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Doc Description: Internet Communications Authorized/Internet Communications Authorization Withdrawn

PTO/SB/439 (11-15)

AUTHORIZATION FOR INTERNET COMMUNICATIONS IN A PATENT APPLICATION OR REQUEST TO WITHDRAW AUTHORIZATION FOR INTERNET COMMUNICATIONS	Application No.	Not Yet Assigned
	Filing Date	Filed Herewith
	First Named Inventor	Keel et al.
	Art Unit	Not Yet Assigned
	Examiner Name	Not Yet Assigned
	Practitioner Docket No.	4123/1003

To: Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

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☒ Recognizing that Internet communications are not secure, I hereby authorize the USPTO to communicate with the undersigned and practitioners in accordance with 37 CFR 1.33 and 37 CFR 1.34 concerning any subject matter of this application via video conferencing, instant messaging, or electronic mail. I understand that a copy of these communications will be made of record in the application file. (MPEP 502.03)

II. To withdraw authorization for Internet Communications.

☐ The authorization given on _____, to the USPTO to communicate with the undersigned and any practitioner in accordance with 37 CFR 1.33 and 37 CFR 1.34 concerning any subject matter of this application via Internet communications such as video conferencing, instant messaging, or electronic mail is hereby withdrawn. I understand that the withdrawal is effective when approved rather than when received.

I am the

- ☐ applicant.
- ☒ attorney or agent of record. Registration number 27,234.
- ☐ attorney or agent acting under 37 CFR 1.34. Registration number _____.

/Bruce D. Sunstein, #27,234/
Signature

November 8, 2017
Date

Bruce D. Sunstein
Typed or printed name

617-443-9292
Telephone Number

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☒ * Total of 1 forms are submitted.

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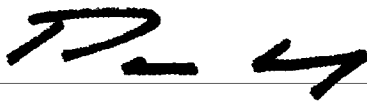
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Dated this 28th day of March 2015

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By (c) Paul Keel

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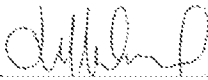
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ABSTRACT OF THE DISCLOSURE

METHODS AND APPARATUS FOR MANAGING AND EXCHANGING INFORMATION USING INFORMATION OBJECTS

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A computer-implemented method of interacting with at least one data item includes storing, in a database system, a configuration, of each of the data items as a distinct information object, in which each information object has an association with a picture, a heading, and a link to the corresponding data item. The method additionally uses the stored configurations to make available for display a representation of each of at least two of the information objects in a uniform format, wherein the format includes a card, and, within the card, the picture, the heading, a set of indicators, the set of indicators having at least one member, and a function mechanism giving graphical access to a set of functions.

What is claimed is:

1. A computer-implemented method, in which at least one computer initiates execution
5 of software instructions to perform computer processes, the method being for interacting with
at least one data item obtained from at least one source and rendering the at least one data
item accessible from a database system, wherein the at least one source is external to the
database system, the computer processes comprising:
 - storing, in the database system, a configuration, of each of the data items as a distinct
10 information object, in which each information object has an association with a picture, a
heading, and a link to the corresponding data item; - using the stored configurations of a plurality of the data items to make available for
display a representation of each of at least two of the information objects in the database
system, the at least two information objects being selected for display, the representation
15 being in a uniform format, wherein the format includes a card, and, within the card, in
uniform locations thereof, the picture, the heading, a set of indicators, the set of indicators
having at least one member, and a function mechanism giving graphical access to a set of
functions, - wherein the functions include: - 20 an instant messaging function, by which users having access to the card can
exchange author- and time-stamped messages relating to the information object, such
messages being associated with the information object and accessible to users who view the
information object; - a vote function, by which each user having access to the card can provide one
25 vote for the information object; - a replicate function, by which each user having access to the card in a first
collection of cards can cause the card to be replicated in a second collection of cards; and
a link function, by which each user having access to the card can invoke the
link to the data item; and

wherein the set of indicators displays a number of instant messages and votes associated with the information object; and

wherein the database system is configured to allow

(i) each user to have at least one user-selected collection of cards in the database

5 system and

(ii) each card in the database system, with any associated picture and heading, and other associated data, regardless of the collection in which it may have first appeared, to be accessible and replicable across card collections of users; and

(iii) each user who has selected to monitor the collection of a given user, upon entry of
10 a specific card into the collection of the given user, to have access to a replica of the specific card.

2. A method according to claim 1, the computer processes further comprising:

providing a user interface having a graphical button, which, when invoked while
15 content is being displayed, causes the displayed content to be handled as one of the data items, namely, by configuring the displayed content as a new information object and making a representation of the new information object available for display in the uniform format.

3. A method according to claim 1, wherein the format includes within the card an
20 indication of a date of creation of the card.

4. A method according to claim 3, wherein the one of the indicators changes its appearance to indicate the presence of a message, associated with the information object, that has not yet been read by the user.

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5. A method according to claim 1, wherein the format includes a user-accessible report relating to users who replicated the information object.

6. A method according to claim 1, wherein the information object is configurable to
30 include a user-accessible file attachment.

7. A method according to claim 1, wherein the one of the indicators indicates the presence of a geographic location, associated with the information object.

8. A method according to claim 1, further comprising:

5 further causing to be displayed, at the same time as the representation, a map including a location, marked on the map, associated with at least one of the information objects.

9. A method according to claim 8, further comprising:

10 responsive to a graphical input applied to the displayed location, causing the location on the map to be edited in accordance with the graphical input.

10. A method according to claim 1, further comprising:

serving, to a client computing device of a first user, a first view of a first set of information objects that constitute a first collection of the first user;

15 also serving, to the client computing device of the first user, a second view of a second set of information objects, that constitute a second collection of the first user;

responsive to (i) a graphical selection, by the first user, of an information object in the first view and (ii) a copy command that has been graphically entered by the first user, causing the selected information object to be copied from the first view to the second view.

20

11. A method according to claim 1, further comprising:

serving, to a client computing device of a first user, a first view of a first set of information objects that constitute a first collection of the first user;

25 also serving, to the client computing device of the first user, a second view of a second set of information objects, that constitute a collection of a second user.

12. A method according to claim 11, further comprising:

responsive to (i) a graphical selection, by the first user, of an information object in the second view and (ii) a copy command that has been graphically entered by the first user,

30 causing the selected information object to be copied from the second view to the first view, so

that the selected information object in the collection of the second user has been copied to the first collection of the first user.

13. A method according to claim 11, further comprising:

responsive to (i) a graphical selection, by the first user, of an information object in the first view and (ii) a send command that has been graphically entered by the first user, causing the selected information object to be sent to the second user, so that the selected information object in the collection of the first user is made available to the second user to be included in the collection of the second user.

14. A method according to claim 1, further comprising:

on a user-entered command, causing an information object to be shared with another user when the information object and the other user have been graphically selected.

15. A method according to claim 1, further comprising:

on a user-entered command, causing an information object to be shared with another user via an instant message sent through an integrated instant messaging system as a result of graphical selection by a first user.

16. A method according to claim 1, further comprising causing shared information objects to be synchronized with one another.

17. A method according to claim 1, wherein the functions further include a log function that provides a record listing users that previously viewed the card.

18. A method according to claim 1, wherein the database is further configured to allow display to each user of a set of cards that are related to cards viewed by such user.

19. A method according to claim 1, further comprising:

serving, to a client computing device of a first user, a view of a first set of information objects that constitute a collection of the first user;

serving, to a client computing device of a second user, a view of a first set of information objects that constitute a collection of the second user;

storing the information objects in a database, each of the information objects being stored in association with data pertinent thereto including

5 any users thereof,
 spatial location thereof in the workspace view,
 content and metadata thereof, such metadata including comments and votes,
 times of storage, viewing and copying thereof,
 relationship thereof to any other information objects; and

10 processing information object data in the database to make a recommendation to the first user, wherein the recommendation is based on at least one of the criteria in the group consisting of:

 number of direct and indirect relations of information objects in the collection of the first user with another information object in the database;

15 addition of a first pair of information objects to a collection of another user in short interval of time, of which one of the first pair of information objects is already in the collection of the first user;

 presence of a second pair of information objects in the collection of the other user in close spatial proximity to one another, of which one of the second pair of information
 20 objects is already in the collection of the first user;

 presence of a given information object in a row or column of information objects in the collection of the other user, wherein one of the information objects in the row or column is already in the collection of the first user;

 popularity of an information object in the database, based on a popularity
 25 measure selected from the group consisting of number of users, number of views, number of copies made, number of comments made, number of votes, and combinations thereof;

 presence of an information object from a second user with whom the first user previously exchanged information objects, comments or votes;
 and combinations thereof.

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20. A method according to claim 19, wherein the processing to make the recommendation

includes processing to recommend an information object that is not in the collection of the first user.

21. A method according to claim 19, wherein the processing to make the recommendation
- 5 includes processing to recommend another user who created an information object that is selected based on at least one of the criteria.

METHODS AND APPARATUS FOR MANAGING AND EXCHANGING
INFORMATION USING INFORMATION OBJECTS

STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH

[0001] This invention was made with Government support under Grant and/or Contract No. 'N00014-02-1-0132 and/or N00014-04-1-0569 and/or N00014-08-C-0206' awarded by the Office of Naval Research. The Government has certain rights in the invention.

RELATED APPLICATIONS

[0002] This application is a continuation of United States patent application serial number 15/243,497, filed August 22, 2016, now United States patent number 9,817,562, which is a continuation of application serial number 14/664,178, filed March 20, 2015, now U.S. patent 9,524,090, which is a continuation of United States patent application serial number 13/925,031, filed June 24, 2013, now abandoned, which is a continuation of United States patent application serial number 12/563,416, filed September 21, 2009 (now United States patent number 8,499,248, issued July 30, 2013), entitled "METHODS AND APPARATUS FOR MANAGING AND EXCHANGING INFORMATION USING INFORMATION OBJECTS," which (i) claims the benefit of United States provisional application serial number 61/116,747, filed November 21, 2008, entitled "Information Objects (IOs) and Information Views (IVs)", and (ii) is a continuation in part of United States patent application serial number 11/118,301, filed April 29, 2005 (now United States patent number 7,640,511, issued December 29, 2009), entitled "METHODS AND APPARATUS FOR MANAGING AND INFERRING RELATIONSHIPS FROM INFORMATION," which claims the benefit of United States provisional application having Serial Number 60/566,723, filed April 29, 2004, entitled "METHODS AND APPARATUS FOR MANAGING AND INFERRING RELATIONSHIPS FROM INFORMATION". All of these related applications are hereby incorporated herein by reference in their entirety.

BACKGROUND

[0003] Modern information processing systems allow users to collect and process large amounts of information. As an example, a typical computer system such as a personal computer includes an operating system that executes within the computer system to provide a graphical user interface to users of that computer system. A conventional graphical user interface typically includes a number of information objects such as graphical icons that represent information of relevance or importance to the user. The user accesses data and controls functionality of the computer system by selecting and operating such icons. By way of example, software applications such as word processors, graphical editing tools, web browsers and many others often provide graphical user interfaces that include a number of icons that have visual meaning to the user of the computer system. Typically, a software application renders icons to allow the user to invoke specific functionality or commands of that application and/or to allow the user to organize and access data. Many software applications use icons to represent data or files that the user can access by selecting (e.g., clicking) the icon representing the data. As an example, if a user selects an icon that represents a software application installed within the computer, the computer will begin execution of that application. Other icons on a graphical user interface can represent folders or files maintained by the operating system within a file system.

[0004] Many conventional software applications allow a user to develop or collect various portions of information or content for storage and future access. As an example, a word processor or other editing tool allows the user to create and edit documents. As another example, a web browser allows a user to navigate web pages provided by servers on remote computer networks such as the Internet to reference information on a variety of subjects. A conventional computer system allows a user to store information referenced or created by such applications as a set of documents or files that can be retrieved by the user at a later time.

[0005] Most conventional operating systems and many software applications also provide a way for a user to arrange a file system of the computer in order to organize documents and files in a manner that makes sense to the user. Computer operating systems typically organize file systems in a hierarchical manner allowing the user to create folders or directories with user-specified names. The user can store files within the folders in a manner that makes sense to that user. A file system is thus one of the most popular ways for users to organize and manage data and information of interest to those users.

[0006] Another mechanism that conventional applications and operating systems provide to allow users to organize and manage information of interest to that user is the ability to allow a user to spatially arrange information objects such as graphical icons in a way that makes intuitive sense to the user. As an example, on a conventional “desktop” work area provided by many operating systems, a user can place or position icons representing files, documents, applications, email messages, appointments or the like in any manner and at any position that the user may choose. In particular, such conventional applications allow the user to graphically maneuver the icons into position in relation to one another in a manner that makes sense to that user. Different users often organize icons on their desktop in different ways.

[0007] Information availability and accessibility is continuously increasing. The problem is that information commonly exists in different formats, resides in different locations, is dynamically changing, and is used and modified by different people. This makes it difficult for users to effectively monitor, analyze and exchange information.

SUMMARY

[0008] Conventional mechanisms and techniques that allow a user to visually organize, collect and manage information objects that represent various portions of information suffer from a variety of deficiencies. In particular, conventional computer-based applications such as operating system desktops and software

application graphical user interfaces allow a user to collect and store numerous portions of content and information that are of interest to the user and allow a user to represent that information graphically (e.g. via icons), but do little to analyze relations that may exist between the icons and/or between the stored portions of content or data.

5 [0009] In particular, conventional information processing systems such as those noted above allow a user to organize and arrange various portions of data or other information as icons in a graphical user interface in a manner that makes sense to the user, but such systems do not promote conversations and collaboration among users.

10 [00010] Another deficiency with conventional information processing systems is that information is represented in different formats and, depending on the format, is stored in different locations. For example, conventional browsers store hyperlinks to web sites as bookmarks, whereas emails are located in mailboxes in mail handlers, files are stored in computer directories, and notes may be stored in files, and so forth. The proposed information object mechanism disclosed herein, referred to in some
15 embodiments as IOs, solve this deficiency by introducing a standardized information format that represents a piece of information in an abstract way and links to an original piece of information and that has a standardized look thus allowing users to focus on and compare the information content and context rather than be distracted by the information format and location.

20 [00011] As an example of problems with conventional data processing systems, a user using a conventional content development application may spend large amounts of time collecting portions of content such as graphics, text, news stories, web pages, email messages, or other such information sources for collaborative production of a large content-based research project. Many users may be involved in this process. As
25 each user collects portions of information using conventional information management systems, the users store and organize their respective portions of information within the computer file system. Each user may create icons on his or her desktop or other work areas that represent the respective portions of collected information. Each user might group icons for related pieces of information together in a list, within close

proximity to each other, or in file directories. In conventional systems however, it is up to the user to identify what other portions of information might be of interest to the user that the user has not already identified and collected.

5 [00012] As an example, if the collaborative production being developed by the users is a project related to current events, each user may collect articles and stories related to that current event. Using conventional systems, it is up to each user to research and discover stories or other content related to that current event that might be available from a variety of different information sources. While conventional collaboration systems might provide a common repository for such collected information
10 contributed by each user, there is little or no ordering to this information, other than an order specified by the users who place the content into the shared repository such as a file system or database. Each user must frequently communicate with other users in a highly manual manner (e.g. via a telephone call, email or other mechanism) to identify content that other users may have discovered and collected that might be of relevance
15 to the production under development.

[00013] Such conventional information management systems do not automatically and dynamically analyze relations between user placed icons that represent the various pieces of available information in order to assist users in identifying other portions of content that many of interest to those users. More specifically, conventional systems
20 do not analyze specific spatial relations, collaborative context relations, chronological context relations, and the like between information sources associated with icons arranged by a user to determine other portions of information, such as other portions of content collected by other users, that may be of relevance or interest to the user providing a specific spatial arrangement of his or her icons. As a result, conventional
25 information management systems limit a user's knowledge of other available content and information to which that user may have interest. In particular, such systems limit available content to that content that a user can discover on their own.

[00014] As an example, using a conventional information discovery processes such as web searching, a user can quickly become overwhelmed with search results that are

irrelevant to the information they are seeking. While some conventional web sites may attempt to suggest references to web pages that are similar in nature to those discovered when providing a particular search term, such additional references are simply provided based on frequently performed searches of other users and do not take into account current information already collected by the user performing the original search. Thus a conventional browser is not made aware that a user already has collected certain related pieces of information and has organized them in a spatially related manner.

[00015] In contrast, embodiments of the invention are based in part on the observations that conventional information collection management systems provide a significant cognitive burden on users caused by the increasing availability of information, the requirement for users to actively initiate a search for relevant information, the requirement for evaluation of the quality and feasibility of information, the need to collaborate remotely and asynchronously, as well as the necessity to dynamically adapt to changing circumstances. Modern information processing systems do not provide an automated ability to organize and identify information sources that come in many different formats. For example, information may be received in the form of a phone call, an email, an instant message, a computer file, a web site, a database item, a verbal comment, a radio transmission, a newspaper, a television spot, a magazine, or a security camera. The various formats often prevent the easy and efficient collection, organization, and comparison of information by conventional information processing systems.

[00016] Embodiments of the invention incorporate advanced graphical user interfaces and functions to address the shortcomings in conventional systems. These embodiments include Information Objects (IOs) and Information Views (IVs). IOs that are data files that can include other data files (such as documents, hyperlinks, and executables) as well as meta-data (such as ratings, discussion logs, and visualization parameters). IVs are computer windows for the visualization of IOs. IOs are rendered differently on different IVs allowing users to manage information in a customized format and in environments suited to particular tasks and circumstances. In certain

embodiments the IO consolidates data, meta-data and communication features. For example, the IO can be an agenda item, a discussion, a hosted conversation, a topic, etc. Accordingly, the user can efficiently view and organize multiple IOs that represent different topics and that engage different groups of participants.

5 [00017] Advantageously IOs provide a means for users to package and visualize (static and dynamic) information in a standardized format. IOs can be viewed and modified differently on different IVs. IOs can be copied between the IVs of the same or different users. Copies of IOs remain synchronized if displayed on different IVs. IOs are associated with functions that enhance the collaborative use of information, for
10 example, an object-based communication system that allows users to communicate through IOs and IVs.

[00018] Other benefits of Information Objects and Views include the ability to:
consolidate task relevant information (e.g. from shared IVs to a private IVs);
display information in a custom and familiar format (e.g., in a wide variety of
15 possible custom IVs);
maintain a standardized data format for different data visualization and management tools; and
easily move data between different data visualization and management tools; and
easily exchange information among remotely distributed participants in a hosted
20 conversation.

[00019] Using techniques disclosed herein, it is possible to create IOs transfer IOs between the same or different types of IVs, add additional IVs and additional functions for IOs, as well as a selection of IO components, IO functions on IVs. An electronic wall (EWall) embodiment provides one example for the visualization of IOs
25 on an information view (IV) in which an IO can present itself as a EWall IO on a EWall Workspace View. A graphical user interface is provided for the management of multiple IVs, as well as new functions for the exchange of IOs and the collaborative use of IVs.

[00020] Embodiments of the invention as disclosed herein provide mechanisms and techniques for providing the IO, sharing the IO among a plurality of participants, attaching multi-media data to the IO. The technique further includes displaying the IO in one of a plurality of views and in response to interaction with one of the plurality of views by one of the participants, communicating with at least one different one of the participants sharing the IO.

[00021] The system disclosed herein provides a computational environment for the support of individual and collaborative decision-making and greatly enhances the quality and the speed of individual and collaborative brainstorming, problem-solving, information collecting and decision-making processes. More specifically, the system for providing hosted conversation among a group of participants disclosed herein includes a processor, a memory unit that stores instructions associated with an application executed by the processor, and an interconnect coupling the processor and the memory unit, enabling the computer system to execute the application and perform operations of: storing a link to at least one information object, the at least one information object, the information object includes at least one link to a document, a plurality of links to the group of participants, meta-data related to the conversation, and a communication system linking the at least one information object to the group of participants. The system further provides a user interface on the client system comprising: an icon representing the at least one information object, a contact list, a list of participants linked to the at least one information object and an information view to visualize the at least on information object.

[00022] In one configuration, the IOs are sometimes represented as “cards” on a graphical user interface. IOs reference different types of information formats thus making it easier for users to directly compare and study information in different formats. As used herein the term “card,” “IO” and “information object” are used interchangeably, and a card is one example configuration or representation of an information object. AN IO includes a graphic icon area to display text or a picture associated with an information source, as well as other information pertaining to such things as ownership of that IO, creation time of the IO, and attribute indicators that

indicate a current state of the IO, and a hyperlink to its associated information source. In a simplest embodiment, an IO is just an icon that represents some information and information represented by IOs may be stored in different locations and in different formats. In one configuration, an IO is different from an ordinary icon because it comes with hidden functionality such as a built-in instant messaging system and the ability to drag and drop content onto the IO. It is noted that the instant messaging system includes communication media such as Instant Messaging System, email and SMS messaging, text messaging and other forms of real-time communication between participants.

[00023] In one configuration, the system applies a spatial relation algorithm that discovers spatial relations between positional information of at least two IO records in an IO database that are associated with IOs displayed on the graphical user interface in the first set of IOs. The relations between IOs can be stored in a database and the system can use discovered relations to identify a second set of information objects based on the relation(s) between the first set of information objects/IOs. The second set of information objects in an IO configuration is a second set of IOs that might be of interest to the user based on the analysis of the IOs already on display in a Workspace View associated with that user. The system can output an identity of the second set of information objects by displaying the second set of IOs on the graphical user interface for viewing by the user. The second set may be displayed in a prioritized and relevant manner based on relations discovered concerning the first set of IOs.

[00024] In this manner, the system can use IOs to show the user other sources of information, possibly from other users, or from a database, or from a dynamic source such as a news feed, that might be of interest to that user. News feeds include but are not limited to news, alerts, announcements, motion detection events triggering security cameras, emails, instant messages (IMs), short message services (SMSs), sensors, real time search results, and custom content. The system can thus assist a user in managing information and retrieving relevant information.

[00025] Embodiments of the invention include any type of computerized device, workstation, handheld or laptop computer, or the like configured with software and/or circuitry (e.g., a processor) to process any or all of the method operations disclosed herein. In other words, a computerized device or a processor that is programmed or configured to operate as explained herein is considered an embodiment of the invention.

[00026] Other embodiments of the invention that are disclosed herein include software programs to perform the steps and operations summarized above and disclosed in detail below. One such embodiment comprises a computer program product that has a computer-readable medium including computer program logic encoded thereon that, when performed in a computerized device having a coupling of a memory and a processor and a display, programs the processor to perform the operations disclosed herein. Such arrangements are typically provided as software, code and/or other data (e.g., data structures) arranged or encoded on a computer readable medium such as an optical medium (e.g., CD-ROM), floppy or hard disk or other a medium such as firmware or microcode in one or more ROM or RAM or PROM chips or as an Application Specific Integrated Circuit (ASIC). The software or firmware or other such configurations can be installed onto a computerized device to cause the computerized device to perform the techniques explained herein. Other configurations include various graphical representations of the IOs themselves, for example as displayed on a graphical user interface as will be explained in more detail.

[00027] It is to be understood that the system of the invention can be embodied strictly as a software program, as software and hardware, or as hardware alone such as within a processor, or within an operating system or within a software application.

BRIEF DESCRIPTION OF THE DRAWINGS

[00028] The foregoing and other objects, features and advantages of the invention will be apparent from the following more particular description of embodiments of the

invention, as illustrated in the accompanying drawings and figures in which like reference characters refer to the same parts throughout the different views. The drawings are not necessarily to scale, with emphasis instead being placed upon illustrating the embodiments, principles and concepts of the invention.

5 [00029] Figure 1 is an example network environment including computer systems configured with a relation manager in accordance with one example embodiment disclosed herein.

[00030] Figure 2 shows an example layout of an IO in accordance with one example embodiment disclosed herein.

10 [00031] Figure 3 is a diagram of information flow and IOs present themselves differently on different IVs and can be copied between IVs in accordance with one example embodiment disclosed herein.

[00032] Figures 4A and 4B are diagrams of News Views that display news for multiple different news papers postings by different users.

15 [00033] Figure 5A is a diagram of IOs being exchanged between IVs of different users.

[00034] Figure 5B is a diagram of IOs being exchanged between Private, Visible and Shared Views.

20 [00035] Figure 6A is a diagram of an exemplary graphical user interface (GUI) Organization in accordance with one example embodiment disclosed herein.

[00036] Figure 6B is a more detailed diagram of the exemplary GUI Organization of Figure 6A.

[00037] Figure 6C is a diagram of an alternate exemplary GUI Organization in accordance with one example embodiment disclosed herein.

[00038] Figure 7 is a diagram of a graphical user interface (GUI) which allows the users to select import/export IOs from/to IM systems, other users views, shared views, e-mail tools, databases, agent systems in accordance with one example embodiment disclosed herein.

5 [00039] Figure 8 is a diagram of IO File Management An IO can "display" different types of files such as pictures, text, movies, flash applications (left), attach/hyperlink different types of files (middle), and dynamically update IO contents (right). in accordance with one example embodiment disclosed herein.

10 [00040] Figure 9 is a diagram of IO components in accordance with one example embodiment disclosed herein.

[00041] Figure 10 is a diagram of IO Operations in accordance with one example embodiment disclosed herein.

15 [00042] Figures 11-13 are flow charts of processing steps performed to the in accordance with embodiments disclosed herein.

DETAILED DESCRIPTION

20 [00043] Figure 1 illustrates the computer-networking environment 100 suitable for use in explaining example embodiments of invention. The computer-networking environment 100 includes a network 101 such as a local area network (e.g., LAN) that interconnects a plurality of computer systems 110-1 through 110-N that each execute respective relation managers 150 (application 150-1 and process 150-2), view manager managers 178 (application 178-1 and process 178-2), connections managers 180 (application 180-1 and process 180-2) and IO file managers 182 (application 182-1 and process 182-2) under respective control of a plurality of users 108. The computer systems 110 may be any type of computerized device such as a personal computer, laptop, workstation, mainframe terminal, or the like. In this example, each computer system 110 generally includes in interconnection mechanism 111 such as a data bus,

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motherboard or other circuitry that interconnects a memory 112, a processor 113, an input output interface 114 and a communications interface 115. A display 130 such as a computer monitor and input output mechanism 116 couple to the computer system 110 via the input output interface 114. The communications interface 115 allows communication with other computer systems 110-2 through 110-N over the network 101. The architecture of the computer system 110-1 is shown in Figure 1 by way of example only. It is to be understood that the details of the example computer systems 110-2 through 110-N can be similar to those of computer system 110-1 but are not shown in Figure 1 due to drawing space limitations.

[00044] The memory 112 within each computer system 110 may be any type of computer readable medium such as random access memory (RAM), read only memory (ROM). The memory 112 may be fixed or removable from the computer system 110, such as a floppy disk, magnetic disk, optical disk media (e.g., CD ROM) or the like.

[00045] In one embodiment, the memory 112 is encoded with computer program logic (e.g., software code) that includes a relation manager application 120-1. When the processor 113 executes the relation manager application 150-1, the processor 113 produces a relation manager process 150-2 that executes as explained herein to produce a graphical user interface 132-1 (the example being produced by the relation manager 150 in computer 110-1) on the display 130 for viewing by the user 108. The relation manager process 150-1 and application 150-2 are collectively referred to herein as simply the relation manager 150. When referring to the relation manager 150, it can thus be a reference to the executing process 150-2, the application code 150-1, or both. Each relation manager 150 in combination with the view manager 178, connections manager 180 and file manager 182 process files and documents and produce a graphical user interface 132 that provides, to the user 108, visual knowledge representation, dynamically updated content, hosted conversations, and interpretation and management based in part on spatial relationships. To do so, the managers 150, 178, 180 and 182 include a workspace server 151, a news server 152, an exchange server 153 and a database server 154 that each produce, respectively, a Workspace

View 300, a News View 305, a database view 310 and an exchange view 315 within the graphical user interface 132. The relation manager 150 adds discovered relations to IO's in a database 125 (the database 125 may already include relations that other people or software products added). The relation manager also provides the algorithms
5 155 to examine the network of relations to discover potentially relevant information.

[00046] The database 125 maintains a history of updates to the IOs to allow for inclusive reconstruction of a particular IO at given time.

[00047] The workspace server 151 produces the Workspace View 300 that in one configuration is a graphical user work area, such as a desktop, in which a user 108 is
10 able to create and manipulate graphical information objects 310 that graphically represent information objects of interest to user 108. The Workspace View 300 helps users 108 to create, collect, organize and understand information associated with each IO 320 and the relationships among information represented by the IO 320. In one configuration, a generic client application such as a web browser accesses such views
15 from respective servers 151 through 154 that may execute on the same or different computer systems 110. In another alternative configuration, a dedicated client application includes or provides the Workspace View, the News View, the database view, and the exchange view and implements the news server, the database server, and the exchange server. It is to be understood that the system described herein may be
20 distributed or centralized and may operate among many computer systems with many users 108.

[00048] Information Objects (IOs) are flexible data structures and can include data files that can include other data files as well as meta-data (for the display of IO contents and the use of IO functions on different IVs), present themselves differently
25 depending on the IV they are displayed on, include the same data and functionality on any IV they are displayed on. IOs can be copied or transferred between the same or different types of IVs, copied or transferred between the IVs of the same or different users, remain synchronized if copied to multiple IVs, synchronized with dynamic data sources other than source-IOs, moved from an IV to the computer desktop, file

system, or 3rd party applications, thus converting an IO into a regular computer file that can be exchanged through conventional means such as email or file sharing and can be moved from the computer desktop, file system or 3rd party applications to any IV.

5 [00049] Information Views (IVs) can include graphical user interfaces that render IOs in different ways (can be described as a optical lenses that allows users to view information in different ways) and can enable access to all IO parameters and functions.

10 [00050] Using system 110 a user can interact with an information object, the system 110 facilitates sharing the IO among a plurality of participants; provides controls for attaching multi-media data to the IO, displays the IO in one of a plurality of views ; and in response to interaction with one of the plurality of views by one of the participants, provide a communications path between at least two of the participants sharing the IO.

15 [00051] Directing attention briefly to Figure 2, an example layout of an information object (IO) 310 is shown. An IO 320 in this example provides a visually compact, standardized, and abstract representation of information that displays, reminds of, and/or links to the original piece of information associated with that IO 320. Generally, an IO 320 is any graphical representation of an information object and may
20 be considered the information object itself. The term “IO” as used herein can thus include anything from a simple icon that represents something such as a web page, a document, or a live information source, or an IO can be a more complex representation of such things. Both, the layout and the functionality of IOs 320 are highly modular in one configuration. This means that visual components and
25 computational features can be individually turned on and off, and that additional visual components and computational features can easily be integrated. Furthermore, the colors and fonts of all IO components are customizable. In one embodiment, IOs 320 are visually subdivided into six segments in one configuration that can expand and contract depending on their contents.

[00052] The icon area 321 allows for the placement of graphical and/or textual material that can help users 108 to quickly visually locate IOs among many other IOs as well as to memorize and recall the data, information or knowledge associated with that IO 320. Users 108 can copy and paste pictures and text from various computer applications into the icon area. Users can also drag and drop pictures and text from web browsers and file managers into the icon area 321. Furthermore, users can directly draw and write into the icon area 321. The background color of the icon area 321 is also customizable allowing users to visually group and highlight IOs.

Typically, the icon area 321 includes an IO graphic such as an icon, picture or other graphical information that represents information associated with that IO. As an example, if an HTML document such as a web page is of interest to a user, that user can create an IO to represent that web page. The IO can include a picture from the web page or a reduced sized version of the web page as its graphic.

[00053] The IOs 320 include an information bar 322 that accommodates an interface and visual indicators for complementary IO functions. A small rectangular box that includes an icon or in some cases a numerical counter represents each available IO function. Three distinct colors visually indicate the status of each function. In one configuration, the color gray is used for inactive functions, the color green is used for active functions and the color red is used for functions that require user attention.

Every function can be individually turned on and off. The information bar 322 also allows for the customization and addition of functions specific to particular situations and work tasks. The following is a list of example functions and is not intended to limit the invention to information objects (e.g., IOs 320) including such functions. A reference function allows users to hyperlink or to attach related information. A location function is used to associate IOs 320 with a geographic location. The location Algorithm indicates geographic locations for which cards (IOs) are available. In other words, if a card (IO) is associated with a geographic location then the Location Algorithm will represent this card with an icon on a map. Multiple cards in similar geographic locations do not produce multiple icons but a single icon of enlarged size. A typical application is a newspaper that marks on a world map all locations for which news is available. A control function enables automatic IO updates. A comment

function allows for the addition of comments and annotations. A vote function allows collaborating users to exchange their opinions about the relevance of IOs. Every user is given one supporting vote for each card (IO). The icon color indicates the addition of recent and the presence of past votes. The numerical counter next to the icon displays the total number of supporting votes. An access log function provides users with a detailed record about the IO history. The Log Function provides users with a detailed record indicating the dates, times and names of all users that previously viewed, copied or modified the card (IO). The icon color indicates recent and past log entries. The counter next to the icon displays the number of log entries. This functionality allows users to review the evolution, collaborative use, and authorship history of cards (IOs). A personal note function is used to announce and send IOs 320 to specific users. A priority function allows users to categorize and highlight IOs.

[00054] The date / time bar 324 displays the date and time of the most recent IO modification. The relation manager 150 can use the date / time bar indication to reconstruct the chronology of contributions from different users and sources. The author bar 325 displays the name of the user who last modified the IO 320 or the information source the IO 320 has been copied from. The author bar 325 provides an indication of the IO editor and is used to compare contributions from different users and sources. The heading bar 326 allows users 108 to complement IOs 320 with a brief description or some keywords such as a title. The heading bar 326 effectively complements the icon area 321 by introducing language as an additional means for the abstract representation of data, information and knowledge. While the icon area 321 is particularly useful for the visual navigation of large IO arrangements, the heading bar 326 is focused on supporting the quick and easy recollection of IO meanings and contents.

[00055] The creation and use of IOs 320 can fundamentally shift the way analysts and decision-makers comprehend and think about information during sense-making activities. The creation of IOs 320 engages users 108 into a process of converting, standardizing, abstracting, and associating information while the use of IOs 320 fosters a strong focus on relating information uninfluenced by the format and location

of information. Humans like to think of data, information and knowledge as objects that they collect, compare, and organize. The conversion of data and information (as well as the externalization of knowledge) into virtual and physical objects accommodates this way of thinking. Dealing with virtual and physical objects such as files on a computer desktop or documents on a table effectively increases a human's ability to deal with complex sense-making tasks. A standardized IO size and layout is convenient to collect, compare, and organize IOs 320. Configurations disclosed herein are based in part on the observation that the benefits of standardized information objects are present in various everyday objects. For example, index cards, credit cards, business cards, slides, photographs and postcards are usually of equal size and layout so they can conveniently be stored, accessed, and processed. The abstract representation of data, information and knowledge with IOs 320 engages a human's visual recognition in ways that decreases information access time and allows for the processing of large amounts of information. Furthermore, the process of creating IOs 320 requires users to circumscribe the contents associated with IOs 320 in a visually and mentally fast accessible and easily comprehensible format thus encouraging a more careful analysis and understanding of the contents associated with IOs. The concept and use of abstract visual and textual reminders is also present in various everyday objects. For example, desktop icons and thumbnail views allow users to easily locate and organize computer files. Military ribbons use abstract visual representations to provide service, mission and award specific information on a small clothing area. Traffic signs depend on abstract visual representations that are easy to spot and understand by pedestrians and car drivers.

[00056] In one configuration, an IO 320 does not include information per se but only serves as a reminder for the presence of a particular piece of data, information or knowledge. The separation between IOs 320 and content associated with IOs 320 allows for the compact visualization and organization of large amounts of information. AN IO 320 may be viewed as a meaningfully labeled hyperlink to a piece of content available in a remote location. Users 108 can easily arrange and rearrange IOs 320 in the workspace 300. Users 108 benefit from this process by developing a good understanding of the IO contents and the relations among IOs 320 (e.g., context). The

use of IO arrangements also benefits collaborative sense-making tasks. People of different backgrounds, interests and foci have their unique ways of relating information. The collaborative development of IO arrangements can help people to determine intersecting views as well as to develop a shared understanding of a particular information space. Information objects are thus each represented as respective IOs 320 in this configuration.

[00057] The IO attribute indicators shown in Figure 2 can indicate an IO state that can include such things as ownership of the IO, a geographic location associated with the IO, a time of creation of information associated with the IO, and other information. Depending upon the configuration, each IO 320 can further include features such as an instant messaging capability allowing to users in a distributed system to share access to an IO in order to exchange comments or messages between themselves concerning information associated with the IO. In one configuration, the system displays, within the IO perimeter, at least one messaging icon operable by a user to send a message to an IO associated with at least one other user, thus enabling collaboration. In one configuration, clicking on the messaging icon allows users to add a time/author stamped message to an IO 320 that all users 108-2 through 108-N can see if they have a copy of this IO 320. For any user 108, the icon lights red if the IO 320 includes new messages that the user has not yet looked at, green if it includes messages that the user previously looked at, and gray if the IO includes no messages. The counter next to the icon displays the number of messages. It is to be understood that reference to an IO 320 refers to an implementation of an information object, and as will be explained shortly, algorithms disclosed herein can analyze information about IOs, such as spatial relationships between IOs, and that such algorithms and processing can be applied to other representations of information objects besides IOs, such as desktop icons, physical locations of physical items such as items on a store shelf, and so forth.

[00058] Returning attention back to the graphical user interface 132 in Figure 1, the Workspace View 300 presents users with an empty canvas for the creation and grouping of IOs 320. In one configuration, the Workspace View 300 can be the desktop of a computer system 110 provided by an operating system, such as the

Windows Desktop provided by the Windows family of operating systems made by Microsoft Corporation of Redmond Washington, USA (Windows is a registered trademark of Microsoft Corporation). The Workspace View 300 is designed to support individual and collaborative sense-making tasks such as information analysis,

5 planning, decision-making, brainstorming, and problem-solving. The Workspace View 300 functionality will provide users 108 with the means to efficiently create, collect, organize, analyze, and discuss information. In one configuration, IOs 320 may be created manually or semi-automatically. The manual creation of IOs 320 requires the user 108 to position an empty IO 320 on the Workspace View 300 and complement it

10 with a picture, a heading, and a reference to an information source by simply dragging and dropping pictures, texts, hyperlinks, files, or file folders onto IOs 320. The semi-automatic creation of IOs 320 allows users to drag and drop pictures, text, hyperlinks, URLs, files, and file folders directly onto the Workspace View 300. This action will cause the workspace server 151 to create a new IO 320 with the content of the dropped

15 item linked or attached to the IO 320 and with a picture and a heading added to an icon area and the heading bar (to be explained) of the IO 320. Furthermore, users will be able to create cards (IOs) from within various computer applications (after installing a plugin) by clicking a button. Users 108 may also copy IOs 320 from the News View 305, the database view 310 or the exchange view 315. Furthermore, a user

20 108 can copy IOs 320 from the Workspace View 300 to the computer desktop or file system (and vice versa) thus converting IOs 320 into regular computer files. This functionality has a variety of applications such as to exchange IOs 320 by email or to convert IOs 320 for use with other software applications. Automated IO creation is provided as well that allows a user for example to specify a file system or path or URL

25 or database identity and the system can traverse records, documents, web pages, files and the like within the specified path, database or domain and can convert each record, file or page into an IO for use in the system.

[00058A] Below are steps a user 108 can perform to create a card. The relation manager 150 creates and displays a new card in the workspace view. The user 108

30 may have performed a drag and drop of some content onto the workspace view 300, or may have selected a pull down menu in the workspace view to create a new card 320.

In response, the relation manager 150 creates a new card record 160 in the database to correspond to the new card in the workspace view 300. The relation manager 150 associates an information source identified by the first user to the new card 320 created in the workspace view. In the case of a drag and drop, the information source can be identified via the information dragged into the workspace view 300. If the user created a new card from pull down menu selection, the workspace view 300 can prompt the user to specify a specific information source (that can be hyperlinked or embedded) such as a file system path and filename, a URL or some other indicator. The relation manager 150 stores card attributes and an identity of the information source in the new card record 160 in the card database. The relation manager 150 stores a card creation time in the new card record. The relation manager 150 stores a card position in the new card record 160. The card position indicates positional information such as a corner pixel location (or a hierarchical location such as a specific window, directory, or desktop) as well as a window size of the new card 320 within the workspace view 300 of the first user 108. The relation manager 150 stores an identity of the first user in the new card record 160. The user for a new card becomes the author of that card 320. Once a card 320 is created, pictures and text can be dragged and dropped onto the icon area and text can be dragged and dropped on the heading bar of the card to cause those areas to automatically change. In this manner, a user 108 can create a card by simply dragging a hyperlink or file or other digital material onto the workspace view 300. A new card 320 is created where the hyperlink or file is dropped, a picture is added automatically (by searching the hyperlink destination or the file contents for an appropriate graphic), the heading is added automatically (usually the web site or file name), and a link or embedded attachment is automatically created from the file or the web site reference by the hyperlink.

[00059] In one embodiment the relation manager 150 allows a user to easily arrange, compare, and evaluate IOs 320 thus ensuring that users 108 will not be distracted by different information formats but focus on information contents. Each individual user 108 can determine the particular arrangement or spatial (vertical, horizontal, overlapping, proximal) layout of the graphical IOs 108 on his or her Workspace View that might indicate meaning to that user 108. For example, a user 108 may group IOs

that represent related information sources in a relatively close proximity to one another thus defining tight spatial relationships between those IOs.

[00060] The system is able to analyze spatial relationships that exist between IOs 320 in each users Workspace View 300 in order to identify other information objects (e.g., other IOs 320) that may be of interest to that user 108. Based on this analysis, the relation manager 150 can identify other information sources by showing other IOs 320 that might be of interest to that user. Embodiments disclosed herein are based in part on the observation that the spatial arrangement of a first set of objects such as IOs 320 in the Workspace View 300 can be used to identify relationships between those objects and can be further used to identify other objects (such as other IOs) that may be of importance to a user who created the initial spatial relation between the first set of objects in the Workspace View 300.

[00061] The Workspace View 300 introduces several options for the grouping of IOs 320. One option is to increase the size of one IO 320 so as to accommodate several other IOs 320 inside its boundaries. Moving an IO 320 will drag along all IOs 320 within its boundaries. A second option is to overlap IOs 320. Moving an IO 320 inside a cluster of overlapping IOs 320 will drag along the entire cluster of IOs 320. A third option is to use multiple workspaces for the grouping of IOs 320. A fourth option is to link IOs 320 to an entire IO arrangement. A mouse-click onto such an IO 320 will then open another Workspace View 300 and display the IO arrangement. Further details on contents and layout of IOs 320 will be explained shortly.

[00062] The news server 152 produces (i.e. provides information feeds for) the News View 305 to allow users 108 to collect IOs 320 for addition to the Workspace View 300. IOs 320 in the News View 305 represent information from a variety of other information sources. Feed examples includes news, alerts, announcements, motion detections on security cameras, emails, IMs, SMSs, sensors, real time search results, and custom content. An analogy of the News View 305 is a “news stand” in which recent or periodic information is available. In one configuration, the News View 305 displays the contents IOs 320 from news servers 151 that may be distributed through

the network 101 within one of more computer systems 110. IOs 320 in the News View 305 can be organized by time and information sources (e.g., by topic or content area) as well as by geographic locations associated with the information represented by each IO 320, and can be filtered for user specific keywords. Users 108 are able to copy IOs 320 between the Workspace View 300 and the News Views 305. IOs 320 copied from the News View 305 to the Workspace View 300 may be static and not change in content, or such IOs 320 may dynamically adapt to modifications in content so that as the information source associated with an IO 320 produces new information.

[00063] In one configuration, the system can display IOs in various arrangements within the News View 305. In particular, the News View 305 can display a timeline arrangement of IOs 320. The timeline arrangement provides a visualization that represents and organizes knowledge using a grid comprising of a timeline categorization for IOs on the horizontal axis and subject categorization on the vertical axis. In an alternative configuration, the new server 152 can display a map arrangement that provides a visualization that represents and organizes knowledge using a world-map or a floor plan comprising of geographical categorization for IOs. As an example, a News View can organize and arrange IOs in an ordered list or as a table with rows and columns of IOs organized horizontally by time and vertically by information sources. In such a configuration, new IOs for newly discovered information can be inserted on the left pushing existing IOs to the right. The time scale can be irregular and optimized to display the largest number of IOs possible. The rows of IOs in the News View can automatically expand and contract depending on the number of IOs to be shown in each row.

[00064] In this manner, the system disclosed herein provides a novel process for information retrieval and processing based on information collection support. In one example, the News View 305 displays incoming information in IOs 320 from user selected information sources. The users 108 can copy relevant information from the News View 305 to the Workspace View 300 or can create new information directly in the Workspace View 300 by creating new IOs. The user(s) 108 can study, organize, and categorize the information on the Workspace View 300. In one configuration, if

the Workspace View is connected to a server then all content and established relations are made accessible to this server. The user can use two Workspace Views if he wishes to separate between information that is public and private. Other users 108 view the information on the news, database or exchange views 395, 310 and 315 and can also copy relevant information from the news, database, and exchange views 305, 310, and 315 to their personal Workspace Views 300. The system can track and analyze this movement of information from source to destination and can use this IO usage and movement data based on user identifiers, locations of IOs, arrangements of IOs, contents of IOs, times of movement and copying, and other such information in processing algorithms to infer or identify relationships between IOs and to suggest other IOs that reference other information that may be of interest to a user.

[00065] The News View 305 provides users 108 with the technology to effectively monitor and visualize additions and modifications from information sources such as web sites, databases, security cameras, alarm systems, sensors, news feeds and so forth. Every information item is displayed as an IO 320. In one configuration, the News View 305 can organize and arrange IOs 320 in an ordered list or as a table with rows and columns of IOs 320 organized horizontally by time and vertically by information sources, such as by geographic origination or relation of the new story associated with the IO 320. In another configuration, the News View has several visualization options such as displaying the IO arrangement in a table or displaying the IO arrangement on a geographic map. In one configuration, new IOs 320 for newly discovered information can be inserted on the left in an appropriate row pushing existing IOs 320 to the right. The time scale can be irregular and optimized to display the largest number of IOs 320 possible. The rows of IOs 320 in the News View 305 can automatically expand and contract depending on the number of IOs 320 to be shown. The News View 305 can include an adaptor for receiving news feeds and the user interface chronologically organizes information chronologically in a subject-time matrix. The News View 305 row can combine multiple data streams so that a row includes a group of data streams. A News View row can also display other data formats as well (email, search results, sensor data gathered through a file transfer protocol (FTP) in addition to displaying RSS streams.

[00066] The News View 305 offers a variety of tools for the exploration and collaborative use of information. As an example, a user 108 can copy IOs 320 from the News View 305 to the Workspace View 300 thus allowing users to easily collect, compare and organize new information. IOs 320 copied from the News View 305 to the Workspace View 300 may be static or dynamic as noted above. A static IO 320 is an exact copy of the IO on the News View 305. In one configuration, a dynamic IO 320 continuously updates itself to reflect the most recent (left-most) IO on the News View row it was copied from. Figure 9 below shows another example layout and additional IO features.

[00067] In this manner, the system disclosed herein provides a novel process for exchanging information and for asynchronous, decentralized, remote, and cross-organizational collaboration. In particular, users 108 use their individual Workspace Views 300 to organize and analyze information. The exchange server 153 produces the exchange view 315 to display cards (IOs) 320 that are concurrently displayed in one or more workspace views 300 of at least one other user 108. The exchange view 315 can display cards (IOs) 320 in prioritized order, or alternatively can display cards 320 the way they are arranged on another users Workspace. This allows users 108 to view each other's Workspaces 300 as they appear to those other users 108. The exchange view 315 displays (in prioritized or chronological order in one configuration) the IOs 320 created by all collaborating users 108 (or those with the appropriate access permissions or security levels). The exchange server 153 manages the display and exchange of card (IO) information between exchange views 315 and can include filter features to allow a user 108 to only see cards (IOs) from selected users 108 (as opposed to all cards (IOs) in all workspaces 300 of all users 108). The users 108 can copy relevant IOs 320 from their exchange views 315 to their Workspace Views 300. Users 108 can take "ownership" over IOs 320 copied from their exchange views 315 and these IOs 320 are now modifiable by the user 108. In one configuration, when a user takes ownership of an IO 320, the IO 320 is no longer synchronized with a counterpart IO on the IO author's Workspace View. In another configuration, once an IO 320 is owned exclusively by a user 108, these IOs 320 can

no longer be used for collaboration such as by "instant messaging," IO commenting, or "IO voting."

[00068] Figures 3 show a diagram 360 of an IO 320 as viewed in several IVs. The diagram 360 also shows how IOs present themselves differently on different IVs and can be copied between IVs. The following are examples of the various IVs (not intended to be limiting). The News View 362 displays the contents of RSS streams (and other dynamic information sources) as IOs arranged in a table, organized by time in horizontal and by information sources, subject or category in vertical direction. New IOs are inserted on the left pushing existing IOs to the right. The time scale is irregular and optimized to display the largest number of IOs possible (meaning time segments without IOs are automatically removed). The rows automatically expand and contract depending on the number of news items (makes all rows display similar numbers of IOs). Users can add RSS files by simply dropping an IO or an RSS URL onto a row in News View. A News View row can include multiple RSS streams (multiple streams are automatically combined). The News View can be used to display a wide variety of information such as newspaper news, emails instant messages, motion activity on web cameras, eBay and Craigslist postings, company internal announcements and alerts. The News View can also be used as a RSS feed generator. For example, a user could create an empty News View that all users can view and add IOs to. Users can copy News View rows or individual IOs to other IVs. A copy of a News View row onto a Workspace View would result in a single IO that dynamically updates itself and that displays the most recent item in the associated RSS feeds. The primary purpose of the News View is to help users monitor large numbers of RSS feeds in a quick and easy comprehensible format.

[00069] The Workspace View 364 displays IOs in a game IO like format. The visual components of the IOs are customizable and expandable. Users can modify IO parameters in a so-called IO editor (see Illustration 3 and 4). For example, users can add files to IOs, view and modify ratings, or discuss the IO contents with other users through the built-in instant messaging system or shared white board. If a user moves a regular file or a URL from a computer file system or a web browser onto the

Workspace View then an IO is automatically created with the file attached or the URL hyperlinked. The Workspace View is designed to allow users to easily collect, organize and compare information in different formats and locations. For example, a Workspace View may be used for web shopping allowing users to quickly drag and drop items of interest from different web sites (such as Amazon, eBay, and Craigslist) onto the Workspace View for the subsequent comparison of options and prices. Since IO components can be dynamic (meaning that they can automatically retrieve content updates from dynamic information sources) the user can also use a collection of IOs to monitor changes to prices and bids.

[00070] The Map View 366 is a geographic map display that represents IOs as location items. A location item presents itself as (one or more) symbols (of choice) on the map. The location item allows access to all IO functionality available in other IVs. If the geographic location associated with a location item is dynamic then the symbol would automatically update its location on the map. If a location item is copied to a Workspace View then it will present itself as an IO with the geographic location accessible and modifiable through the IO Editor. The Map View is primarily designed for military use but has a wide range of commercial applications as well. For example, a user could create a public Map View with hiking paths. Other users could copy hiking paths of interest from this public Map View to their personal Map View s or other IVs, discuss hiking paths through the IO instant messaging feature, or rate the quality of hiking paths through the IO rating system.

[00071] The Project View 368 is a time planning and calendar display (similar to MS Project) that allows users to represent IOs as time bars. IOs in this IV also maintain all the contents and functionalities of IOs displayed on other IVs. Moving an IO from the Project View to the Workspace View would create an IO that displays the time frame with a time bar on the IO or a time frame in the calendar tool of the IO Editor. The Project View is primarily designed for people that need to compare and modify time related IO parameters. For example, the Project View may be used to review and modify IOs that represent tasks scheduled for execution during particular time frames,

resources that are only available during particular time frames or people that are only available during particular time frames.

[00072] The Graph View 370 displays IOs as line or bar graphs. This particular IV is primarily designed for comparing statistical data associated with IOs such as stock quotes, bids and sensor data.

[00073] The List View 372 is a spread sheet like display (similar to the Microsoft ® Office Excel spreadsheet program) that allows users to represent IO parameters in a table format. The List View is primarily designed for people that need to compare and modify particular IO parameters such as, for example, the cost of sales items or the specifications of resources referenced by individual IOs.

[00074] Now referring to Figures 4A and 4B, screen shots show News Views that display news for multiple different news papers (Figure 4A) and postings by different users (Figure 4B).

[00075] Figure 5A shows a diagram of IOs being exchanged between IVs of different users. Figure 5B shows a diagram of IOs being exchanged between Private, Visible and Shared Views. There are various ways in which IOs can be exchanged between the IVs of the same and of different users such as:

by copying IOs from the personal IV of another user (Users can make their personal IVs accessible to other users. An IV can be Shared 510 (read / write), Visible 512 (read) or Private 514;

by sending IOs to a particular user or group of users through the integrated instant messaging system or a commercial instant messaging system;

by sending IOs to a particular user or group of users through email;

by making IOs available through shared file systems; and

by retrieving IOs from our database (The database automatically collects and organizes IOs from the IVs of different users.

[00076] A variety of data visualization and access tools allow for the easy retrieval of IOs from the database, for example, in conjunction with an EWall Agent System; and

by retrieving IOs from a Discovery View. The Discovery View presents individual users with a custom selection of potentially relevant IOs, and in one embodiment consolidates the Exchange View (315) and Database View (310). In this embodiment, the Discovery View not only displays related information in the IO database 125 but
5 can also display related information found by other web services (e.g., related products for one selected product provided by online sellers or search engines). The Database Views (Discovery Views) 310 of individual users 108 display (in prioritized order) cards (IOs) 320 available in the database (as records 160) that are related or relevant to the cards (IOs) 320 on a user's workspace view 300 based on the relations discovered
10 via application of the relation processing algorithms 155.

[00076A] The relation manager 150 is able to analyze the spatial arrangement of the cards 320 as provided by the user 108 in the workspace view 300 in order to deduce or infer relations between the information sources associated with the cards 320. In response, the database server 154 can provides other cards based on matching card
15 records 160 maintained in the card database 125 that may be of interest to that user based on the analysis of the spatial arrangement of the cards 320 on that user's workspace view 300. The database server 154 is thus capable of inventing or deriving additional relations 170 based on the analysis of previous relations. For example if card A is related to card B and card B is related to card C, then the database server 154
20 can decide to relate card A and C because the indirect relation suggests a partial correlation. In this manner, the system disclosed herein provides a novel process for organizational knowledge management based on information merging. Users 108 use their individual workspace views 300 (or operating system desktops and file systems) to organize and analyze information. Additions to the workspace views of all users are collected in the card database 125. The database items including the relations 170 and
25 the card records 160 are combined into one coherent network of cards using the relation processing algorithms 155. The number of relations 170 between individual cards 320 may differ and can indicate the "strength" or "importance" of a relation 170 (or its unimportance or weakness). Relations 170 in the database 125 may be
30 complementary or conflicting, speculative or concrete. The database views 310 of individual users 108 display (in prioritized order) cards 320 available in the database

(as records 160) that are related or relevant to the cards 320 on a user's workspace view 300 based on the relations discovered via application of the relation processing algorithms 155.

[00076B] The activities and contents on the individual users Workspace Views are monitored and recorded by the Recognition Functions. The Recognition Functions maintain a record of all active and erased cards including a list of all current and past owners and users of individual cards. The Recognition Functions record and combine all explicit relations among cards established by the users as well as all implicit relations established by the Algorithms. The Recognition Functions keep track of all interactions that take place among users. An interaction is registered if a user copies a card, views the content associated with a card, or adds a comment, vote or notification to a card.

[00076C] The relation manager 150 analyzes card (IO) records 160 and card relations 170 within the card (IO) database 125. The results of this analysis can produce an indication of other card records 160 in the card database 125 that correspond to other cards 320 that are not currently displayed in the workspace view 300 of the user 108, but that might be of interest to that user operating that workspace view 300. A transformation algorithm 155 that can, for example, compare the combination of spatial relationships 170 that identify closely placed cards 320 in the workspace view 300. For those cards 320 that are close to each other, the transformation algorithm 155 can compare the content of those cards (i.e., can compare the information sources referenced by these cards) to identify a common subject. Alternatively, the transformation algorithm 155 can compare the creation time of closely spaced cards. In another alternative, the transformation algorithm 155 can compare user identities of users 108 who have accessed these cards. Using these metrics (e.g. a common creation time window, or a common subject, common users or use patterns), the transformation algorithm 155 can identify, in order of relevance, a set of resultant cards not already placed in that user's workspace 300. These can be shown to the user in the database view 310. Additionally, the current arrangement of exchange view cards 320 can be reordered to reflect the newly discovered relations of the group of

cards so that cards of other users that might be of importance to the user (that are already in the exchange view) are more to the front of the line or list in the exchange view to be more noticeable to that user. In one configuration, cards 320 displayed on views not only hint relevant information but also inform about people (the authors of the cards) with relevant knowledge on a particular topic. This can foster the creation of teams or communities of interest and help to build knowledge-based relationships between people due to information objects those people spatially organize in particular ways.

[00076D] The relation manager 150 applies at least one interpretation algorithm 155 between card (IO) records 160 in the card database 125 to create relations 170 between card records 160 in the card database 125. The relation manager 150 applies a spatial relation algorithm 155 that discovers spatial relations 170 between position information of at least two card records 160 in the card database 125 that are associated with cards 320 displayed on the graphical user interface 132 in the first set of cards. The relation manager 150 identifies implicit relations between cards in the first set of cards displayed on the graphical user interface based on proximity of cards on the graphical user interface. Thus, how close or far apart cards are can determine a strength or weak relationship between cards 320. The relation manager 150 identifies implicit relations between cards in the first set of cards displayed on the graphical user interface based on horizontal alignment of cards 320 on the graphical user interface 132. Horizontal alignment can be suggestive of a list of items and transformation algorithms 155 can perform analysis of cards 320 arranged horizontally to suggest other cards that might be successor cards in the list. The relation manager 150 identifying implicit relations between cards in the first set of cards displayed on the graphical user interface based on vertical alignment of cards on the graphical user interface. Likewise, vertical arrangements of cards 320 might also be suggestive of a card list. The relation manager 150 identifying implicit relations between cards in the first set of cards displayed on the graphical user interface based on at least some overlap of cards on the graphical user interface. Overlapping cards can suggest a grouping relationship. It is to be understood that the spatial relations noted above are not limited to vertical, horizontal and overlap. Other spatial relations can exist and be

analyzed as well, such as relative size relations between cards, or exclusive (i.e. alone) or particular placement (e.g. in a certain corner, in center, etc.) of cards 320 in certain regions within the graphical user interface 132. Additionally, spatial processing algorithms can recognize card clusters that define groups of cards in close proximity to one another that create a cluster that is distinct from other clusters of other cards 320. The relation manager can detect and analyze other relations as well besides spatial relations. As an example, context relations concerning use, access (e.g. copying) or other operations on cards can be detected that are based on time of card creation or modification, which users access a card, and relation of content between cards that have similar or relating subject matter. The relation manager 150 applies at least one context relation interpretation algorithm 155 to discover contextual relations between card records 160 in the card database 125. The contextual relations 155 indicate commonality between at least two card records 160 based one or more relationship criteria. In one configuration, the relation manager 150 can detect and analyze chronological context of the at least two card records (e.g., sequence of creation or modification of card information). In another configuration, the relation manager 150 can detect and analyze collaborative context by at least two users 108 of at least two cards 320 respectively associated with the card records 160. An example of collaborative context is when two or more users share two (or more) cards such as by providing comments to those cards, or using instant messaging to discuss information associated with the cards, or via other common access (e.g., copying to workspace) to the cards by those two or more users. In another configuration, the relation manager 150 can detect and analyze similarities of content identified by the at least two card records using keyword or subject or title matching, for example. In this manner, using contextual relations, the relation manager 150 can determine, for example, that if user A and B use the same card then other cards used by user A and B are more likely to become related. Card content can include content displayed on the card, parameters associated with the card, or information content hyperlinked to the card or metadata about the card (e.g., creation time, time of last access, time of last copy, user access history, etc.) that might not be readily visible from viewing the cards in a view. In one configuration, the database contents are evaluated based on the relations between

cards. The relation manager 150 can thus establish relationships among cards 320 based on comparison of content and spatial history of card usage. Content relations are established based on a comparison of card contents such as headings, contents of hyperlinked files, and image descriptions, whereas context relations are established based on the spatial location of cards, the collaborative use of cards, or the virtual organization of cards (e.g. the hierarchical organization of files in computer directories). For example, two relations between two cards can be valued more than one relation between two cards. This is because two relations between two cards means that two different algorithms both established a relation between these two cards, although such relations may have been established for different reasons.

[00076E] Four distinct types of Database Algorithms examine the networked contents of databases by defining a starting point, a search path, an end point, and the order in which the search results are returned: The first type of Database Algorithms defines the Start Point of a database search. The Start Point refers to a node (IO) in a database from where directly and indirectly related information is being retrieved. A Start Point may be defined through a conventional database query that contains text or graphical information. This means that a Start Point might reflect a node that contains similarities with information that a particular user is currently working with, focusing on, or searching for. A Start Point can also be the most recently active node in the database such as the most recently added, retrieved, traversed, or modified node. Furthermore, a Start Point might be defined through so-called "Stimuli" or "Focal Points" that are placed and dynamically displaced by the Database Algorithms. The Start Point continuously changes its location and multiple Start Points may exist simultaneously. In the case of multiple Start Points the search progresses in parallel from multiple locations and in multiple directions. Every search returns the node referenced by the Start Point as well as a selection of directly and indirectly connected nodes. The selection of related nodes is defined by the Search Path. By default, the second node returned is the adjacent node with the most relations. The same procedure applies for all subsequent nodes unless specified differently by the Search Path. The second type of Database Algorithms defines the Search Path. The search path determines how the network is traversed. Every search initiates at a Start Point and

proceeds by examining adjacent nodes. By default, adjacent nodes with many relations are examined first. Previously examined nodes are ignored. The Database Algorithms offer a variety of options for the examination of less heavily connected nodes. For example, the Curiosity Algorithm is used to increase the probability for the examination of weaker branches. In addition, the Persistence Algorithm determines how many nodes associated with weaker branches will be considered. Other Database Algorithms dynamically define and modify the Search Path based on the relevance of currently explored nodes. The relevance of nodes is determined based on the card contents or the card authors. For example, a card may not contain relevant content but its author may be known for having created cards that contain relevant content. Thus, the author is considered a specialist in this particular area and the cards created by the author are given preference. The third type of Database Algorithms defines the End Point of a Search Path. The End Point may be determined through an analysis of the card contents, the distance from the Start Point, or the time passed since the start of an examination. In other words, the End Point represents either a satisfying search result or a state of decreasing patience or tiredness. For example, the Patience Algorithm terminates a search after the examination of certain number of nodes. The fourth type of Database Algorithms orders the search results. By default, the search result is a string of nodes that reflects the sequence in which the nodes were examined. Other criteria of organizing the search results include the distance of nodes from the Start Point, the number of relations associated with individual nodes, or the card properties such as card sizes, modification dates, authors, contents, notifications, comments, votes, accesses, font types, font styles, font sizes, pictures, and locations.

[00076F] The Unity Algorithm sorts cards (IOs) by the number of current and past users of individual cards. A card user is defined as somebody who created, copied, took ownership, reviewed the content, commented, or voted for a particular card. The Unity Algorithm assumes that the activity associated with a card is a meaningful way to determine the importance and popularity of the card. The Weight Algorithm sorts cards by the number of relations associated with individual cards. may be related twice with card B and once with card C. Thus, card A is associated with three relations, card B with two relations, and card C with one relation. The Weight Algorithm assumes

that number of links associated with a card is a meaningful way to determine the importance and popularity of the card. The Relevance Algorithm is the same as the Weight Algorithms yet only considers relations that connect with cards the user is using. For example, a card on a user's Exchange View may be related to four cards only one of which the user is using on his Workspace View. Thus, the number of associated relations for this card is assumed one rather than four. The Relevance Algorithm is particularly useful to spot cards that have some relevance with cards the user is already using. The Group Algorithm fosters the information exchange among users that have had frequent interactions in the past. The Group Algorithm considers an interaction when a user copies a card from another user, takes ownership over another user's card, or adds a comment or a vote to another user's card. The Group Algorithms orders cards based on the number of interactions that a particular user had with the individual card authors.

[00077] Figure 6A is a diagram of an exemplary GUI Organization including graphical user interface 610 for the management of IVs in accordance with one example embodiment disclosed herein. Figure 6B is a more detailed diagram of the exemplary GUI Organization of Figure 6A. In one embodiment, the GUI Organization includes three columns. The left column 620 includes displays 622 and 624 provided by the View Manager 178 and the Communication Manager 180, respectively. The View Manager 178 displays all available IVs, allows users to open individual IVs, and enables users to modify the access rights of individual IVs. The View Manager 178 also displays representations of servers, databases, agent systems (e.g., EWall Agent System) and users in the collaborative environment. The Connection Manger 180 allows users to communicate with other users, exchange IOs with other users, access the IVs of other users, import IOs from databases and agent systems, as well as to control the export of IOs to databases and agent systems. The middle column 630 is used to display one or more IVs 632a – 632n. The right column 640 includes the IO Editors 640a – 640n. IO Editors 640a – 640n are tools that allow users to view and modify IO parameters and operate IO functions. The information displayed in IO Editors always refers to the currently selected IO or group of IOs.

[00078] Figure 6C is a diagram of an alternate exemplary GUI 660 in accordance with one example embodiment disclosed herein. Graphical user interface 660 for displaying an information objects includes a discussion subject 602, a message indicator 603, threaded discussion window 607, a list of participants linked to the information object 608, a collaborative rating 605 including a ranking of importance, a buddy list 601, a discussion heading 604, a list of attachments 606 and meta-data and shared applications 609. In other embodiments the graphical user interface for displaying information objects includes a geographic map, category keywords and auction information. In other embodiments the attachments include thumbnails of multimedia data.

[00079] Figure 7 is a diagram of a GUI 700 showing several features of the system 110 available to the user including control 710 which when clicked sends or receives an IM message about a view. This is a means for enhancing a hosted conversation, for example in a chat room. The GUI 700 further includes control 712 click to send/receive an IM message about an IO, for example in a chat room. The following controls can also be used: control 714 allows a database to collect information from the corresponding window; control; 716 disallows a database to collect information from the corresponding window; control 720 sends an IO to a user or a group of users; control 724 disallows a user to view details of the corresponding view; control 726 allows a user to view/modify the corresponding view; control 728 sends or receives an IM message or IO to or from the user, for example in a chat room; and control 730 sends an IM message or IO to a group of users, for example in a chat room. Indicator 718 indicates available resources in a database (cards, visualizations, statistics, etc.) and indicator 722 indicates a view of another user that is open for viewing or modification. GUI 700 allows the users to import and export IOs from and to IM systems, other users views, shared views, e-mail tools, databases, agent systems.

[00080] Figure 8 is a diagram of IO File Management 800 which allows an IO to display the content of different types of files 802 including such as content from: a web site 810, flash applications 812, movies 814, pictures, text from office documents 816, PDF documents 818 and other documents 820. In operation, the IO file manager

182 processes attachments, hyperlinked web content from the different file types 802
and remote sources 806 including remote RSS files 822, remote objects 824 and
remote files 826 to create and dynamically update IO contents.

5 [00081] A user 108 can create an IO by simply dragging a hyperlink or file or other
digital material onto the Workspace View 300. A new IO is created where the
hyperlink or file is dropped, a picture is added automatically (by searching the
hyperlink destination or the file contents for an appropriate graphic), the heading is
added automatically (typically the web site or file name), and a link or embedded
attachment is automatically created from the file or the web site reference by the
10 hyperlink

[00082] Figure 9 is a diagram of IO components expanding on the basic IO
components described above in Figure 2. IOs include default and custom parameters
and functions. IO parameters and functions are best explained with IOs rendered on
Workspace Views. IOs can display a large number of IO parameters and function
15 without the need for the user to access the IO Editor. The IO layout can be customized
to only display the IO parameters and function the user wants to see. The following
list provides a few examples of IO parameters and functions as they would appear in
different sections (Bars) of an IO on a Workspace View.

20 [00083] Picture/Text bar 902 allows the insertion and display of text, pictures, PDF
files, active Flash applications (can run inside the Picture/Text Bar), Office
documents, and additional applications, file types and multi-media data. Function Bar
910 displays icons that serve as status indicators and that link to particular IO Editors.

25 [00084] A Bubble Icon 912 opens an IO Editor window that allows users to exchange
comments, share a white board, contribute to a forum, or insert notes. The “bubble”
icon 912 is rendered white if no user added any information, gray if one or more user
added information and red if one or more users added information that the viewer has
not yet looked at. An optional calendar tool allows users to compare their availabilities
and schedule a “chat” session ahead of time.

[00085] A Flag Icon 914 links to a map display in the IO Editor allowing users to view and modify geographic locations associated with an IO. A Person Icon 916 indicates whether a particular IO is used by other users and links to an IO Editor that allows the IO owner to view the list of IO users as well as to assign access restrictions to IO contents. A File Icon 918 allows users to add and access (any number of) attachments and hyperlinks to an IO and allow for contents to be partially or fully encrypted. An Arrow Icon 920 allows users to add, modify and control dynamic information sources (e.g., to control automatic updates to IO contents retrieved from dynamic information sources such as Email accounts, RSS feeds, sensors, motion detectors and security cameras or web sites). Users can activate one or more Reliability / Ratings / Votes / Importance / Priority Bars (collectively referred to as bars 924) for the individual and collaborative evaluation of information. IOs can be evaluated on a scale from 1 to 5 (represented by 5 boxes). Filled boxes represent the average evaluations of all IO users while the arrow symbol indicates the individual rating of the IO viewer.

[00086] Trade bar 930 and Value / Value Change bar 928 comprise a trading feature that allows users to trade IO contents or items referenced by IOs. For example, an IO could represent a stock (market item) and allow users to monitor, buy and sell stocks; an item on eBay or Craigslist and allow users to monitor and manage bids; or an item on Amazon and display its current purchase price. Users associate IOs with one or more categories using a Category bar 932 that allows for faster IO searches on IVs and databases. Users associate IOs with a time or time frame using Time Frame / Schedule bar 934, for example, displayed on IOs as a point or as a bar on a time scale. The time scale is the same for all IOs and can be set in the preference menu, e.g. left side of the bar = -12 hours, middle = now, right = +12 hours. The point or bar on the time scale will move from left to right in accordance to the real time. Graphic display 940 shows various display options for icons on the various function bars.

[00087] In one embodiment the system 110 provides hosted conversation among a group of participants using the integrated instant messaging system facilities which provide a communication system linking an IO to a group of participants. Each

system component (IO, IV, Database, Agent System) and participant is linked to the instant messaging system (also known as a chat room). The IO can include a link to a document, links to the group of participants, meta-data related to the conversation and communication system which links the IO to the group of participants. The process of
5 initiating a hosted conversation begins when a user starts a discussion or a collaborative project by first creating a new IO and then adding data, meta-data and linking participants to the IO.

[00088] For example, to communicate about the contents of an IO the user would click the bubble icon 912 on this IO in the user interface on the client system to “chat”
10 (about this IO) with other participant who maintains a copy of this IO. Clicking on the “bubble” icon 912 associated with a participants (or group of participants) listed in a contact list and linked by the connection manger 180 would initiate a “chat” session with those participants. The hosted conversation includes a list of participants linked to the at least one information object and an IV to visualize the at least on information
15 object. Clicking on the “bubble” icon 912 associated with the IV in the View Manager would initiate a “chat” session (about this IV) with every other participant who has access to this IV. The integrated instant messaging system is also used to exchange IOs between users. An IO can simply be dragged and dropped onto a user icon which subsequently sends a copy of this IO to the intended recipient. The instant
20 messaging functionality can be complemented with any other IO parameter and function such as, for example, a function that allows users to assign ratings to databases, agent systems, users or IVs. One important benefit of this system is that it allows users to stay engaged in a large number of discussions about particular subjects represented by different users, IOs or IVs. Advantageously the user can organize and
25 monitor a large number of IOs where every IO represents a different issue that may be discussed with a different groups of participants.

[00089] Thus system 110 provides a graphical interface for displaying an information object which includes displaying a threaded discussion window, a list of participants linked to the information object, a collaborative rating including a ranking of
30 importance, a buddy list, a discussion heading; and a list of attachments.

[00090] Figure 10 is a diagram of IO operations including IO creation. IOs can be created manually or automatically. The automatic creation converts a non-IO object or file into an IO if a user imports a non-IO file from any application into an IV. For example, if a user drags a URL of an item for sale on the Amazon web site onto the Workspace View, the resulting IO would display an image of the item in the Picture Bar, the name of the item in the Heading Bar, the cost of the item in the Value Bar, and hyperlinks to the Amazon web site where the item is advertised. Filters include the rules and manage the conversion from non-IO files to IOs.

[00091] Generally, IOs can be manually created such as by creating a blank IO and then specifying an information source to which that IO refers. The IO look can be complemented with a picture, explanatory text, a heading and other visual attributes by simply dragging and dropping pictures and text fragments onto the IO.

Alternatively, in another mode, IOs can be semi-automatically created in a Workspace View or on a desktop by dragging an information object such as hyperlink, document, file or URL onto the Workspace View in which case a new IO is automatically formed and associated with the hyperlinked data, file or document. The IO picture and the IO heading are added automatically if an appropriate picture and heading can be extracted from the dragged information object or if an appropriate picture can be found in a database that matches the file name or within some of the content of the dragged information object. In yet another mode, an automated IO creation process can traverse a set of records or files, such as a database or file system or all web pages within a certain URL and can perform automatic creation of IOs from each database record, web page, or file. As an example, entire databases or file systems or all documents below or within a certain URL or domain on the Internet can automatically be converted into IOs using the semi-automatic creation of IOs but in a non-manual way that does not require a user dragging and dropping of each file, document or URL onto a view.

[00092] The following Workspace View examples detail several exemplary user interactions with IOs and IVs. A user can drag a URL from a web browser onto a Workspace View which will create an IO that hyperlinks to that URL and

automatically extracts (from the URL destination) a picture and a heading that is
 displayed in the IO's picture and heading bar. The user can drag an RSS URL onto a
 Workspace View which will create an IO that visualizes the most recent item in the
 RSS file/s and that continuously updates itself. The user can drag a regular document
 5 (file) onto a Workspace View which will create an IO with the document attached.
 Dragging a document onto an IO also attaches the document. The user can import an
 IO from another user into the Workspace View which will create an IO copy that is
 synchronized with the original IO. The user can drag an IO from the Workspace View
 to the computer desktop which will create an IO file. The user can drag an IO from a
 10 News View row to the Workspace View which will create an IO copy that is
 synchronized with the original IO. The user can drag a News View Row to the
 Workspace View which will create an IO that visualizes the most recent item in the
 RSS file/s and that continuously updates itself. In another embodiment, a user can
 drag a buddy icon from an instant messaging system onto the IO or drag an IO the
 15 buddy icon to initiate a conversation or to link the "buddy" to the IO. In this manner,
 links are formed between the information object and one of the plurality of
 participants by selecting the information object and selecting the participant from a
 displayed list of participants and the system 110 associates participants and
 information objects by indicating a connection between an icon from an instant
 20 messaging system and the information object.

[00093] The following News View examples detail several exemplary user
 interactions with IOs and IVs. The user can drag one or more RSS URLs onto a News
 View row which will add and displays the content of RSS URLs on the News View
 row as a sequence of IOs. The user can drag and drop a Workspace View ID onto a
 25 News View row which will display IO additions and modification on that Workspace.
 The user can drag and drop an IO onto a News View row which will add that IO to the
 IO sequence. The user can drag an IO from a News View row to the computer
 desktop which will create an IO. The user can drag a News View row to the computer
 desktop which will create an IO.

[00094] Figure 11 diagrams the overall process of interacting with an information object. In step 1110, the system provides the information object (I/O), for example on a GUI display as described above. A new IO can be created from scratch or by using a filter, or an existing IO can be shared, copied, transferred, etc. as described above.

5 Next, in step 1120, the IO is shared among a plurality of participants. In step 1130, multi-media data can be optionally attached to the information object. In step 1140, the information object is displayed in one of a plurality of views. Finally in step 1150, in response to interaction with one of the plurality of views by one of the participants, a communications path between at least two of the participants sharing the information
10 object is provided by the connection manager 180.

[00095] Figure 12 is a flow chart of processing steps showing additional details in conjunction with flow char 1100 Figure 11, that system 110 performs to allow interactions with an information object in accordance with embodiments disclosed herein. In one embodiment, step 1210 provides the information object by filtering a
15 web page associated with a URL to create the information object by automatically extracting meta-data including at least one of a heading, a picture, and link to the URL. In step 1220, the information object is shared among a plurality of participants by transferring the information object between different information views. In step 1230, the multi-media data is linked to the information object

20 [00096] In step 1240, an automated participant is provided. The automated participant interacts with the information object. In some embodiments, there is no distinction between a user and an automated participant (e.g., a participant based on a computational system). In step 1250, information is retrieved based on user interaction with the information object including spatially arranging the information
25 object relative to other information objects. In step 1252, interaction with the information object includes attaching at least one document to the information object.

[00097] Figure 13 is a flow chart of processing steps that system 110 performs to support a hosted conversation among a group of participants including interactions with an information object in accordance with embodiments disclosed herein. In step

1310, a link to at least one information object is stored to host a conversation among a group of participants. The information object includes at least one link to a document; a plurality of links to the group of participants; meta-data related to the conversation; and a communication system linking the at least one information object to the group of participants provided by connection manager 180.

[00098] In step 1320, a user interface on the client system is provided. The user interface includes an icon representing the at least one information object a contact list; a list of participants linked to the at least one information object; and an information view to visualize the at least on information object. In step 1330, an Information View is displayed that includes a News View having an adaptor for receiving news feeds and the user interface chronologically organizes information chronologically in a subject-time matrix. The user interface further includes a zoomable, graphical timeline including automatic compression of the subject-time matrix and in one embodiment the news feed is a syndication feed.

[00099] While configurations of the system and method have been particularly shown and described with references to configurations thereof, it will be understood by those skilled in the art that various changes in form and details may be made therein without departing from the scope of the invention. As an example, the order of processing steps in the flow charts is not limited to the order shown herein. Accordingly, the present invention is not limited by the example configurations provided above.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Keel et al.

Docket No.: 4123/1003

Appl. No: TBD

Art Unit: TBD

Filed : herewith

Examiner: TBD

Title: Methods and Apparatus for Managing and Exchanging Information Using Information Objects

VIA USPTO ELECTRONIC FILING SYSTEM

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Preliminary Remarks

Dear Sir:

The text of the application filed herewith is identical to the text of the Substitute Application filed with the parent application, serial number 15/243,497, filed August 22, 2016, subject, however, to these exceptions: (1) the Related Applications section has been updated to recite that the present application is a continuation of the foregoing parent application; (2) the claims and abstract have been amended; and (3) paragraph 77 has been corrected to change the reference, in the next to last sentence, from “Editors 642a – 642n” to “Editors 640a – 640n”. The correction in item (3) rectifies an obvious typographical error by conforming the item numbers in that paragraph to the item numbers in Fig. 6B (which does not have item numbers 642a – 642n).

The drawings submitted herewith with correspond to the drawings filed with the foregoing parent application, subject to two exceptions. First, the present drawings include the version of Fig. 2 entered into the parent application by the Supplement to Response A filed March 24, 2017 (which in turn was taken from application serial number 60/566,723, filed April 29, 2004). Second, the parent application had errors in the drawings, such as omission of Fig. 6C,

even though that figure appeared in the grandparent application, namely application serial number 14/664,178, filed March 20, 2015, now U.S. patent 9,524,090. These errors have been corrected by conforming all of the drawings submitted herewith (other than Fig. 2, discussed above) to the drawings accompanying the grandparent application.

Support for Amendments to Claims

Claims 1-21 correspond generally to allowed claims of the parent application, as follows:

Claims 1-4 correspond to allowed claims 1-4. Claims 5-16 correspond to allowed claims 6-17.

Claims 17 and 18 are new. Claims 19-21 correspond to allowed claims 21-23.

Claim 1 differs from allowed claim 1 principally by eliminating the configuring process that is the first limitation of allowed claim 1 and by adding a new requirement (iii) to the provision “wherein the database system is configured to allow,” reading thus: “(iii) each user who has selected to monitor the collection of a given user, upon entry of a specific card into the collection of the given user, to have access to a replica of the specific card.” Support for this new requirement exists, among other places, in paragraph [00067], which specifies, among other things that “The exchange view 315 displays (in prioritized or chronological order in one configuration) the IOs 320 created by all collaborating users 108 ... and can include filter features to allow a user 108 to only see cards (IOs) from selected users 108 (as opposed to all cards (IOs) in all workspaces 300 of all users 108).”

New claim 17 provides that “the functions further include a log function that provides a record listing users that previously viewed the card.” Support for this requirement exists, among other places, in paragraph [00053], which includes this passage: “The Log Function provides users with a detailed record indicating the dates, times and names of all users that previously viewed, copied or modified the card (IO).”

New claim 18 provides that “the database is further configured to allow display to each user of a set of cards that are related to cards viewed by such user.” Support for this requirement exists, among other places, in paragraph [00075], which includes this passage: “The Database Views (Discovery Views) 310 of individual users 108 display (in prioritized order) cards (IOs) 320 available in the database (as records 160) that are related or relevant to the cards (IOs) 320

on a user's workspace view 300 ...”

Date: November 8, 2017

Respectfully submitted,

/Bruce D. Sunstein, # 27,234/

Bruce D. Sunstein
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Attorney for Applicant

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04123/01003 2818977.1

Electronic Patent Application Fee Transmittal

Application Number:				
Filing Date:				
Title of Invention:	Methods and Apparatus for Managing and Exchanging Information Using Information Objects			
First Named Inventor/Applicant Name:	Paul Erich Keel			
Filer:	Bruce D. Sunstein			
Attorney Docket Number:	4123/1003			
Filed as Small Entity				
Filing Fees for Utility under 35 USC 111(a)				
Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Basic Filing:				
UTILITY FILING FEE (ELECTRONIC FILING)	4011	1	70	70
UTILITY SEARCH FEE	2111	1	300	300
UTILITY EXAMINATION FEE	2311	1	360	360
Pages:				
Claims:				
CLAIMS IN EXCESS OF 20	2202	1	40	40
Miscellaneous-Filing:				
Petition:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				
Miscellaneous:				
Total in USD (\$)				770

Electronic Acknowledgement Receipt

EFS ID:	30887333
Application Number:	15806912
International Application Number:	
Confirmation Number:	7214
Title of Invention:	Methods and Apparatus for Managing and Exchanging Information Using Information Objects
First Named Inventor/Applicant Name:	Paul Erich Keel
Customer Number:	2101
Filer:	Bruce D. Sunstein
Filer Authorized By:	
Attorney Docket Number:	4123/1003
Receipt Date:	08-NOV-2017
Filing Date:	
Time Stamp:	15:16:41
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	DA
Payment was successfully received in RAM	\$ 770
RAM confirmation Number	110917INTEFSW00001777194972
Deposit Account	
Authorized User	

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

File Listing:					
Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Application Data Sheet	kem4123_1003_ADS.pdf	1793208	no	9
			ce2df852da7c91d573dc71e093e941aa6e0a5a88		
Warnings:					
Information:					
2	Drawings-only black and white line drawings	kem4123_1003_Figs.pdf	3074264	no	14
			d98e0d9392eeb452c24fbc13b9d08c816d9b68b8		
Warnings:					
Information:					
3	Oath or Declaration filed	kem4123_1003_Decs.pdf	181949	no	2
			b6869323e8c5aa3328ef474716f5731db734b23d		
Warnings:					
Information:					
4	Internet Communications Authorized	kem4123_1003_IntCommAuthorized.pdf	75344	no	2
			939d41474a7c7a4760e70924dc51d4bc82831ee2		
Warnings:					
Information:					
5	Power of Attorney	4123_GenPOA_Keel_Huang.pdf	633384	no	2
			ad5ba2e2b62da11853deb5c7b39475fa8807cee6		
Warnings:					
Information:					
6		kem4123_1003_Application.pdf	227105	yes	50
			56f5a5ed3136df0da4c6c52a20a028370641d627		
	Multipart Description/PDF files in .zip description				
	Document Description	Start	End		

	Abstract	50	50
	Claims	44	49
	Specification	1	43

Warnings:

Information:

7	Miscellaneous Incoming Letter	kem4123_1003_PreliminaryRemarks.pdf	75776	no	3
			cf8759b73c7bd62cc45c4f2b1c6ce170d1326172		

Warnings:

Information:

8	Fee Worksheet (SB06)	fee-info.pdf	36954	no	2
			99961ee1ee2f40ba8d4ef609f1c869842a8a2822		

Warnings:

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Total Files Size (in bytes):		6097984
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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.

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.

Application Data Sheet 37 CFR 1.76		Attorney Docket Number	4123/1003
		Application Number	
Title of Invention	Methods and Apparatus for Managing and Exchanging Information Using Information Objects		
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:

☐ 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	
	Paul Erich		Keel		
Residence Information (Select One) ☒ US Residency ☐ Non US Residency ☐ Active US Military Service					
City	Cambridge	State/Province	MA	Country of Residence	US

Mailing Address of Inventor:

Address 1	872 Massachusetts Avenue				
Address 2	Apartment 1004				
City	Cambridge	State/Province	MA		
Postal Code	02139	Country	US		

Inventor	2				Remove
Legal Name					
Prefix	Given Name	Middle Name	Family Name	Suffix	
	Jeffrey		Huang		
Residence Information (Select One) ☐ US Residency ☒ Non US Residency ☐ Active US Military Service					
City	Lausanne	Country of Residence	CH		

Mailing Address of Inventor:

Address 1	Avenue des Tilleuls 6				
Address 2					
City	Lausanne	State/Province			
Postal Code	1006	Country	CH		

All Inventors Must Be Listed - Additional Inventor Information blocks may be generated within this form by selecting the **Add** button.

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Correspondence Information:

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Application Data Sheet 37 CFR 1.76		Attorney Docket Number	4123/1003
		Application Number	
Title of Invention	Methods and Apparatus for Managing and Exchanging Information Using Information Objects		

Enter either Customer Number or complete the Correspondence Information section below. For further information see 37 CFR 1.33(a).			
☐ An Address is being provided for the correspondence information of this application.			
Customer Number	2101		
Email Address	usptomail@sunsteinlaw.com	Add Email	Remove Email

Application Information:

Title of the Invention	Methods and Apparatus for Managing and Exchanging Information Using Information Objects		
Attorney Docket Number	4123/1003	Small Entity Status Claimed	☒
Application Type	Nonprovisional		
Subject Matter	Utility		
Total Number of Drawing Sheets (if any)	14	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:

☐ Request Early Publication (Fee required at time of Request 37 CFR 1.219)
☐ Request Not to Publish. 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 has not and will not be the subject of an application filed in another country, or under a multilateral international agreement, that requires publication at eighteen months after filing.

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:	☒ Customer Number	☐ US Patent Practitioner	☐ Limited Recognition (37 CFR 11.9)
Customer Number	2101		

Application Data Sheet 37 CFR 1.76		Attorney Docket Number	4123/1003
		Application Number	
Title of Invention	Methods and Apparatus for Managing and Exchanging Information Using Information Objects		

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		Patented		Remove	
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)	Patent Number	Issue Date (YYYY-MM-DD)
	Continuation of	15/243497	2016-08-22	9817562	2017-11-14
Prior Application Status		Patented		Remove	
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)	Patent Number	Issue Date (YYYY-MM-DD)
15/243497	Continuation of	14/664178	2015-03-20	9524090	2016-12-20
Prior Application Status		Abandoned		Remove	
Application Number	Continuity Type	Prior Application Number	Filing or 371(c) Date (YYYY-MM-DD)		
14/664178	Continuation of	13/925031	2013-06-24		
Prior Application Status		Patented		Remove	
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)	Patent Number	Issue Date (YYYY-MM-DD)
13/925031	Continuation of	12/563416	2009-09-21	8499248	2013-07-30
Prior Application Status		Expired		Remove	
Application Number	Continuity Type	Prior Application Number	Filing or 371(c) Date (YYYY-MM-DD)		
12/563416	Claims benefit of provisional	61/116747	2008-11-21		
Prior Application Status		Patented		Remove	
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)	Patent Number	Issue Date (YYYY-MM-DD)
12/563416	Continuation in part of	11/118301	2005-04-29	7640511	2009-12-29
Prior Application Status		Expired		Remove	
Application Number	Continuity Type	Prior Application Number	Filing or 371(c) Date (YYYY-MM-DD)		
11/118301	Claims benefit of provisional	60/566723	2004-04-29		
Additional Domestic Benefit/National Stage Data may be generated within this form by selecting the Add button.					Add

Foreign Priority Information:

Application Data Sheet 37 CFR 1.76		Attorney Docket Number	4123/1003
		Application Number	
Title of Invention	Methods and Apparatus for Managing and Exchanging Information Using Information Objects		

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)ⁱ 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 ⁱ	Filing Date (YYYY-MM-DD)	Access Code ⁱ (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.

Application Data Sheet 37 CFR 1.76		Attorney Docket Number	4123/1003
		Application Number	
Title of Invention	Methods and Apparatus for Managing and Exchanging Information Using Information Objects		

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.

Application Data Sheet 37 CFR 1.76		Attorney Docket Number	4123/1003
		Application Number	
Title of Invention	Methods and Apparatus for Managing and Exchanging Information Using Information Objects		

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.				
Applicant	1			Remove
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.				
Clear				
Assignee	Legal Representative under 35 U.S.C. 117		Joint Inventor	
Person to whom the inventor is obligated to assign.		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:				
If the Applicant is an Organization check here. ☐				
Prefix	Given Name	Middle Name	Family Name	Suffix
Mailing Address Information For Applicant:				
Address 1				
Address 2				
City		State/Province		
Country		Postal Code		
Phone Number		Fax Number		
Email Address				
Additional Applicant Data may be generated within this form by selecting the Add button. Add				

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.

Application Data Sheet 37 CFR 1.76		Attorney Docket Number	4123/1003
		Application Number	
Title of Invention	Methods and Apparatus for Managing and Exchanging Information Using Information Objects		

Assignee 1				
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.				
				Remove
If the Assignee or Non-Applicant Assignee is an Organization check here.				☐
Prefix	Given Name	Middle Name	Family Name	Suffix
Mailing Address Information For Assignee including Non-Applicant Assignee:				
Address 1				
Address 2				
City		State/Province		
Country ⁱ		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.				Add

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	/Bruce D. Sunstein, #27,234/		Date (YYYY-MM-DD)	2017-11-08
First Name	Bruce D.	Last Name	Sunstein	Registration Number
				27234
Additional Signature may be generated within this form by selecting the Add button.				Add

Application Data Sheet 37 CFR 1.76		Attorney Docket Number	4123/1003
		Application Number	
Title of Invention	Methods and Apparatus for Managing and Exchanging Information Using Information Objects		

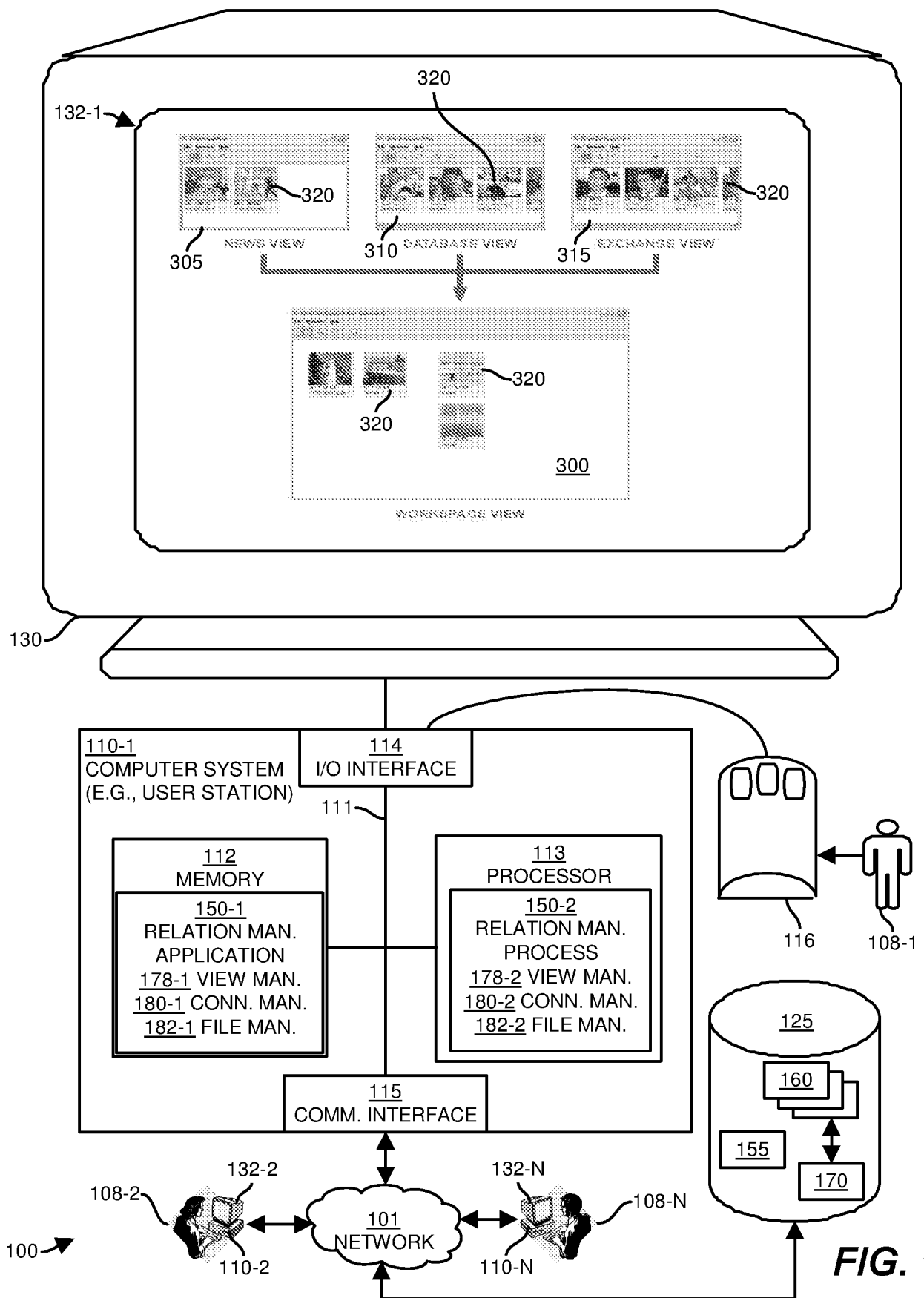
This collection of information is required by 37 CFR 1.76. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 23 minutes 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.**

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

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

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.
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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.



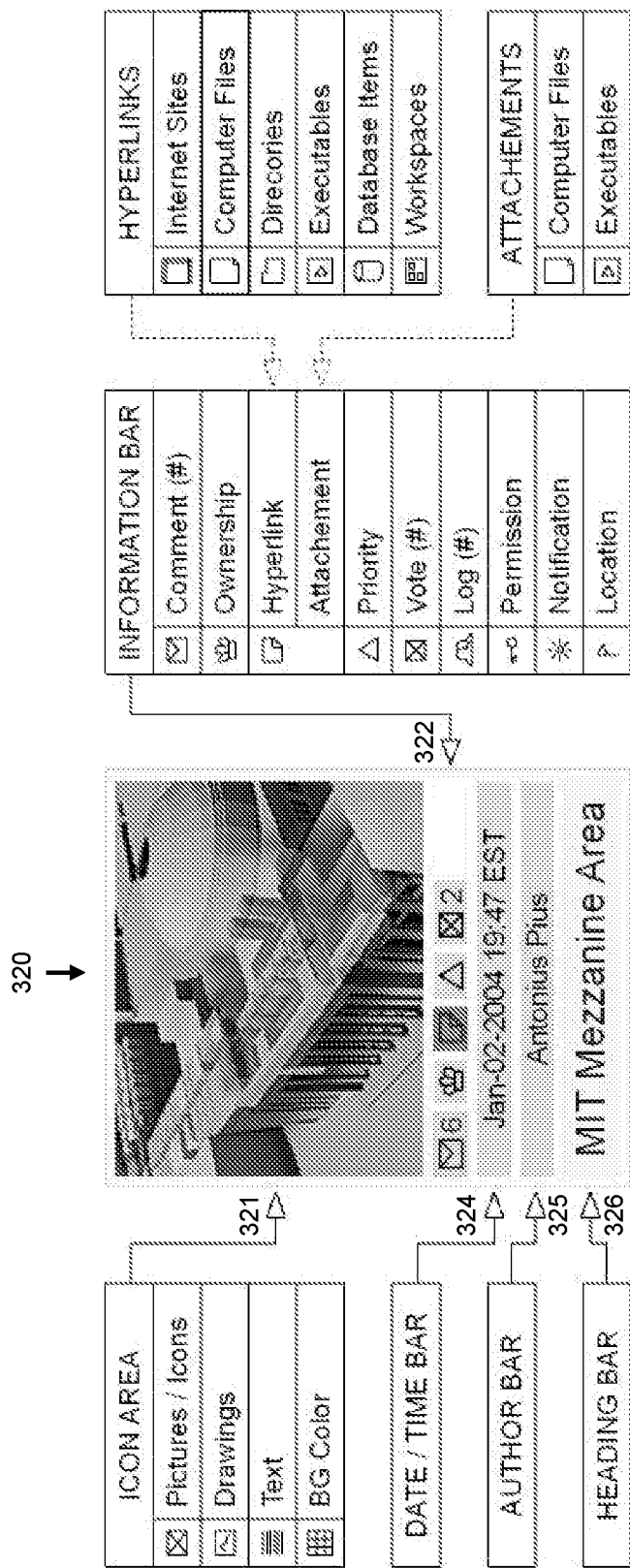


FIG. 2

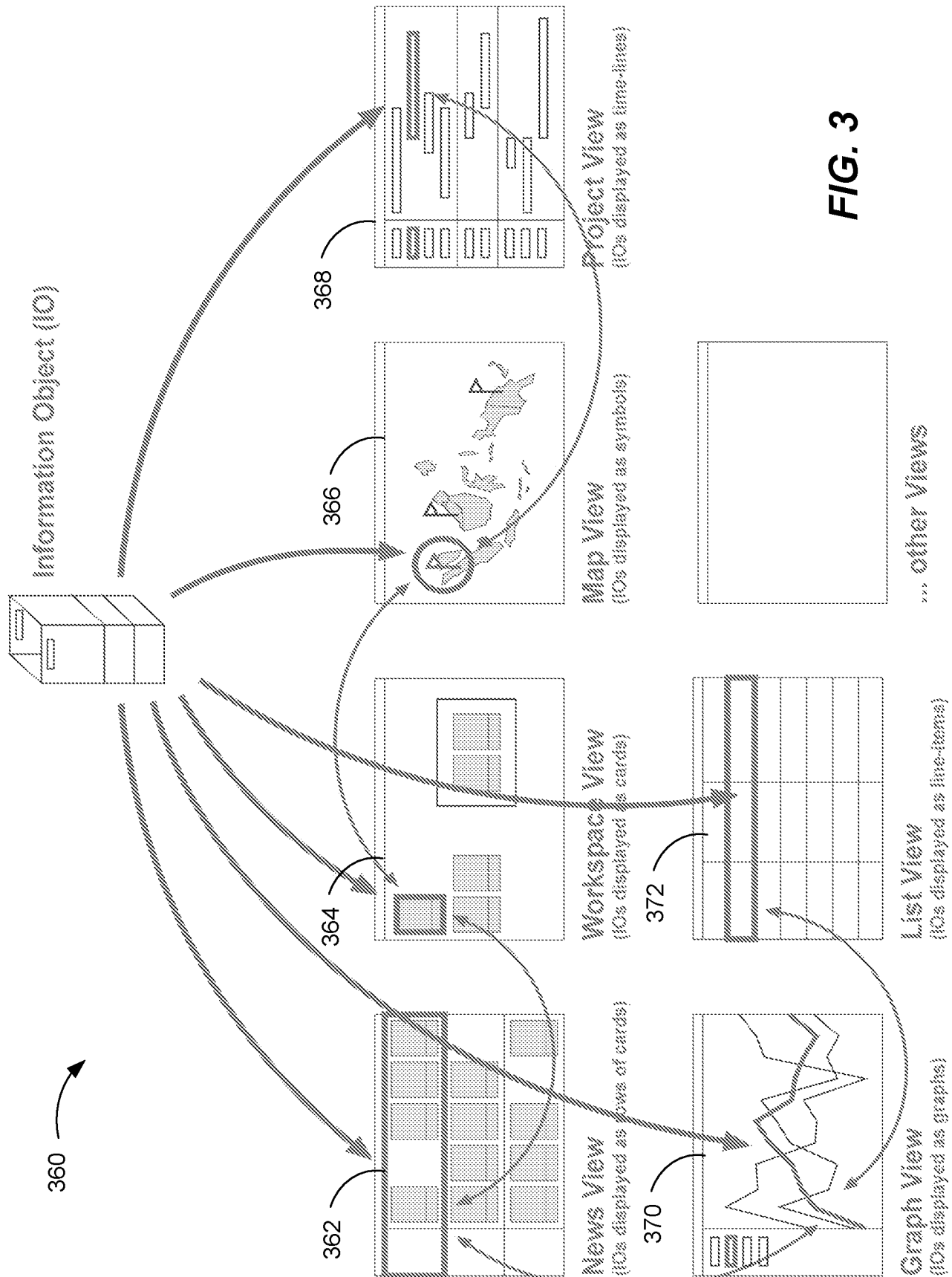


FIG. 3

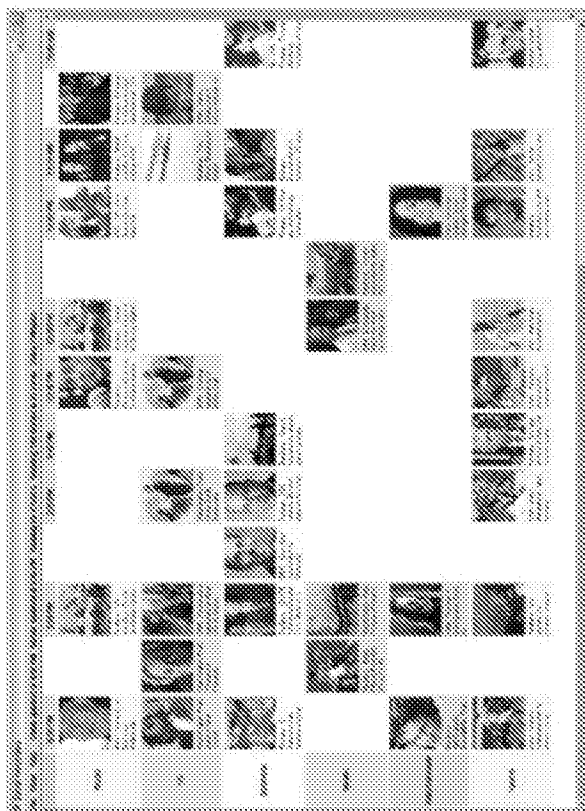


FIG. 4A

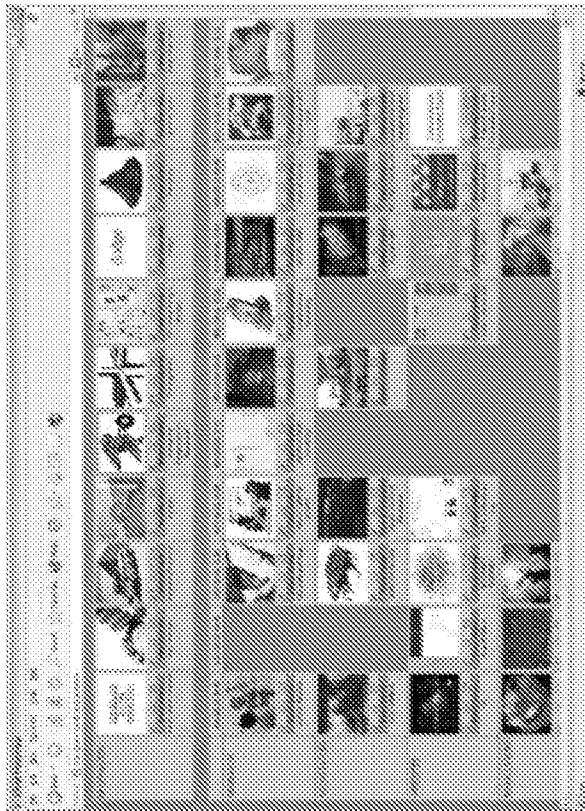


FIG. 4B

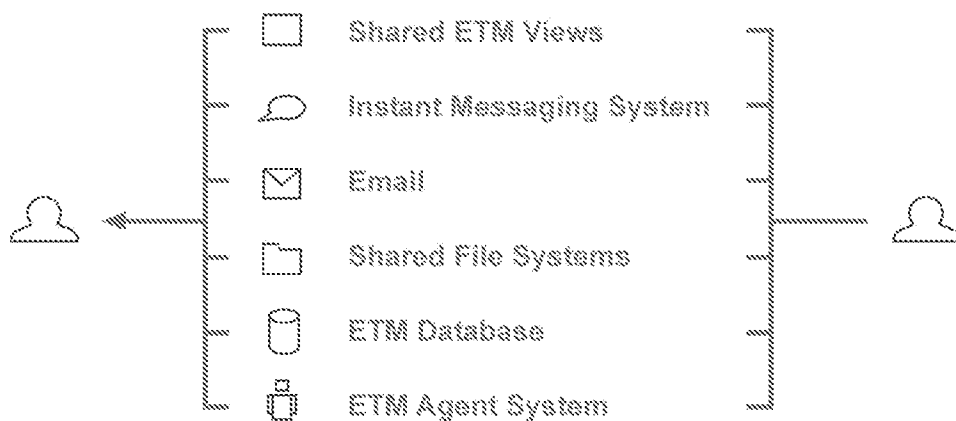


FIG. 5A

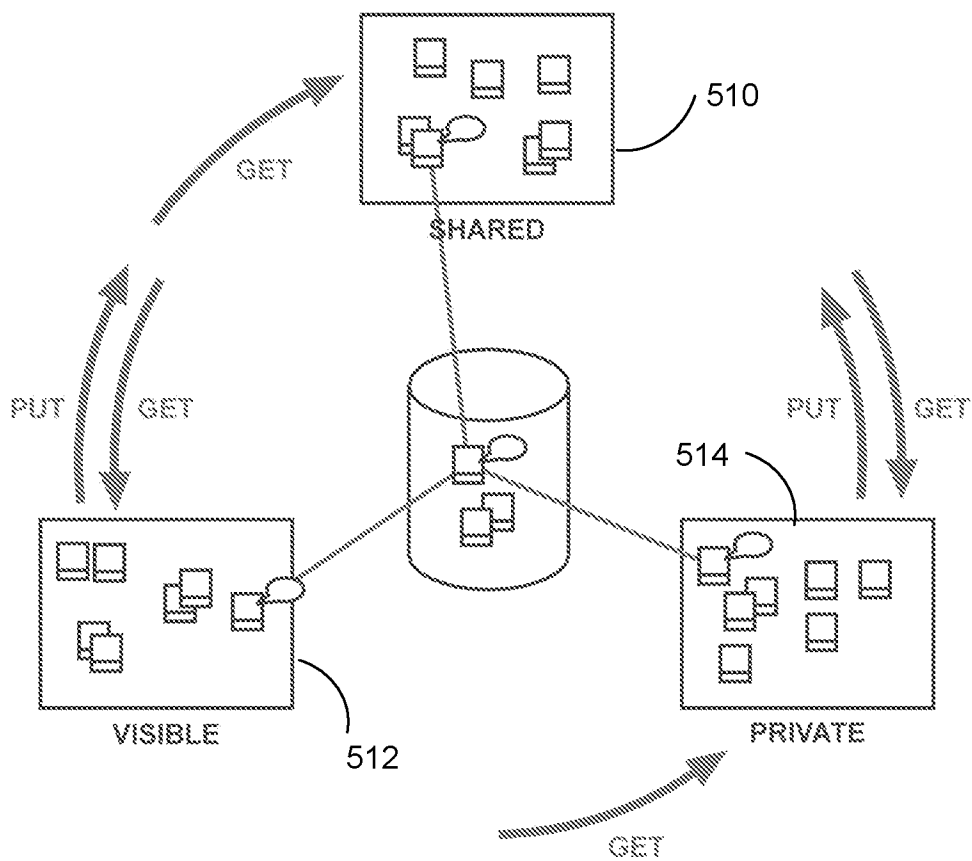


FIG. 5B

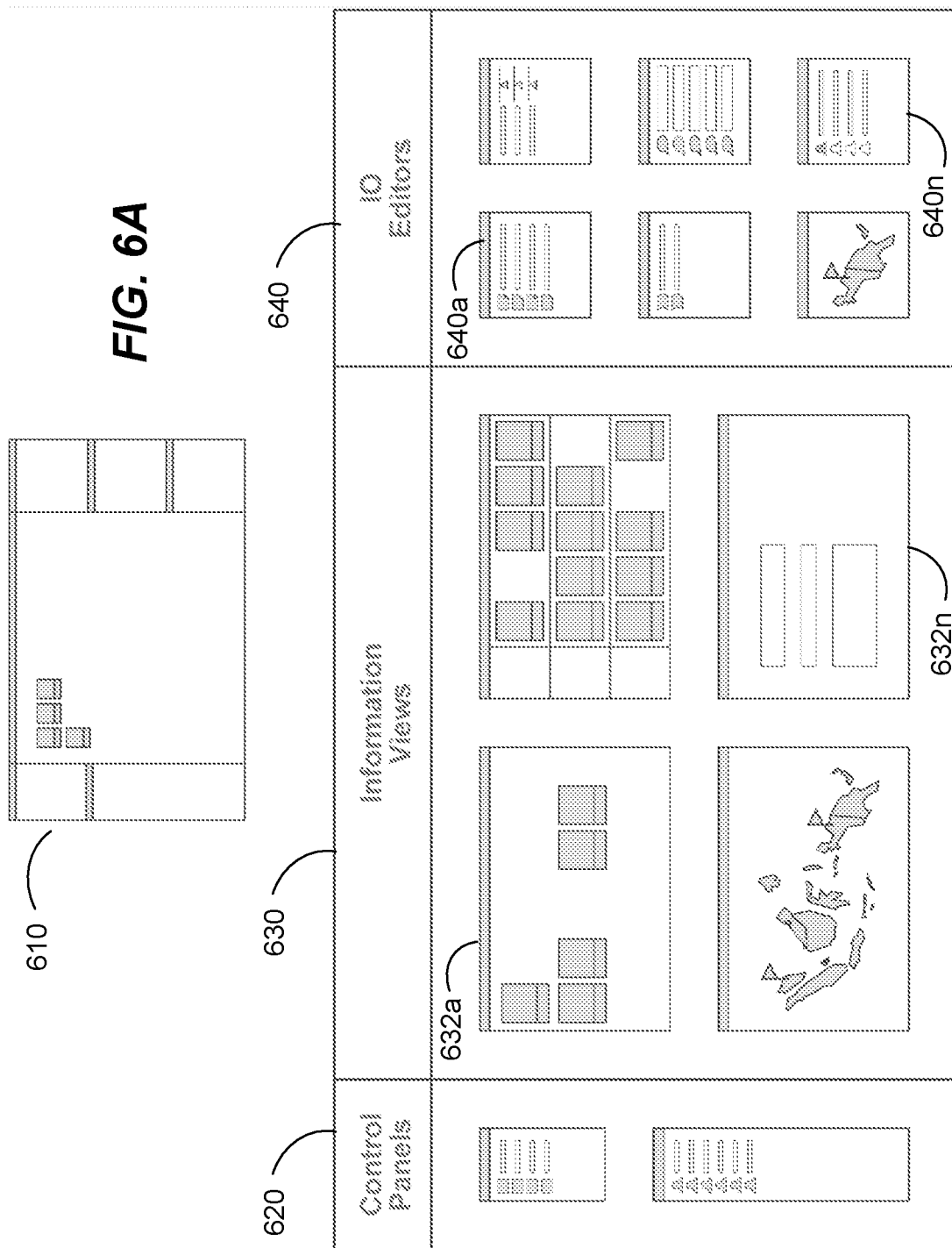


FIG. 6A

FIG. 6B

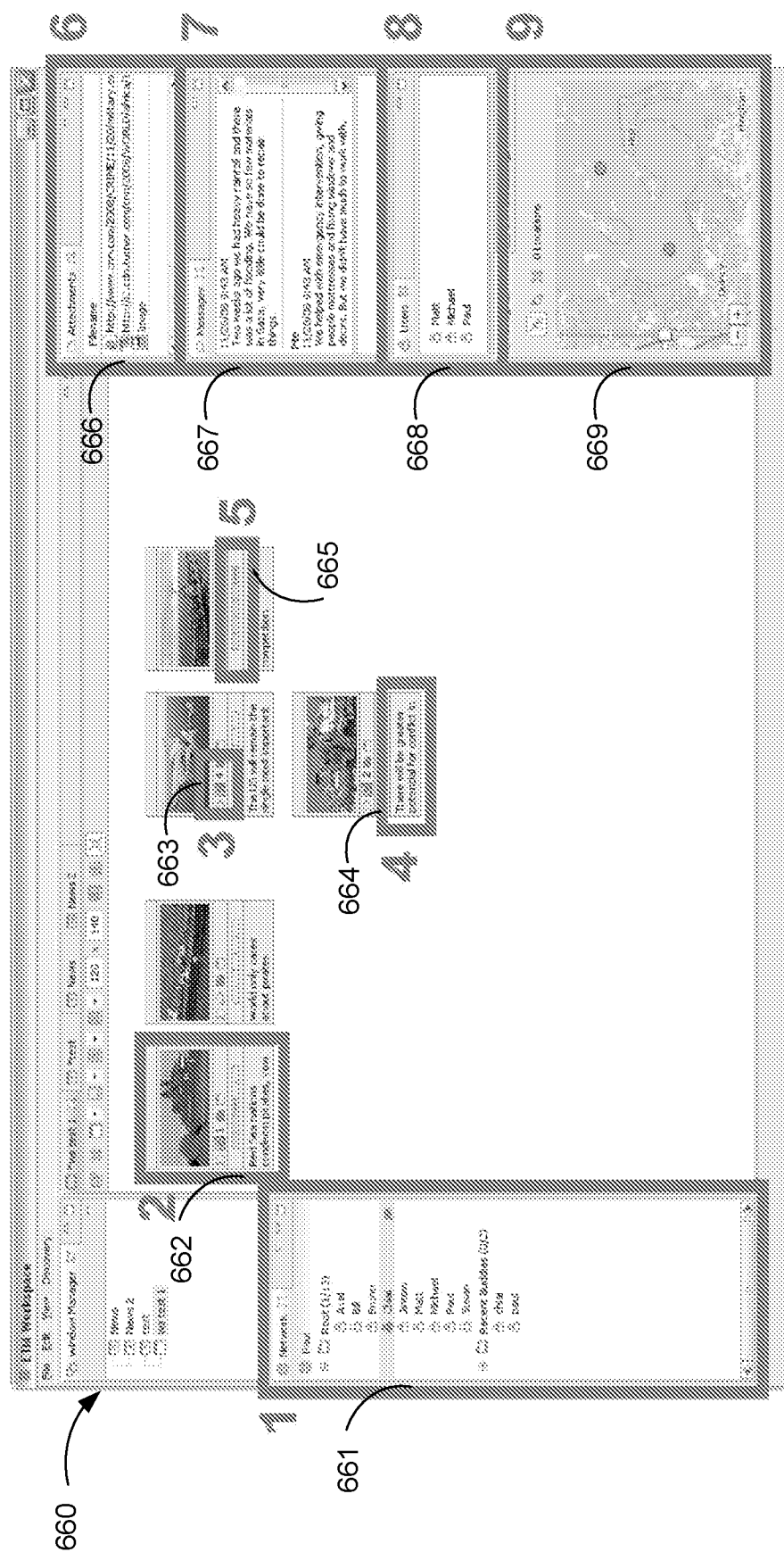


FIG. 6C

1. Buddy List
2. Object (Discussion Subject)
3. Message Indicator (Counter)
4. Object / Discussion Heading
5. Collaborative Ratings
6. Shared Files (List or Thumbnails)
7. Threaded Discussion
8. Participants
9. Meta-data and shared applications

700

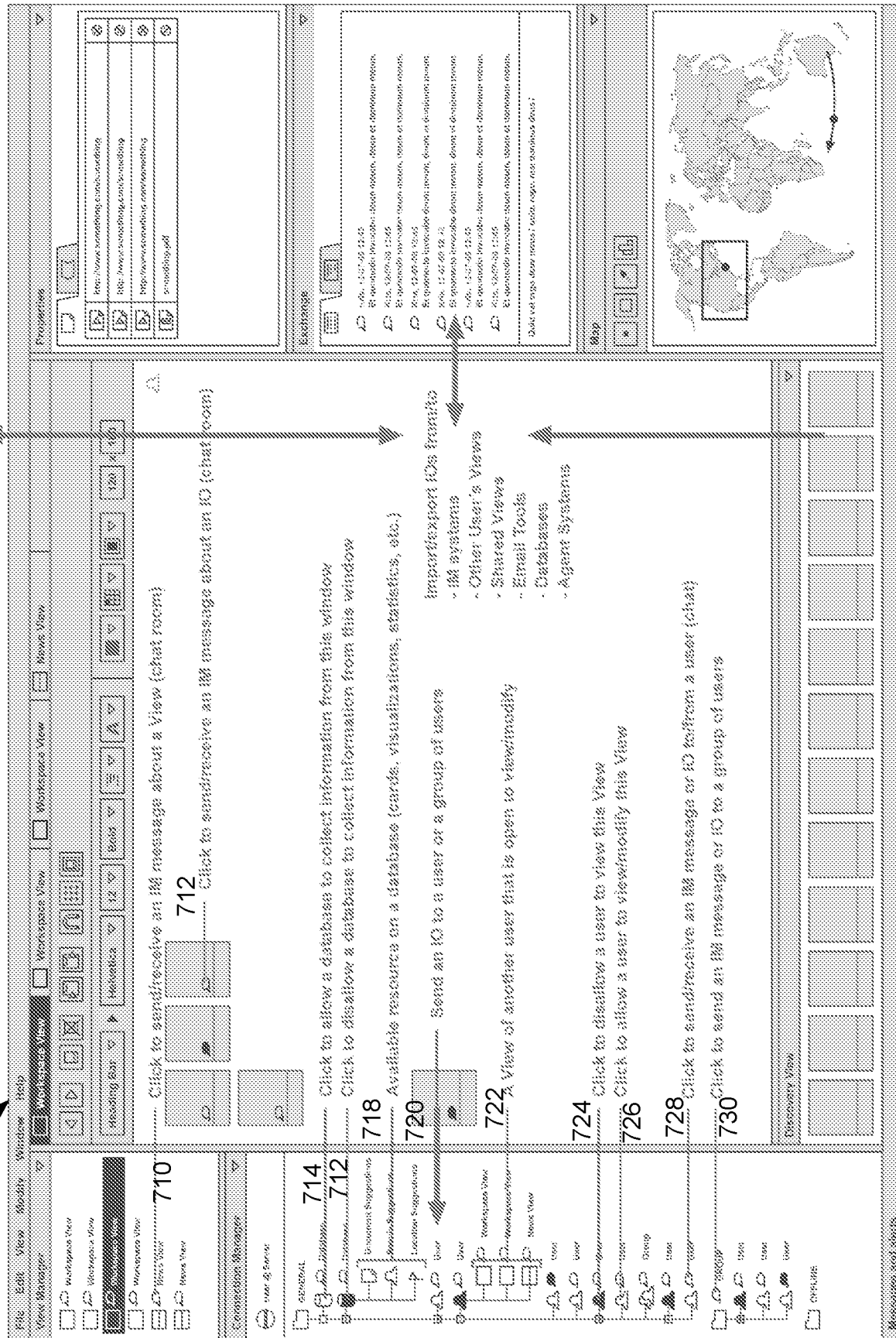


FIG. 7

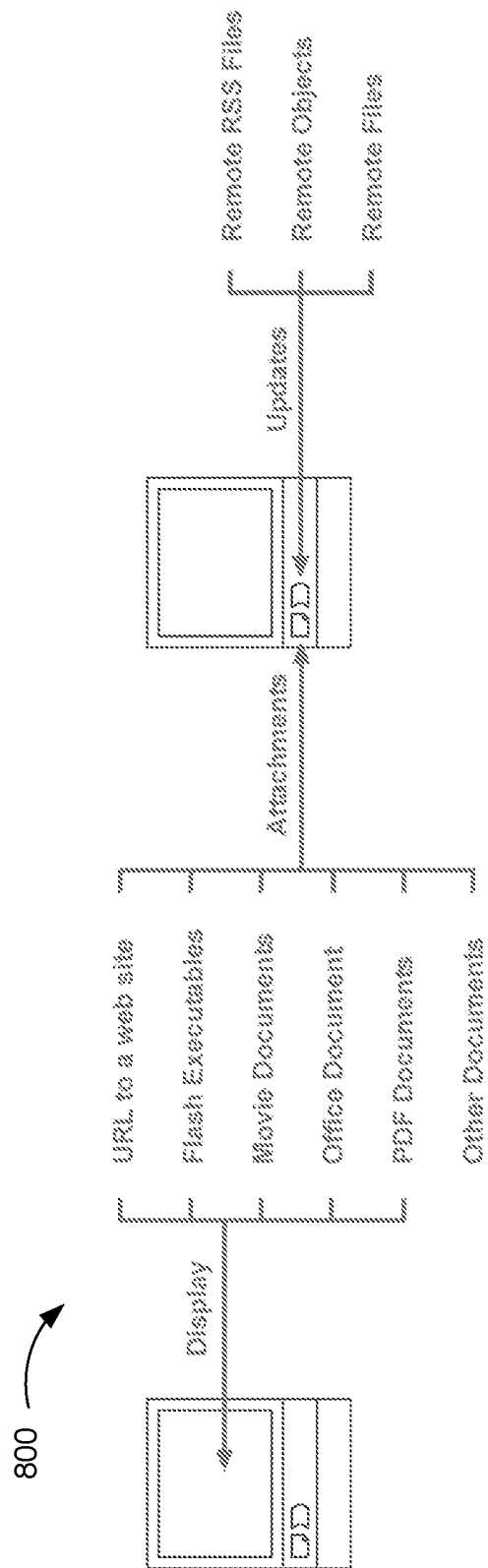
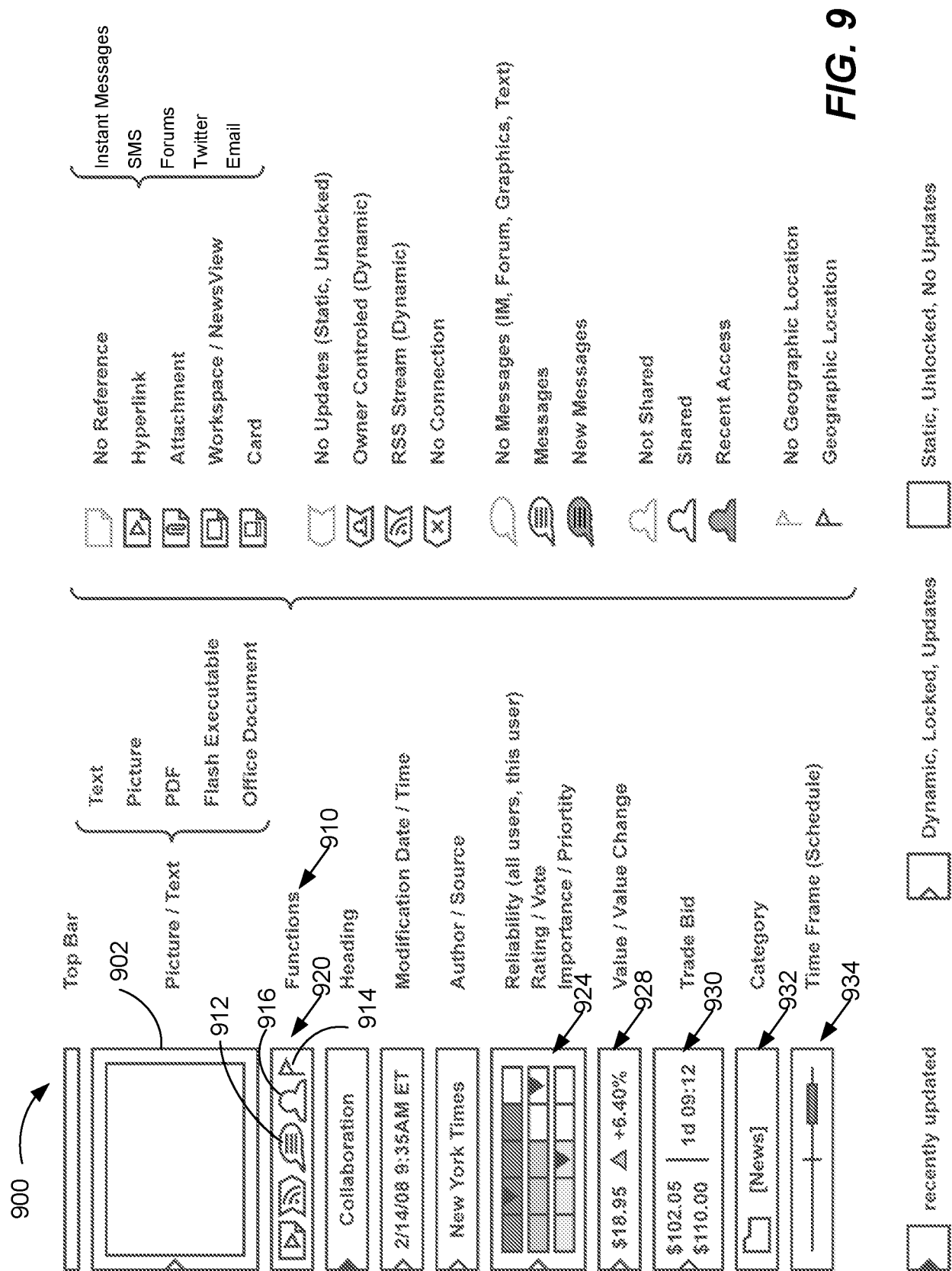


FIG. 8



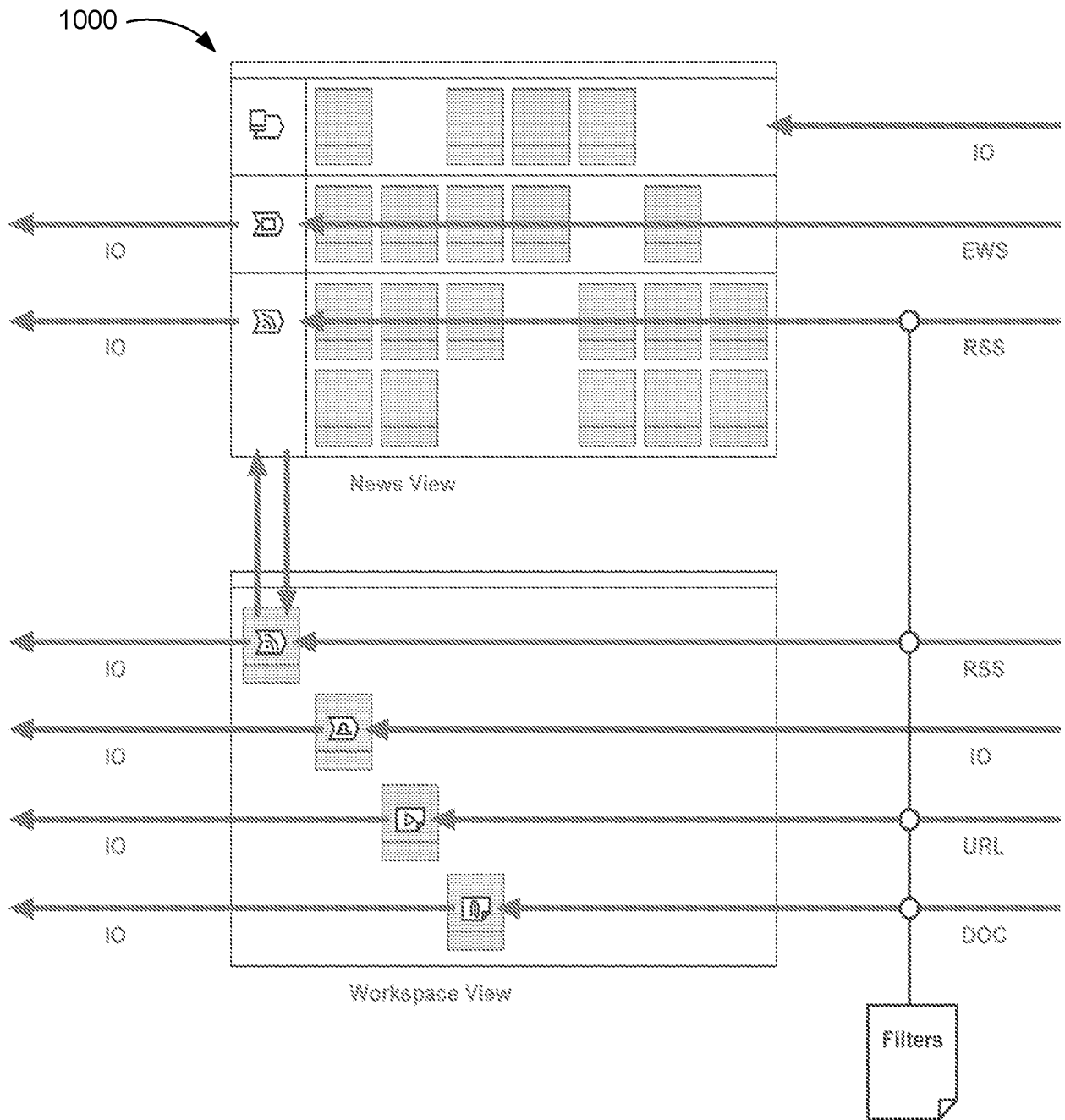


FIG. 10

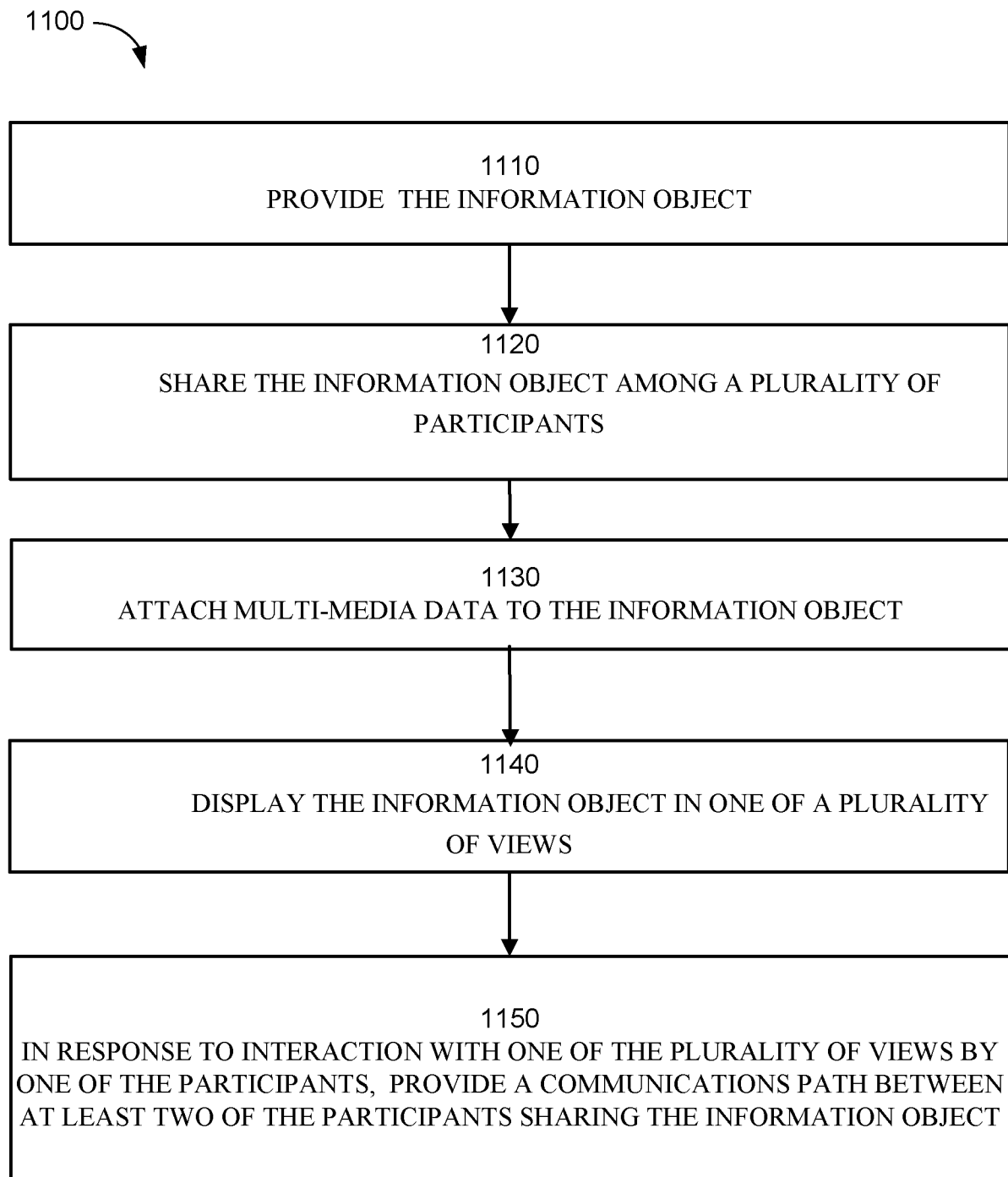


FIG. 11

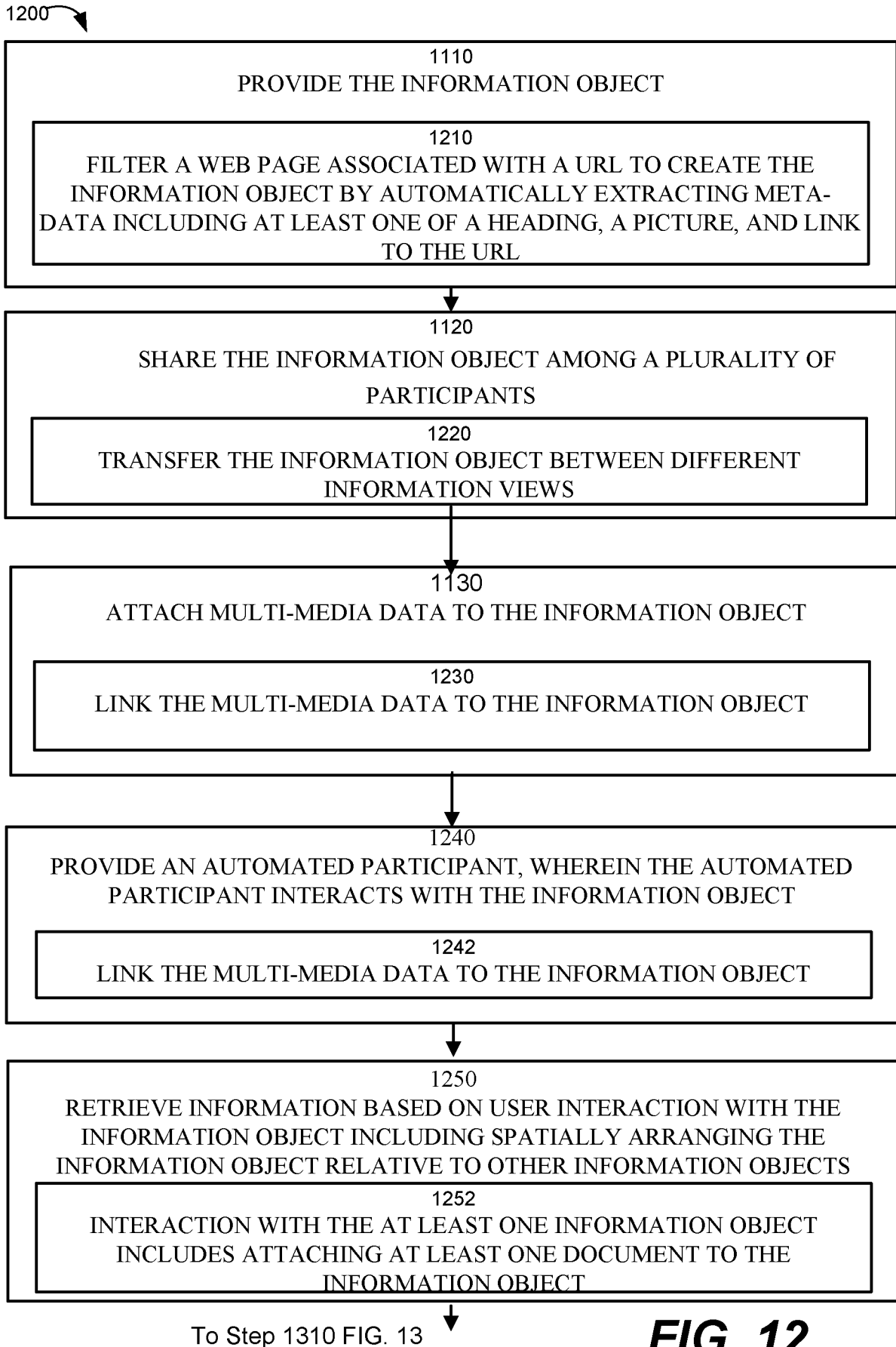


FIG. 12

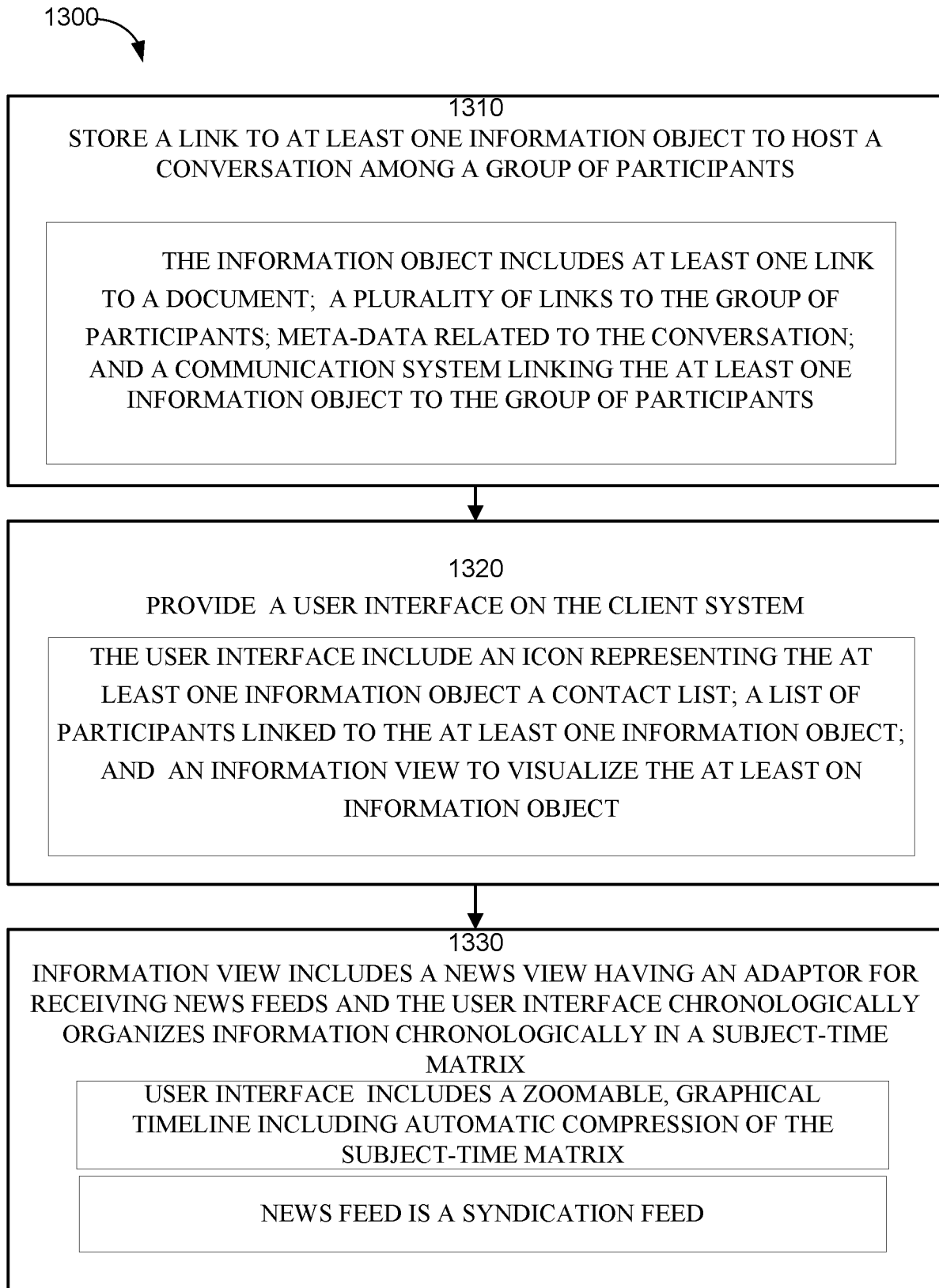
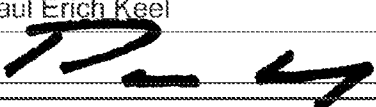


FIG. 13

**DECLARATION (37 CFR 1.63) FOR UTILITY OR DESIGN APPLICATION USING AN
APPLICATION DATA SHEET (37 CFR 1.76)**

Title of Invention	METHODS AND APPARATUS FOR MANAGING AND EXCHANGING INFORMATION USING INFORMATION OBJECTS
As the below named inventor, I hereby declare that: This declaration is directed to: ☒ The attached application, or ☐ United States application or PCT international application number _____ filed on _____ 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 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. WARNING: Petitioner/applicant is cautioned to avoid submitting personal information in documents filed in a patent application that may contribute to identity theft. Personal information such as social security numbers, bank account numbers, or credit card numbers (other than a check or credit card authorization form PTO-2038 submitted for payment purposes) is never required by the USPTO to support a petition or an application. If this type of personal information is included in documents submitted to the USPTO, petitioners/applicants should consider redacting such personal information from the documents before submitting them to the USPTO. Petitioner/applicant is advised that the record of a patent application is available to the public after publication of the application (unless a non-publication request in compliance with 37 CFR 1.213(a) is made in the application) or issuance of a patent. Furthermore, the record from an abandoned application may also be available to the public if the application is referenced in a published application or an issued patent (see 37 CFR 1.14). Checks and credit card authorization forms PTO-2038 submitted for payment purposes are not retained in the application file and therefore are not publicly available.	
LEGAL NAME OF INVENTOR Inventor: <u>Paul Erich Keel</u> Date (Optional): <u>June-20-2013</u> Signature: 	
Note: An application data sheet (PTO/SB/14 or equivalent), including naming the entire inventive entity, must accompany this form or must have been previously filed. Use an additional PTO/AIA/01 form for each additional inventor.	

This collection of information is required by 35 U.S.C. 115 and 37 CFR 1.63. 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 1 minute 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.

DECLARATION (37 CFR 1.63) FOR UTILITY OR DESIGN APPLICATION USING AN APPLICATION DATA SHEET (37 CFR 1.76)

Title of
Invention

As the below named inventor, I hereby declare that:

This declaration
is directed to:



The attached application, or



United States application or PCT international application number _____
filed on _____.

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.

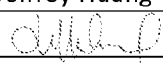
I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both.

WARNING:

Petitioner/applicant is cautioned to avoid submitting personal information in documents filed in a patent application that may contribute to identity theft. Personal information such as social security numbers, bank account numbers, or credit card numbers (other than a check or credit card authorization form PTO-2038 submitted for payment purposes) is never required by the USPTO to support a petition or an application. If this type of personal information is included in documents submitted to the USPTO, petitioners/applicants should consider redacting such personal information from the documents before submitting them to the USPTO. Petitioner/applicant is advised that the record of a patent application is available to the public after publication of the application (unless a non-publication request in compliance with 37 CFR 1.213(a) is made in the application) or issuance of a patent. Furthermore, the record from an abandoned application may also be available to the public if the application is referenced in a published application or an issued patent (see 37 CFR 1.14). Checks and credit card authorization forms PTO-2038 submitted for payment purposes are not retained in the application file and therefore are not publicly available.

LEGAL NAME OF INVENTOR

Inventor: Jeffrey Huang Date (Optional) : _____

Signature: 

Note: An application data sheet (PTO/SB/14 or equivalent), including naming the entire inventive entity, must accompany this form or must have been previously filed. Use an additional PTO/AIA/01 form for each additional inventor.

This collection of information is required by 35 U.S.C. 115 and 37 CFR 1.63. 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 1 minute 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.

SCORE Placeholder Sheet for IFW Content

Application Number: 15806912

Document Date: 11/08/2017

The presence of this form in the IFW record indicates that the following document type was received in electronic format on the date identified above. This content is stored in the SCORE database.

Since this was an electronic submission, there is no physical artifact folder, no artifact folder is recorded in PALM, and no paper documents or physical media exist. The TIFF images in the IFW record were created from the original documents that are stored in SCORE.

- Drawing

At the time of document entry (noted above):

- USPTO employees may access SCORE content via eDAN using the Supplemental Content tab, or via the SCORE web page.
- External customers may access SCORE content via PAIR using the Supplemental Content tab.

PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875						Application or Docket Number 15/806,912				
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	70		N/A				
SEARCH FEE (37 CFR 1.16(k), (l), or (m))	N/A	N/A	N/A	300		N/A				
EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A	360		N/A				
TOTAL CLAIMS (37 CFR 1.16(j))	21 minus 20 =	*	x 40 =	40	OR					
INDEPENDENT CLAIMS (37 CFR 1.16(h))	1 minus 3 =	*	x 210 =	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	770		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	
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.										



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APPLICATION NUMBER	FILING or 371(c) DATE	GRP ART UNIT	FIL FEE REC'D	ATTY. DOCKET NO	TOT CLAIMS	IND CLAIMS
15/806,912	11/08/2017	2688	770	4123/1003	21	1

CONFIRMATION NO. 7214

FILING RECEIPT

2101

Sunstein Kann Murphy & Timbers LLP
125 SUMMER STREET
BOSTON, MA 02110-1618



Date Mailed: 11/27/2017

Receipt is acknowledged of this non-provisional 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 APPLICANT, 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 Filing Receipt Correction. Please provide a copy of this Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts" for this application, please submit any corrections 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**

Inventor(s)

Paul Erich Keel, Cambridge, MA;
Jeffrey Huang, Lausanne, SWITZERLAND;

Applicant(s)

Paul Erich Keel, Cambridge, MA;
Jeffrey Huang, Lausanne, SWITZERLAND;

Power of Attorney: The patent practitioners associated with Customer Number 02101

Domestic Priority data as claimed by applicant

This application is a CON of 15/243,497 08/22/2016 PAT 9817562
which is a CON of 14/664,178 03/20/2015 PAT 9524090
which is a CON of 13/925,031 06/24/2013 ABN
which is a CON of 12/563,416 09/21/2009 PAT 8499248
which claims benefit of 61/116,747 11/21/2008
and is a CIP of 11/118,301 04/29/2005 PAT 7640511
which claims benefit of 60/566,723 04/29/2004

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: 11/22/2017

The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is **US 15/806,912**

Projected Publication Date: 03/08/2018

Non-Publication Request: No

Early Publication Request: No

**** SMALL ENTITY ****

Title

Methods and Apparatus for Managing and Exchanging Information Using Information Objects

Preliminary Class

369

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).

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Title 35, United States Code, Section 184
Title 37, Code of Federal Regulations, 5.11 & 5.15

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NOT GRANTED

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www.uspto.gov

APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
15/806,912	11/08/2017	Paul Erich Keel	4123/1003

CONFIRMATION NO. 7214

PUBLICATION NOTICE



OC000000097901410

2101
Sunstein Kann Murphy & Timbers LLP
125 SUMMER STREET
BOSTON, MA 02110-1618

Title:Methods and Apparatus for Managing and Exchanging Information Using Information Objects

Publication No.US-2018-0067628-A1

Publication Date:03/08/2018

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 publically 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

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: Keel et al.
Application No.: 15/806,912 Group No.: 2172
Filed: November 8, 2017 Examiner: Gaffin, Jeffrey A.
For: Methods and Apparatus for Managing and Exchanging Information
Using Information Objects

Mail Stop Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

INFORMATION DISCLOSURE STATEMENT

List of Sections Forming Part of This Information Disclosure Statement

The following sections are being submitted for this Information Disclosure Statement:

1. ☒ Preliminary Statements
2. ☒ Forms PTO/SB/08A and 08B (substitute for Form PTO-1449)
3. ☒ Statement as to Information Not Found in Patents or Publications
4. ☒ Identification of Prior Application in Which Listed Information Was Already Cited and for Which No Copies Are Submitted or Need Be Submitted
5. ☐ Cumulative Patents or Publications
6. ☒ Copies of Listed Information Items Accompanying This Statement
7. ☐ Concise Explanation of Non-English Language Listed Information Items
 - 7A. ☐ JEPO Search Report
 - 7B. ☐ English Language Version of EPO Search Report
8. ☐ Translation(s) of Non-English Language Documents
9. ☐ Concise Explanation of English Language Listed Information Items (Optional)
10. ☒ Identification of Person(s) Making This Information Disclosure Statement

Section 1. Preliminary statements

Applicants submit herewith patents, publications or other information, of which they are aware that they believe may be material to the examination of this application, and in respect of which, there may be a duty to disclose.

The filing of this information disclosure statement shall not be construed as a representation that a search has been made (37 C.F.R. § 1.97(g)), an admission that the information cited is, or is considered to be, material to patentability, or that no other material information exists.

The filing of this information disclosure statement shall not be construed as an admission against interest in any manner. Notice of January 9, 1992, 1135 O.G. 13-25, at 25.

Section 2. Forms PTO/SB/08A and 08B (formerly Form PTO-1449)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants: Keel et al. Attorney Docket: 4123/1003
Serial No: 15/806,912 Art Group Unit: 2172
Date Filed: November 8, 2017 Examiner Name: Gaffin, Jeffrey A.
Invention: Methods and Apparatus for Managing and Exchanging Information Using
Information Objects

DATE: May 21, 2018

**LIST OF PATENTS AND PUBLICATIONS FOR
APPLICANT'S INFORMATION DISCLOSURE STATEMENT**

U.S. PATENT DOCUMENTS				
Examiner Initials	Reference Number	Document Number	Issue Date	Inventor
	AA	US 5,008,853	Apr. 16, 1991	Bly, et al.
	AB	US 5,220,657	Jun. 15, 1993	Bly, et al.
	AC	US 5,732,229	Mar. 24, 1998	Dickinson
	AD	US 6,049,806	Apr. 11, 2000	Crecine
	AE	US 6,092,067	Jul. 18, 2000	Girling, et al.
	AF	US 6,119,147	Sep. 12, 2000	Toomey, et al.
	AG	US 6,266,649	Jul. 24, 2001	Linden, et al.
	AH	US 6,289,362	Sep. 11, 2001	Van Der Meer
	AI	US 6,327,590	Dec. 4, 2001	Chidlovskii, et al.
	AJ	US 6,415,316	Jul. 2, 2002	Van Der Meer
	AK	US 6,597,377	Jul. 22, 2003	MacPhail
	AL	US 6,724,403	Apr. 20, 2004	Santoro, et al.
	AM	US 6,768,999	Jul. 27, 2004	Prager, et al.
	AN	US 6,781,920	Aug. 24, 2004	Bates et al.
	AO	US 6,829,619	Dec. 7, 2004	Wakamatsu, et al.
	AP	US 6,912,505	Jun. 28, 2005	Linden, et al.
	AQ	US 6,931,591	Aug. 16, 2005	Brown, et al.
	AR	US 6,973,456	Dec. 6, 2005	Elgart
	AS	US 7,028,264	Apr. 11, 2006	Santoro, et al.
	AT	US 7,062,242	Jun. 13, 2006	Dajer, et al.
	AU	US 7,113,917	Sep. 26, 2006	Jacobi, et al.
	AV	US 7,478,054	Jan. 13, 2009	Adams, et al.
	AW	US 7,478,078	Jan. 13, 2009	Lunt, et al.
	AX	US 7,543,237	Jun. 2, 2009	Kontny, et al.
	AY	US 7,681,112	Mar. 16, 2010	Francis
	AZ	US 7,765,490	Jul. 27, 2010	Lai, et al.
	BA	US 7,904,323	Mar. 8, 2011	Wynn, et al.
	BB	US 7,921,368	Apr. 5, 2011	Moody, et al.

Section 2. Forms PTO/SB/08A and 08B (formerly Form PTO-1449)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants: Keel et al. Attorney Docket: 4123/1003
Serial No: 15/806,912 Art Group Unit: 2172
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**LIST OF PATENTS AND PUBLICATIONS FOR
APPLICANT'S INFORMATION DISCLOSURE STATEMENT**

U.S. PATENT DOCUMENTS				
Examiner Initials	Reference Number	Document Number	Issue Date	Inventor
	BC	US 7,941,444	May 10, 2011	Cragun et al.
	BD	US 8,042,063	Oct. 18, 2011	Lin-Hendel
	BE	US 8,078,615	Dec. 13, 2011	Smith, et al.
	BF	US 8,249,885	Aug. 21, 2012	Berkowitz et al.
	BG	US 8,392,834	Mar. 5, 2013	Obrador
	BH	US 8,743,148	Jun. 3, 2014	Gegner, et al.

U.S. PATENT PUBLICATION DOCUMENTS				
Examiner Initials	Reference Number	Document Number	Publication Date	Inventor
	BI	US 2001/0003214	Jun. 7 2001	Shastri et al.
	BJ	US 2002/0016725	Feb. 7, 2002	Eichstaedt, et al.
	BK	US 2002/0080180	Jun. 27, 2002	Mander, et al.
	BL	US 2002/0105541	Aug. 8, 2002	Endou et al.
	BM	US 2002/0143877	Oct. 3, 2002	Hackbarth, et al.
	BN	US 2002/0147661	Oct. 10, 2002	Hatakama et al.
	BO	US 2002/0169737	Nov. 14, 2002	Armstrong, et al.
	BP	US 2002/0186257	Dec. 12, 2002	Cadiz et al.
	BQ	US 2003/0009493	Jan. 9, 2003	Parker, et al.
	BR	US 2003/0030678	Feb. 13, 2003	Rosenholtz et al.
	BS	US 2003/0135565	Jul. 17, 2003	Estrada
	BT	US 2003/0158855	Aug. 21, 2003	Farnham, et al.
	BU	US 2003/0158893	Aug. 21, 2003	Komatsu et al.
	BV	US 2003/0164856	Sep. 4, 2003	Prager et al.
	BW	US 2003/0208397	Nov. 6, 2003	VanDusen
	BX	US 2003/0217056	Nov. 20, 2003	Allen, et al.
	BY	US 2004/0003097	Jan. 1, 2004	Willis, et al.
	BZ	US 2004/0049541	Mar. 11, 2004	Swahn

Section 2. Forms PTO/SB/08A and 08B (formerly Form PTO-1449)**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Applicants: Keel et al. Attorney Docket: 4123/1003
Serial No: 15/806,912 Art Group Unit: 2172
Date Filed: November 8, 2017 Examiner Name: Gaffin, Jeffrey A.
Invention: Methods and Apparatus for Managing and Exchanging Information Using
Information Objects

DATE: May 21, 2018

**LIST OF PATENTS AND PUBLICATIONS FOR
APPLICANT'S INFORMATION DISCLOSURE STATEMENT**

U.S. PATENT PUBLICATION DOCUMENTS				
Examiner Initials	Reference Number	Document Number	Publication Date	Inventor
	CA	US 2004/0054428	Mar. 18, 2004	Sheha, et al.
	CB	US 2004/0083274	Apr. 29, 2004	Katiyar, et al.
	CC	US 2004/0153445	Aug. 5, 2004	Horvitz, et al.
	CD	US 2004/0177319	Sep. 9, 2004	Horn
	CE	US 2004/0193673	Sep. 30, 2004	Samji, et al.
	CF	US 2004/0201609	Oct. 14, 2004	Obrador
	CG	US 2004/0205514	Oct. 14, 2004	Sommerer et al.
	CH	US 2004/0261013	Dec. 23, 2004	Wynn, et al.
	CI	US 2004/0267700	Dec. 30, 2004	Dumais, et al.
	CJ	US 2005/0080807	Apr. 14, 2005	Beilinson, et al.
	CK	US 2005/0154639	Jul. 14, 2005	Zetmeir
	CL	US 2005/0165880	Jul. 28, 2005	Moody, et al
	CM	US 2013/0073425	Mar. 21, 2013	Hellal et al.

ACADEMIC PUBLICATIONS			
Examiner Initials	Reference Number	Author, Title, Publication Date	Screen Capture Page #
	CN	Keller R. et al. A bookmarking service for organizing and sharing URLs. Computer Networks and ISDN Systems 29 (1997) 1103-1114.	1
	CO	Rounding M. Informal Awareness and Causal Interaction with the Notification Colleague. Master Thesis. Dept. of Computer Science, University of Calgary, Alberta, Canada. Apr. 19, 2004	2
	CP	Greenberg S. et al. The Notification Collage: Posting Information to Public and Personal Displays. Yellow Series Report 2000-667-19, Dept. of Computer Science, University of Calgary, Alberta, Canada. September 14, 2000	2

Section 2. Forms PTO/SB/08A and 08B (formerly Form PTO-1449)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants: Keel et al. Attorney Docket: 4123/1003
 Serial No: 15/806,912 Art Group Unit: 2172
 Date Filed: November 8, 2017 Examiner Name: Gaffin, Jeffrey A.
 Invention: Methods and Apparatus for Managing and Exchanging Information Using
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DATE: May 21, 2018

**LIST OF PATENTS AND PUBLICATIONS FOR
 APPLICANT'S INFORMATION DISCLOSURE STATEMENT**

WEB SERVICE COMPANIES					
Examiner Initials	Reference Number	Company	Established	Screen Capture Date	Screen Capture Page #
	CQ	itList.com	Apr., 1996	May 29, 2004	3
	CR	Backflip.com	1999	Jun 23, 2004	4
	CS	Clickmarks.com	1999	Oct. 12, 1999	5
	CT	HotLinks.com	2000	Feb. 11, 2002	6
	CU	del.icio.us	2003	Dec. 20, 2005	7
	CV	SPURL.net	2004	Oct. 21, 2004	8
	CW	StumbleUpon.com	2001 <i>(estimated)</i>	Jun. 16, 2004	9
	CX	Flickr.com	Feb., 2004	Jun 7, 2004	10
	CY	TheFacebook.com	Feb., 2004	2005 <i>(estimated)</i>	11
	CZ	LiveJournal.com	1999	Dec. 15, 2003	12
	DA	Multiply.com	Mar., 2004 <i>(estimated)</i>	Jun. 19, 2004	13
	DB	Friendster.com	2002	Sep. 2003 <i>(estimated)</i>	14
	DC	MySpace.com	Aug., 2003	Apr. 4 2005 <i>(estimated)</i>	15
	DD	LinkedIn.com	May, 2003	2004 <i>(estimated)</i>	16
	DE	Blogger.com	1999	Mar 31, 2004	17
	DF	Eastgate Tinderbox	2002	Jun. 6, 2004	18
	DG	Hi5.com	2003	(unknown)	19
	DH	Xanga.com	1998	Jan. 21, 2006 <i>(estimated)</i>	20
	DI	AsianAve.com	1997	2007 <i>(estimated)</i>	21
	DJ	MiGente.com	2000	Jun. 3, 2004	22
	DK	vBulletin	2000	Jun. 10, 2004	23
	DL	phpBB	2000	Feb. 24, 2004 <i>(estimated)</i>	24

Section 2. Forms PTO/SB/08A and 08B (formerly Form PTO-1449)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants: Keel et al. Attorney Docket: 4123/1003
 Serial No: 15/806,912 Art Group Unit: 2172
 Date Filed: November 8, 2017 Examiner Name: Gaffin, Jeffrey A.
 Invention: Methods and Apparatus for Managing and Exchanging Information Using
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 APPLICANT'S INFORMATION DISCLOSURE STATEMENT**

WEB SERVICE COMPANIES					
Examiner Initials	Reference Number	Company	Established	Screen Capture Date	Screen Capture Page #
	DM	Orkut.com	Jan., 2004	Nov. 2004 <i>(estimated)</i>	25
	DN	Photobucket.com	May 3, 2003	Aug. 13, 2004	26
	DO	ImageShack.us	Nov. 12, 2003	Aug. 3, 2004	27
	DP	SixDegrees.com	1997	Dec. 6, 2000	28
	DQ	Reblog.org	2003	Mar. 27, 2004	29
	DR	WebShotes.com	1995	Jul. 3, 2004	30
	DS	Fotopic.com	1999	Jun. 6, 2004	31
	DT	SanpFish.com	2000	Jun. 3, 2004	32
	DU	SmugMug.com	2002	Jul. 12, 2004	33
	DV	Amazon.com	1994	Jul. 2, 2004	34
	DW	DeviantArt.com	2002	Jun. 14, 2004	35
	DX	Fotki.com	1998	Jun 9, 2004	36
	DY	ShutterFly.com	1999	Jun. 16, 2004	37

OTHER DOCUMENTS			
Examiner Initials	Reference Number	Author	Title of Article, Title of Journal, Volume Number, Page Numbers, Date
	DZ	Winston et al.	<i>EWall: Electronic Card Wall</i> , ONR CKM Workshop, January 2004, 20 pages, Publication date unknown
	EA	Winston et al.	<i>EWall: Electronic Card Wall</i> , ONR CKM Workshop, Maryland, January 2003, 25 pages, Publication date unknown
	EB	Winston et al.	<i>EWall: Electronic Card Wall</i> , ONR TC3 Workshop, San Diego, January 2002, 26 pages, Publication date unknown

Section 2. Forms PTO/SB/08A and 08B (formerly Form PTO-1449)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants: Keel et al. Attorney Docket: 4123/1003
 Serial No: 15/806,912 Art Group Unit: 2172
 Date Filed: November 8, 2017 Examiner Name: Gaffin, Jeffrey A.
 Invention: Methods and Apparatus for Managing and Exchanging Information Using
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DATE: May 21, 2018

**LIST OF PATENTS AND PUBLICATIONS FOR
 APPLICANT'S INFORMATION DISCLOSURE STATEMENT**

OTHER DOCUMENTS			
Examiner Initials	Reference Number	Author	Title of Article, Title of Journal, Volume Number, Page Numbers, Date
	EC	Winston et al.	<i>EWall: Electronic Card Wall</i> , ONR TC3 Workshop, San Diego, November 2000, 8 pages, Not publicly released
	ED	Fleming	<i>DCODE: Decision Making Constructs in a Distributed Environment</i> , ONR CKM Workshop, Maryland, January 2003, 60 pages, Publication date unknown
	EE	Fleming	<i>DCODE: Decision Making Constructs in a Distributed Environment</i> , ONR CKM Workshop, San Diego, January 2004, 71 pages, Publication date unknown
	EF	Fleming	<i>Information Exchange and Display in Asynchronous C2 Group Decision Making</i> , June 2003, 38 pages, Publication date unknown
	EG	Freeman et al.	<i>Collaborative Critical Thinking</i> , ONR CKM Workshop, Maryland, January 2003, 39 pages, Publication date unknown
	EH	Warner et al.	<i>CASC: The Process of Achieving Collaborative Knowledge in Asynchronous Collaboration</i> , ONR CKM Workshop, San Diego, January 2004, 53 pages, Publication date unknown
	EI	Bordetsky	<i>NPS GIGA Lab Testbed for CKM Projects</i> , ONR CKM Workshop, San Diego, January 2004, 47 pages, Publication date unknown
	EJ	Anon.	<i>EWall: Electronic Card Wall, Abstract</i> , in a screen capture taken from www.archive.org for date June 6, 2001 of web page at ewall.mit.edu/abstract/index.html , Publication date unknown

Section 2. Forms PTO/SB/08A and 08B (formerly Form PTO-1449)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants: Keel et al. Attorney Docket: 4123/1003
Serial No: 15/806,912 Art Group Unit: 2172
Date Filed: November 8, 2017 Examiner Name: Gaffin, Jeffrey A.
Invention: Methods and Apparatus for Managing and Exchanging Information Using
Information Objects

DATE: May 21, 2018

**LIST OF PATENTS AND PUBLICATIONS FOR
APPLICANT'S INFORMATION DISCLOSURE STATEMENT**

OTHER DOCUMENTS			
Examiner Initials	Reference Number	Author	Title of Article, Title of Journal, Volume Number, Page Numbers, Date
	EK	Winston, et al.	<i>EWall: Computational Support for Decision Making in Collaborative Environments</i> , in a screen capture taken from www.archive.org for date Aug 2, 2003 of web page at www.ai.mit.edu/research/abstracts/abstracts2002/user-interfaces/32winston.pdf , Publication date unknown
	EL	Anon.	<i>News View Examples</i> , in screen captures taken from www.archive.org for (a) date April 19, 2001 of web page at destech.mit.edu/keel/test/news/share.pl and (b) date April 7, 2003 of web page at ia.eversitas.com and (c) date June 17, 2002 of web page at destech.mit.edu:80/phw/news/news.html
	EM	Prante et al.	<i>Developing CSCW Tools for Idea Finding – Empirical Results and Implications for Design</i> , Proceedings of the ACM Conference on Computer Supported Cooperative Work, New Orleans, Louisiana, ACM Press, November 16-20, 2002, pages 106-115
	EN	Keel	<i>Declaration of Paul Erich Keel, Ph.D.</i> , signed and dated May 1, 2017, 5 pages

Section 2. Forms PTO/SB/08A and 08B (formerly Form PTO-1449)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants:	Keel et al.	Attorney Docket:	4123/1003
Serial No:	15/806,912	Art Group Unit:	2172
Date Filed:	November 8, 2017	Examiner Name:	Gaffin, Jeffrey A.
Invention:	Methods and Apparatus for Managing and Exchanging Information Using Information Objects		
DATE:	May 21, 2018		

**LIST OF PATENTS AND PUBLICATIONS FOR
APPLICANT'S INFORMATION DISCLOSURE STATEMENT**

Examiner Signature: _____

Date Considered: _____

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; draw line through citation *if not* in conformance and not considered. Include copy of this form with next communication to applicant.

Section 3. Statement as to Information Not Found in Patents or Publications (Information Not Listed in Forms PTO/SB/08A and 08B (formerly Form PTO-1449))

The Declaration of Paul Keel, as Document EN, submitted herewith describes early development work. The declaration refers to IDS reference number labels from the parent application. For clarification and convenience, the reference number labels corresponding to the current Information Disclosure Statement are provided below.

Slide Deck 1: EWall: Electronic Card Wall, Patrick Winston et al., Jan. 2004 (IDS Document DZ).

Slide Deck 2: EWall: Electronic Card Wall, Patrick Winston et al., Jan. 2003 (IDS Document EA).

Slide Deck 3: EWall: Electronic Card Wall, Patrick Winston et al., Jan. 2002 (IDS Document EB).

Slide Deck 4: EWall: Electronic Card Wall, Patrick Winston et al., Nov. 2000 (IDS Document EC).

Slide Deck 5: DCODE: Decision Making Constructs in a Distributed Environment, Robert Fleming, Jan. 2003 (IDS Document ED).

Slide Deck 6: DCODE: Decision Making Constructs in a Distributed Environment, Robert Fleming, Jan. 2004 (IDS Document EE).

Slide Deck 7: Information Exchange and Display in Asynchronous C2 Group Decision Making. Robert Fleming, Jun. 2003 (IDS Document EF).

Slide Deck 8: Collaborative Critical Thinking, Jared Freeman et al., Jan. 2003 (IDS Document EG).

Slide Deck 9: The Process of Achieving Collaborative Knowledge in Asynchronous Collaboration (CASC), Norman Warner et al., Jan. 2004 (IDS Document EH).

Slide Deck 10: NPS GIGA Lab Testbed for CKM Projects, Alex Bordetsky, Jan. 2004 (IDS Document EI).

Section 4. Identification of Prior Application in Which Listed Information Was Already Cited and for Which No Copies Are Submitted or Need Be Submitted

This application relies, under 35 U.S.C. § 120, on the earlier filing date of prior application SN.: 15/243,497 filed on August 22, 2016, now US Patent No. 9,817,562

The following references were submitted to, and/or cited by, the Office in the prior application(s) and, therefore, are not required to be provided in this application:

References: CN - EM

Pursuant to MPEP 609.02, the examiner will consider information which has been considered by the Office in a parent application when examining: (A) a continuation application filed under 37 CFR 1.53(b), (B) a divisional application filed under 37 CFR 1.53(b), or (C) a continuation-in-part application filed under 37 CFR 1.53(b). A listing of the information need not be resubmitted in the continuing application unless the applicant desires the information to be printed on the patent. Applicant is resubmitting this information for printing on any patent that issues from this patent application as well as to obtain confirmation that the examiner has considered the information.

Section 6. Copies of Listed Information Items Accompanying This Statement

Legible copies of all items listed in Forms PTO/SB/08A and 08B (substitute for Form PTO-1449) accompany this information statement.

☒ Exception(s) to above:

U.S. patent citations are not included pursuant to the United States Patent and Trademark Office's September 21, 2004 waiver of the copy requirement in 37 CFR 1.98 for cited pending U.S. patent citations when the patent citations are available in the USPTO's IFW system.

☒ Items in prior application, from which an earlier filing date is claimed for this application, as identified in Section 4.

☐ Cumulative patents or publications identified in Section 5.

Section 10. Identification of Person Making This Information Disclosure Statement

The person making this certification is the practitioner of record.

Reg. No.: 30,445

/Robert M. Asher, #30,445/

SIGNATURE OF PRACTITIONER

Robert M. Asher

(type or print name of practitioner)

Tel. No.: (617) 443-9292

Sunstein Kann Murphy & Timbers LLP

125 Summer Street, 11th Floor

P.O. Address

Customer No.: 002101

Boston, MA 02110-1618

04123/01003 2916759.1

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: Keel et al.
Application No.: 15/806,912
Filed: November 8, 2017
For: Methods and Apparatus for Managing and Exchanging Information
Using Information Objects

Group No.: 2172
Examiner: Gaffin, Jeffrey A.

Mail Stop Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

**TRANSMITTAL OF INFORMATION DISCLOSURE STATEMENT
WITHIN THREE MONTHS OF FILING OR
BEFORE MAILING OF FIRST OFFICE ACTION (37 C.F.R. § 1.97(b))**

**IDENTIFICATION OF TIME OF FILING THE ACCOMPANYING
INFORMATION DISCLOSURE STATEMENT**

The information disclosure statement submitted herewith is being filed within three months of the filing date of the application or date of entry into the national stage of an international application or before the mailing date of a first Office action on the merits, whichever event occurs last. 37 C.F.R. § 1.97(b).

DATE: May 21, 2018

/Robert M. Asher, #30,445/

ROBERT M. ASHER
Registration No. 30,445
SUNSTEIN KANN MURPHY & TIMBERS LLP
Customer Number 02101
125 Summer Street
Boston, MA 02110-1618
US

04123/01003 2916758.1

Electronic Acknowledgement Receipt

EFS ID:	32674998
Application Number:	15806912
International Application Number:	
Confirmation Number:	7214
Title of Invention:	Methods and Apparatus for Managing and Exchanging Information Using Information Objects
First Named Inventor/Applicant Name:	Paul Erich Keel
Customer Number:	2101
Filer:	Robert Asher
Filer Authorized By:	
Attorney Docket Number:	4123/1003
Receipt Date:	21-MAY-2018
Filing Date:	08-NOV-2017
Time Stamp:	13:45:26
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no
------------------------	----

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		_IDS.pdf	151672	yes	15
			abd80201c49f79fb383b32d4f5132cd848c70988		

	Multipart Description/PDF files in .zip description		
	Document Description	Start	End
	Information Disclosure Statement (IDS) Form (SB08)	2	15
	Transmittal Letter	1	1

Warnings:

Information:

2	Non Patent Literature	EN.PDF	69187	no	5
			13d226aee380ef0b0f31450e536de79d0b0a1021		

Warnings:

Information:

Total Files Size (in bytes):		220859
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This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

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

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

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

New International Application Filed with the USPTO as a Receiving Office

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



UNITED STATES PATENT AND TRADEMARK OFFICE

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

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
15/806,912	11/08/2017	Paul Erich Keel	4123/1003	7214
2101	7590	07/15/2019		
Sunstein Kann Murphy & Timbers LLP			EXAMINER	
125 SUMMER STREET			HAILU, TADESSE	
BOSTON, MA 02110-1618				
			ART UNIT	PAPER NUMBER
			2173	
			NOTIFICATION DATE	DELIVERY MODE
			07/15/2019	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):

usptomail@sunsteinlaw.com

DETAILED ACTION

Notice of Pre-AIA or AIA Status

1. The present application is being examined under the pre-AIA first to invent provisions.
2. The Office action is in response to the application filed November 8, 2017.
3. With this Office action the pending claims 1-21 are examined and rejected.
4. The IDS submitted on 5/21/2019 has been considered.

Double Patenting

A rejection based on double patenting of the “same invention” type finds its support in the language of 35 U.S.C. 101 which states that “whoever invents or discovers any new and useful process... may obtain a patent therefor...” (Emphasis added). Thus, the term “same invention,” in this context, means an invention drawn to identical subject matter. See *Miller v. Eagle Mfg. Co.*, 151 U.S. 186 (1894); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); *In re Ockert*, 245 F.2d 467, 114 USPQ 330 (CCPA 1957).

A statutory type (35 U.S.C. 101) double patenting rejection can be overcome by canceling or amending the claims that are directed to the same invention so they are no longer coextensive in scope. The filing of a terminal disclaimer cannot overcome a double patenting rejection based upon 35 U.S.C. 101.

5. Claims 1-21 are rejected under 35 U.S.C. 101 as claiming the same invention as that of claims 1-22 of prior U.S. Patent No. 9,817,562. This is a statutory double patenting rejection.

Allowable Subject Matter

6. Prior art search was made on 7/10/2019 but failed to produce any relevant results. Claims 1-21 would be allowable if amend to overcome the double patenting rejection.

CONCLUSION

7. Information regarding the status of an application may be obtained from the patent application information retrieval (PAIR) system. Status information for published application 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, please see pair-direct.uspto.gov web site. Should you have questions regarding access to the PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

8. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Tadesse Hailu, whose telephone number is (571) 272-4051, e-mail address tadesse.hailu@uspto.gov, and the Fax number is (571) 273-4051. The Examiner can normally be reached on M-F from 10:30 – 7:00 ET. If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Kieu Vu, can be reached at (571) 272-4057 Art Unit 2173.

/TADESSE HAILU/
Primary Examiner, Art Unit 2173

<i>Search Notes</i> 	Application/Control No. 15/806,912	Applicant(s)/Patent Under Reexamination Keel et al.
	Examiner TADESSE HAILU	Art Unit 2173

CPC - Searched*		
Symbol	Date	Examiner
(G06F16/22,258,9535,9537,29)	07/10/2019	TH
(G06F3/04842,04817,0482)	07/10/2019	TH
(H04L67/10 H04L51/046 G06Q10/10)	07/10/2019	TH

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
EAST - USPAT, PGPUB, EPO, JPO, DERWENT, IBM_TDB	07/10/2019	TH

Interference Search			
US Class/CPC Symbol	US Subclass/CPC Group	Date	Examiner

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<i>Index of Claims</i> 	Application/Control No. 15/806,912	Applicant(s)/Patent Under Reexamination Keel et al.
	Examiner TADESSE HAILU	Art Unit 2173

✓	Rejected	-	Cancelled	N	Non-Elected	A	Appeal
=	Allowed	÷	Restricted	I	Interference	O	Objected

CLAIMS										
☐ Claims renumbered in the same order as presented by applicant ☐ CPA ☐ T.D. ☐ R.1.47										
CLAIM		DATE								
Final	Original	07/10/2019								
	1	✓								
	2	✓								
	3	✓								
	4	✓								
	5	✓								
	6	✓								
	7	✓								
	8	✓								
	9	✓								
	10	✓								
	11	✓								
	12	✓								
	13	✓								
	14	✓								
	15	✓								
	16	✓								
	17	✓								
	18	✓								
	19	✓								
	20	✓								
	21	✓								

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: Keel et al.
Application No.: 15/806,912 Group No.: 2172
Filed: November 8, 2017 Examiner: Gaffin, Jeffrey A.
For: Methods and Apparatus for Managing and Exchanging Information
Using Information Objects

Mail Stop Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

INFORMATION DISCLOSURE STATEMENT

List of Sections Forming Part of This Information Disclosure Statement

The following sections are being submitted for this Information Disclosure Statement:

1. ☒ Preliminary Statements
2. ☒ Forms PTO/SB/08A and 08B (substitute for Form PTO-1449)
3. ☒ Statement as to Information Not Found in Patents or Publications
4. ☒ Identification of Prior Application in Which Listed Information Was Already Cited and for Which No Copies Are Submitted or Need Be Submitted
5. ☐ Cumulative Patents or Publications
6. ☒ Copies of Listed Information Items Accompanying This Statement
7. ☐ Concise Explanation of Non-English Language Listed Information Items
 - 7A. ☐ JEPO Search Report
 - 7B. ☐ English Language Version of EPO Search Report
8. ☐ Translation(s) of Non-English Language Documents
9. ☐ Concise Explanation of English Language Listed Information Items (Optional)
10. ☒ Identification of Person(s) Making This Information Disclosure Statement

Section 1. Preliminary statements

Applicants submit herewith patents, publications or other information, of which they are aware that they believe may be material to the examination of this application, and in respect of which, there may be a duty to disclose.

The filing of this information disclosure statement shall not be construed as a representation that a search has been made (37 C.F.R. § 1.97(g)), an admission that the information cited is, or is considered to be, material to patentability, or that no other material information exists.

The filing of this information disclosure statement shall not be construed as an admission against interest in any manner. Notice of January 9, 1992, 1135 O.G. 13-25, at 25.

Section 2. Forms PTO/SB/08A and 08B (formerly Form PTO-1449)**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Applicants: Keel et al. Attorney Docket: 4123/1003
Serial No: 15/806,912 Art Group Unit: 2172
Date Filed: November 8, 2017 Examiner Name: Gaffin, Jeffrey A.
Invention: Methods and Apparatus for Managing and Exchanging Information Using
Information Objects

DATE: May 21, 2018

**LIST OF PATENTS AND PUBLICATIONS FOR
APPLICANT'S INFORMATION DISCLOSURE STATEMENT**

U.S. PATENT DOCUMENTS				
Examiner Initials	Reference Number	Document Number	Issue Date	Inventor
	AA	US 5,008,853	Apr. 16, 1991	Bly, et al.
	AB	US 5,220,657	Jun. 15, 1993	Bly, et al.
	AC	US 5,732,229	Mar. 24, 1998	Dickinson
	AD	US 6,049,806	Apr. 11, 2000	Crecine
	AE	US 6,092,067	Jul. 18, 2000	Girling, et al.
	AF	US 6,119,147	Sep. 12, 2000	Toomey, et al.
	AG	US 6,266,649	Jul. 24, 2001	Linden, et al.
	AH	US 6,289,362	Sep. 11, 2001	Van Der Meer
	AI	US 6,327,590	Dec. 4, 2001	Chidlovskii, et al.
	AJ	US 6,415,316	Jul. 2, 2002	Van Der Meer
	AK	US 6,597,377	Jul. 22, 2003	MacPhail
	AL	US 6,724,403	Apr. 20, 2004	Santoro, et al.
	AM	US 6,768,999	Jul. 27, 2004	Prager, et al.
	AN	US 6,781,920	Aug. 24, 2004	Bates et al.
	AO	US 6,829,619	Dec. 7, 2004	Wakamatsu, et al.
	AP	US 6,912,505	Jun. 28, 2005	Linden, et al.
	AQ	US 6,931,591	Aug. 16, 2005	Brown, et al.
	AR	US 6,973,456	Dec. 6, 2005	Elgart
	AS	US 7,028,264	Apr. 11, 2006	Santoro, et al.
	AT	US 7,062,242	Jun. 13, 2006	Dajer, et al.
	AU	US 7,113,917	Sep. 26, 2006	Jacobi, et al.
	AV	US 7,478,054	Jan. 13, 2009	Adams, et al.
	AW	US 7,478,078	Jan. 13, 2009	Lunt, et al.
	AX	US 7,543,237	Jun. 2, 2009	Kontny, et al.
	AY	US 7,681,112	Mar. 16, 2010	Francis
	AZ	US 7,765,490	Jul. 27, 2010	Lai, et al.
	BA	US 7,904,323	Mar. 8, 2011	Wynn, et al.
	BB	US 7,921,368	Apr. 5, 2011	Moody, et al.

Information Disclosure Statement--page 3 of 14

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /T.H/

Section 2. Forms PTO/SB/08A and 08B (formerly Form PTO-1449)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants: Keel et al. Attorney Docket: 4123/1003
Serial No: 15/806,912 Art Group Unit: 2172
Date Filed: November 8, 2017 Examiner Name: Gaffin, Jeffrey A.
Invention: Methods and Apparatus for Managing and Exchanging Information Using
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**LIST OF PATENTS AND PUBLICATIONS FOR
APPLICANT'S INFORMATION DISCLOSURE STATEMENT**

U.S. PATENT DOCUMENTS				
Examiner Initials	Reference Number	Document Number	Issue Date	Inventor
	BC	US 7,941,444	May 10, 2011	Cragun et al.
	BD	US 8,042,063	Oct. 18, 2011	Lin-Hendel
	BE	US 8,078,615	Dec. 13, 2011	Smith, et al.
	BF	US 8,249,885	Aug. 21, 2012	Berkowitz et al.
	BG	US 8,392,834	Mar. 5, 2013	Obrador
	BH	US 8,743,148	Jun. 3, 2014	Gegner, et al.

U.S. PATENT PUBLICATION DOCUMENTS				
Examiner Initials	Reference Number	Document Number	Publication Date	Inventor
	BI	US 2001/0003214	Jun. 7 2001	Shastri et al.
	BJ	US 2002/0016725	Feb. 7, 2002	Eichstaedt, et al.
	BK	US 2002/0080180	Jun. 27, 2002	Mander, et al.
	BL	US 2002/0105541	Aug. 8, 2002	Endou et al.
	BM	US 2002/0143877	Oct. 3, 2002	Hackbarth, et al.
	BN	US 2002/0147661	Oct. 10, 2002	Hatakama et al.
	BO	US 2002/0169737	Nov. 14, 2002	Armstrong, et al.
	BP	US 2002/0186257	Dec. 12, 2002	Cadiz et al.
	BQ	US 2003/0009493	Jan. 9, 2003	Parker, et al.
	BR	US 2003/0030678	Feb. 13, 2003	Rosenholtz et al.
	BS	US 2003/0135565	Jul. 17, 2003	Estrada
	BT	US 2003/0158855	Aug. 21, 2003	Farnham, et al.
	BU	US 2003/0158893	Aug. 21, 2003	Komatsu et al.
	BV	US 2003/0164856	Sep. 4, 2003	Prager et al.
	BW	US 2003/0208397	Nov. 6, 2003	VanDusen
	BX	US 2003/0217056	Nov. 20, 2003	Allen, et al.
	BY	US 2004/0003097	Jan. 1, 2004	Willis, et al.
	BZ	US 2004/0049541	Mar. 11, 2004	Swahn

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ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /T.H/

Section 2. Forms PTO/SB/08A and 08B (formerly Form PTO-1449)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

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**LIST OF PATENTS AND PUBLICATIONS FOR
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U.S. PATENT PUBLICATION DOCUMENTS				
Examiner Initials	Reference Number	Document Number	Publication Date	Inventor
	CA	US 2004/0054428	Mar. 18, 2004	Sheha, et al.
	CB	US 2004/0083274	Apr. 29, 2004	Katiyar, et al.
	CC	US 2004/0153445	Aug. 5, 2004	Horvitz, et al.
	CD	US 2004/0177319	Sep. 9, 2004	Horn
	CE	US 2004/0193673	Sep. 30, 2004	Samji, et al.
	CF	US 2004/0201609	Oct. 14, 2004	Obrador
	CG	US 2004/0205514	Oct. 14, 2004	Sommerer et al.
	CH	US 2004/0261013	Dec. 23, 2004	Wynn, et al.
	CI	US 2004/0267700	Dec. 30, 2004	Dumais, et al.
	CJ	US 2005/0080807	Apr. 14, 2005	Beilinson, et al.
	CK	US 2005/0154639	Jul. 14, 2005	Zetmeir
	CL	US 2005/0165880	Jul. 28, 2005	Moody, et al
	CM	US 2013/0073425	Mar. 21, 2013	Hellal et al.

ACADEMIC PUBLICATIONS			
Examiner Initials	Reference Number	Author, Title, Publication Date	Screen Capture Page #
	CN	Keller R. et al. A bookmarking service for organizing and sharing URLs. Computer Networks and ISDN Systems 29 (1997) 1103-1114.	1
	CO	Rounding M. Informal Awareness and Causal Interaction with the Notification Colleague. Master Thesis. Dept. of Computer Science, University of Calgary, Alberta, Canada. Apr. 19, 2004	2
	CP	Greenberg S. et al. The Notification Collage: Posting Information to Public and Personal Displays. Yellow Series Report 2000-667-19, Dept. of Computer Science, University of Calgary, Alberta, Canada. September 14, 2000	2

Information Disclosure Statement--page 5 of 14

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /T.H/

Section 2. Forms PTO/SB/08A and 08B (formerly Form PTO-1449)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants: Keel et al. Attorney Docket: 4123/1003
Serial No: 15/806,912 Art Group Unit: 2172
Date Filed: November 8, 2017 Examiner Name: Gaffin, Jeffrey A.
Invention: Methods and Apparatus for Managing and Exchanging Information Using
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DATE: May 21, 2018

**LIST OF PATENTS AND PUBLICATIONS FOR
APPLICANT'S INFORMATION DISCLOSURE STATEMENT**

WEB SERVICE COMPANIES					
Examiner Initials	Reference Number	Company	Established	Screen Capture Date	Screen Capture Page #
	CQ	itList.com	Apr., 1996	May 29, 2004	3
	CR	Backflip.com	1999	Jun 23, 2004	4
	CS	Clickmarks.com	1999	Oct. 12, 1999	5
	CT	HotLinks.com	2000	Feb. 11, 2002	6
	CU	del.icio.us	2003	Dec. 20, 2005	7
	CV	SPURL.net	2004	Oct. 21, 2004	8
	CW	StumbleUpon.com	2001 <i>(estimated)</i>	Jun. 16, 2004	9
	CX	Flickr.com	Feb., 2004	Jun 7, 2004	10
	CY	TheFacebook.com	Feb., 2004	2005 <i>(estimated)</i>	11
	CZ	LiveJournal.com	1999	Dec. 15, 2003	12
	DA	Multiply.com	Mar., 2004 <i>(estimated)</i>	Jun. 19, 2004	13
	DB	Friendster.com	2002	Sep. 2003 <i>(estimated)</i>	14
	DC	MySpace.com	Aug., 2003	Apr. 4 2005 <i>(estimated)</i>	15
	DD	LinkedIn.com	May, 2003	2004 <i>(estimated)</i>	16
	DE	Blogger.com	1999	Mar 31, 2004	17
	DF	Eastgate Tinderbox	2002	Jun. 6, 2004	18
	DG	Hi5.com	2003	(unknown)	19
	DH	Xanga.com	1998	Jan. 21, 2006 <i>(estimated)</i>	20
	DI	AsianAve.com	1997	2007 <i>(estimated)</i>	21
	DJ	MiGente.com	2000	Jun. 3, 2004	22
	DK	vBulletin	2000	Jun. 10, 2004	23
	DL	phpBB	2000	Feb. 24, 2004 <i>(estimated)</i>	24

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /T.H/
Information Disclosure Statement--page 6 of 14

Section 2. Forms PTO/SB/08A and 08B (formerly Form PTO-1449)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants: Keel et al. Attorney Docket: 4123/1003
 Serial No: 15/806,912 Art Group Unit: 2172
 Date Filed: November 8, 2017 Examiner Name: Gaffin, Jeffrey A.
 Invention: Methods and Apparatus for Managing and Exchanging Information Using
 Information Objects

DATE: May 21, 2018

**LIST OF PATENTS AND PUBLICATIONS FOR
 APPLICANT'S INFORMATION DISCLOSURE STATEMENT**

WEB SERVICE COMPANIES					
Examiner Initials	Reference Number	Company	Established	Screen Capture Date	Screen Capture Page #
	DM	Orkut.com	Jan., 2004	Nov. 2004 (<i>estimated</i>)	25
	DN	Photobucket.com	May 3, 2003	Aug. 13, 2004	26
	DO	ImageShack.us	Nov. 12, 2003	Aug. 3, 2004	27
	DP	SixDegrees.com	1997	Dec. 6, 2000	28
	DQ	Reblog.org	2003	Mar. 27, 2004	29
	DR	WebShotes.com	1995	Jul. 3, 2004	30
	DS	Fotopic.com	1999	Jun. 6, 2004	31
	DT	SanpFish.com	2000	Jun. 3, 2004	32
	DU	SmugMug.com	2002	Jul. 12, 2004	33
	DV	Amazon.com	1994	Jul. 2, 2004	34
	DW	DeviantArt.com	2002	Jun. 14, 2004	35
	DX	Fotki.com	1998	Jun 9, 2004	36
	DY	ShutterFly.com	1999	Jun. 16, 2004	37

OTHER DOCUMENTS			
Examiner Initials	Reference Number	Author	Title of Article, Title of Journal, Volume Number, Page Numbers, Date
	DZ	Winston et al.	<i>EWall: Electronic Card Wall</i> , ONR CKM Workshop, January 2004, 20 pages, Publication date unknown
	EA	Winston et al.	<i>EWall: Electronic Card Wall</i> , ONR CKM Workshop, Maryland, January 2003, 25 pages, Publication date unknown
	EB	Winston et al.	<i>EWall: Electronic Card Wall</i> , ONR TC3 Workshop, San Diego, January 2002, 26 pages, Publication date unknown

Section 2. Forms PTO/SB/08A and 08B (formerly Form PTO-1449)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants: Keel et al. Attorney Docket: 4123/1003
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 Invention: Methods and Apparatus for Managing and Exchanging Information Using
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**LIST OF PATENTS AND PUBLICATIONS FOR
 APPLICANT'S INFORMATION DISCLOSURE STATEMENT**

OTHER DOCUMENTS			
Examiner Initials	Reference Number	Author	Title of Article, Title of Journal, Volume Number, Page Numbers, Date
	EC	Winston et al.	<i>EWall: Electronic Card Wall</i> , ONR TC3 Workshop, San Diego, November 2000, 8 pages, Not publicly released
	ED	Fleming	<i>DCODE: Decision Making Constructs in a Distributed Environment</i> , ONR CKM Workshop, Maryland, January 2003, 60 pages, Publication date unknown
	EE	Fleming	<i>DCODE: Decision Making Constructs in a Distributed Environment</i> , ONR CKM Workshop, San Diego, January 2004, 71 pages, Publication date unknown
	EF	Fleming	<i>Information Exchange and Display in Asynchronous C2 Group Decision Making</i> , June 2003, 38 pages, Publication date unknown
	EG	Freeman et al.	<i>Collaborative Critical Thinking</i> , ONR CKM Workshop, Maryland, January 2003, 39 pages, Publication date unknown
	EH	Warner et al.	<i>CASC: The Process of Achieving Collaborative Knowledge in Asynchronous Collaboration</i> , ONR CKM Workshop, San Diego, January 2004, 53 pages, Publication date unknown
	EI	Bordetsky	<i>NPS GIGA Lab Testbed for CKM Projects</i> , ONR CKM Workshop, San Diego, January 2004, 47 pages, Publication date unknown
	EJ	Anon.	<i>EWall: Electronic Card Wall, Abstract</i> , in a screen capture taken from www.archive.org for date June 6, 2001 of web page at ewall.mit.edu/abstract/index.html , Publication date unknown

Section 2. Forms PTO/SB/08A and 08B (formerly Form PTO-1449)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants: Keel et al. Attorney Docket: 4123/1003
Serial No: 15/806,912 Art Group Unit: 2172
Date Filed: November 8, 2017 Examiner Name: Gaffin, Jeffrey A.
Invention: Methods and Apparatus for Managing and Exchanging Information Using
Information Objects

DATE: May 21, 2018

**LIST OF PATENTS AND PUBLICATIONS FOR
APPLICANT'S INFORMATION DISCLOSURE STATEMENT**

OTHER DOCUMENTS			
Examiner Initials	Reference Number	Author	Title of Article, Title of Journal, Volume Number, Page Numbers, Date
	EK	Winston, et al.	<i>EWall: Computational Support for Decision Making in Collaborative Environments</i> , in a screen capture taken from www.archive.org for date Aug 2, 2003 of web page at www.ai.mit.edu/research/abstracts/abstracts2002/user-interfaces/32winston.pdf , Publication date unknown
	EL	Anon.	<i>News View Examples</i> , in screen captures taken from www.archive.org for (a) date April 19, 2001 of web page at destech.mit.edu/keel/test/news/share.pl and (b) date April 7, 2003 of web page at ia.eversitas.com and (c) date June 17, 2002 of web page at destech.mit.edu:80/phw/news/news.html
	EM	Prante et al.	<i>Developing CSCW Tools for Idea Finding – Empirical Results and Implications for Design</i> , Proceedings of the ACM Conference on Computer Supported Cooperative Work, New Orleans, Louisiana, ACM Press, November 16-20, 2002, pages 106-115
	EN	Keel	<i>Declaration of Paul Erich Keel, Ph.D.</i> , signed and dated May 1, 2017, 5 pages

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /T.H/

Section 2. Forms PTO/SB/08A and 08B (formerly Form PTO-1449)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants:	Keel et al.	Attorney Docket:	4123/1003
Serial No:	15/806,912	Art Group Unit:	2172
Date Filed:	November 8, 2017	Examiner Name:	Gaffin, Jeffrey A.
Invention:	Methods and Apparatus for Managing and Exchanging Information Using Information Objects		
DATE:	May 21, 2018		

**LIST OF PATENTS AND PUBLICATIONS FOR
APPLICANT'S INFORMATION DISCLOSURE STATEMENT**

Examiner Signature: /TADESSE HAILU/

Date Considered: 07/10/2019

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; draw line through citation *if not* in conformance and not considered. Include copy of this form with next communication to applicant.

Section 3. Statement as to Information Not Found in Patents or Publications (Information Not Listed in Forms PTO/SB/08A and 08B (formerly Form PTO-1449))

The Declaration of Paul Keel, as Document EN, submitted herewith describes early development work. The declaration refers to IDS reference number labels from the parent application. For clarification and convenience, the reference number labels corresponding to the current Information Disclosure Statement are provided below.

Slide Deck 1: EWall: Electronic Card Wall, Patrick Winston et al., Jan. 2004 (IDS Document DZ).

Slide Deck 2: EWall: Electronic Card Wall, Patrick Winston et al., Jan. 2003 (IDS Document EA).

Slide Deck 3: EWall: Electronic Card Wall, Patrick Winston et al., Jan. 2002 (IDS Document EB).

Slide Deck 4: EWall: Electronic Card Wall, Patrick Winston et al., Nov. 2000 (IDS Document EC).

Slide Deck 5: DCODE: Decision Making Constructs in a Distributed Environment, Robert Fleming, Jan. 2003 (IDS Document ED).

Slide Deck 6: DCODE: Decision Making Constructs in a Distributed Environment, Robert Fleming, Jan. 2004 (IDS Document EE).

Slide Deck 7: Information Exchange and Display in Asynchronous C2 Group Decision Making. Robert Fleming, Jun. 2003 (IDS Document EF).

Slide Deck 8: Collaborative Critical Thinking, Jared Freeman et al., Jan. 2003 (IDS Document EG).

Slide Deck 9: The Process of Achieving Collaborative Knowledge in Asynchronous Collaboration (CASC), Norman Warner et al., Jan. 2004 (IDS Document EH).

Slide Deck 10: NPS GIGA Lab Testbed for CKM Projects, Alex Bordetsky, Jan. 2004 (IDS Document EI).

Section 4. Identification of Prior Application in Which Listed Information Was Already Cited and for Which No Copies Are Submitted or Need Be Submitted

This application relies, under 35 U.S.C. § 120, on the earlier filing date of prior application SN.: 15/243,497 filed on August 22, 2016, now US Patent No. 9,817,562

The following references were submitted to, and/or cited by, the Office in the prior application(s) and, therefore, are not required to be provided in this application:

References: CN - EM

Pursuant to MPEP 609.02, the examiner will consider information which has been considered by the Office in a parent application when examining: (A) a continuation application filed under 37 CFR 1.53(b), (B) a divisional application filed under 37 CFR 1.53(b), or (C) a continuation-in-part application filed under 37 CFR 1.53(b). A listing of the information need not be resubmitted in the continuing application unless the applicant desires the information to be printed on the patent. Applicant is resubmitting this information for printing on any patent that issues from this patent application as well as to obtain confirmation that the examiner has considered the information.

Section 6. Copies of Listed Information Items Accompanying This Statement

Legible copies of all items listed in Forms PTO/SB/08A and 08B (substitute for Form PTO-1449) accompany this information statement.

☒ Exception(s) to above:

U.S. patent citations are not included pursuant to the United States Patent and Trademark Office's September 21, 2004 waiver of the copy requirement in 37 CFR 1.98 for cited pending U.S. patent citations when the patent citations are available in the USPTO's IFW system.

☒ Items in prior application, from which an earlier filing date is claimed for this application, as identified in Section 4.

☐ Cumulative patents or publications identified in Section 5.

Section 10. Identification of Person Making This Information Disclosure Statement

The person making this certification is the practitioner of record.

Reg. No.: 30,445

/Robert M. Asher, #30,445/

SIGNATURE OF PRACTITIONER

Robert M. Asher

(type or print name of practitioner)

Tel. No.: (617) 443-9292

Sunstein Kann Murphy & Timbers LLP

125 Summer Street, 11th Floor

P.O. Address

Customer No.: 002101

Boston, MA 02110-1618

04123/01003 2916759.1

EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	3	"20180074669"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2019/07/10 14:09
L2	5	"9817562".pn.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2019/07/10 14:09
L3	1325	keel.in.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2019/07/10 14:10
L4	2049535	huang.in.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2019/07/10 14:10
L5	1251	(3 4) and information near object	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2019/07/10 14:10
L6	25	5 AND (G06F3/04842,04817,0482).CPC.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2019/07/10 14:11
L7	15	6 AND (G06F16/22,258,9535,9537,29,).CPC.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2019/07/10 14:11
L8	15	6 AND	US-PGPUB;	OR	ON	2019/07/10

		(G06F16/22,258,9535,9537,29).CPC.	USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB			14:11
L9	15	7 AND (H04L67/10 H04L51/046 G06Q10/10).CPC.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2019/07/10 14:11
L10	7	8 AND information with object same card same represent\$4	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2019/07/10 14:12
L11	13	8 AND functions same (vote link sms message replicat\$4 copy\$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2019/07/10 14:12
L12	13	9 AND functions same (vote link sms message replicat\$4 copy\$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2019/07/10 14:12

7/ 10/ 2019 2:13:08 PM

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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.

PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875				Application or Docket Number 15/806,912		Filing Date 11/08/2017		☐ To be Mailed		
ENTITY: ☐ LARGE ☒ SMALL ☐ MICRO										
APPLICATION AS FILED - PART I										
		(Column 1)	(Column 2)							
FOR		NUMBER FILED	NUMBER EXTRA	RATE (\$)		FEE (\$)				
☐ BASIC FEE (37 CFR 1.16(a), (b), or (c))		N/A	N/A	N/A						
☐ SEARCH FEE (37 CFR 1.16(k), (l), or (m))		N/A	N/A	N/A						
☐ EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))		N/A	N/A	N/A						
TOTAL CLAIMS (37 CFR 1.16(i))		minus 20 = *		x \$40 =						
INDEPENDENT CLAIMS (37 CFR 1.16(h))		minus 3 = *		x \$210 =						
☐ APPLICATION SIZE FEE (37 CFR 1.16(s))		If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$310 (\$155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).								
☐ MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))										
* If the difference in column 1 is less than zero, enter "0" in column 2.				TOTAL						
APPLICATION AS AMENDED - PART II										
		(Column 1)	(Column 2)	(Column 3)						
AMENDMENT	01/15/2020	CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE (\$)		ADDITIONAL FEE (\$)		
	Total (37 CFR 1.16(i))	* 28	Minus	** 21	= 7	x \$50 =		350		
	Independent (37 CFR 1.16(h))	* 2	Minus	*** 3	= 0	x \$230 =		0		
	☐ Application Size Fee (37 CFR 1.16(s))									
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))									
						TOTAL ADD'L FEE		350		
		(Column 1)	(Column 2)	(Column 3)						
AMENDMENT		CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE (\$)		ADDITIONAL FEE (\$)		
	Total (37 CFR 1.16(i))	*	Minus	**	=	x \$0 =				
	Independent (37 CFR 1.16(h))	*	Minus	***	=	x \$0 =				
	☐ Application Size Fee (37 CFR 1.16(s))									
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))									
						TOTAL ADD'L FEE				
* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.						LIE				
** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".						/FREDERICK E BRISCOE/				
*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".										
The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.										

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, 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.

Electronic Patent Application Fee Transmittal

Application Number:	15806912			
Filing Date:	08-Nov-2017			
Title of Invention:	Methods and Apparatus for Managing and Exchanging Information Using Information Objects			
First Named Inventor/Applicant Name:	Paul Erich Keel			
Filer:	Bruce D. Sunstein/DENAMARIE DERAMO			
Attorney Docket Number:	4123/1003			
Filed as Small Entity				
Filing Fees for Utility under 35 USC 111(a)				
Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Basic Filing:				
Pages:				
Claims:				
CLAIMS IN EXCESS OF 20	2202	7	50	350
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Extension-of-Time:				
Extension - 3 months with \$0 paid	2253	1	700	700
Miscellaneous:				
Total in USD (\$)				1050

Electronic Acknowledgement Receipt

EFS ID:	38295017
Application Number:	15806912
International Application Number:	
Confirmation Number:	7214
Title of Invention:	Methods and Apparatus for Managing and Exchanging Information Using Information Objects
First Named Inventor/Applicant Name:	Paul Erich Keel
Customer Number:	2101
Filer:	Bruce D. Sunstein
Filer Authorized By:	
Attorney Docket Number:	4123/1003
Receipt Date:	15-JAN-2020
Filing Date:	08-NOV-2017
Time Stamp:	09:13:47
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	DA
Payment was successfully received in RAM	\$ 1050
RAM confirmation Number	E20201E015401134
Deposit Account	194972
Authorized User	Bruce Sunstein
The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows: 37 CFR 1.17 (Patent application and reexamination processing fees) 37 CFR 1.19 (Document supply fees)	

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Amendment/Req. Reconsideration-After Non-Final Reject	DD41231003Response.pdf	149947	no	21
			531b9c7724d3abfd53fee6dfa476ae694f0ef9ed		

Warnings:**Information:**

2	Fee Worksheet (SB06)	fee-info.pdf	32652	no	2
			ae760a5f285de648424bb88c3dd7e312e8f64b4b		

Warnings:**Information:**

Total Files Size (in bytes):	182599
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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.

REMARKS

Claims 1-21 have been rejected for statutory double patenting in relation to U.S. patent 9,817,562, which issued on a parent of the present application. In this response, claims 1-21 have been canceled and replaced by new claims 22-49. Of the new claims, claims 22-44 correspond very closely to, but are not identical to, claims 1-23 of U.S. Patent 10,338,790. That patent issued on application serial number 16/148,379, filed October 1, 2018, which is a direct continuation of the present application. Accordingly, U.S. Patent 10,338,790 has the same disclosure and the same priority dates as the present application.

Exhibit A hereto shows the (minor) changes reflected in claims 22-44 in relation to claims 1-23 of that U.S. patent. An inspection of Exhibit A shows that support for these changes in the claims of the present Response A exists in the issued claims of patent 10,338,790.

Claims 45-49 herein are new dependent claims. As shown in Exhibit A, support for these dependent claims similarly exists in the issued claims of patent 10,338,790.

In the interest of completeness, Exhibit B shows the manner in which claim 1 of the present application has been modified to arrive at new claim 22. In this respect, it can be seen that the limitations of new claim 22 are supported by the limitations of original claim 1. The difference in the respective claims pertains to minor changes in language.

Because the claims of the present application are now distinct from the claims of U.S. patent 9,817,562, the statutory double patenting rejection is obviated.

For all of the foregoing reasons, the applicant submits that all pending claims are in condition for allowance. The applicant respectfully requests early allowance of the application. The applicant requests that the examiner contact the undersigned, Bruce D. S, if it will assist further examination of this application.

Recognizing that Internet communications are not secure, I hereby authorize the USPTO to communicate with the undersigned and practitioners in accordance with **37 CFR 1.33** and **37 CFR 1.34** concerning any subject matter of this application by video conferencing, instant messaging, or electronic mail. I understand that a copy of these communications will be made of record in the application file.

Applicant petitions for a three-month extension of time. In the event that a further extension is needed, this conditional petition of extension is hereby submitted. Applicant requests that deposit account number 19-4972 be charged for any fees that may be required for the timely consideration of this application.

Date: January 15, 2020

Respectfully submitted,

/Bruce D. Sunstein, #27,234/

Bruce D. Sunstein
Registration No. 27,234
Attorney for Applicant

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125 Summer Street
Boston, Massachusetts 02110-1618
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04123/01003 3184117.2

APPENDIX A

Comparison Showing Claims of Issued Patent 10,338,790 as Modified for Use in the Present Response

22. [[1]] A computer-implemented method, in which at least one computer initiates execution of software instructions to perform computer processes, the method being for interacting with at least one data item obtained from at least one source ~~and rendering the at least one data item accessible from a database system, wherein the at least one source is external to the database system~~, the computer processes comprising:

responsive to a user selection of the at least one data item:

causing configuring of each of the data items into a distinct information object by extracting, from each data item, extracted data including a picture, a heading, and a link to the data item, and causing storing of data corresponding to each of the information objects in a database system ~~using the extracted data from a plurality of the data items to make available for display;~~

displaying a representation of each of at least two of the information objects in the database system, the representation being in a uniform format, wherein the format includes a card, and, within the card, in uniform locations thereof, the picture, the heading, a set of indicators, and a set of graphically accessible functions including:

a comment function, by which users having access to the card comment function can exchange comments relating to the card, such comments being associated with the information object represented by the card;

a vote function, by which users having access to the card vote function can vote for the card, such votes being associated with the information object represented by the card;

a copy function, by which users having access to the card copy function in a first collection of cards can cause the card to appear in a second collection of cards; and

a link function, by which users having access to the card link function can invoke the link to the data item; and

wherein the set of indicators includes:

~~a numeric count indicating~~ an indicator reflecting commenting activity associated with the card; and

~~a numeric count indicating voting activity associated with the card; and~~
wherein the database system is has been configured to allow (i) each user to have at least one user-selected collection of cards representing information objects in the database system and (ii) ~~cards, with~~ at least some content of cards, including any associated picture and heading, regardless of the collections in which they may have first appeared, to be made accessible and copyable across card collections of users.

23. [[2]] A method according to claim 22 [[1]], the computer processes further comprising:

~~providing a user interface having~~ displaying a graphical button, which, when invoked while content is being displayed, causes the displayed content to be handled as one of the data items, namely, by configuring the displayed content as a new information object and making a representation of the new information object available for display in the uniform format.

24. [[3]] A method according to claim 22 [[1]], wherein the format includes within the card an indication of a date of creation.

25. [[4]] A method according to claim 22 [[1]], wherein the format includes a user-accessible report relating to users who copied the information object.

26. [[5]] A method according to claim 22 [[1]], further comprising:

~~serving, to a client~~ displaying in a computing device of a first user, a first view of a first set of cards that constitute a first collection of the first user;

also ~~serving, to~~ displaying in the client computing device of the first user, a second view of a second set of cards that constitute a collection of a second user.

27. [[6]] A method according to claim 26 [[5]], further comprising:

responsive to (i) a graphical selection, by the first user, of a card in the second view and (ii) a copy command that has been graphically entered by the first user, causing the selected card to be copied from the second view to the first view, so that the selected card in the collection of the second user appears in the first collection of the first user.

28. [[7]] A method according to claim 26 [[5]], further comprising:

responsive to (i) a graphical selection, by the first user, of a card in the first view and (ii) a send command that has been graphically entered by the first user, causing the selected card to be sent to the second user, so that the selected card in the collection of the first user is made available to the second user to be included in the collection of the second user.

29. [[8]] A method according to claim 22 [[1]], further comprising:

on a user-entered command, causing a card to be shared with another user when the card and the other user have been graphically selected.

30. [[9]] A method according to claim 22 [[1]], further comprising:

on a user-entered command, causing a card to be shared with another user via an instant message sent through an integrated instant messaging system as a result of graphical selection by a first user.

31. [[10]] A method according to claim 22 [[1]], further comprising:

~~serving to a client~~ displaying in a computing device of a first user, a first view of a first set of cards that constitute a first collection of the first user;

also ~~serving to~~ displaying in the client computing device of the first user, a second view of a second set of cards, outside of the first collection, wherein any given member of the second set of cards is both included in a collection of another user and the other user has been selected by the first user; and wherein each of the cards in the second view can, on a user-entered command, be caused to be copied to the first view.

32. [[11]] A method according to claim 31 [[10]], wherein each of the cards in the second

view is displayed in an order determined by a criterion selected from the group consisting of the information object's creation time, its access time, and combinations thereof.

33. [[12]] A computer-implemented method, in which at least one computer initiates execution of software instructions to perform computer processes, the method being for interacting with at least one data item obtained from at least one source ~~and rendering the at least one data item accessible from a database system, wherein the at least one source is external to the database system,~~ the computer processes comprising:

responsive to a user selection of the at least one data item:

causing configuring of each of the data items into a distinct information object by extracting, from each data item, extracted data including a picture ~~and at least one of,~~ a heading, and a link to the data item, and causing storing of data corresponding to each of the information objects in a database system;

~~using the extracted data from a plurality of the data items to make available for display~~ displaying a representation of each of at least two of the information objects in the database system, the representation being in a uniform format, wherein the format includes a card, and, within the card, in uniform locations thereof, the picture, the heading, a set of indicators, and a set of graphically accessible functions including:

a comment function, by which users having access to the card comment function can exchange comments relating to the card, such comments being associated with the information object represented by the card;

a vote function, by which users having access to the card vote function can vote for the card, such votes being associated with the information object represented by the card;

a copy function, by which users having access to the card copy function in a first collection of cards can cause the card to appear in a second collection of cards; and

wherein the set of indicators includes:

~~a numeric count indicating~~ an indicator reflecting commenting activity associated with the card; and

~~a numeric count indicating voting activity associated with the information object;~~
and

wherein the database system ~~is~~ has been configured to allow (i) each user to have at least one user-selected collection of cards representing information objects in the database system and (ii) ~~cards with~~ at least some content of cards, including any associated picture and heading, regardless of the collections in which they may have first appeared, to be made accessible and copyable across card collections of users.

34. [[13]] A method according to claim 33 [[12]], wherein the extracted data from each data item includes at least the picture and the heading and wherein the heading is included within the card.

35. [[14]] A method according to claim 33 [[12]], the computer processes further comprising:

~~providing a user interface having~~ displaying a graphical button, which, when invoked while content is being displayed, causes the displayed content to be handled as one of the data items, namely, by configuring the displayed content as a new information object and making a representation of the new information object available for display in the uniform format.

36. [[15]] A method according to claim 33 [[12]], wherein the format includes within the card an indication of a date of creation.

37. [[16]] A method according to claim 33 [[12]], wherein the format includes a user-accessible report relating to users who copied the information object.

38. [[17]] A method according to claim 33 [[12]], further comprising:

~~serving to a client~~ displaying in a computing device of a first user, a first view of a first set of cards that constitute a first collection of the first user;

also ~~serving to~~ displaying in the ~~client~~ computing device of the first user, a second view of a second set of cards that constitute a collection of a second user.

39. [[18]] A method according to claim 38 [[17]], further comprising:

responsive to (i) a graphical selection, by the first user, of a card in the second view and (ii) a copy command that has been graphically entered by the first user, causing the selected card to be copied from the second view to the first view, so that the selected card in the collection of the second user appears in the first collection of the first user.

40. [[19]] A method according to claim 38 [[17]], further comprising:

responsive to (i) a graphical selection, by the first user, of a card in the first view and (ii) a send command that has been graphically entered by the first user, causing the selected card to be sent to the second user, so that the selected card in the collection of the first user is made available to the second user to be included in the collection of the second user.

41. [[20]] A method according to claim 33 [[12]], further comprising:

on a user-entered command, causing a card to be shared with another user when the card and the other user have been graphically selected.

42. [[21]] A method according to claim 33 [[12]], further comprising:

on a user-entered command, causing a card to be shared with another user via an instant message sent through an integrated instant messaging system as a result of graphical selection by a first user.

43. [[22]] A method according to claim 33 [[12]], further comprising:

~~serving to a client~~ displaying in a computing device of a first user, a first view of a first set of cards that constitute a first collection of the first user;

also ~~serving to~~ displaying in the client computing device of the first user, a second view of a second set of cards, outside of the first collection, wherein any given member of the second set of cards is both included in a collection of another user and the other user has been selected by the first user; and wherein each of the cards in the second view can, on a user-entered command, be caused to be copied to the first view.

44. [[23]] A method according to claim 43 [[22]], wherein each of the cards in the second

view is displayed in an order determined by a criterion selected from the group consisting of the information object's creation time, its access time, and combinations thereof.

45. (New) A method according to claim 22, wherein the set of indicators includes:
an indicator reflecting voting activity associated with the card.

46. (New) A method according to claim 45, wherein the indicator reflecting voting activity associated with the card provides a numeric count of the voting activity.

47. (New) A method according to claim 22, wherein the at least some content further includes the indicator reflecting voting activity.

48. (New) A method according to claim 22, wherein the indicator reflecting commenting activity associated with the card provides a numeric count of the commenting activity.

49. (New) A method according to claim 22, wherein the at least some content further includes the indicator reflecting commenting activity.

APPENDIX B

Comparison between Original Claim 1 and New Claim 22

22. [[1]] A computer-implemented method, in which at least one computer initiates execution of software instructions to perform computer processes, the method being for interacting with at least one data item obtained from at least one source ~~and rendering the at least one data item accessible from a database system, wherein the at least one source is external to the database system~~, the computer processes comprising:

responsive to a user selection of the at least one data item:

causing configuring storing, in the database system, a configuration, of each of the data items into as a distinct information object by extracting from each data item, extracted data including, in which each information object has an association with a picture, a heading, and a link to the corresponding data item, and causing storing of data corresponding to each of the information objects in a database system;

displaying using the stored configurations of a plurality of the data items to make available for display a representation of each of at least two of the information objects in the database system, the at least two information objects being selected for display, the representation being in a uniform format, wherein the format includes a card, and, within the card, in uniform locations thereof, the picture, the heading, a set of indicators, and a set of graphically accessible functions including: the set of indicators having at least one member, and a function mechanism giving graphical access to a set of functions;

wherein the functions include:

a comment-instant messaging function, by which users having access to the card comment function can exchange comments author-and time-stamped messages relating to the information object card, such messages-comments being associated with the information object represented by the card; and accessible to users who view the information object;

a vote function, by which ~~each~~ users having access to the card vote function can vote for the card, such votes being associated with ~~provide one vote for the~~ information object represented by the card;

a ~~replicate-copy~~ function, by which ~~each~~ users having access to the card copy function in a first collection of cards can cause the card to be ~~replicated~~ appear in a second collection of cards; and

a link function, by which ~~each~~ users having access to the card link function can invoke the link to the data item; and

wherein the set of indicators includes:

an indicator reflecting commenting activity ~~displays a number of instant messages and votes associated with the information object card~~; and

wherein the database system ~~is~~ has been configured to allow (i) each user to have at least one user-selected collection of cards representing information objects in the database system and (ii) at least some content of cards, including each card in the database system, with any associated picture and heading, and other associated data, regardless of the collections in which ~~it~~ they may have first appeared, to be accessible and replicable-copyable across card collections of users; ~~and~~

~~(iii) each user who has selected to monitor the collection of a given user, upon entry of a specific card into the collection of the given user, to have access to a replica of the specific card.~~

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: Keel et al.

Application No.: 15/806,912

Group No.: 2173

Filed: November 8, 2017

Examiner: Hailu, Tadesse

For: Methods and Apparatus for Managing and Exchanging Information Using Information Objects

Commissioner for Patents

P.O. Box 1450

Alexandria, VA 22313-1450

AMENDMENT TRANSMITTAL

1. Transmitted herewith is an amendment for this application.

STATUS

2. Applicant is a small entity.

EXTENSION OF TERM

3. The proceedings herein are for a patent application and the provisions of 37 C.F.R. § 1.136 apply.

Applicant petitions for an extension of time under 37 C.F.R. 1.136 (fees: 37 C.F.R. 1.17(a)(3)) for the total number of months:

Extension for response within third month

1.17(a)(3)

2253

\$ 700.00

If an additional extension of time is required, please consider this a petition therefor.

FEE FOR CLAIMS

4. The fee for claims (37 C.F.R. 1.16(b)-(d)) has been calculated as shown below:

	(Col. 1)	(Col. 2)	(Col. 3)	SMALL ENTITY			
	CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NO. PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE	ADDIT. FEE		
TOTAL	28	— 21	= 7	x \$ 50.00	= \$		350.00
INDEP.	2	— 3	= 0	x \$ 230.00	= \$		0.00
FIRST PRESENTATION OF MULTIPLE DEP. CLAIM				+ \$ 410.00	= \$		0.00
TOTAL ADDIT. FEE					\$		350.00

Total additional fee for claims required

\$ 350.00

FEE PAYMENT

5. Authorization is hereby made to charge the amount of \$1,050.00 to Deposit Account No. 19-4972.
Charge any additional fees required by this paper or credit any overpayment in the manner authorized above.

Date: January 15, 2020

/Bruce D. Sunstein, #27,234/

Bruce D. Sunstein
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Boston, MA 02110
617-443-9292
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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Inventor(s):	Keel et al.	Docket No.:	4123/1003
Appl. No:	15/806,912	Art Unit:	2173
Filed :	November 8, 2017	Examiner:	Hailu, Tadesse
		Conf. No:	7214

Title: Methods and Apparatus for Managing and Exchanging Information Using Information Objects

VIA USPTO ELECTRONIC FILING SYSTEM

Mail Stop AMENDMENT
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

RESPONSE A

Dear Sir:

In response to the Office Action of July 15, 2019 (the “Office Action”), please amend the above-identified application as follows:

Amendments to the Claims are reflected in the listing of claims which begins on page 2 of this paper.

Remarks begin on page 9 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– 21. (Canceled)

22. (New) A computer-implemented method, in which at least one computer initiates execution of software instructions to perform computer processes, the method being for interacting with at least one data item obtained from at least one source, the computer processes comprising:

responsive to a user selection of the at least one data item:

causing configuring of each of the data items into a distinct information object by extracting, from each data item, extracted data including a picture, a heading, and a link to the data item, and causing storing of data corresponding to each of the information objects in a database system;

displaying a representation of each of at least two of the information objects in the database system, the representation being in a uniform format, wherein the format includes a card, and, within the card, in uniform locations thereof, the picture, the heading, a set of indicators, and a set of graphically accessible functions including:

a comment function, by which users having access to the card comment function can exchange comments relating to the card, such comments being associated with the information object represented by the card;

a vote function, by which users having access to the card vote function can vote for the card, such votes being associated with the information object represented by the card;

a copy function, by which users having access to the card copy function in a first collection of cards can cause the card to appear in a second collection of cards; and

a link function, by which users having access to the card link function can invoke the link to the data item; and

wherein the set of indicators includes:

an indicator reflecting commenting activity associated with the card; and

wherein the database system has been configured to allow (i) each user to have at least one user-selected collection of cards representing information objects in the database system and (ii) at least some content of cards, including any associated picture and heading, regardless of the collections in which they may have first appeared, to be made accessible and copyable across card collections of users.

23. (New) A method according to claim 22, the computer processes further comprising:

displaying a graphical button, which, when invoked while content is being displayed, causes the displayed content to be handled as one of the data items, namely, by configuring the displayed content as a new information object and making a representation of the new information object available for display in the uniform format.

24. (New) A method according to claim 22, wherein the format includes within the card an indication of a date of creation.

25. (New) A method according to claim 22, wherein the format includes a user-accessible report relating to users who copied the information object.

26. (New) A method according to claim 22, further comprising:

displaying in a computing device of a first user, a first view of a first set of cards that constitute a first collection of the first user;

also displaying in the computing device of the first user, a second view of a second set of cards that constitute a collection of a second user.

27. (New) A method according to claim 26, further comprising:

responsive to (i) a graphical selection, by the first user, of a card in the second view and (ii) a copy command that has been graphically entered by the first user, causing the selected card to be copied from the second view to the first view, so that the selected card in the collection of the second user appears in the first collection of the first user.

28. (New) A method according to claim 26, further comprising:

responsive to (i) a graphical selection, by the first user, of a card in the first view and (ii) a send command that has been graphically entered by the first user, causing the selected card to be sent to the second user, so that the selected card in the collection of the first user is made available to the second user to be included in the collection of the second user.

29. (New) A method according to claim 22, further comprising:

on a user-entered command, causing a card to be shared with another user when the card and the other user have been graphically selected.

30. (New) A method according to claim 22, further comprising:

on a user-entered command, causing a card to be shared with another user via an instant message sent through an integrated instant messaging system as a result of graphical selection by a first user.

31. (New) A method according to claim 22, further comprising:

displaying in a computing device of a first user, a first view of a first set of cards that constitute a first collection of the first user;

also displaying in the computing device of the first user, a second view of a second set of cards, outside of the first collection, wherein any given member of the second set of cards is both included in a collection of another user and the other user has been selected by the first user; and wherein each of the cards in the second view can, on a user-entered command, be caused to be copied to the first view.

32. (New) A method according to claim 31, wherein each of the cards in the second view is displayed in an order determined by a criterion selected from the group consisting of the information object's creation time, its access time, and combinations thereof.

33. (New) A computer-implemented method, in which at least one computer initiates

execution of software instructions to perform computer processes, the method being for interacting with at least one data item obtained from at least one source, the computer processes comprising:

- responsive to a user selection of the at least one data item:

- causing configuring of each of the data items into a distinct information object by extracting, from each data item, extracted data including a picture, a heading, and a link to the data item, and causing storing of data corresponding to each of the information objects in a database system;

- displaying a representation of each of at least two of the information objects in the database system, the representation being in a uniform format, wherein the format includes a card, and, within the card, in uniform locations thereof, the picture, the heading, a set of indicators, and a set of graphically accessible functions including:

- a comment function, by which users having access to the card comment function can exchange comments relating to the card, such comments being associated with the information object represented by the card;

- a vote function, by which users having access to the card vote function can vote for the card, such votes being associated with the information object represented by the card;

- a copy function, by which users having access to the card copy function in a first collection of cards can cause the card to appear in a second collection of cards; and

- wherein the set of indicators includes:

- an indicator reflecting commenting activity associated with the card; and

- wherein the database system has been configured to allow (i) each user to have at least one user-selected collection of cards representing information objects in the database system and (ii) at least some content of cards, including any associated picture and heading, regardless of the collections in which they may have first appeared, to be made accessible and copyable across card collections of users.

34. (New) A method according to claim 33, wherein the extracted data from each data item includes at least the picture and the heading and wherein the heading is included within the card.

35. (New) A method according to claim 33, the computer processes further comprising:
displaying a graphical button, which, when invoked while content is being displayed, causes the displayed content to be handled as one of the data items, namely, by configuring the displayed content as a new information object and making a representation of the new information object available for display in the uniform format.

36. (New) A method according to claim 33, wherein the format includes within the card an indication of a date of creation.

37. (New) A method according to claim 33, wherein the format includes a user-accessible report relating to users who copied the information object.

38. (New) A method according to claim 33, further comprising:
displaying in a computing device of a first user, a first view of a first set of cards that constitute a first collection of the first user;
also displaying in the computing device of the first user, a second view of a second set of cards that constitute a collection of a second user.

39. (New) A method according to claim 38, further comprising:
responsive to (i) a graphical selection, by the first user, of a card in the second view and (ii) a copy command that has been graphically entered by the first user, causing the selected card to be copied from the second view to the first view, so that the selected card in the collection of the second user appears in the first collection of the first user.

40. (New) A method according to claim 38, further comprising:
responsive to (i) a graphical selection, by the first user, of a card in the first view and (ii) a send command that has been graphically entered by the first user, causing the selected card to be sent to the second user, so that the selected card in the collection of the first user is made available to the second user to be included in the collection of the second user.

41. (New) A method according to claim 33, further comprising:

on a user-entered command, causing a card to be shared with another user when the card and the other user have been graphically selected.

42. (New) A method according to claim 33, further comprising:

on a user-entered command, causing a card to be shared with another user via an instant message sent through an integrated instant messaging system as a result of graphical selection by a first user.

43. (New) A method according to claim 33, further comprising:

displaying in a computing device of a first user, a first view of a first set of cards that constitute a first collection of the first user;

also displaying in the computing device of the first user, a second view of a second set of cards, outside of the first collection, wherein any given member of the second set of cards is both included in a collection of another user and the other user has been selected by the first user; and wherein each of the cards in the second view can, on a user-entered command, be caused to be copied to the first view.

44. (New) A method according to claim 43, wherein each of the cards in the second view is displayed in an order determined by a criterion selected from the group consisting of the information object's creation time, its access time, and combinations thereof.

45. (New) A method according to claim 22, wherein the set of indicators includes:

an indicator reflecting voting activity associated with the card.

46. (New) A method according to claim 45, wherein the indicator reflecting voting activity associated with the card provides a numeric count of the voting activity.

47. (New) A method according to claim 22, wherein the at least some content further

includes the indicator reflecting voting activity.

48. (New) A method according to claim 22, wherein the indicator reflecting commenting activity associated with the card provides a numeric count of the commenting activity.

49. (New) A method according to claim 22, wherein the at least some content further includes the indicator reflecting commenting activity.



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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
15/806,912	11/08/2017	Paul Erich Keel	4123/1003	7214
2101	7590	02/24/2020	EXAMINER	
Sunstein LLP			HAILU, TADESSE	
100 High Street			ART UNIT	PAPER NUMBER
Boston, MA 02110-2321			2173	
			NOTIFICATION DATE	DELIVERY MODE
			02/24/2020	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):

usptomail@sunsteinlaw.com

Detailed action

Notice of Pre-AIA or AIA Status

1. The present application is being examined under the pre-AIA first to invent provisions.

This Office action is in response to the Amendment and response filed 1/15/2020.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112(a):

(a) IN GENERAL.—The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same, and shall set forth the best mode contemplated by the inventor or joint inventor of carrying out the invention.

The following is a quotation of the first paragraph of pre-AIA 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same, and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 22-49 are rejected under 35 U.S.C. 112(a) or 35 U.S.C. 112 (pre-AIA), first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor or a joint inventor, or for pre-AIA the inventor(s), at the time the application was filed, had possession of the claimed invention.

Independent claims 22 and 33 are amended to include in part the followings:

“ responsive to a user selection of the at least one data item:

causing configuration of each of the data items into a distinct information object
by extracting, ...

displaying a representation of each of at least two of the information objects in the database system, ...”

but the specification of the current invention did not disclose the two operations (i.e., configuration and displaying) are performed as a result of or responsive to a user selection of the at least one data item.

Accordingly, by dependency the remaining claims are also rejected.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the “right to exclude” granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on nonstatutory double patenting provided the reference application or patent either is shown to be commonly owned with the examined application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement. See MPEP § 717.02 for applications subject to examination under the first inventor to file provisions of the AIA as explained in MPEP § 2159.

See MPEP §§ 706.02(I)(1) - 706.02(I)(3) for applications not subject to examination under the first inventor to file provisions of the AIA. A terminal disclaimer must be signed in compliance with 37 CFR 1.321(b).

The USPTO Internet website contains terminal disclaimer forms which may be used. Please visit www.uspto.gov/patent/patents-forms. The filing date of the application in which the form is filed determines what form (e.g., PTO/SB/25, PTO/SB/26, PTO/AIA/25, or PTO/AIA/26) should be used. A web-based eTerminal Disclaimer may be filled out completely online using web-screens. An eTerminal Disclaimer that meets all requirements is auto-processed and approved immediately upon submission. For more information about eTerminal Disclaimers, refer to www.uspto.gov/patents/process/file/efs/guidance/eTD-info-I.jsp.

3. Claims 22-49 are rejected on the ground of nonstatutory double patenting as being unpatentable over claims 1-23 of U.S. Patent No. 10,338,790. Although the claims at issue are not identical, they are not patentably distinct from each other because as clearly furnished and mapped by the applicant (see APPENDIX A) the differences between the conflicting claims are minor and not distinguishing the overall appearance of one over the other. Furthermore, the mapping of the new claims 45-49 are not indicated in the APPENDIX A but once can clearly read the limitations of claims 45-49 within claim 12 of U.S. Patent No. 10,338,790.

Allowable Subject Matter

4. Claims 22-49 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112(a) or 35 U.S.C. 112 (pre-AIA), 1st paragraph, set forth in this Office action; and by submitting a timely filed terminal disclaimer to overcome the nonstatutory double patenting rejection, set forth in this Office action.

CONCLUSION

5. It is noted that any citation to specific pages, columns, figures, or lines in the prior art references any interpretation of the references should not be considered to be limiting in any way. A reference is relevant for all it contains and may be relied upon for all that it would have reasonably suggested to one having ordinary skill in the art. In re Heck, 699 F.2d 1331-33, 216 USPQ 1038-39 (Fed. Cir. 1983) (quoting In re Lemelson, 397 F.2d 1006, 1009, 158 USPQ 275, 277 (CCPA 1968)).

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

7. Information regarding the status of an application may be obtained from the patent application information retrieval (PAIR) system. Status information for published application 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, please see pair-direct.uspto.gov web site. Should you have questions regarding access to the PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

7. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Tadesse Hailu, whose telephone number is (571) 272-4051, e-mail

address tadesse.hailu@uspto.gov, and the Fax number is (571) 273-4051. The Examiner can normally be reached on M-F from 10:30 – 7:00 ET. If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Kieu Vu, can be reached at (571) 272-4057 Art Unit 2173.

/TADESSE HAILU/
Primary Examiner, Art Unit 2173

<i>Search Notes</i> 	Application/Control No. 15/806,912	Applicant(s)/Patent Under Reexamination Keel et al.
	Examiner TADESSE HAILU	Art Unit 2173

CPC - Searched*		
Symbol	Date	Examiner
(G06F16/22,258,9535,9537,29)	07/10/2019	TH
(G06F3/04842,04817,0482)	07/10/2019	TH
(H04L67/10 H04L51/046 G06Q10/10)	07/10/2019	TH

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
EAST - USPAT, PGPUB, EPO, JPO, DERWENT, IBM_TDB	07/10/2019	TH
EAST - USPAT, PGPUB, EPO, JPO, DERWENT, IBM_TDB	02/18/2020	TH

Interference Search			
US Class/CPC Symbol	US Subclass/CPC Group	Date	Examiner

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<i>Index of Claims</i> 	Application/Control No. 15/806,912	Applicant(s)/Patent Under Reexamination Keel et al.
	Examiner TADESSE HAILU	Art Unit 2173

✓	Rejected	-	Cancelled	N	Non-Elected	A	Appeal
=	Allowed	÷	Restricted	I	Interference	O	Objected

CLAIMS										
☐ Claims renumbered in the same order as presented by applicant ☐ CPA ☐ T.D. ☐ R.1.47										
CLAIM		DATE								
Final	Original	07/10/2019	02/18/2020							
	1	✓	-							
	2	✓	-							
	3	✓	-							
	4	✓	-							
	5	✓	-							
	6	✓	-							
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	41		✓							
	42		✓							

<i>Index of Claims</i> 	Application/Control No. 15/806,912	Applicant(s)/Patent Under Reexamination Keel et al.
	Examiner TADESSE HAILU	Art Unit 2173

CLAIM		DATE								
Final	Original	07/10/2019	02/18/2020							
	43		✓							
	44		✓							
	45		✓							
	46		✓							
	47		✓							
	48		✓							
	49		✓							

EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L14	17641	((vote link copy) with function).clm.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/02/18 14:18
L15	692	14 and card.clm.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/02/18 14:19
L16	66	15 and extract\$3.clm.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/02/18 14:20
L17	5	16 and (information adj object).clm.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/02/18 14:20
L18	5	16 and (information near object).clm.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/02/18 14:21
L19	5	"9817562".pn.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/02/18 14:24
L20	7	"10338790".pn.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/02/18 14:41
L21	1	"10338790".pn. and link	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/02/18 14:45
L22	2	(19 20) and respons\$4 with (user select\$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/02/18 14:49
L23	3	(19 20) and (respons\$4 select\$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/02/18 14:50
L24	15	keel.in. and (respons\$4 with user with select\$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/02/18 14:52
L25	0	keel.in. and (respons\$4 with user with select\$3) same (data item)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/02/18 14:53

L26	10	keel.in. and (respons\$4 with user with select\$3).clm.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/02/18 14:53
L27	4	"20180067628"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/02/18 14:57
L28	0	27 and (respons\$4 with user with select\$3) with (data item)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/02/18 14:58
L29	1	27 and (respons\$4 with user with select\$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/02/18 14:58
L30	1	27 and respons\$4 with (user select\$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/02/18 15:00
L31	2	(19 20) and respons\$4 with (user interact\$3 select\$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/02/18 15:01
L32	1	27 and respons\$4 with (user select\$3) same (configur\$3 display\$3 render\$4)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/02/18 15:03
L33	2	(19 20) and (configur\$3 display\$4).clm.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/02/18 15:06
L34	2	(19 20) and (configur\$3 comment display\$4).clm.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/02/18 15:08
L35	1	20 and (configur\$3 display\$4).clm.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/02/18 15:09
L36	1	27 and respons\$4 with (user select\$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/02/18 15:12
L37	2	27 and (user select\$3) same (configur\$3 display\$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/02/18 15:13
L38	2	27 and (user select\$3) with (configur\$3 display\$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/02/18 15:13
L39	1	27 and user with (interact\$3 select\$3) with (configur\$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/02/18 15:14
L40	1	27 and user with (interact\$3 select\$3) with (configur\$3 extract\$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT;	OR	ON	2020/02/18 15:15

				IBM_TDB				
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EAST Search History (Interference)

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2/ 18/ 2020 3:20:09 PM

C:\ Users\ thailu\ Documents\ EAST\ Workspaces\ All-database search-2018.wsp

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.

PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875				Application or Docket Number 15/806,912		Filing Date 11/08/2017		☐ To be Mailed		
ENTITY: ☐ LARGE ☒ SMALL ☐ MICRO										
APPLICATION AS FILED - PART I										
		(Column 1)	(Column 2)							
FOR		NUMBER FILED	NUMBER EXTRA	RATE (\$)		FEE (\$)				
☐ BASIC FEE (37 CFR 1.16(a), (b), or (c))		N/A	N/A	N/A						
☐ SEARCH FEE (37 CFR 1.16(k), (i), or (m))		N/A	N/A	N/A						
☐ EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))		N/A	N/A	N/A						
TOTAL CLAIMS (37 CFR 1.16(i))		minus 20 =	*	x \$40 =						
INDEPENDENT CLAIMS (37 CFR 1.16(h))		minus 3 =	*	x \$210 =						
☐ APPLICATION SIZE FEE (37 CFR 1.16(s))		If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$310 (\$155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).								
☐ MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))										
* If the difference in column 1 is less than zero, enter "0" in column 2.				TOTAL						
APPLICATION AS AMENDED - PART II										
		(Column 1)	(Column 2)	(Column 3)						
AMENDMENT	03/24/2020	CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE (\$)		ADDITIONAL FEE (\$)		
	Total (37 CFR 1.16(i))	* 28	Minus	** 28	= 0	x \$50 =		0		
	Independent (37 CFR 1.16(h))	* 2	Minus	*** 3	= 0	x \$230 =		0		
	☐ Application Size Fee (37 CFR 1.16(s))									
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))									
						TOTAL ADD'L FEE		0		
		(Column 1)	(Column 2)	(Column 3)						
AMENDMENT		CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE (\$)		ADDITIONAL FEE (\$)		
	Total (37 CFR 1.16(i))	*	Minus	**	=	x \$0 =				
	Independent (37 CFR 1.16(h))	*	Minus	***	=	x \$0 =				
	☐ Application Size Fee (37 CFR 1.16(s))									
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))									
						TOTAL ADD'L FEE				
* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.						LIE				
** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".						/KIM R WATSON/				
*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".										
The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.										

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, 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.

Doc Code: DIST.E.FILE Document Description: Electronic Terminal Disclaimer - Filed		PTO/SB/26 U.S. Patent and Trademark Office Department of Commerce	
Electronic Petition Request	TERMINAL DISCLAIMER TO OBIATE A DOUBLE PATENTING REJECTION OVER A "PRIOR" PATENT		
Application Number	15806912		
Filing Date	08-Nov-2017		
First Named Inventor	Paul Erich Keel		
Attorney Docket Number	4123/1003		
Title of Invention	Methods and Apparatus for Managing and Exchanging Information Using Information Objects		
☒ Filing of terminal disclaimer does not obviate requirement for response under 37 CFR 1.111 to outstanding Office Action ☒ This electronic Terminal Disclaimer is not being used for a Joint Research Agreement.			
Owner	Percent Interest		
Paul Erich Keel	100%		
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) 10338790 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. 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: - expires for failure to pay a maintenance fee; - is held unenforceable; - is found invalid by a court of competent jurisdiction; - is statutorily disclaimed in whole or terminally disclaimed under 37 CFR 1.321; - has all claims canceled by a reexamination certificate; - is reissued; or - is in any manner terminated prior to the expiration of its full statutory term as presently shortened by any terminal disclaimer. ☒ 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 <u>27234</u> ☐ 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	/Bruce D. Sunstein, #27,234/
Name	Bruce D. Sunstein

*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

Application Number:	15806912			
Filing Date:	08-Nov-2017			
Title of Invention:	Methods and Apparatus for Managing and Exchanging Information Using Information Objects			
First Named Inventor/Applicant Name:	Paul Erich Keel			
Filer:	Bruce D. Sunstein			
Attorney Docket Number:	4123/1003			
Filed as Small Entity				
Filing Fees for Utility under 35 USC 111(a)				
Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Basic Filing:				
STATUTORY OR TERMINAL DISCLAIMER	2814	1	160	160
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Extension-of-Time:				
Miscellaneous:				
Total in USD (\$)				160

Doc Code: DISQ.E.FILE

Document Description: Electronic Terminal Disclaimer – Approved

Application No.: 15806912

Filing Date: 08-Nov-2017

Applicant/Patent under Reexamination: Keel

Electronic Terminal Disclaimer filed on March 24, 2020

☒ 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

EFS ID:	38955060
Application Number:	15806912
International Application Number:	
Confirmation Number:	7214
Title of Invention:	Methods and Apparatus for Managing and Exchanging Information Using Information Objects
First Named Inventor/Applicant Name:	Paul Erich Keel
Customer Number:	2101
Filer:	Bruce D. Sunstein
Filer Authorized By:	
Attorney Docket Number:	4123/1003
Receipt Date:	24-MAR-2020
Filing Date:	08-NOV-2017
Time Stamp:	16:10:57
Application Type:	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	E20203NG10556964
Deposit Account	
Authorized User	
The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:	

File Listing:					
Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Terminal Disclaimer-Filed (Electronic)	eTerminal-Disclaimer.pdf	33496	no	2
			38944544a1355548a2f26ea7791dabb57f9f443		
Warnings:					
Information:					
2	Fee Worksheet (SB06)	fee-info.pdf	30909	no	2
			f711edc8d8dfb90b6ef1e43cdf2ba2e540aad03		
Warnings:					
Information:					
Total Files Size (in bytes):			64405		
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. <u>New Applications Under 35 U.S.C. 111</u> 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. <u>National Stage of an International Application under 35 U.S.C. 371</u> 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. <u>New International Application Filed with the USPTO as a Receiving Office</u> 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.					

Electronic Acknowledgement Receipt

EFS ID:	38955148
Application Number:	15806912
International Application Number:	
Confirmation Number:	7214
Title of Invention:	Methods and Apparatus for Managing and Exchanging Information Using Information Objects
First Named Inventor/Applicant Name:	Paul Erich Keel
Customer Number:	2101
Filer:	Bruce D. Sunstein
Filer Authorized By:	
Attorney Docket Number:	4123/1003
Receipt Date:	24-MAR-2020
Filing Date:	08-NOV-2017
Time Stamp:	16:14:59
Application Type:	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	Response After Final Action	kem4123_1003_ResponseAfter Final.pdf	122019 20d32a592a2a61fd1e0d0e2778c6dcdb9f4 3796c	no	13

Warnings:

Information:	
Total Files Size (in bytes):	122019
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. <u>New Applications Under 35 U.S.C. 111</u> 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. <u>National Stage of an International Application under 35 U.S.C. 371</u> 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. <u>New International Application Filed with the USPTO as a Receiving Office</u> 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.	

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: Paul Erich Keel, Jeffrey Huang

Application No.: 15/806,912

Group No.: 2173

Filed: 11/08/2017

Examiner: Hailu, Tadesse

For: Methods and Apparatus for Managing and Exchanging Information Using Information Objects

**RESPONSE UNDER
37 C.F.R. § 1.116
EXPEDITED PROCEDURE
EXAMINING GROUP
2173**

**Mail Stop AF
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450**

AMENDMENT OR RESPONSE AFTER FINAL REJECTION--TRANSMITTAL

1. Transmitted herewith is an amendment after final rejection (37 C.F.R. 1.116) for this application.

STATUS

2. Applicant is a small entity. Small entity statement was asserted at the time of filing.

EXTENSION OF TERM

3. Applicant believes that no extension of term is required. However, this conditional petition is being made to provide for the possibility that applicant has inadvertently overlooked the need for a petition and fee for extension of time.

FEE FOR CLAIMS

4. The fee for claims (37 C.F.R. 1.16(b)-(d)) has been calculated as shown below:

	(Col. 1)	(Col. 2)		(Col. 3)		SMALL ENTITY				
	CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NO. PREVIOUSLY PAID FOR		PRESENT EXTRA		RATE		ADDIT. FEE	
TOTAL	28	—	28	=	0	x	\$ 50.00	=	\$	0.00
INDEP.	2	—	3	=	0	x	\$ 230.00	=	\$	0.00
FIRST PRESENTATION OF MULTIPLE DEP. CLAIM						+	\$ 410.00	=	\$	0.00
						TOTAL ADDIT. FEE			\$	0.00
Total additional fee for claims required					\$0.00					

FEE DEFICIENCY

5. If any extension and/or fee is required, charge Account No. 19-4972.

If any fee for claims is required, charge Account No. 19-4972.

Date: March 24, 2020

/Bruce D. Sunstein, #27,234/

Bruce D. Sunstein

Registration No. 27,234

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Boston, MA 02110

617-443-9292

Customer No. 02101

04123/01003 3215269.1

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Inventor(s):	Keel et al.	Docket No.:	4123/1003
Appl. No:	15/806,912	Art Unit:	2173
Filed :	November 8, 2017	Examiner:	Hailu, Tadesse
		Conf. No:	7214

Title: Methods and Apparatus for Managing and Exchanging Information Using Information Objects

VIA USPTO ELECTRONIC FILING SYSTEM

Mail Stop AMENDMENT
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

RESPONSE B

Dear Sir:

This letter is in response to the Office Action of February 24, 2020 (the “Office Action”).

Amendments to the Claims are reflected in the listing of claims, which begins on page 2 of this paper.

Remarks begin on page 9 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– 21. (Canceled)

22. (Previously presented) A computer-implemented method, in which at least one computer initiates execution of software instructions to perform computer processes, the method being for interacting with at least one data item obtained from at least one source, the computer processes comprising:

responsive to a user selection of the at least one data item:

causing configuring of each of the data items into a distinct information object by extracting, from each data item, extracted data including a picture, a heading, and a link to the data item, and causing storing of data corresponding to each of the information objects in a database system;

displaying a representation of each of at least two of the information objects in the database system, the representation being in a uniform format, wherein the format includes a card, and, within the card, in uniform locations thereof, the picture, the heading, a set of indicators, and a set of graphically accessible functions including:

a comment function, by which users having access to the card comment function can exchange comments relating to the card, such comments being associated with the information object represented by the card;

a vote function, by which users having access to the card vote function can vote for the card, such votes being associated with the information object represented by the card;

a copy function, by which users having access to the card copy function in a first collection of cards can cause the card to appear in a second collection of cards; and

a link function, by which users having access to the card link function can invoke the link to the data item; and

wherein the set of indicators includes:

an indicator reflecting commenting activity associated with the card; and

wherein the database system has been configured to allow (i) each user to have at least one user-selected collection of cards representing information objects in the database system and (ii) at least some content of cards, including any associated picture and heading, regardless of the collections in which they may have first appeared, to be made accessible and copyable across card collections of users.

23. (Previously presented) A method according to claim 22, the computer processes further comprising:

displaying a graphical button, which, when invoked while content is being displayed, causes the displayed content to be handled as one of the data items, namely, by configuring the displayed content as a new information object and making a representation of the new information object available for display in the uniform format.

24. (Previously presented) A method according to claim 22, wherein the format includes within the card an indication of a date of creation.

25. (Previously presented) A method according to claim 22, wherein the format includes a user-accessible report relating to users who copied the information object.

26. (Previously presented) A method according to claim 22, further comprising:

displaying in a computing device of a first user, a first view of a first set of cards that constitute a first collection of the first user;

also displaying in the computing device of the first user, a second view of a second set of cards that constitute a collection of a second user.

27. (Previously presented) A method according to claim 26, further comprising:

responsive to (i) a graphical selection, by the first user, of a card in the second view and (ii) a copy command that has been graphically entered by the first user, causing

the selected card to be copied from the second view to the first view, so that the selected card in the collection of the second user appears in the first collection of the first user.

28. (Previously presented) A method according to claim 26, further comprising:

responsive to (i) a graphical selection, by the first user, of a card in the first view and (ii) a send command that has been graphically entered by the first user, causing the selected card to be sent to the second user, so that the selected card in the collection of the first user is made available to the second user to be included in the collection of the second user.

29. (Previously presented) A method according to claim 22, further comprising:

on a user-entered command, causing a card to be shared with another user when the card and the other user have been graphically selected.

30. (New) A method according to claim 22, further comprising:

on a user-entered command, causing a card to be shared with another user via an instant message sent through an integrated instant messaging system as a result of graphical selection by a first user.

31. (Previously presented) A method according to claim 22, further comprising:

displaying in a computing device of a first user, a first view of a first set of cards that constitute a first collection of the first user;

also displaying in the computing device of the first user, a second view of a second set of cards, outside of the first collection, wherein any given member of the second set of cards is both included in a collection of another user and the other user has been selected by the first user; and wherein each of the cards in the second view can, on a user-entered command, be caused to be copied to the first view.

32. (Previously presented) A method according to claim 31, wherein each of the cards in the second view is displayed in an order determined by a criterion selected from the group consisting of the information object's creation time, its access time, and

combinations thereof.

33. (Previously presented) A computer-implemented method, in which at least one computer initiates execution of software instructions to perform computer processes, the method being for interacting with at least one data item obtained from at least one source, the computer processes comprising:

- responsive to a user selection of the at least one data item:

- causing configuring of each of the data items into a distinct information object by extracting, from each data item, extracted data including a picture, a heading, and a link to the data item, and causing storing of data corresponding to each of the information objects in a database system;

- displaying a representation of each of at least two of the information objects in the database system, the representation being in a uniform format, wherein the format includes a card, and, within the card, in uniform locations thereof, the picture, the heading, a set of indicators, and a set of graphically accessible functions including:

- a comment function, by which users having access to the card comment function can exchange comments relating to the card, such comments being associated with the information object represented by the card;

- a vote function, by which users having access to the card vote function can vote for the card, such votes being associated with the information object represented by the card;

- a copy function, by which users having access to the card copy function in a first collection of cards can cause the card to appear in a second collection of cards; and

- wherein the set of indicators includes:

- an indicator reflecting commenting activity associated with the card; and

- wherein the database system has been configured to allow (i) each user to have at least one user-selected collection of cards representing information objects in the database system and (ii) at least some content of cards, including any associated picture and heading, regardless of the collections in which they may have first appeared, to be made accessible and copyable across card collections of users.

34. (Previously presented) A method according to claim 33, wherein the extracted data from each data item includes at least the picture and the heading and wherein the heading is included within the card.

35. (Previously presented) A method according to claim 33, the computer processes further comprising:

displaying a graphical button, which, when invoked while content is being displayed, causes the displayed content to be handled as one of the data items, namely, by configuring the displayed content as a new information object and making a representation of the new information object available for display in the uniform format.

36. (Previously presented) A method according to claim 33, wherein the format includes within the card an indication of a date of creation.

37. (Previously presented) A method according to claim 33, wherein the format includes a user-accessible report relating to users who copied the information object.

38. (Previously presented) A method according to claim 33, further comprising:

displaying in a computing device of a first user, a first view of a first set of cards that constitute a first collection of the first user;

also displaying in the computing device of the first user, a second view of a second set of cards that constitute a collection of a second user.

39. (Previously presented) A method according to claim 38, further comprising:

responsive to (i) a graphical selection, by the first user, of a card in the second view and (ii) a copy command that has been graphically entered by the first user, causing the selected card to be copied from the second view to the first view, so that the selected card in the collection of the second user appears in the first collection of the first user.

40. (Previously presented) A method according to claim 38, further comprising:

responsive to (i) a graphical selection, by the first user, of a card in the first view and (ii) a send command that has been graphically entered by the first user, causing the selected card to be sent to the second user, so that the selected card in the collection of the first user is made available to the second user to be included in the collection of the second user.

41. (Previously presented) A method according to claim 33, further comprising:

on a user-entered command, causing a card to be shared with another user when the card and the other user have been graphically selected.

42. (Previously presented) A method according to claim 33, further comprising:

on a user-entered command, causing a card to be shared with another user via an instant message sent through an integrated instant messaging system as a result of graphical selection by a first user.

43. (Previously presented) A method according to claim 33, further comprising:

displaying in a computing device of a first user, a first view of a first set of cards that constitute a first collection of the first user;

also displaying in the computing device of the first user, a second view of a second set of cards, outside of the first collection, wherein any given member of the second set of cards is both included in a collection of another user and the other user has been selected by the first user; and wherein each of the cards in the second view can, on a user-entered command, be caused to be copied to the first view.

44. (Previously presented) A method according to claim 43, wherein each of the cards in the second view is displayed in an order determined by a criterion selected from the group consisting of the information object's creation time, its access time, and combinations thereof.

45. (Previously presented) A method according to claim 22, wherein the set of indicators

includes:

an indicator reflecting voting activity associated with the card.

46. (Previously presented) A method according to claim 45, wherein the indicator reflecting voting activity associated with the card provides a numeric count of the voting activity.

47. (Previously presented) A method according to claim 22, wherein the at least some content further includes the indicator reflecting voting activity.

48. (Previously presented) A method according to claim 22, wherein the indicator reflecting commenting activity associated with the card provides a numeric count of the commenting activity.

49. (Previously presented) A method according to claim 22, wherein the at least some content further includes the indicator reflecting commenting activity.

REMARKS

Applicant notes with appreciation the determination by the Examiner that the claims distinguish over the prior art. Applicant further expresses appreciation to the Examiner for considering a draft of this response and communicating to Applicant that the draft overcomes the rejection under 35 U.S.C. § 112.

To address the obviousness-type double patenting rejection, applicant is filing with this response a terminal disclaimer relative to U.S. patent 10,338,790.

To address the rejection under 35 U.S.C. § 112, applicant shows here how the application does disclose the two operations (configuration and displaying) as being performed as a result of or responsive to a user selection of the at least one data item. Specifically, in the chart below, each bullet in the first column identifies a limitation in claim 22, and each bullet in the second column identifies a corresponding passage, in the referenced paragraph of the application, that supports the limitation:

• "... responsive to a user selection of the at least one data item: ..."	• [00056] ... a user 108 can create a card by simply dragging a hyperlink or file or other digital material onto the workspace view 300. ...
• "... causing configuration of each of the data items into a distinct information object by extracting, ..."	• [00056] ... A new card 320 is created where the hyperlink or file is dropped, a picture is added automatically (by searching the hyperlink destination or the file contents for an appropriate graphic), the heading is added automatically (usually the web site or file name), and a link or embedded attachment is automatically created from the file or the web site reference by the hyperlink. ...
• "... displaying a representation of each of at least two of the information objects in the database system, ..."	• [00058A] ... steps a user 108 can perform to create a card. The relation manager 150 creates and displays a new card in the workspace view. The user 108 may have performed a drag and drop of some content onto the workspace view 300, or may have selected a pull down menu in the workspace view to create a new card 320. In response, the relation manager 150 creates a new card record 160 in the database to correspond to the new card in the workspace view 300. ...

As indicated in the chart above, the limitation "... responsive to a user selection of the at least one data item: ..." is supported by the discussion, in paragraph 56, involving dragging and dropping a hyperlink or file to initiate creation of a card. In this case, a "card" corresponds to a data object. See paragraph [00022]: "As used herein the term "card," "IO" and "information object" are used interchangeably, and a card is one example configuration or representation of an information object." Thus, the quoted excerpt from paragraph [00056] shows that a user selection of a data item gives rise to

creation of an information object. Further details associated with creation of the card (the information object) also appear in paragraph [00056], as explained in the second bullet-pointed row of the above table, showing that the card is created automatically.

The third bullet-pointed row of the above table shows that the “displaying” limitation of claim 22 is supported by paragraph [00058A] concerning “steps a user 108 can perform to create a card.” These steps, as recited in both this paragraph [00058A] and in the previously referenced paragraph [00056], may include “a drag and drop of some content onto the workspace view 300.” As a result, per paragraph [00058A] (emphasis added), “the relation manager 150 creates *and displays* a new card in the workspace view.” Moreover, per paragraph [00058A], “[i]n response, the relation manager 150 creates a new card record 160 *in the database* to correspond to the new card in the workspace view 300” (emphasis added).

In consequence, the application well supports the concepts of “selecting” a “data item” as well as “configuring” and “displaying” an “information object” “in a database.”

Date: March 24, 2020

Respectfully submitted,

/Bruce D. Sunstein, #27,234/

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Registration No. 27,234
Attorney for Applicant

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Fax: (617) 443-0004

04123/01003 3208540.1



NOTICE OF ALLOWANCE AND FEE(S) DUE

2101 7590 04/10/2020
Sunstein LLP
100 High Street
Boston, MA 02110-2321

EXAMINER

HAILU, TADESSE

ART UNIT

PAPER NUMBER

2173

DATE MAILED: 04/10/2020

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
15/806,912	11/08/2017	Paul Erich Keel	4123/1003	7214

TITLE OF INVENTION: Methods and Apparatus for Managing and Exchanging Information Using Information Objects

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	07/10/2020

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)

2101 7590 04/10/2020
Sunstein LLP
100 High Street
Boston, MA 02110-2321

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.
15/806,912	11/08/2017	Paul Erich Keel	4123/1003	7214

TITLE OF INVENTION: Methods and Apparatus for Managing and Exchanging Information Using Information Objects

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	07/10/2020

EXAMINER	ART UNIT	CLASS-SUBCLASS
HAILU, TADESSE	2173	715-739000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

☐ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.

☐ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-09 or more recent) attached. **Use of a Customer Number is required.**

2. For printing on the patent front page, list

- (1) The names of up to 3 registered patent attorneys or agents OR, alternatively,
(2) The name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed.

1 _____
2 _____
3 _____

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document 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

☐ Applicant asserting small entity status. See 37 CFR 1.27

☐ Applicant changing to regular undiscounted fee status.

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.

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.

NOTE: Checking this box will be taken to be a notification of loss of entitlement to small or micro entity status, as applicable.

NOTE: This form must be signed in accordance with 37 CFR 1.31 and 1.33. See 37 CFR 1.4 for signature requirements and certifications.

Authorized Signature _____

Date _____

Typed or printed name _____

Registration No. _____



UNITED STATES PATENT AND TRADEMARK OFFICE

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

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
15/806,912	11/08/2017	Paul Erich Keel	4123/1003	7214
2101	7590	04/10/2020	EXAMINER	
Sunstein LLP 100 High Street Boston, MA 02110-2321			HAILU, TADESSE	
			ART UNIT	PAPER NUMBER
			2173	
DATE MAILED: 04/10/2020				

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.

Notice of Allowability	Application No. 15/806,912	Applicant(s) Keel et al.	
	Examiner TADESSE HAILU	Art Unit 2173	AIA (FITF) Status No

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the Amendment/Response filed on 3/24/2020.
☐ 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 22-49. As a result of the allowed claim(s), you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see http://www.uspto.gov/patents/init_events/pph/index.jsp or send an inquiry to PPHfeedback@uspto.gov.

4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

Certified copies:

a) ☐ All b) ☐ Some *c) ☐ None of the:

1. ☐ Certified copies of the priority documents have been received.

2. ☐ Certified copies of the priority documents have been received in Application No. _____.

3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)	5. ☐ Examiner's Amendment/Comment
2. ☐ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date _____.	6. ☒ Examiner's Statement of Reasons for Allowance
3. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material _____.	7. ☐ Other _____.
4. ☐ Interview Summary (PTO-413), Paper No./Mail Date. _____.	

/TADESSE HAILU/ Primary Examiner, Art Unit 2173	
--	--

Allowable Subject Matter

The following is an examiner's statement of reasons for allowance: pursuant to the applicant's response, the USC 112 rejection is withdrawn; and the Terminal –Disclaimer filed on March 24, 2020 overcomes the outstanding Double Patenting rejection.

Further prior art searches failed to produce any relevant results. Thus, claims 22-49 are allowed.

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

Information regarding the status of an application may be obtained from the patent application information retrieval (PAIR) system. Status information for published application 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, please see pair-direct.uspto.gov web site. Should you have questions regarding access to the PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Tadesse Hailu, whose telephone number is (571) 272-4051, e-mail address tadesse.hailu@uspto.gov, and the Fax number is (571) 273-4051. The Examiner can normally be reached on M-F from 10:30 – 7:00 ET. If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Kieu Vu, can be reached at (571) 272-4057 Art Unit 2173.

/TADESSE HAILU/
Primary Examiner, Art Unit 2173

<i>Search Notes</i> 	Application/Control No. 15/806,912	Applicant(s)/Patent Under Reexamination Keel et al.
	Examiner TADESSE HAILU	Art Unit 2173

CPC - Searched*		
Symbol	Date	Examiner
(G06F16/22,258,9535,9537,29)	07/10/2019	TH
(G06F3/04842,04817,0482)	07/10/2019	TH
(H04L67/10 H04L51/046 G06Q10/10)	07/10/2019	TH
(G06F3/04842,04817,0482)	04/06/2020	TH
(G06F16/258,9537,29)	04/06/2020	TH
(H04L51/046 H04L67/10)	04/06/2020	TH

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.

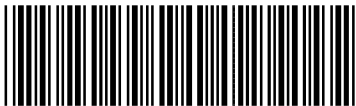
Search Notes		
Search Notes	Date	Examiner
EAST - USPAT, PGPUB, EPO, JPO, DERWENT, IBM_TDB	07/10/2019	TH
EAST - USPAT, PGPUB, EPO, JPO, DERWENT, IBM_TDB	02/18/2020	TH
EAST - USPAT, PGPUB, EPO, JPO, DERWENT, IBM_TDB	04/06/2020	TH

/TADESSE HAILU/ Primary Examiner, Art Unit 2173	
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<i>Search Notes</i> 	Application/Control No. 15/806,912	Applicant(s)/Patent Under Reexamination Keel et al.
	Examiner TADESSE HAILU	Art Unit 2173

Interference Search			
US Class/CPC Symbol	US Subclass/CPC Group	Date	Examiner
G06F	(3/04842, 3/04817, 3/0482)	04/06/2020	TH
G06F	(16/258, 16/9537, 16/29)	04/06/2020	TH
H04L	(51/046, 67/10)	04/06/2020	TH

/TADESSE HAILU/ Primary Examiner, Art Unit 2173	
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Issue Classification 	Application/Control No. 15/806,912	Applicant(s)/Patent Under Reexamination Keel et al.	
	Examiner TADESSE HAILU	Art Unit 2173	

CPC						
Symbol					Type	Version
G06F	/	3	/	04842	F	2013-01-01
G06F	/	16	/	22	I	2019-01-01
G06F	/	16	/	29	I	2019-01-01
G06F	/	16	/	258	I	2019-01-01
G06F	/	16	/	9535	I	2019-01-01
G06F	/	16	/	9537	I	2019-01-01
G06Q	/	10	/	10	I	2013-01-01
G06F	/	3	/	04817	I	2013-01-01
G06F	/	3	/	0482	I	2013-01-01
H04L	/	51	/	046	I	2013-01-01
H04L	/	67	/	10	I	2013-01-01
Y10S	/	707	/	99943	A	2013-01-01
Y10S	/	707	/	99933	A	2013-01-01

CPC Combination Sets					
Symbol				Type	Set

NONE (Assistant Examiner) _____ (Date) _____		Total Claims Allowed: 28	
/TADESSE HAILU/ Primary Examiner, Art Unit 2173 (Primary Examiner) _____ (Date) _____		06 April 2020 (Date)	O.G. Print Claim(s) 1 O.G. Print Figure 1

<i>Issue Classification</i> 	Application/Control No. 15/806,912	Applicant(s)/Patent Under Reexamination Keel et al.
	Examiner TADESSE HAILU	Art Unit 2173

INTERNATIONAL CLASSIFICATION			
CLAIMED			
G06F	/	3	/ 048
NON-CLAIMED			
/		/	

US ORIGINAL CLASSIFICATION	
CLASS	SUBCLASS

CROSS REFERENCES(S)						
CLASS	SUBCLASS (ONE SUBCLASS PER BLOCK)					

NONE		Total Claims Allowed:	
(Assistant Examiner)		28	
(Date)			
/TADESSE HAILU/		06 April 2020	
Primary Examiner, Art Unit 2173			
(Primary Examiner)		(Date)	
		O.G. Print Claim(s)	O.G. Print Figure
		1	1

Issue Classification 	Application/Control No. 15/806,912	Applicant(s)/Patent Under Reexamination Keel et al.
	Examiner TADESSE HAILU	Art Unit 2173

☐ 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	7	28	21	37	13	46				
	2		11		20	8	29	22	38	14	47				
	3		12		21	9	30	23	39	15	48				
	4		13	1	22	10	31	24	40	16	49				
	5		14	2	23	11	32	25	41						
	6		15	3	24	17	33	26	42						
	7		16	4	25	18	34	27	43						
	8		17	5	26	19	35	28	44						
	9		18	6	27	20	36	12	45						

NONE (Assistant Examiner) _____ (Date) _____		Total Claims Allowed: 28	
/TADESSE HAILU/ Primary Examiner, Art Unit 2173 (Primary Examiner) _____ (Date) 06 April 2020		O.G. Print Claim(s) 1	O.G. Print Figure 1

Bibliographic Data

Application No: 15/806,912

Foreign Priority claimed: ☐ Yes ☒ No

35 USC 119 (a-d) conditions met: ☐ Yes ☐ No ☐ Met After Allowance

Verified and Acknowledged: /TADESSE HAILU/

Examiner's Signature

Initials

Title:

Methods and Apparatus for Managing and Exchanging Information
Using Information Objects

FILING or 371(c) DATE	CLASS	GROUP ART UNIT	ATTORNEY DOCKET NO.
11/08/2017	715	2173	
RULE			

APPLICANTS

INVENTORS

Paul Erich Keel Cambridge, MA, UNITED STATES

Jeffrey Huang Lausanne, SWITZERLAND

CONTINUING DATA

This application is a CON of 15243497 08/22/2016 PAT 9817562

15243497 is a CON of 14664178 03/20/2015 PAT 9524090

14664178 is a CON of 13925031 06/24/2013ABN

13925031 is a CON of 12563416 09/21/2009 PAT 8499248

12563416 has PRO of 61116747 11/21/2008

12563416 is a CIP of 11118301 04/29/2005 PAT 7640511

11118301 has PRO of 60566723 04/29/2004

FOREIGN APPLICATIONS

IF REQUIRED, FOREIGN LICENSE GRANTED**

11/22/2017

**** SMALL ENTITY ****

STATE OR COUNTRY

UNITED STATES

ADDRESS

FILING FEE RECEIVED

\$770

EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	103	((("KEEL") near3 ("Paul") near3 ("Erich")) OR (("HUANG") near3 ("Jeffrey"))).INV.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2020/04/06 13:33
L2	103	((("KEEL") near3 ("Paul") near3 ("Erich")) OR (("HUANG") near3 ("Jeffrey"))).INV.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2020/04/06 13:33
L3	134220	(G06F4/04842 G06F16/22 G06F16/258 G06F16/9535 G06F16/29 G06F3/04817).CPC.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/04/06 13:35
L4	85630	(H04L67/10 H04L51/046).CPC.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/04/06 13:36
L5	1337	(1 3 4) AND INFORMATION NEAR3 OBJECT SAME INFORMATION WITH VIEW	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/04/06 13:37
L6	377	5 AND OBJECT SAME (CONTEXT\$3 RELATION\$4) SAME (LINK HEADING IMAGE PICTURE)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/04/06 13:38
L7	515	5 AND OBJECT SAME (CONTEXT\$3 REPRESENTATION DIMENSION RELATION\$4) SAME (LINK HEADING IMAGE PICTURE)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/04/06 13:38
L8	89	7 AND (OBJECT CARD) WITH REPRESENT\$4 AND FUNCTIONS	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO;	OR	ON	2020/04/06 13:40

		SAME (COPY LINK COMMENT VOTE)	DERWENT; IBM_TDB			
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EAST Search History (Interference)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L9	52605	(OBJECT CARD) WITH REPRESENT\$4 AND FUNCTIONS SAME (COPY LINK COMMENT VOTE)	US-PGPUB; USPAT	OR	ON	2020/04/06 13:40
L10	820	(OBJECT CARD) WITH RELATION SAME (HEADING DATA IMAGE LINK\$4) WITH REPRESENT\$4 AND FUNCTIONS SAME (COPY LINK COMMENT VOTE)	US-PGPUB; USPAT	OR	ON	2020/04/06 13:41
L11	1	10 AND (((("KEEL") near3 ("Paul") near3 ("Erich"))) OR (("HUANG") near3 ("Jeffrey"))).INV.	US-PGPUB; USPAT	OR	ON	2020/04/06 13:42

4/6/2020 1:42:33 PM

C:\Users\thailu\Documents\EAST\Workspaces\All-database search-2018.wsp

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: Keel et al.

Application No.: 15/806,912

Group No.: 2173

Filed: November 8, 2017

Examiner: Hailu, Tadesse

For: Methods and Apparatus for Managing and Exchanging Information Using Information Objects

Mail Stop Issue Fee**Commissioner for Patents****P.O. Box 1450****Alexandria, VA 22313-1450****TRANSMITTAL OF PAYMENT OF ISSUE FEE (37 C.F.R. § 1.311)**

1. Applicant hereby pays the issue fee for the attached Issue Fee Transmittal PTOL-85.

2. Applicant

Asserted small entity status in this application on November 8, 2017 by payment of the basic filing fee as a small entity. (37 C.F.R. § 1.27(c)(3))

It is confirmed that small entity status for this application has been checked and it is still in effect and is being asserted.

3. Fee (Issue):

Application status is a small entity with a utility fee of \$500.00.

4. Total Fees Due

The total amount of fee due is:

Issue Fee

\$500.00

TOTAL FEE(S) DUE

\$500.00

5. Assignee's Name and Address To Be Printed On Patent is as follows (37 C.F.R. § 3.81):

Name of Assignee:

Paul Erich Keel

Address:

872 Massachusetts Avenue, Apartment 1004

Residence (City and State or Country):

Cambridge, MA 02139

Assignee category or categories (not printed on patent): Individual

6. Payment of total fee due:

Authorization is hereby made to charge the amount of \$500.00 to Deposit Account No. 194972.

Charge any additional fees required by this paper or credit any overpayment in the manner authorized above.

Date: April 16, 2020

/Robert M. Asher, #30,445/

Robert M. Asher

Registration No. 30,445

Sunstein LLP

100 High Street

Boston, MA 02110

617-443-9292

Customer No. 02101

04123/01003 3224536.1

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)

2101 7590 04/10/2020
Sunstein LLP
100 High Street
Boston, MA 02110-2321

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.
15/806,912	11/08/2017	Paul Erich Keel	4123/1003	7214

TITLE OF INVENTION: Methods and Apparatus for Managing and Exchanging Information Using Information Objects

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	07/10/2020

EXAMINER	ART UNIT	CLASS-SUBCLASS
HAILU, TADESSE	2173	715-739000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

- ☐ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.
- ☐ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-09 or more recent) attached. **Use of a Customer Number is required.**

2. For printing on the patent front page, list

- (1) The names of up to 3 registered patent attorneys or agents OR, alternatively,
- (2) The name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed.

1 Sunstein LLP

2 _____

3 _____

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document 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

Paul Erich Keel

(B) RESIDENCE: (CITY and STATE OR COUNTRY)

Cambridge, MA

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
- ☐ Applicant asserting small entity status. See 37 CFR 1.27
- ☐ Applicant changing to regular undiscounted fee status.

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.

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.

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 /Robert M. Asher, #30,445/

Date April 16, 2020

Typed or printed name Robert M. Asher

Registration No. 30,445

Electronic Patent Application Fee Transmittal

Application Number:	15806912			
Filing Date:	08-Nov-2017			
Title of Invention:	Methods and Apparatus for Managing and Exchanging Information Using Information Objects			
First Named Inventor/Applicant Name:	Paul Erich Keel			
Filer:	Robert Asher/Kira Mazzie			
Attorney Docket Number:	4123/1003			
Filed as Small Entity				
Filing Fees for Utility under 35 USC 111(a)				
Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
UTILITY APPL ISSUE FEE	2501	1	500	500

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Extension-of-Time:				
Miscellaneous:				
Total in USD (\$)				500

Electronic Acknowledgement Receipt

EFS ID:	39176534
Application Number:	15806912
International Application Number:	
Confirmation Number:	7214
Title of Invention:	Methods and Apparatus for Managing and Exchanging Information Using Information Objects
First Named Inventor/Applicant Name:	Paul Erich Keel
Customer Number:	2101
Filer:	Robert Asher
Filer Authorized By:	
Attorney Docket Number:	4123/1003
Receipt Date:	16-APR-2020
Filing Date:	08-NOV-2017
Time Stamp:	13:21:42
Application Type:	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	E20204FD22071066
Deposit Account	
Authorized User	

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

File Listing:					
Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Issue Fee Payment (PTO-85B)	kem4123_1003_IssueFeePayment.pdf	220779	no	3
			718f6723d89f2a22aaf0519135e8ae577a3c168a		
Warnings:					
Information:					
2	Fee Worksheet (SB06)	fee-info.pdf	30544	no	2
			21904609f6eede8fd62ecea3b9dc4c19ab3cc448		
Warnings:					
Information:					
Total Files Size (in bytes):			251323		
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. <u>New Applications Under 35 U.S.C. 111</u> 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. <u>National Stage of an International Application under 35 U.S.C. 371</u> 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. <u>New International Application Filed with the USPTO as a Receiving Office</u> 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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Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	ISSUE DATE	PATENT NO.	ATTORNEY DOCKET NO.	CONFIRMATION NO.
15/806,912	05/26/2020	10664141	4123/1003	7214

2101 7590 05/06/2020
Sunstein LLP
100 High Street
Boston, MA 02110-2321

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 96 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):

Paul Erich Keel, Cambridge, MA;
Jeffrey Huang, Lausanne, SWITZERLAND;

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