F16/901).cpc.	US-PGPUB; USPAT	OR	ON	2019/11/23 17:58
L34	5323	L31 or L32 or L33	US-PGPUB; USPAT	OR	ON	2019/11/23 17:58
L166	45	(name with face with (picture or photo) with video with view\$3)	US-PGPUB; USPAT	OR	ON	2019/11/23 18:17
L167	0	30 and 166	US-PGPUB; USPAT	OR	ON	2019/11/23 18:17
L168	0	34 and 166	US-PGPUB; USPAT	OR	ON	2019/11/23 18:17

11/ 23/ 2019 6:18:11 PM

C:\Users\ltran6\Documents\EAST\Workspaces\16\_578\_238.wsp

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	Filing Date: September 20, 2019	Group: 2165

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	A99	8,972,177	3/3/2015	Zheng
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ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /L.F/  
 INFORMATION DISCLOSURE STATEMENT  
 4827-6778-1290

List of References for Applicant's <b>FIRST INFORMATION DISCLOSURE STATEMENT</b>  Page 10 of 14	Atty. Docket No. 069366-000002USC3	Serial No. 16/578,238
	Applicant: NCM IP Holdings, LLC	
	Filing Date: September 20, 2019	Group: 2165

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	Applicant: NCM IP Holdings, LLC	
	Filing Date: September 20, 2019	Group: 2165

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List of References for Applicant's <b>FIRST INFORMATION DISCLOSURE STATEMENT</b>  Page 12 of 14	Atty. Docket No. 069366-000002USC3	Serial No. 16/578,238
	Applicant: NCM IP Holdings, LLC	
	Filing Date: September 20, 2019	Group: 2165

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4827-6778-1290 **ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /L.F/** *INFORMATION DISCLOSURE STATEMENT*

List of References for Applicant's <b>FIRST INFORMATION DISCLOSURE STATEMENT</b>  Page 13 of 14	Atty. Docket No. 069366-000002USC3	Serial No. 16/578,238
	Applicant: NCM IP Holdings, LLC	
	Filing Date: September 20, 2019	Group: 2165

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	Applicant: NCM IP Holdings, LLC	
	Filing Date: September 20, 2019	Group: 2165

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 4827-6778-1290 ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /L.F/

## Bibliographic Data

Application No: 16/578,238

Foreign Priority claimed:  Yes  No

35 USC 119 (a-d) conditions met:  Yes  No

Met After Allowance

Verified and Acknowledged:

/LOC TRAN/

Examiner's Signature

Initials

Title:

METHOD AND APPARATUS FOR MANAGING DIGITAL FILES

FILING or 371(c) DATE	CLASS	GROUP ART UNIT	ATTORNEY DOCKET NO.
09/20/2019	707	2165	069366-000002USC3
<b>RULE</b>			

### APPLICANTS

NCM IP Holdings, LLC, Glen Ellyn, IL, UNITED STATES

### INVENTORS

Christopher J. Desmond Glen Ellyn, IL, UNITED STATES

Nancy L. Desmond Glen Ellyn, IL, UNITED STATES

L. Michael Taylor Chicago, IL, UNITED STATES

### CONTINUING DATA

This application is a CON of 16536300 08/08/2019

16536300 is a CON of 15375927 12/12/2016 PAT 10423658

15375927 is a CON of 14193426 02/28/2014 PAT 9552376

14193426 is a CIP of 13157214 06/09/2011 PAT 9098531

### FOREIGN APPLICATIONS

#### IF REQUIRED, FOREIGN LICENSE GRANTED\*\*

10/03/2019

\*\* SMALL ENTITY \*\*

#### STATE OR COUNTRY

UNITED STATES

#### ADDRESS

NIXON PEABODY LLP

70 West Madison Street, Suite 3500

CHICAGO, IL 60602

UNITED STATES

#### FILING FEE RECEIVED

\$2,955

## Electronic Acknowledgement Receipt

<b>EFS ID:</b>	37977151
<b>Application Number:</b>	16578238
<b>International Application Number:</b>	
<b>Confirmation Number:</b>	4358
<b>Title of Invention:</b>	METHOD AND APPARATUS FOR MANAGING DIGITAL FILES
<b>First Named Inventor/Applicant Name:</b>	Christopher J. Desmond
<b>Customer Number:</b>	70001
<b>Filer:</b>	Bradley Michael Taub
<b>Filer Authorized By:</b>	
<b>Attorney Docket Number:</b>	069366-000002USC3
<b>Receipt Date:</b>	09-DEC-2019
<b>Filing Date:</b>	20-SEP-2019
<b>Time Stamp:</b>	21:44:51
<b>Application Type:</b>	Utility under 35 USC 111(a)

### Payment information:

Submitted with Payment	no
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### File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Amendment after Notice of Allowance (Rule 312)	069366-2USC3-312_Amendme nt.pdf	91293  64378fc45d185e34e4ae8ccffeb10bae321b0052	no	6

### Warnings:

<b>Information:</b>	
<b>Total Files Size (in bytes):</b>	91293
<p><b>This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.</b></p> <p><b><u>New Applications Under 35 U.S.C. 111</u></b>  <b>If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.</b></p> <p><b><u>National Stage of an International Application under 35 U.S.C. 371</u></b>  <b>If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.</b></p> <p><b><u>New International Application Filed with the USPTO as a Receiving Office</u></b>  <b>If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.</b></p>	

**PATENT**

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Serial No. : 16/578,238 Confirmation No.: 4358  
Applicant : NCM IP Holdings, LLC  
Filed : September 20, 2019  
Title : METHOD AND APPARATUS FOR MANAGING DIGITAL FILES  
  
TC/A.U. : 2165  
Examiner : Loc Tran  
Docket No. : 069366-000002USC3  
Customer No. : 70001

**AMENDMENT AFTER ALLOWANCE UNDER 37 C.F.R. § 1.312**

Mail Stop: Issue Fee – via EFS  
COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, VA 22313-1450

Dear Commissioner:

This Amendment After Allowance is submitted in response to the “Notice of Allowance and Fee(s) Due” mailed December 2, 2019 pursuant to 37 CFR 1.312. The statutory period for paying the issue fee is three months from the mailing date, i.e., by March 2, 2019. This amendment is timely as it is being filed prior to the payment of the issue fee. Please enter the following amendments and remarks into the record for this application.

**Amendments to the Claims** are reflected in the Listing of Claims on page 2 of this paper.

**Remarks** begin on page 6 of this paper.

**AMENDMENTS TO THE CLAIMS**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

1-39. (Canceled)

40. (Previously Presented) A method comprising:

responsive to a first input, causing a map view to be displayed on an interface, the map view including:

(i) an interactive map;

(ii) a first location selectable thumbnail image at a first location on the interactive map; and

(iii) a second location selectable thumbnail image at a second location on the interactive map;

responsive to an input that is indicative of a selection of the first location selectable thumbnail image, causing a first location view to be displayed on the interface, the first location view including (i) a first location name associated with the first location and (ii) a representation of at least a portion of one digital file in a first set of digital files, each of the digital files in the first set of digital files being produced from outputs of one or more digital imaging devices, the first set of digital files including digital files associated with the first location;

responsive to an input that is indicative of a selection of the second location selectable thumbnail image, causing a second location view to be displayed on the interface, the second location view including (i) a second location name associated with the second location and (ii) a representation of at least a portion of one digital file in a second set of digital files, each of the digital files in the second set of digital files being produced from outputs of the one or more digital imaging devices, the second set of digital files including digital files associated with the second location; and

responsive to a second input that is subsequent to the first input, causing a people view to be displayed on the interface, the people view including:

- (i) a first person selectable thumbnail image including a representation of a face of a first person, the first person being associated with a third set of digital files including digital photographs and videos;
- (ii) a first name associated with the first person, the first name being displayed adjacent to the first person selectable thumbnail image;
- (iii) a second person selectable thumbnail image including a representation of a face of a second person, the second person being associated with a fourth set of digital files including digital photographs and videos; and
- (iv) a second name associated with the second person, the second name being displayed adjacent to the second person selectable thumbnail image.

41. (Previously Presented) The method of claim 40, wherein the map view further includes a first indication feature associated with the first location selectable thumbnail image, the first indication feature being based on a number of digital files in the first set of digital files.

42. (Previously Presented) The method of claim 41, wherein the first indication feature is connected to the first location selectable thumbnail image.

43. (Previously Presented) The method of claim 41, wherein the first indication feature includes a first number indicative of the number of digital files in the first set of digital files.

44. (Previously Presented) The method of claim 41, wherein the map view further includes a second indication feature associated with the second location selectable thumbnail image, the second indication feature being based on a number of digital files in the second set of digital files.

45. (Previously Presented) The method of claim 44, wherein the second indication feature is connected to the second location selectable thumbnail image.

46. (Previously Presented) The method of claim 44, wherein the second indication feature includes a second number indicative of the number of digital files in the second set of digital files.

47. (Previously Presented) The method of claim 41, further comprising, subsequent to the map view being displayed on the interface, responsive to an input that is indicative of zooming in on the interactive map, modifying the first indication feature.

48. (Previously Presented) The method of claim 41, further comprising, subsequent to the map view being displayed on the interface, responsive to an input that is indicative of zooming out on the interactive map, modifying the first indication feature.

49-51. (Canceled)

52. (Previously Presented) The method of claim 41, further comprising, subsequent to the map view being displayed on the interface, responsive to an input that is indicative of a filter selection, modifying the first indication feature.

53. (Previously Presented) The method of claim 40, wherein the first location selectable thumbnail image is a first collection cover image and wherein the second location selectable thumbnail image is a second collection cover image that is different than the first collection cover image.

54. (Previously Presented) The method of claim 40, wherein the first location selectable thumbnail image includes a representation of at least one of the digital files in the first set of digital files, and wherein the second location selectable thumbnail image includes a representation of at least one of the digital files in the second set of digital files.

55. (Previously Presented) The method of claim 54 wherein the representation of the at least a portion of the one digital file in the first set of digital files is not overlaid on the interactive map, and wherein the representation of the at least a portion of the one digital file in the second set of digital files is not overlaid on the interactive map.

56. (Previously Presented) The method of claim 40, wherein the first location view includes a representation of at least a portion of all of the digital files in the first set of digital files and the second location view includes a representation of at least a portion of all of the digital files in the second set of digital files.

57. (Previously Presented) The method of claim 40, further comprising:  
responsive to an input that is indicative of a selection, in the first location view, of the representation of the at least a portion of the one digital file in the first set of digital files, causing a first digital file to be displayed on the interface; and  
responsive to an input that is indicative of a selection, in the second location view, of the representation of the at least a portion of the one digital file in the second set of digital files, causing a second digital file to be displayed on the interface.

58. (Previously Presented) The method of claim 40, further comprising:  
receiving alphanumeric text as a tag;  
associating the tag with a first digital file in the first set of digital files;  
receiving a request to export the first digital file; and



responsive to receiving the request to export, exporting the first digital file by causing the first digital file to be communicated along with the tag.

59. (Previously Presented) The method of claim 40, further comprising, prior to receiving the first input, causing the interface to display a plurality of selectable elements, the plurality of selectable elements including a location selectable element and a people selectable element, wherein the first input is indicative of a selection of the location selectable element, and wherein the second input is indicative of a selection of the people selectable element.

60. (Canceled)

61. (Previously Presented) The method of claim 40, further comprising responsive to an input that is indicative of a selection of the first person selectable thumbnail image, causing a first person view to be displayed on the interface, the first person view including (i) the first name and (ii) a representation of each digital file in the third set of digital files.

62. (Previously Presented) The method of claim 61, further comprising responsive to an input that is indicative of a selection of the second person selectable thumbnail image, causing a second person view to be displayed on the interface, the second person view including (i) the second name and (ii) a representation of each digital file in the fourth set of digital files.

**REMARKS**

Claims 40-48 and 52-62 have been allowed. Claim 60 is canceled. No new matter is added. No claims are amended. Acceptance and entry of this 312 Amendment is respectfully requested.

**Conclusion**

In the event that the Examiner has any questions related to this amendment or to the application in general, the Examiner is requested to contact the undersigned attorney at the number indicated.

It is believed that no fees are due; however, should any fees be deemed necessary, the Director is authorized to deduct the necessary fees (except for payment of the issue fee) from Nixon Peabody LLP, Deposit Account No. 50-4181, Order No. 069366-000002USC3.

Respectfully submitted,

Date: December 9, 2019

/Bradley M. Taub, Reg. No. 67,300/  
BRADLEY M. TAUB  
Reg. No. 67,300  
Nixon Peabody LLP  
70 West Madison Street, Suite 3500  
Chicago, Illinois 60602  
(312) 425-8563 - Direct  
(312) 977-4405 - Fax

ATTORNEY FOR APPLICANT



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

Table with 5 columns: APPLICATION NO., FILING DATE, FIRST NAMED INVENTOR, ATTORNEY DOCKET NO., CONFIRMATION NO. Includes application details for 16/578,238 filed 09/20/2019 by Christopher J. Desmond.

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

docketingchicago@nixonpeabody.com
ipairlink@nixonpeabody.com

<b>Response to Rule 312 Communication</b>	<b>Application No.</b> 16/578,238	<b>Applicant(s)</b> Desmond et al.	
	<b>Examiner</b> LOC TRAN	<b>Art Unit</b> 2165	<b>AIA (FITF) Status</b> No

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

1.  The amendment filed on 09 December 2019 under 37 CFR 1.312 has been considered, and has been:
- a)  entered.
  - b)  entered as directed to matters of form not affecting the scope of the invention.
  - c)  disapproved because the amendment was filed after the payment of the issue fee.  
Any amendment filed after the date the issue fee is paid must be accompanied by a petition under 37 CFR 1.313(c)(1) and the required fee to withdraw the application from issue.
  - d)  disapproved. See explanation below.
  - e)  entered in part. See explanation below.

\_\_\_\_\_  
/LOC TRAN/  
Examiner, Art Unit 2165

**PATENT**

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Serial No. : 16/578,238 Confirmation No.: 4358  
Applicant : NCM IP Holdings, LLC  
Filed : September 20, 2019  
Title : METHOD AND APPARATUS FOR MANAGING DIGITAL FILES  
  
TC/A.U. : 2165  
Examiner : Loc Tran  
Docket No. : 069366-000002USC3  
Customer No. : 70001

**AMENDMENT AFTER ALLOWANCE UNDER 37 C.F.R. § 1.312**

Mail Stop: Issue Fee – via EFS  
COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, VA 22313-1450

Dear Commissioner:

This Amendment After Allowance is submitted in response to the “Notice of Allowance and Fee(s) Due” mailed December 2, 2019 pursuant to 37 CFR 1.312. The statutory period for paying the issue fee is three months from the mailing date, i.e., by March 2, 2019. This amendment is timely as it is being filed prior to the payment of the issue fee. Please enter the following amendments and remarks into the record for this application.

**Amendments to the Claims** are reflected in the Listing of Claims on page 2 of this paper.

**Remarks** begin on page 6 of this paper.



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
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Alexandria, Virginia 22313-1450
www.uspto.gov

Table with 4 columns: APPLICATION NUMBER (16/578,238), FILING OR 371(C) DATE (09/20/2019), FIRST NAMED APPLICANT (Christopher J. Desmond), ATTY. DOCKET NO./TITLE (069366-000002USC3)

CONFIRMATION NO. 4358

PUBLICATION NOTICE

70001
NIXON PEABODY LLP
70 West Madison Street, Suite 3500
CHICAGO, IL 60602



Title:METHOD AND APPARATUS FOR MANAGING DIGITAL FILES

Publication No.US-2020-0026727-A1

Publication Date:01/23/2020

NOTICE OF PUBLICATION OF APPLICATION

The above-identified application will be electronically published as a patent application publication pursuant to 37 CFR 1.211, et seq. The patent application publication number and publication date are set forth above.

The publication may be accessed through the USPTO's publicly available Searchable Databases via the Internet at www.uspto.gov. The direct link to access the publication is currently http://www.uspto.gov/patft/.

The publication process established by the Office does not provide for mailing a copy of the publication to applicant. A copy of the publication may be obtained from the Office upon payment of the appropriate fee set forth in 37 CFR 1.19(a)(1). Orders for copies of patent application publications are handled by the USPTO's Public Records Division. The Public Records Division can be reached by telephone at (571) 272-3150 or (800) 972-6382, by facsimile at (571) 273-3250, by mail addressed to the United States Patent and Trademark Office, Public Records Division, Alexandria, VA 22313-1450 or via the Internet.

In addition, information on the status of the application, including the mailing date of Office actions and the dates of receipt of correspondence filed in the Office, may also be accessed via the Internet through the Patent Electronic Business Center at www.uspto.gov using the public side of the Patent Application Information and Retrieval (PAIR) system. The direct link to access this status information is currently https://portal.uspto.gov/pair/PublicPair. Prior to publication, such status information is confidential and may only be obtained by applicant using the private side of PAIR.

Further assistance in electronically accessing the publication, or about PAIR, is available by calling the Patent Electronic Business Center at 1-866-217-9197.

Office of Data Management, Application Assistance Unit (571) 272-4000, or (571) 272-4200, or 1-888-786-0101

Document Description: Issue Fee Payment (PTO-85B)

**Issue Fee Transmittal Form**

Application Number	Filing Date	First Named Inventor	Atty. Docket No.	Confirmation No.
16578238	20-Sep-2019	Christopher Desmond	069366-000002USC3	4358

**TITLE OF INVENTION :**

METHOD AND APPARATUS FOR MANAGING DIGITAL FILES

Entity Status	Application Type	Art Unit	Class - Subclass	EXAMINER
Small	Utility under 35 USC 111(a)	2165	722000	LOC TRAN
Issue Fee Due	Publication Due	Total Fee(s) Due	Date Due	Prev. Paid Fee
\$500	\$0	\$500	02-Mar-2020	\$0

**1.Change of Correspondence Address and/or Indication Of Fee Address (37 CFR 1.33 & 1.363)**

Current Correspondence Address:	Current Indicated Fee Address :
70001 NIXON PEABODY LLP  70 West Madison Street, Suite 3500  CHICAGO IL 60602 UNITED STATES 312-977-4400 <del>docketingchicago@nixonpeabody.com</del>	
<input type="checkbox"/> Change of correspondence address requested, system generated AIA/122-EFS form attached	<input type="checkbox"/> Fee Address indication requested, system generated SB/47-EFS form attached

**2.Entity Status****Change in Entity Status**

Applicant certifying micro entity status; system generated Micro Entity certification form attached. See 37 CFR 1.29.

Note: Absent a valid certification of micro entity status, issue fee payment in the micro entity amount will not be accepted at the risk of application abandonment.

- If this box is checked, you will be prompted to choose a micro entity status on the gross income basis (37 CFR 1.29(a)) or the institution of higher education basis (37 CFR 1.29(d)), and make the applicable certification online.

- Applicant asserting small entity status. See 37 CFR 1.27.

Note: If the application was previously under micro entity status, checking this box will be taken to be a notification of loss of entitlement to micro entity status.

- Applicant changing to regular undiscounted fee status.

Note: Checking this box will be taken to be a notification of loss of entitlement to small or micro entity status, as applicable.

Document Description: Issue Fee Payment (PTO-85B)

**3.The Following Fee(s) Are Submitted:**

Issue Fee

I authorize USPTO to apply my previously paid issue fee to the current fees due

Publication Fee

The Director is hereby authorized to apply my previously paid issue fee to the current fee due and to charge deficient fees to Deposit Account Number \_\_\_\_\_

Advance Order - # of copies \_\_\_\_\_

If **in addition to** the payment of the issue fee amount submitted with this form, there are any discrepancies in any amount(s) due, the Director is authorized to charge any deficiency, or credit any overpayment, to Deposit Account Number <sup>504181</sup>\_\_\_\_\_ .  
 **The issue fee must be submitted with this form. If payment of the issue fee does not accompany this form, checking this box and providing a deposit account number will NOT be effective to satisfy full payment of the fee(s) due.**

**4.Firm and/or Attorney Names To Be Printed**

**NOTE: If no name is listed, no name will be printed**  
 For printing on the patent front page, list to be displayed as entered

1. NIXON PEABODY LLP

2.

3.

**5.Assignee Name(s) and Residence Data To Be Printed**

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

Name	City	State	Country	Category
NCM IP Holdings, LLC	Glen Ellyn	ILLINOIS	united states	corporation

**6.Signature**

I certify, in accordance with 37 CFR 1.4(d)(4) that I am an attorney or agent registered to practice before the Patent and Trademark Office who has filed and has been granted power of attorney in this application. I also certify that this Fee(s) Transmittal form is being transmitted to the USPTO via EFS-WEB on the date indicated below.

<b>Signature</b>	/Bradley M. Taub/	<b>Date</b>	02-28-2020
<b>Name</b>	Bradley Michael Taub	<b>Registration Number</b>	67300



Electronic Patent Application Fee Transmittal				
<b>Application Number:</b>	16578238			
<b>Filing Date:</b>	20-Sep-2019			
<b>Title of Invention:</b>	METHOD AND APPARATUS FOR MANAGING DIGITAL FILES			
<b>First Named Inventor/Applicant Name:</b>	Christopher J. Desmond			
<b>Filer:</b>	Bradley Michael Taub			
<b>Attorney Docket Number:</b>	069366-000002USC3			
Filed as Small Entity				
<b>Filing Fees for Utility under 35 USC 111(a)</b>				
Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
<b>Basic Filing:</b>				
UTILITY APPL ISSUE FEE	2501	1	500	500
PUBL. FEE- EARLY, VOLUNTARY, OR NORMAL	1504	1	0	0
<b>Pages:</b>				
<b>Claims:</b>				
<b>Miscellaneous-Filing:</b>				
<b>Petition:</b>				
<b>Patent-Appeals-and-Interference:</b>				

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
<b>Post-Allowance-and-Post-Issuance:</b>				
<b>Extension-of-Time:</b>				
<b>Miscellaneous:</b>				
<b>Total in USD (\$)</b>				<b>500</b>

## Electronic Acknowledgement Receipt

<b>EFS ID:</b>	38723641
<b>Application Number:</b>	16578238
<b>International Application Number:</b>	
<b>Confirmation Number:</b>	4358
<b>Title of Invention:</b>	METHOD AND APPARATUS FOR MANAGING DIGITAL FILES
<b>First Named Inventor/Applicant Name:</b>	Christopher J. Desmond
<b>Customer Number:</b>	70001
<b>Filer:</b>	Bradley Michael Taub
<b>Filer Authorized By:</b>	
<b>Attorney Docket Number:</b>	069366-000002USC3
<b>Receipt Date:</b>	28-FEB-2020
<b>Filing Date:</b>	20-SEP-2019
<b>Time Stamp:</b>	16:20:21
<b>Application Type:</b>	Utility under 35 USC 111(a)

### Payment information:

Submitted with Payment	yes
Payment Type	DA
Payment was successfully received in RAM	\$500
RAM confirmation Number	E20202RG20197838
Deposit Account	
Authorized User	

The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:

<b>File Listing:</b>					
<b>Document Number</b>	<b>Document Description</b>	<b>File Name</b>	<b>File Size(Bytes)/ Message Digest</b>	<b>Multi Part /.zip</b>	<b>Pages (if appl.)</b>
1	Issue Fee Payment (PTO-85B)	Web85b.pdf	46025	no	2
			790cf0b4e81f83acc221c75bb24e20e041ff91bb		
<b>Warnings:</b>					
<b>Information:</b>					
2	Fee Worksheet (SB06)	fee-info.pdf	32065	no	2
			49139b72144076e4952c5ce4a8351ab37e849ea3		
<b>Warnings:</b>					
<b>Information:</b>					
<b>Total Files Size (in bytes):</b>			78090		
<p><b>This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.</b></p> <p><b><u>New Applications Under 35 U.S.C. 111</u></b>  If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.</p> <p><b><u>National Stage of an International Application under 35 U.S.C. 371</u></b>  If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.</p> <p><b><u>New International Application Filed with the USPTO as a Receiving Office</u></b>  If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.</p>					



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Table with 5 columns: APPLICATION NO., FILING DATE, FIRST NAMED INVENTOR, ATTORNEY DOCKET NO., CONFIRMATION NO. Includes sub-tables for EXAMINER, TRAN. LOC, ART UNIT, PAPER NUMBER, NOTIFICATION DATE, DELIVERY MODE.

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

docketingchicago@nixonpeabody.com
ipairlink@nixonpeabody.com

<b>Corrected Notice of Allowability</b>	<b>Application No.</b> 16/578,238	<b>Applicant(s)</b> Desmond et al.	
	<b>Examiner</b> LOC TRAN	<b>Art Unit</b> 2165	<b>AIA (FITF) Status</b> No

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

- 1.  This communication is responsive to a printer rush filed on 03/12/2020.  
 A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on \_\_\_\_\_.
- 2.  An election was made by the applicant in response to a restriction requirement set forth during the interview on \_\_\_\_\_; the restriction requirement and election have been incorporated into this action.
- 3.  The allowed claim(s) is/are See Continuation Sheet. As a result of the allowed claim(s), you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see [http://www.uspto.gov/patents/init\\_events/pph/index.jsp](http://www.uspto.gov/patents/init_events/pph/index.jsp) or send an inquiry to [PPHfeedback@uspto.gov](mailto:PPHfeedback@uspto.gov).
- 4.  Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

**Certified copies:**

- a)  All      b)  Some      \*c)  None of the:
    - 1.  Certified copies of the priority documents have been received.
    - 2.  Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    - 3.  Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
- \* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**


- 5.  CORRECTED DRAWINGS (as "replacement sheets") must be submitted.  
 including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.  
**Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).**
- 6.  DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- |  |   |
|--|---|
| <ul style="list-style-type: none"> <li>1. <input type="checkbox"/> Notice of References Cited (PTO-892)</li> <li>2. <input type="checkbox"/> Information Disclosure Statements (PTO/SB/08),<br/>Paper No./Mail Date _____.</li> <li>3. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br/>of Biological Material _____.</li> <li>4. <input type="checkbox"/> Interview Summary (PTO-413),<br/>Paper No./Mail Date _____.</li> </ul> | <ul style="list-style-type: none"> <li>5. <input type="checkbox"/> Examiner's Amendment/Comment</li> <li>6. <input type="checkbox"/> Examiner's Statement of Reasons for Allowance</li> <li>7. <input type="checkbox"/> Other _____.</li> </ul> |
|--|---|

/LOC TRAN/  
Examiner, Art Unit 2165

Continuation of 3. The allowed claim(s) is/are: 40-48,52-59 and 61-62


<b>Issue Classification</b> 	<b>Application/Control No.</b> 16/578,238	<b>Applicant(s)/Patent Under Reexamination</b> Desmond et al.
	<b>Examiner</b> LOC TRAN	<b>Art Unit</b> 2165

CPC						
Symbol				Type	Version	
G06F		16		5866	F	2019-01-01
G06F		16		51	I	2019-01-01
G06F		16		901	I	2019-01-01
G06F		16		907	I	2019-01-01
G06F		3		0481	A	2013-01-01

CPC Combination Sets						
Symbol			Type	Set	Ranking	Version

NONE		<b>Total Claims Allowed:</b>	
(Assistant Examiner)	(Date)	19	
/LOC TRAN/ Examiner, Art Unit 2165	17 March 2020	O.G. Print Claim(s)	O.G. Print Figure
(Primary Examiner)	(Date)	1	1



<b>Issue Classification</b> 	<b>Application/Control No.</b> 16/578,238	<b>Applicant(s)/Patent Under Reexamination</b> Desmond et al.
	<b>Examiner</b> LOC TRAN	<b>Art Unit</b> 2165


<b>INTERNATIONAL CLASSIFICATION</b>			
<b>CLAIMED</b>			
G06F		16	58

<b>NON-CLAIMED</b>			

<b>US ORIGINAL CLASSIFICATION</b>	
<b>CLASS</b>	<b>SUBCLASS</b>

<b>CROSS REFERENCES(S)</b>						
<b>CLASS</b>	<b>SUBCLASS (ONE SUBCLASS PER BLOCK)</b>					

NONE		<b>Total Claims Allowed:</b>	
(Assistant Examiner)	(Date)	19	
/LOC TRAN/ Examiner, Art Unit 2165	17 March 2020	O.G. Print Claim(s)	O.G. Print Figure
(Primary Examiner)	(Date)	1	1

<b>Issue Classification</b> 	<b>Application/Control No.</b> 16/578,238	<b>Applicant(s)/Patent Under Reexamination</b> Desmond et al.
	<b>Examiner</b> LOC TRAN	<b>Art Unit</b> 2165

Claims renumbered in the same order as presented by applicant
  CPA
  T.D.
  R.1.47

CLAIMS															
Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original
-	1	-	10	-	19	-	28	-	37	7	46	13	55		
-	2	-	11	-	20	-	29	-	38	8	47	14	56		
-	3	-	12	-	21	-	30	-	39	9	48	15	57		
-	4	-	13	-	22	-	31	1	40	-	49	16	58		
-	5	-	14	-	23	-	32	2	41	-	50	17	59		
-	6	-	15	-	24	-	33	3	42	-	51	-	60		
-	7	-	16	-	25	-	34	4	43	10	52	18	61		
-	8	-	17	-	26	-	35	5	44	11	53	19	62		
-	9	-	18	-	27	-	36	6	45	12	54				

NONE			<b>Total Claims Allowed:</b>
(Assistant Examiner)	(Date)		19
/LOC TRAN/ Examiner, Art Unit 2165	17 March 2020	O.G. Print Claim(s)	O.G. Print Figure
(Primary Examiner)	(Date)	1	1



# UNITED STATES PATENT AND TRADEMARK OFFICE

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www.uspto.gov

APPLICATION NO.	ISSUE DATE	PATENT NO.	ATTORNEY DOCKET NO.	CONFIRMATION NO.
16/578,238	04/14/2020	10621228	069366-000002USC3	4358

70001      7590      03/25/2020  
NIXON PEABODY LLP  
70 West Madison Street, Suite 3500  
CHICAGO, IL 60602

## ISSUE NOTIFICATION

The projected patent number and issue date are specified above.

### **Determination of Patent Term Adjustment under 35 U.S.C. 154 (b)**

(application filed on or after May 29, 2000)

The Patent Term Adjustment is 0 day(s). Any patent to issue from the above-identified application will include an indication of the adjustment on the front page.

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (<http://pair.uspto.gov>).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Application Assistance Unit (AAU) of the Office of Data Management (ODM) at (571)-272-4200.

APPLICANT(s) (Please see PAIR WEB site <http://pair.uspto.gov> for additional applicants):

Christopher J. Desmond, Glen Ellyn, IL;  
NCM IP Holdings, LLC, Glen Ellyn, IL;  
Nancy L. Desmond, Glen Ellyn, IL;  
L. Michael Taylor, Chicago, IL;

The United States represents the largest, most dynamic marketplace in the world and is an unparalleled location for business investment, innovation, and commercialization of new technologies. The USA offers tremendous resources and advantages for those who invest and manufacture goods here. Through SelectUSA, our nation works to encourage and facilitate business investment. To learn more about why the USA is the best country in the world to develop technology, manufacture products, and grow your business, visit [SelectUSA.gov](http://SelectUSA.gov).

AO 120 (Rev. 08/10)

TO: <b>Mail Stop 8 Director of the U.S. Patent and Trademark Office P.O. Box 1450 Alexandria, VA 22313-1450</b>	<b>REPORT ON THE FILING OR DETERMINATION OF AN ACTION REGARDING A PATENT OR TRADEMARK</b>
---	---

In Compliance with 35 U.S.C. § 290 and/or 15 U.S.C. § 1116 you are hereby advised that a court action has been filed in the U.S. District Court for the Western District of Texas Waco Division on the following  Trademarks or  Patents. (  the patent action involves 35 U.S.C. § 292.);

DOCKET NO. 6:21-cv-00411	DATE FILED 4/26/2021	U.S. DISTRICT COURT for the Western District of Texas Waco Division
PLAINTIFF MEMORYWEB, LLC		DEFENDANT SAMSUNG ELECTRONICS CO., LTD. AND SAMSUNG ELECTRONICS AMERICA, INC.
PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
1 10,423,658	9/24/2019	MemoryWeb, LLC
2 10,621,228	4/14/2020	MemoryWeb, LLC
3		
4		
5		

In the above—entitled case, the following patent(s)/ trademark(s) have been included:

DATE INCLUDED	INCLUDED BY <input type="checkbox"/> Amendment <input type="checkbox"/> Answer <input type="checkbox"/> Cross Bill <input type="checkbox"/> Other Pleading	
PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
1		
2		
3		
4		
5		

In the above—entitled case, the following decision has been rendered or judgement issued:

DECISION/JUDGEMENT
--------------------

CLERK	(BY) DEPUTY CLERK	DATE
-------	-------------------	------

Copy 1—Upon initiation of action, mail this copy to Director Copy 3—Upon termination of action, mail this copy to Director  
Copy 2—Upon filing document adding patent(s), mail this copy to Director Copy 4—Case file copy

AO 120 (Rev. 08/10)

TO: <b>Mail Stop 8</b> <b>Director of the U.S. Patent and Trademark Office</b> <b>P.O. Box 1450</b> <b>Alexandria, VA 22313-1450</b>	<b>REPORT ON THE                  FILING OR DETERMINATION OF AN                  ACTION REGARDING A PATENT OR                  TRADEMARK</b>
---	--

In Compliance with 35 U.S.C. § 290 and/or 15 U.S.C. § 1116 you are hereby advised that a court action has been filed in the U.S. District Court \_\_\_\_\_ for the Western District of Texas Waco Division \_\_\_\_\_ on the following  
 Trademarks or  Patents. (  the patent action involves 35 U.S.C. § 292.);

DOCKET NO. 6:21-cv-531	DATE FILED 05/25/2021	U.S. DISTRICT COURT for the Western District of Texas Waco Division
PLAINTIFF MEMORYWEB, LLC		DEFENDANT APPLE, INC.
PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
1 9,552,376	1/24/2017	MemoryWeb, LLC
2 10,423,658	9/24/2019	MemoryWeb, LLC
3 10,621,228	4/14/2020	MemoryWeb, LLC
4 11,017,020	5/25/2021	MemoryWeb, LLC
5		

In the above—entitled case, the following patent(s)/ trademark(s) have been included:

DATE INCLUDED	INCLUDED BY <input type="checkbox"/> Amendment <input type="checkbox"/> Answer <input type="checkbox"/> Cross Bill <input type="checkbox"/> Other Pleading	
PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
1		
2		
3		
4		
5		

In the above—entitled case, the following decision has been rendered or judgement issued:

DECISION/JUDGEMENT
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CLERK	(BY) DEPUTY CLERK	DATE
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Copy 1—Upon initiation of action, mail this copy to Director    Copy 3—Upon termination of action, mail this copy to Director  
 Copy 2—Upon filing document adding patent(s), mail this copy to Director    Copy 4—Case file copy