(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
27 December 2012 (27.12.2012)

WIPO | PCT

(10) International Publication Number
WO 2012/176213 A1

(51) International Patent Classification:
G06F 17/24 (2006.01) *G06Q 10/10* (2012.01)
G06F 17/30 (2006.01) *G06F 17/22* (2006.01)

(21) International Application Number:
PCT/IN2012/000144

(22) International Filing Date:
1 March 2012 (01.03.2012)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
1771/DEL/2011 22 June 2011 (22.06.2011) IN

(72) Inventor; and
(71) Applicant : **WATAL, Aditya** [IN/IN]; 9A, Bank Road, Katra, Colonel Ganj, Allahabad UP 211 002 (IN).

(74) Agent: **UPADHYAY, Swati**; Virender Goswami & Associates, Advocates & Legal Consultants, A-14, Nizamuddin (East), New Delhi 110 013 (IN).

(81) Designated States *(unless otherwise indicated, for every kind of national protection available)*: AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

(84) Designated States *(unless otherwise indicated, for every kind of regional protection available)*: ARIPO (BW, GH, GM, KE, LR, LS, MW, MZ, NA, RW, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Declarations under Rule 4.17:

— *as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))*

— *of inventorship (Rule 4.17(iv))*

Published:

— *with international search report (Art. 21(3))*

(54) **Title**: SYSTEM AND METHOD FOR CONTEXTUAL AND COLLABORATIVE KNOWLEDGE GENERATION AND MANAGEMENT THROUGH AN INTEGRATED ONLINE-OFFLINE WORKSPACE

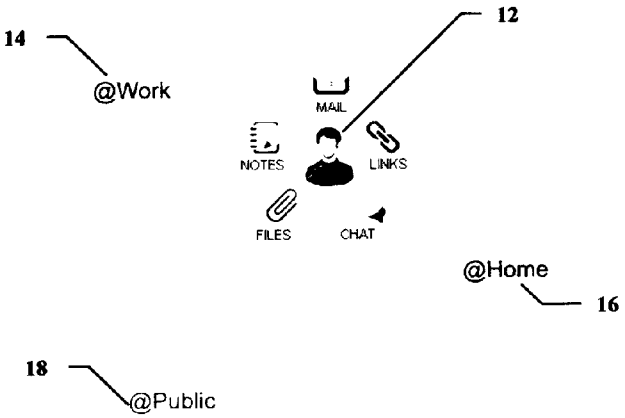

FIG. 1

(57) **Abstract**: The present invention discloses a computer-implemented online-offline workspace and method for creating, developing, storing, and managing digital content within a contextual and shared knowledge network. The invention includes a central service facility that provides an online platform for the users to work in a context-based and shared knowledge environment through a user interface on a wide range of user access devices. The online platform is embedded with a plurality of applications to allow the user to capture, create, develop, store, process, share, distribute, retrieve, reuse, and manage digital contents containing any one or a combination of the following: text, graphics, audio, video, whole or portions of web-pages and web-links. The invention further includes an end-user facility providing an offline platform that gets synchronized with the online platform upon detection of a secured communication network.

WO 2012/176213 A1

SYSTEM AND METHOD FOR CONTEXTUAL AND COLLABORATIVE KNOWLEDGE GENERATION AND MANAGEMENT THROUGH AN INTEGRATED ONLINE-OFFLINE WORKSPACE

BACKGROUND

[0001] The invention relates generally to creation and management of digital content through an integrated online-offline workspace, and in particular to a system comprising of a seamlessly integrated online and offline platforms, characterized by a context based collaborative environment and a service framework, for creating, developing, processing, distributing, and managing digital content.

[0002] The advent of computer and Internet has revolutionized the way people work and access information for various purposes. For example, a user can send near instant messages to someone across the globe on a click. Additionally, web browsers allow the user to look for desired information through trillions of web pages. While such ease of access to information and computing provide many advantages to a person or an entity, the current platforms and/or service frameworks limits the utilization of true potential of computer and Internet. For example, multiple documents and files pertaining to a single project may be created, accessed, developed, and uploaded from multiple locations by one or more users. This is because multiple users work from multiple computing devices available at multiple locations – a personal desktop computer at home, a work terminal at office, a desktop computer at library or other public places, a personal laptop or hand held computing device, or an official laptop or hand held computing device. Additionally, many users work in teams such that the same document or file may be accessed from and worked on at different computers in the same or different locations and at same or different time. As a consequence, users constantly have to physically transport files, saved website links, and other digital content between their multiple workstations. This results in multiple documents containing similar information and/or multiple versions of the same documents floating around at various locations or in

various folders at the same locations. It is therefore difficult to filter and organize all the information related to same project in an efficient and convenient manner, particularly where multiple users in different locations are contributing to the project and developing the files and documents collaboratively. For example, it is not only difficult to ensure that all copies of the documents are updated to the latest version but it is also difficult to locate these documents, files and information when needed.

[0003] Some of the platforms and/or service frameworks that have come up recently allow the users to store, manage, view, or share their data from any location through an online platform. However, such online platforms are limited in their scope as they require the user access device to be on an active high-speed communication network. In order to work in an offline mode, the digital content must be manually downloaded by the user on his access device. Only after downloading the digital content locally on his access device, can the user edit it in an offline mode. Further, to have the flexibility to access this edited digital content from any other device, the user needs to manually upload the latest version of the digital content on the online platform. Moreover, the user needs to repeat this entire process each time any change needs to be made to the document. Such platforms therefore fail to provide for an integrated online and offline mode to enable the user to access and work on data with or without an active communication network. Additionally, existing platforms fail to provide for efficient handling of multiple documents containing similar information and/or multiple versions of the same documents that are accessed, compiled, and stored by one or more users.

[0004] It is therefore desirable to provide an integrated online-offline workspace and a corresponding service framework for improved, efficient and convenient digital content creation, manipulation, storage, management, and distribution in a context-based collaborative environment.

BRIEF DESCRIPTION

[0005] Briefly in accordance with one aspect of the present invention, an integrated online-offline workspace and a corresponding service framework is provided for

improved and efficient digital content creation, manipulation, storage, management, and dissemination in a context-based collaborative environment. The integrated online-offline workspace and the corresponding service framework enable a user or an enterprise to improve productivity and collaboration and to enhance knowledge generation and management.

[0006] In accordance with another aspect of the present invention, a computer-implemented system is provided for contextual and collaborative knowledge generation, management, and dissemination. The system includes multiple user devices in communication with a plurality of application servers that are in further communication with one or more data servers. The system facilitates an integrated online-offline workspace and a corresponding service framework designed to offer a context-based and collaborative workspace to the users through a variety of applications. The integrated online-offline workspace can be accessed by the user through a web browser, a web browser toolbar, and/or a device application from a host of devices such as a desktop computer, a laptop computer, a personal digital assistant (PDA), a smart phone, a mobile device, and so forth. The integrated online-offline workspace includes a plurality of embedded applications that help the user to create, manage, and share digital contents in a context based collaborative environment. The online workspace and the offline workspace are integrated through mutual communication with each other such that any addition, removal, or modification of any data item in any one of these workspaces accordingly adds, removes or modifies the corresponding data item on the other workspace upon establishment of a secured communication network on the user access device.

[0007] Further scope of the applicability of the present invention will become apparent from the detailed description given hereinafter. However, it should be understood that the detailed description and specific examples, while indicating preferred embodiments of the invention, are given by way of illustration only, since various changes and modifications within the spirit and scope of the invention will become apparent to those skilled in the art from this detailed description.

BRIEF DESCRIPTION OF THE ACCOMPANYING DRAWINGS

[0008] These and other features, aspects, and advantages of the present invention will become better understood when the following detailed description is read with reference to the accompanying drawings in which like characters and/or numerals represent like parts throughout the drawings, wherein:

[0009] FIG. 1 illustrates a representative networked computing system in accordance with aspects of the present invention.

[0010] FIG. 2 is a schematic block diagram of the present system in accordance with aspects of the invention.

[0011] FIG. 3 is a block diagram representing online and offline access modes for the online and offline platforms respectively in accordance with aspects of the present invention.

[0012] FIG. 4 is a flow diagram illustrating a user interface for viewing and managing digital contents in accordance with an aspect of the present invention.

[0013] FIG. 5 is a flow diagram illustrating the architecture of the service framework in accordance with aspects of the present invention.

[0014] FIGS. 6-15 are screen diagrams illustrating various aspects of the user interface in accordance with aspects of the present invention.

[0015] FIG. 16 is a snapshot illustrating a user interface for viewing and managing digital contents in an offline mode in accordance with an aspect of the present invention.

DETAILED DESCRIPTION

[0016] The present invention is generally directed to an integrated online-offline workspace for contextual and collaborative knowledge generation and management.

Such techniques may be useful for a variety of users, such as an individual, a team, an institutional, an enterprise, and so forth. Though the present discussion provides examples generally in context of an individual and/or a team, one of ordinary skill in the art will readily comprehend that the application of discussed features and tools in larger contexts, such as for an institution or an enterprise, is well within the scope of the present invention.

[0017] Referring now to FIG. **1**, an exemplary networked computing system is illustrated in accordance with one aspect of the present technique. A user **12**, in his individual capacity or as a part of the business, is almost always working on one or more projects at any given time frame. While working on any of these multiple projects, the user employs different computing and online tools like searching, bookmarking, documents and file sharing, chat, emails, blogs, storing, and so forth. For example, in the illustrated embodiment, the user **12** interacts with Internet to perform various tasks at different locations such as at work **14**, at home **16**, and at public places **18**. The various tasks may include, but are not limited to, sending and receiving mails with friends, family, colleagues; creating and editing notes and other file (e.g., word, power point, excel, images, audio, and so forth) for self or for some collaborative project via sharing; chatting with friends or team members; browsing and saving the link for self and or for some collaborative project with friends, family, or other members of the team via sharing; and so forth. It should be noted that the sharing of the notes, files or link may be accomplished through email, chat, and/or other file sharing program.

[0018] All of these computing and/or online tools, applications, and services provide different methods and mediums of finding, creating, organizing, storing, and sharing the information. For example, a bookmarking application may allow a user to create, organize, and share the bookmarks. Similarly, a document/file sharing application may allow a user to create, organize and share documents. Further, if for any reason, the user employs two or more document sharing tools then the information is stored and managed in two different ways at two different places, often in addition local storage of this information on local mass storage device. It is desirable to tie all this information together across all

these applications, tools, and storage services at one single place and preferable to access and view all these information in one single view in a relevant project context. The embodiments of the present invention enable a user to achieve above goal through an integrated, context-aware platform and/or browser based service framework over a trusted network communication.

[0019] Turning now to FIG. **2**, three different levels of an embodiment of the present system are illustrated, namely, access level **200**, interface level **206,** and architecture level **208**. Box **202** represents the integrated online/offline workspace and the corresponding service framework provided by the present system. A user **400** can access the integrated online/offline workspace and the corresponding services of the present system on multiple access devices **204**, such as a desktop computer, a laptop computer, a personal digital assistant (PDA), a smart phone, a mobile device, and so forth. The integrated online/offline workspace comprises the user interface **206,** which is displayed on the user access device **204,** and the server-side architecture **208** which supports the present system in a manner as described later with reference to FIG. 5.

[0020] FIG. **3** illustrates a flow diagram showing two major components of the service framework, namely, an online workspace **306** and an offline workspace **308.** These two workspaces **306** and **308** are parts of an integrated workspace and are synchronized with each other. As will be appreciated by those skilled in the art, the synchronization may be carried out in real time or at periodic intervals upon establishment of a secured or trusted communication network between the user access device and the backend servers. It should be noted that synchronization ensures that the two workspaces are concurrent with each other such that any addition, removal, or modification of any data item in one of these workspaces is reflected accordingly in the corresponding data item on the other workspace. The online workspace **306** can be accessed in an online access mode **302** as a desktop application, as a web-browser application, or as a toolbar plug-in on a web-browser. The offline platform **308** can be accessed in an offline access mode **304** as a desktop application accessible locally on the user access device **204.**

[0021] Referring now to FIG. **4**, an aspect of a user interface for viewing and managing digital contents is illustrated in accordance with aspects of the present invention. In order to access the online and offine workspaces offered by the present system, a user is required to have an account with the service framework. The user may create the account by getting registered on the service framework **202.** For registration, the user may utilize any of his authenticated e-mail addresses. Once the account is created, or if the user is already registered, he can sign-in and get access to the online and offline platforms provided by the service framework. Both the online and offline platforms provide a user-oriented context-based workspace instead of the automatically generated semantics-based context. The user is provided with the ability to define as many contexts as the user needs, such as client, subject, project name, deal, product, goal, and so forth. Each of the contexts is treated as a project in the service framework described herein. If the user does not define any context, a pre-defined default context or project is automatically activated within the workspace. Once a context or a project is selected, for example 'Client XYZ', the user can create and save any digital contents as items within multiple sub contexts or tabs. Again, it should be noted that the sub-contexts or tabs are either pre-defined (e.g., saved items, emails, bookmarks, deleted items, and so forth) or user-defined (profile, feedbacks, invoices, and so forth). The digital contents include, but are not limited to, an audio digital data, or a video digital data, or a textual digital data, or an audio/video digital data, or a graphic digital data, a webpage, a link to a webpage, PowerPoint presentation, a Word document, a notepad document, an Excel file, or the like.

[0022] Referring now to FIG. **5**, the server-side architecture of the service framework **202** is illustrated. In the illustrated embodiment, the user **400** interacts with the service framework **202** through a web-browser **502**. For example, the user **400** may send a request or initiate a thread to access various applications residing on an application server **506.** The request or the thread passes through a firewall server **504** which checks and certifies the authenticity of the user **400**. After checking the authenticity of the user, the firewall server **504** allows the user to access various applications residing on the

application server **506**. The user can therefore create, manage and share various digital contents through applications residing on the application server **506.** All of the digital contents, requests, and/or threads are managed by an index server **512**. The index server **512** indexes and stores these digital contents, requests, and/or threads on a database server **514**. It is likely that multiple users may access the application server **506**, the index server **512,** and the database server **514** at about same time and that may slow down the execution of various active requests or threads coming from different users. A load balancing server **510** manages these multiple requests or threads and balances the load of various requests or threads on the application server **506**, the index server **512,** and the database server **514** by logically distributing the requests or threads among multiple application servers **506**, index servers **512** and database servers **514**. Additionally, multiple users may create, manage and share requests or threads at about the same time on the application server **506**, the index server **512**, and the database server **514** and that may result in errors during the process thereby affecting the active requests or threads. A monitoring and healing server **508** may be employed to monitor and repair the above errors. Further, in certain embodiments, the monitoring and healing server **508** may be employed to reconstruct the complete database of indexed and stored digital contents if by any chance the database server **514** crashes resulting in corruption of database. The reconstruction of the database may be carried out by comparing online and offline versions of the digital contents between multiple user access devices and database servers and determining missing digital contents on the database servers based upon comparison. The missing digital contents are then copied from the user access devices, indexed, and stored again on the database servers. Additionally, a usage monitoring server **514** may be communicatively connected with the application server **506**, the index server **512**, and the database server **514** to monitor account usage and usage pattern of the authorized users. The usage monitoring server **514** dynamically maintains the usage pattern of the applications on the application server **506** and/or digital contents on the database server **514**. Such monitoring of usage pattern may be effectively employed to provide better user experience and user interface through customization, better security adherence, and so forth. For example, an analysis of usage pattern of a particular user

may be employed to customize the user interface such that the most commonly used applications are visibly available to the user. Similarly, for an enterprise client, an analysis of usage pattern of a user employed with the enterprise may be necessary so as to restrict the download of sensitive and confidential data on the user's personal device.

[0023] Reference will now be made to FIGS. **6-15**, wherein snapshot diagrams of the online integrated platform **306** have been illustrated to explain the features and working of the present system in greater detail. FIG. **6** is a screenshot diagram of home page **600** of the present service framework **202,** wherein a registered user can sign-in to access his account and also an unregistered user can create his account. The home page **600** can be opened on a web browser **610** by directly typing the web-page address, specific to the service framework **202,** in address bar **620** of the web-browser **610.** However, if the service framework **202** has been previously downloaded as a plug-in toolbar on the web-browser **610,** the registered user can directly sign into his account through a sign-in-icon **630** while the unregistered user can get started with the registration process by clicking on a register-icon **640.** The service framework **202** allows a registered user to add other registered users to his account as friends or colleagues, thereby enabling them to communicate, create, and/or share digital contents among themselves. Additionally, the service framework may assign a pre-defined storage limit or profile space on the server to each of the registered user based on the user's subscription type. For example, a premium user may be assigned a higher profile space than a normal user. Similarly, a user belonging to enterprise client may have higher profile space than an individual user.

[0024] Turning now to FIG. **7**, a user interface of the online integrated platform 306 is illustrated. The illustrated user interface is displayed to the user once the user signs into his account. The interface displayed herein and in subsequent screenshot diagrams represent an account of a user who has already worked at least once on this platform and not that of a new user who has for the first time signed into his account. It should be noted that the discussion provided herein is with reference to a used account in order to provide a better understanding of features and functionalities of the present

invention. The major components of the interface are: a toolbar as represented by **700,** a chat bar **734,** a side window as represented by **726,** and a main window **728.** The toolbar **700** of the present system comes with a scroll button which when clicked flips the current toolbar with a new toolbar that a user may want to use. For example, if a user has multiple toolbars he may not use and hence may not wish to view all the toolbar in his browser at the same time. Mostly, these toolbars are website specific and best used with that particular website. For example, the toolbar from Zyanga® for its popular Farmville application is best for that particular application and is of limited or no use when the user is surfing web for other content or working. In that case, the user do not want that particular toolbar and may be interested only in a generic toolbar that allows him to quick search and so forth such as google toolbar. The user then just have to click and the toolbar flips or rotates over to show google toolbar and hides the Farmville toolbar from the browser and the user. The advantage of having such a tool or application is to have multiple toolbars without cluttering the toolbar space or the browser window.

[0025] The toolbar **700** for the present system further comprises a plurality of selectable toolbar icons that offer a wide range of applications to the user. Functions of these toolbar icons are later discussed with reference to corresponding snapshot diagrams. The user interface further includes a side window **726** that further comprises two sub-widows: **726(a)** and **726(b).** The sub-window **726(a)** comprises a plurality of selectable icons that provide the user with quick access to various functionalities or features of the present invention. For example, as illustrated in FIG. 7, the sub-window **726(a)** comprises three selectable icons indicated by reference numerals **736, 738,** and **740.** Indicated by **736** is 'create a project' icon for creation of user-defined projects. Upon clicking the icon **736,** the user is asked to create a project, for a user-defined context, and to also name the project being createaed. The user can create any number of projects he desires to create. Further, a user can quick share any of the existing projects with other users via selectable icon **738.** Additionally, a help menu describing important features of the service framework **202** is also provided to the user for his quick reference. User can access this help menu by clicking on a selectable icon **740.** It should be noted that the

user can also use toolbar to achieve above objectives besides using quick selectable icons available in sub-window 726(a). For example, a toolbar icon **720** may be employed to access help menu besides using the selectable icon **740**. Further it should be noted that selectable icons of the sub-window 726(a) is highly customizable based on user preferences. The customization may be done manually by the user or may be done automatically based on usage pattern.

[0026] The sub-window **726(b)** includes a favorite-tab **730** and a recent-tab **732.** Selecting the tab **730** displays within the sub-window **726(b)** a list of favorite projects along with a list of favorite notes created using a notebook application accessible through a toolbar icon **712.** Similarly, selecting the tab **732** displays within the sub-window **726(b)** a list of recent projects and recent notes. In order to switch over from a currently active project to a different project, the user can select the different project either from the list of projects displayed within the sub-window **726(b)** or through a toolbar icon **706.** Upon selection, the toolbar icon **706** opens a drop-down window as shown by **900** in FIG. 9. This window **900** displays a complete or truncated list of projects created by the user as well as all the projects that his friends have shared with him. The window **900** also provides options to the user for renaming, saving or deleting the currently active project. Additionally, a search box is provided within the window 900 to enable the user to search for a particular project among all the projects accessible to the user. It should be noted that the search box is loaded with auto-fill and auto-look feature to make the search easy and convenient for the user.

[0027] As described above, selectable icon **738** allows the user to share any project with any number of desired friends added to his account. Upon clicking the icon **738,** the user is asked to name the project that he desires to share and to name the friend(s) with whom he desires to share that project. Besides using the selectable icon **738** for sharing the project, the user can also use a toolbar icon **710** for sharing of projects. In one embodiment, the user may share the currently active project the toolbar icon **710**. Upon selection, the toolbar icon **710** opens a drop-down window comprising a first set and a second set of friend(s). The first list displays the names of user's friend(s)

with whom the currently active project is already shared, while the second list displays the names of rest of the user's friend(s) whom he can select to share the currently active project. Alternatively, the toolbar icon **710** may be configured to function similar to that of icon 738.

[0028] The main window **728** displays a list of all the updates and activities related to the various projects or a currently active project in a chronological order. In certain embodiments, the updates and activities related to all of the user's projects is displayed in a separate window upon selection of a toolbar icon **716.** Further, in certain embodiments, the user receives alerts whenever there is any update in any of the projects he shares with one or more friends. These alerts can either be real-time alerts such as pop-up window alerts or be delayed alerts such as those received as e-mail messages. Additionally, a chat bar **734** displays a list of user's friend along with their status indicating whether the friend is in an online or in an offline mode. This application enables the users to communicate in near real time. The chat application is described further in greater detail with reference to FIG. **11.**

[0029] As shown in FIG. **8,** the online integrated platform **306** also includes a plurality of data editing applications including, but not limited to, Microsoft Word application, Microsoft PowerPoint application, Microsoft Excel application, Microsoft notepad application represented by toolbar icons **714(a), 714(b), 714(c),** and **714(d)** respectively. Selection of these toolbar applications opens corresponding windows **714(aa), 714(bb), 714(cc),** and **714(dd)** respectively. Using these applications, the user can create, open, edit or save such documents as supported by these applications.

[0030] Turning now to FIG. **10,** wherein the organization and management of digital data at the project level within a tabs window **100** is shown. Said window can be opened by clicking on a toolbar icon **708.** Any digital data related to the project is treated and stored as an item **110** within one or more tabs **102** on the online platform. These tabs can either be default tabs, such as tabs **102(a), 102(b),** and **102(e)** or be user-defined tabs such as tabs **102(c)** and **102(d).** The user can add one or more tabs to the tabs window

100 by clicking on the selectable icon **104.** These items can be managed in a number of ways such as they can be shared, deleted, moved or commented on by the user or the users with whon the particular project is shared. Another unique feature of the present tabs window **100** is that a URL can directly be added within a desired tab along with a title and description for the URL. This can be done by selecting add-URL-icon **106** which opens a coresponding window **106(a)** within which the user can add his desired URL in the space provided. The user can also upload one or more files to the desired tab by selecting upload-files-icon **108** which opens a corresponding window **108(a)** from where the user can upload files from the access device **204.**

[0031] Referring to FIG. **11,** the chat application mentioned above is further described in greater detail. The user's friends are displayed as selectable icons on the toolbar **700.** For example, in the FIG. **11,** selectable icons **718(a), 718(b),** and **718(c)** represent user's friends. It should be noted that depending on user behavior or preferences, more frequently contacted friends appear as selectable icons. For efficient space utilization on the toolbar, other friends are not shown on the toolbar **700** as selectable icons but displayed on a drop-down window whicih opens upon selecting toolbar icon **718(d).** To initiate a chat with a friend, the user has to click on the friend's name either through the corresponding selectable toolbar icon or through the drop-down window, wherever the friend's name is visible. Suppose the user has selected for friend **718(a),** say user1. Upon selecting a user1 for chat, a chat window **1100** is opened. The chat window **1100** comprises a text box **1110** where the user can write his chat message for user1. A conversation window **1120** is also included within the chat window **1100** wherein the onging conversation between the user and the user1 is displayed. The user, if so desires, may enter in to a group chat or chat in a collaborative environment with multiple users by selecting one or more desired users through a selectable icon **1130** provided within the chat window **1100.** Suppose the user has also selected user2 through icon **1130** or icon **1150,** a group chat including the user, user1, and user2 will be initiated. The chat messages from all the three users will be displayed in the same conversation window **1120.** As described in certain embodiments, a novel feature of the present

framework is single window chat which enables the user to chat individually wih multiple users within the same chat window. For example if the user desires to chat with both user1 and user2 individually and not in a group chat mode, he can still chat with both of them within the chat window **1100** unlike the other state of the art technologies wherein different chat windows open up for different users. Both the users, user1 and user2, are displayed in the chat window **1100** and the user can switch chatting from user1 to user2 and vice-versca by simply clicking on the desired user's name being displayed. The chat window **1100** also incorporates a share icon **1180** through which the user can share a link with the friends in the chat window.

[0032] FIG. **12** illustrates a quick launch application featured in the present system wherein a selectable toolbar icon **715** is provided on the toolbar **700**. The toolbar icon **715,** upon selection by the user, opens a drop-down window **1200**. The window **1200** comprises a list of applications available locally on the user access device **204.** Thus the desktop applications of the user access device **204** can be directly launched using this application without requiring the user to leave the online integrated platform interface.

[0033] Referring now to FIG. **13,** which is a snapshot diagram illustrating a global search application embedded within the online integrated platform **306.** The user can select desired search source from a plurality of search sources conjugated with the online integrated platform **306** through a selectable toolbar icon **704.** The conjugated search sources in the preferred embodiment are, but not limited to, Google, Yahoo, Wikipedia, and Dice as shown by **704(a), 704(b), 704(c)** and **704(e)** respectively. A search box **1300** is provided wherein the user can put his query he wants to search and thereby click on the desired search source. Upon hitting the search source, a search result window **1320** is displayed. In order to start afresh with a new search, the user may click a new-search-icon **1310.** The online integrated platform **306** also provides a bookmarking application wherein a bookmarking icon **702** on the toolbar **700** can be clicked to bookmark the currently active web-page. It is to be noted that bookmarking a

web-page saves it within the currently active project on the online integrated platform **306.**

[0034] Reference will now be made to FIGS. **14A-14E** wherein the figures illustrates a notebook application included in the online integrated platform **306.** As shown in FIG.**14A,** a notebook application icon **712** can be selected to open a notebook window **1400.** The window **1400** comprises a note-box **1410** where the user can create his text note either by directly writing in the note-box **1410** or by pasting desired text from any other location. A text-format bar **1460** is also provided with the note-box to allow the user edit or select a desired format for his textual note. The window **1400** also comprises selectable icons **1420, 1430, 1440** and **1450** for respectively deleting, saving, sending or cancelling the created note. It should be noted that the created note automatically updates itself whenever any changes is made to it and the updates are displayed in the inbox of each of the user that the note is shared with. Additionally, it should be noted that multiple users working on the same note can see all the updates and each other's changes in near real-time. Referring to FIG. **14B,** wherein a web-page is open within the main window **728.** There can be certain content on the web-page which might interest the user and he would want to save it to his note. In order to accomplish that, the user has to simply select the desired content, as shown by **1470,** and thereafter drag and drop it to the note-box. Alternatively, the user can copy and paste the desired contents into the note-box. Shown by **1480** is the desired content from the web-page pasted on the note-box. A reference **1490** to the source web-page of the pasted content is autmatically inserted into the note-box along with the pasted content. Alternatively, a desired portion of a web-page can also be pasted in the note-box a a web-clip, as shown in FIG.**14C.** A web-clip icon **1405** is provided in the notebook window **1400** for the same purpose. The user has to click on the icon **1405** and then select a desired portion **1406** of the currently opened web-page. Upon selection of the desired portion **1406,** shown in FIG.**14D** it is automatically pasted into the note-box as shown by **1408** in FIG. **14E.** Referring back to FIG. **14C,** wherein a selectable icon **1401** opens a drop-down

window and gives options to the user to selectively keep only text, option **1402,** or only URLs, option **1403,** or text without tables, option **1404,** from the note created.

[0035] Turning now to FIG.15A, wherein a selectable toolbar icon 724 is shown. Upon selection, the icon **724** opens a drop-down window **1500.** The window **1500** allows the user to set his current status that will be visible to his friends. The status can be online, idle, busy, a custom message, and so forth. The user can also update his toolbar, set preferences for his account, or sign out of his account using the options provided in the window **1500.** Shown in FIG. **15B** is a preference setting window **1510** wherein the user can set preferences for multiple settings as shown by **1520.** The settings can be, for example, general settings, my profile settings, manage e-mail ids settings, search sources settings, and so forth.

[0036] Referring now to FIG. **16,** a novel aspect of the present invention is the offline platform **308** that enables the user to work on his digital data stored within the online integrated platform in an offline mode without requiring a secured network connection. The service framework **202** of the present invention automatically creates a folder **1610** on desktop screen **1600** of the user access device **204.** It should be noted that the folder **1610** is structured in a context-based manner, similar to context-based structuring of the online integrated platform **306,** and offers an offline platform **30.** Upon opening the folder **1610,** a window **1620** is displayed. The window **1620** contains the full gamut of context or project folders **1640,** corresponding to the range of contexts or projects saved by the user within the online integrated patform **306.** Upon opening any context or project folder **1640,** a window **1630** is displayed. The window **1630** further comprises a plurality of sub-folders **1650,** corresponding to the plurality of sub-contexts or tabs within that particular project **1640.** Each of the sub-folders comprises the items corresponding to items contained in the tab it represents. This offline folder **1610** gets automatically synchronized with the online integrated platform **306** upon detection of a secured network connection when the user signs into his account on the service framework **202** and accesses the online integrated platform **306.** During the synchronization process, any modification of an item **110** accordingly modifies the

corresponding item in the tab folder **1650** of the offline platforom. Similarly any modification made in an offline mode on an item in the tab folder **1650** accordingly modifies the corresponding item **110** stored on the online integrated platform **306.**

[0037] While only certain features and embodiments of the invention have been illustrated and described herein, one skilled in the art will recognize that many variations and combinations of these embodiments can be carried out without departing from the scope and spirit of the invention. It is, therefore, to be understood that the appended claims are intended to cover all such variations and combinations as fall within the true spirit of the invention.

CLAIMS:

1. A computer-implemented system for managing a digital content, the system comprising:

an end-user access device comprising a user interface for enabling an end-user to view and manage a digital content;

an online work platform accessible to the end-user through the user interface, a communication network, and the end-user account on the online work platform, wherein the online work platform comprises a plurality of applications to manage the digital content under one or more tabs within one or more context-based projects;

an application server in communication with the end-user access device to operate the plurality of applications and to receive, process, and respond to one or more end-user actions;

a data server in communication with the application server to index and store the digital content; and

an offline work platform on the end-user access device in communication with the online work platform to enable the end-user to work in an offline mode.

2. The system of claim 1, wherein the end-user access device comprises a desktop computer, a laptop computer, a personal digital assistant, a smart phone, or a mobile phone.

3. The system of claim 1, wherein the end-user can add other end-users of the online work platform in his or her account.

4. The system of claim 1, wherein the context-based project is a default project such that unless manually altered by the end-user, all digital content is saved and managed from this default project.

5. The system of claim 1, wherein the context based project is a user-defined project such that the user can create a number of projects to organize, categorize, catalog and manage digital content.

6. The system of claim 1, wherein the one or more tabs are pre-defined or user-defined.

7. The system of claim 1, wherein the digital content comprises any of or a combination of the following: text; graphics; audio files or audio web-links; video files or video web-links; whole or portions of web-pages; uniform resource locators or web-links; and other similar digital content.

8. The system of claim 1, wherein digital content can be created using applications provided in the platform or can be uploaded into the end-user's account on the platform within a desired tab or can be directly saved from a main search engine query results page or from a web-page.

10. The system of claim 1, wherein management of digital content includes, but is not limited to, capturing, storing, processing, sharing, distributing, retrieving, reusing, deleting, commenting on, giving feedback or instructions on digital content as well as relocating digital content within tabs and/or projects.

11. The system of claim 1, wherein a first user shares a project with a second user added to his or her account and thereby extends the ability to manage digital content contained in that project to the second user.

12. The system of claim 1, wherein three key user alerts can be generated by the online platform whenever there is an update in any project: (1) an alert is generated and displayed on the end-user's account's main page informing the end-user of the project that has been updated, the precise digital content that has been updated in the project, the

date and time of the update, details of the user who updated the content, including any comments, feedback, or instructions left by that user; (2) a real-time alert displayed in a pop-up window identifying or describing the update; and, (3) an e-mail alert sent to the end-user's email account associated with the end-user's account on the platform.

13. The system of claim 1, wherein a toolbar is provided on the platform, said toolbar comprising a plurality of selectable toolbar icons that allow access to applications embedded in the platform as well as can directly launch applications installed locally on the user access device.

14. The system of claim 13, wherein one or more toolbar icons opens a drop-down window when selected.

15. The system of claim 1, wherein the end-user can collaborate with other users, added to his account, in real time by using a notebook application which allows the user to create digital content, including clipping and capturing desired parts of a webpage.

16. The system of claim 15, wherein desired parts of a web page can be selected, dragged and dropped on the note created with the notebook application while clipping and capturing desired parts of a webpage.

17. The system of claim 15, wherein a citation of the clipped or captured web page is automatically saved to the note along with the clipping of the desired part.

18. The system of claim 15, wherein the notebook application includes a filter application to filter option which allows the user to keep within the note either the clipped text or captured image, or the captured image or clipped text without tables or only the URL of the captured or clipped web page.

19. The system of claim 15, wherein all users sharing the digital content created in the notebook can work in parallel and simultaneously on the same content such that updates will appear in the chronological order as they were made.

20. The system of claim 1, wherein the end-user can collaborate with other end-users, added to his or her account, in real time using chat application which provides a single chat window with tabs when communicating with multiple users and enables VoIP Calling.

21. The system of claim 1, wherein the end-user can collaborate with other users, added to his account, in real time using an e-mailing application which allows the users to send notes created or edited on the platform to one or more email addresses.

22. The system of claim 1, wherein the online platform includes an intelligent bookmarking application, a global web search application, or a local internal search application.

23. The system of claim 1, wherein the online platform can be accessed through a locally downloaded application, through a web browser, web browser toolbar plug-in of the end-user access device.

24. The system of claim 1, wherein the offline work platform comprises a plurality of folders containing context related items corresponding to the plurality of context related items on the online platform.

25. The system of claim 24, wherein one or more items in the offline work platform can be created, viewed, modified, or deleted in the offline mode.

26. The system of claim 1, wherein the offline work platform is automatically synchronized with the online platform upon establishment of a secured communication network.

27. The system of claim 1, wherein the application server and/or the data server use a load balancing application.

28. A computer-implemented system for digital content management, the system comprising:

an end-user access device for enabling an end-user to view and manage one or more digital contents on an integrated platform accessible to the user through a user interface, the integrated platform configured to store, organize and display one or more digital contents as items within one or more tabs in at least one context-based project;

an application server in communication with the user access device to operate one or more applications and to receive, process, and respond to one or more user actions; and

a data server in communication with the application server to index and store one or more digital contents.

29. The system of claim 28, wherein the user interface comprises a desktop application or a web-browser based application.

30. The system of claim 28, wherein the web browser based application is a web browser toolbar plug-in.

31. The system of claim 28, wherein the integrated platform is online platform and wherein the user accesses the online integrated platform through the user interface by providing user's account authentication information.

32. The system of claim 28, wherein the integrated platform is an offline platform on the user access device to enable the user work in an offline mode and wherein the offline platform is in communication with the online platform upon detection of a secured communication network.

33. The system of claim 28, wherein the integrated platform further comprises a plurality of applications for digital content management.

34. A method for managing a digital content, the method comprising:

providing an integrated platform to an end-user, wherein the end-user interacts with the integrated platform via a user interface on the end-user access device;

providing within the integrated platform a plurality of applications to manage the digital content in a context-based manner within one or more tabs;

indexing and storing the digital content; and

displaying the digital content to the user on user interface.

35. The method of claim 34, wherein the plurality of applications comprises an online communication application, or a document editing application, or a document sharing application, or a document storage application, or a bookmarking application, a web search application.

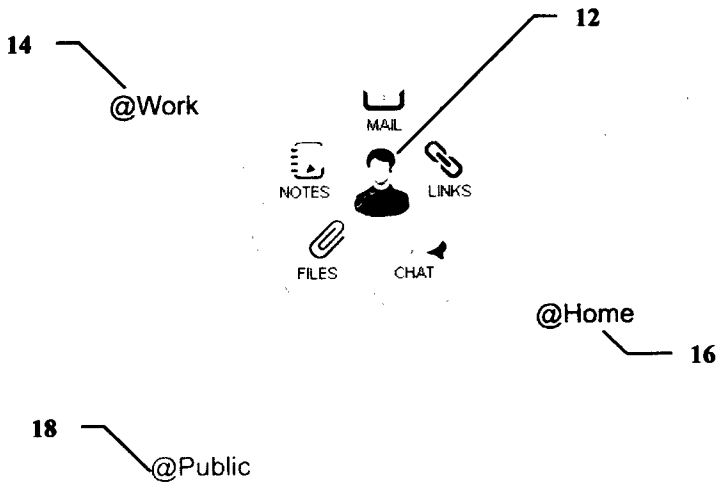
14
@Work
12
MAIL
NOTES
LINKS
FILES
CHAT
@Home
16
18
@Public

FIG. 1

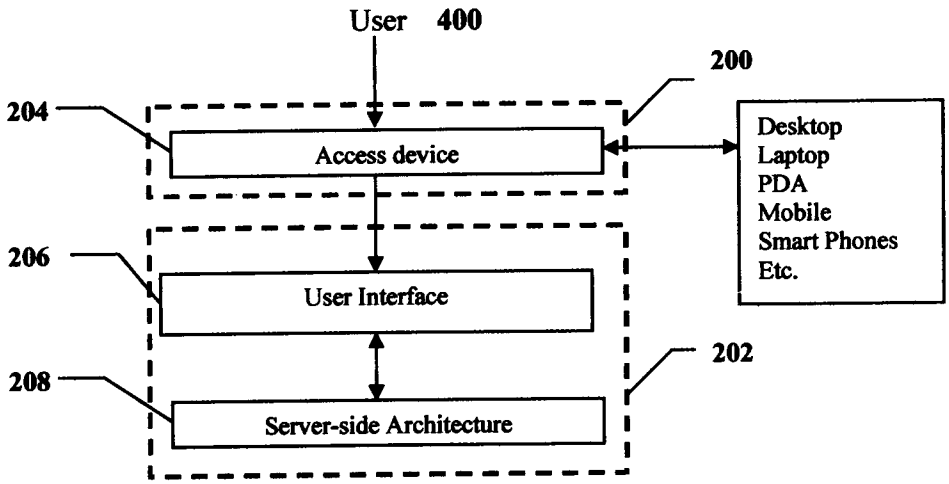
User 400
200
204
Access device
Desktop
Laptop
PDA
Mobile
Smart Phones
Etc.
206
User Interface
202
208
Server-side Architecture

FIG. 2

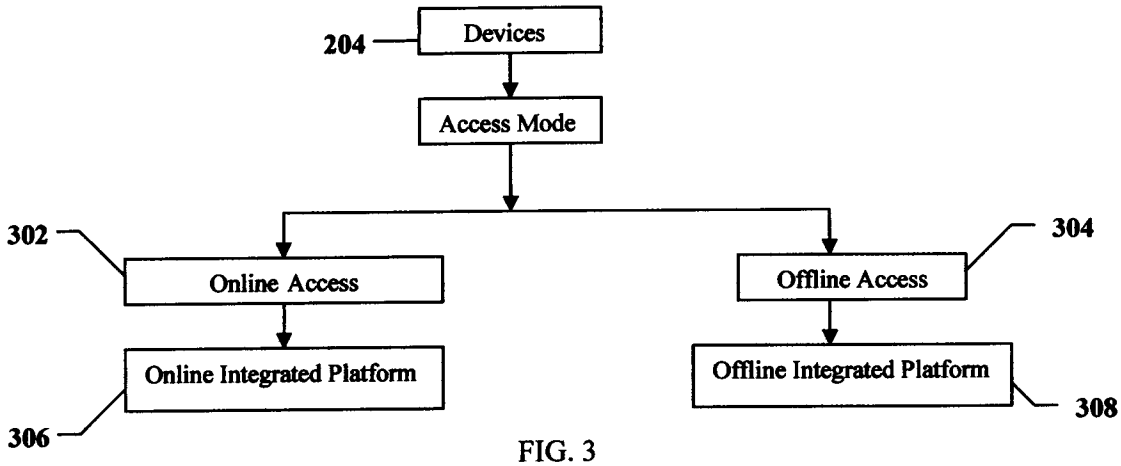
204
Devices
Access Mode
302
Online Access
Online Integrated Platform
306
304
Offline Access
Offline Integrated Platform
308

FIG. 3

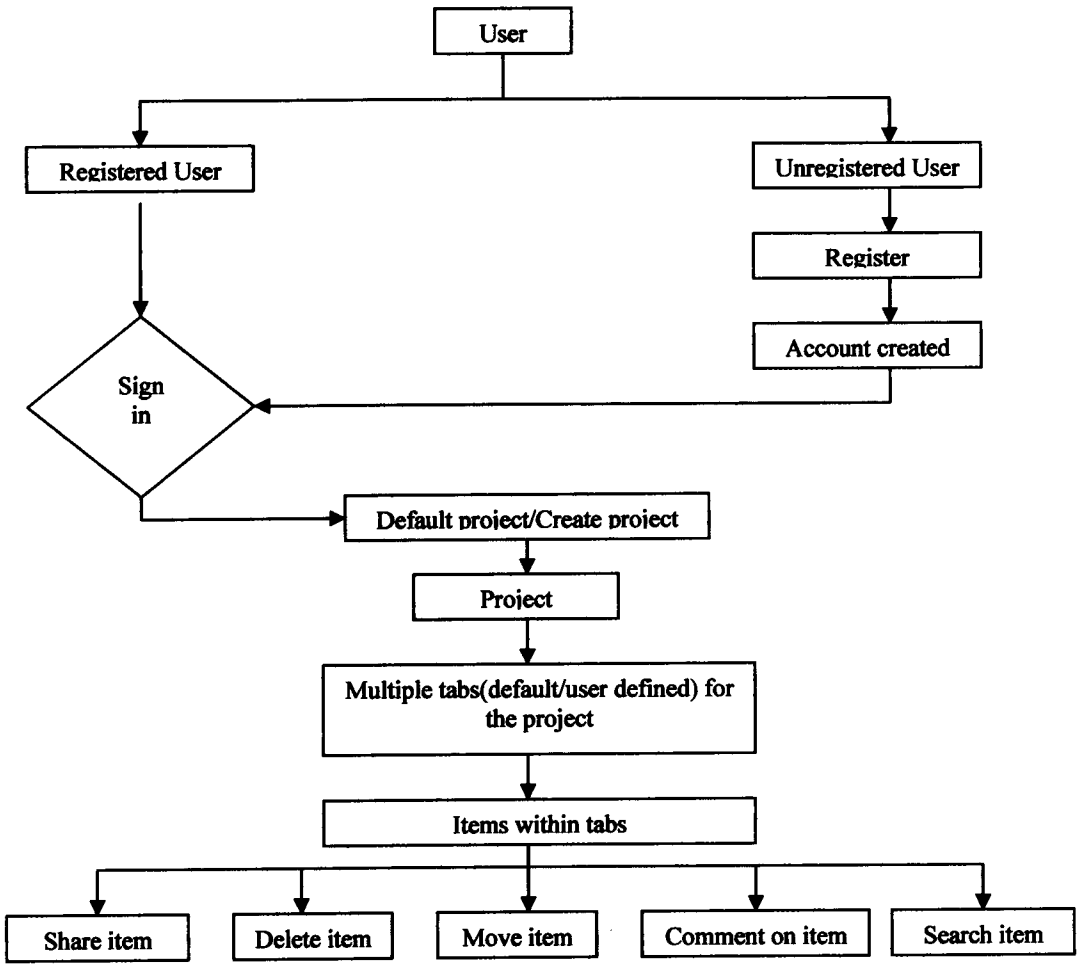
User
Registered User
Unregistered User
Register
Account created
Sign in
Default project/Create project
Project
Multiple tabs(default/user defined) for the project
Items within tabs
Share item
Delete item
Move item
Comment on item
Search item

FIG. 4

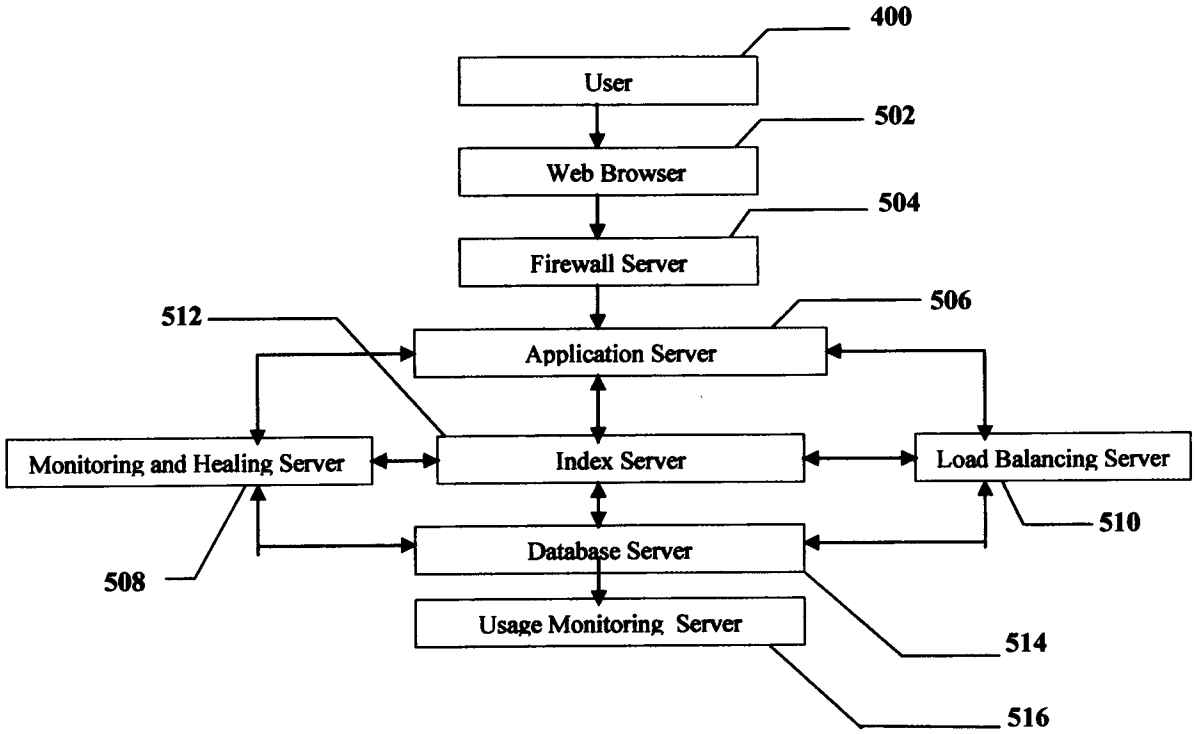
400
User
502
Web Browser
504
Firewall Server
512
506
Application Server
Monitoring and Healing Server
Index Server
Load Balancing Server
510
508
Database Server
Usage Monitoring Server
514
516

FIG. 5

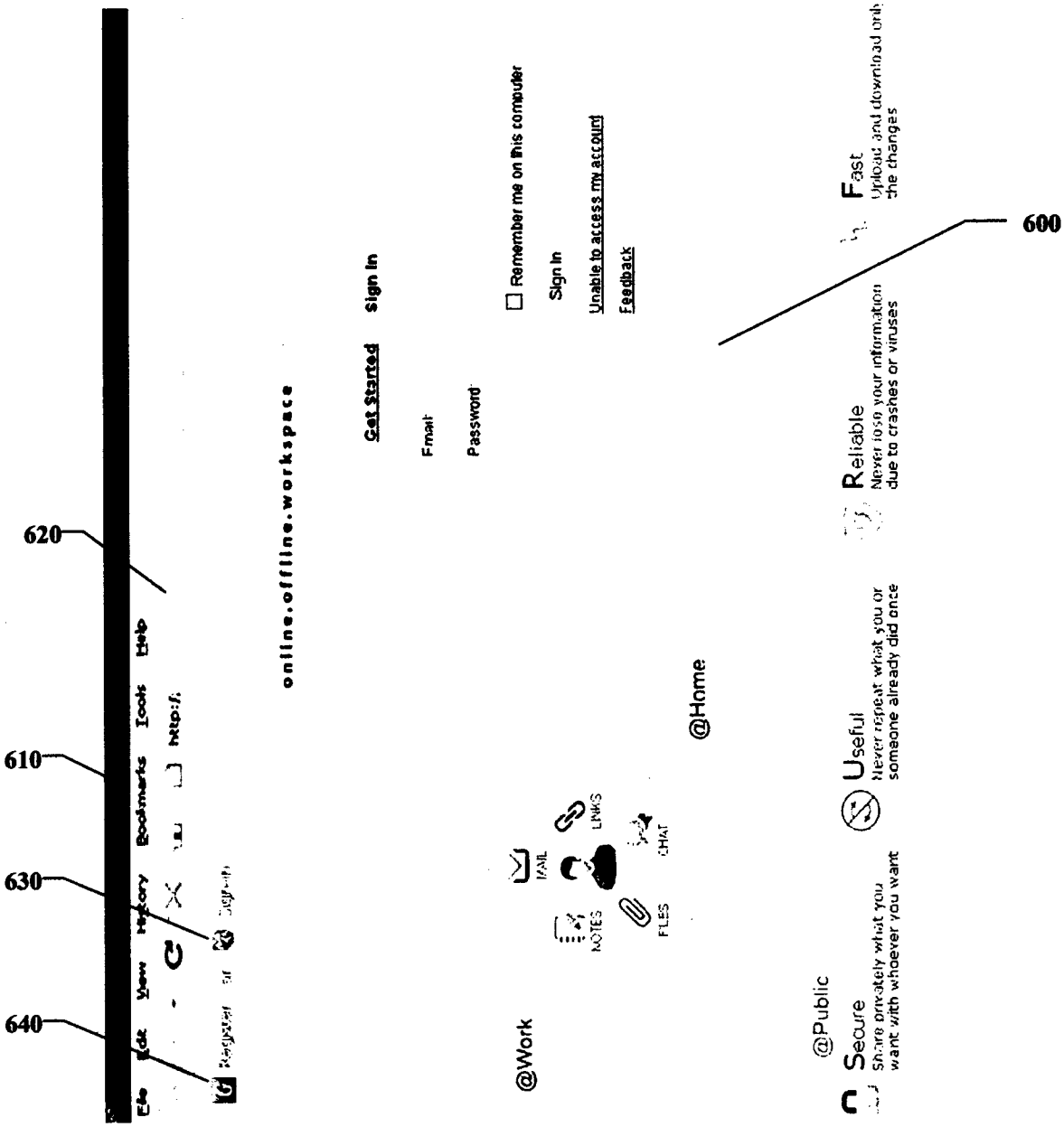
620
610
630
640
600
online.offline.workspace
Get Started
Sign In
Email
Password
Remember me on this computer
Sign In
Unable to access my account
Feedback
@Work
@Home
@Public
MAIL
LINKS
NOTES
FILES
CHAT
Secure
Share privately what you want with whoever you want
Useful
Never repeat what you or someone already did once
Reliable
Never lose your information due to crashes or viruses
Fast
Upload and download only the changes

FIG. 6

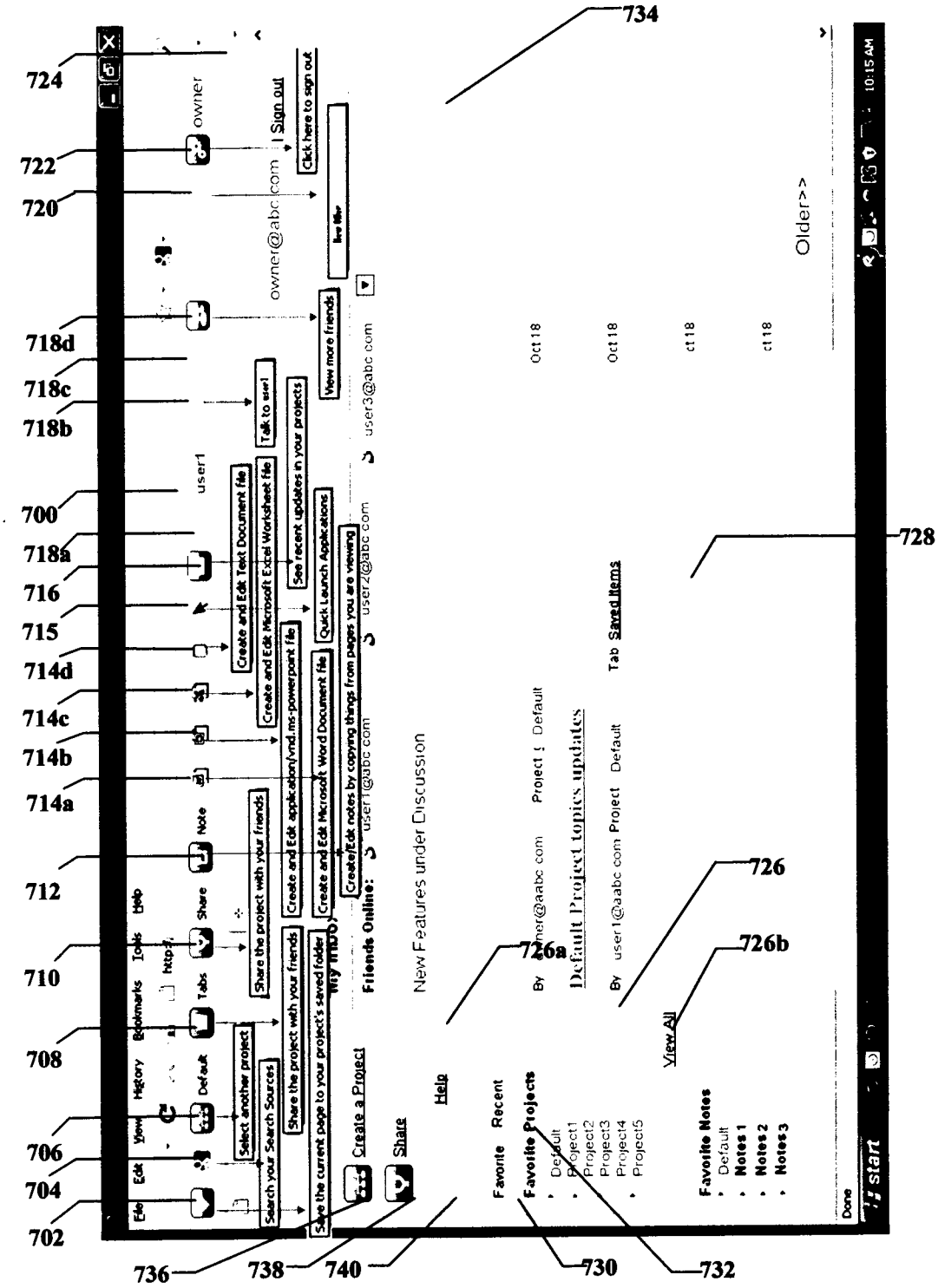
724
722
720
718d
718c
718b
700
718a
716
715
714d
714c
714b
714a
712
710
708
706
704
702
734
728
726
726b
726a
736
738
740
730
732
owner
Sign out
owner@abc.com
Click here to sign out
user1
Talk to user
View more friends
user3@abc.com
user2@abc.com
user1@abc.com
Create and Edit Text Document file
Create and Edit Microsoft Excel Worksheet file
Create and Edit ms-powerpoint file
Create and Edit application/vnd.ms-powerpoint file
Create and Edit Microsoft Word Document file
See recent updates in your projects
Quick Launch Applications
Create/Edit notes by copying things from pages you are viewing
Share the project with your friends
Select another project
Search your Search Sources
Save the current page to your project's saved folder
Friends Online:
New Features under Discussion
Create a Project
Share
Help
Favorite Recent
Favorite Projects
Default
Project1
Project2
Project3
Project4
Project5
Favorite Notes
Default
Notes 1
Notes 2
Notes 3
Default Project topics updates
By user1@abc.com Project Default
Tab Saved Items
View All
Older>>
Oct 18
10:15 AM
start
Done

FIG. 7

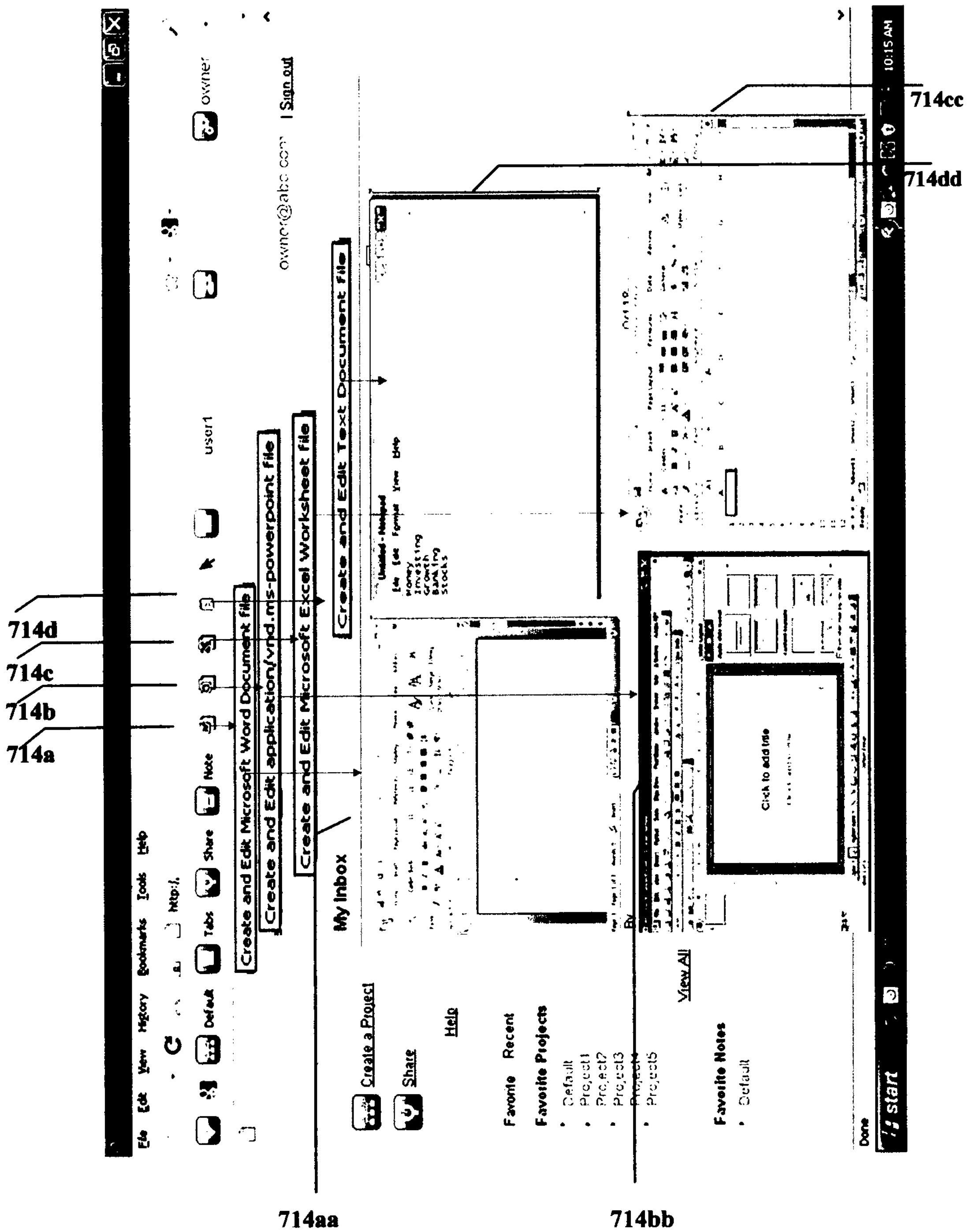
714a
714b
714c
714d
714aa
714bb
714cc
714dd
Create and Edit Microsoft Word Document file
Create and Edit application/vnd.ms-powerpoint file
Create and Edit Microsoft Excel Worksheet file
Create and Edit Text Document File
My Inbox
Create a Project
Share
Help
Favorite Recent
Favorite Projects
Favorite Notes
View All
Sign out
user1
owner
Click to add title
start
10:15 AM
Done

FIG. 8

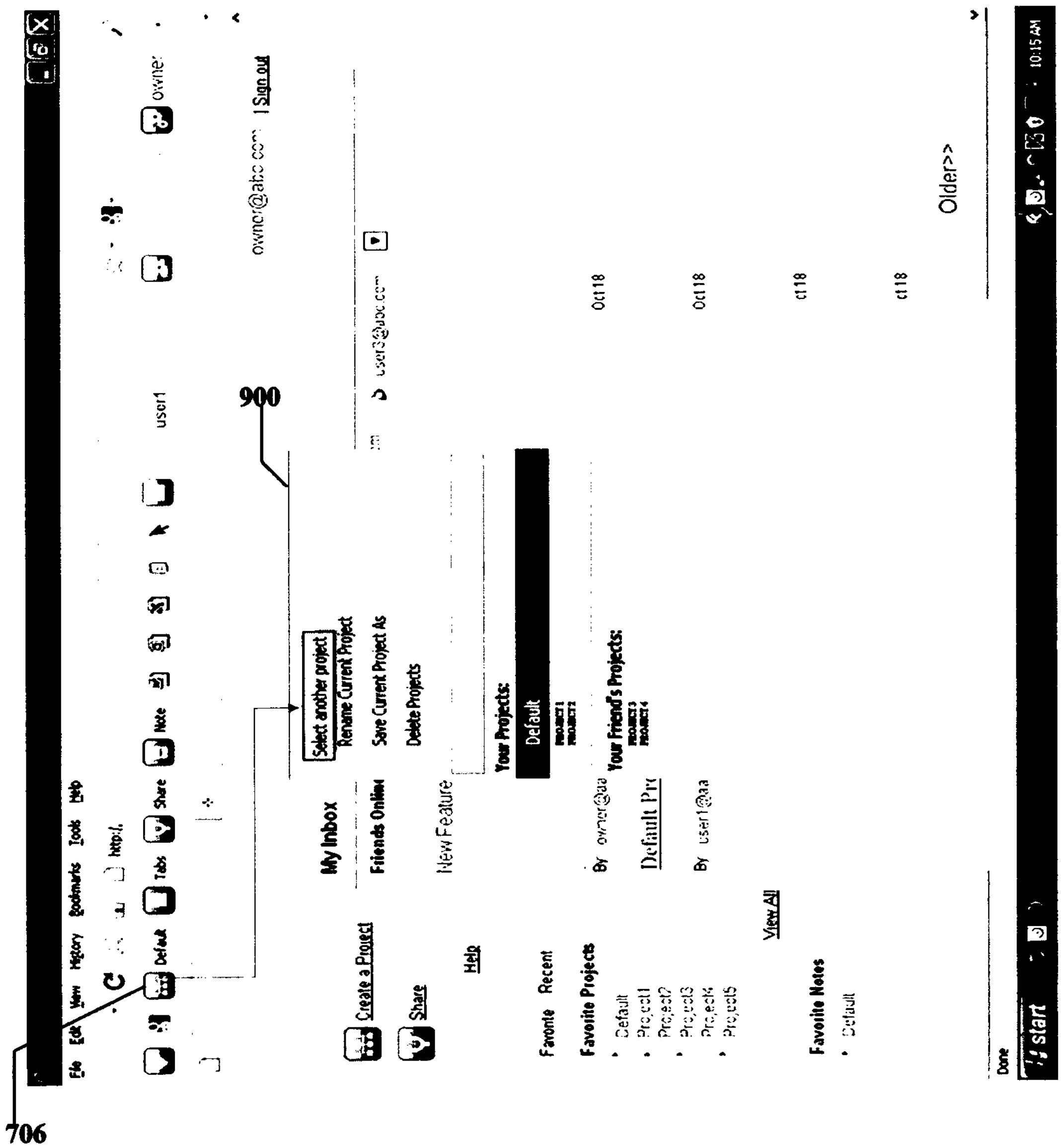
706
900
File Edit View History Bookmarks Tools Help
Default
Tabs
Share
Note
user1
owner@abc.com | Sign out
Select another project
Rename Current Project
Save Current Project As
Delete Projects
My Inbox
Friends Online
New Feature
Your Projects:
Default
Your Friend's Projects:
Create a Project
Share
Help
Favorite Recent
Favorite Projects
Default
Project1
Project2
Project3
Project4
Project5
View All
Favorite Notes
Default
Older>>
Done
start
10:15 AM

FIG. 9

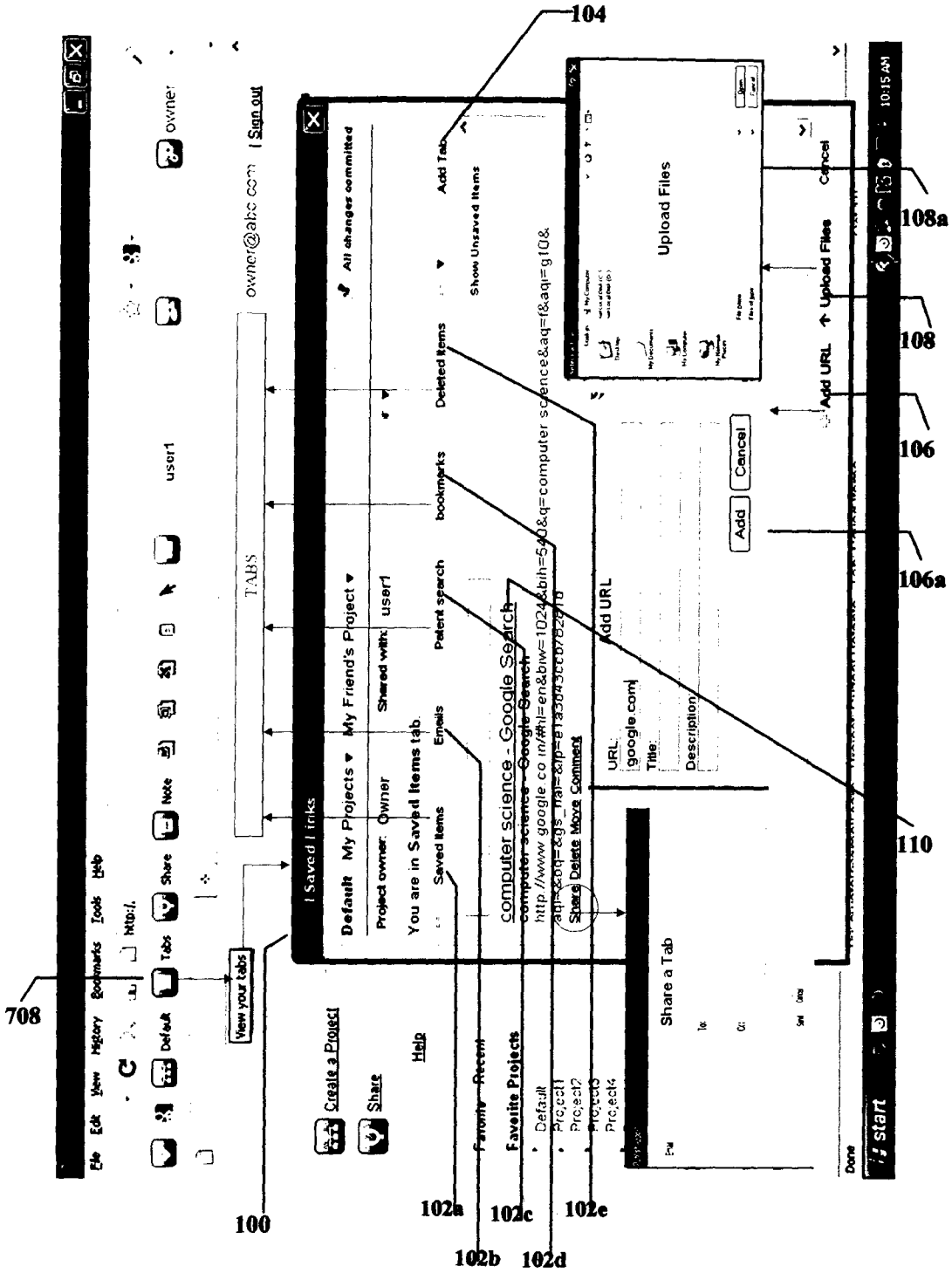
104
108a
108
106
106a
110
708
100
102a
102b
102c
102d
102e
TABS
Upload Files
Add URL
Add
Cancel
Share a Tab
Create a Project
Share
Help
Favorite Projects
Recent
Default
Project1
Project2
Project3
Project4
Saved Items
Emails
Patent search
bookmarks
Deleted Items
Add Tab
Show Unsaved Items
All changes committed
My Projects
My Friend's Project
Project owner: Owner
Shared with: user1
You are in Saved Items tab.
Share
Delete
Move
Comment
URL:
Title:
Description
Add URL
computer science - Google Search
Start
Done

FIG. 10

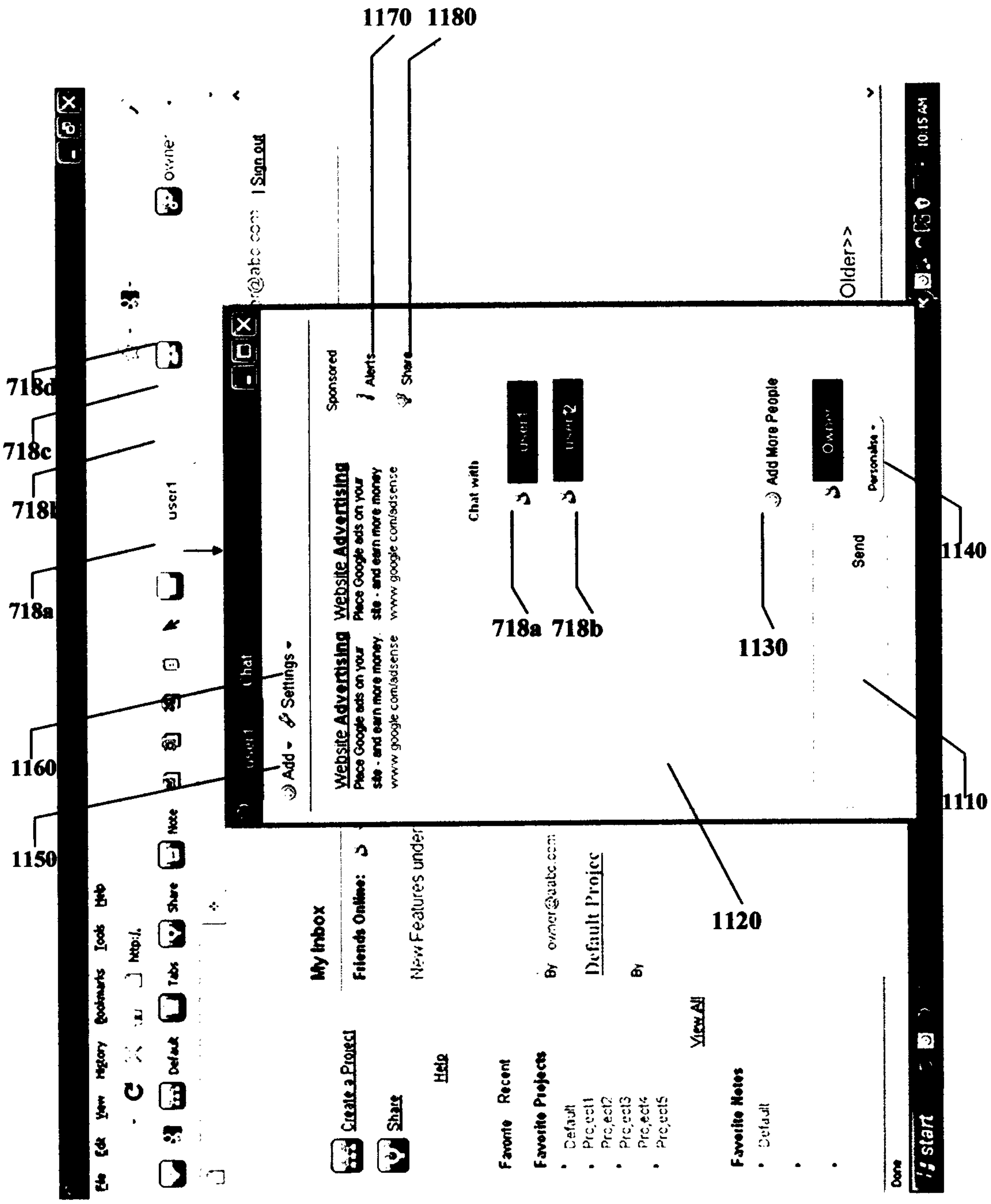
1170
1180
718d
718c
718b
718a
1160
1150
718a
718b
1130
1140
1110
1120

FIG. 11

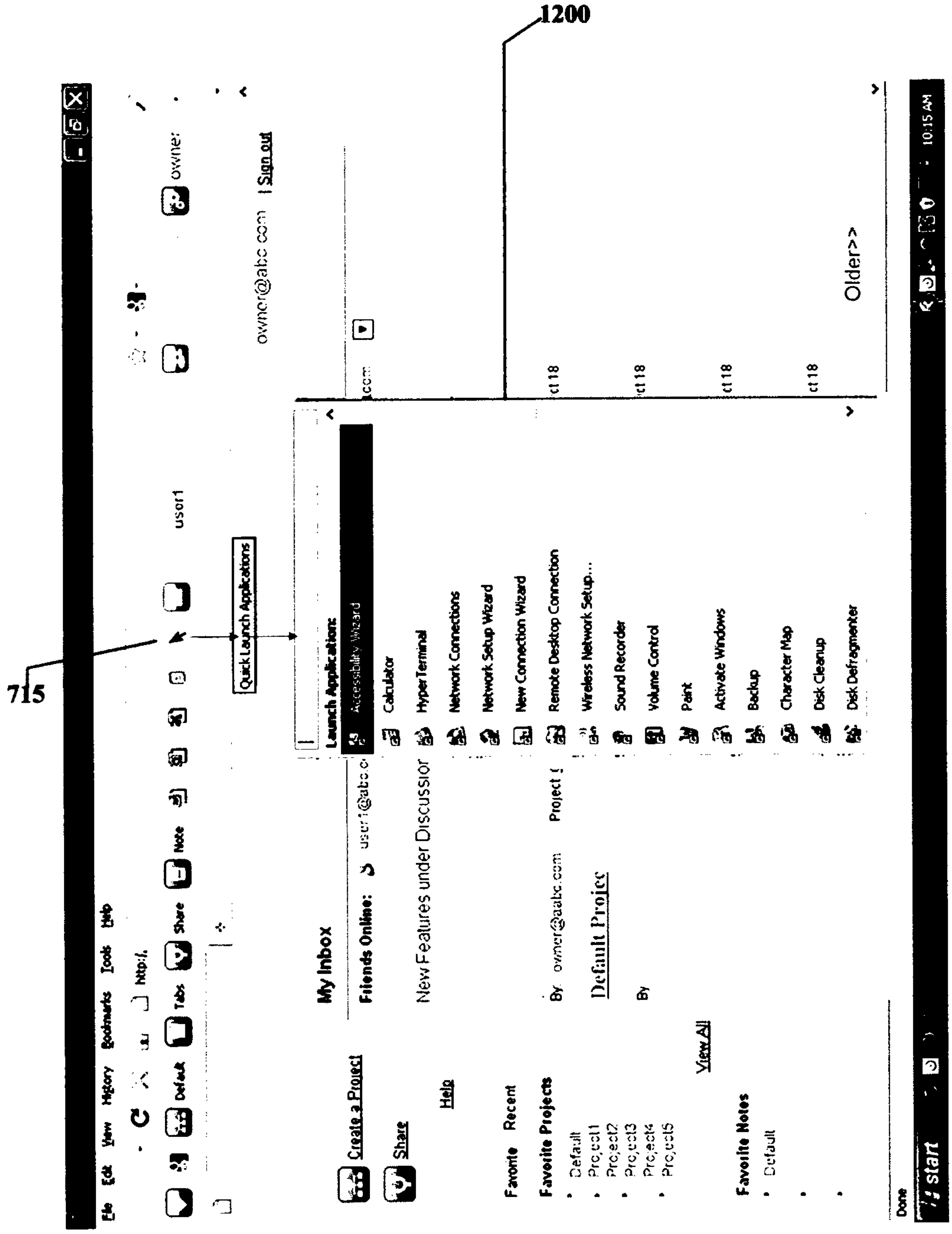
1200
715
Quick Launch Applications
Launch Applications
Accessibility Wizard
Calculator
HyperTerminal
Network Connections
Network Setup Wizard
New Connection Wizard
Remote Desktop Connection
Wireless Network Setup...
Sound Recorder
Volume Control
Paint
Activate Windows
Backup
Character Map
Disk Cleanup
Disk Defragmenter
My Inbox
Friends Online:
New Features under Discussion
Default Project
Create a Project
Share
Help
Favorite Recent
Favorite Projects
Favorite Notes
View All
Older>>
Sign out
owner@abc.com
user1
start
10:15 AM

FIG. 12

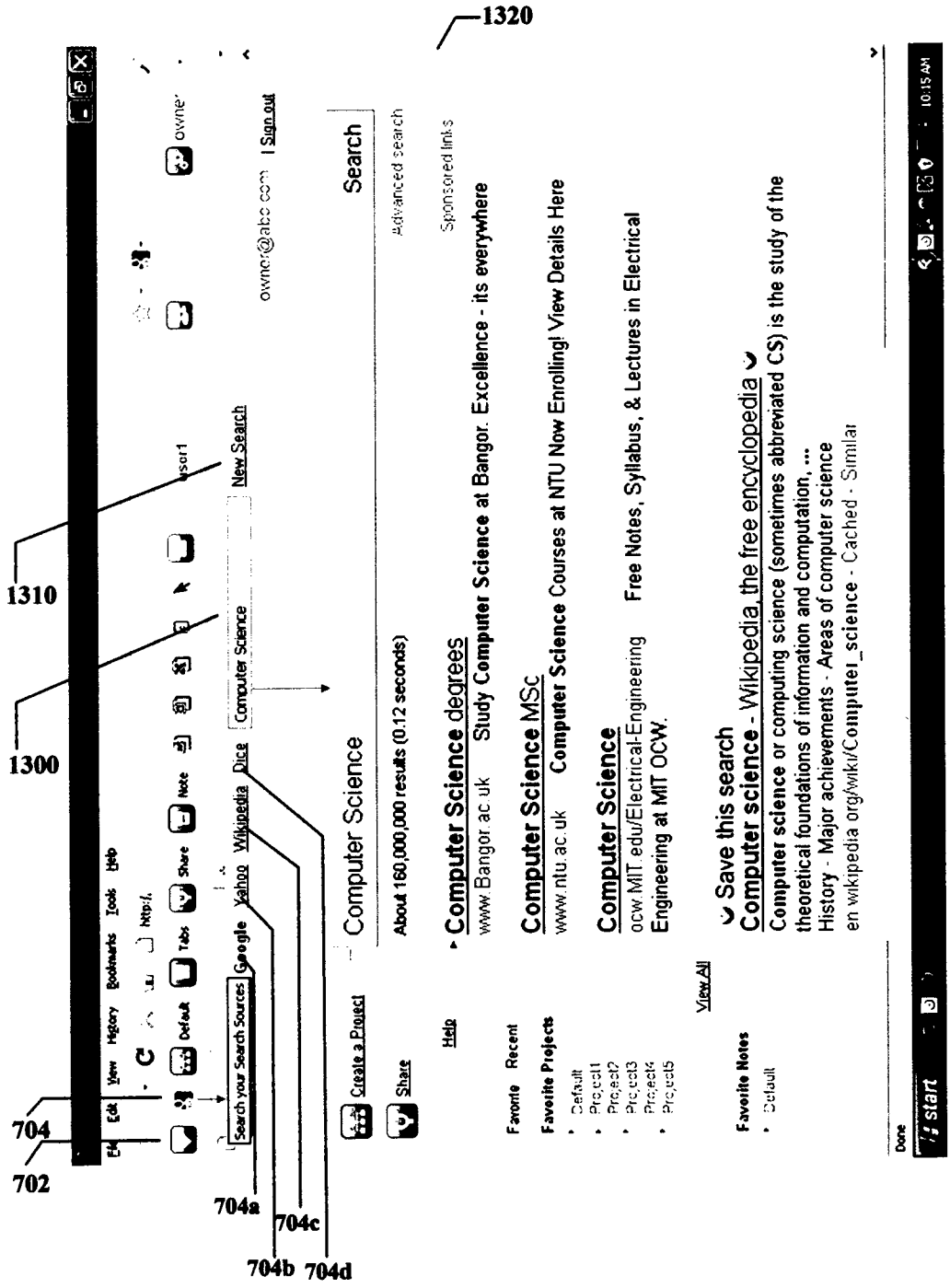
1320
1310
1300
704
702
704a
704b
704c
704d
Search
New Search
Computer Science
Create a Project
Share
Help
Favorite Recent
Favorite Projects
Default
Project1
Project2
Project3
Project4
Project5
About 160,000,000 results (0.12 seconds)
Advanced search
Sponsored links
Computer Science degrees
www.Bangor.ac.uk Study Computer Science at Bangor. Excellence - its everywhere
Computer Science MSc
www.ntu.ac.uk Computer Science Courses at NTU Now Enrolling! View Details Here
Computer Science
ocw.MIT.edu/Electrical-Engineering Free Notes, Syllabus, & Lectures in Electrical Engineering at MIT OCW.
View All
Save this search
Computer science - Wikipedia, the free encyclopedia
Computer science or computing science (sometimes abbreviated CS) is the study of the theoretical foundations of information and computation, ...
History - Major achievements - Areas of computer science
en.wikipedia.org/wiki/Computer_science - Cached - Similar
Favorite Notes
Default
Done
start
10:15 AM

FIG. 13

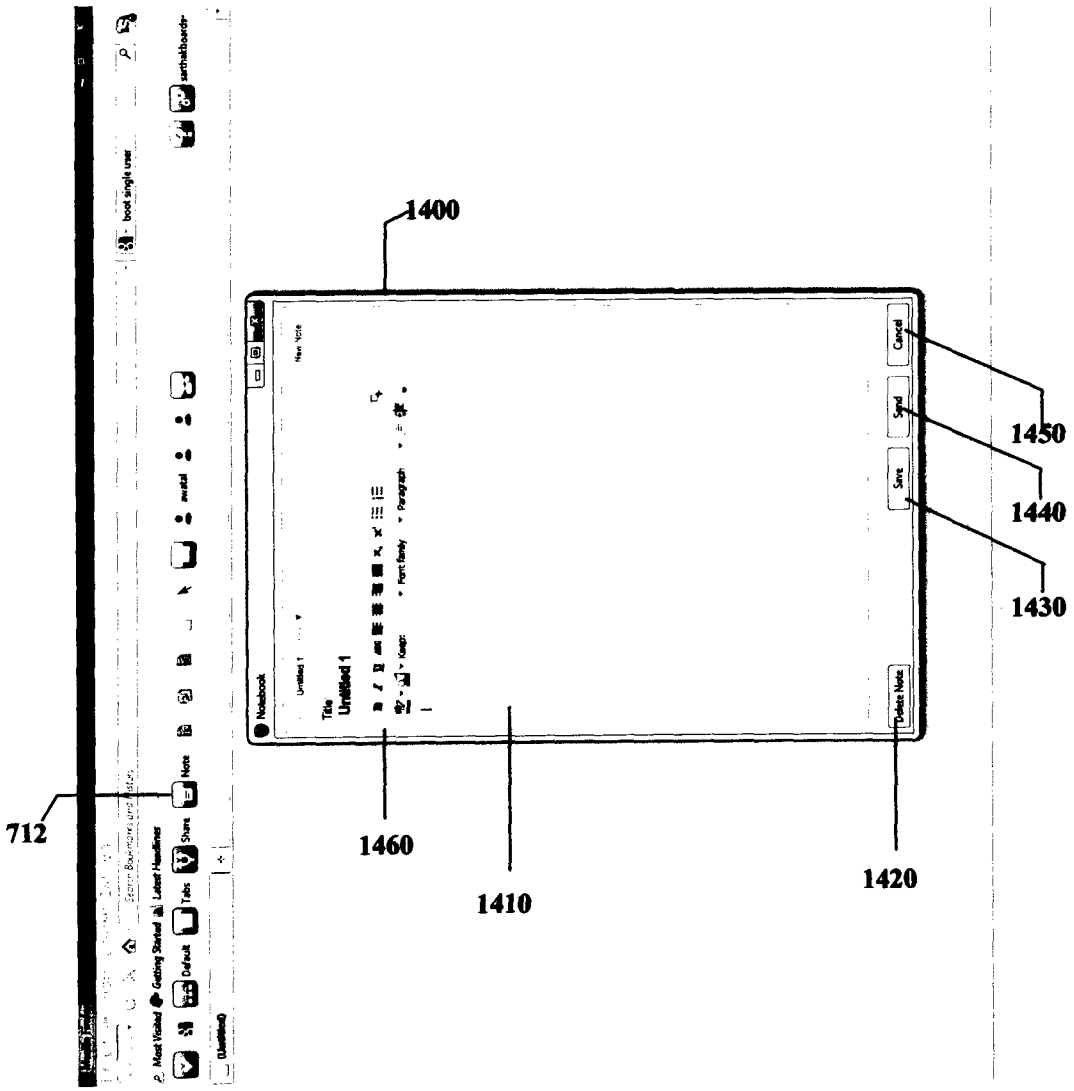

FIG. 14A

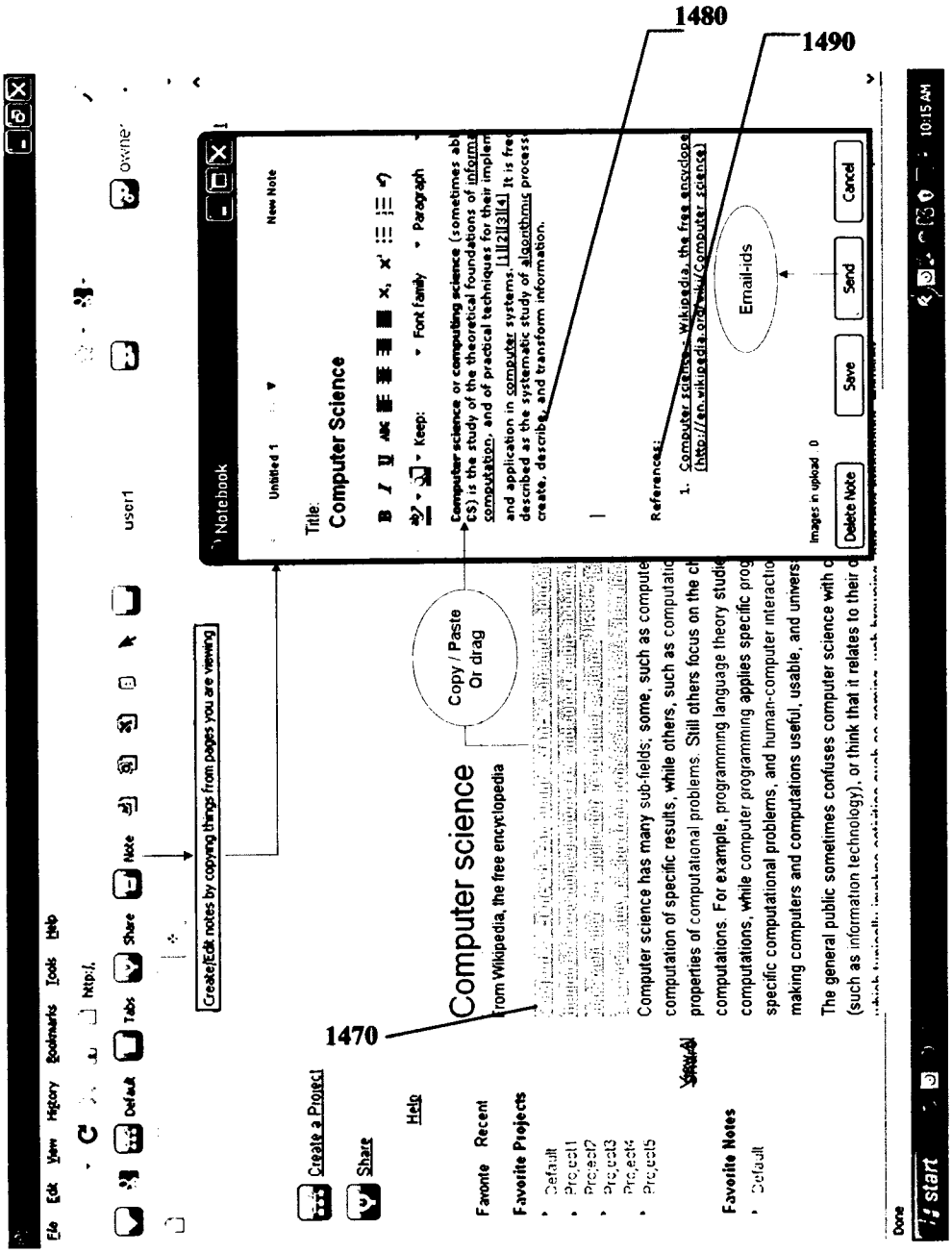
1480
1490
1470
Notebook
Untitled 1
New Note
Title:
Computer Science
Keep:
Font family
Paragraph
Computer science or computing science (sometimes ab
CS) is the study of the theoretical foundations of inform
computation, and of practical techniques for their implem
and application in computer systems. [1][2][3][4] It is fre
described as the systematic study of algorithmic process
create, describe, and transform information.
References:
1. Computer science - Wikipedia, the free encyclope
(http://en.wikipedia.org/wiki/Computer_science)
Images in upload : 0
Delete Note
Save
Send
Cancel
Email-ids
Copy / Paste
Or drag
Computer science
from Wikipedia, the free encyclopedia
Create/Edit notes by copying things from pages you are viewing
Create a Project
Share
Help
Favorite Recent
Favorite Projects
Default
Project1
Project2
Project3
Project4
Project5
Favorite Notes
Default
Computer science has many sub-fields; some, such as compute
computation of specific results, while others, such as computatio
properties of computational problems. Still others focus on the ch
computations. For example, programming language theory studie
computations, while computer programming applies specific prog
specific computational problems, and human-computer interactio
making computers and computations useful, usable, and univers
The general public sometimes confuses computer science with c
(such as information technology), or think that it relates to their d
Done
start
10:15 AM

FIG. 14B

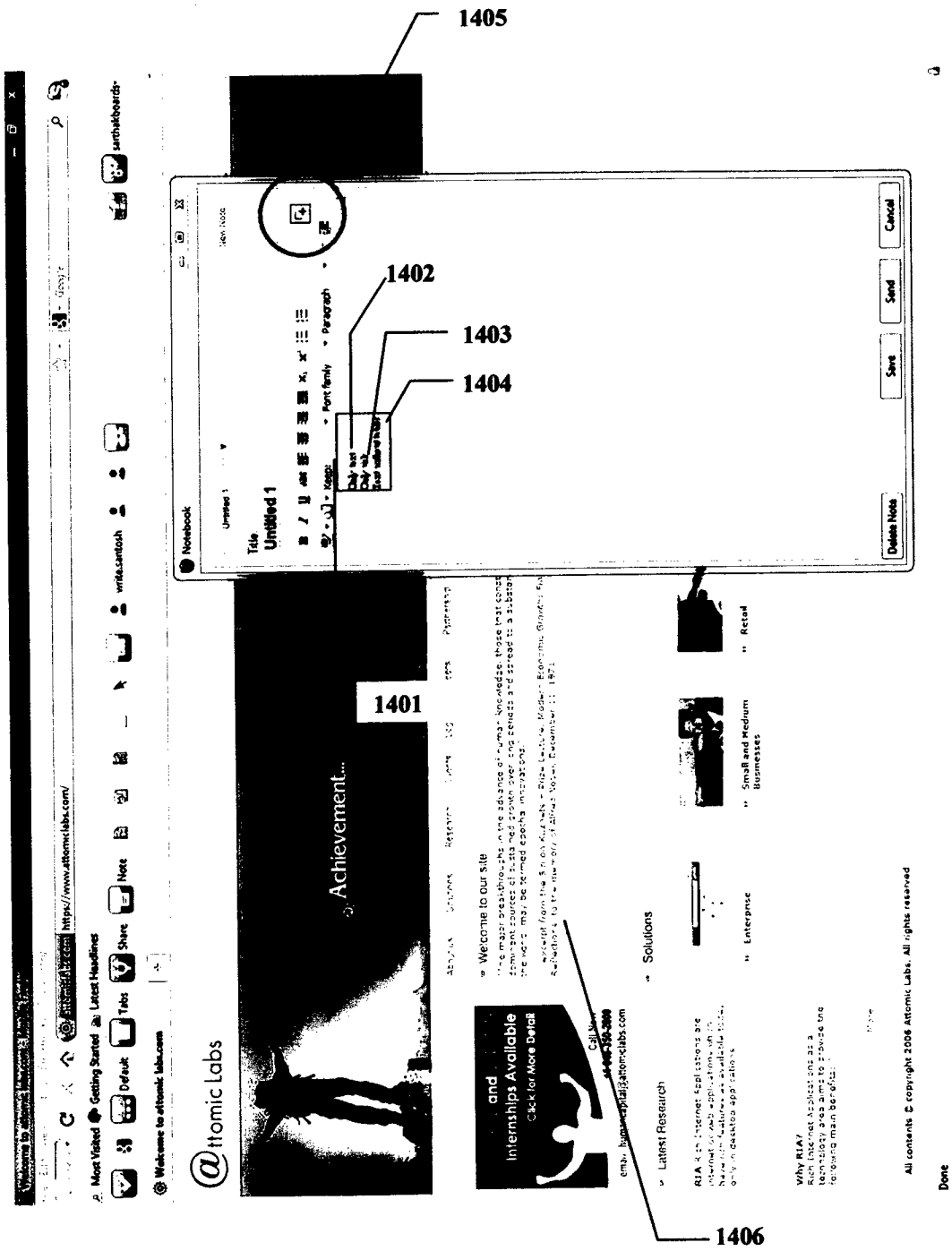
1405
1402
1403
1404
1401
1406
Notebook
Title
Untitled 1
Delete Note
Save
Send
Cancel
Achievement...
Welcome to our site
Solutions
Latest Research
Enterprise
Small and Medium Businesses
Retail
and Internships Available
Click for More Detail
All contents © copyright 2006 Attomic Labs. All rights reserved
Done

FIG. 14C

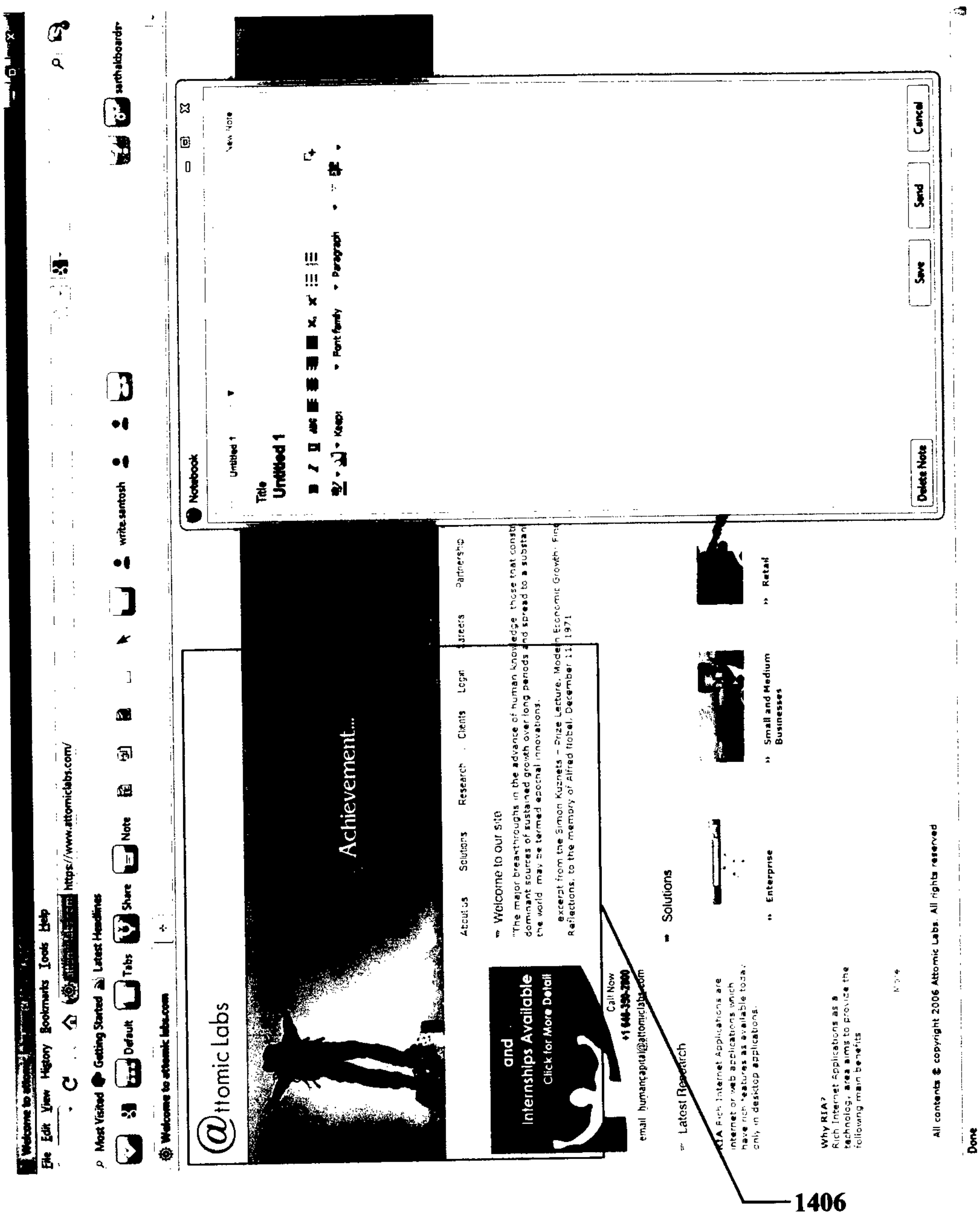

FIG. 14D

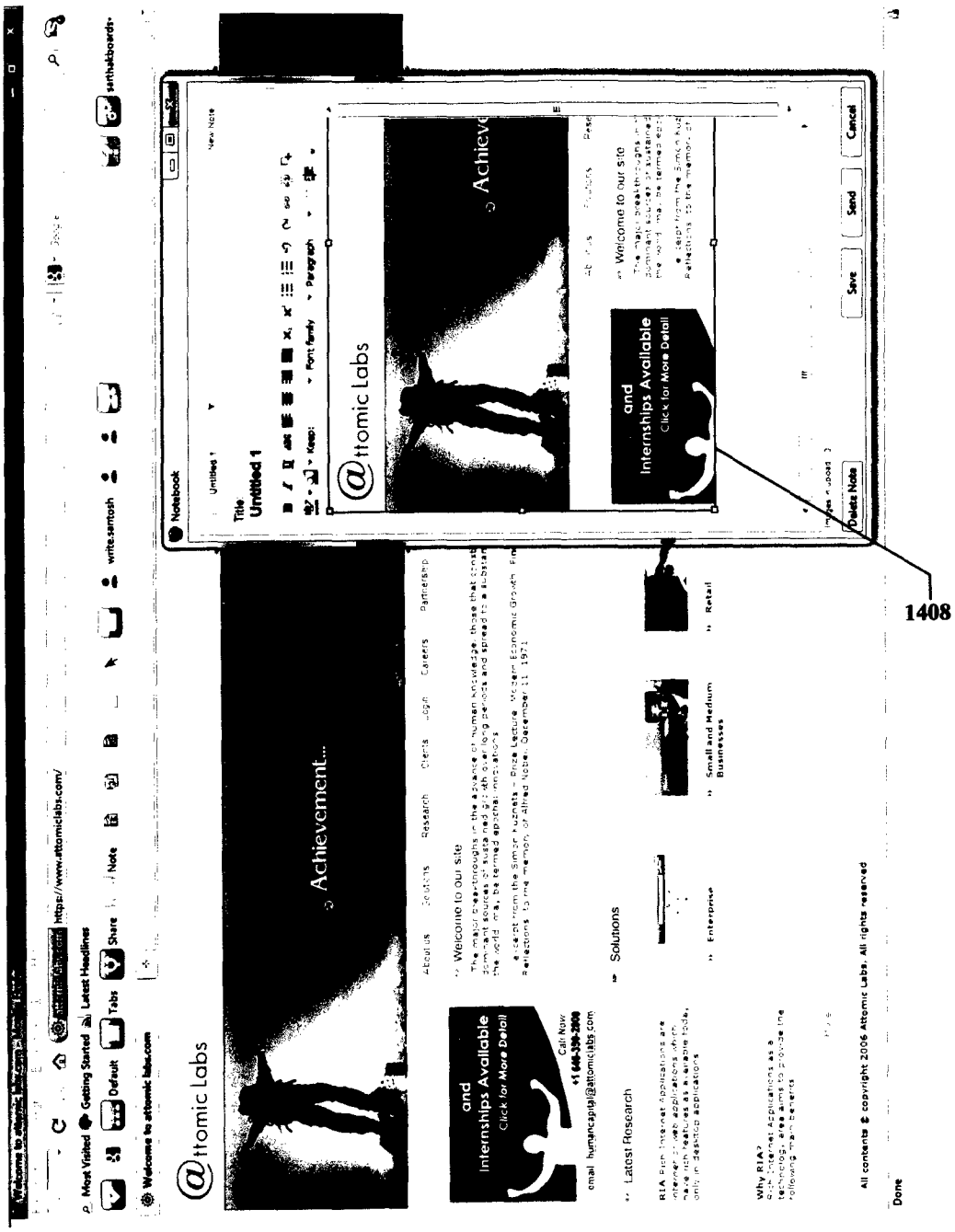
Notebook
Title
Untitled 1
@ttomic Labs
Achievement...
and
Internships Available
Click for More Detail
Welcome to Our Site
Solutions
Latest Research
Small and Medium Businesses
Retail
Enterprise
Save
Send
Cancel
Delete Note
All contents © copyright 2006 Attomic Labs. All rights reserved
Done
1408

FIG. 14E

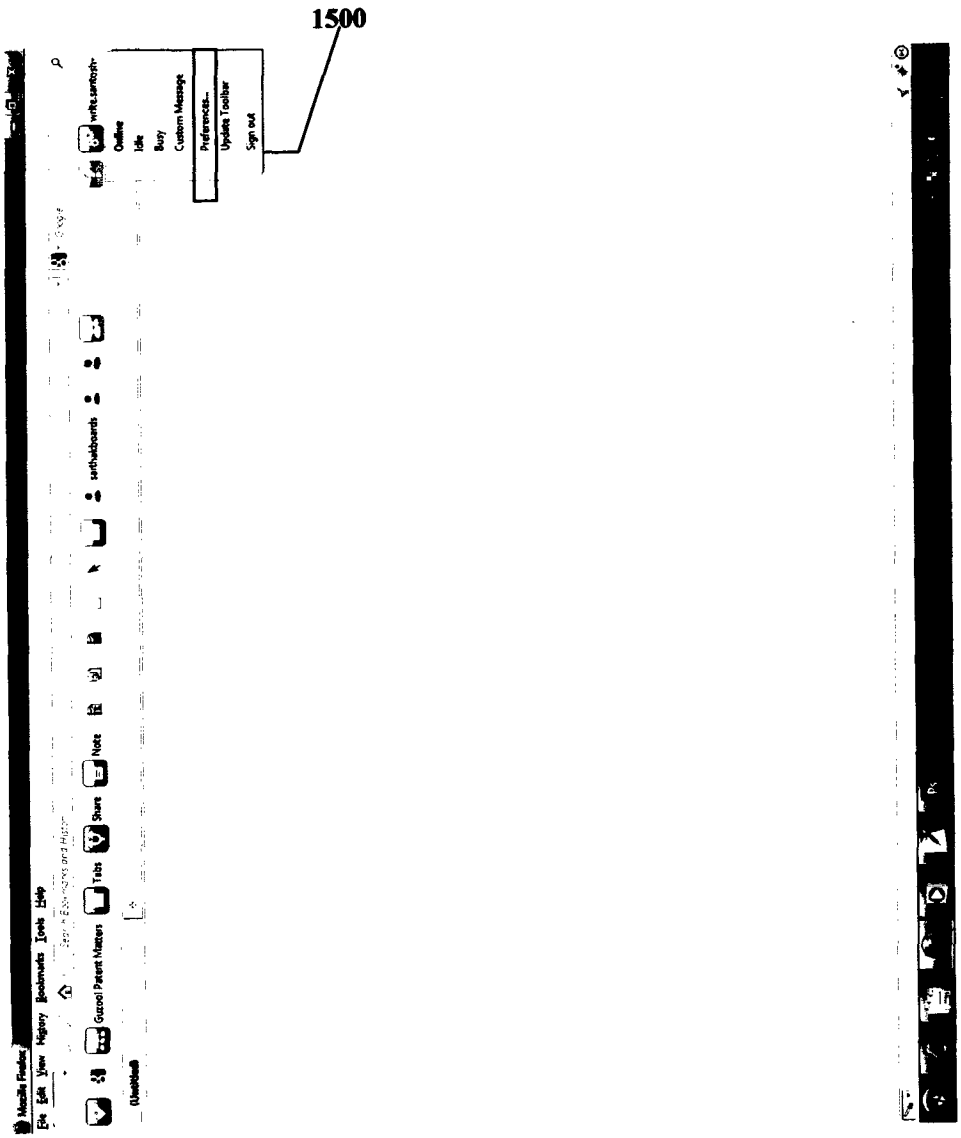
1500
Mozilla Firefox
File Edit View History Bookmarks Tools Help
Gazzol Patent Matters
Tabs
Share
Note
sethakboards
Online
Idle
Busy
Custom Message...
Preferences...
Update Toolbar
Sign out

FIG. 15A

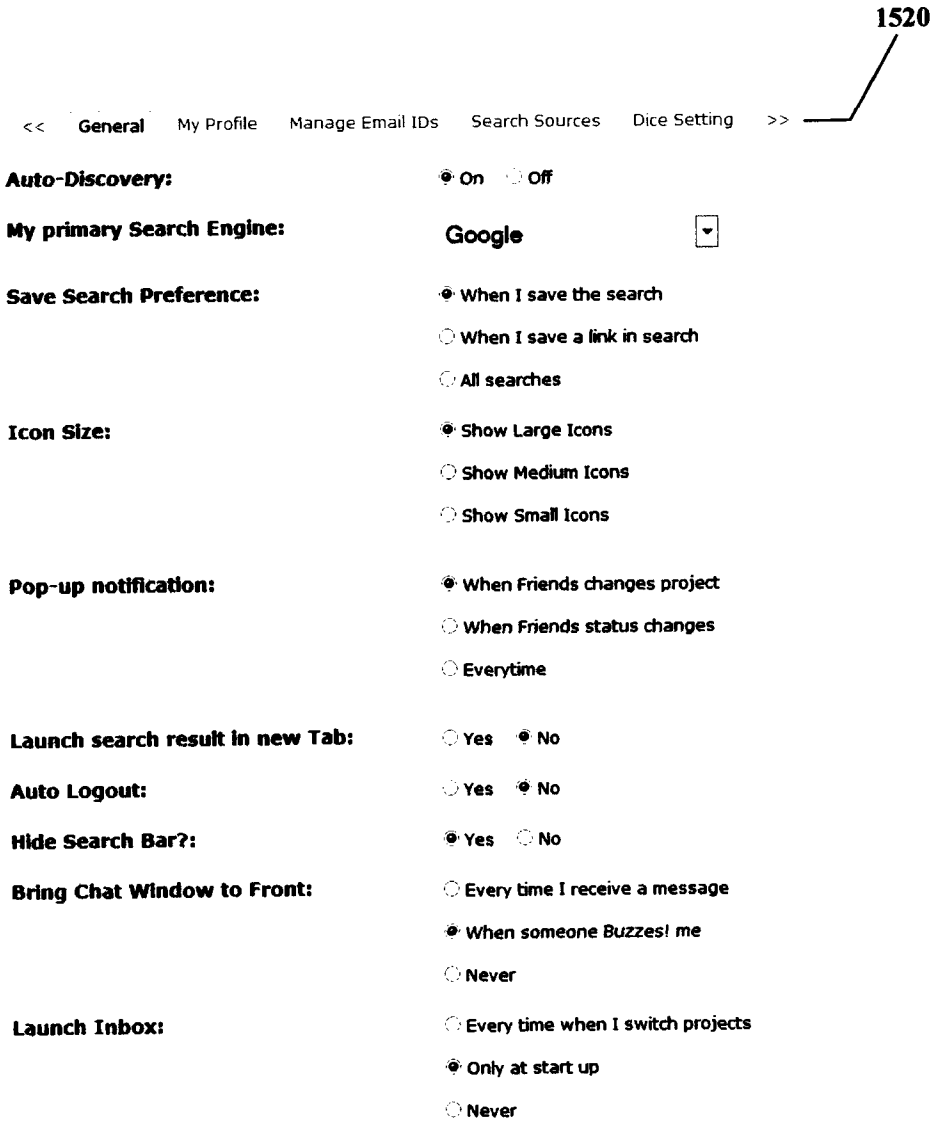
1520
<< General My Profile Manage Email IDs Search Sources Dice Setting >>
Auto-Discovery:
On Off
My primary Search Engine:
Google
Save Search Preference:
When I save the search
When I save a link in search
All searches
Icon Size:
Show Large Icons
Show Medium Icons
Show Small Icons
Pop-up notification:
When Friends changes project
When Friends status changes
Everytime
Launch search result in new Tab:
Yes No
Auto Logout:
Yes No
Hide Search Bar?:
Yes No
Bring Chat Window to Front:
Every time I receive a message
When someone Buzzes! me
Never
Launch Inbox:
Every time when I switch projects
Only at start up
Never

FIG. 15B

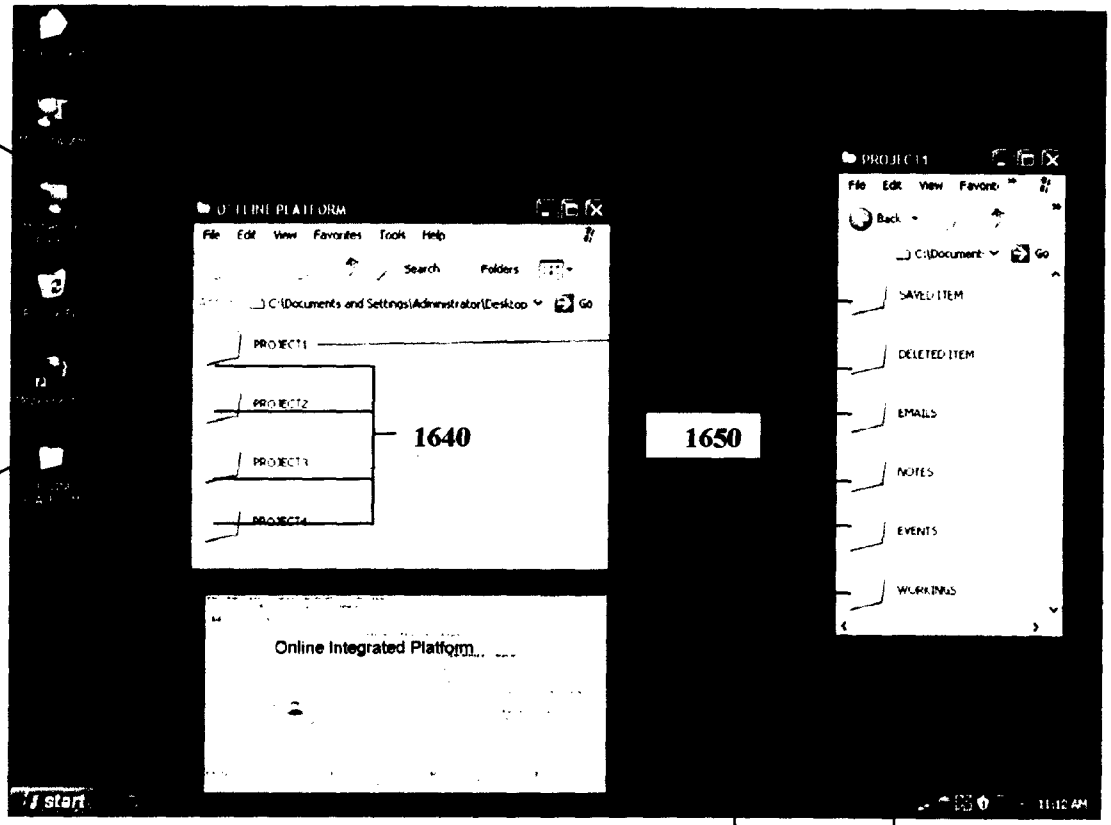
1620
1610
1640
1650
Online Integrated Platform
SAVED ITEM
DELETED ITEM
EMAILS
NOTES
EVENTS
WORKINGS
1600
1630

FIG. 16

INTERNATIONAL SEARCH REPORT

International application No
PCT/IN2012/000144

A. CLASSIFICATION OF SUBJECT MATTER
INV. G06F17/24 G06F17/30 G06Q10/10 G06F17/22
ADD.

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
G06F G06Q

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
EPO-Internal, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	GB 2 464 948 A (LIMITED QUOLOS [GB]) 5 May 2010 (2010-05-05) the whole document	1-35
X	US 6 594 664 B1 (ESTRADA JULIO [US] ET AL) 15 July 2003 (2003-07-15) the whole document	1-35
X	US 2006/053196 A1 (SPATARO JARED M [US] ET AL) 9 March 2006 (2006-03-09) the whole document	1-35
A	US 2009/210459 A1 (NAIR NISHA K [US] ET AL) 20 August 2009 (2009-08-20) abstract	1-35

-/--

[X] Further documents are listed in the continuation of Box C.

[X] See patent family annex.

* Special categories of cited documents :

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier application or patent but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
6 June 2012	15/06/2012

Name and mailing address of the ISA/	Authorized officer
European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Fax: (+31-70) 340-3016	Heselius, Per

1

Form PCT/ISA/210 (second sheet) (April 2005)

INTERNATIONAL SEARCH REPORT

International application No
PCT/IN2012/000144

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	DAN R. HERRICK: "Google this! Using Google Apps for Collaboration and Productivity", PROCEEDINGS OF THE ACM SIGUCCS FALL CONFERENCE ON USER SERVICES CONFERENCE, SIGUCCS '09, 1 January 2009 (2009-01-01), page 55, XP55010132, New York, New York, USA DOI: 10.1145/1629501.1629513 ISBN: 978-1-60-558477-5 abstract	1-35
A	Lawrence Cyenne-McCall: "SYNCHRONOUS 3D DOCUMENT COLLABORATION", , 1 January 2008 (2008-01-01), pages I-38, XP55001050, Retrieved from the Internet: URL:http://support.csis.pace.edu/CSISWeb/docs/MSThesis/CayenneMcCallLawrence.pdf [retrieved on 2011-06-21] abstract	1-35
A	US 2008/320397 A1 (DO ANH [US] ET AL) 25 December 2008 (2008-12-25) abstract	1-35
A	US 2011/145299 A1 (ZHOU XIN [CN]) 16 June 2011 (2011-06-16) abstract	1-35

1

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No
PCT/IN2012/000144

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
GB 2464948 A	05-05-2010	CN 102257523 A	23-11-2011
		EP 2350940 A1	03-08-2011
		GB 2464948 A	05-05-2010
		US 2011289150 A1	24-11-2011
		WO 2010049679 A1	06-05-2010
US 6594664 B1	15-07-2003	NONE	
US 2006053196 A1	09-03-2006	US 2006053196 A1	09-03-2006
		US 2010192072 A1	29-07-2010
US 2009210459 A1	20-08-2009	NONE	
US 2008320397 A1	25-12-2008	CN 101689188 A	31-03-2010
		EP 2168059 A1	31-03-2010
		JP 2010530589 A	09-09-2010
		KR 20100028553 A	12-03-2010
		TW 200905475 A	01-02-2009
		US 2008320397 A1	25-12-2008
		WO 2008157016 A1	24-12-2008
US 2011145299 A1	16-06-2011	CN 102096582 A	15-06-2011
		US 2011145299 A1	16-06-2011