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(54) Title: SYSTEM AND METHOD FOR INFORMATION DELIVERY

(57) Abstract: A novel system and method for exchanging information through a network-based information delivery system (IDS) is described. The preferred network-based information delivery system is an Internet-based information delivery system. The system comprises a source information delivery system module (SIDSM), as user information delivery system module (UIDSM), an optional service provider network module, and flexible, object specific menus that reside on a user interface. Methods for using the network-based information delivery system through the object-specific menus are disclosed. In addition, methods of using the menus for Internet and electronic mail specific objects are also provided.
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SYSTEM AND METHOD FOR INFORMATION DELIVERY

BACKGROUND OF THE INVENTION

a) Field of the Invention

The present invention relates to a novel system and method for information exchange, specifically to information exchange over the Internet.

b) Description of Related Art

Information exchange between two or more computers provides the basis for communications between two or more computer users. This information exchange commonly takes place over a communication medium, also referred to as a network. A network may be configured in several ways. It may exist as a single, stand-alone system that connects a limited number of computers. It may also exist as sub-system to a larger network. A network may also exist as a global network such as the Internet.

The Internet (Net) or World Wide Web (Web) is the most used and best known computer network in use today. Information exchange between users on the Web takes place through Web sites set up on the network, or through electronic mail (email) messages that are sent from one user to another. Web sites and email messages provide users with a multi-media interface to communicate with each other.

When a network user begins a communication session over the Internet, the user can request data files from an Internet-connected computer called a server, Web server, or mail server. The server provides data files, typically comprising Web pages or email messages, which are requested by the user. The Web pages may be written in a type of programming code called hypertext mark-up language (HTML), and may be viewed or displayed through a graphical user interface.
(GUI), commonly referred to as a Web browser. As is well known in the art, the HTML format is a set of conventions for making different portions of a document so that each portion appears in a distinctive format. For example, the HTML format identifies portions of a document to distinguish among different categories of text (e.g., the title, header, body, text, etc.). When a Web browser accesses an HTML document, the Web browser reads the embedded identifiers or tags in the document so it appears formatted in the specified manner. Email messages may be viewed or displayed through a graphical user interface referred to as an email program. Web browsers are well known in the art and are available from Microsoft Corporation, Netscape Communications Corporation, America Online, Inc., and others. Similarly, email programs are well known in the art and are available from Microsoft Corporation, Netscape Communications Corporation, America Online, Inc., Qualcomm Inc., and others.

Web pages typically contain objects such as text, images, and sounds, that increase functionality of the pages by providing links to other pages, perform specific tasks such as providing video or audio data, offer tools for real-time negotiations, perform search tasks, and others. An HTML document usually includes hyper-links that allow a user to move from one document to another on the Net. A hyper-link is an underlined or otherwise emphasized portion of text which, when selected using an input device such as a mouse, activates a software connection module which allows the user to jump between documents (i.e., within the same Web site or to other Web sites). Hyper-links are well known in the art (Angles et al., Patent No. 5,933,811). Web page complexity has increased dramatically in the recent past. This increase has outpaced increases in network connection speeds. Network connection speeds have remained slow while Web page content and functionality has increased substantially. As a result, transferring a Web page from a Web site to the user’s computer is time consuming and costly in terms of Internet time.
Although the Internet is used extensively to share information among different users, the full range of possible information exchange and user interaction has not been exhausted. The Web browser typically limits the functionality provided through objects on a Web page. Presently, only one Web interaction function is offered to the user as an option for any object in a Web page. As a result, the user must necessarily browse through several Web pages and reach the appropriate Web page before acquiring the necessary information related to a specific object on that Web page. Typically, the user begins the navigation process at the homepage of the business and browses through several Web pages before obtaining the desired information. For example, a person desiring to acquire information about any particular product sold anywhere in the world has a number of search options available. The user may directly contact the manufacturer or reseller through the company's World Wide Web (WWW) site. In the event that the user decides to acquire product information through the seller's WWW site, he or she must first determine the location of its WWW site (Internet address) which oftentimes involves using Internet search engines such as YAHOO®, WEB-CRAWLER™, excite™, Google™, or others. This can be time consuming and unsuccessful. If the Internet address is obtained, the user is then required to view the homepage of the company in order to find where information on a particular product resides. Similarly, this can be time consuming and expensive in terms of Internet time, and may not turn up information that is useful to the user. Furthermore, most Web pages provide a series of hyper-links with which the user can navigate through the site. However, navigating from one hyper-link to another is again time consuming and costly and often does not lead to information on the product or service of interest. A user presently does not have the option to bypass object specific information contents in order to limit the amount of time spent moving from one hyper-link to another. Once the user reaches the desired Web page, performing action pertaining to a specific object
again requires the user to navigate through several pages. A function that allows one to arrive at specific object specific information instantaneously, without clicking through several Web pages or hyper-links has not been realized.

There are several providers in the art that have attempted to ease the ways by which a user can move about on the Internet. However, these attempts are limited to general, non-specific improvements such as the option to download an application that is used to enable menus using the right button of a mouse. GOTO.com™ and DLJ direct™ each offer different downloadable applications in which these menus are specific to their individual sites and do not change with different Web pages, i.e., the menu options do not change according to the Web site, and are indistinguishable from one Web page to another. Similarly, the menu options are the same for all objects on Web pages within the respective Web site. Furthermore, the menus do not have the capability to selectively bypass content, nor do they possess the ability to learn the user preference. These navigational shortcomings limit efficient business-to-consumer and business-to-business interactions. As a result, each Web site faces an ever-increasing challenge to retrieve relevant information.

Email messages typically contain objects such as text, images, and sound, that often increase functionality of the messages by providing links to other messages or Web pages, performing specific tasks such as providing video or audio data, and others. As in the case of Web pages, email message complexity and functionality has increased dramatically in the recent past while the network connections have remained effectively slow. As a result, transferring an email message from the source to a user is time consuming and costly in terms of Internet time.

Email programs typically limit the functionality provided through objects on an email message. Presently, only one email or Web interaction function is offered to the user as an option for any object in an email message. For example,
current email programs do not offer users the ability to obtain object specific information, or perform object specific actions directly from the email program. Thus, the interaction related functionality available through email programs is limited.

Another pertinent shortcoming currently experienced when using the Web or an email program is the costly use of real estate. Real estate is defined as the space taken up by any Web site or email message through a mixture of text, image, video, and audio data. The more real estate a business-to-business or business-to-consumer interaction requires the higher the user interface required, and the slower the connection speed for that interaction. Any additional real estate requirement above what is already provided on the network slows real-time interactions and makes information exchange more cumbersome. There is ever increasing need in the art for systems and methods that can facilitate interactions on the Net without these limitations.

Portability is a highly desired feature in computers. As a result, portable computers are required to be smaller in size with increased functionality. Computers that are smaller in size necessarily require smaller user interfaces. This places a limitation on the number of objects and functionality that may be available to a user through a single Web page or email message. For example, e-phones allow the user to connect to the Internet; however, their small size restricts the viewing of multiple Web pages and Web objects. Current browsers and email programs offer the user only one function that may be carried out per object on a page. As a result, exchanging information over a network through portable computers is inefficient and limited in scope.

The popularity of the Internet has influenced many companies to create multi-media Internet Web sites in order to advertise, sell, and maintain their products and services. Consequently, the Internet is being used more and more often for commercial purposes. Thus, Web sites have become an important means
for businesses and individuals to disseminate new product and service information, public relations news, and advertising. Additionally, companies have begun to conduct actual business transactions over the Internet, which is cost effective and expedient.

The Internet offers two keys sources of value, which are the ability to transform customer relationships as well as the capability to displace traditional sources of business. On the Internet, customers can choose the hours of business they desire, receive service at any location, serve themselves, and attract attention to their particular needs. The source of value has moved from physical products to digital products. The Internet is able to deliver information in digital form that is mass customized for each user, easily assimilated, economically distributed, and global in its reach.

But the Net serves to broaden the traditional definition of "commerce" beyond mere buying and selling, and there is a tremendous need in the art to skillfully improve upon the existing interactions of consumers and businesses. Internet commerce per se has become more and more complex. The design of fully functioning, secure, and financially successful Internet commerce systems requires not only the understanding of fundamental principles of system design but also the implementation of key technologies relevant to electronic commerce (e-commerce). In order to bridge the gap between the vision of successful e-commerce and the reality of attaining that vision, major improvements are necessary with respect to existing technologies available today. With respect to e-commerce, the technological building blocks for successful system design include content transport technologies, CGI, Java, ActiveX, sessions and cookies, CORBA, SET, and COM which are well known in the art (Treese et al., Designing Systems for Internet Commerce, Addison-Wesley Publishing Company, 1998).

The acceptance of the Web as a platform for information exchange has lead to several inefficiencies due to high Internet traffic, a multitude of options per
Web site, a lack of standardized user interactions, and other shortcomings. Accordingly, it is highly desirable to provide an improved system and method for exchanging information over networks such as the Internet, that is simple, user friendly, cost effective, provides efficient exchanges, and avoids the shortcomings and drawbacks of prior art systems and methodologies. The present invention addresses these needs.

SUMMARY OF THE INVENTION

The present invention relates to a novel system and method for exchanging information through a network-based information delivery system that provides a connection between source and user.

One aspect of the present invention is a network-based information delivery system which comprises a source information delivery system module (SIDS), a user information delivery system module (UIDSM), an optional service provider network module, and flexible, object specific menus that reside on a user interface. The menus are specific to the objects or object categories within a Web page or electronic mail (email) message.

Another aspect of the present invention is a method of exchanging information through a network-based information delivery system which comprises flexible, object specific menus that are available through a user interface of a communication device. The preferred network used is the Internet. The menus are specific to the objects or object categories within a Web page or email message and allow a user to carry out specific functions. In particular, the ability to arrive at a desired location on the network without browsing through several Web pages is contemplated by the present invention. Furthermore, the network-based information delivery system of the instant invention provides an environment for business-to-business, business-to-consumer, and consumer-to-
consumer interactions. This environment is flexible and may be personalized with respect to the business, consumer, or service provider.

In another aspect, the present invention provides a method of exchanging information through a network-based information delivery system which includes an email based information delivery system, comprising flexible, object specific menus that are available through the user interface of the communication device. The menus are specific to groups of email messages, the email message itself, object or object categories within an email message, the source, the recipient, or the service provider. In particular, the ability to provide or obtain additional information and functionality associated with email messages is contemplated by the present invention. Furthermore, the email based information delivery system also provides an environment for business-to-business, business-to-consumer, and consumer-to-consumer interactions. Similarly, this environment is flexible and may be personalized with respect to the business, consumer, or service provider.

The present invention also encompasses flexible, object specific menus, available through a user interface of a communication device that are activated through specific devices such as a mouse. In a preferred embodiment of the instant invention, clicking the right mouse button would bring up a menu for an object within a Web page or email message and allow the user to carry out specific functions, including bypassing several pages, engaging in real-time interactions, linking to customized sites, and the like. In another preferred embodiment, the menus can be activated by other input or output devices such as a keyboard or customized buttons on a keyboard, a screen, and a tablet. In yet another preferred embodiment, any sound such as a spoken word or physical movement such as a hand gesture may be used to activate the menus. In still another preferred embodiment, the menus are available through a user interface of communication devices including, but not limited to, desktop computers, portable computers,
personal digital assistants, cellular phones, television sets, cable boxes, and network appliances.

In another aspect, the present invention provides flexible, object specific menus that are defeatable by the user. The menus can operate in the background and can be called upon to perform specific tasks. Alternatively, the menus may be inactivated by the user through a simple command, such as a keystroke or other means. In yet another embodiment of the instant invention, the menus provide for functionality tools including, but not limited to, digital wallet, shopping cart, user profiling, and advertising.
BRIEF DESCRIPTION OF THE DRAWINGS

The present invention is best understood when read in conjunction with the accompanying figures which serve to illustrate the preferred embodiments. It is understood, however, that the invention is not limited to the specific embodiments disclosed in the figures.

Figure 1 is a block diagram illustrating the interactions between the source computer, user computer, and service provider computer in the present invention.

Figure 2 is a flow diagram of an embodiment of the present invention for the process of a user performing an action in a Web page.

Figures 3a and 3b are schematic representations of a display screen providing menu options specific to objects in a Web page in accordance with an embodiment of the present invention.

Figure 4 is a flow diagram of an embodiment of the present invention for the process of a user performing an action in an email message.

Figures 5a and 5b are schematic representations of a display screen providing menu options specific to objects in an email message in accordance with an embodiment of the present invention.
DETAILED DESCRIPTION OF THE INVENTION

A system and method for exchanging information over a network through an information delivery system is described. In the following description, numerous specific details are set forth, such as specific networks, communication devices, communication media, connection techniques, functional modules, and the like, to provide a complete understanding of the invention. However, it should be understood that the invention as claimed should not be limited to the specific embodiments disclosed herein.

The Information Delivery System (IDS)

The present invention relates to a novel system and method for exchanging information through a network-based information delivery system that provides a connection between source and user. One aspect of the present invention is the information delivery system (IDS) which comprises a source information delivery system module (SIDSM), a user information delivery system module (UIDSM), an optional service provider network module, and flexible, object specific menus that reside on a user interface. The information delivery system (IDS) of the instant invention works with any communication device with Web connectivity and may be provided by a service provider. The use of this system increases the information transfer efficiency between source and user. It can be used by businesses and consumers alike, and is specifically designed to improve upon existing interactions conducted between a source and a user over networks such as the Internet.

Figure 1 is a block diagram that describes interactions between the source computer, user computer, and service provider computer through a communication medium. For the purpose of this illustration, the source computer is representative of the business computer, while the user computer is representative of the
customer computer. However, due to the interactive nature of information exchange, it is understood that the origin and final destination of data may change according to information flow during a given interaction. Also, interactions may occur exclusively between the source computer and user computer (vide infra), in which case the service provider computer may not represent a computer that provides the information delivery system.

The source computer comprises, among others, a source network module, a source database, and a source information delivery system module (SIDSM). The source network module performs several functions including, but not limited to, receiving requests by a user, collecting information from the source database, generating Web pages or email messages, providing information to the source IDSM, and providing information to the user computer. The source database functions as the storage mechanism for most information that is essential to the source computer. The source IDSM works with the source network module and source database to provide menu related information and increase functionality of Web pages or email messages. In an alternative embodiment of the present invention, the functionality of the source IDSM may be included in the source network module.

The user computer comprises, among others, a user browser module, a user email module, and a user information delivery system module (UIDSM). The user browser module provides a communication medium and user interface for conventional Web browsing. Similarly, the user email module provides a medium and user interface for conventional email message based communication. The user IDSM performs several functions including, but not limited to, working with the user browser module, the user email module, the source computer, and the service provider computer to associate objects within Web pages or email messages with specific menu options, thereby using these options to interact with the source computer, the service provider computer, or other modules of the user
computer itself. In an alternative embodiment of the present invention, the functionality of the user IDSM may reside within the user browser module or the user email module.

The service provider computer comprises, among others, a service provider network module, and a service provider database. The service provider network module performs several functions including, but not limited to, interacting with the source computer and user computer to obtain object-related information, obtaining click-stream data from the user computer, and performing financial transactions on behalf of the user or source. The service provider database is the storage mechanism for most information essential to the service provider computer.

As illustrated in Figure 1, information can move freely and bidirectionally from service provider computer to source computer to user computer across communication media. No limitation exists with respect to direction of information flow and information exchange itself among the various information sources depicted in Figure 1. Alternatively, interactions with respect to information exchange may occur exclusively between the source computer and user computer. Furthermore, the functionality of the user or source IDSM may reside within the browser module or the email module.

Object Specific Information Retrieval

Another aspect of the present invention provides for a method of exchanging information through a network-based information delivery system which comprises flexible, object specific menus that are available through a user interface of a communication device. The preferred network used is the Internet. The menus are specific to the objects or object categories within a Web page or email message and allow a user to carry out specific functions. In particular, the ability to arrive at a desired location on the network without browsing through
several Web pages is contemplated by the present invention. Furthermore, the network-based information delivery system provides an environment for business-to-business, business-to-consumer, and consumer-to-consumer interactions. This environment is flexible and may be personalized with respect to the business, consumer, or service provider. For example, in a business setting, the menus allow for real time business-to-consumer interactions, consumer profiles in real time, personalized negotiation strategies, and new advertising tools. This flexibility fosters consumer tailored approaches leading to ultimate compatibility between businesses and their customers.

Figure 2 depicts a flow diagram describing the process underlying the information flow while a user performs an action in a Web page. In this setting, a user computer requests a specific Web page from a source computer through a user interface such as a Web browser. In return, the source computer then provides the requested Web page to the user. During this information exchange the user IDSM determines if the Web page contains the IDS information. If the Web page does contain the desired IDS information, the user IDSM sends a request to the source IDSM to provide the IDS information for the requested Web page. In this scenario, the source IDSM queries the source database for IDS related object specific information including source, user, Web page, and Web page object specific information. During this query, the source IDSM passes the acquired IDS information to the user IDSM. When the user now activates a menu for specific object related information in a Web page, he or she essentially activates the IDS. The IDS information for a specific object is provided by the user IDSM. Finally the user performs the desired action on a specific object in a Web page, including linking to a specific object related function (see Figures 3a and 3b).

In one aspect, the present invention provides for flexible, object specific menus, available through a user interface of a communication device that are
activated through a mouse. In a preferred embodiment, clicking the right button on a mouse would bring up a menu for an object within a Web page or email message and allow the user to carry out specific functions including bypassing several pages, engaging in real-time interactions, linking to customized sites, and the like. In another preferred embodiment, the menus can also be activated by other input or output devices such as a keyboard or customized buttons on a keyboard, a screen, and a tablet. In yet another preferred embodiment, any sound such as a spoken word or physical movement such as a hand gesture may be used to activate the menus.

When source and user interact with each other through a network such as the Internet, the interactions are aided by flexible, object specific, on-screen menus that are object specific. The activation of a menu is convenient and fast, since the menus exist in the background until they are called upon to perform specific tasks. Upon activation, they serve to mediate transactions between source and user whereby the user may be customer and the source may be a business. For example, right-clicking a mouse button while placing the cursor on a specific object in a Web page or email message will bring up a menu next to the object of interest in that particular Web page or email message (see Figures 3a, 3b, 5a, and 5b). The menus literally pop-up instantly upon request and offer several choices with respect to the object. Depending on which object is chosen, the menu will adjust its flow of information to that specific object. The menus in Figures 3a, 3b, 5a, and 5b illustrate the object specific information flow. The available options on the menu reflect the object specific information which can be easily selected by the user by placing the cursor on the desired option (see Figures 3a, 3b, 5a, and 5b). In a business-to-consumer scenario, a consumer could select an object of interest on the Internet, retrieve specific information about a product connected to that object, negotiate a transaction with the appropriate vendor or business in real-time and expediently purchase the product. For example, clicking the right mouse
button will bring up the menus next to a desired object in any Web site of the Internet, and allow the user to carry out specific functions including bypassing several Web pages; engaging in real-time transactions; linking to specific modules and functionalities such as digital wallet, universal shopping cart, and user profile; linking to customized sites; and others. This type of information flow, coupled with easy retrieval of products and real-time interaction, comprises a novel method of exchanging information through an information delivery system that is fast, reliable, and tailored to a specific user.

The information delivery system (IDS) of the present invention adapts to consumer needs, mainly because it learns from click-stream data which is the result of user interaction and user preference. Click-stream data accumulates as a user visits specific Web sites and quickly compiles into a user history. The menus compile this history to learn the user’s preferences and then incorporate this feedback into future strategies to direct the user to Web sites of interest. This is accomplished by storing desired Internet locations in a manner that the location can be retrieved when the user performs a similar search strategy. The information delivery system (IDS) of the instant invention learns the user preference and stores the object specific information which is provided on each Web page. This allows for efficient, streamlined information exchange in real time.

In a business scenario, the IDS allows for real-time business-to-consumer and business-to-business negotiations and transactions between parties. This can be accomplished because the IDS allows for new communication pathways parallel to Web browsers to conventionally screen-enabled exchanges. Web sites have collections of display pages that can be retrieved and displayed by users who specify a uniform resource locator (URL) address for the site, or click on a hyperlink. Conventionally, users are guided through the site, page by page, via hyperlinks which can become time consuming, especially in light of ever increasing
Internet traffic. The instant invention provides a change in the methodology of retrieving information through the utilization of object specific menus which are available upon request. What this means to the end user is that rather than having to click through numerous pages or links to obtain information displayed on a specific Web site, all that is necessary is to activate a menu and click on the appropriate text lines specific to an object of interest (supra). As a result, several pages and links are automatically by-passed and the information from the selected object is presented to the user, thereby providing an ease of access to the information heretofore not possible. Thus, the ease with which users can view a Web site and carry out additional visits to other sites becomes simplified through the function of the menus which can connect through several links at once to guide the user to the desired object specific location (see Figures 3a and 3b). Consequently, all limitations due to high traffic and slow connection speeds as well as shortcomings related to information capacity or volume of a given network such as the Internet are eliminated. Examples for business-to-consumer interactions are transactions in multi-media, books, computers, electronics, software, clothing, travel, financial services, stock market transactions, automobiles and recreational equipment. Examples for business-to-business interactions are transactions in computers, electronics, software, retail wholesale, retail distribution, manufacturing, marketing services, office equipment, office supplies, training, and education.

The menus discussed in the instant invention exist independently and do not require Internet real estate in order to perform their function; in fact, the menus are using up no additional real estate. The menus simply reside on a user interface such as a graphical user interface (GUI) and appear only in places where they are called upon. The IDS of the present invention thereby preserves simplicity of Web design and exhibits compatibility with all Web related communication devices and all types of user interfaces.
In a preferred embodiment of the invention, the menus may be optionally
defeatable by the user. The menus exist in the background until they are called
upon to perform specific tasks. Alternatively, the menus may be inactivated by the
user through a simple command such as a keystroke or other means. After
inactivation, the menus may be reactivated instantly through a similarly simple
command, such as clicking the right mouse button. Hence, the menus completely
adapt to the user’s preferences with respect to content, strategy, and mode of
operation.

In another preferred embodiment, the present invention provides for
communication devices including, but not limited to, desktop computers, portable
computers, personal digital assistants, cellular phones, television sets, cable boxes,
and network appliances.

In yet another preferred embodiment of the instant invention, the menus
provide for functionality tools including, but not limited to, digital wallet,
shopping cart, user profiling, and advertising. The digital wallet, universal
shopping cart, and user profile are functionalities that are well known in the art
and are available to the user through the Internet. In the present invention, the
menus provide the option to link to various functionality tools such as digital
wallet and shopping cart (see Figures 3a, 3b, 5a, and 5b). The integration of these
modules into the flexible menus provides a user with the opportunity to merge the
selection and buying process. For example, in an on-line shopping scenario, the
user can select several products for purchase via the universal shopping cart
option displayed on the menu, and can then pay for any item in the shopping cart
through the digital wallet option displayed on the menu. The user does not have to
search the Net for independent shopping cart and digital wallet modules since
these modules are both available through the menu. Furthermore, the menus
possess integrated consumer profiles which direct the user to items of interest and
make the shopping experience expedient and user specific. Rather than shopping
at random, the user is directed to specific sites and objects to load the cart with user preferred items. Items can be selected and removed with ease and purchased without difficulty through the integrated modules in the menus. One objective of the present invention is to overcome the current shortcomings resulting from a lack of integration of specific functionalities, such as digital wallet, universal shopping cart, and user profile which are presently neither integrated nor interlinked. Currently a user may have to engage in a cumbersome search when trying to make a purchase over the Internet. For example, once a product has been selected for purchase through the universal shopping cart, the user must either use a credit card to purchase it directly or locate the digital wallet functionality on the Net through additional searches. The integration and interconnection of various modules through the menus contemplated by the present invention, eliminates these restrictions and shortcomings currently experienced by the user when carrying out transactions over the Net. Through the use of the menu, the user can perform several tasks at once, namely to locate specific products of interest depending on user preference, collect items in the shopping cart, and pay through any desired means by using the menu options. Thus, the entire purchasing process is streamlined and carried out expediently.

The menus discussed in the instant invention are capable of compiling a consumer profile wherein the consumer profile comprises demographic and psychographic information. The IDS continuously collects click-stream data and thereby learns the preferences of any given user. In addition, the IDS compiles and integrates the click-stream data and creates a virtual consumer profile which is then automatically accessed whenever the user is searching for information on a network such as the Internet. The menus guide the user through the Internet by displaying options that are user preference specific.

In any given business scenario, the IDS of the instant invention provides numerous advantages to the consumer, including but not limited to economic
benefits such as savings and discounts on purchases; integrated product offerings; better user experience through transparent and adaptable tools for easier navigation through Web sites; non-intrusive characteristics such as parallel functioning and background operation; and compatibility with incentive and opt-in schemes. The IDS of the present invention also provides multiple benefits to businesses, including but not limited to, efficient information exchanges with customers resulting in higher revenue at lower cost per customer; intuitive ease of use and menu-friendly sites resulting in increased customer traffic; increased knowledge about customers through profile sharing resulting in higher customer loyalty; and maximal utilization of any user interface through a non-intrusive menu driven system resulting in substantial cost savings.

Object Specific Information Retrieval within Electronic Mail

In another aspect, the present invention provides a method of exchanging information through a network-based information delivery system which includes an email based information delivery system, comprising flexible, object specific menus that are available through the user interface of the communication device. The menus are specific to groups of email messages, the email message itself, object or object categories within an email message, the source, the recipient, or the service provider. In particular, the ability to provide or obtain additional information and functionality associated with email messages is contemplated by the present invention. Furthermore, the email based information delivery system provides an environment for business-to-business, business-to-consumer, and consumer-to-consumer interactions. This environment is flexible and may be personalized with respect to the business, consumer, or service provider.

When users interact with each other through email, the interactions are aided by flexible, object specific, on-screen menus that are object specific. The activation of a menu within an email message is convenient and fast, and can be
easily accomplished through a mouse or other means. For example, right-clicking a mouse button while placing the cursor on a specific object in an email message will bring up an object specific menu next to the object of interest in that particular email message (see Figures 5a and 5b). The menus appear instantly upon request and offer several choices with respect to the object within the email message. Depending on which object is chosen, the menu will adjust its flow of information to that specific object. The menus in Figures 5a and 5b illustrate the object specific information flow in an email message. The available options on the menu reflect the email object specific information which can be easily selected by the user by placing the cursor on the desired text line on the menu (see Figures 5a and 5b).

Figure 4 depicts a flow diagram illustrating the process of a user performing an action in an email message. When a user computer requests an email message from a source computer, the source computer provides the email message to the user computer through an email program. In this setting, the user IDSM first determines if the email message contains the requested IDS information. If the email message does contain the requested IDS information, the user IDSM sends a request to the source IDSM to provide the IDS information for the email message. The source IDSM then queries the source database for the following information: the IDS related source information, the user information, the email information, and the email message object specific information. Next, the source IDSM provides the IDS information to the user IDSM. The user now activates the IDS by activating the menu for a specific object within an email message. In response, the user IDSM provides the IDS information for the desired object through the menu. Finally, the user performs the desired action on the object of interest within the email message, such as selecting any one of the given options that are available within an object specific menu.
Menu Installation

The IDS is divided into three distinct sections, whereby the first section is source specific, the second section is service provider specific, and the third section is customizable by the user. The invention disclosed herein makes it possible to record an end user's interactions at the service provider's server, wherein the service provider may be any server. Optionally, the end user's interaction may be recorded at any other server of choice. For every menu choice by the user, the IDS is capable of conducting communication between the Web sites, the source the user is currently interacting with, and the service provider site.

Besides changing the content that is being viewed in the browser, each of these two separate round-trips is capable of causing further changes in the menus. Local cookie files may be used to record user transactions and page traversing, which are downloaded to any server or Web site for profiling and other events.

Installation of menus on the user's computer may be accomplished through several ways. For example, product download can be accomplished using the hypertext transfer protocol (http) or the file transfer protocol (ftp) which are well known in the art. The product can be packaged with an install shield to automatically install at the user's computer.

Various modifications and variations of the present invention will be apparent to those skilled in the art without departing from the scope and spirit of the invention. Although the invention has been described in connection with specific preferred embodiments, it should be understood that the invention as claimed should not be unduly limited to such specific embodiments. Indeed, various modifications of the described modes for carrying out the invention which are obvious to those skilled in the art are intended to be within the scope of the claims.
What is claimed is:

1. An information delivery system (IDS) for information exchange between at least two computers, wherein said information delivery system comprises:
   (a) a source information delivery system module (SIDSM);
   (b) a user information delivery system module (UIDSM); and
   (c) a first user interface between said source information delivery system module (SIDSM) and said user information delivery system module (UIDSM), wherein the user interface has at least one object specific menu.

2. The information delivery system of Claim 1, wherein said information delivery system is a Network-based information delivery system.

3. The information delivery system of Claim 1, wherein said source information delivery system module (SIDSM) is a business information delivery system module (BIDSM).

4. The information delivery system of Claim 1, wherein said user information delivery system module (UIDSM) is a customer information delivery system module (CIDSM).

5. The information delivery system of Claim 1, wherein the object specific menu is Internet object specific.

6. The information delivery system of Claim 1, wherein the object specific menu is email object specific.
7. The information delivery system of Claim 1, wherein said menu is an on-screen menu.

8. The information delivery system of Claim 1, wherein the object specific menu is initiated by a device selected from the group consisting of a mouse, a monitor, a pen, a keyboard, a screen, and a tablet.

9. The information delivery system of Claim 1, wherein the object specific menu is initiated through sound.

10. The information delivery system of Claim 1, wherein the object specific menu is initiated through physical movement.

11. The information delivery system of Claim 1, wherein the object specific menu is optionally defeatable by the user.

12. The Internet-based information delivery system of Claim 2, wherein said Internet-based information delivery system further comprises Internet-based functionality tools selected from the group consisting of digital wallet, universal shopping cart, and user profile.

13. The information delivery system of Claim 1, wherein the object specific menu functions through a communication device.

14. The information delivery system of Claim 13, wherein said communication device is selected from the group consisting of desktop computers, portable computers, personal digital assistants, cellular phones, television sets, cable boxes, and network appliances.
15. An information delivery system (IDS), wherein said information delivery system comprises:

(a) a source computer comprising:
   (i) a source network module;
   (ii) a source information delivery system module (SIDSM); and
   (iii) a source database;
(b) a user computer comprising:
   (i) a user browser module;
   (ii) a user information delivery system module (UIDSM);
   (iii) a user email module; and
(c) a service provider computer comprising:
   (i) a service provider network module; and
   (ii) a service provider database; and
(d) a user interface having at least one object specific menu resident thereon.

16. The information delivery system of Claim 15, wherein said information delivery system is a Network-based information delivery system.

17. The information delivery system of Claim 15, wherein said menu is Internet object specific.

18. The information delivery system of Claim 15, wherein said menu is email object specific.
19. The information delivery system of Claim 15, wherein said menu is an on-screen menu.

20. The information delivery system of Claim 15, wherein said menu is initiated by a device selected from the group consisting of a mouse, a monitor, a keyboard, a pen, a screen, and a tablet.

21. The information delivery system of Claim 15, wherein said menu is initiated through sound.

22. The information delivery system of Claim 15, wherein said menu is initiated through physical movement.

23. The information delivery system of Claim 15, wherein said menu is optionally defeatable by the user.

24. The Internet-based information delivery system of Claim 15, wherein said Internet-based information delivery system further comprises Internet-based functionality tools selected from the group consisting of digital wallet, universal shopping cart, and user profile.

25. The information delivery system of Claim 15, wherein said menu functions through a communication device.

26. The information delivery system of Claim 25, wherein said communication device is selected from the group consisting of desktop computers,
portable computers, personal digital assistants, cellular phones, television sets, cable boxes, and network appliances.

27. A method of exchanging information through a network-based information delivery system, said method comprising:
   (i) providing a source information delivery system module (SIDSM),
   (ii) providing a user information delivery system module (UIDSM), and
   (iii) providing at least one object specific menu that drives information exchange between the source information delivery system module (IDSM) and the user information delivery system module (IDSM).

28. The method of Claim 27, wherein said network-based information delivery system is an Internet-based information delivery system.

29. The method of Claim 27, wherein said information exchange involves a source and a user and a service provider.

30. The method of Claim 27, wherein said menu is an on-screen menu.

31. The method of Claim 27, wherein said menu is initiated by a device selected from the group consisting of a mouse, a monitor, a keyboard, a pen, a screen, and a tablet.

32. The method of Claim 27, wherein said menu is initiated through sound.

33. The method of Claim 27, wherein said menu is initiated through physical movement.
34. The method of Claim 27, wherein said menu is optionally defeatable by the user.

35. The method of Claim 27, wherein said menu functions through a communication device.

36. The method of Claim 35, wherein said communication device is selected from the group consisting of desktop computers, portable computers, personal digital assistants, cellular phones, television sets, cable boxes, and network appliances.
Figure 2

USER COMPUTER REQUESTS WEB PAGE FROM SOURCE COMPUTER THROUGH BROWSER

SOURCE COMPUTER PROVIDES WEB PAGE TO USER COMPUTER THROUGH BROWSER

USER IDSM DETERMINES IF WEB PAGE CONTAINS IDS INFORMATION

YES

USER IDSM SENDS REQUEST TO SOURCE IDSM TO PROVIDE IDS INFORMATION FOR REQUESTED WEB PAGE

SOURCE IDSM QUERIES SOURCE DATABASE FOR IDS RELATED SOURCE, USER, WEB PAGE, AND WEB PAGE OBJECT SPECIFIC INFORMATION

SOURCE IDSM PROVIDES THIS IDS INFORMATION TO USER IDSM

USER ACTIVATES IDS BY REQUESTING MENU FOR SPECIFIC OBJECT IN WEB PAGE

USER IDSM PROVIDES IDS INFORMATION FOR DESIRED OBJECT THROUGH MENU

USER PERFORMS DESIRED ACTION ON DESIRED OBJECT IN WEB PAGE
USER COMPUTER REQUESTS E-MAIL MESSAGE FROM SOURCE COMPUTER THROUGH E-MAIL PROGRAM

SOURCE COMPUTER PROVIDES E-MAIL MESSAGE TO USER COMPUTER THROUGH E-MAIL PROGRAM

USER IDSM DETERMINES IF E-MAIL MESSAGE CONTAINS IDS INFORMATION

YES

USER IDSM SENDS REQUEST TO SOURCE IDSM TO PROVIDE IDS INFORMATION FOR REQUESTED E-MAIL MESSAGE

SOURCE IDSM QUERIES SOURCE DATABASE FOR IDS RELATED SOURCE, USER, E-MAIL MESSAGE, E-MAIL MESSAGE OBJECT SPECIFIC INFORMATION

SOURCE IDSM PROVIDES THIS IDS INFORMATION TO USER IDSM

USER ACTIVATES IDS BY REQUESTING MENU FOR SPECIFIC OBJECT IN E-MAIL MESSAGE

USER IDSM PROVIDES IDS INFORMATION FOR DESIRED OBJECT THROUGH MENU

USER PERFORMS DESIRED ACTION ON DESIRED OBJECT IN E-MAIL MESSAGE
Here are some new exciting products that we have recently added to our product portfolio. Buy it NOW without leaving your e-mail program!
Figure 5b

Here are some new exciting products that we have recently added to our product portfolio. Buy it NOW without leaving your e-mail program!

Explore This Product
Share Your Thoughts
Ad Connection
Add to Shopping Cart
Search Similar Products
By Category
My Profile
My Wallet
My Shopping Cart
My Account
Expand Home