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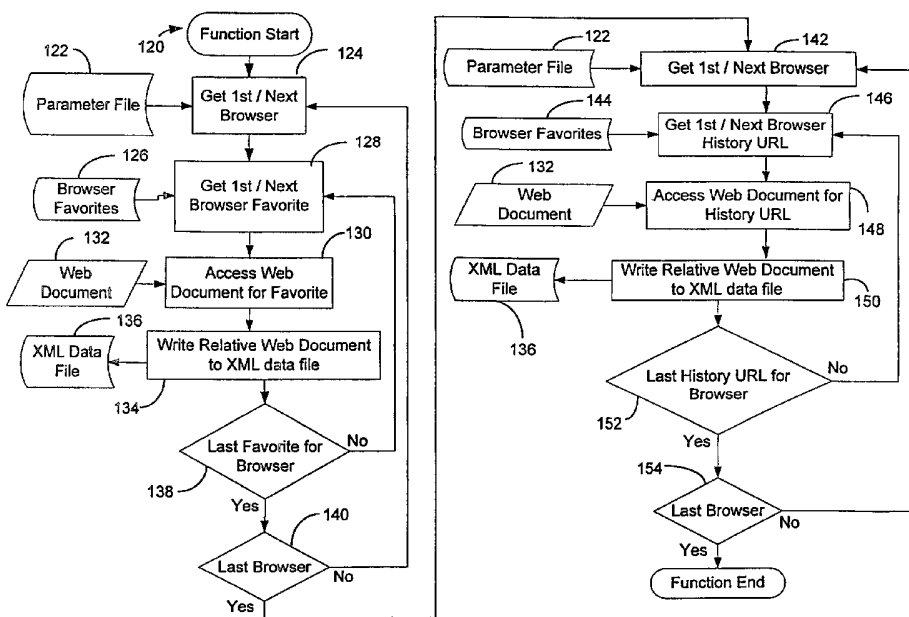
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(54) Title: METHOD, SYSTEM, AND COMPUTER PROGRAM PRODUCT FOR DISTRIBUTING A STORED URL AND WEB DOCUMENT SET



(57) Abstract: A method, system and computer program for distributing a stored URL (128) and web document set (132). The set includes data file records that contain a stored URL and the web document (132) associated with the stored URL. The set is stored on a first computer system. In a specific embodiment, the set is stored in extensible Markup Language (136). When a query request is submitted, data file records are selected and second set of data file records is created (136). The second set of data file records is send to a second computer system.

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**METHOD, SYSTEM, AND COMPUTER PROGRAM PRODUCT
FOR DISTRIBUTING A STORED URL AND
WEB DOCUMENT SET**

BACKGROUND OF THE INVENTION

1. Field of the Invention

This invention relates to the field of information provider and information access apparatus, such as World Wide Web (WWW) Server and Browser applications executing on a computer. Specifically, this invention is a new and useful method, system, and computer program product for distributing a set of stored URL and web document sets.

2. Description of Related Art

The World Wide Web ("Web") is a massive collection of Web pages that are linked together by the Internet, the world's largest public network. Using the Web and the Internet, a user has access to a wealth of diverse and poorly organized information at his fingertips. The Internet also provides an economical method for sharing information and resources. For example, computer programs may be operated in a vacuum with the executable code and the data stored in one computer system, or through a combination of different computers. Thus, portions of the present invention may reside on one computer system, while other portions reside on a second computer. For example, the executable portions may reside on and be

processed by a client, while a server stores the data and manages access to the data.

The Web has also led to the proliferation of the Application Service Provider (ASP) environment, whereby a service provider provides applications on a server, and the applications are accessed by the user's client through the Internet or other network. A similar model is a hosted, Wireless Application Service Provider (W-ASP) mode. ASP and W-ASP applications permit the "download" of data that is selected and stored by the administrator of the server onto a local client device, such as a personal computer, cell phone, handheld PC or PDA, tablet PC, television set top box or game console.

A "Web page" (also referred to by some designers simply as a "page" or a "document") is a data file written in a hyper-text language, such as Hypertext Markup Language (HTML), that may have text, graphic images, and even multimedia objects, such as sound recordings or moving video clips associated with that data file. A Web page contains control tags and data. The control tags identify the structure; for example, the headings, subheadings, paragraphs, lists, and embedding of images. The data consists of the contents, such as text or multimedia that will be displayed or played to the user.

The primary software used on client machines for connecting to and displaying Web pages is called a Web browser. The main function of a Web browser is to interpret the information received from a Web page and display it on a computer monitor. Existing web browsers such as Microsoft Internet Explorer, Netscape Navigator, and Opera include a feature for collecting stored Universal Resource Locators (URL's) in the form of "Favorites," "bookmarks," "Favorite Places," or other

names. These stored URLs are comprised of the actual URL and a textual description of the URL. The next time the user wants to connect to his favorite Web page, he selects the stored URL from the stored URL list without having to remember or type in the address. Thus, the stored URL feature gives the user a quick way of connecting to his favorite Web page. Many browsers also include a "history" list, which is a list of addresses of recently visited Web Pages.

The typical stored URL software feature stores a single URL saved by name as described in the meta-tag HTML data of the web site author. One problem for the user is difference between the actual HTML content of the web page and web site at the URL, and the name provided by the web site author. In many cases, web page authors do not accurately portray the content of their web pages. Searching a stored URL list is also difficult. Search tools in prior art web browser applications such as Netscape only search the name descriptions provided by the web author and therefore produce the inefficient, ineffective overall results for the user.

Once created, stored URLs offer a convenient means of page retrieval. The user can cause the browser to display his stored URL list and select among his stored URLs to go directly to a favorite page. Despite their usefulness, the current implementations of stored URL lists are not without their flaws. As the numbers of web sites and web sites have increased dramatically, so has the number of stored URLs that a typical user maintains on his browser: It is not uncommon that hundreds of stored URLs are stored in a stored URL list. Existing browsers allow for organization of stored URLs into folders or directories. The folders and their contents can be copied and moved to other locations within the stored URL list. However, there is no ability within a stored URL list to query on the stored URLs and

subsequently move or copy the resulting aggregate collection of stored URLs to a user-designated folder.

Another problem with retrieving information on the Internet is the amount of time required to sift through the enormous amount of information available to find the relatively few web pages or files of interest. Search engines help to a degree, but the results of a search often include far more Web pages than desired. A substantial amount of user time is required to refine search strategies, compile, and discard results and so forth. Thus, a good list of stored URLs on a given topic can represent a significant investment in time and effort. Presuming that the topic is of interest to others as well, the list of stored URLs is a valuable commodity which others would be interested in sharing.

While functionality exists to search the stored URLs included in a stored URL list for a keyword or phrase, only the textual description of the stored URL list is compared to the search criteria and only one web browser's Favorites list is compared to the search criteria. The content of the web document associated with each stored URL is not compared to the search criteria. Users may search a browser's history list in Internet Explorer for a keyword or phrase, and the search may include the web document content associated with the historical stored URL. However, a user cannot simultaneously search web document content of two URL lists. In addition, search results may not be added to the browser's stored URL list in aggregate.

A further problem with searching for information on the Internet is that historical query parameters are not stored and cannot be displayed in a ranking order as determined by the frequency of usage. Further, users are not notified of

changes to the web document content associated with stored URLs in a stored URL list or that web document content is no longer associated with a given stored URL. Because the web document content is not stored, the data is not updated.

Existing browsers feature "send link by email" or "send page by email." This feature only sends the document that is currently displayed in the web browser or the currently selected stored URL. Multiple URL's can be sent only by using the Windows cut and paste functions.

The exponential growth of web-browser users and available digital content worldwide over the Internet creates an increasing demand for software applications that can access the Internet, Intranet, Extranet and Virtual Private Network and provide content processing and URL data processing which also maintains Internet and World Wide Web standards and protocols. The universal and worldwide popularity of the World Wide Web has propelled the development beyond SGML and HTML to other program languages and protocols for creating and sharing digital content "web pages", including Dynamic Hyper-Text Markup Language (dHTML), xHTML, Java, JavaScript, Active X, Flash, Virtual Reality Modeling Language (VRML), eXtensible Markup Language (XML), Simple Object Access Protocol (SOAP) and Universal Description, Discovery and Integration (UDDI).

In conjunction with the new program languages and protocols as outlined above, related art web browser enhancement technologies have been commonly utilized by web browser users. "Helper Applications" such as Zip compressed file utility programs, "Java applets," and "Plug-In Applications" such as RealNetworks, RealPlayer, Microsoft Windows Media Player, Silicon Graphics WebSpace VRML browser, and Macromedia Flash Player, enhance the web browser content

experience. However, these enhancement technologies do not enhance the functionality and features of stored URL data processing for the user within the most popular web browser art of Microsoft Internet Explorer, Netscape Communications Navigator, and Opera. Thus, a need exists for a method, system and computer program product that addresses the problems and shortcomings associated with current web browser technology, specifically in the manual data processing functions of the prior art stored URL functionality.

As used herein, certain terms are defined as set forth below:

Browser: A browser is a software program that allows you to view and interact with various kinds of Internet resources available on the World Wide Web. A browser is commonly called a web browser.

Folder / Directory: An organizational feature of most software systems. Electronic documents, files, URLs, etc. are stored within. Usually, files of a like nature are stored within a particular folder (i.e.; system files for the Windows Operating System are stored in the Windows folder).

Hard Disk: A magnetic disk on which store computer data can be stored.

History File: A collection of recently viewed web page URLs saved in a web browser.

HTML: Acronym for Hyper Text Mark Up Language, which is the common language used for the World Wide Web. HTML is an application of SGML that uses tags to mark elements, such as text and graphics, in a document to indicate how Web browsers should display these elements to the user and should respond to user actions, such as activation of a link by a mouse click.

I-DVD Player: A device that interactively utilizes Digital Versatile Disc and other optical disc media technology (such as VCD (Video Compact Disc)) through a video interface (i.e.; television). For the purposes of this document, Interactive DVD pertains to Internet Web-Browser enabled DVD devices.

I-Game Console: A Game Console that incorporates Internet connectivity through a web browser.

I-GPS (Global Positioning System) Device: A web-browser enabled device that provides specially coded satellite signals that can be processed in a GPS receiver, enabling the receiver to compute position, velocity and time. Four GPS satellite signals are used to compute positions in three dimensions and the time offset in the receiver clock. A GPS Web-Browser Enabled device uses GPS technology to access the World Wide Web.

I-Set- Top Box: A device that enables a television set to become a user interface to the Internet using web browser-enabled software, and enables a television set to receive and decode digital television broadcasts. The device may have digital recording functionality with a hard drive mechanism to store programming.

I-Tablet Computer: A slate-like computer utilizing a pen-based input that can function as a sheet of paper and that incorporates Internet connectivity through a web browser.

Internet: The large system of many connected computers around the world that people use to communicate with each other. *Example: I heard about the new development on the Internet.*

Keywords / Keyphrases: In this document, a word, collection of words, or particular phrase that will be compared to other textual content. *Example: Search for keywords "Hospital," "Medical," "Doctors." Search for keyphrase "San Gabriel Hospital"*

Link: Refers to any highlighted words or phrases in a hypertext document that allow you to jump to another section of the same document or to another document on the World Wide Web.

Meta Tags: A tag used in the header of a web document page to provide information about the page. There may be multiple Meta tags in a

header, each with different information. In current usage, each tag includes the name of the information and the content that supports that name. *Example: <meta name="title" content="Emily Dickinson Home Page">*. Other commonly used meta tag names are description, keywords, date, and copyright.

Memory: The term *memory* identifies data storage that comes in the form of chips (A small piece of semi conducting material (usually silicon) on which an integrated circuit is embedded). This technology is used as primary or main data store for devices such as Personal Digital Assistants and Pocket PC's.

Server: A server is a computer that handles requests for data, e-mail, file transfers, and other network services from other computers.

SGML: Acronym for Standard Generalized Markup Language. An information management standard as a means of providing platform and application independent documents for formatting, indexing, and linked information with a grammar-type mechanism.

Stored URL: A Uniform Resource Locator, or resource web address, stored by a web browser. Other names for stored URLs include "Favorites," "Bookmarks," and "Favorite Places."

Stored URL list: A collection of stored URLs.

URL: Acronym for Uniform Resource Locator. An address for a resource on the Internet. URLs are used by web browsers to access Internet resources. A URL specifies the protocol to be used in accessing the resource (such as "http:" for a World Wide Web page, or "ftp:" for a FTP site), the name of the server on which the resource resides, and, optionally, the path to a resource. URLs are also known as URIs, or Uniform Resource Identifiers.

Web Page / Website: A web page is a document created with HTML (Hypertext Markup Language) that is part of a group of hypertext documents or resources available on the World Wide Web. Collectively, these documents and resources form what is known as a Website. Users can read HTML documents that reside somewhere on the Internet or on a local hard drive with a software program called a web browser. Web browsers read HTML documents and display them as formatted presentations, with any associated graphics, sound, and video, on a computer screen. Web pages can contain hypertext links to other places within the same document, to other documents at the same website, or to documents at other websites. They can also contain fill-in forms, photos, large clickable images, sounds, and videos for downloading.

World Wide Web: The system of connected documents on the Internet, which often contain color pictures, video and sound, and can be searched for information about a particular subject.

XML: Acronym for eXtensible Markup Language, a markup language that is an application profile, or subset, of SGML. XML documents are composed of markup and content. There are six kinds of markup that can occur in an XML document: elements, entity references, comments, processing instructions, marked sections, and document-type declarations. XML is a markup language for documents containing structured information. An "XML document" refers to text and other XML "data formats," including vector graphics, e-commerce transactions, mathematical equations, object meta-data, server APIs, and other structured information.

BRIEF SUMMARY OF THE INVENTION

The present invention provides a method, system and computer program product for distributing a stored URL and web document set. More specifically, the present invention creates a data file containing a plurality of data file records, each data file record containing a stored URL and the web document associated with the stored URL, stores the data file on a first computer system, and responsive to a request for selecting data file records, creates a stored URL and web document set of the selected data file records. The stored URL and web document set may be sent as a unit to a second computer system.

In a more detailed aspect, the present invention provides for searching of the data file records for records matching keywords or keyphrases (query parameters). A more specific detail of the invention improves the user's ability to search within XML URL data stored in web browser software files. The present invention thereby enhances the speed and access for the user to search data file records for keyword/key phrase content throughout all the web page content of the stored URLs, not only the URL title description. The matching records may be shared with satellite or secondary devices. Alternatively, the matching records may be organized into folders within a browser designated by the user. The present invention further discloses ranking of searches to count the number of times a given group of query parameters have been searched.

Another aspect of the invention discloses a method, system, and computer program product for collecting new web documents matching the keywords or keyphrases from the Internet. Similarly, the present invention also includes a

mechanism for updating existing data file records to such that the web document portion of the data file record matches the web document on the Internet corresponding to the stored URL portion of the data file record.

Yet another aspect of the invention discloses a mechanism for synchronizing the data file of one device with the data file of another device. This aspect provides that the most current data file record from the two data files is written to the other file. Data records not found in one data file are copied to the other file.

The invention also discloses a method, system and computer program product for reminding the user to visit selected web pages on a user-selected basis. A more detailed aspect of the invention provides a mechanism for the user to modify reminders individually or as a group.

The present invention utilizes eXtensible Markup Language (XML), or other programming languages, in a method, system and computer program product, to allow the user to share data file records within a client, among any web browser enabled devices, and throughout various distributed computing systems, including Internet, Intranet, Extranet and Virtual Private Network networks. The invention also provides an improved method, system and computer product for sharing individual or collections of data file records with other Internet/intranet users and sharing data formatted in XML to world-wide-web data servers. Accordingly, the invention enhances the speed and access for the web browser software user to share data file records with other users on any web browser enabled device.

Similarly, the invention provides an improved method, system and computer product, for retrieving and storing individual or collections of data file records shared by other Internet/intranet users. Thus, the present invention enhances the speed

and access for a user to retrieve and store data file records from other users in messages sent via E-Mail, Instant Message or Peer-to-Peer communication.

Detailed aspects of the invention store URL (Universal Resource Locator) address data, URL meta-tag data and URL Hyper-Text Markup Language (HTML) content data, as well as all other content included in web pages, as data file records in an eXtensible Markup Language (XML) data structure within web browser stored URL software files. Thus, web browser stored URLs and their associated content, meta-data and HTML content are stored in an XML data structure format. The user is then provided with the ability to XML query the stored data file records for keywords / key phrases. The detailed invention shares individual or collections of data file records as an XML document through Instant Messaging client, email and/or network directory. Finally, the stored data is continuously updated when connected to the World Wide Web with a web browser and the invention will reflect any changes in a URL's actual meta-data and HTML content by storing an updated data file record.

These and additional features and advantages of the present invention will become more apparent from the detailed description set forth below when taken in conjunction with the drawings in which like reference characters generally identify corresponding elements throughout. Further, while described specifically with regard to one computer system, the functions and methods described below are applicable to both primary devices on which the present invention may be installed, and secondary "satellite" devices. Similarly, the executable portions of the present invention may reside on and be processed by a client, while a server stores the data and manages access to the data.

In an alternative, the invention may be operated in an ASP environment or W-ASP environment and accessed by the user's client through the Internet or other network. The ASP or W-ASP applications permit the "download" of sets of data file records selected and stored by the administrator of the server. In this implementation, the Internet consumers, intranet employees, extranet customers may download the stored data file record sets offered by the administrator directly onto a local client device such as a personal computer, cell phone, handheld PC or PDA, tablet PC, television set top box or game console.

Additionally, although described with regard to user-initiated functions, in many cases the "user" may itself be a computer program designed to automatically execute certain functions, such as the update and synchronize functions described in detail below. Further, the present invention may be provided by one user to another user. In this manner, the first user may provide a preloaded data file to the second user as software that is preinstalled on a client device, or software that is stored on a CD-ROM, CD, DVD, Web site download or other recordable media, ready for launch and installation by the second user.

BRIEF DESCRIPTION OF THE DRAWINGS

The accompanying drawings, which are incorporated herein and form part of the specification, illustrate embodiments of the present invention and, together with the description, further serve to explain the principles of embodiments of the invention.

FIG 1 illustrates example screen shot for selecting a default browser according to an embodiment of the invention;

FIG 2 illustrates example screen shot for selecting additional browsers according to an embodiment of the invention;

FIG 3 illustrates example screen shot for selecting search engines according to an embodiment of the invention;

FIG 4 illustrates example screen shot for selecting an email application according to an embodiment of the invention;

FIG 5 illustrates example screen shot for selecting instant messengers according to an embodiment of the invention;

FIG 6 illustrates example screen shot for selecting a web site, FTP address, login, password, and directory for sharing data file records according to an embodiment of the invention;

FIG 7 illustrates example screen shot for selecting a shared network folder for sharing data file records according to an embodiment of the invention;

FIG 8 illustrates example screen shot for selecting devices and a shared network folder with which data file records will be synchronized according to an embodiment of the invention;

FIG 9 illustrates example screen shot for confirming the user's selections (as entered through Figs. 1 through 8) according to an embodiment of the invention;

FIG 10 illustrates example screen shot for operation of function *Home Form* according to an embodiment of the invention;

FIG 11 illustrates example screen shot for operation of function *History* according to an embodiment of the invention;

FIG 12 illustrates example screen shot for operation of function *Search* according to an embodiment of the invention;

FIG 13 illustrates example screen shot for operation of function *Add New (Collect)* according to an embodiment of the invention;

FIG 14 illustrates example screen shot for operation of function *Send (Share)* according to an embodiment of the invention;

FIG 15 illustrates example screen shot for operation of function *Organize* according to an embodiment of the invention;

FIG 16 illustrates example screen shot for operation of function *Update* according to an embodiment of the invention;

FIG 17 illustrates example screen shot for operation of function *Rank* according to an embodiment of the invention;

FIG 18 illustrates example screen shot for operation of function *Synchronize* according to an embodiment of the invention;

FIG 19 illustrates example screen shot for operation of function *Remind* according to an embodiment of the invention;

FIG 20 illustrates example screen shot for operation of function *Reminders* according to an embodiment of the invention;

FIG 21 illustrates example screen shot for operation of function *OneStep* according to an embodiment of the invention;

FIG. 22 is a block diagram of primary devices, secondary devices and certain functions according to an embodiment of the invention;

FIG 23 is an example flowchart of a process for storing web documents according to an embodiment of the invention;

FIG 24 is an example flowchart of a process for searching for keywords or keyphrases among data file records according to an embodiment of the invention;

FIG 25 is an example flowchart of a process for collecting and storing web documents containing keywords or keyphrases according to an embodiment of the invention;

FIG 26 is an example flowchart of a process for sending or sharing data file records according to an embodiment of the invention;

FIG 27 is an example flowchart of a process for organizing data file records within browsers according to an embodiment of the invention;

FIG 28 is an example flowchart of a process for comparing and updating stored data file records with web documents according to an embodiment of the invention;

FIG 29 is an example flowchart of a process for ranking searches by frequency of use according to an embodiment of the invention;

FIG 30 is an example flowchart of a process for synchronizing data files between two sources according to an embodiment of the invention; and

FIG 31 is an example flowchart of a process for combining store, update, synchronization, search, collect, share and organize processes according to an embodiment of the invention.

It should be understood that these figures depict embodiments of the invention. Variations of these embodiments will be apparent to persons skilled in the relevant art(s) based on the teachings contained herein. For example, the flow charts contained in these figures depict particular operational flows. However, the functions and steps contained in these flow charts can be performed in other sequences, as will be apparent to persons skilled in the relevant art(s) based on the teachings contained herein.

DETAILED DESCRIPTION

1. Primary Device Method Description

1.1 Method Setup - User Parameter Collection

The examples set forth with regard to Figs. 1 through 9 are the preferred initial setup procedure for the present invention and are referenced collectively as the *User Parameter Collection* functions. In the preferred embodiment, information is collected from the user and stored in a Parameter XML data file record, one of the records included in an XML data file. The initial storing of stored URLs and their relative web document content is performed at the conclusion of this setup procedure. This information is then used within the update, search, add new (collect), send (share), move/copy (organize) and rank functions.

1.1.1 Default Browser

Fig. 1 sets forth an example screen shot for the process for selecting a default browser, function *Default Browser* 10. The default browser will be used to store URL collections (stored URLs) that result from the search and collect functions. A new folder will be created within the stored URL feature of the default browser and named accordingly (i.e.; searches for "Mozart" on 6/1/01 will be stored in a new folder named "Mozart Favorites 06/01/01;" collection procedure results will be stored in a new folder named "New Mozart Favorites").

1.1.2 Additional Browsers

The user may select additional browsers for which the present invention will store, search, send, organize, and update stored URLs through function *Additional Browsers* 12 (Fig. 2). In the screen shot example set forth in Fig. 2, web document content will be stored for all stored URLs existing in the AOL 6.0 and Netscape 6.0 browsers as well as those stored URLs existing in the default browser.

1.1.3 Search Engines

As illustrated in Fig. 3, in function *Search Engines* 14, the user may select search engines to which function *Add New (Collect)* 58 (described below, Fig. 13) will submit keywords by default. Results are returned as per the OneStep and Add New functions in function *OneStep* 100 (also described below, Fig. 21) and function *Add New (Collect)*.

1.1.4 Email Client

Fig. 4 sets forth function *Email Client* 16 for the user to confirm the email client that will be used to share collections of stored URLs.

1.1.5 Instant Messaging Clients

As shown in Fig. 5, using function *Instant Messaging Clients* 18, the user may select Instant Messenger clients to be used by default in sharing collections of Favorites stored URLs.

1.1.6 Web Sharing Information

In Fig. 6, the user accesses function *Web Sharing Information* 20 to enter the File Transfer Protocol address at which collections of stored URLs will be placed in viewable XML format during the share function. This address can then be forwarded to (shared) with Internet users.

1.1.7 Network Folder

Fig. 7 sets forth a process in function *Network Folder* 22 for designating the local shared network folder in which collections of stored URLs will be placed in viewable XML format during the share function.

1.1.8 Synchronization Devices

As illustrated in Fig. 8, using function *Synchronization Devices* 24, mobile devices are selected for synchronization of the XML data file. The file will be transferred to the mobile device during the synchronization function. A shared folder may be selected for synchronization of devices that access the user's network (i.e., laptop computers).

1.1.9 Confirmation

A screen shot illustrating a function *Confirmation* 26 for confirmation of preferences selected by the user in previous setup sections 1.1.1 through 1.1.8 is illustrated in Fig. 9. Upon confirmation, as described in more detail below, the method will store Favorite descriptions and URL's (stored URLs) for selected

browsers in XML records in the XML data file. Relative web documents for each Favorite stored URL will be accessed and stored within the XML data file record.

The OneStep function 100 as described below (Fig. 21) may optionally be performed with all data file records in the XML data file (i.e., all saved stored URLs will be shared via the user-designated parameters). Upon completion of the confirmation process, the user will be presented with the primary operational function, function *Home Form 28* (Fig. 10).

1.2 User Operation

1.2.1 Home Form

The form set forth in Fig. 10 is an example screen shot for the function *Home Form 28*. This form displays to the user all the user's stored URLs in "directory" format. Folders within stored URL software are designated with an underlined font. URL's are designated with a normal (not underlined) font. All text is hyperlink. The user may click on Favorite folders to display the contents of that folder within the form of Fig. 10. If the hyperlink designates a URL, the user's default browser is opened and addressed to that URL.

Keywords for searching among the user's stored URLs are entered in the "Search for or Collect" text box 30. If an *Include History* button 32 is selected, Favorite stored URLs and History stored URLs will be included in the query. The remaining buttons shown in Figure 10 designate functions to be performed with the keyword parameters. Selection of the *Update All Favorites* button 34 results in the

operation of function *Update* 82 described below (Fig. 16). Selection of the *Preferences* button 36 results in the operation of the *User Parameter Collection* functions as described in sections 1.1.1 through 1.1.9 allowing the user to change default preferences. Selection of the *Ranked Searches* button 38 results in the operation of function *Rank* 84 below (Fig. 17). Selection of the *Synchronize* button 40 results in the operation of function *Synchronize* 88 (Fig. 18). Selection of the *History* button 42 results in the operation of function *History* 44 (Fig. 11). Lastly, right clicking on a URL in the "directory" window results in a sub-menu with an option to operate the function *Remind* 90 below (Fig. 19).

1.2.2 History

When the *Include History* button 32 is selected from function *Home Form* 28 (Fig. 10), operation of the function *History* 44 as set forth in the form of Fig. 11 is the result. The form displays browser History stored URLs by date visited. The user may select individual or all stored URLs previously visited. Once selected, the user may select one of the following buttons: (a) a *Send These Web Pages* button 46 to send the selected stored URLs and associated web pages in accordance with function *Send (Share)* 62 (Fig. 14); (b) an *Organize These Web Pages* button 48 to organize the selected URL's as per function *Organize* 66 (Fig. 15); and (c) a *Search* button 50 to search all historical URL's for a keyword / keyphrase as per function *Search* 54 (Fig. 12), optionally including saved stored URLs.

The selection of the *Update All Favorites* button 34 from Fig. 11 results in the operation of function *Update* 82 described below (Fig. 16). The *Preferences* button 36 results in the operation of the *User Parameter Collection* functions as described in

sections 1.1.1 through 1.1.9 allowing the user to change default preferences. Selection of the *Ranked Searches* button 38 results in operation of the function *Rank* 84 below (Fig. 17), and selection of the *Synchronize* button 40 results in the operation of the function *Synchronize* 88 (Fig. 18). Lastly, selection of a *Favorites* button 52 returns the user to function *Home Form* 28 (Fig. 10).

1.2.3 Search

When the *Search* button 50 is selected from function *Home Form* 28 (Fig. 10), the present invention operates function *Search* 54 and compares keywords entered in the "Search for or Collect" text box 30 in Fig. 12 to stored URLs and web document content. Comparison is made to stored URLs stored in all browsers designated in the functions *Default Browser* 10 (Figure 1) and *Additional Browsers* 12 (Fig. 2). Stored URLs that return a comparison of true are displayed as a collection as per Fig. 12.

Function *Search* 54 may be performed on the stored URLs displayed to further filter content. Keywords entered are compared to XML data file records for only the stored URLs in the displayed collection. The Add New function (function *Add New (Collect)* 58 (described below, Fig. 13) may be performed to retrieve additional URL's as per the Add New (Collect) function. In addition, the collection may be shared via Instant Messenger, Email, Network Folder, or web FTP by clicking on the *Send These Pages* button 46 using function *Send (Share)* 62, described below (Fig. 14). The collection may be moved or copied to a user-defined folder or deleted by clicking on the *Organize These Pages* button 48 using the function *Organize* 66 below (Fig. 15). Finally, the XML data file record for each

Favorite stored URL in the collection may be updated by clicking the *Update These Pages* button 34 using the function *Update* 82 described below (Fig. 16).

1.2.4 Add New (Collect)

When an *Add New* button 56 is selected from function *Home Form* 28 (Fig. 10), as illustrated in Fig. 13, function *Add New (Collect)* 58 is initiated, and the present invention submits keywords entered in the "Search for or Collect" text box 30 to search engines selected within the function *Search Engines* 14 (Fig. 3). Stored URLs that return a comparison of true are displayed as a collection. The search function may be performed on the new stored URLs to further filter content by clicking on the *Search Within These Favorites* button 50. Keywords entered in Fig. 13 are compared to XML data file records for only the stored URLs in the displayed collection.

The collection or selected stored URLs within may be shared (by clicking the *Send These Favorites* button 46) via Instant Messenger, Email, Network Folder or web FTP as per function *Send (Share)* 62 described below (Fig. 14). The collection or selected stored URLs may be organized as per function *Organize* 66 below (Fig. 15) when the *Organize these Favorites* button 48 is chosen. Selecting a *Home* button 60 returns the user to function *Home Form* 28 (Fig. 10).

1.2.5 Send (Share)

Function *Send (Share)* 62, as illustrated in Fig. 14, is initiated when the *Send* button 46 is selected from function *Home Form* 28 (Fig. 10), function *Search* 54 (Fig. 12), function *Add New (Collect)* 58 (Fig. 13), or when a *One Step* button 64 is

selected from function *Home Form 28* (Fig. 10). Options are presented as per the user preferences entered selected through the *User Parameter Collection* functions described in sections 1.1.1 through 1.1.9. The user may select which portions of the *Send* function will be performed before sending stored URLs or cancel the procedure.

1.2.6 Organize

When the *Organize* button 48 is selected from function *Home Form 28* (Fig. 10), function *Organize 66* is initiated and the user is presented with the form shown in Fig. 15. If a *Deleted* button 68 is selected, a *To Browser* drop-down list 70, a *Create New Folder* button 72, a folder selection list 74 and the *Organize Favorites* button 48 are disabled. The user is presented with a dialog screen confirming deletion of selected stored URLs. If a *Moved* button 76 or a *Copied* button 78 are selected, the user selects the browser from the *To Browser* drop-down list in which the collection of stored URLs will be placed. The user may select an existing folder or create a new folder in which the collection of stored URLs will be placed (if the *Moved* button is selected, the stored URLs are deleted from the folder in which they originally reside). The *Folder* message (below the selection list) designates the selected folder in which stored URLs will be placed. Changes to location of the stored URLs will be reflected in the XML data file. The user may select an *Exit* button 80 to cancel the function.

1.2.7 Update

Function *Update* 82 (illustrated in Fig. 16) results when the *Update* button 34 is selected from function *Home Form* 28 (Fig. 10) or function *Search* 54 (Fig. 12). The Update function accesses the relative web documents designated by the URL for each Favorite stored URL in the collection. If the *Update All Favorites* button 34 is selected from function *Home Form* 28, web documents for all stored URLs in all browsers are accessed. Comparison of the web document data is made to the data stored in the XML data file. If the comparison is false (i.e.; the document has changed), the changes are reflected in the XML data file and the user is notified.

If no web document exists, the corresponding data file record for the Favorite stored URL is flagged as "Null." The user may optionally: (a) delete the Favorite stored URL from the browser (and XML data file); (b) try to access the web document again; or (c) leave the Favorite stored URL (and XML data file record) as is (access to the web document will be attempted during the next Update function).

1.2.8 Rank

Function *Rank* 84 (illustrated in Fig. 17) results when the user selects the *Ranked Searches* button 38 from function *Home Form* 28 (Fig. 10). Query parameters are returned summarized by count (# of times searched) for the selected time period (i.e.; 30 days). When the user selects a query parameter from the list and clicks the *Search Favorites* button 50, the present invention searches existing stored URL data file records and displays result collection as per the function/form described in function *Search* 54 (Fig. 12). When the user selects a query parameter

from the list and clicks a *Collect Favorites* button 86, the present invention performs function *Add New (Collect)* 58 for web pages matching the search criteria (Fig. 13).

1.2.9 Synchronize

Selecting the *Synchronize* button 40 from function *Home Form* 28 (Fig. 10) results in the initiation of function *Synchronize* 88 (illustrated in Fig. 18). The user may select devices with which Favorites stored URLs and web document data (XML file) will be synchronized. Options for synchronization are determined by the *User Parameter Collection* functions.

1.2.10 Remind

Selecting a *Remind* button from the sub-menu (not shown) of function *Home Form* 28 (Fig. 10) results in the start of function *Remind* 90 (illustrated in Fig. 19). The user may select the interval at which to be reminded to view the selected URL. Clicking a *View Reminders* button 92 results in the operation of function *Reminders* 94 (Fig. 20).

1.2.11 Reminders

If the *View Reminders* button 92 is selected from function *Remind* 90, the screen of Fig. 20 is the result and function *Reminders* 94 is activated. The user may select individual or multiple reminders and subsequently select from the following buttons: (a) the *Home* button 60 to return to function *Home Form* 28 (Fig. 10), (b) a *Delete Selected Reminders* button 96 to remove reminders for selected URL's; or (c)

a *Modify Selected Reminders* button 98 to adjust schedule for selected URL reminders (i.e.; change from Monthly to Weekly).

1.2.12 OneStep

Function *OneStep* 100 is activated when the *OneStep* button 64 (Fig. 10) is selected from function *Home Form* 28 (Fig. 10), and the form of Fig. 21 is presented to the user. This form displays *OneStep* preferences collected through the *User Parameter Collection* functions described in sections 1.1.1 through 1.1.9. The user may select the search engines to which the keyword(s) will be submitted, select which portions of the procedure will be performed, change preferences for the *OneStep* function, or cancel the function.

Function *OneStep* 100 includes the store, search, collect, share and organize and update functions (described in more detail below) in the following manner: (a) *Search*: Existing browser Favorites stored URLs are searched as per function *Search* 54; (b) *Collect*: URL's are collected as per the function *Add New (Collect)* 58; (c) *Store/Update/Organize*: Collections resulting from the function *Search* and function *Add New (Collect)* are placed (organized) in appropriate browser Favorites folders. Favorites descriptions, URL's and web document content are retrieved (i.e.; updated) and stored in the XML data file; and (d) *Share*: Collections are then shared as per the preferences outlined in function *Send (Share)* 62.

1.3 Functionality Diagrams

Fig. 22 sets forth an overview of the present invention. A first computer system 102 includes a processor and computer readable memory (a hard disk) for

creating and storing a data file. In the preferred embodiment, the data file is an XML data file, which includes (a) a Parameter XML data file record to store the user's parameters as defined through the *User Parameter Collection* functions; and (b) data file records containing a stored URL and the web document associated with the stored URL. In response to a search query for selecting data file records, as described in Section 1.2.3, the processor creates a stored URL and web document set of the selected data file records.

The first computer system 102 includes a modem, a network card, or a similar devices to link the computer system through various HTTP, HTTPS, shared networks and other links to browser enabled "primary devices" such as a second computer system 104, a game console 106, or browser enabled "satellite" devices, such as a handheld personal display application 108, a cellular telephone 110, an interactive TV Set-Top Box 112, a tablet computer 114, an Internet active DVD player 116, or a global positioning system (GPS) device 118. The first computer system sends the stored URL and web document set as a unit to either a primary device or a satellite device through the link. The primary devices and the satellite devices include software for operating all of the functions of the preferred embodiment. For example, the software enables the devices to perform the search, collect, share, organize, update, rank, synchronize, and remind functions described in Sections 1.2.3 through 1.2.10.

Fig. 23 further illustrates a storing function 120 for storing the contents of the data file. The preferred embodiment accesses a parameter record 122 (the Parameter XML data file record created through the *User Parameter Collection* functions). In step 124, the present invention accesses the first default browser

(designated through function *Default Browser* 10) and that browser's Favorites stored URL list 126. The first computer system 102 gets that first Favorites stored URL in step 128, and in step 130 accesses the Internet to obtain a web document 132 associated with the stored URL. The web document may contain many different elements in several different formats, including elements in HTML, XML, PDF, GIF, JPEG, and Java formats. In step 134, the first computer system writes the web document to a first XML data file 136. In step 138, the computer system determines whether it has performed steps 128 through 134 for each Favorites stored URL in the browser's Favorites stored URL list, and if not, cycles through those steps until the web document associated with each Favorite stored URL in the Favorites stored URL list has been stored in the first XML data file. In step 140, the computer system determines whether it has performed steps 124 through 134 for each browser listed in the parameter record 122, and if not, cycles through those steps until the web document associated with each Favorite stored URL in the Favorites stored URL list for each browser has been stored in the first XML data file.

The preferred embodiment of the present invention also stores the web document associated with each History stored URL included in the user's browser list. In step 142, the present invention accesses the parameter record 122 to determine the first default browser and accesses that browser's History stored URL list 144. The first computer system 102 gets that first History stored URL in step 146, and in step 148, accesses the web document 132 associated with the stored URL. In step 150, the first computer system writes the web document to the first XML data file 136. In step 152, the computer system determines whether it has performed steps 146 through 150 for each History stored URL in the browser's

History stored URL list, and if not, cycles through those steps until the web document associated with each History stored URL in the History stored URL list has been stored in the first XML data file. In step 154, the computer system determines whether it has performed steps 142 through 150 for each browser listed in the parameter record 122, and if not, cycles through those steps until the web document associated with each History stored URL in the History stored URL list for each browser has been stored in the first XML data file.

Fig. 24 illustrates the preferred embodiment of the function *Search* 54 of the present invention. The search function is initiated through function *Home Form* 28 (Fig. 10), where keywords/keyphrases 156 are entered. The function *Search* 54 begins with step 158 where the first computer system gets the first data file record of the first XML data file 136. In step 160, the function determines whether the data file record contains the keyword or keyphrase. If the answer is no, the function returns to step 158, and gets the next data file record in the data file. If the data file record does contain the keyword or keyphrase 156, then the function determines in step 162 whether this is the first matching result, and if so, in step 164, the function creates a folder in a user-selected browser, as described in function *Organize* 66 (Figure 15). In the example of Figure 24, a folder is created in the browser's Favorites stored URL list 126, and in step 166, the stored URL for the matching data file record is written to the browser folder. In step 162, if the computer system determines that this is not the first matching result, the computer system goes to step 166, and writes the stored URL for the matching data file record to the browser folder.

In step 168, function *Search* 54 also marks the data file records in the first XML data file 136 that match the keywords / keyphrases 156. In step 170, the function determines whether the data file record is the last XML data file record in the first XML data file 136. If the answer is no, the function returns to step 158 to examine the next data file record. If the answer is yes, in step 172, a results collection 174 is updated to track the number of times a search has been performed, and the search function displays the results collection (the new browser folder) in the form of Figure 12.

Fig. 25 diagrams the operational details of the preferred embodiment of the function *Add New (Collect)* 58. The add new (collect) function is initiated through function *Home Form* 28 (Fig. 10), where keywords / keyphrases 156 are entered. The add new (collect) function begins with step 176 where the first computer system accesses the user-designated list of search engines from the parameter record 122 and gets the first search engine. In step 178, the computer system submits the keywords or keyphrases to the search engine, and the search engine processes the search request in step 180.

Function *Add New (Collect)* 58 gets the first of a search engine result collection 182 (the URL's that match the search request) in step 184. Next, in step 186, the computer system accesses a web document 132 that corresponds to the first search engine result and, in step 188, compares the web document to the keywords or keyphrases. If, in step 190, the comparison reveals that the web document does not contain the keyword or keyphrase, in step 192, the add new (collect) function determines whether the search result is the last search result of the search engine result collection 182. If the answer is no, the function returns to step

184 to examine the next search engine result. If the answer is yes, in step 194, the computer system determines whether the search engine used is the last user-designated search engine. If the user has designated other search engines, the function returns to step 176 to get the next search engine.

Returning to step 190, if the comparison of the web document to the keywords or keyphrases reveals that the web document does contain the keyword or keyphrase 156, in step 196, function *Add New (Collect)* 58 determines whether this is the first matching result. If so, in step 198, the function obtains the default browser from the parameter record 122. In step 200, the computer system creates a new collection folder 202 in the browser Favorites for a new results collection. In step 204, the function writes the stored URL for the matching search result to the browser folder. Next, as shown in Figure 25, in step 206 function *Add New (Collect)* 58 writes the stored URL and web document (the data file record) to the XML data file 136. The function then goes to step 192 (described above), and determines whether the search result is the last search result of the search engine result collection 182. Once function *Add New (Collect)* 58 has submitted the keywords or keyphrases to all of the user-designated search engines, in step 208, the function displays the new collection folder 202 in the form shown in Fig. 13.

Fig. 26 illustrates the functional details of function *Send (Share)* 62. This function is initiated from the function *Home Form* 28 (Fig. 10), function *Search* 54, function *Add New (Collect)* 58, or the function *OneStep* 100. These functions have marked the first XML data file 136 to designate the selected stored URLs and associated web pages. In step 210, the send function opens the first XML data file where the data file records have been marked and, in step 212, gets the location for

the local share file from the parameter record 122. In step 214, the computer system creates a viewable XML document, 216 and writes a header to the document to indicate the start of the document. In step 218, the send function goes to the first marked data file record of the first XML data file, and in step 220 writes that record as the next line in the viewable XML document. In step 222, the send function determines whether the data file record is the last marked data file record in the first XML data file. If the answer is no, the send function returns to step 218 to cycle through all of the marked data file records in the first XML data file. Once all the marked data file records in the first XML data file have been written to the viewable XML document, in step 224, the computer system writes a document closing to the viewable XML document to indicate the end of the document.

In step 226, function *Send (Share)* 62 examines the user's selections as entered in the form shown in Fig. 14 and determines whether the selected web pages, in the form of the viewable XML document 216, is to be sent via email. If the answer is yes, the send function gets the email client details in step 228 from the parameter record 122. Next, in step 230, the computer system accesses the email client and creates a new email message 232. In step 234, the search function writes the viewable XML document to the new email message. Finally, in step 236, the computer system displays the email message to the user for addressing and sending.

If, in step 226, function *Send (Share)* 62 determined that the viewable XML document 216 is not to be sent via email, or the send function has reached step 236, then, in step 238, the send function examines the user's selections from Figure 14 and determines whether the viewable XML document 216 is to be sent via an instant

messenger. If the answer is no, the computer system goes to step 250 (below). If the answer is yes, in step 240, the send function gets the details for the first user-designated instant messenger from the parameter record 122. In step 242, the computer system attaches the viewable XML document to an instant message 244. In step 246, the instant message is displayed for addressing and sending. Next, in step 248, the send function checks the parameter record to determine whether the viewable XML document has been sent to all user-designated instant messengers. If the answer is no, the computer system returns to step 240 to cycle through all instant messengers. Otherwise, the send function turns to file transfer protocol functions (FTP).

In step 250 of Fig. 26, the send function examines the user's selections from Fig. 14 and determines whether the viewable XML document 216 is to be sent via file transfer protocol. If the answer is no, the function is completed. If the answer is yes, in step 252, the send function obtains the location where the viewable XML document is to be transferred from the parameter record 122. Then, in step 254, the computer system uploads the viewable XML document to a web server at the designated location.

Fig. 27 illustrates the details of function *Organize* 66, which is activated from the function *Home Form* 28 (Fig. 10) to provide the user with options to organize a set of stored URLs associated with the marked data file records (the data file records matching the user-designated keywords / keyphrases). The organize function begins by examining the user's selections in Figure 15 regarding a designated browser and browser folder for organizing the matching data file records. In step 256, the computer system determines whether a user-designated destination

browser folder 258 exists in a user-designated browser 260. If the answer is no, in step 262, the organize function creates a new browser folder 258 in the browser Favorites. In step 264, the organize function opens the first XML data file 136 where the data file records have been marked, and in step 266 gets the first marked data file record. In step 268, the computer system examines the user's selections 270 from Figure 15, and determines whether the user has designated that the marked data file records will be deleted. If the answer is yes, in step 272, the stored URL corresponding to the current marked data file record is deleted from the corresponding browser folder 274, and, in step 276, the current data file record is deleted from the first XML data file 136. Then, in step 278, the organize function determines whether the current marked data file record is the last marked data file record in the first XML data file. If the answer is yes, the function ends. Otherwise, the computer system returns to step 266 to cycle through the remaining marked data file records.

If, in step 268, the user has not indicated that the marked data file records from the first XML data file 136 will be deleted, in step 280, the function *Organize* 66 creates a stored URL corresponding to the current marked data file record in the user-designated browser folder 258. In step 282, the computer system examines the user's selections 270 from Fig. 15, and determines whether the user has designated that the marked data file records will be copied. If the answer is yes, in step 284, the organize function adds a new data file record in the first XML data file 136 indicating that the user-designated browser folder 258 is associated with the current marked data file record. If, in step 282, the organize function determines that the marked data file records are to be moved (not copied), in step 286, the stored URL

corresponding to the current marked data file record is deleted from the corresponding browser folder 274, and, in step 288, the current marked data file record in the first XML data file is updated to reflect that the data file record is associated with the user-designated browser folder 258. From steps 284 and 288, the computer system goes to step 278, to determine whether the current marked data file record is the last marked data file record in the first XML data file. If the answer is yes, the function ends. Otherwise, the computer system returns to step 266 to cycle through the remaining marked data file records.

Fig. 28 illustrates the functional details of function *Update* 82, which is activated from either function *Home Form* 28 (Fig. 10) or function *Search* 54, which may mark certain data file records for updating. In step 290, the computer system examines the user's selections 292 from Fig. 16, and determines whether the user has indicated that all the user's Favorites stored URLs will be updated. If the answer is no, in step 294, the update function opens the first XML data file 136 where the data file records have been marked. Otherwise, in step 296, the update function opens the entire first XML data file.

In step 298, function *Update* 82 gets the first open data file record from the first XML data file 136. In step 300, the update function accesses the Internet to obtain the web document 132 associated with the URL from the current data file record. In step 302, the computer system compares the web document from the Internet with the web document associated with the current data file record from the first XML data file. If the update function determines in step 304 that the web documents are the same, the function returns to step 298 and gets the next open data file record.

In Fig. 28, if function *Update* 82 determines in step 304 that the web documents are not the same, in step 306, the function determines whether a web document exists on the Internet for the URL for the current data file record. If the answer is no, in step 308, the computer system marks the current data file record in the first XML data file 136 as "null." If the answer is yes, in step 310, the update function writes the Internet web document 132 to the current data file record in the first XML data file. In step 312, the update function determines whether the current data file record is the last open data file record. If the answer is yes, the function ends. Otherwise, the update returns to step 298 and gets the next open data file record.

Fig. 29 is a functional diagram of function *Rank* 84. The rank function begins in step 314 by opening the results collection 174 updated by function *Search* 54, and by examining the user's time period selection 316 from Figure 17 to determine the selected time period (i.e., the last 30 days) for which searches will be displayed. In step 318, the rank function displays search criteria 320 (query parameters) that have been searched within the selected time period and the number of times the search criteria have been searched.

Once the search criteria 320 and ranking results 174 are displayed, the user may select a search criteria from the list and click on "Search Favorites" or "Collect Favorites," as shown in Fig. 17. Returning to Figure 29, in step 322, function *Rank* 84 then determines whether the user has clicked on "Search Favorites." If the answer is yes, in step 324, the function submits the search criteria to function *Search* 54. If the answer is no, in step 326, the rank function determines whether the user

has clicked on "Collect Favorites." If the answer to that inquiry is yes, in step 328, the function submits the search criteria to function *Add New (Collect)* 58.

Fig. 30 illustrates the operational details of function *Synchronize* 88, which may be selected from function *Home Form* 28 (Fig. 10). The synchronize function permits the user to select the devices with which Favorites stored URLs and document data will be coordinated. The function begins in step 330 by opening the first XML data file 136. In step 332, the computer system accesses the parameter information collected through function *Synchronization Devices* 24, and obtains the synchronization device details 334 related to the synchronization device or devices selected in Fig. 18. In step 332, the synchronization function also opens a second XML data file 336 located in the selected synchronization device.

In step 338, the synchronization function gets the first data file record from the first XML data file 136. In step 340, the computer system compares the selected data file record with the data file records in the second XML data file 336 to determine whether there is a matching data file record. If the answer is no, in step 342, the selected data file record is added to the second XML data file. If the answer is yes, function *Synchronize* 88 compares the selected data file record with the matching data file record from the second XML data file, and, in step 344, determines whether the selected data file record has been updated more recently than the matching data file record. If the answer is no, in step 346, the synchronization function replaces the selected data file record in the first XML data file with the matching data file record from the second XML data file. If the selected data file record has been updated more recently than the matching data file record,

then, in step 348, the function replaces the matching data file record in the second XML data file with the selected record from the first XML data file.

Once the most current data file record is included in both the first XML data file 136 and the second XML data file 336, function *Synchronize* 88 determines in step 350 whether the selected data file record is the last data file record in the first XML data file. If the answer is no, the function returns to step 338 to assign the next data file record as the selected data file record. Once all the data file records in the first XML data file have been processed, the synchronization function processes data file records in the second XML data file that are not in the first XML data file. In step 352, the computer system opens the data file records in the second XML data file 336 that are not contained in the first XML data file. In step 354, the synchronization function gets the first open data file record (from the second XML data file) and, in step 356, writes the selected data file record to the first XML data file. In step 358, the synchronization function determines whether the selected data file record is the last open data file record. If the answer is no, the function returns to step 354 so as to copy all of the open data file records from the second XML data file to the first XML data file. Once the last open data file record has been copied, the synchronization function ends.

Fig. 31 shows an overview of the method of function *OneStep* 100, also described with reference to Fig. 21. The *OneStep* function allows the user to perform many of the functions described above from a single form. The *OneStep* function is activated through the function *Home Form* 28 (Fig. 10), which includes a section for the user to designate the keywords or keyphrases 156 for searching. A first HTML data file 360 (an alternative embodiment to the XML data file described

with regard to other functions) corresponding to the search criteria is stored in step 362 in accordance with store function 120 illustrated by Figure 23. The first HTML data file is updated (made current) in step 364 through use of function *Update* 82, or may be synchronized in step 366 with a second HTML data file 368 from a user-designated secondary device in accordance with function *Synchronize* 88.

Next, in step 370, function *Search* 54 is performed on the keywords or keyphrases 156 to find matches within the first HTML data file 360. In step 372, function *Rank* 84 tracks the number of times a search has been performed on that search criteria. The keywords or keyphrases are also submitted in step 374 to function *Add New (Collect)* 58, where the computer system submits the keywords or keyphrases to user-designated search engines, and the search engines processes the search request in step 180. The add new (collect) function returns the results of step 180 in the search engine result collection 182 (the URL's that match the search request). The results of operation of function *Search* 54 and function *Add New (Collect)* 58 are placed in a search results file 376. In step 378, the search results may be refined, and resubmitted to the search function (step 370) and the add new (collect) function (step 374). Once the search results are finalized, they may be shared in step 380 in accordance with function *Send (Share)* 62 or organized, in step 382, in accordance with function *Organize* 66. Alternatively, the search results may be synchronized in step 366 in accordance with function *Synchronize* 88.

While various embodiments of the present invention have been described above, it should be understood that they have been presented by way of example only, and not limitation. It will be understood by those skilled in the art that various changes in form and details may be made therein without departing from the spirit

and scope of the invention as defined in the appended claims. For example, while reference is made to a "computer" and a "first computer," those terms are not limited to standard desktop computers, but encompass all browser enabled devices, such as servers, clients, game consoles, handheld personal display application, a cellular telephone, interactive TV Set-Top Boxes, tablet computers, Internet-active DVD players, and GPS devices. Further, while reference is made to HTML content and meta-data, the term web document encompasses all elements of a web page. In addition, the present invention may be embedded in software, pre-installed hardware, microchips, and any other memory devices. Thus, the breadth and scope of the present invention should not be limited by any of the above-described exemplary embodiments, but should be defined only in accordance with the following claims and their equivalents.

CLAIMS

We claim:

1. A method for distributing a stored URL and web document set comprising the steps of:

creating a data file containing a plurality of data file records, each data file record containing a stored URL and the web document associated with the stored URL;

storing the data file on a first computer system;

responsive to a request for selecting data file records, creating a stored URL and web document set of the selected data file records; and

sending the stored URL and web document set as a unit to a second computer system.

2. The method of claim 1 wherein the step of creating a data file further comprises:

accessing a stored URL list from a selected browser;

downloading the remote web document designated by each stored URL in the stored URL list; and

associating the stored URL with the downloaded remote web document.

3. The method of claim 2 wherein the stored URL list is the favorites list.

4. The method of claim 2 wherein the stored URL list is the history list.

5. The method of claim 1 wherein each data file record further contains the title of the relevant web document.

6. The method of claim 1 wherein the step of storing the data file on a first computer system further comprises:

formatting each data file record using an extensible markup language (XML).

7. The method of claim 6 wherein the step of creating a data file further comprises:

accessing a stored URL list from a selected browser;

downloading the remote web document designated by each stored URL in the stored URL list;

parsing the remote web document for document content, meta tag title, meta tag description, and meta tag keyword; and

associating the stored URL with the document content, meta tag title, meta tag description, and meta tag keyword to create a data file record.

8. The method of claim 1 wherein the step of creating a stored URL and web document set further comprises the steps of:

selecting data file records responsive to a keyword search query containing at least one keyword; and

searching for one or more data file records containing at least one keyword matching a keyword from the search query.

9. The method of claim 8 further comprising the steps of:

creating a stored URL set containing the stored URLs from the stored URL and web document set; and

integrating the stored URL set into a browser.

10. The method of claim 8 further comprising the steps of:

creating a list of keyword search queries;

tracking the frequency of usage of each search query; and

associating the related tracked number with each keyword search query in the keyword search query list.

11. The method of claim 1 further comprising the steps of:
- designating at least one search engine;
 - responsive to a keyword search query from a client containing at least one keyword, submitting the keyword search query to the designated search engine for a search of web documents containing at least one keyword matching a keyword from the search query;
 - receiving a search engine stored URL set from the designated search engine, each stored URL within the search engine stored URL set being associated with a web document containing at least one keyword matching a keyword from the search query;
 - selecting at least one stored URL from the search engine stored URL set; and
 - storing the selected stored URL and the web document associated with the stored URL in the data file on the first computer system.
12. The method of claim 1 further comprising the steps of:
- displaying a list of the stored URLs within the data file;
 - selecting stored URLs from the stored URL list; and
 - deleting the data file records associated with the selected stored URLs from the data file.

13. The method of claim 1 further comprising the steps of:
associating each of the data file records with a browser;
displaying a list of the stored URLs within the data file;
creating a stored URL set from the stored URL list;
selecting a browser to be associated with the stored URL set; and
integrating the stored URL set into the selected browser.

14. The method of claim 1 further comprising the steps of:
associating each of the data file records with a browser;
displaying a list of the stored URLs within the data file;
creating a first stored URL set from the stored URL list;
for each of browsers associated with at least one stored URL in the
stored URL set, retrieving the browser stored URL set and deleting the stored URL
from the browser stored URL set;
selecting a second browser to be associated with the first stored URL
set; and
integrating the first stored URL set into the second browser.

15. The method of claim 1 further comprising the steps of:
associating each of the data file records with a browser;
displaying a list of the stored URLs within the data file;
creating a stored URL set from selected stored URLs in the stored URL

list;

associating each of the stored URLs in the stored URL set with a browser folder; and

for each of browser folders associated with at least one stored URL in the stored URL set, retrieving the browser folder stored URL list and integrating the stored URL into the browser folder stored URL list.

16. The method of claim 1 further comprising the steps of:

downloading the remote web document designated by the stored URL associated with at least one data file record;

comparing the remote web document with the web document associated with the data file record; and

if the remote web document is not substantively identical to the remote web document, replacing the web document in the data file record with the remote web document.

17. The method of claim 1 further comprising the steps of:
accessing the remote web document designated by the stored URL associated with at least one data file record;
determining whether a remote web document exists; and
if no remote web document exists, prompting the user to select whether to (a) delete the data file record from the data file, (b) access the remote document again, or (c) do nothing.

18. The method of claim 1 further comprising the step of:
reminding the user to access a data file record in accordance with a user designated time interval.

19. The method of claim 1 wherein the step of sending the stored URL and web document set comprises sending the stored URL and web document set by email.

20. The method of claim 1 wherein the step of sending the stored URL and web document set comprises sending the stored URL and web document set by instant messenger.

21. The method of claim 1 wherein the step of sending the stored URL and web document set comprises sending the stored URL and web document set using file transfer protocol (FTP).

22. The method of claim 1 wherein the step of sending the stored URL and web document set comprises sending the stored URL and web document set using a private network.

23. The method of claim 1 further comprising the steps of:
receiving the stored URL and web document set at the second computer system; and
integrating the stored URL and web document set into a browser as a unit at the second computer system.

24. A computer program product in a computer readable memory for distributing a stored URL and web document set comprising:
means for creating a data file containing a plurality of data file records, each data file record containing a stored URL and the web document associated with the stored URL;
means for storing the data file;
means, responsive to a search query for selecting data file records, for creating a stored URL and web document set of the selected data file records; and
means for sending the stored URL and web document set as a unit to a second computer system.

25. The product of claim 24 wherein the means for creating a data file further comprises:

means for accessing a stored URL list from a selected browser;

means for downloading the remote web document designated by each stored URL in the stored URL list; and

means for associating the stored URL with the downloaded remote web document.

26. The product of claim 25 wherein the stored URL list is the favorites list.

27. The product of claim 25 wherein the stored URL list is the history list.

28. The product of claim 24 wherein each data file record further contains the title of the relevant web document.

29. The product of claim 24 wherein the means for storing the data file on a first computer system further comprises:

means for formatting each data file record using an extensible markup language (XML).

30. The product of claim 29 wherein the means for creating a data file further comprises:

means for accessing a stored URL list from a browser;

means for downloading the remote web document designated by each stored URL in the stored URL list;

means for parsing the remote web document for document content, meta tag title, meta tag description, and meta tag keyword; and

means for associating the stored URL with the document content, meta tag title, meta tag description, and meta tag keyword to create a data file record.

31. The product of claim 24 wherein the means for creating a stored URL and web document set further comprises:

means for selecting data file records responsive to a keyword search query containing at least one keyword; and

means for searching for one or more data file records containing at least one keyword matching a keyword from the search query.

32. The product of claim 31 further comprising:

means for creating a stored URL set containing the stored URLs from the stored URL and web document set; and

means for integrating the stored URL set into a browser.

33. The product of claim 31 further comprising:
- means for creating a list of keyword search queries;
 - means for tracking the frequency of usage of each search query; and
 - means for associating the related tracked number with each keyword search query in the keyword search query list.
34. The product of claim 24 further comprising:
- means for designating at least one search engine;
 - means, responsive to a keyword search query from a client containing at least one keyword, for submitting the keyword search query to the designated search engine for a search of web documents containing at least one keyword matching a keyword from the search query;
 - means for receiving a search engine stored URL set from the designated search engine, each stored URL within the search engine stored URL set being associated with a web document containing at least one keyword matching a keyword from the search query;
 - means for selecting at least one stored URL from the search engine stored URL set; and
 - means for storing the selected stored URL and the web document associated with the stored URL in the data file on the first computer system.

35. The product of claim 24 further comprising:
means for displaying a list of the stored URLs within the data file;
means for selecting stored URLs from the stored URL list; and
means for deleting the data file records associated with the selected stored URLs from the data file.
36. The product of claim 24 further comprising:
means for associating each of the data file records with a browser;
means for displaying a list of the stored URLs within the data file;
means for creating a stored URL set from the stored URL list;
means for selecting a browser to be associated with the stored URL set; and
means for integrating the stored URL set into the selected browser.
37. The product of claim 24 further comprising:
means for associating each of the data file records with a browser;
means for displaying a list of the stored URLs within the data file;
means for creating a first stored URL set from the stored URL list;
means for retrieving from each of browsers associated with at least one stored URL in the stored URL set, the browser stored URL set and deleting the stored URL from the browser stored URL set;
means for selecting a second browser to be associated with the first stored URL set; and
means for integrating the first stored URL set into the second browser.

38. The product of claim 24 further comprising:

- means for associating each of the data file records with a browser;
- means for displaying a list of the stored URLs within the data file;
- means for creating a stored URL set from selected stored URLs in the stored URL list;
- means for associating each of the stored URLs in the stored URL set with a browser folder; and
- means for retrieving from each of browser folders associated with at least one stored URL in the stored URL set, the browser folder stored URL list, and integrating the stored URL into the browser folder stored URL list.

39. The product of claim 24 further comprising:

- means for downloading the remote web document designated by the stored URL associated with at least one data file record;
- means for comparing the remote web document with the web document associated with the data file record; and
- means for replacing the web document in the data file record with the remote web document if the remote web document is not substantively identical to the remote web document.

40. The product of claim 24 further comprising:

means for accessing the remote web document designated by the stored URL associated with at least one data file record;

means for determining whether a remote web document exists; and

means for prompting the user, if no remote web document exists, to select whether to (a) delete the data file record from the data file, (b) access the remote document again, or (c) do nothing.

41. The product of claim 24 further comprising:

means for reminding the user to access a data file record in accordance with a user designated time interval.

42. The product of claim 24 wherein the means for sending the stored URL and web document set comprises means for sending the stored URL and web document set by email.

43. The product of claim 24 wherein the means for sending the stored URL and web document set comprises means for sending the stored URL and web document set by instant messenger.

44. The product of claim 24 wherein the means for sending the stored URL and web document set comprises means for sending the stored URL and web document set using file transfer protocol (FTP).

45. The product of claim 24 wherein the means for sending the stored URL and web document set comprises means for sending the stored URL and web document set using a private network.

46. The product of claim 24 further comprising:

means for receiving the stored URL and web document set at the second computer system; and

means for integrating the stored URL and web document set into a browser as a unit at the second computer system.

47. A system for distributing a stored URL and web document set comprising:

means for creating a data file containing a plurality of data file records, each data file record containing a stored URL and the web document associated with the stored URL;

means for storing the data file;

means, responsive to a search query for selecting data file records, for creating a stored URL and web document set of the selected data file records; and

means for sending the stored URL and web document set as a unit to a second computer system.

48. The system of claim 47 wherein the means for creating a data file further comprises:

means for accessing a stored URL list from a selected browser;

means for downloading the remote web document designated by each stored URL in the stored URL list; and

means for associating the stored URL with the downloaded remote web document.

49. The system of claim 48 wherein the stored URL list is the favorites list.

50. The system of claim 48 wherein the stored URL list is the history list.

51. The system of claim 47 wherein each data file record further contains the title of the relevant web document.

52. The system of claim 47 wherein the means for storing the data file on a first computer system further comprises:

means for formatting each data file record using an extensible markup language (XML).

53. The system of claim 52 wherein the means for creating a data file further comprises:

means for accessing a stored URL list from a browser;

means for downloading the remote web document designated by each stored URL in the stored URL list;

means for parsing the remote web document for document content, meta tag title, meta tag description, and meta tag keyword; and

means for associating the stored URL with the document content, meta tag title, meta tag description, and meta tag keyword to create a data file record.

54. The system of claim 47 wherein the means for creating a stored URL and web document set further comprises:

selecting data file records responsive to a keyword search query containing at least one keyword; and

means for searching for one or more data file records containing at least one keyword matching a keyword from the search query.

55. The system of claim 54 further comprising:

means for creating a stored URL set containing the stored URLs from the stored URL and web document set; and

means for integrating the stored URL set into a browser.

56. The system of claim 54 further comprising:
- means for creating a list of keyword search queries;
 - means for tracking the frequency of usage of each search query; and
 - means for associating the related tracked number with each keyword search query in the keyword search query list.
57. The system of claim 47 further comprising:
- means for designating at least one search engine;
 - means, responsive to a keyword search query from a client containing at least one keyword, for submitting the keyword search query to the designated search engine for a search of web documents containing at least one keyword matching a keyword from the search query;
 - means for receiving a search engine stored URL set from the designated search engine, each stored URL within the search engine stored URL set being associated with a web document containing at least one keyword matching a keyword from the search query;
 - means for selecting at least one stored URL from the search engine stored URL set; and
 - means for storing the selected stored URL and the web document associated with the stored URL in the data file on the first computer system.

58. The system of claim 47 further comprising:
means for displaying a list of the stored URLs within the data file;
means for selecting stored URLs from the stored URL list; and
means for deleting the data file records associated with the selected
stored URLs from the data file.
59. The system of claim 47 further comprising:
means for associating each of the data file records with a browser;
means for displaying a list of the stored URLs within the data file;
means for creating a stored URL set from the stored URL list;
means for selecting a browser to be associated with the stored URL
set; and
means for integrating the stored URL set into the selected browser.
60. The system of claim 47 further comprising:
means for associating each of the data file records with a browser;
means for displaying a list of the stored URLs within the data file;
means for creating a first stored URL set from the stored URL list;
means for retrieving from each of browsers associated with at least one
stored URL in the stored URL set, the browser stored URL set and deleting the
stored URL from the browser stored URL set;
means for selecting a second browser to be associated with the first
stored URL set; and
means for integrating the first stored URL set into the second browser.

61. The system of claim 47 further comprising:

means for associating each of the data file records with a browser;

means for displaying a list of the stored URLs within the data file;

means for creating a stored URL set from selected stored URLs in the stored URL list;

means for associating each of the stored URLs in the stored URL set with a browser folder; and

means for retrieving from each of browser folders associated with at least one stored URL in the stored URL set, the browser folder stored URL list, and integrating the stored URL into the browser folder stored URL list.

62. The system of claim 47 further comprising:

means for downloading the remote web document designated by the stored URL associated with at least one data file record;

means for comparing the remote web document with the web document associated with the data file record; and

means for replacing the web document in the data file record with the remote web document if the remote web document is not substantively identical to the remote web document.

63. The system of claim 47 further comprising:

means for accessing the remote web document designated by the stored URL associated with at least one data file record;

means for determining whether a remote web document exists; and

means for prompting the user, if no remote web document exists, to select whether to (a) delete the data file record from the data file, (b) access the remote document again, or (c) do nothing.

64. The system of claim 47 further comprising:

means for reminding the user to access a data file record in accordance with a user designated time interval.

65. The system of claim 47 wherein the means for sending the stored URL and web document set comprises means for sending the stored URL and web document set by email.

66. The system of claim 47 wherein the means for sending the stored URL and web document set comprises means for sending the stored URL and web document set by instant messenger.

67. The system of claim 47 wherein the means for sending the stored URL and web document set comprises means for sending the stored URL and web document set using file transfer protocol (FTP).

68. The system of claim 47 wherein the means for sending the stored URL and web document set comprises means for sending the stored URL and web document set using a private network.

69. The system of claim 47 further comprising:

means for receiving the stored URL and web document set at the second computer system; and

means for integrating the stored URL and web document set into a browser as a unit at the second computer system.

AMENDED CLAIMS

[received by the International Bureau on 30 September 2003 (30.09.03);
claims 1-69 replaced by amended claims 1-81)]

We claim:

1. A method for distributing a stored URL and web document set comprising the steps of:

parsing a web document to obtain a document element and its content;

creating a data file containing at least one data file record, the data file record including a stored URL, the web document associated with the stored URL, the document element, and the document element content;

storing the data file on a first computer system;

searching the data file for a data file record having a document element content falling within a search criteria;

creating a stored URL and web document set from the results of the search of the data file; and

sending the stored URL and web document set as a unit to a second computer system.

2. The method of claim 1 wherein the step of parsing a web document further comprises:

selecting a stored URL; and

downloading the remote web document associated with the selected

URL.

3. The method of claim 1 wherein the step of parsing a web document further comprises:

accessing a stored URL list from a selected browser; and
downloading the remote web document designated by each stored URL in the stored URL list.

4. The method of claim 3 wherein the stored URL list is the favorites list.

5. The method of claim 3 wherein the stored URL list is the history list.

6. The method of claim 1 wherein the step of storing the data file on a first computer system further comprises formatting each data file record using an extensible markup language (XML).

7. The method of claim 1 wherein the document element portion and the document element contents portion of the data file record includes a HTML element of the web document and the HTML element content.

8. The method of claim 1 wherein the document element portion and the document element contents portion of the data file record includes a TITLE element of the web document and the TITLE element content.

9. The method of claim 1 wherein the document element portion and the document element contents portion of the data file record includes a META element of the web document and the META element content.

10. The method of claim 1 wherein the document element portion and the document element contents portion of the data file record includes an ADDRESS element of the web document and the ADDRESS element content.

11. The method of claim 1 wherein the document element portion and the document element contents portion of the data file record includes a BODY element of the web document and the BODY element content.

12. The method of claim 1 wherein the document element portion and the document element contents portion of the data file record includes an ANCHOR element of the web document and the ANCHOR element content.

13. The method of claim 1 wherein the document element portion and the document element contents portion of the data file record includes an IMG element of the web document and the IMG element content.

14. The method of claim 1 wherein the document element portion and the document element contents portion of the data file record includes a LINK element of the web document and the LINK element content.

15. The method of claim 1 wherein the document element portion and the document element contents portion of the data file record includes an OBJECT element of the web document and the OBJECT element content.

16. The method of claim 1 wherein the document element portion and the document element contents portion of the data file record includes a BASE element of the web document and the BASE element content.

17. The method of claim 1 further comprising the steps of:
creating a stored URL set including the stored URLs from the stored URL and web document set; and
integrating the stored URL set into a browser.

18. The method of claim 1 further comprising the steps of:
creating a list of keyword search queries from the search criteria;
tracking the frequency of usage of each search query; and
associating the related tracked number with each keyword search query in the keyword search query list.

19. The method of claim 1 further comprising the steps of:
designating at least one search engine;
responsive to a keyword search query from a client containing at least one keyword, submitting the keyword search query to the designated search engine for a search of web documents containing at least one keyword matching a keyword from the search query;

receiving a search engine stored URL set from the designated search engine, each stored URL within the search engine stored URL set being associated with a web document containing at least one keyword matching a keyword from the search query;

selecting at least one stored URL from the search engine stored URL set; and

storing the selected stored URL and the web document associated with the stored URL in the data file on the first computer system.

20. The method of claim 1 further comprising the steps of:
displaying a list of the stored URLs from the data file;
selecting stored URLs from the stored URL list; and
deleting the data file records associated with the selected stored URLs from the data file.

21. The method of claim 1 further comprising the steps of:
displaying a list of the stored URLs from the data file;
creating a stored URL set from the stored URL list;
selecting a browser to be associated with the stored URL set; and
integrating the stored URL set into the selected browser.

22. The method of claim 1 further comprising the steps of:
associating each of the data file records with a browser;
displaying a list of the stored URLs from the data file;
creating a first stored URL set from the stored URL list;
for each of the browsers associated with at least one stored URL in the
stored URL set, retrieving the browser stored URL set and deleting the stored URL
from the browser stored URL set;
selecting a second browser to be associated with the first stored URL
set; and
integrating the first stored URL set into the second browser.

23. The method of claim 1 further comprising the steps of:
associating each of the data file records with a browser;
displaying a list of the stored URLs from the data file;
creating a stored URL set from selected stored URLs in the stored URL
list;
associating each of the stored URLs in the stored URL set with a
browser folder; and
for each of the browser folders associated with at least one stored URL
in the stored URL set, retrieving the browser folder stored URL list and integrating
the stored URL into the browser folder stored URL list.

24. The method of claim 1 further comprising the steps of:
downloading the remote web document designated by the stored URL
in the data file record;
comparing the remote web document with the web document stored in
the data file record; and
if the remote web document is not substantively identical to the stored
web document, replacing the stored web document in the data file record with the
remote web document.

25. The method of claim 1 further comprising the steps of:
accessing the remote web document designated by the stored URL in
the data file record;
determining whether a remote web document exists; and
if no remote web document exists, prompting the user to select
whether to (a) delete the data file record from the data file, (b) access the remote
document again, or (c) do nothing.

26. The method of claim 1 further comprising the step of reminding the
user to access a data file record in accordance with a user designated time interval.

27. The method of claim 1 further comprising the steps of:
receiving the stored URL and web document set at the second computer system; and
integrating the stored URL and web document set into a browser as a unit at the second computer system.

28. The method of claim 1 wherein the step of creating a stored URL and document set further comprises the steps of:
downloading the remote web document designated by the stored URL associated with the results of the search of the data file;
comparing the remote web document with the web document stored in the stored URL and document set; and
if the remote web document is not substantively identical to the stored web document, replacing the stored web document in the stored URL and document set with the remote web document.

29. A computer program product in a computer readable memory for distributing a stored URL and web document set comprising:
means for parsing a web document to obtain a document element;
means for creating a data file containing at least one data file record, the data file record including a stored URL, the web document associated with the stored URL, and the document element;
means for storing the data file on a first computer system;

means for searching the data file for a data file record having a document element falling within a search criteria;

means for creating a stored URL and web document set from the results of the search of the data file; and

means for sending the stored URL and web document set as a unit to a second computer system.

30. The product of claim 29 wherein the means for parsing a web document further comprises:

means for selecting a stored URL; and

means for downloading the remote web document associated with the selected URL.

31. The product of claim 29 wherein the means for parsing a web document further comprises:

means for accessing a stored URL list from a selected browser; and

means for downloading the remote web document designated by each stored URL in the stored URL list.

32. The product of claim 31 wherein the stored URL list is the favorites list.

33. The product of claim 31 wherein the stored URL list is the history list.

AMENDED SHEET (ARTICLE 19)

34. The product of claim 29 wherein the means for storing the data file on a first computer system further comprises means for formatting each data file record using an extensible markup language (XML).

35. The product of claim 29 wherein the document element portion and the document element contents portion of the data file record includes a HTML element of the web document and the HTML element content.

36. The product of claim 29 wherein the document element portion and the document element contents portion of the data file record includes a TITLE element of the web document and the TITLE element content.

37. The product of claim 29 wherein the document element portion and the document element contents portion of the data file record includes a META element of the web document and the META element content.

38. The product of claim 29 wherein the document element portion and the document element contents portion of the data file record includes an ADDRESS element of the web document and the ADDRESS element content.

39. The product of claim 29 wherein the document element portion and the document element contents portion of the data file record includes a BODY element of the web document and the BODY element content.

40. The product of claim 29 wherein the document element portion and the document element contents portion of the data file record includes an ANCHOR element of the web document and the ANCHOR element content.

41. The product of claim 29 wherein the document element portion and the document element contents portion of the data file record includes an IMG element of the web document and the IMG element content.

42. The product of claim 29 wherein the document element portion and the document element contents portion of the data file record includes a LINK element of the web document and the LINK element content.

43. The product of claim 29 wherein the document element portion and the document element contents portion of the data file record includes an OBJECT element of the web document and the OBJECT element content.

44. The product of claim 29 wherein the document element portion and the document element contents portion of the data file record includes a BASE element of the web document and the BASE element content.

45. The product of claim 29 further comprising:
means for creating a stored URL set including the stored URLs from the stored URL and web document set; and
means for integrating the stored URL set into a browser.

46. The product of claim 29 further comprising:
means for creating a list of keyword search queries from the search criteria;
means for tracking the frequency of usage of each search query; and
means for associating the related tracked number with each keyword search query in the keyword search query list.

47. The product of claim 29 further comprising:
means for designating at least one search engine;
means, responsive to a keyword search query from a client containing at least one keyword, for submitting the keyword search query to the designated search engine for a search of web documents containing at least one keyword matching a keyword from the search query;
means for receiving a search engine stored URL set from the designated search engine, each stored URL within the search engine stored URL set being associated with a web document containing at least one keyword matching a keyword from the search query;
means for selecting at least one stored URL from the search engine stored URL set; and
means for storing the selected stored URL and the web document associated with the stored URL in the data file on the first computer system.

48. The product of claim 29 further comprising:
means for displaying a list of the stored URLs from the data file;
means for selecting stored URLs from the stored URL list; and
means for deleting the data file records associated with the selected stored URLs from the data file.
49. The product of claim 29 further comprising:
means for displaying a list of the stored URLs from the data file;
means for creating a stored URL set from the stored URL list;
means for selecting a browser to be associated with the stored URL set; and
means for integrating the stored URL set into the selected browser.
50. The product of claim 29 further comprising:
means for associating each of the data file records with a browser;
means for displaying a list of the stored URLs from the data file;
means for creating a first stored URL set from the stored URL list;
means for retrieving from each of browsers associated with at least one stored URL in the stored URL set, the browser stored URL set and deleting the stored URL from the browser stored URL set;
means for selecting a second browser to be associated with the first stored URL set; and
means for integrating the first stored URL set into the second browser.

51. The product of claim 29 further comprising:

- means for associating each of the data file records with a browser;
- means for displaying a list of the stored URLs from the data file;
- means for creating a stored URL set from selected stored URLs in the stored URL list;
- means for associating each of the stored URLs in the stored URL set with a browser folder; and
- means for retrieving, from each of browser folders associated with at least one stored URL in the stored URL set, the browser folder stored URL list, and integrating the stored URL into the browser folder stored URL list.

52. The product of claim 29 further comprising:

- means for downloading the remote web document designated by the stored URL associated with at least one data file record;
- means for comparing the remote web document with the web document stored in the data file record; and
- means for replacing the stored web document in the data file record with the remote web document if the remote web document is not substantively identical to the stored web document.

53. The product of claim 29 further comprising:
means for accessing the remote web document designated by the stored URL in the data file record;
means for determining whether a remote web document exists; and
means for prompting the user, if no remote web document exists, to select whether to (a) delete the data file record from the data file, (b) access the remote document again, or (c) do nothing.

54. The product of claim 29 further comprising means for reminding the user to access a data file record in accordance with a user designated time interval.

55. The product of claim 29 further comprising:
means for receiving the stored URL and web document set at the second computer system; and
means for integrating the stored URL and web document set into a browser as a unit at the second computer system.

56. The product of claim 29 wherein the means for creating a stored URL and document set further comprises:
means for downloading the remote web document designated by the stored URL associated with the results of the search of the data file;
means for comparing the remote web document with the web document stored in the stored URL and document set; and

means for replacing the stored web document in the stored URL and document set with the remote web document if the remote web document is not substantively identical to the stored web document.

57. A system for distributing a stored URL and web document set comprising:

means for parsing a web document to obtain a document element;

means for creating a data file containing at least one data file record, the data file record including a stored URL, the web document associated with the stored URL, and the document element;

means for storing the data file on a first computer system;

means for searching the data file for a data file record having a document element falling within a search criteria;

means for creating a stored URL and web document set from the results of the search of the data file; and

means for sending the stored URL and web document set as a unit to a second computer system.

58. The system of claim 57 wherein the means for parsing a web document further comprises:

means for selecting a stored URL; and

means for downloading the remote web document associated with the selected URL.

59. The system of claim 57 wherein the means for parsing a web document further comprises:

means for accessing a stored URL list from a selected browser; and

means for downloading the remote web document designated by each stored URL in the stored URL list.

60. The system of claim 59 wherein the stored URL list is the favorites list.

61. The system of claim 59 wherein the stored URL list is the history list.

62. The system of claim 57 wherein the means for storing the data file on a first computer system further comprises means for formatting each data file record using an extensible markup language (XML).

63. The system of claim 57 wherein the document element portion and the document element contents portion of the data file record includes a HTML element of the web document and the HTML element content.

64. The product of claim 57 wherein the document element portion and the document element contents portion of the data file record includes a TITLE element of the web document and the TITLE element content.

65. The product of claim 57 wherein the document element portion and the document element contents portion of the data file record includes a META element of the web document and the META element content.

66. The product of claim 57 wherein the document element portion and the document element contents portion of the data file record includes an ADDRESS element of the web document and the ADDRESS element content.

67. The product of claim 57 wherein the document element portion and the document element contents portion of the data file record includes a BODY element of the web document and the BODY element content.

68. The product of claim 57 wherein the document element portion and the document element contents portion of the data file record includes an ANCHOR element of the web document and the ANCHOR element content.

69. The product of claim 57 wherein the document element portion and the document element contents portion of the data file record includes an IMG element of the web document and the IMG element content.

70. The product of claim 57 wherein the document element portion and the document element contents portion of the data file record includes a LINK element of the web document and the LINK element content.

71. The product of claim 57 wherein the document element portion and the document element contents portion of the data file record includes an OBJECT element of the web document and the OBJECT element content.

72. The product of claim 57 wherein the document element portion and the document element contents portion of the data file record includes a BASE element of the web document and the BASE element content.

73. The system of claim 57 further comprising:
means for creating a stored URL set including the stored URLs from the stored URL and web document set; and
means for integrating the stored URL set into a browser.

74. The system of claim 57 further comprising:
means for creating a list of keyword search queries from the search criteria;
means for tracking the frequency of usage of each search query; and
means for associating the related tracked number with each keyword search query in the keyword search query list.

AMENDED SHEET (ARTICLE 19)

75. The system of claim 57 further comprising:

means for designating at least one search engine;

means, responsive to a keyword search query from a client containing at least one keyword, for submitting the keyword search query to the designated search engine for a search of web documents containing at least one keyword matching a keyword from the search query;

means for receiving a search engine stored URL set from the designated search engine, each stored URL within the search engine stored URL set being associated with a web document containing at least one keyword matching a keyword from the search query;

means for selecting at least one stored URL from the search engine stored URL set; and

means for storing the selected stored URL and the web document associated with the stored URL in the data file on the first computer system.

76. The system of claim 57 further comprising:

means for displaying a list of the stored URLs from the data file;

means for selecting stored URLs from the stored URL list; and

means for deleting the data file records associated with the selected stored URLs from the data file.

AMENDED SHEET (ARTICLE 19)

77. The system of claim 57 further comprising:
means for displaying a list of the stored URLs from the data file;
means for creating a stored URL set from the stored URL list;
means for selecting a browser to be associated with the stored URL set; and
means for integrating the stored URL set into the selected browser.
78. The system of claim 57 further comprising:
means for associating each of the data file records with a browser;
means for displaying a list of the stored URLs from the data file;
means for creating a first stored URL set from the stored URL list;
means for retrieving from each of browsers associated with at least one stored URL in the stored URL set, the browser stored URL set and deleting the stored URL from the browser stored URL set;
means for selecting a second browser to be associated with the first stored URL set; and
means for integrating the first stored URL set into the second browser.
79. The system of claim 57 further comprising:
means for associating each of the data file records with a browser;
means for displaying a list of the stored URLs from the data file;
means for creating a stored URL set from selected stored URLs in the stored URL list;

means for associating each of the stored URLs in the stored URL set with a browser folder; and

means for retrieving, from each of browser folders associated with at least one stored URL in the stored URL set, the browser folder stored URL list, and integrating the stored URL into the browser folder stored URL list.

80. The system of claim 57 further comprising:

means for downloading the remote web document designated by the stored URL associated with at least one data file record;

means for comparing the remote web document with the web document stored in the data file record; and

means for replacing the stored web document in the data file record with the remote web document if the remote web document is not substantively identical to the stored web document.

81. The system of claim 57 further comprising:

means for accessing the remote web document designated by the stored URL in the data file record;

means for determining whether a remote web document exists; and

means for prompting the user, if no remote web document exists, to select whether to (a) delete the data file record from the data file, (b) access the remote document again, or (c) do nothing.

Statement Under Article 19(1)

Substitute Claims

The PCT search report cites the Kloba patent, the Greer patent, and the Nielsen patent as being of particular relevance to Applicant's patent application.

U.S. Patent 6,341,316 (Kloba et al.) discloses a system, method and computer program product for synchronizing content between a server and a client using state information. The Kloba patent describes methods for loading web content on mobile devices. More particularly, the Kloba patent discloses storing of URLs and web documents, and the modification of web pages prior to storage to optimize the display of the web page on the client.

For example, the Kloba patent states (col. 5, line 63 through col. 6, line 11):

"1.3. Optimizing Content of Web Pages for Mobile Devices

When Web content and other network objects pass through the server they are processed to minimize their size and to optimize their delivery to mobile devices: for presentation, for ease of use, for efficiency, for size, etc.

The invention uses server logic to optimize content. The server assesses the mobile device to optimize web content for the device. Factors that the server logic considers when performing this optimization include, but are not limited to:

Dynamic memory specifications
High memory specifications
Protected Memory
Storage Memory
Database Memory
Available storage space
Screen size"

The Kloba patent fails to disclose parsing of the web page to obtain a document element and the document element content, and storing of the document element and its content in a data file record. In addition, the Kloba patent does not disclose searching the data file for a data file record having a document element content falling within a search criteria.

U.S. Patent 5,987,828 (Greer et al.) discloses a method for examining quotient values to determine the extent of web page changes combined with notification of page content or location changes. The Greer patent is relevant to only a small set of dependent claims of the Horn application that are directed toward synchronization.

U.S. Patent 5,813,007 (Nielsen) discloses the use of subscriptions sent to a server of a web page asking that the subscriber be notified when the web page is changed. The Nielsen patent is also relevant to only a small set of dependent claims of the Horn application that are directed toward synchronization.

Importantly, the Greer patent and the Nielsen patent both fail to disclose parsing of a web document for web document elements and element contents, storing of web document elements and element contents in a data file record, or searching the data file for a data file record having a document element content falling within a search criteria.

Since neither the Kloba, Greer nor Nielsen patents disclose the parsing and storage of web document elements and element content, or the searching of a data file for a data file record having a document element content falling within a search criteria, the amended claims of Applicant's application are distinguishable over the cited prior art.

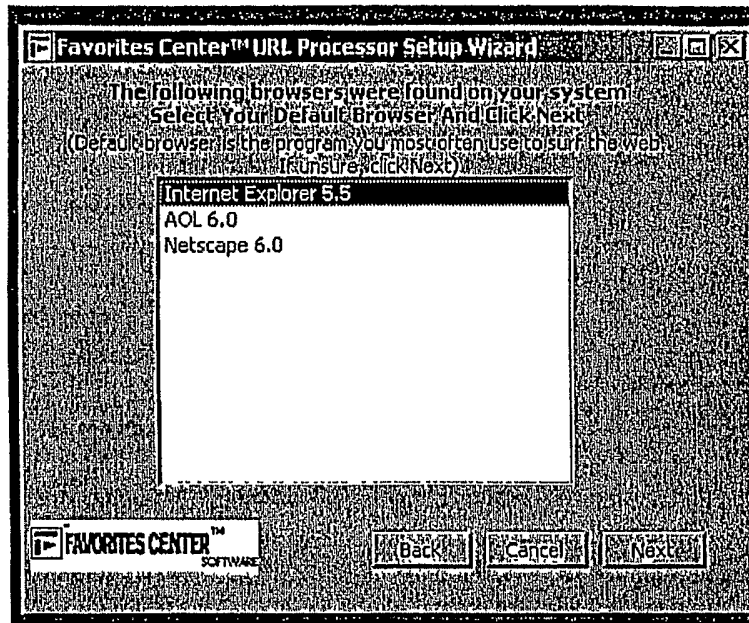


Fig. 1

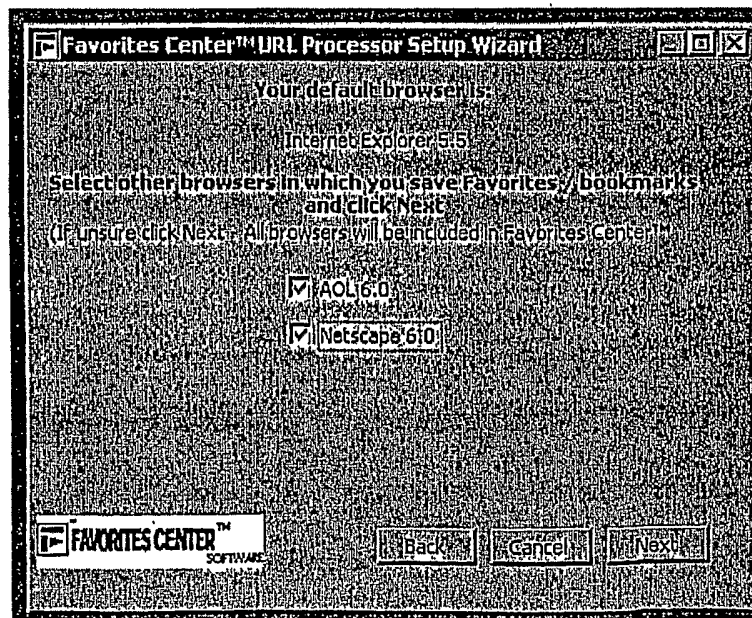


Fig. 2

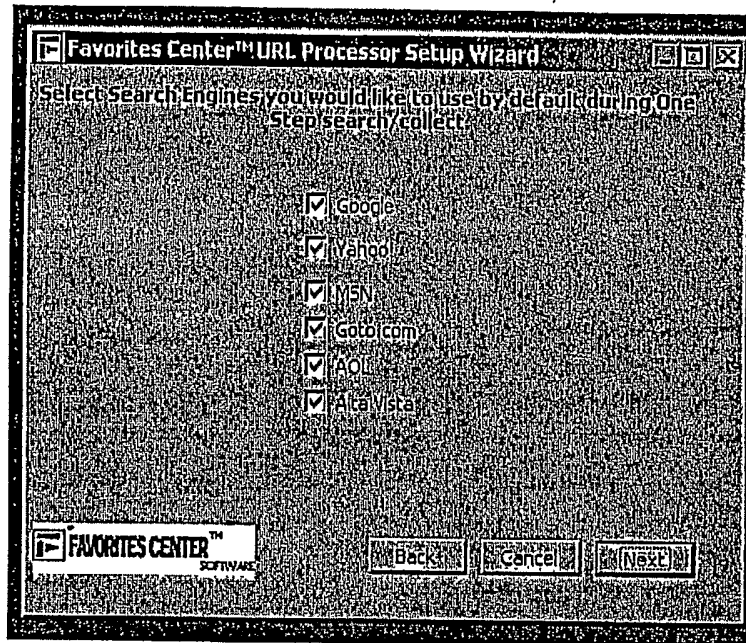


Fig. 3

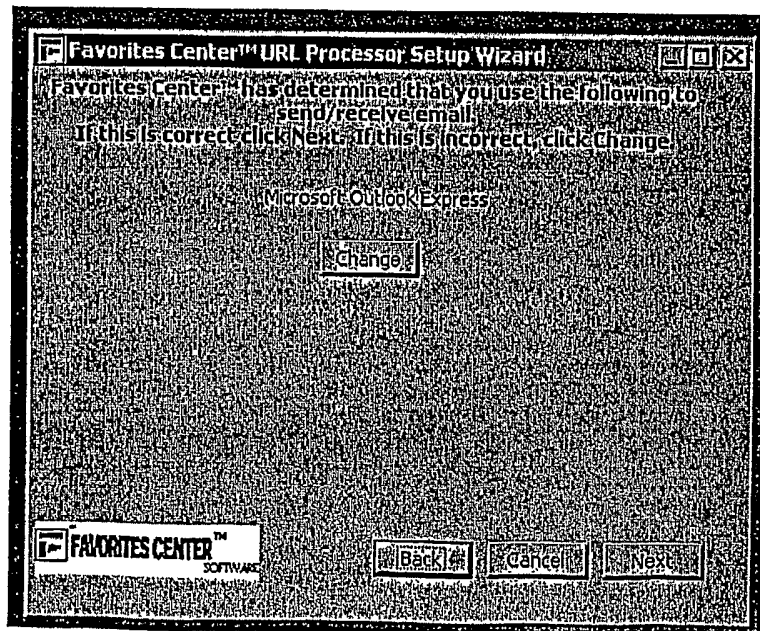


Fig. 4

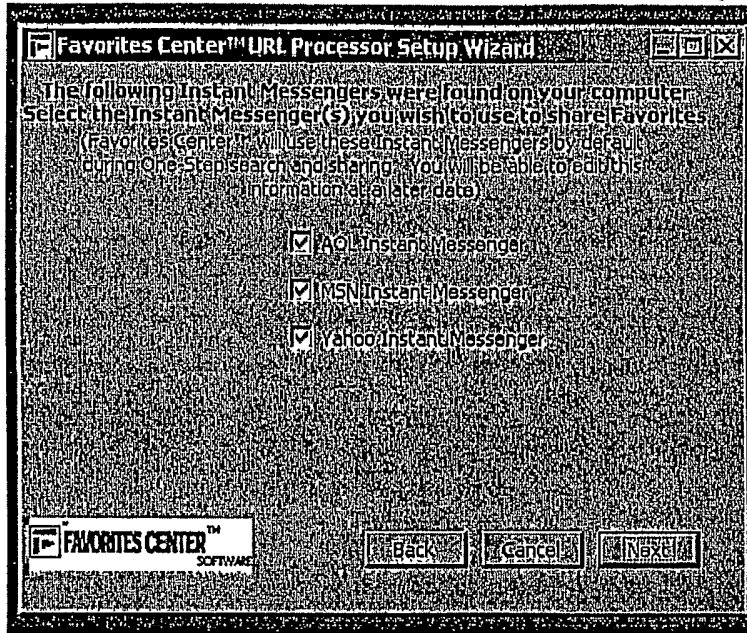


Fig. 5

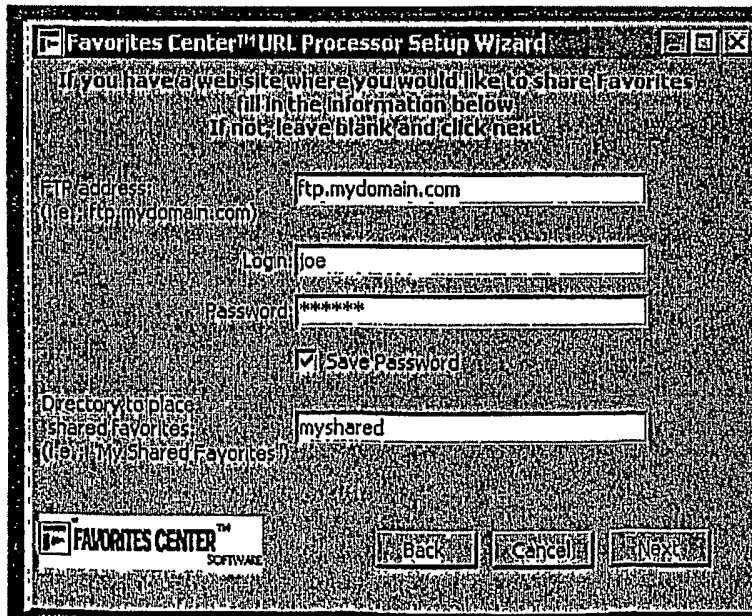


Fig. 6

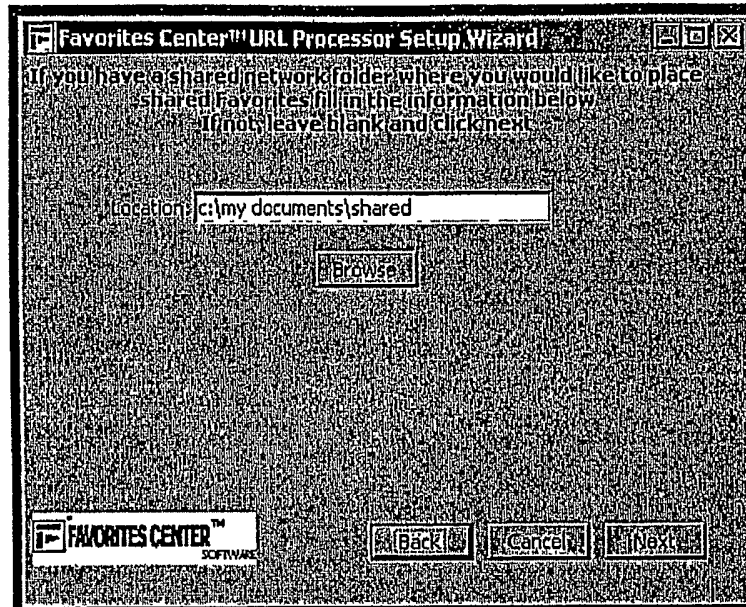


Fig. 7

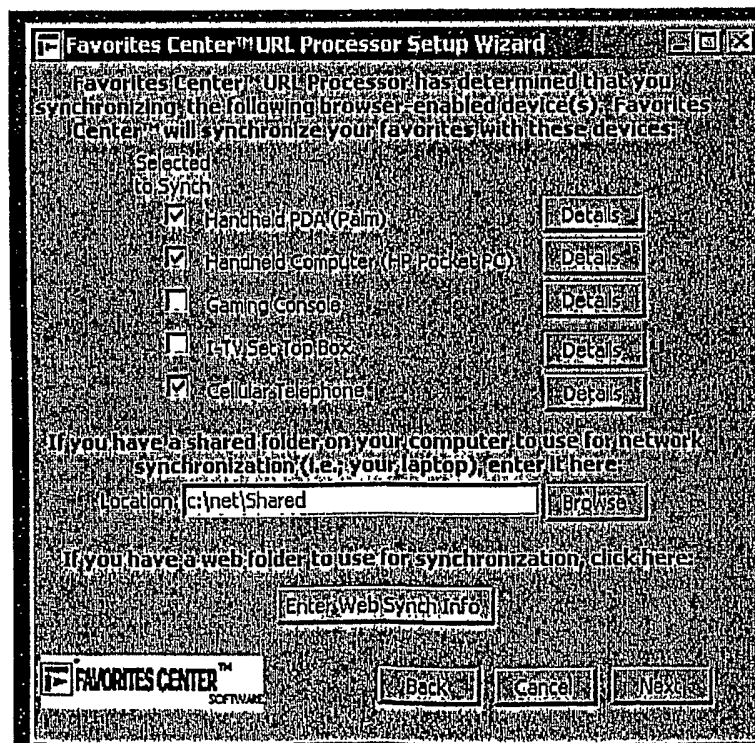


Fig. 8

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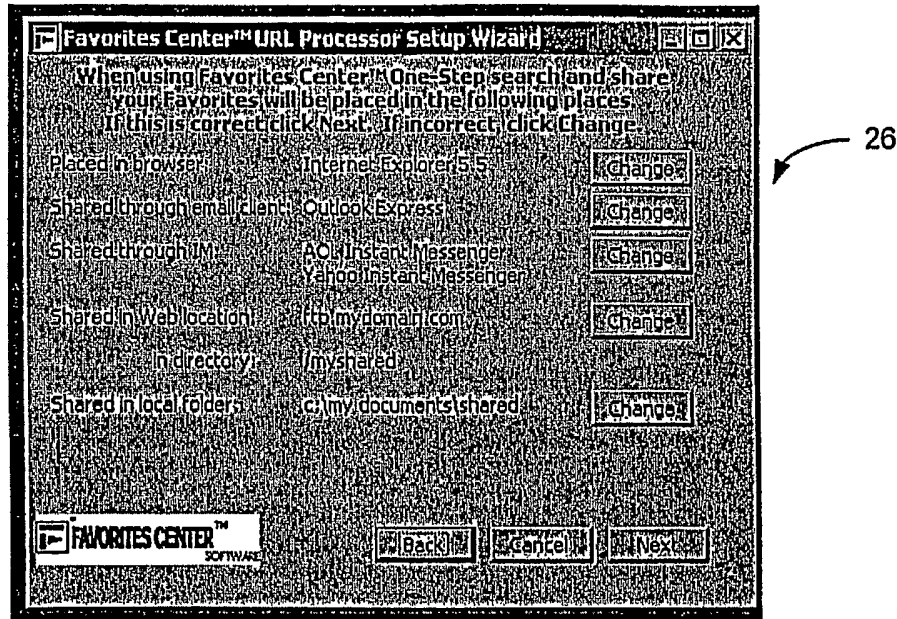


Fig. 9

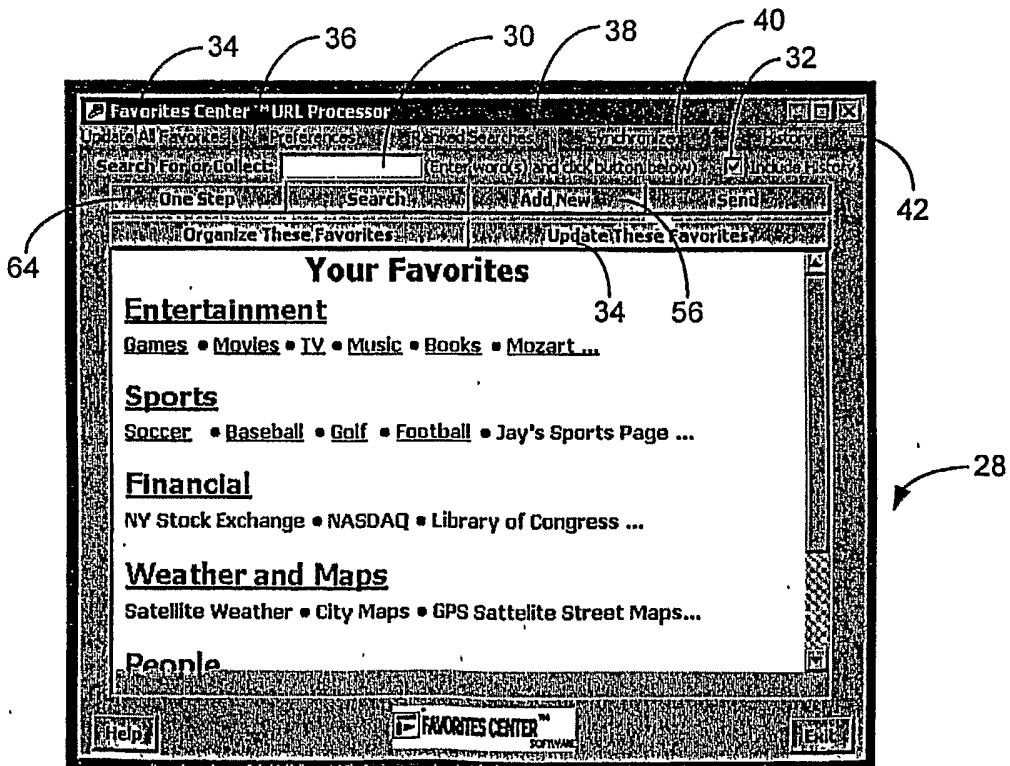


Fig. 10

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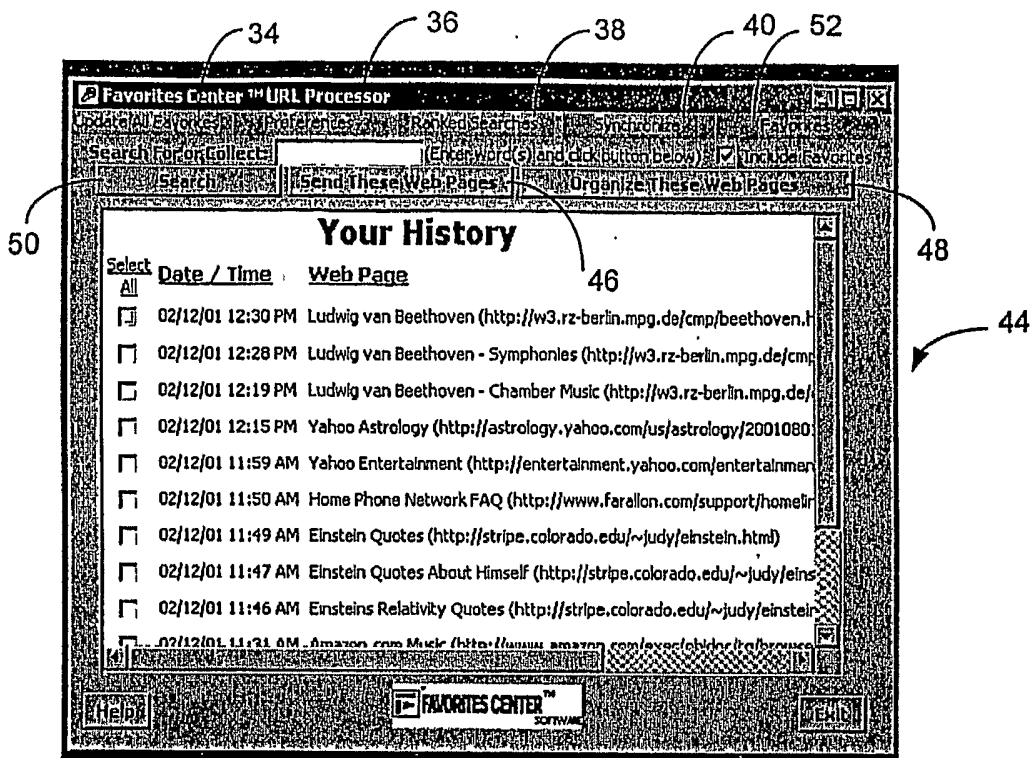


Fig. 11

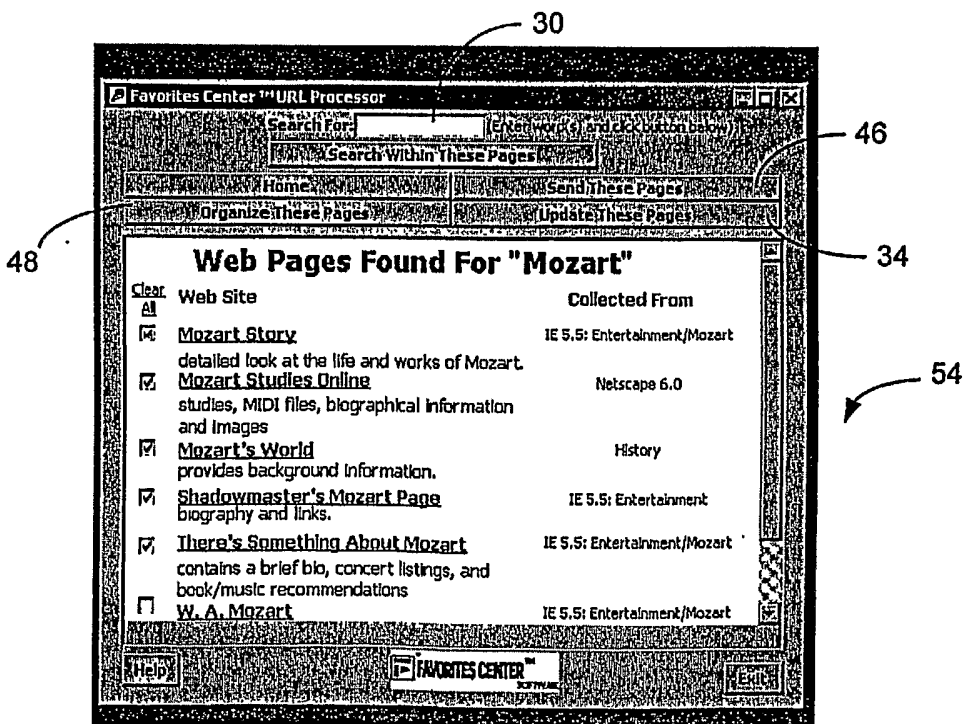


Fig. 12

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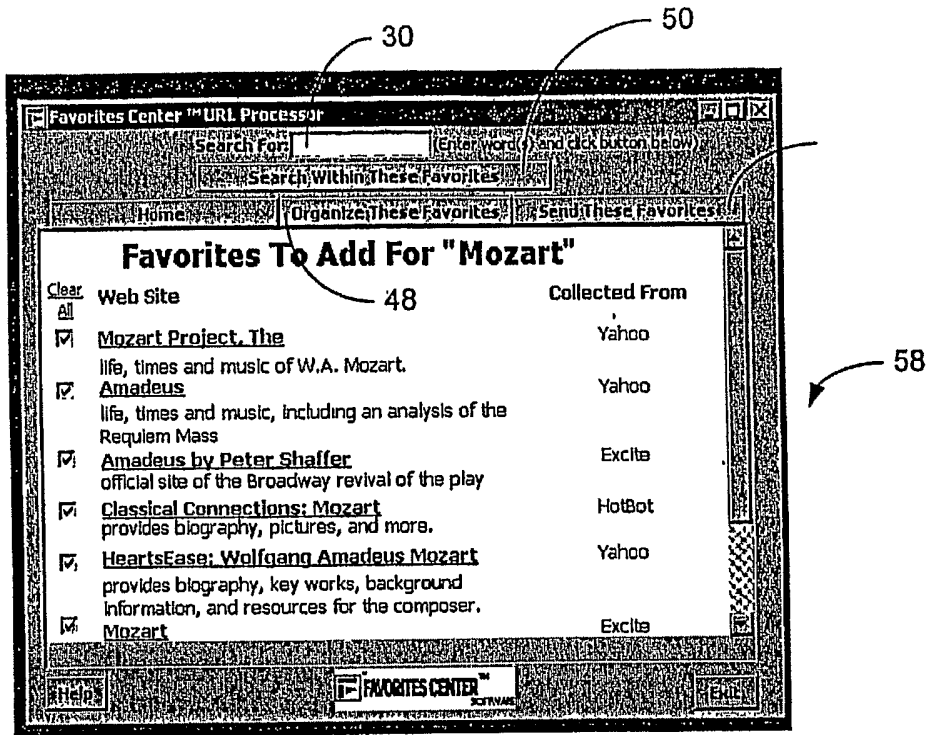


Fig. 13

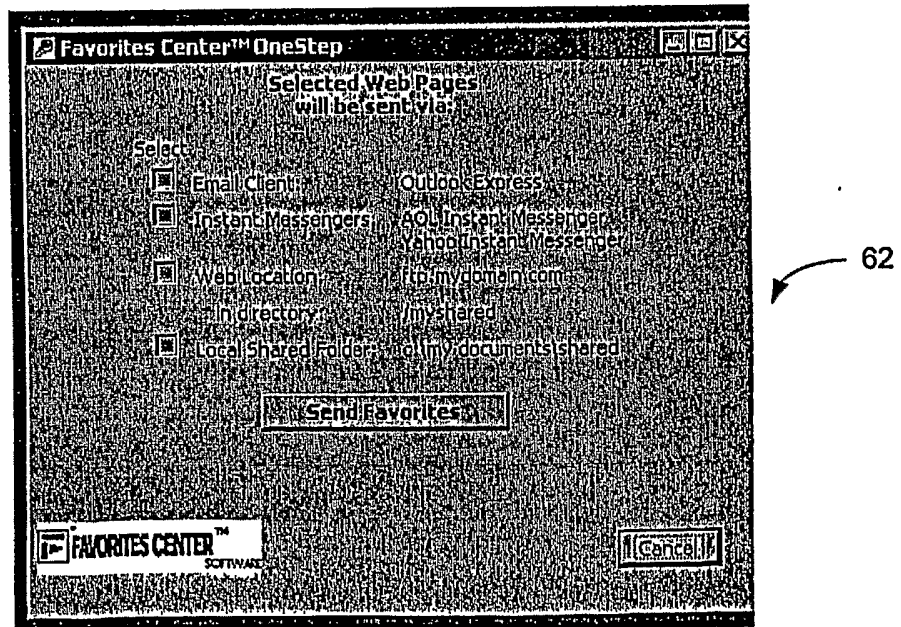


Fig. 14

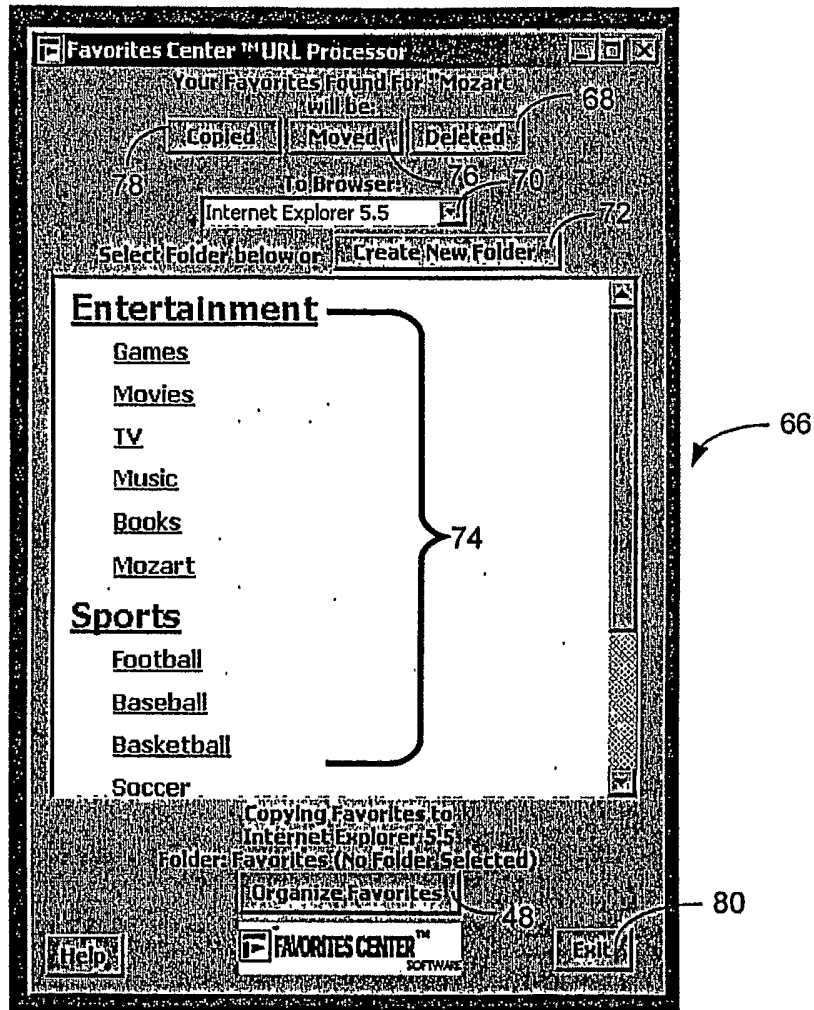


Fig. 15

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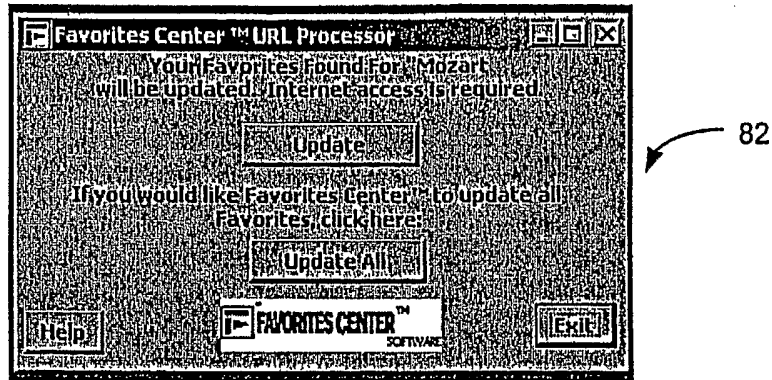


Fig. 16

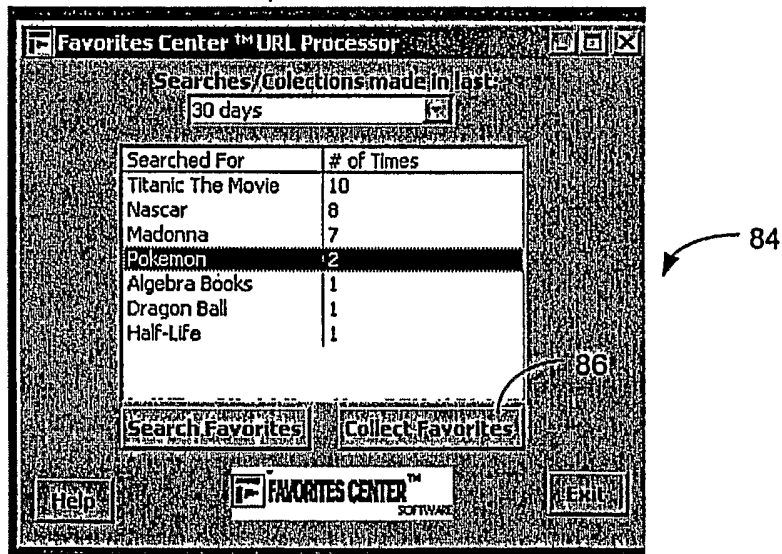


Fig. 17

10/24

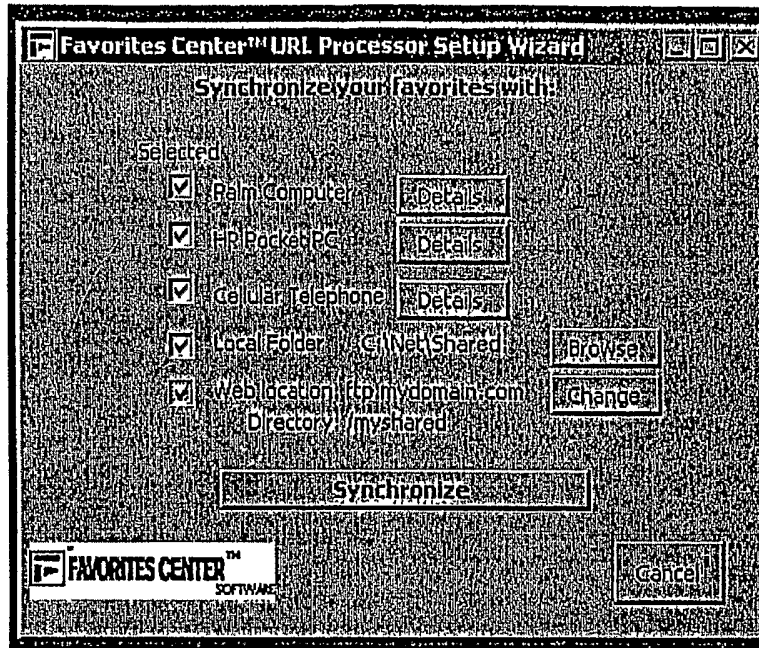


Fig. 18

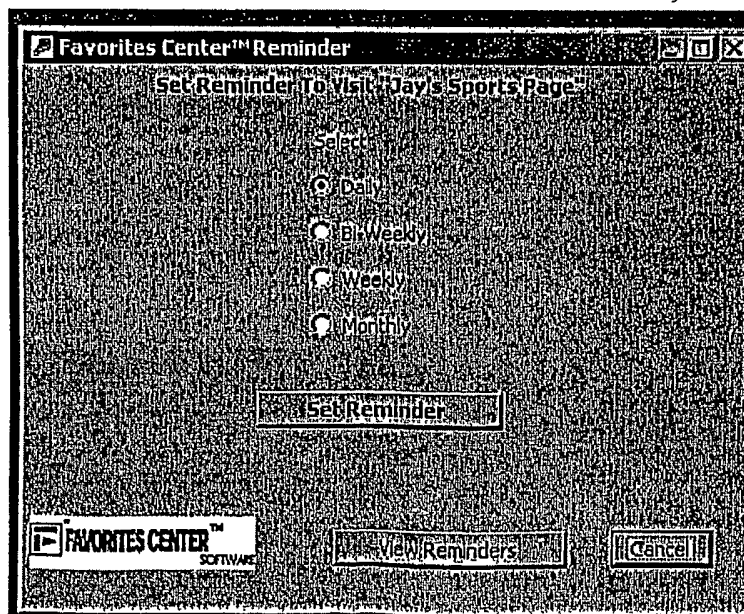


Fig. 19

11/24

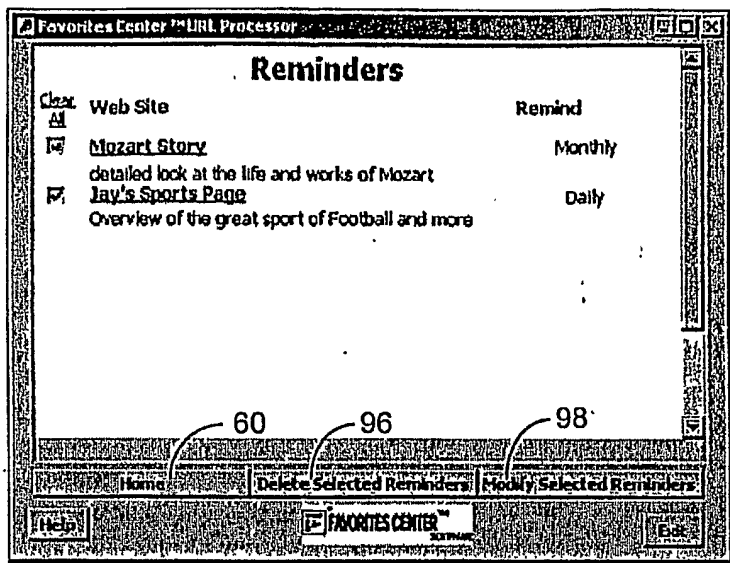


Fig. 20

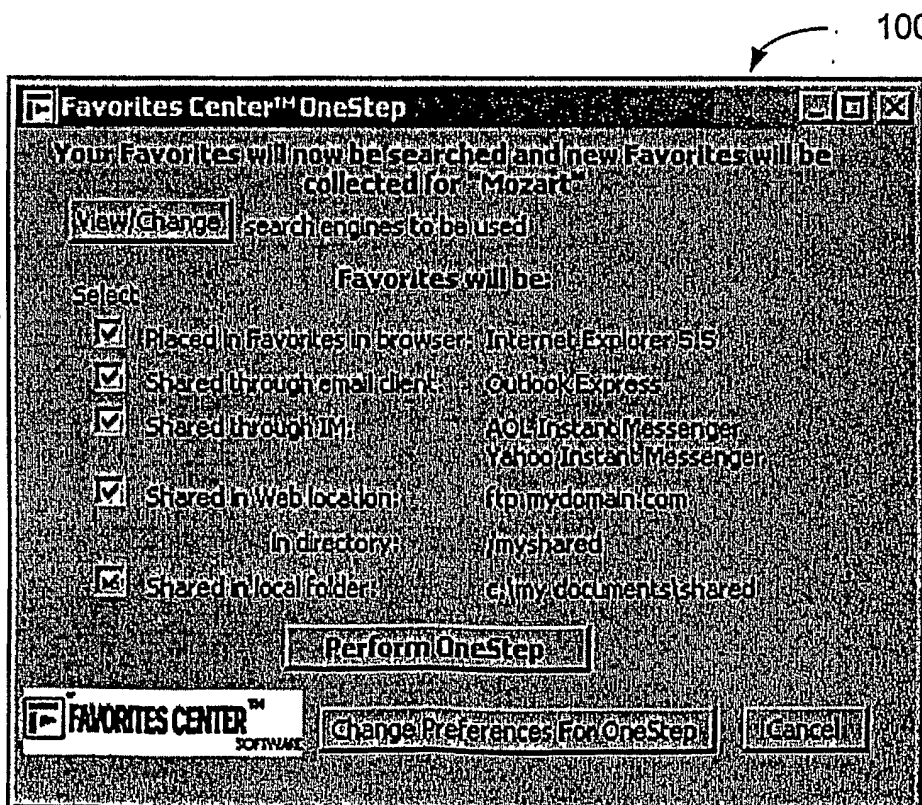


Fig. 21

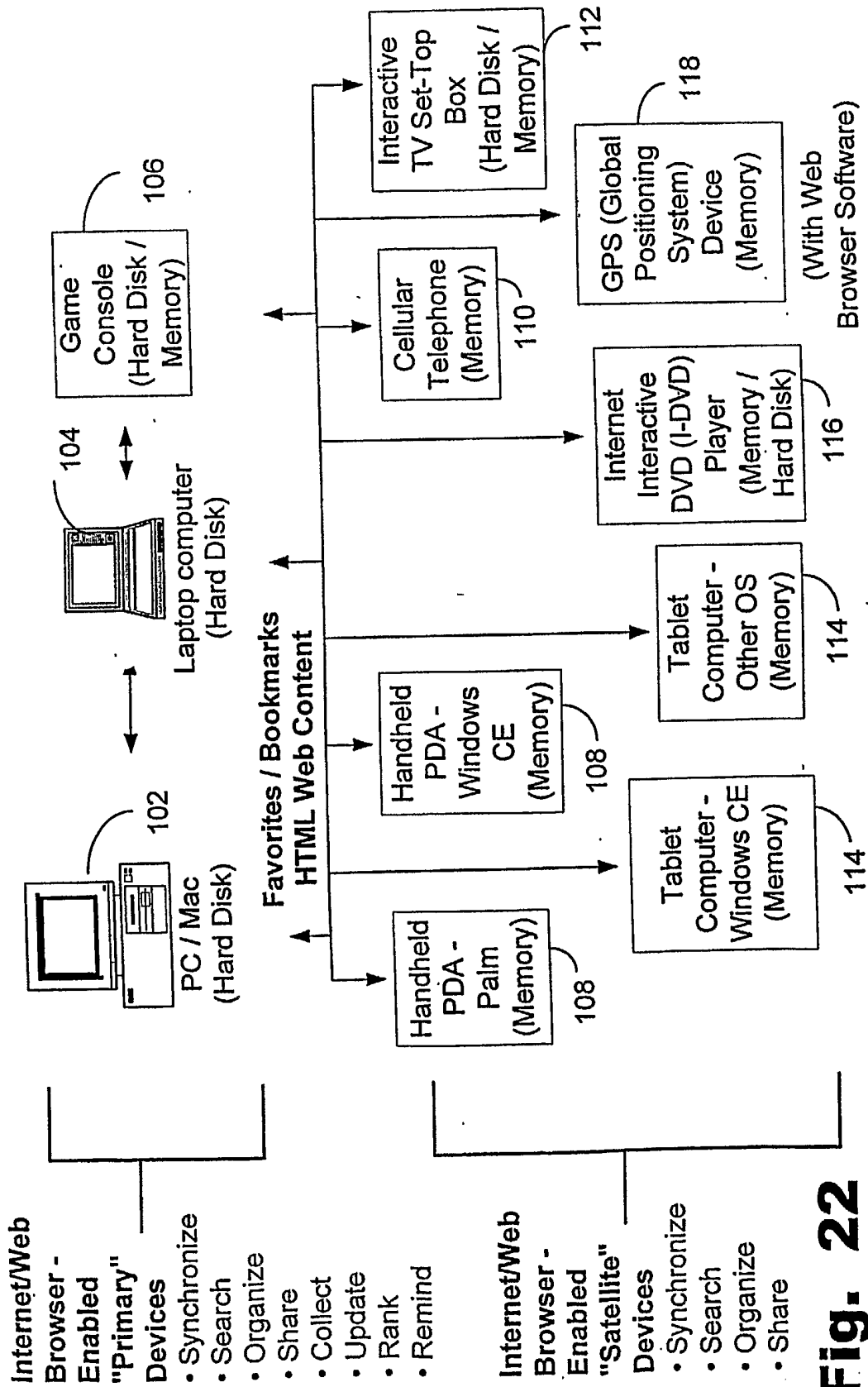


Fig. 22

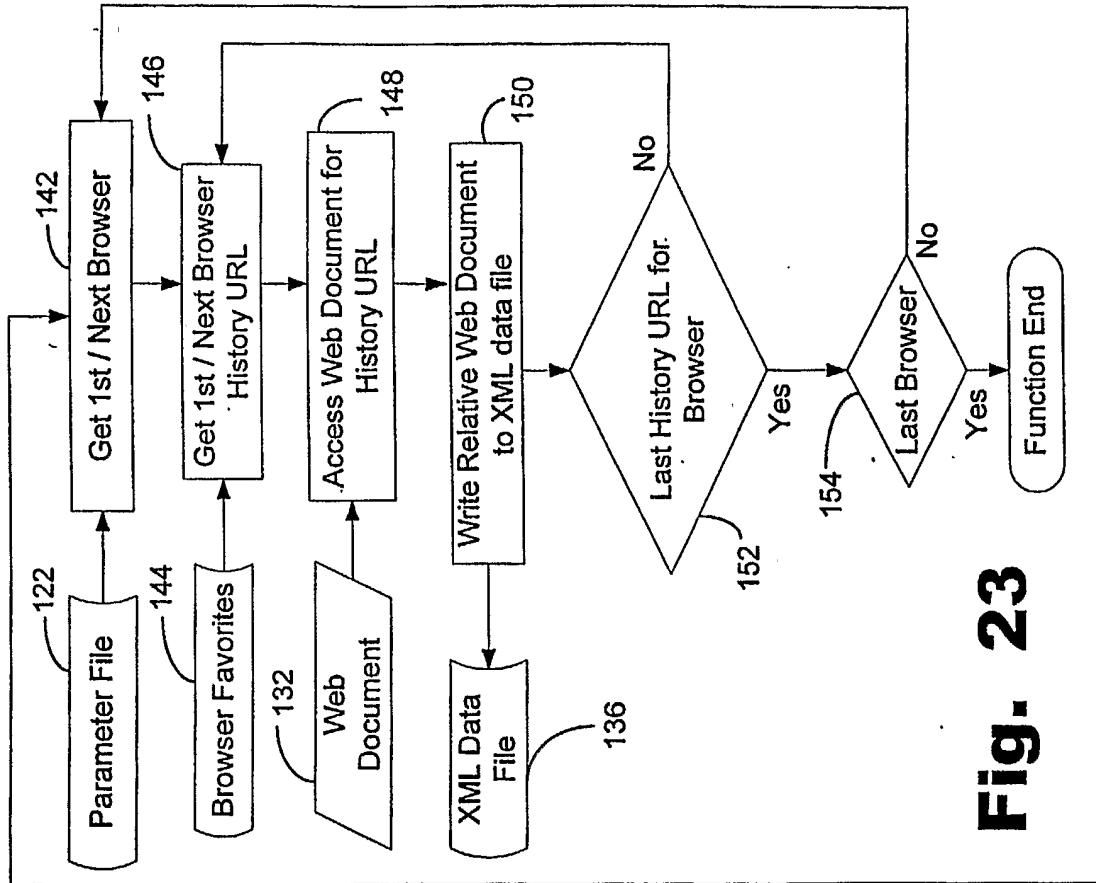
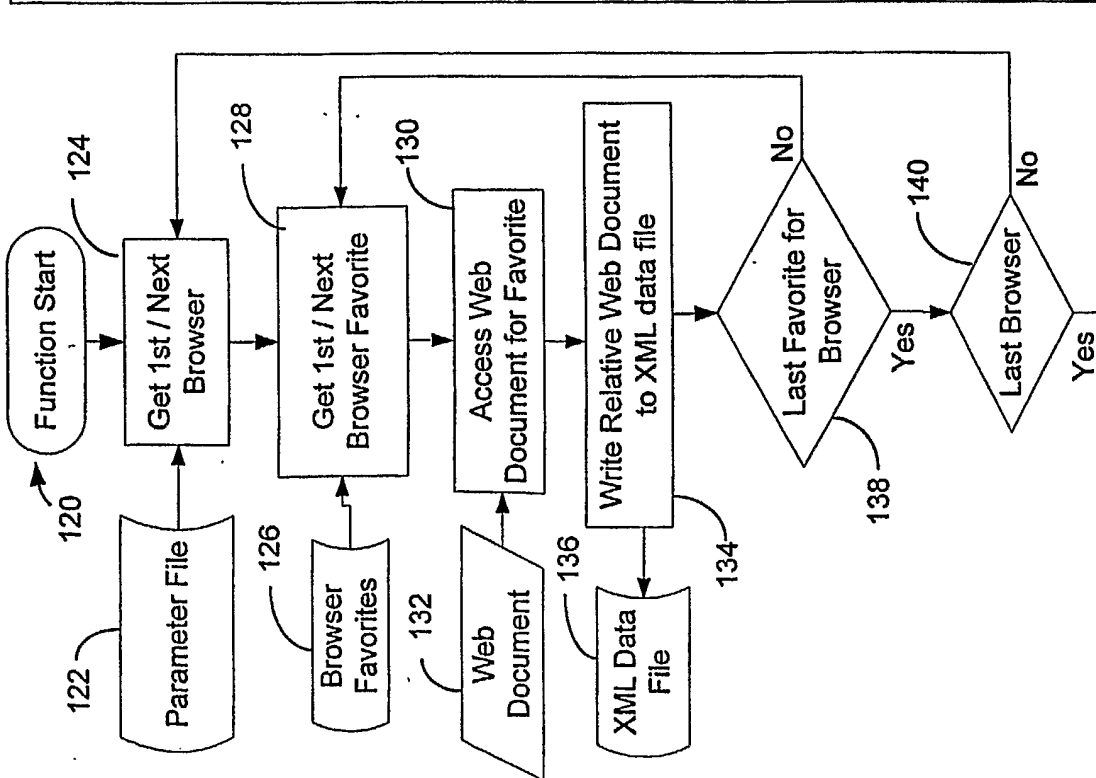


Fig. 23



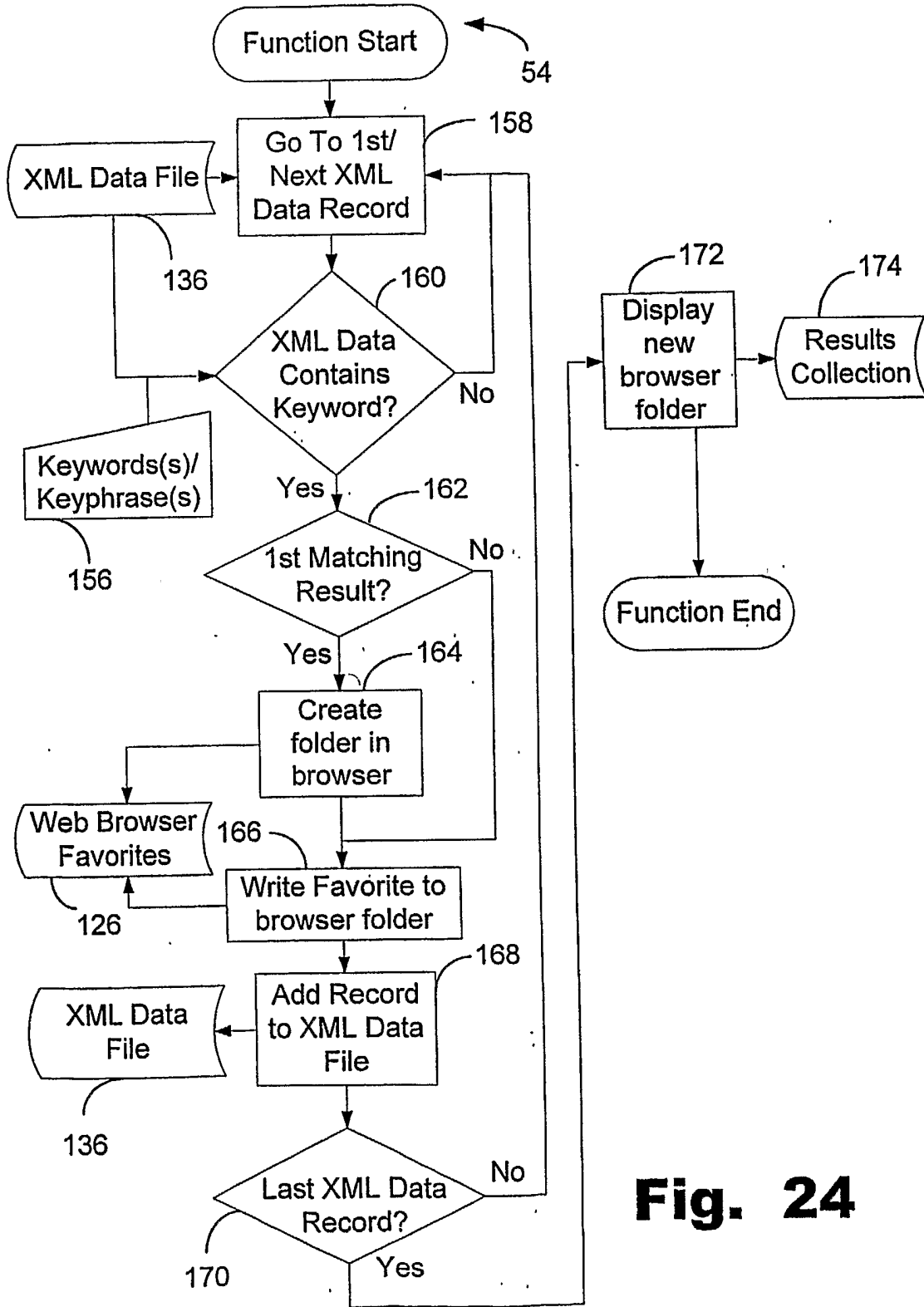


Fig. 24

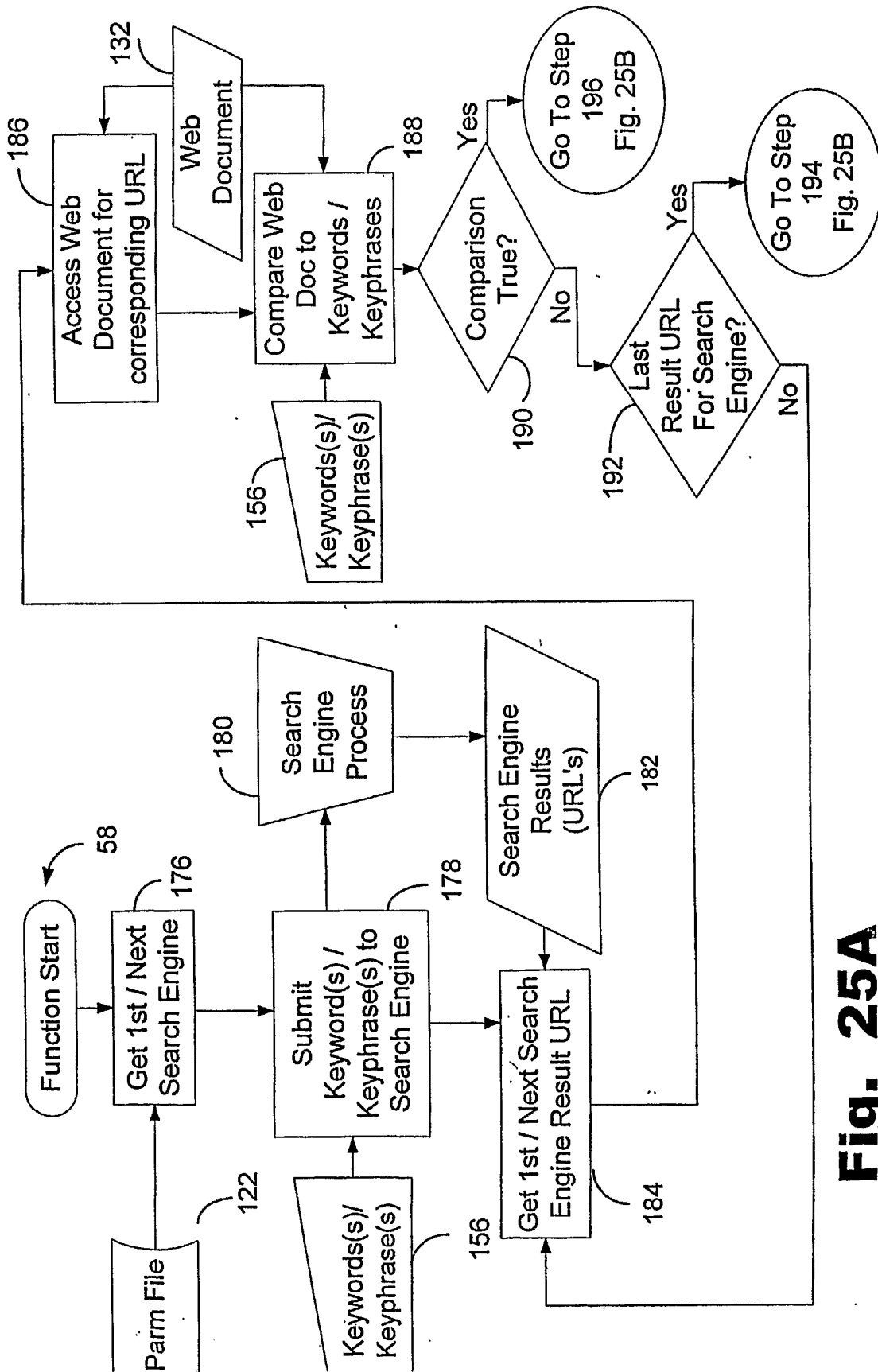


Fig. 25A

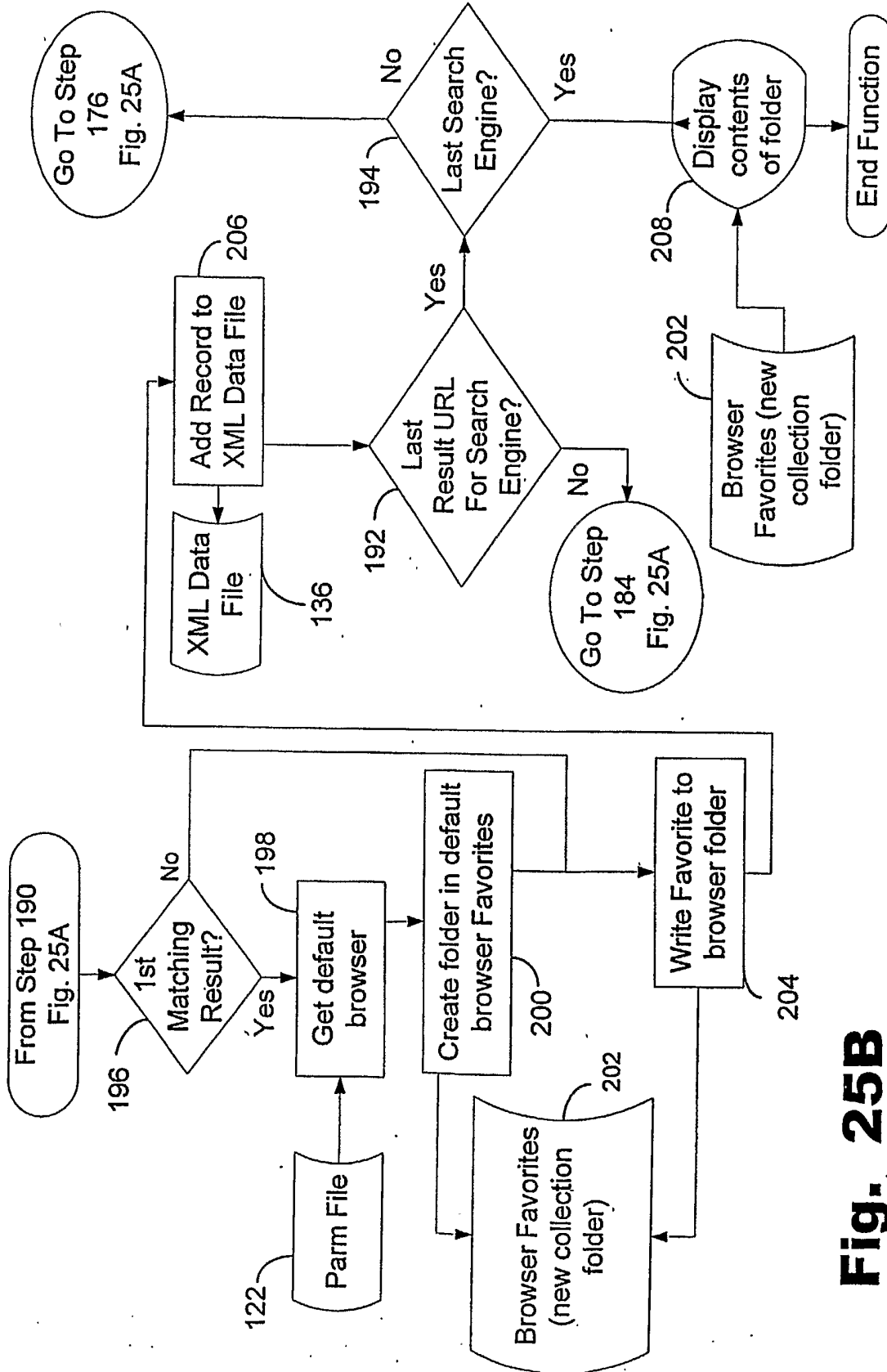


Fig. 25B

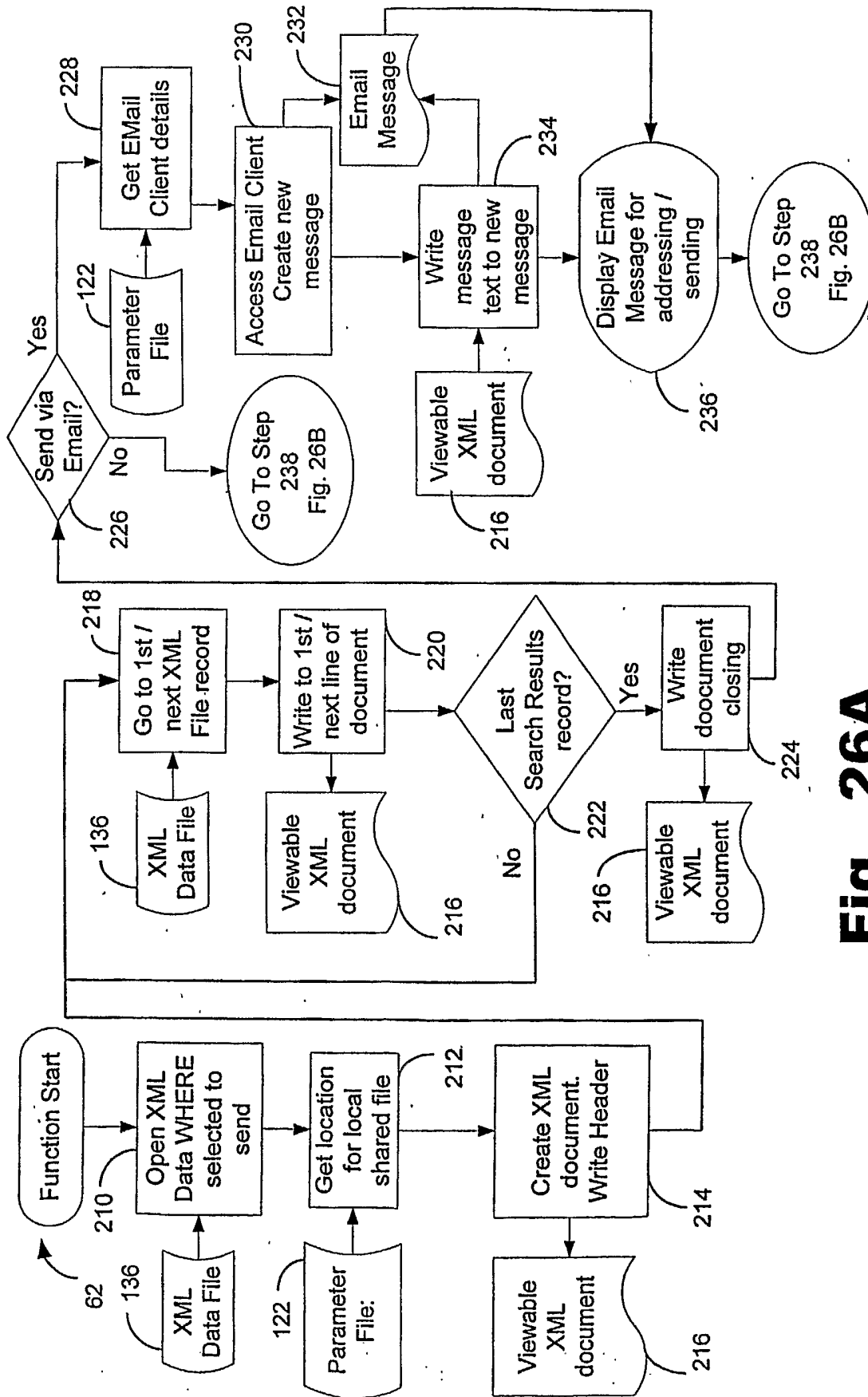


Fig. 26A

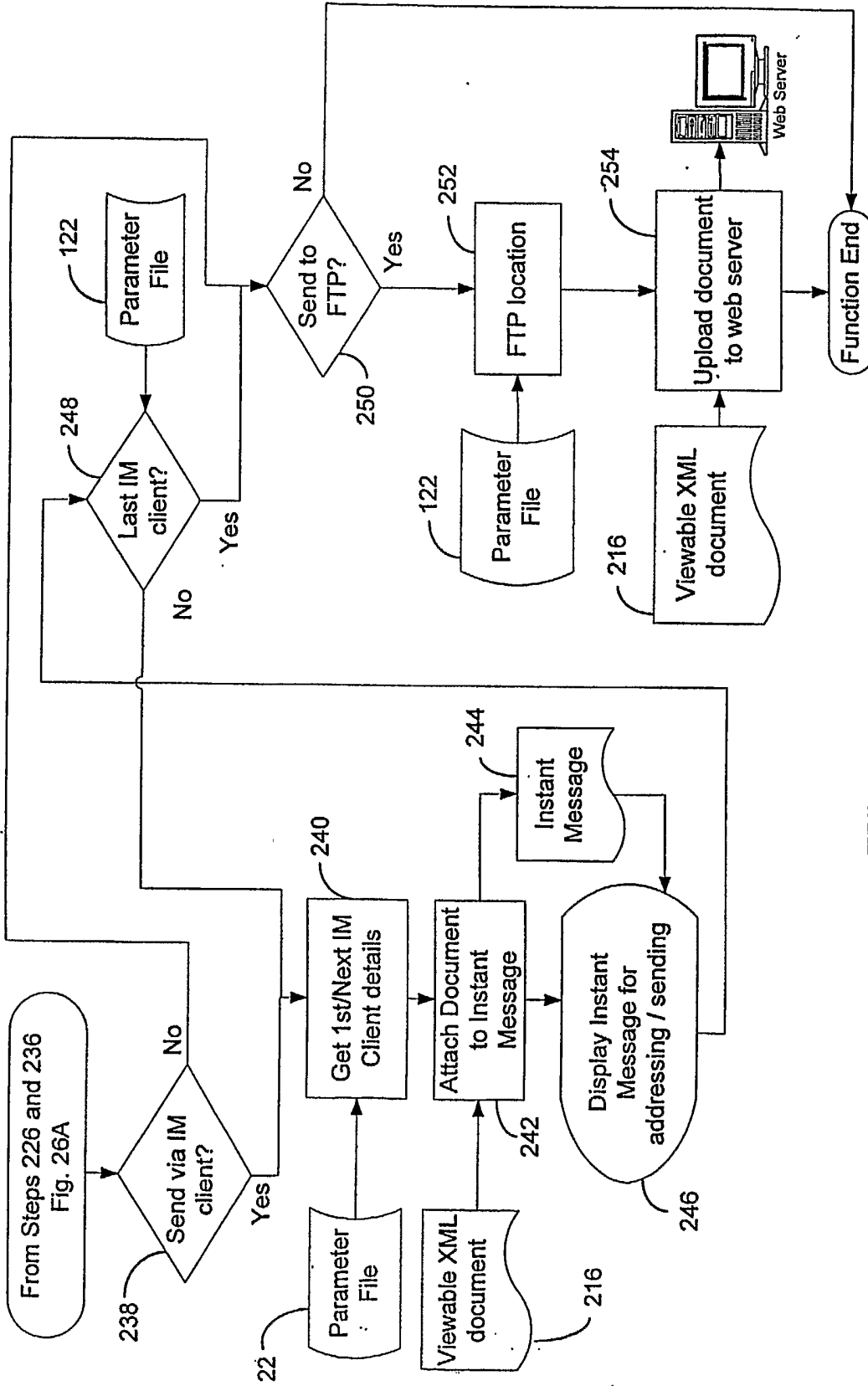


Fig. 26B

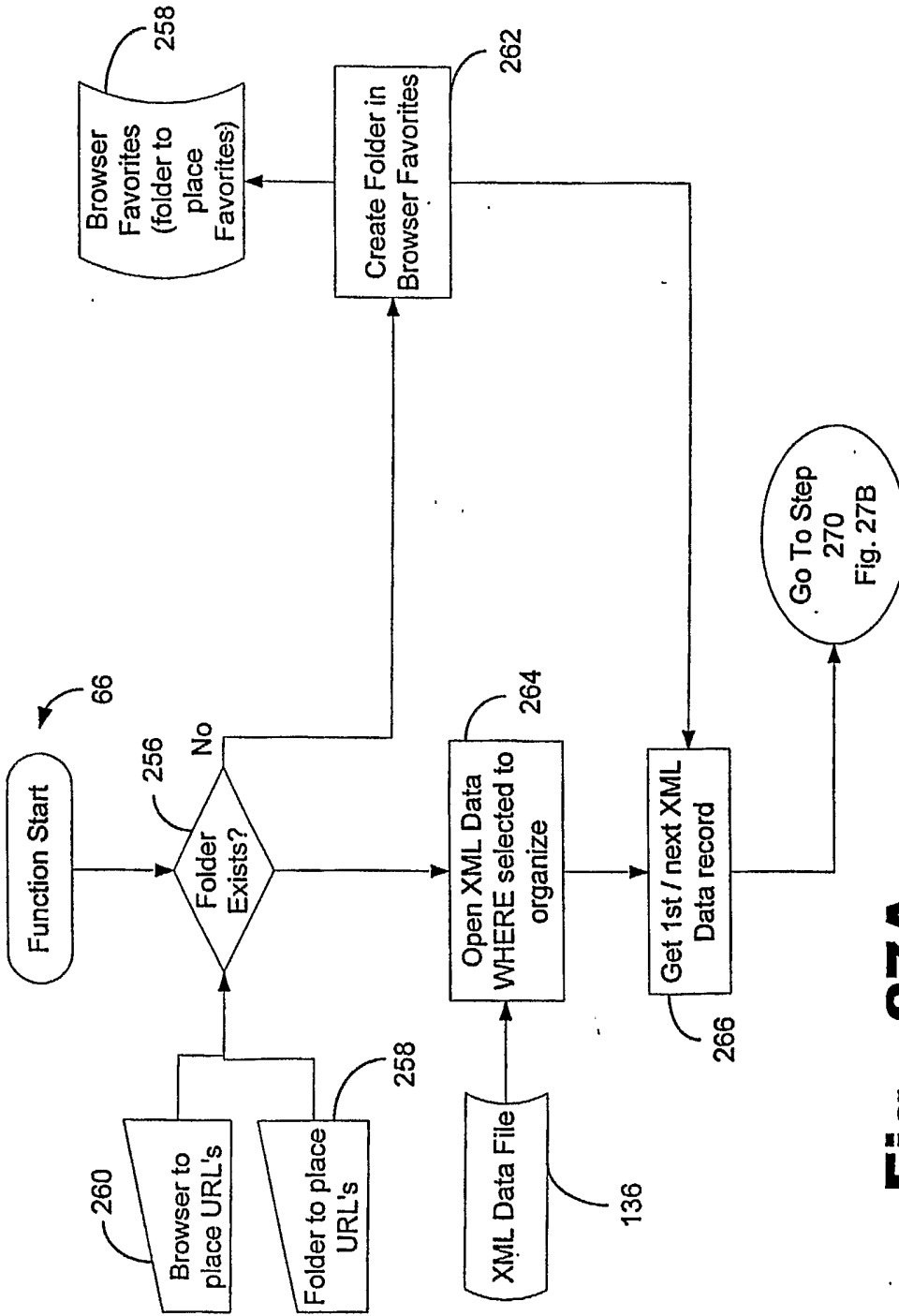


Fig. 27A

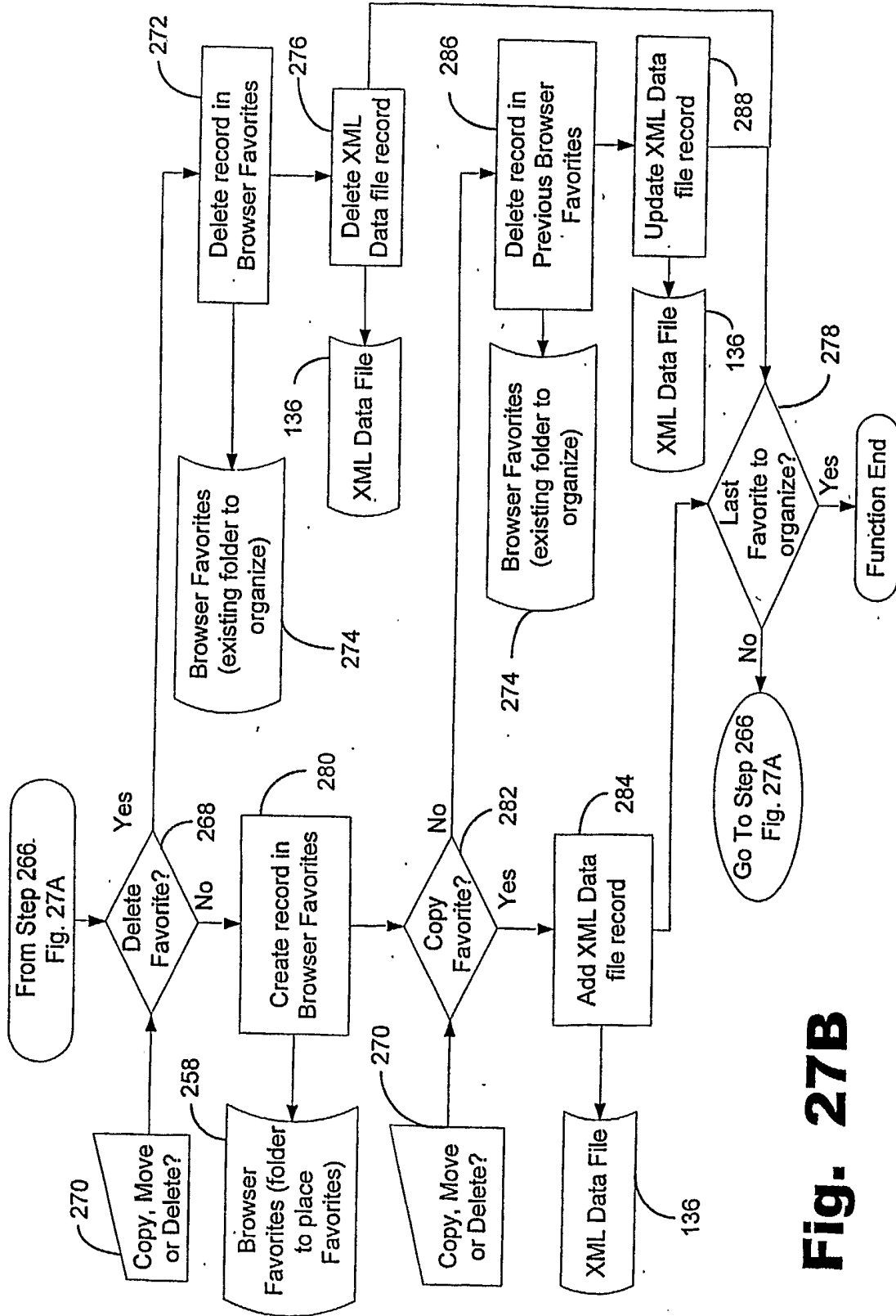


Fig. 27B

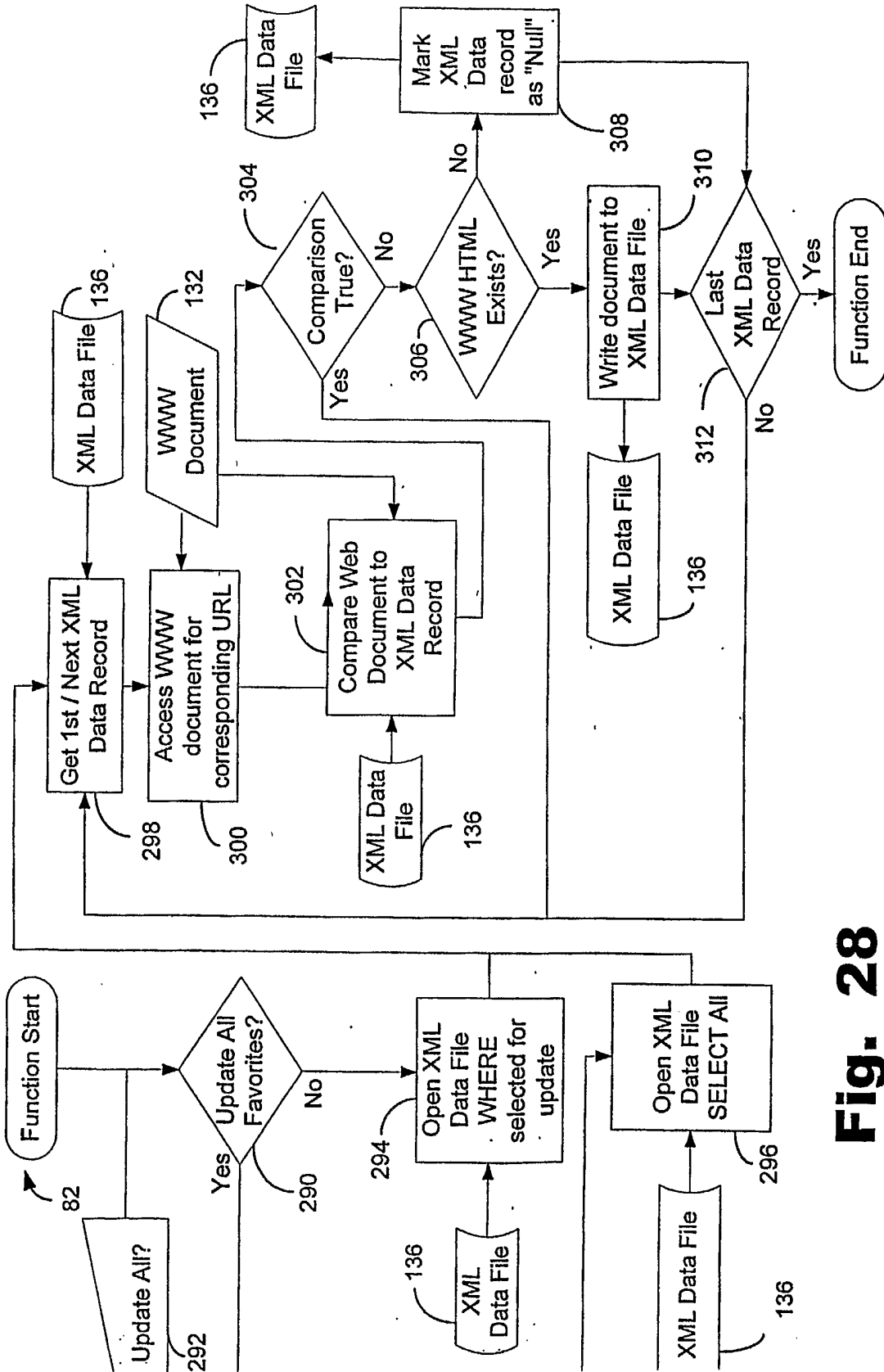


Fig. 28

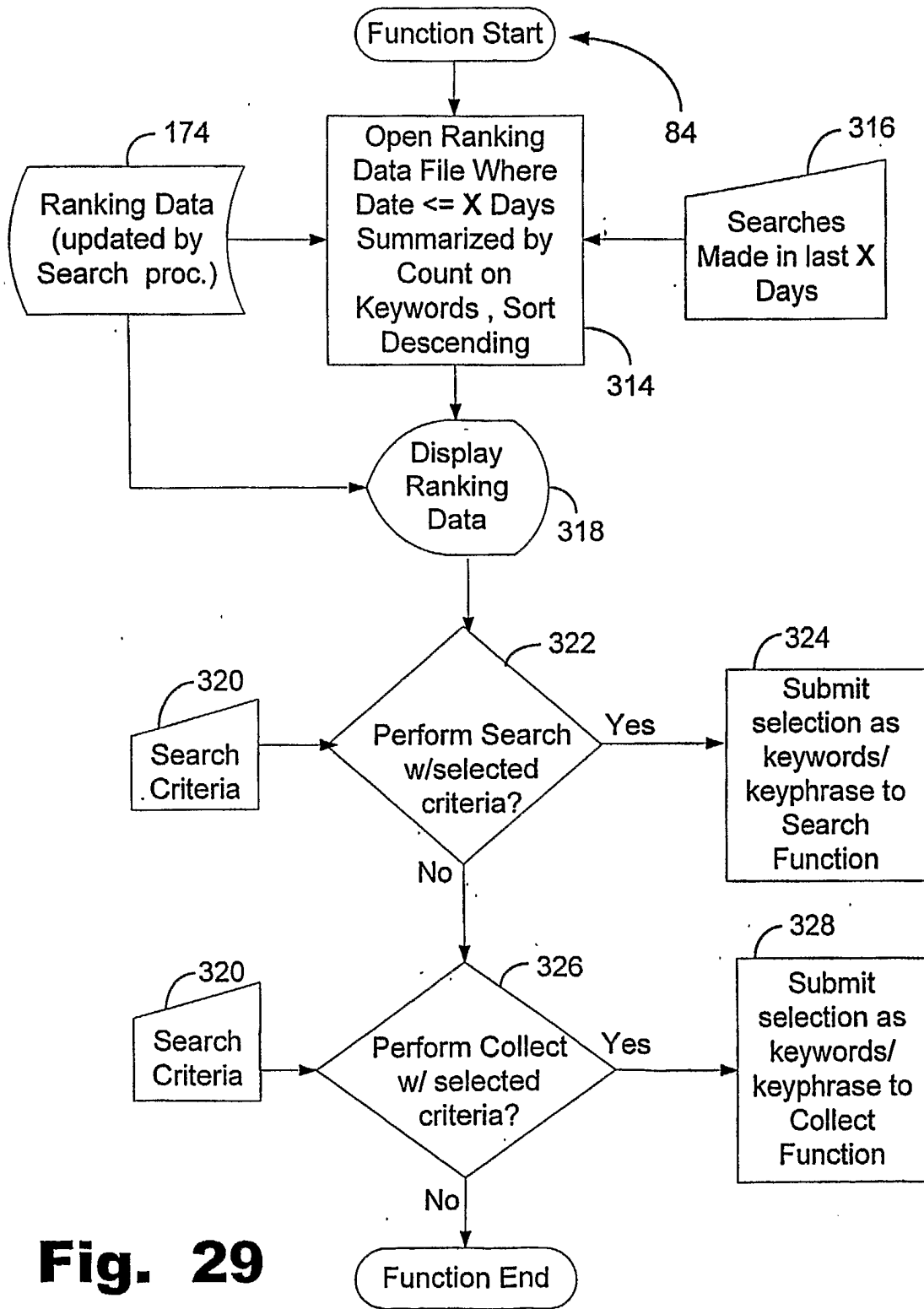


Fig. 29

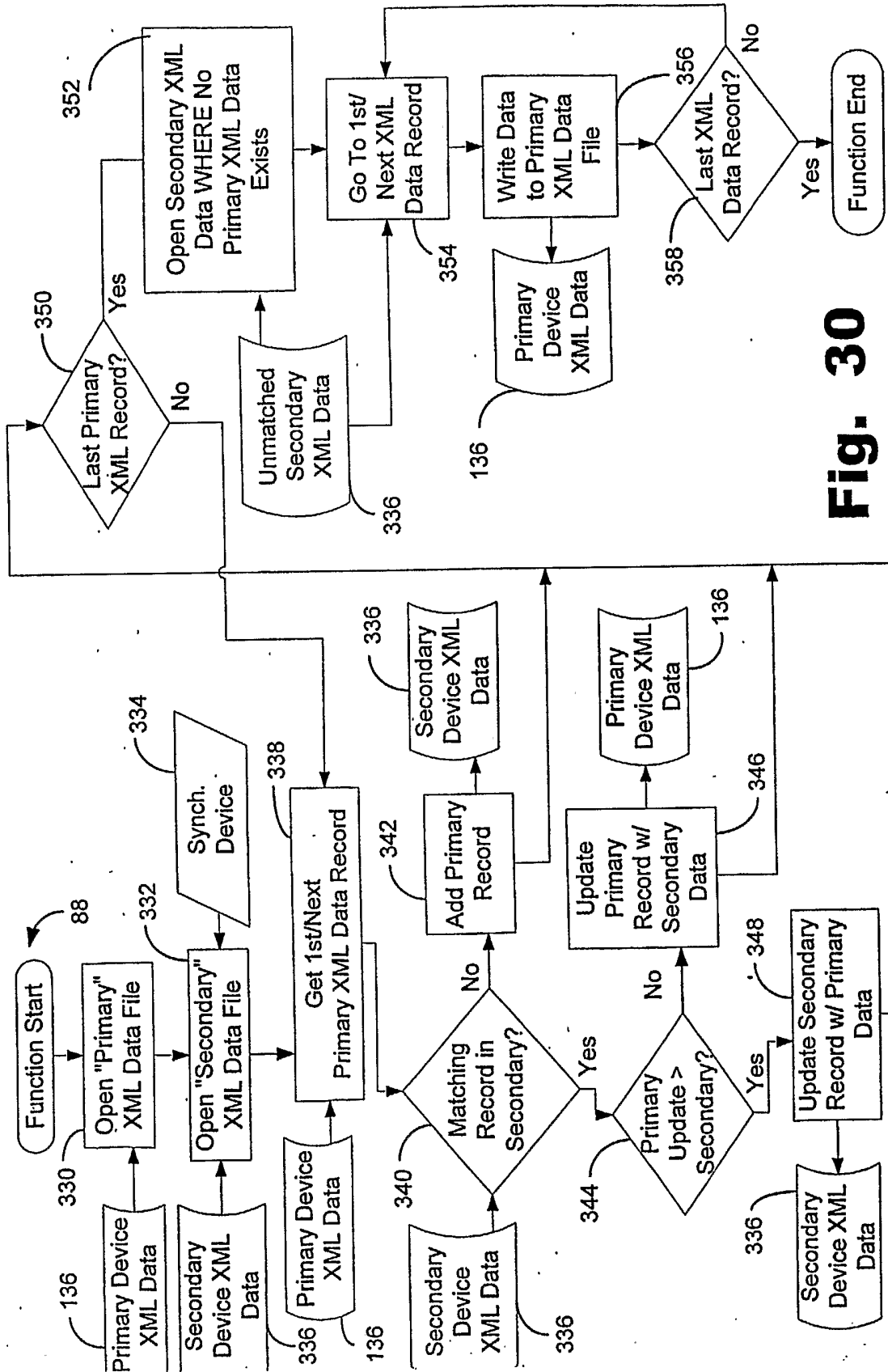


Fig. 30

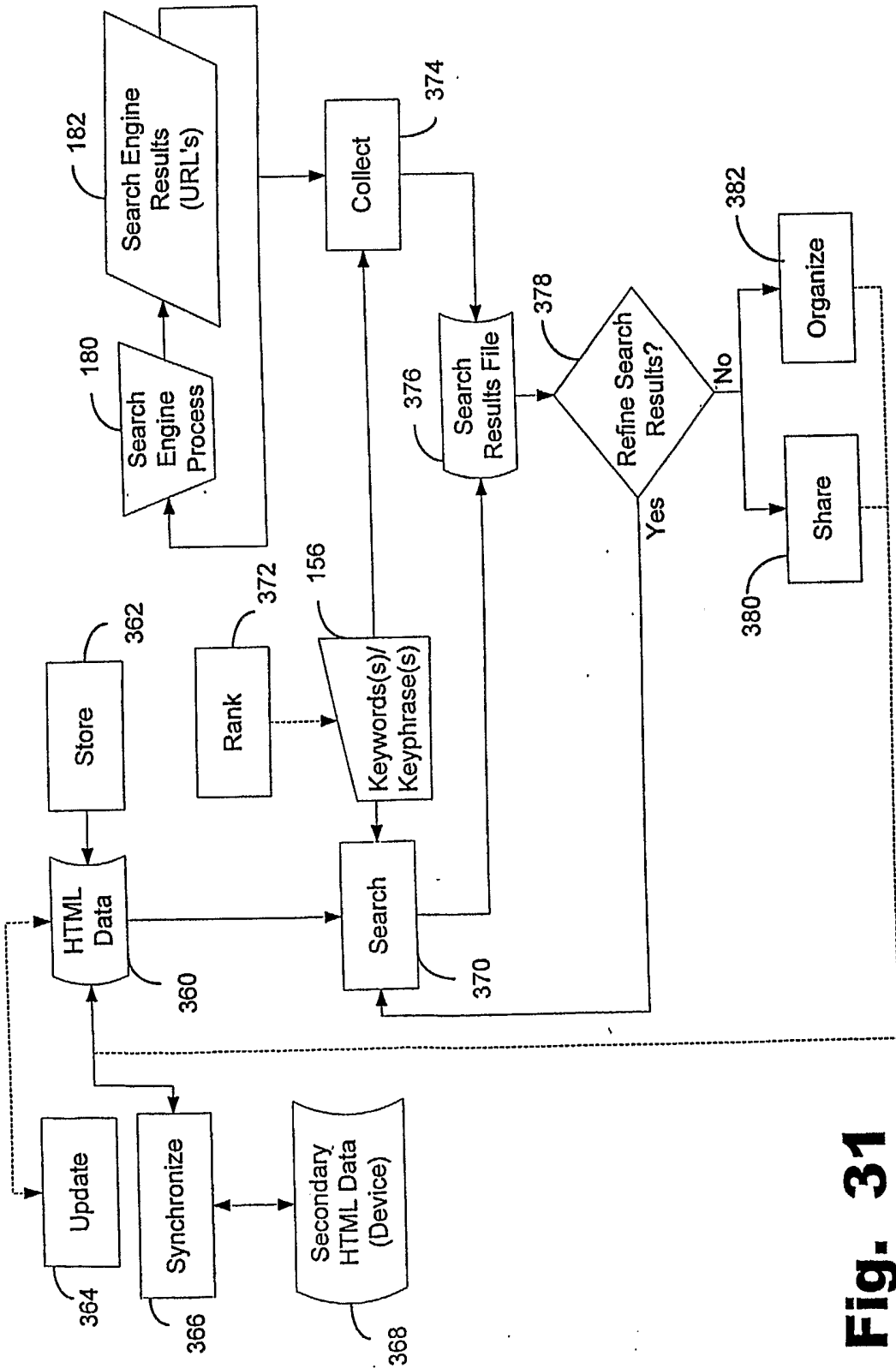


Fig. 31

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US03/11783

A. CLASSIFICATION OF SUBJECT MATTER IPC(7) : G06F 17/30, 15/16; US CL : 709/10; 709/248,203; 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) U.S. : 709/10; 709/248,203;		
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)		
C. DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 6,341,316 B1 (KLOBA et al.) 22 January 2002 Abstract col. 3 lines 61 -col. 36, line 60.	1-69
Y	US 5,978,828 (GREER et al.) 02 November 1999 col. 25, line 26-col. 9, line 9.	1-69
Y	US 5,813,007 (NIELSEN) 22 September 1998, col. 4, line 14-col. 16, line 60.	1-69
<input type="checkbox"/> Further documents are listed in the continuation of Box C. <input type="checkbox"/> 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	"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention	
"E" earlier application or patent published on or after the international filing date	"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone	
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art	
"O" document referring to an oral disclosure, use, exhibition or other means	"&" document member of the same patent family	
"P" document published prior to the international filing date but later than the priority date claimed		
Date of the actual completion of the international search 22 July 2003 (22.07.2003)	Date of mailing of the international search report <div style="text-align: right; font-size: 1.2em; font-weight: bold;">18 AUG 2003</div>	
Name and mailing address of the ISA/US Mail Stop PCT, Attn: ISA/US Commissioner for Patents P.O. Box 1450 Alexandria, Virginia 22313-1450 Facsimile No. (703)305-3230	Authorized officer Mark Powell <i>Peggy Harrod</i> Telephone No. 703-305-3900	