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To the Assistant Commissioner of Patents

Transmitted herewith for filing is the patent application of:

Inventors: **Ferid ALLANI**

This application is a ☒ continuation ☐ division ☐ continuation-in-part of co-pending Application No. **13/585,065**, filed on **August 14, 2012**, the entire contents of which are hereby incorporated by reference.

Title: **METHOD AND DEVICE FOR ACCESSING INFORMATION SOURCES AND SERVICES ON THE WEB**

Enclosed are:

20 Pages of Specification containing **28** claims, **2** Sheets of Drawings

☒ Abstract of the Disclosure

☐ Submission of English translation of prior provisional application under 37 CFR 1.78(a)(5)

☐ Newly executed Oath or Declaration/Power of Attorney

☐ Copy of Oath or Declaration/Power of Attorney from a prior application (continuation/divisional)

- ☐ The entire disclosure of the prior application, from which a copy of the oath or declaration is supplied as indicated in the preceding box, is considered as being part of the disclosure of the accompanying application and is hereby incorporated by reference therein.
- ☐ Deletion of inventor(s). A signed statement attached deleting inventor(s) named in the prior application (see 37 CFR 1.63 (d)(2) and 1.33(b)

☒ Applicant claims small entity status under 37 C.F.R. § 1.27

☒ Application Data Sheet under 37 C.F.R. § 1.76

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☐ An assignment to _____ for parent application no. was recorded on _____ at Reel _____, Frame _____

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☐ Preliminary Amendment

☐ Itemized Return Receipt Postcard

☐ Certified Copy of Priority Document(s)

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☐ Nucleotide and/or Amino Acid Sequence Submission (if applicable, all necessary)

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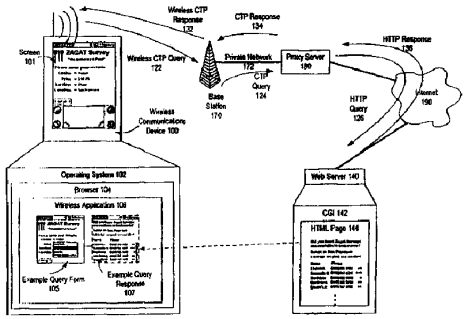
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(54) PROCEDE ET DISPOSITIF D'ACCES A L'INTERNET SANS FIL
(54) METHOD AND APPARATUS FOR WIRELESS INTERNET ACCESS

(57)

A device for providing wireless Internet access has been described. The device includes an antenna (fig. 1, 170). The antenna is for receiving wireless queries (fig. 1, 122) and transmitting wireless responses (fig. 1, 132). The device includes a program. The program is for converting the wireless queries (fig. 1, 124) into Internet compatible protocols (fig. 1, 126) program is for receiving the Internet protocol formatted responses (fig. 1, 136). These responses are then converted into the wireless responses (fig. 1, 134).



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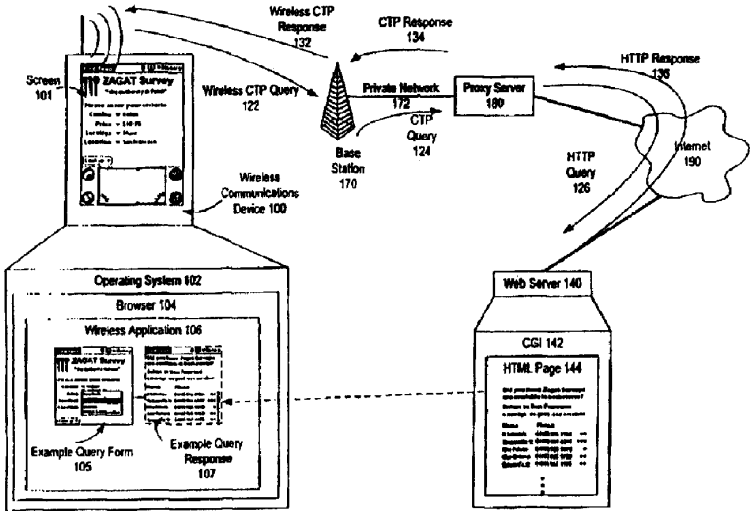
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(54) **PROCEDE ET DISPOSITIF D'ACCES A L'INTERNET SANS FIL**
(54) **METHOD AND APPARATUS FOR WIRELESS INTERNET ACCESS**



(57) L'invention concerne un dispositif permettant d'accéder à l'Internet sans fil. Ce dispositif comprend une antenne (fig. 1, 170) destinée à recevoir des demandes sans fil (fig. 1, 122) et à transmettre des réponses sans fil (fig. 1, 132), et il comprend également un programme, lequel sert à convertir les demandes sans fil (fig. 1, 124) en protocoles (fig. 1, 126) compatibles avec l'Internet et à recevoir les réponses formatées (fig. 1, 136) selon les protocoles de l'Internet, ces réponses étant ensuite converties en réponses sans fil (fig. 1, 134).

(57) A device for providing wireless Internet access has been described. The device includes an antenna (fig. 1, 170). The antenna is for receiving wireless queries (fig. 1, 122) and transmitting wireless responses (fig. 1, 132). The device includes a program. The program is for converting the wireless queries (fig. 1, 124) into Internet compatible protocols (fig. 1, 126) program is for receiving the Internet protocol formatted responses (fig. 1, 136). These responses are then converted into the wireless responses (fig. 1, 134).

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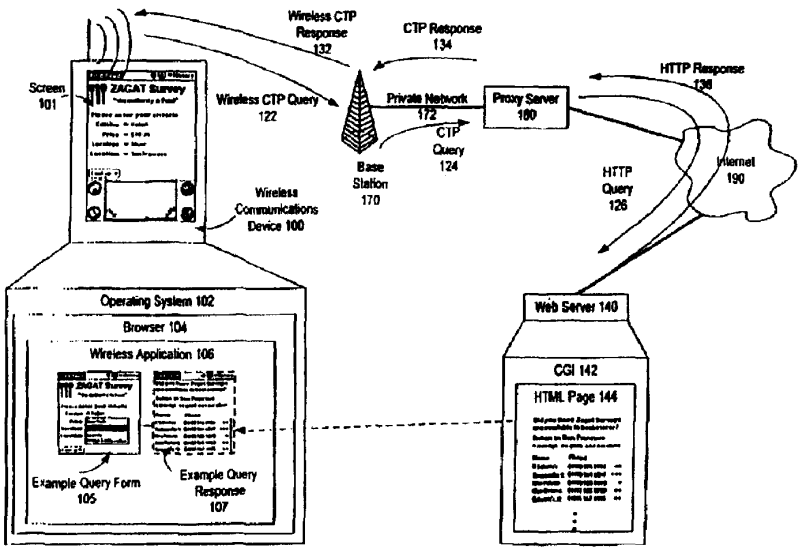
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(57) Abstract

A device for providing wireless Internet access has been described. The device includes an antenna (fig. 1, 170). The antenna is for receiving wireless queries (fig. 1, 122) and transmitting wireless responses (fig. 1, 132). The device includes a program. The program is for converting the wireless queries (fig. 1, 124) into Internet compatible protocols (fig. 1, 126) program is for receiving the Internet protocol formatted responses (fig. 1, 136). These responses are then converted into the wireless responses (fig. 1, 134).

METHOD AND APPARATUS FOR WIRELESS INTERNET ACCESS

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The Field of the Invention

This invention relates to the field of information communications. In particular, the invention relates to wireless access to Internet based information.

Background of the Invention

Wireless communications provides one method for mobile users to communicate to a wired network. In particular, wireless communications allows consumers to receive and send information. Examples of such wireless networks include cellular phones, pager systems, and satellite systems. The wireless network systems can be broken into relatively high bandwidth and low bandwidth systems. High bandwidth systems are for example satellite systems. Lower bandwidth systems include cellular phones and mobile radio systems. Still lower bandwidth systems include pager networks and low bandwidth packet switched radio systems (e.g., the BellSouth Mobile Data Mobitex™ system).

For users to access information on the Internet using wireless communications, the method in which they access the information is highly dependent on the type of wireless communications available to the user. For example on a high bandwidth network such as a wired network or a satellite system, the usual techniques for browsing data on the Internet are adequate.

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An important source of Internet based data is the data accessible through the World Wide Web (referred to as the Web). The following describes the usual techniques for Web browsing. A user selects a web site associated with a URL (Uniform Resource Locator). The URL represents the address of the entry point to the web site (e.g., the home page for the web site). For example, the user may select a web site that supplies restaurant reviews. The user's computer (the client) makes an HTTP (HyperText Transport Protocol) request to the web server hosting the web site. The client typically needs to make multiple HTTP requests of the web server. For example, to load the restaurant locator home page, multiple HTTP requests are needed to download all the graphics, frame content, etc. Next, the user will typically need to browse through a number of linked pages to get to the page from which a search for restaurants can be made. Even if the user is immediately presented with the desired page, a great deal of information has had to been downloaded from the web site (e.g., graphics, advertisements, etc.). This additional information makes for a visually rich browsing experience. The user fills in the information on this page and selects a search button. The client makes another series of HTTP requests of the web server. The web server supplies the client with the requested information in an HTML formatted web page. The web page typically includes links to more graphics and advertisements that need to be accessed by the client.

For low bandwidth networks this technique does not work well. Too much bandwidth is needed to download the images. Also, low bandwidth networks typically charge per byte transmitted and can be very expensive if large amounts of data are downloaded. Thus, low bandwidth networks are desirable to use for accessing information on the Web but only if the amount of data transferred over the network is small. Specifically for packet data networks, the cost of transmitting messages increases with the number of packets transmitted. The cost of transmitting multiple packet messages is therefore a formidable obstacle for packet data network customer use.

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One area in which Web access is becoming more desirable is in handheld devices. Handheld devices are emerging as important computer devices. Handheld devices typically implement a relatively small, but important function set. Examples of such handheld devices are the PalmPilot™ handheld device available from 3COM Corporation, Inc. of Santa Clara, California. Examples of the function set supported are address books, calendars, and task lists.

In the past, wireless communications with handheld devices have been performed using wireless modems, such as are available from Novatel Communications, Inc. of Calgary, Alberta, or wireless transceivers for dedicated wireless data access network. Essentially a wireless modem operates in the cellular phone network and supplies approximately 9600 baud bandwidth to the handheld device. This allows the user to access the web at a relatively low bandwidth.

An issue with using handheld devices to access the Web is related to their capabilities. Even if connected to a high bandwidth network, most handheld devices do not have the screen area or the processing power to display the graphics and large amounts of text in a typical web page. However, it is still desirable to support the browsing of information on the Web using handheld devices. It is further desirable that the handheld devices be able to use networks that have relatively low bandwidths.

Some of the methods by which previous systems addressed some of the issues described above are now described.

One method of reducing the amount of data transferred from the web site to the client is to cache the web site data locally on the client. For example, the Netscape Communicator™ browser application caches web pages on the client. Each cached web page is associated with a URL. Thus, when the client requests a web page, the Netscape Communicator browser attempts to use previously cached web pages before downloading the pages from the web site. Another type of caching program is NetAttache™, available from Tympany, Inc. of Mountain

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View, CA. The NetAttache program downloads all the web pages from a given web site. The web pages are all cached on the client. A NetAttache server runs locally on the client. A browser can then be used to browse through the local copy of the web pages. The problem caching is that the pages still need to be retrieved from the server before they can be reused and there can still be a significant number of connections made to the web server.

Alternatively, some programs are customized for accessing specific information from particular web sites. Examples of these programs are Java applets that reside on the client or are served to the client by a server. The applets can then be reused to access information from a web site. An example of a specialized program for accessing specific information is the RealVideo Player from Real Networks, Inc. A problem with these types of programs is that they are very specific to a particular type of content. For example, they do not use standard HTML (hypertext markup language) constructs. This means that web site developers cannot use standard web site development tools to create their sites.

Therefore what is desired is an improved system and method for handheld device to access Internet information over relative low bandwidth networks.

Summary of the Invention

The following summarizes various embodiments of the invention.

One embodiment of the invention includes a device for providing wireless Internet access. The device includes an antenna. The antenna is for receiving wireless queries and transmitting wireless responses. The device includes a program. The program is for converting the wireless queries into Internet compatible protocols. The program is for receiving the Internet protocol formatted responses. These responses are then converted in to the wireless responses.

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In some embodiments of the invention, the device includes a computer with a transceiver card. The transceiver card is coupled to the antenna. The computer has a connection to the Internet. The computer and the transceiver card are for executing the program. The computer can be a network server or a client computer within the network.

In some embodiments, instead of a transceiver card, the invention includes an external transceiver. The external transceiver can be connected to the computer via, for example, a serial connection, a Universal Serial Bus, a SCSI connection, or some other connection.

In some embodiments, the device is a standalone device that couples directly to a network (e.g., the device has a separate IP address).

In some embodiments, instead of performing the Internet protocol conversions, the device performs some conversions and sends the partially converted messages to a proxy server for further processing. This type of configuration can provide wireless users with a greater degree of security.

Although many details have been included in the description and the figures, the invention is defined by the scope of the claims. Only limitations found in those claims apply to the invention.

Brief Description of the Drawings

The figures illustrate the invention by way of example, and not limitation. Like references indicate similar elements.

Figure 1 illustrates a wireless communications device communicating with a web server.

Figure 2 illustrates a method of communicating between a wireless communications device and a web server.

Figure 3 illustrates an example user interface for a wireless communications device.

Figure 4 illustrates a wireless network topology.

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Figure 5 illustrates a wireless network topology including a wireless network interface, a wireless network leased line, and a dispatcher.

Figure 6 illustrates an example of a wireless communications device exchanging messages in a communications system.

Figure 7 illustrates a reliable message protocol packet structure.

Figure 8 illustrates an exchange of a single request packet and a single response packet using the reliable message protocol.

Figure 9 illustrates an exchange of messages comprising a single request packet and two response packets using the reliable message protocol.

Figure 10 illustrates an exchange of messages including a retransmit sequence using the reliable message protocol.

Figure 11 illustrates lower level communication layers.

Figure 12 illustrates the format of data passed between wireless client software layers.

Figure 13 illustrates the format of an IP header and a UDP header.

Figure 14 illustrates an alternative system for communicating between a wireless communications device and a web server.

The Description

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Overview

This overview section generally describes some of the more important features of various embodiments and then briefly reviews the material in the subsequent sections.

A significant challenge in creating a wireless information solution for handheld devices is providing a product that is both useful and practical given the severely limited bandwidth and high power requirements of a wireless radio. Hardware and software should be optimized to conserve battery power and to reduce the amount of traffic that is sent over the wireless link. The wireless communications device, of various embodiments of the invention, has programs for web access and two-way messaging. One of these programs can include most of the static data from a web site. The static data can be used to format a query to access the dynamic data from the web site. Each program can be for accessing a different web site. Importantly, only the amount of static data that is communicated is significantly reduced.

The wireless communications device communicates as part of a communications system. The communications system includes the wireless communications device, a server, and a source of data. The server acts as a proxy server. Typical sources of data are a web server or a mail server.

Some wireless networks, such as those provided for two-way pagers and other wireless packet data networks, provide wider coverage and lower cost than competing networks. These wireless networks typically have relatively low performance however. A single packet of 400 bytes can take eight seconds just to travel to the Internet and back when the system is lightly loaded. With such a low throughput, it could easily take minutes to download even a small web page using standard browser technology. The wireless communications system therefore employs novel methods for reducing the amount of traffic sent over the wireless link for web access.

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A goal of the invention is to provide the user with fast access to web content. Although the wireless communications device can access generic web content, because of the wireless communications device's limited screen size, most existing content will not be as visually appealing, will be harder to navigate, and may take longer to access than specially formatted content. Thus, significantly advantages are achieved with customized content. The web content can be formatted for the small screens of most handheld communications devices. This content will download relatively quickly (because of its small size). The formatted content can be created and published using the same tools used today for desktop web publishing (i.e. HTML tools and web servers) and could even be viewed using a standard desktop browser. But,

A second goal of the invention is wireless messaging. To help achieve this goal, a proxy server facilitates communications between web servers, mail servers, and other Internet data sources and the wireless communications device. The proxy server improves performance for wireless networks. Because of the high latency and low bandwidth of wireless networks, using existing Internet protocols to directly access web servers from the wireless communications device would be prohibitively expensive and slow.

Another important factor to consider with wireless networks is latency. A minimum size packet has a round trip time of approximately three seconds on the low cost wireless network. Because of the large latency, the number of packets sent over the wireless link between the wireless communications device and the proxy server should generally be kept small. Thus, some embodiments of the invention are able to fetch most web pages and send or receive messages with just one packet up (wireless client -> proxy server) and one packet down (proxy server ->wireless client) over the wireless network.

Thus, some of the more important features of various embodiments of the invention have been described. The following provides an overview of the sections in the detailed description.

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The Definitions section provides definitions of terms used in the detailed description.

The System Introduction section provides an introduction to the various elements of the wireless communications system.

The Wireless Network Topology section introduces the protocols used to communicate between the various devices in the system.

The Content Layer section describes the markup languages used in the system.

The Transfer Layer section describes a compact transfer protocol (CTP) used for communicating between the wireless communications device and the proxy server.

The Reliable Message Protocol section describes reliable and efficient variable length message delivery over the wireline and wireless networks.

The Wireless Network Interface section describes a set of programs that can be used to access the wireless network as an IP network.

The Proxy Server Details section describes how the proxy server works with the content layer, the transfer layer, and the reliable message protocol.

The Communications System Details section describes how the content layer, the transfer layer, the reliable message protocol, the network interface and the proxy server can be used together.

Definitions

The following definitions will be helpful in understanding the description.

Computer – is any computing device (e.g., PC compatible computer, Unix workstation, handheld device etc.). Generally, a computer includes a processor and a memory. A computer can include a network of computers.

Handheld Device (or Palmtop Computer)- a computer with a smaller form factor than a desktop computer or a laptop computer. Examples of a handheld

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device include the Palm III™ handheld computer and Microsoft's palm sized computers.

User – any end user who would normally wish to retrieve information from the World Wide Web.

Internet - is a collection of information stored in computers physically located throughout the world. Much of the information on the Internet is organized onto electronic pages. Users typically bring one page to their computer screen, discover its contents, and have the option of bringing more pages of information.

Client - a computer used by the user to make a query.

Server - a computer that supplies information in response to a query, or performs intermediary tasks between a client and another server.

World Wide Web (or Web or web) - is one aspect of the Internet that supports client and server computers handling multimedia pages. Clients typically use software, such as the Netscape Communicator® browser, to view pages. Server computers use server software to maintain pages for clients to access.

Program – a sequence of instructions that can be executed by a computer. A program can include other programs. A program can include only one instruction.

Application - is a program or a set of hyper-linked documents.

System Introduction

Figure 1 illustrates a wireless communications device communicating with a web server. In this example, the wireless communications device includes a handheld computer (or portable computer) having wireless communications capabilities. The handheld computer has predefined applications that correspond to a portion of the web site being served by the web server. Using the applications, a user can use to make queries of the web server. Some

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embodiments of the invention provide compression techniques that enable the wireless handheld computer to complete a web based information request using only one packet up to a proxy server and only one packet back down to the wireless communications device.

The following paragraphs first list the elements of Figure 1, then describe how the elements are coupled, and then describe the elements in detail. Figure 2 describes the operation of the elements.

This paragraph lists the elements of Figure 1. Figure 1 includes a wireless communications device 100, a base station 170, a proxy server 180, the Internet 190, and a web server 140. The wireless communications device 100 includes a screen 101 and is running an operating system 102. The operating system supports the execution of a browser 104. The browser 104 runs with the wireless application 106 and displays an example query form 105 and an example query response 107. Between the base station 170 and the proxy server 180 is a private network 172. The web server 140 includes a CGI (Common Gateway Interface) program 142. The CGI program 142 is responsible for generating the HTML page 144. Figure 1 also includes a number of arrows indicating queries and responses. These queries and responses include a wireless CTP (Compressed Transport Protocol) query 122, a CTP query 124, an HTTP query 126, an HTTP response 136, a CTP response 134, and a wireless CTP response 132.

The following describes how the elements of Figure 1 are coupled. The wireless communications device 100 communicates with the base station 170 via wireless communications. The base station 170 is coupled to the proxy server 180 via the private network 172. The proxy server 180, and the web server 140 are all coupled to the Internet 190.

The following paragraphs describe the elements of Figure 1 in greater detail.

The wireless communications device 100 represents a handheld device that has wireless communications capabilities (also referred to as a portable

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computer or handheld computer with wireless communications capabilities). In one example system, the wireless communications device 100 includes a Palm III™ compatible handheld device having wireless communications capabilities. The wireless communications device 100 is for communicating over the BellSouth Mobile Data (BSMD) Mobitex system. Other embodiments of the invention support other wireless communications networks. Importantly, the BSMD Mobitex system is a relatively low bandwidth network. The embodiments of the inventions support querying of web based data using such a low bandwidth network.

The operating system 102 is an example of an operating system that can run on a handheld computer. Examples of such operating systems include the Palm OS™ operating system, available from the 3COM Corporation, of Santa Clara, California. The operating system 102 supports the running of applications. The operating system 102 also supports low level communications protocols, user interface displays, and user input.

The browser 104 is an example of a program (or group of programs) that supports some standard browsing features (e.g., displaying markup language documents, following hyper-links). The browser 104 is for generating queries and receiving responses. The browser 104 can interface with groups of hyper-linked, marked up documents (also referred to as pages). The browser 104 can also interface with standalone programs that do not use marked up documents. In this example, the browser 104 is executing with the wireless application 106. The browser 104 is described in greater detail below.

The wireless application 106 represents one of many predefined applications that are stored locally on the wireless communications device 100. Each wireless application represents a static portion of a web site tree. That is, this information does not change significantly over time. The web site tree is the data structure representing the hyper-linked web pages of a web site. (Note that the tree is actually usually a graph.) Each predefined application is used for accessing

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a different web site. The predefined applications can be downloaded to the wireless communications device 100 through wireless communications, but more typically, they are downloaded through a docking cradle or through infrared communications with another wireless communications device 100.

The wireless application 106, in this example, includes a number of hyper-linked pages. One of the pages includes the example query form 105. This example query form 105 is used to generate a query that is answered as the example query response 107. Alternatively, the wireless applications can standalone applications access through the browser 104. The applications can be C programs, JAVA programs, and/or compressed markup language (CML) or HTML pages.

The query response 107 represents the dynamic data in the web site tree (the data that can change often). The query response 107 includes information retrieved from the web server 140.

The example query form 105 and the example query response 107 can be stored in a CML format. The markup language is compressed relative to HTML. This compressed markup language is described in greater detail below. What is important is that the compressed markup language is a subset and superset of HTML and is requires far fewer bytes than HTML typically requires. Additionally, the compressed markup language represents a compressed description of information to be displayed on the screen 101. The browser 104 uses the representation to generate the display on the screen 101.

The base station 170 represents a wireless communications base station. The BSMD Mobitex system includes base stations like the base station 170. The base station 170 is responsible for communicating with the wireless communications device 100 and other wireless communications devices (e.g. pagers).

The private network 172 represents the communications links between a base station 170 and a proxy server 180. The BSMD Mobitex system has such a

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private network. Between the base station 170 and the proxy server 180, many servers, routers, and hubs, etc. may exist. In some embodiments, the private network 172 may communicate with the proxy server 180 through the Internet 190. The proxy server 180 would then communicate with the web server 140, also through the Internet 190.

The proxy server 180 represents one or more computers that convert queries from the wireless communications device 100 into queries that are compatible with Internet protocols. The proxy server 180 communicates with the wireless network, which can include low bandwidth and high latency communications. The proxy server 180 decompresses information from the wireless network side for use on the Internet 190 side of the proxy server 180. Also, the proxy server 180 converts Internet protocols and content into a form that can be used by the wireless network and the wireless communications device 100. In some embodiments, the proxy server 180 can converts image content to a size and bit depth appropriate for display on the wireless communications device 100. In some embodiments, the proxy server 180 communicates over the Internet 190 using standard Internet protocols such as, TCP, HTTP, and SSL. This allows developers to use already existing Internet protocols in their web servers.

In some embodiments, the proxy server 180 is substantially stateless. That is, it does not keep state information about specific wireless communications device accesses. This configuration of the proxy server 180 tolerates communication and protocol errors more readily and allows for simpler scaling of the proxy server 180. Statelessness should not be confused with caching. The proxy server 180 can cache CML web pages for use by multiple wireless communications devices 100.

In order to achieve reasonable performance and cost over wireless networks, the browser 104 works in tandem with the proxy server 180. The wireless communications device 100 and proxy server 180 communicate with each other using a compressed transport protocol (CTP) built on top of IP. The

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goal of this protocol is to enable a user to fetch and display a web page on the wireless communications device 100 with a one packet request sent to the proxy server 180. Typically, a one packet response is returned to the wireless communications device 100.

In one embodiment of the invention, the maximum packet size (for higher protocol packets, like IP) allowed over a low cost wireless network is 512 bytes. Taking into account a compressed header (usually three bytes), the maximum raw data size is 512 - 3 = 509 bytes.

The proxy server 180 transmits a typical page of web content to the wireless communications device 100 in roughly 500 bytes. This can be challenging given that most web pages have lots of formatting information, hot links and images. Web pages are typically many Kbytes in size. A hot link reference can easily take up 100 bytes or more. Just to fill the wireless communications device screen 101 with text (11 lines of 35 characters each) would take nearly 400 bytes even if there were no formatting information included.

This is why the wireless communications device 100 and the proxy server 180 use compressed web pages.

The Internet 190 represents the Internet. However, the Internet 190 could be replaced by any communications network.

The web server 140 responds to web accesses. The web server 140 serves regular, and specially constructed, HTML pages. In this example, the wireless communications device 100 is accessing the special HTML pages (e.g., HTML page 144). The example query response 107 corresponds to the HTML page 144. In other embodiments of the invention, the same HTML page can be served in response to a query from the wireless communications device 100 as is served to other types of clients. The HTML page 144 is generated by the CGI 142. The CGI 142 represents a program that can dynamically generate HTML pages in response to HTTP requests.

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Turning to the query and response elements, the wireless CTP query 122 represents a compact transfer protocol (CTP) formatted query from the wireless communications device 100. The base station 170 receives this query and forwards it to the proxy server 180. The forwarded query is represented by CTP query 124. The proxy server 180 takes the CTP query 124 and converts it into one or more HTTP queries 126. The web server 140 receives this HTTP formatted query 126 and generates an HTTP response 136 that includes the HTML page 144. The proxy server 180 receives the HTTP response 136, and generates the CTP response 134. The base station 170 generates the corresponding wireless CTP response 132. The wireless communications device 100 then generates the display on the screen 101 of the example query response 107. Before describing this process in detail, the browser 104 is described in greater detail.

Browser

The browser 104 and supporting wireless messaging programs comprise the client processing resources for some embodiments of the invention. The web browser 104 works well with both wireless and wireline connections, enabling users to seamlessly access the web whether they are connected through the phone line or not. The messaging support enables a user to send and receive wireless messages with other users that have Internet e-mail accounts.

The browser 104 support both wireless and wireline connections. An effective wireless browsing solution leverages the use of the proxy server 180 in order to deliver satisfactory performance. A solution embodied in the roles established for the wireless communications device 100 and the proxy server 180 dramatically reduces the amount of data that is sent between the wireless communications device 100 and the proxy server 180 over the slow wireless link. This form of browsing is referred to hereinafter as thin browsing.

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The performance of wireline links, on the other hand, is high enough that a wireless communications device 100 can talk directly to a source of data such as a web content server using standard Internet protocols such as HTML, HTTP and TCP. This is how existing desktop browsers work and will be referred to hereinafter as standard browsing.

Thin browsing can be used over wireline links as well as wireless links. The only extra requirement is that the proxy server 180 be accessible to the wireless communications device 100 over the Internet or an intranet. Standard browsing, on the other hand, is more appropriately used over wireline links because of increased chattiness and bandwidth requirements.

The browser 104 is structured as a single user-interface that runs either a standard browser engine or a thin browser engine. With either engine, the user interface essentially appears the same, and the way original HTML web content is interpreted and displayed will be almost identical. The browser 104 relies on the proxy server 180 for reducing the amount of traffic and the number of transactions required. Although designed primarily for use over wireless networks, the browser 104 can be used over wireline networks as well.

The primary purpose of the thin browser engine is for accessing content designed specifically for the limited screen 101 size and functionality of a wireless communications device 100. For some embodiments, this layout and size are the only differences between content rendered for a wireless communications device 100 and existing desktops. Thus, content creators for desktop content can use the same tools that are used for creating and publishing desktop content when creating and publishing content for the wireless communications device 100.

Content rendered for the wireless communications device 100 can reside on standard HTML based web servers in standard HTML format (e.g., see web server 140). The proxy server 180 performs a dynamic conversion of the HTML

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content into the more compact CML form before transmitting the content to the wireless communications device 100.

The browser 104 will not prevent a user from accessing desktop oriented sites, but the browser 104 can behave differently when accessing them. For example, graphics can be ignored when not accessing a wireless communications device friendly site whereas the user will have the option to enable graphics for wireless communications device friendly sites. Another example of the difference is the browser 104 protects the user from unintentionally downloading a large desktop oriented site. A user option enables the user to set the maximum size desktop page that may be downloaded. If a page is encountered which exceeds this maximum size, the page is clipped by the proxy server 180 before being sent down to the wireless communications device 100. The user is able to set this maximum size on a page per page basis in the favorites list of the browser 104.

When the user first launches the browser 104, the browser 104 is able to display the user's home page without sending or receiving even a single byte over the network. This is in contrast to the standard web browser that go over the network to fetch the home page, or at least to check that the locally cached version of the home page is up to date.

The browser 104 relies much more on pre-loaded content. A transaction typically takes place over the wireless network only when necessary. For example, in some embodiments of the invention, the browser 104 assumes that the locally cached form is up to date and only submits a network request to the proxy server 180 after the user fills in a form requesting an update.

Thus, the browser 104 is particularly suited for accessing real-time data, not casual browsing. Thus, emphasis is placed on optimizing the process of filling out a form (e.g., with airline flight information) then submitting the form, and getting the real-time data back. Although, the user will still be able to casually browse any web site, the increased cost and volume of data involved with going to

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most standard web sites makes casual browsing relatively undesirable over a wireless network.

A typical user scenario for the browser 104 would then be as follows. The user extends, or rotates, the antenna on the wireless communications device 100 and thereby automatically power up the wireless communications device 100. The browser 104 displays the user's home page (stored in local memory). The home page has been configured by the user with a set of service icons such as weather info, traffic info, airline info, stock quotes, etc. before the browser is used. The user clicks on one of the service icons, such as the airline information. This starts the corresponding wireless application which contains a form. The browser 104 displays the form (also stored in local memory) for the user to enter the flight number or city codes. The user enters the information in the form and hits the "submit" button. Now, for the first time in this scenario, the browser 104 sends a request out over the network to fetch the airline information. When the response comes back from the proxy server 180 (three to five seconds later), the information for that flight will be displayed on the screen 101.

As just described, there are a number of significant differences between the browser 104 and a standard web browser. First, the primary usage of the browser 104 is for accessing real-time data through form submittal. Second, most forms are pre-loaded into the wireless communications device 100 local memory or present in read only memory. Third, forms are assumed to be valid, and therefore no activity will take place over the network until the user actually fills in the form and submits it.

Browser and HTML Compatibility

The following describes the HTML compatibility of one embodiment of the browser 104. Other embodiments of the invention have different features.

In order to display most content published today on the Internet 190, the browser 104 supports the most common features of HTML. However, because of

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the screen size and limited memory and performance of wireless communications device 100, some HTML features may be limited in functionality or not supported at all.

Because of a limited number of available fonts and font styles, the browser 104 may not render every possible text attribute in HTML. A number of font sizes and styles map to the same font on the wireless communications device 100. However, the user does not encounter significantly reduced readability or usability as a result of the mapping.

The proxy server 180, as directed by the wireless communications device 100, can filters out all images, unless the user explicitly enables images, or the content author imbeds the appropriate tag into the content indicating that this page is wireless communications device 100 specific and that the images should be downloaded to the wireless communications device 100.

All text hyperlinks can be supported. If images are downloaded, then image maps will also work.

Forms will have nearly full functionality. The only feature of HTML forms that may not be supported is the use of dialogs that let the user choose a file name by browsing the local directory structure on the wireless communications device 100.

Tables that are too wide to fit on the screen can be wrapped.

CGI (Common Gateway Interface) scripts can be supported. CGI scripts are used by the web server 140 to respond to form submissions by browsers and for customizing web content for a particular user. When the browser 104 requests a web document that corresponds to a CGI script, the browser 104 can append text parameters to the end of the base document URL. The proxy server 180 will parse the parameters out of the URL and send them to an executable program on the web server 140, as identified by the URL. Most CGI executables will then output dynamically generated HTML that is consequently returned to the browser 104 and displayed. From the browser's 104 point of view then, fetching a web

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document that uses CGI scripts is no different from fetching a static web document (other than having a slightly more complex URL).

Example Method of Communicating Between a Wireless Communications Device and a Web Server

Figure 2 illustrates a method of communicating between a wireless communications device and a web server. Such a method can be implemented using the system of Figure 1.

The example method of Figure 2 can be broken into three processes: a build a distributed web site process 202, a query process 204, and a response process 206. By using these three processes, a distributed web site can be created where static information is primarily kept on the wireless communications device 100 and dynamic information is kept on the web server 140.

At block 210, a content developer defines a wireless application. In one embodiment of the invention, this includes defining a number of HTML pages. The HTML pages represents the forms used for querying the web server 140. A program is then used to convert the HTML pages into compressed markup language pages to generate the wireless application 106. This process is discussed in greater detail below in the compressed markup language section.

At block 220, the web server 140 is created, or modified, to support reduced content HTML pages. An example of such a page is shown as HTML page 144. These pages can be generated exactly the same way as regular HTML pages. However, as a guiding principle, the amount of information should include little more than the absolute minimum of information that a user would find useful.

At block 230, a user loads the wireless application 106 onto the wireless communications device 100. This can be done as a HotSync™ operation in a manner similar to the way in which other applications are loaded onto the wireless communications device 100. The wireless communications device 100, for

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example, can be connected to a computer via a cradle and the wireless application 106 can be loaded from the computer. Alternatively, the wireless application 106 can be downloaded over the wireless network. However, this second method of loading the wireless application 106 is less desirable in that it will require a significant amount of bandwidth. Thus, in a preferred embodiment, the user loads the wireless application 106 over a high bandwidth network (e.g., the cradle download or by an infrared transfer from another wireless communications device 100).

Thus, some of the web site information is stored on the wireless communications device 100 and some of it is stored in the web server 140. Thus, the building of the distributed web site process 202 has been described.

The query process 204 includes the following steps. At block 240, the user fills in a query form 105 as part of the wireless application 106. In the example of Figure 1, the user is filling out a form to find Italian restaurants in San Francisco. Once the user has completed the form, the user selects the look up button. The look up button causes the wireless communications device 100 to initiate the wireless CTP query 122. The block 240 is completed by the sending of the wireless CTP query 122 and the CTP query 124 to the proxy server 180. The wireless CTP query 122 is sent to the base station 170. The base station 170, and related hardware, perform any necessary changes to the wireless CTP query 122 to generate the CTP query 124, and send the CTP query 124 over the private network 172.

At block 250, the proxy server 180 converts the CTP query 124 to an HTTP query 126 and forwards that HTTP query 126 to the web server 140. Thus, the query process 204 is completed.

Now the response process 206 is described. At block 260, the web server 140 generates and sends an HTML page 144 to the proxy server 180. At block 260, the web server 140 generates the HTTP response 136 in response to the HTTP query 126. In this example, because the HTTP query 126 corresponds to a

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wireless communications device 100 query, the web server 140, and in particular the CGI 142, sends the HTML page 144 in the HTTP response 136. Returning to block 250, the conversion from the CTP query 124 to an HTTP query 126 may involve more than one HTTP request. This may occur where the web page has multiple referenced objects that need to be retrieved from the web server 140. Thus, the proxy server 180 may initiate multiple requests depending on the response in block 260. Note however, only one CTP request was needed.

At block 270, the proxy server 180 converts the HTML page 144 into the example query response 107 and sends the example query response 107 to the private network 172. The example query response 107 is inside of the CTP response 134, which is transmitted from the proxy server 180, across the private network 172, to the base station 170. The base station 170 then sends the corresponding wireless CTP response 132 to the wireless communications device 100.

The operating system 102 notifies the browser 104 that the wireless CTP response 132 has been received. The browser 104 requests the contents of the wireless CTP response 132 from the operating system 102. The contents are the example query response 107. Thus, at block 280, the browser 104 can display the example query response 107 on the screen 101.

Example User Interface

Figure 3 includes a number of pictures showing an example display generated by the wireless communications device 100. These displays would be generated when a user attempts to find restaurants in San Francisco.

The wireless communications device 100 includes a launcher under which wireless applications can be grouped. The launcher interface 303 displays the list of available wireless applications. Note that the browser 104 is not specifically listed. This is because the user would typically only want to run a specific web

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site access application, not the browser 104 by itself. In this example, the user has selected "fine food" from the launcher interface 303.

In response to the selection, the example the browser 104 and the wireless application 106 begin executing. The browser 104 displays the example query form 105. The example query form 105 is a CML page in the wireless application 106. Then, the user can select/enter various field values for a query. In this example, the user is selecting the location field value "San Francisco".

The completed query form 305 is shown next. The user now wishes to send the query. This can be done by selecting the "look up" button. This sends the wireless CTP query 122 out through the network and to the web server 140. The wireless communications device 100 then receives the wireless CTP response 132.

The response includes the information for the example query response 107. The browser 104 displays the example query response 107 on the screen 101. Here a number of restaurant names and phone numbers are shown. The user can scroll up and down through the list.

Also presented on the screen 101 is a toolbar 310. The toolbar 310 allows the user to perform various functions within the browser 104. The toolbar 310 includes a back button, a connection indicator, and a drop down list. The back button allows the user to go back to the previous query form. The wireless communications indicator indicates whether the wireless communications device 100 is performing a wireless communications query. The drop down list indicates a history of the query results that the user has requested during past use of the browser 104.

Wireless Network Topology

Figure 1 and Figure 4 show the general topology of a wireless communications network. As shown, the wireless client 405 (in Figure 4, the wireless communications device 100 and its software have been combined into the

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wireless client 405) communicates directly with the proxy server 180. The wireless client 405 does not communicate directly with the actual source of data. The source of data can be a web or mail server that has content desired by the wireless client 405. Figure 1 shows the Internet 190 as the source of data and the source of data will be referred to as the Internet 190 throughout this application. Using this scheme, the wireless client 405 and the proxy server 180 can use a much more efficient ("thin") protocol between themselves than used by Internet mail and web servers. On the other hand, the proxy server 180 uses standard Internet protocols (HTTP, TCP) when communicating with existing mail and web servers. The proxy server 180 acts as an agent. The proxy server 180 takes requests from the wireless client 405, obtains the requested information from the Internet 190, and re-formats and sends the requested information back to the wireless client 405. The proxy server 180, acting in this manner, can hide the relatively chatty and bandwidth intensive protocols used by standard Internet 190 servers from the wireless link.

The thin protocols used between the wireless client 405 and the proxy server 180 are IP based. IP based protocols are widely used and enable the wireless client 405 to communicate with many different wireless networks. Furthermore, basing wireless client 405 and proxy server 180 processing resources on IP provides a layer of isolation and independence from the actual wireless network in use.

Figure 4 shows a wireless network topology 400 used for some embodiments of the invention. The main components of the wireless communications system are the wireless client 405, the wireless network access point 410, the tunneler 430, the proxy server 180, and the Internet 190. The wireless network access point 410 has a corresponding wireless network access point radio 420.

The wireless client 405 communicates across the wireless network using its own client radio 440 to transmit messages to and receive messages from the

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wireless network access point radio 420. The wireless network access point 410 is the nearest regional station in a wireless network with a connection to a proxy server 180. The wireless network is by nature not IP based, and its most basic packet type is referred to herein as wireless network protocol packet (WLNP). Consequently, the wireless client 405 encapsulates its IP packets with a WLNP header before the packets can be sent by the client radio 440.

The packets sent over the air include a number of headers in the following order: a WLNP header, followed by a compressed user datagram protocol (C-UDP) header, followed by a reliable message protocol (RMP) header. The headers encapsulate a Request/Response Message Fragment (RQMF/RSMF) of the packet. The RQMF/RSMF of each packet holds the message fragments. These fragments are commands, requests, and responses sent between a wireless client 405 and the proxy server 180 that enable a wireless client 405 to browse web pages, send and receive e-mail, and otherwise obtain access to content.

In some embodiments, the wireless network has guaranteed delivery built into it. For these embodiments, it is not necessary to incur the extra overhead of a full connection-oriented protocol such as TCP on top of the wireless network protocol. Instead, the wireless client 405 uses the Internet 190 UDP. The UDP is a simple datagram based, best effort delivery protocol. Using UDP, it is possible that a web page can be viewed from the wireless client 405 by sending just one packet up to the proxy server 180 and receiving just one packet back. The TCP protocol, on the other hand, would require a minimum of 5 packets back and forth between the proxy server 180 and the wireless client 405 to view the web page. The wireless network does not, on the other hand, guarantee order of delivery, so an RMP header is placed in front of the data area in each UDP packet. The RMP is used to detect and correct for out-of order or duplicate packet deliveries.

Instead of using raw UDP internet headers which are 28 bytes in length (20 bytes for the IP information, 8 bytes for the UDP information), the wireless client 405 uses a smaller, compressed form of the UDP header called C-UDP. A C-UDP

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header contains just enough information so that the actual IP/UDP header can be reconstructed at the other end of the wireless link. There are a number of fields in a standard IP/UDP header that are rarely changed and/or redundant over the wireless network and these fields can be highly compressed or left out altogether in the C-UDP header, as discussed in greater detail below.

The wireless network access point 410 receives WLNPs that have C-UDP packets imbedded in them. The WLNP header is stripped off the front of the packets by the tunneler 430 for the wireless network. The original IP header and UDP header are reconstructed, and the packets are then forwarded to the proxy server 180 through a TCP connection. Because an unreliable network (LAN or Internet) is used between the wireless network tunneler 430 and the proxy server 180, TCP is used to guarantee that the packets get transferred reliably.

The TCP stream that the proxy server 180 receives from the tunneler 430 has the imbedded IP packets. The IP packets contain request message fragments. The reliable message layer (shown in Figure 6 as reference number 635) on the proxy server 180 reconstructs the original request message from the message fragments in the packets using the information contained in the RMP header area of each packet. The requested information (web page or e-mail) is then be fetched as a data object from the Internet 190, re-formatted, and passed back to the reliable message layer 635. Proxy server 180 processing resources operating in the reliable message layer 635 break down the data object into separate packets for transmission to the wireless client 405, and send the packets to the tunneler 430 through the TCP connection. The tunneler 430 forwards the packets back over the wireless network to the wireless client 405.

Figure 5 illustrates the wireless network topology including a wireless network interface 510, a wireless network leased line 520, and a dispatcher 530. Figure 5 shows how the wireless client 405 and proxy server 180 communicate when the wireless client 405 is on a wireless network. Notice that the wireless client 405 is directly on the wireless network whereas the proxy server 180 is not.

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The wireless packets do not get sent directly to the proxy server 180. Instead, they first pass through the base station 170, a wireless access point 410, and tunneler 430 before they are sent to the proxy server 180 over a wireline LAN (Local Area Network) connection.

Wireless client 405 processing resources send messages through the reliable message layer 635. Since the wireless client 405 is on a wireless network, the reliable message layer 635 uses the RMP protocol to send the messages. The RMP protocol encapsulates the message fragments with an RMP header and sends them through a UDP socket in the network library (shown as 1110 in Figure 11 and discussed below). The packets work their way through the IP stack on the wireless communications device 100, which adds UDP header and IP header. The packets are passed down to the wireless network interface 510 for transmission.

The wireless network interface 510 then compresses the IP header and UDP header of the packet into a C-UDP header, and adds the wireless network protocol (WLNP) header. Figure 5 shows the wireless network interface 510 adding a WLNP header that is used on the wireless packet data network. Other networks will have similar headers. Much of the information in the IP and UDP headers is redundant with the WLNP header, so the C-UDP header can be significantly smaller than the sum of the IP header and UDP header.

The WLNP encapsulated packets are sent over the radio and are received by a base station 170. The base station 170 passes them to a wireless network access point 410. The wireless network access point 410 then passes the packets through a wireless network leased line X.25 link to the tunneler 430. The X.25 link can be a 56 Kbps leased line or a high speed frame relay connection. Although Figure 5 shows only one tunneler 430, two tunnelers are typically used for the wireless packet data network. In one embodiment, the first tunneler is part of the wireless packet data network infrastructure and is referred to as the "Internet Access Server" or IAS. The IAS tunnels the WLNPs from the wireless network access point 410 into a TCP stream and sends this stream to a proxy server 180

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specific tunneler. The proxy server 180 tunneler takes each WLNP from the IAS stream and converts its WLNP/C-UDP headers into normal IP/UDP packet headers. Thus, at this point in the chain of events, the packets look identical to the way they looked when the wireless client 405 first passed them to the wireless network interface 510 on the wireless communications device 100.

The tunneler 430 then sends its output stream to a dispatcher 530. The dispatcher's job is to load balance among multiple proxy servers 180. The dispatcher 530 distributes wireless client 405 requests that the dispatcher 530 receives from the tunneler 430 among a set of proxy servers 180. In order to do this, the dispatcher 530 checks the source IP address and UDP port number on each packet to determine whether the packet corresponds to a new transaction. If the packet corresponds to a new transaction, the dispatcher 530 selects the proxy server 180 with the lightest load and sends the packet to that proxy server 180. If the packet does not correspond to a new transaction (i.e. the 2nd packet of a two packet request), the dispatcher 530 looks up the proxy server 180 used for the previous packet of this transaction and sends the packet to that same proxy server 180.

Finally, the packets are received by the proxy server 180. The proxy server 180 gathers the request packets from the dispatcher 530, reassembles them into the original CTP request message, processes the request, forms a response, breaks the response down into separate IP/UDP/RMP packets, and then sends the response packets back through the TCP socket to the dispatcher 530.

The proxy server 180 receives entire IP packets imbedded in the TCP stream that the proxy server 180 receives from the dispatcher 530. These packets are re-ordered and re-assembled into the original message before the request is processed. The IP, UDP, and RMP headers are stripped off and the information in the RMP and UDP headers used to re-construct the original request message. When a response message is formed, the response message is split into separate packets as necessary. IP, UDP and RMP headers (with source and destination

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machine addresses and port numbers swapped) are pre-pended to the packets before they are sent via TCP to the dispatcher 530 where the packet continues its journey back to the wireless client 405.

A few important points should be noted about this wireless setup. First, the only components that are specific to the wireless network are the wireless network interface 510 on the wireless client 405, and the tunneler 430 at the proxy server 180. The wireless client 405 application software, reliable message layer 635 and all of the software on the proxy server 180 are strictly IP based and do not have to change if a different wireless network is used.

Second, the tunneler 430 and the dispatcher 530 are not required to be placed on the same physical machine as the proxy server 180. If the tunneler 430 and the dispatcher 530 are on the same machine as the proxy server 180, the LAN link between the three system elements becomes a virtual TCP connection through the IP stack on the proxy server 180. This may seem to be preferable from a performance point of view, but, there are many more advantages to having the dispatcher 530 and proxy servers 180 on separate machines. If the dispatcher 530 is on a separate machine, the dispatcher 530 can distribute wireless client 405 transactions among multiple proxy servers 180, thereby providing both scalability and fault tolerance. If any one of the proxy servers 180 become inoperative, the dispatcher 530 can stop sending requests to the inoperative proxy server 180. Because the communications system has multiple proxy servers 180 the dispatcher 530 can distribute the load between them. The dispatcher 530 therefore becomes the most sensitive link in the chain from a fault tolerance point of view. But, from a performance point of view, the dispatcher 530 has very little work to do for each transaction compared to the proxy server 180 so it makes sense to have multiple proxy servers 180 per dispatcher 530 (and tunneler 430). If necessary, multiple tunnelers 430 and dispatchers 530 can be placed in parallel to provide even more fault tolerance and scalability.

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A third important point is that the only unreliable link in the whole chain is over the wireless network, i.e., between the wireless network interface 510 on the wireless client 405 and the base station 170. In particular, the link between the base station 170 and the proxy server 180 is a reliable link all the way through. The RMP logic on both the wireless client 405 and proxy server 180 is simplified because the RMP logic only corrects for lost and unordered packets over the wireless network, not the wireline network between the base station 170 and the proxy server 180. This simplified RMP logic enables the timeout values used for re-transmission attempts to be tuned for just the wireless portion of the network.

Intranet Topology

A corporate wireless Intranet is setup in the same manner as the Internet solution just described. The only major difference is the physical location of the machines. For the Internet solution, the proxy server 180 is located at the wireless network access point 410 and has a connection to the global Internet. For a corporate Intranet solution, the proxy server 180 is located at the corporation's own private site with a leased line to the nearest wireless network access point 410. The leased line transports the WLNPs between the wireless network access point 410 and the corporation's own tunneler and proxy server 180. The proxy server 180 has a direct connection to the corporation's private Intranet.

Content Layer

This section covers the implementation of the wireless communications device 100 content layer. The content layer deals with how web content and personal messages are formatted and rendered on the wireless client 405. In particular, this section discusses the Hypertext Markup Language (HTML) and Compact Markup Language (CML) page description languages.

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When using the standard browser engine, the wireless client 405 web browser application renders HTML obtained directly from the web content server. When using the browser 104 however, the wireless client 405 renders CML which has been dynamically generated from HTML by the proxy server 180.

When the wireless client 405 e-mail application sends or receives personal messages with the proxy server 180, it also uses CML to format the messages. Sending and receiving graphically formatted messages is not a specified requirement of the wireless communications device 100, but CML is used for the message format because it also provides excellent raw text compression. An added benefit is that CML provides the framework required for graphically oriented messaging applications.

There are two basic challenges in the design of the browser 104. The first is effectively rendering existing web content on a very small screen. The second challenge is minimizing the amount of data that is sent over the wireless network when using the browser 104 engine.

The HTML page description language works fine for answering the first challenge, but is not an appropriate choice for answering the second challenge. HTML was designed as an "ideal" language for creating content. HTML is human readable, human editable, and screen size and depth independent. This makes it a very good general purpose page description language, but also a very verbose language and too large to transmit wirelessly.

CML answers both challenges because CML also minimizes the amount of data that is sent over the wireless network. In order to achieve its minimal size, CML sacrifices both human readability and editability.

As a further optimization, the CML is created dynamically at run-time by the proxy server 180 using knowledge of the screen size and depth of the wireless client 405. Thus, the wireless client's 405 very limited screen 101 functionality will enable the proxy server 180 to generate a much smaller CML representation than the proxy server 180 could otherwise. For example, elements that do not fit on

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the wireless client 405 screen 101 could be left out altogether and images that are too deep for the wireless client 405 screen 101 are depth converted before being transmitted.

Ideally, the user is not aware of whether CML or HTML is used to render content. Therefore, both page description languages provide the same feature set. However, the implementation of the two languages is significantly different because CML provides the necessary compression to accommodate the wireless network bandwidth. To accomplish these goals, CML is optimized for small wireless clients 405. However, alternate and larger forms of representation can be used to implement the full feature set of HTML when necessary.

This following provides a description CML, followed by descriptions of HTML features, how each HTML feature is displayed and used in the browser 104, and finally how that feature is represented using CML. Keep in mind that the appearance of a HTML feature is independent of whether or not it is sent to the wireless client 405 in raw HTML format or as CML.

Compact Markup Language (CML)

In order to send web content to the wireless client 405 in a minimal number of bytes, the proxy server 180 does not use the HTML standard generally used by Internet servers. In HTML, all the tags and attributes associated with text, tables, forms, etc are text based, typically take up from 3 to 10 bytes each, and are stored both at the beginning and end of the text that they modify. For example, to display emphasized text, a web document would have to contain the following HTML sequence: <STRONG>This is emphasized text</STRONG>.

The wireless client 405 and the proxy server 180 use a special format for transferring screen 101 contents from the proxy server 180 to the wireless client 405. This format, named Compact Markup Language (CML), emphasizes compactness over readability and generally uses variable length binary bit fields

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instead of text to represent options and formatting information. The differences do not end there however; CML will use a host of other methods for reducing the number of bytes that is sent between the proxy server 180 and the wireless client 405.

CML compresses all text. In one embodiment, the default CML compression scheme formats text using a form of a five-bit character alphabet with escapes. This default compression scheme works best with pages that have mainly lower case alpha letters in them, but does allow for a full range of characters including characters with ASCII values greater than 128.

CML also leverages the fact that the proxy server 180 knows the screen size and bit depth of the wireless client 405 when encoding the layout of the content. HTML was designed to be screen independent - neither the server nor the content creator knows ahead of time what size or depth screen upon which the document will eventually be rendered. Besides the obvious advantage of not sending content that wouldn't fit on the wireless client 405 screen 101, there are other cases where content can be encoded in a more compact form by the proxy server 180 because it knows the size of the wireless client 405 screen 101. Since the proxy server 180 also knows the bit depth of the wireless client 405, the proxy server 180 can also reduce the data sent to the wireless client 405 by not sending color attributes such as the background color, text colors, underline colors, etc.

The major emphasis of CML is that it is optimized for size. In other words, readability and flexibility are compromised for compactness. One major design philosophy difference between HTML and CML is that CML is not designed as a content creation language. CML is merely a temporary format used to represent content as it is being transferred between a proxy server 180 and a wireless client 405. As such, CML is algorithmically generated, much like object code is generated from a compiler. The analogy to compilers is even stronger when you take into account the fact that CML is generated with the screen size and attributes of the wireless client 405 taken into account. The same HTML content can produce

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different CML representations for two wireless clients 405 that have different screen sizes - much like compilers for different microprocessor produce different object code from the same source code.

Essentially, CML is a stream of text and image data with imbedded formatting commands (tags). The tags are imbedded as binary data and hence are very compact. Every tag is "sticky"; that is the tag continues to have an effect until explicitly changed by another tag of the same type. For example, a tag in the front of a document that specifies bold text makes the entire document bold, unless another tag later in the document turns off the bold formatting. This is in contrast with many HTML tags, such as paragraph formatting commands, that only affect the next paragraph.

Another important difference between CML and HTML is that white space and line breaks in the text are significant. For CML, the equivalent of the HTML line break tag (
) is not required in CML since line breaks are imbedded directly into the text.

The default behavior of CML is to compress all text by encoding it using a special 5-bit character alphabet discussed below in the CML Structure section. This form of compression works best for documents that are mainly comprised of lower case roman characters. Other forms of text encoding, including 8 bit ASCII, unicode, etc. are used in CML only when necessary.

Using CML and the CML structure described below combined with CTP formatting of forms, some embodiments of the invention comprise a method for transmitting a message from a wireless client 405 to a proxy server 180. The method comprises transmitting a single message from the wireless client 405 to the proxy server 180. The single message comprises a single packet of data. The single packet of data having a base document uniform resource locator followed by compressed data. The compressed data comprises references to fields in a hyperlink document and an indication of use of the hyperlink document. The

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hyperlink document is in the base document. In some embodiments, the size of the single packet of data is less than one kilobyte.

In some embodiments, the references to fields comprise field values and field indices corresponding to fields in the hyperlink document. In some embodiments, the base uniform resource locator is expressed in a compact transfer protocol by a binary string. The binary string comprises a first field indicating the encoding scheme used for the single message.

Compact Data Structure Notation

Throughout the rest of this application, CML will be represented using a notation similar to that used in the C language for representing data structures. This notation will be called Compact Data Structure Notation (CDSN) and is also used later in this document when describing the CTP protocol. An example of this notation is:

```
Bit       enabled = 1
Bit[3]    type = typeRound
Int16     length = 0x1234
```

The above structure represents the following sequence of 20 bits:

1 010 0001001000110100

The first field, enabled, is a 1 bit field that has the value 1. The second field, type, is a 3 bit field that has the value typeRound which is a constant defined to be 2. The third field, length, is a 16 bit integer with the value 0x1234.

Fields in CDSN are never padded to fall on word, or even byte boundaries. That is, each field starts off on the next free bit after the previous field. All multi-bit values are stored most-significant-bit first.

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Basic Compact Data Structure Types

A number of primitive data types are used in CDSN. The basic ones are:

Bit	- a single bit
UInt8, Int8	- 8 bit unsigned and signed integers
UInt16, Int16	- 16 bit unsigned and signed integers
UInt32, Int32	- 32 bit unsigned and signed integers

Other important types are the unsigned and signed variable length integer types: UIntV and IntV. These can be anywhere from 1 to 36 bits in length, depending on their value. The actual length can be determined by looking at the first 1 to 4 bits.

The types UIntV and IntV are defined as follows:

UIntV:

0		- The value 0
10	Bit[3]	- The values 0 through 7 (0x07)
110	Bit[6]	- The values 0 through 63 (0x3F)
1110	Bit[16]	- The values 0 through 65535 (0xFFFF)
1111	Bit[32]	- The values 0 through 4,294,967,295 (0xFFFFFFFF)

IntV:

0		- The value 0
0	Bit[3]	- The values -4 through 3
110	Bit[6]	- The values -32 through 31
1110	Bit[16]	- The values -32768 through 32767
1111	Bit[32]	- The values -2,147,483,648 through 2,147,483,647

Using the UIntV, an integer of value 0 can be represented with just 1 bit, values 1 through 7 would require 5 bits, values 8 through 63 would require 9 bits, etc.

CML Structure

A CML data stream is by default a 5-bit character text stream. Until a special character (as discussed below) appears in the stream, each sequence of 5 bits is assumed to represent a single text character. The following table lists the possible 5-bit characters:

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5-bit Characters:

0	Yes	Yes	EndTag character. Used to terminate multi-parameter tags and block elements
1	Yes	Yes	StartTag character, followed by 8 or 16 bit Tag ID.
2	Yes	No	Single character escape
3	No	No	Reserved
4	No	No	Line break
5	No	No	Space character
6-31	No	No	The lowercase letters: 'a' through 'z'

As described later, there can be sections of CML where text is encoded using alternate text encoding modes such as 8 or 16 bits per character instead of 5 bits per character. Even in these sections with larger characters, the decimal character values 0 through 2 (labeled in above table as "special") have special meaning. For example, if the endTag character (decimal 0) is encountered while an alternate text encoding mode is in effect, the text mode goes back to the default 5 bits per character.

Following is an example of how a simple section of text would be represented in CML. The text:

abc d

ef

is represented as:

```
Bit[5]    char = 6    //'a'
Bit[5]    char = 7    //'b'
Bit[5]    char = 8    //'c'
Bit[5]    char = 5    //' '
Bit[5]    char = 9    //'d'
Bit[5]    char = 4    //line break
Bit[5]    char = 10   //'e'
Bit[5]    char = 11   //'f'
```

which, as a binary bit stream is:

```
                                    00110 00111 01000 00101 01001 00100
01010 01011
```


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When the text encoding mode is 5 bit characters, the single character escape (2), is followed by an 8 bit ASCII character. This single character escape then can be used to represent characters that are not present in the 5 bit alphabet. For example, the text:

a Cow

is represented in CML as the following sequence:

```
Bit[5]   char = 6    //'a'
Bit[5]   char = 5    //' '
Bit[5]   char = 2    //single character escape
Bit[8]   char = 67   //'C'
Bit[5]   char = 20   //'o'
Bit[5]   char = 28   //'w'
```

where the 67 is the 8 bit sequence 01000011 which represents the ASCII value for 'C' (67 decimal, 0x43 hexadecimal) and all other characters are 5 bits long.

Multiple sequences of non-lower case alpha or international characters can also be included in the stream by including the appropriate text encoding tag in the stream followed by the 8 or 16 bit (unicode) character text string. CML tags are described in the next section.

CML Tags

The tag start character (1) is included in a CML stream to indicate the presence of a CML tag. The tag start character is followed by an 8 or 16 bit Tag ID structure. The 8 or 16 bit Tag ID structure can be optionally followed by other variable length bit fields, depending on the specific tag. The 8-bit Tag ID structures have the first bit clear and can have the values 0 through 127 (0 through 0x7F hexadecimal). The 16-bit Tag ID structures have the first bit set and can have the values 32768 through 65535 (0x8000 through 0xFFFF hexadecimal).

Different tags have different functions. Some tags are followed by other variable length bit fields which specify parameters for that particular tag function. Other tags have no parameters at all. In any case, because the tag start character is

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a reset character, the text encoding mode is set back to 5-bit characters whenever a tag is encountered (unless the tag specifically changes the text encoding mode).

For example, the Tag textBold is used to turn on bold formatting. It has no parameters. The following text:

a **cow**

would be represented in CML as:

```
Bit[5]    char = 6          // 'a'
Bit[5]    char = 5          // ' '
Bit[5]    char = 1          // tag escape character
Bit[8]    tagID = textBold  // constant value for textBold
Bit[5]    char = 8          // 'c'
Bit[5]    char = 20         // 'o'
Bit[5]    char = 28         // 'w'
```

An example of a tag which has parameters is the textSize tag. This tag is followed by a IntV specifying the actual text size to use. For example, the following text:

a dog

would be represented in CML as:

```
Bit[5]    char = 6          // 'a'
Bit[5]    char = 5          // ' '
Bit[5]    char = 1          // tag escape character
Bit[8]    tagID = textSize  // constant value for textSize
UIntV     size = 4          // the value 4, as a UIntV is // 5 bits long: 10100
Bit[5]    char = 9          // 'd'
Bit[5]    char = 20         // 'o'
Bit[5]    char = 12         // 'g'
```

Since the size field in this case is 4, it takes 5 bits to represent as a UIntV.

Text Encoding Tags

Some CML tags are used to include strings of text that can not be encoded as 5-bit characters. Conceptually, text encoding tags are merely tags that have a variable number of parameters following them, where each "parameter" is another

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character in the text stream. The sequence of "parameters" ends as soon as a reset character is encountered (the endTag or startTag character).

For example, the textEncoding8Bit tag indicates a string of 8 bit characters follows. The string of 8 bit characters is assumed to continue in the stream until a reset character is encountered. However, because the stream is now built up of 8 bit characters, all special characters (which includes the reset characters and single character escape) are also now 8 bits long. For example, the endTag character becomes the 8 bit sequence 0b00000000 and the startTag character becomes the 8 bit sequence 0b00000001.

In all cases of alternate text encodings, as soon as a reset character (0 or 1 decimal) is encountered in the stream, the text mode is switched back to 5 bit characters.

In the alternate text encoding schemes, the single character escape (3 decimal) can be used to include characters in the text which are normally special characters. For example, a 16-bit unicode character of decimal value 1 could be included in the stream by inserting the 16-bit single character escape (3 decimal) in front of it.

The following is an example of how the textEncoding8Bit tag is used. The text: a BIG dog would be represented in CML as:

```
Bit[5]  char = 6                 // 'a'
Bit[5]  char = 5                 // ' '
Bit[5]  char = 1                 // tag escape character
Bit[8]  tagID = textEncoding8Bit
Bit[8]  char = 'B'               // 'B'
Bit[8]  char = 'I'               // 'I'
Bit[8]  char = 'G'               // 'G'
Bit[8]  char = 0                 // endTag, switches  text encoding
                                 // back to 5-bit mode
Bit[5]  char = 9                 // 'd'
Bit[5]  char = 20                // 'o'
Bit[5]  char = 12                // 'g'
```

An important thing to note is the interaction of alternate text encoding sections with the endTag character. Besides being used as a way to reset the text

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encoding mode, the endTag character is sometimes used in CML to separate two elements or to indicate the end of a block level element.

For example, when a list needs to be represented in CML, the list items are separated from each other by the endTag. In these instances, if a list item was represented using 8-bit encoded text, there would be 2 endTag characters in a row in the stream. The first endTag character, needed to end the 8-bit encoded text, would be 8 bits long. Then, to indicate the actual start of another list item, a 5-bit endTag character would be placed in the stream.

The Tag Data Type

Because the sequence of the tag escape character followed by Tag ID structure is used so often in the documentation, it is given it's own data type. It is defined as:

```
Tag     tagID:

Char    startTag = 1
Bit     longTag
if      (longTag == 0)
Bit[7]  tagID
else
Bit[15] tagID
```

That is, it's a startTag character (decimal 1) followed by a single bit specifying the length of the tagID, followed by either a 7 or 15 bit tagID. The tag escape character is normally 5 bits long, except when an alternate text encoding mode is in effect, in which case it's length depends on the particular text encoding mode.

For example, the CML sequence:

```
Tag     tag = smallTag                  // smallTag = 5
```

would look like this as a binary bit stream:

00001 0 0000101

Whereas the CML sequence:

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```
Tag     tag = bigTag                    // bigTag = 512
```

would look like this as a binary bit stream:

00001 1 000001000000000

The following CML sequence shows a tag after a section of 8 bit encoded text:

```
Tag     tag = textEncoding8Bit      // textEncoding8Bit = 6
Bit[8]  char = 'A'                  // 0x41
Tag     tag = smallTag              // smallTag = 5
Bit[5]  char = 6                    // 'a'
```

it would look like this as a binary bit stream:

00001	0	0000110	01000001	000000010	0000101	00110
tag Esc	textEncoding	8Bit	'A'	tagEsc	smallTag	'a'

CML Text & TextZ Types

Another common data type used in CML is the Text data type. This type is used to conveniently represent a string of characters. This type is a very powerful data type because it hides the complexity of escaping special characters and the actual number of bits required to represent each character.

For example, the CML sequence used above:

```
Bit[5]  char = 6                    // 'a'
Bit[5]  char = 5                    // ' '
Bit[5]  char = 1                    // tag escape character
Bit[8]  tagID = textEncoding8Bit
Bit[8]  char = 'B'                  // 'B'
Bit[8]  char = 'I'                  // 'I'
Bit[8]  char = 'G'                  // 'G'
Bit[8]  char = 0                    // endTag character
                                    //  switches back to 5-bit mode
Bit[5]  char = 9                    // 'd'
Bit[5]  char = 20                   // 'o'
Bit[5]  char = 12                   // 'g'
```

is represented using the Text data type as:

```
Text        string = "a BIG dog"
```


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The Text data type hides the complexities of escaping non-lower case alpha characters as well as the endTag character used to switch the mode back from 8-bit to 5-bit ASCII.

The combination of the Tag and Text types makes representing combinations of formatting and text sequences much easier. For example, the sequence used above that showed how bold text would be represented was:

```
Bit[5]    char = 6              // 'a'
Bit[5]    char = 5              // ' '
Bit[5]    char = 1              // tag escape character
Bit[8]    tagID = textBold      // constant value for
                                textBold
Bit[5]    char = 8              // 'c'
Bit[5]    char = 20             // 'o'
Bit[5]    char = 28             // 'w'
```

Using the Tag and Text types, this sequence can be represented as:

```
Text    string = "a "
Tag     tag = textBold
Text    string = "cow"
```

TextZ type

Another convenient type in CML is the TextZ type. This is basically a Text type with a terminating endTag character. This type is most often used in tag parameter lists. It can be defined simply as:

TextZ text:

```
Text        text
Char        end = endTag
```

As an example, the format of the meta tag is defined as:

```
Tag     tag = tagMeta
TextZ   name
TextZ   value
```

Where name and value are parameters of the meta tag and are delimited from each other and any text that might follow the tag by the endTag character at

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the end of each one. If a variable is defined as a TextZ type, the variable generally has an endTag character at the end of it, though the end could be implied by the presence of a following tag.

Tag Definitions

This section lists the various CML tags available. Each tag is described in detail along with its parameters, if any. This section refers to tags by name, but in the actual implementation a pre-defined constant is associated with each tag.

Background Attributes

TagBGColor

Description:
Used to set the background color.

Parameters:
Byte red
Byte green
Byte blue

Examples:
Tag tag = tagBGColor
Byte red = 0xFF
Byte green = 0x80
Byte blue = 0x80

TagBGImage

Description:
Used to set the background image. This image will be tiled to fill the entire window.

Parameters:
Image img // [still need to define image format]

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Examples:
Tag tag = tagBGImage
Image img = ... // [still need to define image format]

Text Attributes

TagTextColor

Description:
Used to set the text color.

Parameters:
Byte red
Byte green
Byte blue

Examples:
Tag tag = tagTextColor
Byte red = 0xFF
Byte green = 0x80
Byte blue = 0x80

Text "This text is reddish"

TagLinkColor

Description:
Used to set the color used to display visited or unvisited links

Parameters:
Bit visited
Byte red
Byte green
Byte blue

Examples:
Tag tag = tagLinkColor
Bit visited = 1 **// set color for visited**
// links
Byte red = 0xFF
Byte green = 0x80
Byte blue = 0x80

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tagTextColor

Description:
Used to set the text color.

Parameters:
Byte red
Byte green
Byte blue

Examples:
Tag tag = tagTextColor
Byte red = 0xFF
Byte green = 0x80
Byte blue = 0x80

Text "This text is reddish"

tagTextSize

Description:
Used to set the text size.

Parameters:
Bit relative // relative or absolute size
UIntV size // line height of text in pixels.

Examples:
Tag tag = tagTextSize
Bit relative = 0
UIntV size = 9

tagTextBold

Description:
Used to mark bold text style.

Parameters:
None

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Examples:
// Start bold text
Tag tag = tagTextBold
Text "This is bold text"

// End bold text
Char end = endTag

---

tagTextItalic

Description:
Used mark italic text style.

Parameters:
None

Examples:
// Start italic text
Tag tag = tagTextItalic

Text "This is italic text"

// End italic text
Char end = endTag

---

tagTextUnderline

Description:
Used to mark underlined text style.

Parameters:
None

Examples:
// Start underlined text
Tag tag = tagTextUnderline

Text "This is underlined text"

// End underlined text
Char end = endTag

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tagTextFormat

Description:
Used to mark the font style and phrase elements.

Parameters:
Bit[4] format // one of monoSpaced, strike,
// bigger, smaller, sub, sup,
// definition, code, sample,
// keyboard, variable, cite

Examples:
Tag tag = tagTextFormat
Bit[4] format = code

Text "itemP = itemP->nextItemP;"

tag8BitEncoding

Description:
Used to mark the beginning of 8-bit encoded text.

Parameters:
None

Examples:
Tag tag = tag8BitEncoding

Text "THIS IS 8-BIT ENCODED TEXT"

// End 8-bit encoded text
Char end = endTag

tagH1..tagH6

Description:
Used to mark document headings.

Parameters:
Bit[3] align // one of alignLeft, alignCenter,
// alignRight

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Examples:
Tag tag = tagH1
Bit[3] align = alignCenter

Text "This is a Heading"

Char endTag // end heading tag

---

tagMeta

Description:
Used to mark name/ value pairs describing document properties.

Parameters:
TextZ name
TextZ content

Examples:
Tag tag = tagMeta
TextZ "History"
TextZ "Quote Results"

---

tagDatePicker

Description:
Used to specify a date value. It takes either a valid date, or if 0 is specified, the current date is assumed. The date is specified as the number of seconds since midnight, 1/1/1904 GMT. The dateLo field contains low 32 bits of this value and the dateHi field contains the upper 32 bits of this value (usually 0).

Parameters:
UIntV dateHi
UIntV dateLo

Examples:

Tag tag = tagDatePicker
UIntV dateHi = 0
UIntV dateLo = 0xA1234000

---

tagTimePicker

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Description:
Used to specify a time value. It takes either a valid time, or if 0 is specified, the current time is assumed. The time is specified as the number of seconds since midnight.

Parameters:

UIntV seconds

Examples:
Tag tag = tagTimePicker
UIntV seconds = 3600 // 1:00 am.

Paragraph Attributes

---

tagParagraphAlign

Description:
Used to set paragraph alignment to either left, center, or right.

Parameters:
Bit[3] align // one of alignCenter, alignLeft, or
// alignRight.

Examples:
// Turn on center alignment
Tag tag = tagParagraphAlign
Bit[3] align = alignCenter

Text "\nThis paragraph is centered."

// Turn off left alignment
Tag tag = tagParagraphAlign
Bit[3] align = alignLeft

Text "\nThis paragraph is left aligned."

---

tagMarginIndent

Description:
Used to set the indent amount of the margins. The indent parameter specifies the number of pixels to indent on both the left and right margins of the window. The indenting takes effect on the next line of text, whether due to word wrap or line break.

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Parameters:
UIntV indent // number of pixels to indent

Examples:
// Indent the next paragraph by 10 pixels
Tag tag = tagMarginIndent
UIntV indent = 10

Text "\nThis text is indented."

// Restore indent
Tag tag = tagMarginIndent
UIntV indent = 0

---

tagBlockQuote

Description:
Used to mark the beginning of block quotations.

Parameters:
None

Examples:
Tag tag = tagBlockQuote

Text "The whole problem with the world is that fools and fanatics are always so certain of themselves, but wiser people so full of doubts."
Text "- Bertrand Russell"
Lists

---

tagListOrdered

Description:
Used to mark the beginning of an ordered (numbered) list of items. Each item in the list is ended either by a endTag character or a tagListItemCustom tag with parameters. The end of the list is indicated by the endTag character.

Parameters:
Bit[3] type // one of listT1, listTa, listTA,
// listTi, or listTI
UIntV start // starting sequence number minus 1

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Bit compact // compact spacing between items

Examples:
// The list header
Tag tag = tagListOrdered
Bit[3] type = listT1
UIntV start = 0
Bit compact = 0

// The list items.
Text "First item"
Char itemSeparator = endTag

Text "Second item"
// ---------- // itemSeparator not used here

Tag tag = tagListItemCustom
Bit[3] type = listTa
UIntV value = 4
Text "Third item"
Char end = endTag // end of 3rd item

// The end of the list
Char end = endTag // end of list

---

tagListUnordered

Description:
Used to mark the beginning of an unordered list of items. Each item in the list is ended either by a endTag character or a tagListItemCustom tag with parameters. The end of the list is indicated by the endTag character.

Parameters:
Bit[3] type // one of listTDisk, listTSquare, or
// listTCircle
Bit compact // compact spacing between items

Examples:
// The list header
Tag tag = tagListUnordered
Bit[3] type = listTDisk
Bit compact = 0

// The list items.

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```
Text    "First item"
Char    itemSeparator = endTag

Text    "Second item"
// ----------  // itemSeparator not used here

Tag     tag = tagListItemCustom
Bit[3]  type = listTSquare
UIntV   value = 0
Text    "Third item"
Char    itemSeparator = endTag        // end of 3rd item

// The end of the list
Char    endList = endTag
```

---

tagListItemCustom

Description:
Used to mark the beginning of a custom list item in either an ordered or unordered list. Most items in lists are separated by endTag characters, but if the bullet style, numbering style, or sequence number of an item is not the default, the tagListItemCustom tag is used instead.

Parameters:

```
Bit[3]  type    // The bullet or number style
UIntV   value   // ignored for unordered lists.
```

Examples:

```
Tag     tag = tagListItemCustom
Bit[3]  type = listTSquare
UIntV   value = 0

Text    "Third item"
Char    itemSeparator = endTag
```

---

tagListItemDefinition

Description:
Used to mark the beginning of a definition item in a definition list.

Parameters:
None

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Examples:
Tag tag = tagListItemDefinition

Text "This is the definition of the first item"
Forms

---

tagForm

Description:
Used to mark the start of a form. A form encloses one or more input items and ends with an endTag character.

There are essentially 2 classes of forms for the wireless communications device 100 as described in the Forms Processing section below: standalone forms (like in standard HTML) and server dependent forms. Server dependent forms can be much smaller than standard forms and are typically the only type of form received over a wireless link. Standard forms on the other hand are designed to be pre-loaded onto the wireless communications device 100 through other means (HotSync, built into ROM, etc.).

A standalone form is indicated by a 1 in the standalone attribute of the form tag. A 1 in this bit indicates that the form also has post and action attributes and that each of it's input fields have the necessary attributes (name and value) for submitting the form without making the proxy reference the original HTML form off the internet first. The encoding normal form submissions section below describes how to submit a standalone form to the proxy server 180.

A server dependent form is indicated by a 0 in the standalone attribute. A 0 in this bit indicates that the form does not have post or action attributes and that it's input fields do not have associated name or value attributes. When this type of form is sent to the proxy server 180, the proxy server 180 first references the original HTML form off the internet before it can actually submit the request to the CGI script. The Encoding Server Dependent Form Submissions section below describes how to send a server dependent form submission to the proxy server 180.

The form Index is assigned by the proxy and starts at 0 for the first form in a document.

The post attribute is 0 if the form should be submitted to the CGI script using the HTTP GET method or 1 if the form should be submitted using the HTTP POST method. Currently, only the GET method is supported.

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The action attribute contains the URL of the CGI script on the server that handles the form submission.

The secure bit is only present for server-dependent forms The secure bit is set if the action URL for the form is for a secure site (i.e. uses the HTTPS scheme). The secure bit is used by the wireless client 405 to determine if the wireless client 405 should send the form submission to the proxy server 180 encrypted or not. For standalone forms, the wireless client 405 checks the scheme that is in the action URL parameter to see if the submission should be encrypted or not.

Parameters:

```
UIntV  formIndex          // assigned by proxy server
Bit    standalone
if (standalone)
Bit    post          // if 1, use POST instead of GET
TextZ  action        // URL of the CGI-script
else
Bit    secure        // true if URL is HTTPS scheme
```

Examples:

```
Tag    tag = tagForm
UIntV  formIndex = 0
Bit    standalone = 1
Bit    post = 0
TextZ  action = "http://www.server.com/cgi-bin/submit"

// The form input items
Text   "Age 0-12:"

Tag tag =      tagInputRadio
Bit checked = 0
UIntV          group = 0
Bit            hasName = 1
Bit            hasValue = 1
TextZ          name = "age"
TextZ          value = "0-12"

Text   "Age 13-17:"

Tag tag =      tagInputRadio
Bit checked = 1
UIntV  group = 0
Bit            hasName = 1
```


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```
Bit         hasValue = 1
TextZ       name = "age"
TextZ  value = "13-17"

Tag tag =   tagInputSubmit
Bit         hasName = 0
Bit         hasValue = 1
TextZ       value = "OK"

Char   endForm = endTag
```

TagInputRadio

Description:
Used to represent radio buttons in a form. The checked parameter indicates the initial state of the control. The group parameter is assigned by the proxy server 180 and allows the wireless client 405 to perform mutual exclusion selecting.

The hasName and hasValue are normally only set in standalone forms and indicate the presence of following text fields that contain the control's name and value.

Parameters:

```
Bit checked
UIntV       group
Bit         hasName
Bit         hasValue
if (hasName)
TextZ name
if (hasValue)
  TextZ value
```

Examples:

```
Tag    tag = tagInputRadio
Bit    checked = 0
UIntV  group = 0
Bit    hasName = 1
Bit    hasValue = 1
TextZ  name = "age"
TextZ  value = "13-17"

Text   "Age 13-17:"
```


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TagInputCheckbox

Description:
Used to represent checkboxes in a form. The checked parameter indicates the initial state of the control.

The hasName and hasValue parameters are normally only set in standalone forms and indicate the presence of following text fields that contain the control name and value.

Parameters:

```
Bit     checked
Bit             hasName
Bit             hasValue
if (hasName)
TextZ                   name
if (hasValue)
TextZ                   value
```

Examples:

```
Tag     tag = tagForm
```

```
Tag     tag = tagInputCheckbox
Bit     checked = 0
Bit     hasName = 0
Bit     hasValue = 0
```

tagInputTextLine

Description:
Used to represent single line input text fields within a form. A maxLength parameter of 0 means no limit on the number of characters entered.

The hasName parameter is normally only set in standalone forms. The hasValue parameter may be set in either type of form and indicates the initial default text for the input item.

Parameters:

```
UIntV size      // visible width of field in
// characters
UIntV maxLength              // maximum number of allowed
// characters
Bit             hasName
```


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```
Bit             hasValue
if (hasName)
  TextZ name
if (hasValue)
TextZ  value
```

Examples:

```
Tag    tag = tagForm
Text   "Enter Name:"
```

Tag tag =	**tagInputTextLine**
UIntV	**size = 20**
UIntV	**maxLength = 0**
Bit	**hasName = 0**
Bit	**hasValue = 1**
TextZ	**value = "your name here..."**

TagInputTextArea

Description:

Used to represent a multi-line input text field within a form. The text element immediately following this tag is the initial text for the input field. The end of the initial text is indicated by an endTag character.

The hasName parameter is normally only set in standalone forms. The hasValue parameter may be set in either type of form and indicates the initial default text for the input item.

Parameters:

```
UIntV  rows   // number of rows
UIntV  cols   // number of columns
Bit           hasName
Bit           hasValue
if (hasName)
  TextZ name
if (hasValue)
  TextZ value
```

Examples:

```
Text   "Enter Address:"
```

Tag tag =	**tagInputTextArea**
UIntV	**rows = 2**
UIntV	**cols = 20**
Bit	**hasName = 1**

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Bit hasValue = 1
TextZ name = "address"
TextZ value = "your address here..."

---

tagInputPassword

Description:
Used to represent single line password input fields within a form. A maxLength parameter of 0 means no limit on the number of characters entered.

The hasName and hasValue parameters are normally only set in standalone forms and indicate the presence of following text fields that contain the field's name and value.

Parameters:

```
UIntV size      // visible width of field in
                // characters
UIntV maxLength     // maximum number of allowed
                    // characters
Bit   hasName
Bit   hasValue
if (hasName)
  TextZ name
if (hasValue)
  TextZ value
```

Examples:

Text "Enter Password:"

Tag tag = tagInputPassword
UIntV size = 20
UIntV maxLength = 0
Bit hasName = 0
Bit hasValue = 0

TagInputSubmit

Description:
Used to represent submit buttons in a form. The label parameter is the button's label. An endTag character marks the end of the label.

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The hasName parameter is normally only set in standalone forms. The hasValue parameter may be set in either type of form and indicates the text that should appear inside the button. If the hasValue parameter is omitted, the default text of "submit" will be placed in the button.

Parameters:

```
Bit         hasName
Bit         hasValue
if (hasName)
  TextZ name
if (hasValue)
            TextZ value
```

Examples:

Tag tag = tagInputSubmit
Bit hasName = 0
Bit hasValue = 1
TextZ value = "OK"

---

tagInputSubmitImage

Description:
Used to represent graphical submit buttons in a form.

Parameters:

```
Bit[3] align  // one of alignTop, alignMiddle,
              // alignBottom, alignLeft,
              // alignRight'
Bit           hasName
if (hasName)
  TextZ name
Image image   // [format TBD...]
```

Examples:

Tag tag = tagInputSubmitImage
Bit[3] align = alignBottom
Bit hasName = 1
TextZ name = "map"
Image *[TBD...]*

---

tagInputReset

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Description:
Used to represent reset buttons in a form.

The hasValue parameter may be set to indicate the text that should appear inside the button. If the hasValue parameter is omitted, the default text of "reset" will be placed in the button.

Parameters:
Bit hasValue
if (hasValue)
TextZ value;

Examples:
Tag tag = tagInputReset
Bit hasValue = 1
TextZ value = "Reset"
Char endTag

Text "Some random text"

TagInputSelect

Description:
Used to represent select menus in a form. The multiple parameter should be set if multiple items are allowed to be selected at once. If multiple is set, then the size parameter indicates how many visible choices appear at once in the menu.

The hasName parameters is normally only set in standalone forms.

This element is followed by 1 or more Text elements representing the menu options that are separated by endTag characters or tagSelectItemCustom tags. The tagSelectItemCustom tag only needs to be used for pre-selected items. An additional endTag character follows the last item and indicates the end of the select menu.

Parameters:
Bit multiple // set if multiple choices allowed
UIntV size // number of visible items at once
Bit hasName
if (hasName)
TextZ name

Examples:
Tag tag = tagInputSelect

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Bit multiple = false
UIntV size = 0
Bit hasName = 1
TextZ name = "choice"

// The select items.
Text "First choice"
Char itemSeparator = endTag

Text "Second choice"
Char itemSeparator = endTag

Text "Third choice"
Char itemSeparator = endTag

Char endSelect = endTag

---

tagSelectItemCustom

Description:
Used to mark the beginning of a custom select item. Most items in select lists are separated by endTag characters, but if an item is marked as pre-selected, the tagSelectItemCustom tag is used instead.

The hasValue parameter is normally only set in standalone forms. It can be used to indicate the text that should be included as the value of this item during the form submission. If this parameter is omitted, then the text that follows the tagSelectItemCustom tag is used instead.

Parameters:
Bit selected // non-zero of pre-selected
Bit hasValue
if (hasValue)
TextZ value

Examples:
Tag tag = tagSelectItemCustom
Bit selected = 1
Bit hasValue = 1
TextZ value = "3"

Text "Third item"
Char itemSeparator = endTag

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Tables

TagTable

Description:
Used to mark the start of a table. If the width parameter is 0, the width of the table will be calculated from the contents. The border parameter can be 0 to suppress the border. If cellspacing is non-zero, then borders will be draw around every cell. The cellPadding sets the padding in pixels between the border around each cell and the cell's contents - default is 0.

Each row in the table starts out with a tagTableRow tag that has optional parameters for the horizontal and vertical alignment of the cells in that row.

The cells within a table row are separated by endTag's, or tagTableColumn tags. The tagTableColumn tags mark header cells, or permit attributes to be set for the next cell. The first cell in each row can have a tagTableColumn tag preceding it if necessary in order to change its attributes.

Parameters:

```
Bit[3]  hAlign // one of alignLeft, alignCenter,
        // alignRight
UIntV   width  // table width in pixels
UIntV   border // border width in pixels
UIntV   cellSpacing    // cell spacing in pixels
UIntV   cellPadding    // cell padding in pixels
```

Examples:

```
Bit[3]  hAlign = alignCenter
UIntV   width = 0
UIntV   border = 0
UIntV   cellSpacing = 0
UIntV   cellPadding = 0

Tag     tag = tagTableRow
Bit     hasAlign = 0
Text    "row1, col1"
Char    endTag

Text    "row1, col2"
Char    endTag
```


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```
Tag    tag = tagTableRow
Bit    hasAlign = 0

Text   "row2, col1"
Char   endTag

Text   "row2, col2"
Char   endTag

Char   endTag        // end of table
```

TagCaption

Description:
Used to mark the caption to be placed above the top or below the bottom of a table.

Parameters:

```
Bit    captionAtTop                  // if 0, caption at bottom
Text   caption                       // table caption
Char   endCaption = endTag // end of caption
```

Examples:

```
Tag    tag = tagCaption
Bit    captionAtTop = 1
Text   "Table Title"
Char   endTag        // end of caption
```

TagTableRow

Description:
Used to separate rows of a table. Has 2 optional parameters to set the vertical and horizontal alignment of cells within the row.

Each row in the table starts out with a tagTableRow tag that has optional parameters for the horizontal and vertical alignment of the cells in that row.

Parameters:

```
Bit    hasAlign
if (hasAlign == 1)
       Bit[3] hAlign          // one of alignLeft, alignCenter,
              // alignRight
       Bit[3] vAlign          // one of alignTop, alignMiddle,
```


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```
                    // alignBottom
```

Examples:

```
Tag tag = tagTableRow
Bit     hasAlign = 0

Text    "row1, col1"
Char    endTag

Tag tag = tagTableRow
Bit hasAlign = 1
Bit[3]  hAlign = alignRight
Bit[3]  vAlign = alignTop

Text    "row2, col1"
Char    endTag
```

---

tagTableColumn

Description:

Used to mark a header or data cell in a table.

All cells within a table row are separated by either endTag's or tagTableColumn tags. The tagTableColumn tags denote whether the next cell is a header cell or a data cell. In addition, the tagTableColumn tags permit attributes to be set for the next cell. The first cell in each row can have a tagTableColumn tag preceding it if necessary in order to change its attributes.

The rowSpan and colSpan parameters are 0-based, which means that a value of 0 in these fields means 1 row and 1 column respectively. The width and height parameters can be 0 to make them automatically determined by the cell contents.

Parameters:

```
Bit     headerCell              // 1 for header cell,
                                // 0 for data cell
Bit     hasAttribute
if (hasAttribute == 1)
Bit             noWrap          // suppress word wrap
UIntV           rowSpan         // number of rows spanned by
                                // cell minus 1
UIntV           colSpan         // number of columns spanned
                                // by cell minus 1
```


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Bit[3]	hAlign	// horizontal alignment
Bit[3]	vAlign	// vertical alignment
UIntV	width	// width of cell in pixels
UIntV	height	// height of cell in pixels.

Examples:

Tag tag = tagTableColumn
Bit headerCell = 0
Bit hasAttribute = 1
Bit noWrap = 0
UIntV rowSpan = 0
UIntV colSpan = 0
Bit[3] hAlign = alignRight
Bit[3] vAlign = alignTop
UIntV width = 0
UIntV height = 0

Text "row2, col2"
Char endTag

Hyperlinks

TagHyperlink

Description:

Used to represent hyperlinks. All text enclosed between the tagAnchor tag and the terminating endTag are part of the hyperlink.

Unlike the <a> tag in HTML which can be used to define hyperlinks or local anchors (i.e. fragment identifiers), the tagHyperlink tag is only used to define hyperlinks. The tagAnchor tag, defined below, is used exclusively to define local anchors.

The hasTitle bit can be set if a title is included. Normally, documents sent wirelessly will not include a title in order to conserve space.

If this hyperlink is to another location within the same document (i.e. a link to a tagAnchor), then internal will be set to 1 and the anchorIndex parameter indicates the index of a local tagAnchor to jump to. The first tagAnchor in the document is index 0, the next one is index 1, etc. The

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recordIndex parameter indicates which web resource to go to, 0 means the current web resource. A non-zero value represents the database record ID of the new web resource and is only used for wireless communications device 100 PQP databases that have multiple web resources stored in them - each in it's own record.

Otherwise, if this hyperlink is to another document, then internal will be 0 and hasHRef will be set if the URL of the document is included. Normally documents obtained wirelessly will not include href URLs and hyperlinks are followed by sending an indirect hyperlink URL request to the proxy server 180. Documents designed to be installed onto the wireless communications device 100 through HotSync or other wireline means however will generally include an href URL and these kinds of hyperlinks can be jumped to by sending a normal URL request to the proxy server 180.

Parameters:

```
Bit     hasTitle
if (hasTitle)
  TextZ       title
Bit     internal
if (internal)
  UIntV       recordIndex
  UIntV       anchorIndex
else
  Bit  hasHRef
  if (hasHRef)
TextZ  href
```

Examples:

Here is an example of an external explicit link which would typically be used by a document designed to be loaded onto a Handheld computer through HotSync or some non-wireless means:

```
Tag       tag = tagHyperlink
Bit       hasTitle = 1
TextZ     title = "3Com home page"
Bit       internal = 0
Bit       hasHRef = 1
TextZ     href = http://www.3com.com/
```


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Text "Click on this text"

Char endTag // terminates tagAnchor

Here is an example of an external indexed link that would typically be used by a document that was obtained wirelessly. Notice that it does not include a URL or a title in order to conserve space.

Tag tag = tagHyperlink
Bit hasTitle = 0
Bit internal = 0
Bit hasHRef = 0

Text "Click on this text"

Char endTag // terminates tagAnchor

Here is an example of an internal link that is used to jump to another location within the same document. It indicates to jump to anchor #4, which is the 5th tagAnchor tag in the current document (the first tagAnchor is given index #0).

Tag tag = tagHyperlink
Bit hasTitle = 0
Bit internal = 1
UIntV recordIndex = 1 // stay in this current resource
UIntV anchorIndex = 4 // go to the 5th tagAnchor tag

Text "Click on this text"

Char endTag // terminates tagAnchor

TagAnchor

Description:

Used to represent local document anchors, or fragment identifiers within a document.

Unlike the <a> tag in HTML which can be used to define hyperlinks or local anchors (i.e. fragment indentifiers), the tagAnchor tag is only used to define local anchors. The

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tagHyperlink tag, defined above, is used exclusively to define hyperlinks.

Normally, tagAnchors don't need an associated name since the tagHyperlink tag jumps to tagAnchors by index. The first tagAnchor in a document is index #0, the second is index #1, etc. However, documents designed to be installed onto the Handheld computer through HotSync or wireline means might include the anchor names so that other documents could include hyperlinks that jump to that location using a fragment identifier URL (something like http://www.mine.com/#anchorName).

Parameters:

```
Bit     hasName
if (hasName)
  TextZ       name
```

Examples:

Tag	**tag = tagAnchor**
Bit	**hasName = 0**

Graphic Elements

TagImage

Description:

Used to represent inline images. Any of the UIntV parameters to the tagImage tag can be set to nil to generate default behavior.

Parameters:

```
Text        alternateText       // alternate text
Char        endTag              // marks end of alternate text
Bit[3]      align   // one of alignTop, alignMiddle,
                    // alignBottom, alignLeft, alignRight
UIntV       height              // suggested height
UIntV       width   // suggested width
UIntV       border              // suggested border width
UIntV       hspace              // suggested horizontal gutter
UIntV       vspace              // suggested vertical gutter
Bit     ismap       // true if hyperlink

Image       imageData           // image data [TBD...]
```


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Examples:

Text "This is some text"

Tag tag = tagImage
Text "This is an image of a PalmPilot"
Char endTag
Bit[3] align = alignBottom
UIntV height = 0
UIntV width = 0
UIntV border = 0
UIntV hspace = 0
UIntV vspace = 0
Bit ismap = 1
Image image = *[TBD...]*

TagHorizontalRule

Description:

Used to place a horizontal rule graphic in the page. If the custom parameter is 0, then no other parameters follow and the rule is placed with a default width, height, and color.

Parameters:

```
Bit custom
if (custom == 1)
Bit[3]      align       // one of alignLeft, alignCenter, or
//alignRight
Bit    noShade     // render in solid color
UIntV  size    // height in pixels
UIntV  width   // width in pixels
```

Examples:

// A default rule

Tag tag = tagHorizontalRule
Bit custom = 0

Text "Some random text"

// A custom rule
Tag tag = tagHorizontalRule
Bit custom = 1
Bit[3] align = alignCenter
Bit noShade = 0

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UIntV size = 3
UIntV width = 50

Some embodiments of the invention include a method of converting an HTML message into a second message. The method comprises translating the HTML message into a compact markup language (CML). The HTML message comprises HTML constructs. CML representation of HTML constructs comprises a stream of data with embedded tags. The embedded tags comprise binary data corresponding to the HTML constructs. In some embodiments, the stream of data comprises text and image data. The text data comprises multibit character representation for selected characters, eight bit representations for a first set of unselected characters, and sixteen bit representations for a second set of unselected characters. The second message typically contains information requested by the wireless client 405. The second message is often referred to herein as the response message, but could be any message that requires formatting of an HTML message in CML prior to communication to a requesting host.

HTML Element Functionality

The following sections outline features of HTML version 3.2 and their level of functionality on the wireless client 405. When using the browser 104 engine, the data sent to the wireless client 405 from the proxy server 180 is in CML that is generated dynamically from the original HTML document. When the standard browser engine is used however, the wireless client 405 gets the HTML source directly from the web server.

The Head Elements

HEAD

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HEAD	yes	N/A

Description:
The head start and end tags enclose the document head and are optional.

Examples:
<HEAD>

CML Representation:
Not needed. Every CML document starts with a title string terminated by an endTag character, which is the implied "head" portion.

TITLE

TITLE	yes	N/A

Description:
The title of the document. Usually displayed in the window's title bar.

Examples:
<TITLE>A study of population dynamics</TITLE>

CML Representation:
No tag needed. Every CML document is defined to start with a title string terminated by an endTag character.

STYLE

STYLE	yes	N/A

Description:
A place holder for future versions of HTML which may support style sheets.

Examples:

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<STYLE>some random text</STYLE>

CML Representation:
The tagStyle tag and associated endTag character.

SCRIPT

SCRIPT	yes	N/A

Description:
A place holder for future versions of HTML which may support client-side scripts.

Examples:
<SCRIPT>some random text</SCRIPT>

CML Representation:
The tagScript tag and associated endTag character.

ISINDEX

ISINDEX	no	N/A

ISINDEX Attributes:

Prompt	Text	The prompt string

Description:
The ISINDEX element is a simple way to implement a single line text input field. The same behavior can be accomplished through use of a single field FORM element in the body.

Examples:
<ISINDEX PROMPT="Search Phrase">

CML Representation:
ISINDEX elements are translated into CML representations for a form in the body portion - there is no dedicated CML tag for ISINDEX.

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BASE

BASE	No	N/A

BASE Attributes:

Href	url	the base URL

Description:
The BASE element gives the base URL for dereferencing relative URLs.

Examples:
<BASE HREF="http://www.acme.com">

CML Representation:
CML documents do not contain hotlink URLs so no equivalent to this field is necessary. The wireless client 405 simply tells the proxy server 180 when the user clicks on a hotlink by passing the hotlink's index to the proxy server 180. The proxy server 180 then looks up the appropriate URL using the original document.

META

META	no	N/A

META Attributes:

Http-equiv	Text	HTTP response header name
name	Text	Property name
Content	Text	Property value

Description:
The META element can be used to include name/value pairs describing properties of a document such as author, expiration date, etc. The NAME attribute specifies the property name while the CONTENT attribute specifies the property value.

Examples:

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<META NAME="Author" CONTENT="Dave Raggett">

CML Representation:
META elements are represented by tagMeta CML tags.

LINK

LINK	No	N/A

href	url	A URL specifying the linked resource
rel	text	forward link types
rev	text	reverse link types
title	text	advisory title string

Description:
The LINK element provides a media independent method for defining relationships with other documents and resources. Very few browsers take advantage of it.

Examples:
<LINK REL=Contents HREF=toc.html>
<LINK REL=Previous HREF=doc32.html>
<LINK REL=Next HREF=doc33.html>

CML Representation:
None.

The Body

BODY

BODY	Yes	N/A

Body Attributes:

Bgcolor	color	The background color for the document.

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Text	color	The text color.
Link	color	The color to use for unvisited hypertext links.
Vlink	color	The color to use for visited hypertext links
Background	url	The URL for an image to tile the background with

Description:
The body start and end tags enclose the document body and may be omitted.

Examples:
<BODY BGCOLOR=white TEXT=black LINK=red VLINK="#C0FFC0">

CML Representation:
The body section starts immediately after the endTag-character terminated title in a CML document and does not have an associated tag. The TEXT, BGCOLOR, LINK, VLINK, and BACKGROUND attributes are represented by the standalone CML tags tagTextColor, tagBGColor, tagLinkColor, tagLinkColor, and tagBGImage respectively.

Headings

H1, H2, H3, H4, H5, H6

H1	yes	Block
H2	yes	Block
H3	yes	Block
H4	yes	Block
H5	yes	Block
H6	yes	Block

H1, H2, H3, H4, H5, H6 Attributes:

Align	enum	Can be any one of LEFT, CENTER, or RIGHT

Description:
The H1 through H6 tags are used for document headings. Start and end tags are required. H1 elements are more important than H2 elements, and so on.

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Examples:
<H1 ALIGN=CENTER>This is the Heading Text</H1>

CML Representation:
Heading elements are represented by the corresponding tagH1..tagH6 CML tags.

Paragraph Breaks and Formatting

BR

BR	No	Text

BR Attributes:

clear	enum	Used to move down past floating images on either margin.

Description:
The BR element forces a line break. The CLEAR attribute can be used to move down past floating images on either margin.

Examples:
<BR CLEAR=ALL>

CML Representation:
BR elements are represented in CML as 1 or more imbedded line-break characters in the text.

P

P	Optional	Block

P Attributes:

Align	enum	Can be any one of LEFT, CENTER, or RIGHT

Description:

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The P tag signifies a paragraph break and is typically rendered as a line break followed by a blank line (i.e. another line break). The end tag is optional because it can be inferred by the parser.

Examples:

<P>This is the first paragraph.
<P>This is the second paragraph.

CML Representation:

The P tag will be replaced with 1 or more imbedded linebreak characters in the text. If the align attribute is specified, then a tagParagraphAlign CML tag will also be placed at the beginning (and possibly end) of the paragraph.

DIV, CENTER

DIV	Yes	Block
CENTER	Yes	Block

DIV Attributes:

align	Enum	Can be any one of LEFT, CENTER, or RIGHT

Description:

The DIV element can be used to structure an HTML document as a hierarchy of divisions. The CENTER element is equivalent to DIV with an ALIGN attribute of CENTER. This element differs from the P element in that it doesn't generate 2 line breaks (with the accompanying blank line).

Examples:

<DIV ALIGN=CENTER>
This section of text is centered.
</DIV>

CML Representation:

The DIV or CENTER section will be replaced with a linebreak character in the text and the appropriate imbedded tagParagraphAlign CML tag.

HR

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HR	No	Block

Align	enum	One of LEFT, CENTER, or RIGHT
Noshade	void	Render as solid color instead of a 2 color groove
Size	number	Height of the rule in pixels
Width	number	Width of the rule in pixels (WIDTH=100) or as a percentage (WIDTH="50%")

Description:
The HR element renders a horizontal line across the page and is used to indicate a change in topic.

Examples:
<HR ALIGN=center>

CML Representation:
This element is represented by the tagHorizontalRule CML tag.

Lists

UL

UL	Yes	Block

UL Attributes:

type	enum	Can be any one of DISC, SQUARE, or CIRCLE
compact	void	Render list in a more compact style

Description:
The UL tag is used for unordered lists. The LI element is used for individual list items within the list.

Examples:
<UL>
<LI>The first item
<LI>The second item
</UL>

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CML Representation:
The UL tag will be replaced with the tagListUnordered CML tag. List items are separated from each other by endTag characters and the entire list is terminated by an endTag character. For example:

Tag	tag=tagListUnordered
Bit[3]	type = listTCircle
Bit	compact = 0
Text	item="The first item"
Char	itemSeparator = endTag
Text	item="The second item"
Char	itemSeparator = endTag
Char	endList = endTag

OL

OL	Yes	Block

Type	enum	Can be any one of 1, a, A, I, or I
Start	number	Specifies the starting sequence number
Compact	void	Render list in a more compact style

Description:
The OL tag is used for ordered (numbered) lists. The LI element is used for individual list items.

Examples:

```
<OL START=4>
 <LI>The first item
 <LI>The second item
</OL>
```

CML Representation:
The OL tag will be replaced with the tagListOrdered CML tag. List items are separated from each other by endTag characters and the entire list is terminated by an endTag character. For example:

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```
Tag tag=tagListOrdered
Bit[3]          type = listT1
UIntV           start = 0
Bit compact = 0

Text            item="The first item"
Char            itemSeparator = endTag

Text            item="The second item"
Char            itemSeparator = endTag

Char            endList = endTag
```

MENU, DIR

MENU	Yes	Block
DIR	Yes	Block

Compact	void	Render list in a more compact style

Description:
The MENU and DIR elements are essentially the same as UL elements.

Examples:

```
<MENU>
 <LI>The first choice
 <LI>The second choice
</MENU>
```

CML Representation:
See the UL tag description.

LI

LI	No	Block

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LI Attributes within UL:

Type	enum	Can be any one of DISC, SQUARE, or CIRCLE

LI Attributes within OL:

Type	enum	Can be any one of 1, a, A, I, or I
Value	number	Sequence number for this list item

Description:
The LI element is used within ordered (OL) or unorder (UL) lists.

Examples:
<OL START=4>
<LI>The first item
<LI>The second item
</OL>

CML Representation:
By default, list items are separated from each other by the endTag character. List items which do not have default attributes start with the tagListItemCustom tag which allows the TYPE and VALUE attributes to be specified.

For example:

```
Text      item="The first item"
Char      itemSeparator = endTag

Text      item="The second item"
// - item separator not used here

Tag       tag = tagListItemCustom
Bit[3]    type = listTSquare
UIntV     value = 0
Text      "Third item"
Char      itemSeparator = endTag
```

DL, DT, DD

DL	Yes	Block
DT	Yes	Block
DD	Yes	Block

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DL Attributes:

Compact	Void	Render list in a more compact style

Description:
The DL element is used to enclose 1 or more DT (definition term) and DD (definition) elements.

Examples:
<DL>
<DT>PalmPilot<DD>A killer PDA
<DT>WinCE<DD>Ouch!
</DL>

CML Representation:
The required formatting for displaying the definition list is accomplished by replacing the DL and DT tags with linebreaks. The DD tags are represented by tagListItemDefinition CML tags.

Formatted Blocks

ADDRESS

ADDRESS	yes	Block

Description:
The ADDRESS start and end tags can be used to enclose authorship and contact details for the current document.

Examples:
<ADDRESS>
Newsletter editor
J.R. Brown
8723 Buena Vista, Smallville, CT 01234
Tel: +1 (123) 456 7890
</ADDRESS>

CML Representation:
The ADDRESS start tag will be replaced with the appropriate tagTextSize, tagTextFont, etc. CML tags as necessary in order to represent the address section in a proportional, normal size, italic font.

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PRE, XMP, LISTING

PRE	Yes	Block
XMP	Yes	Block
LISTING	Yes	Block
PLAINTEXT	Yes	Block

PRE Attributes:

Width	Number	Hint of required width in characters

Description:

The PRE element can be used to include pre-formatted text. Text within this element is rendered in a fixed pitch font preserving white space. The PLAINTEXT, XMP and LISTING elements are obsolete tags that behave the same as PRE.

Examples:

<PRE>
Higher still and higher
From the earth thou springest
</PRE>

CML Representation:

The text enclosed by PRE elements will be prepended with the CML tagTextFont, tagTextSize etc. elements as needed in order to render it in a normal size, fixed pitch font. The WIDTH attribute is only used by the proxy server 180 (to pick an appropriate font size) and is not present in the CML.

BLOCKQUOTE

BLOCKQUOTE	Yes	Block

Description:

The BLOCKQUOTE element is typically rendered as an indented paragraph.

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Examples:
<BLOCKQUOTE>They went in single file</BLOCKQUOTE>

CML Representation:
The BLOCKQUOTE start and end tags will be represented by the tagBlockQuote CML tag.

Forms

FORM

FORM	Yes	Block

FORM Attributes:

Action	Url	Which URL to submit the form results to
Method	Enum	Either "GET" or "POST"
Enctype	MIME	Typically "application/x-www-form-urlencoded"

Description:
The FORM element is used to enclose a set of form input elements where users can enter information, select check boxes and radio buttons, select choices, etc.

Examples:
<FORM METHOD=POST
ACTION="http://www.cc.ukans.edu/cgi-bin/post-query">

Please help us by filling this out:
<P>organization: <INPUT NAME="org" TYPE=TEXT
SIZE="48">
<P>Commercial? <INPUT NAME="commerce"
TYPE=checkbox>
How many users? <INPUT NAME="users" TYPE=int>
<P><INPUT TYPE=submit> <INPUT TYPE=reset>

</FORM>

CML Representation:
This element is represented by the tagForm CML tag. The attributes of the FORM element (action, method, enctype) are not applicable on the client and hence are not included in the CML

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representation. When the user hits the submit button for a form, the wireless client 405 tells the proxy server 180 which form's submit button was pressed along with the values of the various input fields, and relies on the proxy server 180 to take the appropriate action using the FORM information from the original HTML document.

INPUT

INPUT	No	Text

INPUT Attributes:

Type	enum	One of TEXT, PASSWORD, CHECKBOX, RADIO, SUBMIT, RESET, FILE , HIDDEN, or IMAGE.
name	text	The property name that this input represents
value	text	The initial property value, or the label for submit and reset buttons
checked	void	Used to initialize checkboxes and radio buttons to their checked state
size	number	Used to set the visible size of text fields to the given number of characters
maxlength	number	Used to set the maximum number of characters permitted in a text field
src	url	Specifies a URL for the image to associate with a graphical submit button
align	enum	Used to specify image alignment for graphical submit buttons. Can be any one of TOP, MIDDLE, BOTTOM, LEFT, or RIGHT. Default is bottom.

Description:
The INPUT element is used within FORM elements to specify input fields within a form.

Examples:

```
<INPUT TYPE=radio NAME=age VALUE="0-12">
<INPUT TYPE=submit VALUE="Party on...">
<INPUT TYPE=image NAME=point src="map.gif">
<INPUT TYPE=reset value="Start over...">
```


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CML Representation:

Each of the various input element types is represented by one of the following CML tags: tagInputTextLine, tagInputPassword, tagInputCheckbox, tagInputRadio, tagInputSubmit, tagInputSubmitImage, and tagInputReset.

In the CML representation, the NAME attribute is not required for any of the input tags. Instead, the client references input items by index where the first input item in a form is item number 0. The proxy server 180 is responsible for formatting the correct FORM "GET" or "POST" command using the input item names from the original HTML document.

Also, the CHECKBOX and RADIO elements do not have associated VALUE attributes in CML. Instead, when the user hits the submit button, the wireless client 405 tells the proxy server 180 whether radio and checkbox controls were checked or not. The proxy server 180 then uses the VALUE parameters from the original HTML when submitting the actual request to the web server.

For radio input items, the CML representation will also associate a group number for each radio input. The group number enables the wireless client 405 to automatically de-select the appropriate radio buttons in mutually exclusive groups.

The tagInputSubmitImage does not have the equivalent to the SRC attribute. Instead, the image data is included as part of the parameters to the tag.

For example, the HTML sequence:

```
<P>Age 0-12: <INPUT TYPE=radio NAME=age CHECKED VALUE="0-12">
<P>Age 13-17: <INPUT TYPE=radio NAME=age VALUE="13-17">
```

is represented in CML as:

```
Text      text = "\r\rAge 0-12:"

Tag       tag = inputRadio
Bit       checked = 1
UIntV     group = 0

Text      text = "\r\rAge 13-17:"

Tag       tag = inputRadio
```


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Bit	checked = 0
UintV	group = 0

TEXTAREA

TEXTAREA	Yes	Text

name	Text	The property name that this input represents
rows	number	The number of visible text lines
cols	number	The visible width in average character widths

Description:
The TEXTAREA element represents a multi-line input text field for forms.

Examples:
<TEXTAREA NAME=address ROWS=4 COLS=40>
Your address here ...
</TEXTAREA>

CML Representation:
This entity is represented by the CML tagInputTextArea tag. This tag is followed by two UintV's that specify the width and height of the text area along with the initial text terminated by an endTag character. The NAME attribute is not included in the CML representation since all input elements in forms on the wireless client 405 are referenced by index.

SELECT, OPTION

SELECT	Yes	Text
OPTION	Yes	Text

Select Attributes:

name	Text	The property name that this select choice represents

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size	Number	The number of visible choices at once
multiple	Void	Enables user to select more than 1 choice

Option Attributes:

selected	void	If present, this option is initially selected
value	text	The property value to use when submitting the form.

Description:
The SELECT element is used to represent multiple choice selections within a form. This usually gets rendered on the screen as a pop-up menu. The items in the menu are each represented by the OPTION element.

Examples:
<SELECT NAME="flavor">
<OPTION VALUE=a> Vanilla
<OPTION VALUE=b SELECTED> Strawberry
<OPTION VALUE=c> Chocolate
</SELECT>

CML Representation:
The SELECT element is represented by the tagInputSelect CML tag. There is no associated NAME attribute since the wireless client 405 references all input elements in a form by index. The tagInputSelect tag is followed by a single bit which specifies whether multiple selections are allowed followed by a UIntV containing the value of the SIZE attribute.

The select items are separated from each other by endTag characters or by selectItemCustom tags that specify pre-selected items.

There is no equivalent to the VALUE attribute because the wireless client 405 simply tells the proxy server 180 which items were selected by index and relies on the proxy server 180 to format the correct FORM submission from the original HTML document info.

For example, the above HTML would be represented in CML as:

```
Tag     tag = inputSelect
Bit     multiple = 0
UIntV   size = 0          // default

Text    option = "Vanilla"
```


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```
Tag     tag = tagSelectItemCustom
Bit     selected = 1
Text    option = "Strawberry"

Char    itemSeparator = endTag
Text    option = "Chocolate"

Char    endSelect = endTag
```

Tables

TABLE, TR, TD

TABLE	Yes	Block
TR	Yes	Block
TD	Yes	Block
TH	Yes	Block

TABLE attributes:

Align	enum	One of LEFT, CENTER, or RIGHT
Width	int	Table width relative to window
Border	number	Width of border around table in pixels
Cellspacing	number	Spacing between cells
Cellpadding	number	Spacing within cells

TR attributes:

Align	Enum	One of LEFT, CENTER, or RIGHT
Valign	Enum	One of TOP, MIDDLE, or BOTTOM

TH/TD attributes:

Align	enum	One of LEFT, CENTER, or RIGHT
Valign	enum	One of TOP, MIDDLE, or BOTTOM
Nowrap	void	suppress word wrap
Rowspan	number	number of rows spanned by cell
Colspan	number	number of columns spanned by cell
Width	number	suggested width of cell in pixels
Height	number	suggested height of cell in pixels

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Description:
By default, tables are rendered without a surrounding border. The table is generally sized automatically to fit the contents, but you can also set the table width using the WIDTH attribute. The BORDER, CELLSPACING, and CELLPADDING attributes provide further control over the table's appearance. A caption can be placed at the top or bottom of a table by following the TABLE element with a CAPTION element.
The TR element is used to delineate rows of the table. The TD element is used to mark data cells. The TH element is used to mark header cells, which may be rendered in a different font than data cells.

Examples:
<TABLE BORDER=3 CELLSPACING=2 CELLPADDING=2
WIDTH="80%">
<CAPTION>Table title</CAPTION>
<TR><TH>first cell<TD> second cell
<TR><TH>2nd row, first cell<TD>2nd row, second cell
</TABLE>

CML Representation:
Tables are represented by the tagTable CML tag. It has the following format in CML. Notice that the tagTableColumn tag is only placed in front of header cells, and in front of data cells that do not have default attributes.

```
Tag      tag = tagTable
Bit[2]   hAlign = alignCenter
UIntV    width = 0
UIntV    border = 0
UIntV    cellSpacing = 0
UIntV    cellPadding = 0

Tag      tag = tagCaption
Bit      captionAtTop = 1
Text     caption = "Table Title"
Char     endCaption = endTag

Tag      tag = tagTableRow
Bit      hasAlign = 0

Tag      tag = tagTableColumn
Bit      headerCell = 1
Bit      hasAttribute = 0
Text     "row1, col1"
Char     endTag

Text     "row1, col2"
Char     endTag
```


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```
Tag         tag = tagTableRow
Bit         hasAlign = 0

Tag         tag = tagTableColumn
Bit         headerCell = 1
Bit         hasAttribute = 0
Text        "row2, col1"
// endTag not used here

// Custom cell attributes
Tag         tag = tagTableColumn
Bit         headerCell = 0
Bit         hasAttribute = 1
Bit         noWrap = 0
UIntV       rowSpan = 0
UIntV       colSpan = 0
Bit[2]      hAlign = alignRight
Bit[2]      vAlign = alignTop
UIntV       width = 0
UIntV       height = 0

Text        "row2, col2"
Char        endTag

Char        endTag      // end of table
```

As seen, the table tag is followed by the table attributes.

If a row is too long to fit in the window, the client is responsible for performing row wrapping. For example, a table with 4 rows and 3 columns might be drawn as 4 rows of 2 columns, then 4 more rows of 2 columns where the second set of 4 rows would have a copy of the first column. The following diagram illustrates this:

An HTML table with 4 rows and 3 columns:

A1	B1	C1
A2	B2	C2
A3	B3	C3
A4	B4	C4

Gets rendered on the client as:

A1	B1
A2	B2
A3	B3
A4	B4

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A1	C1
A2	C2
A3	C3
A4	C4

Text Formatting

TT, I, B, U, STRIKE, BIG, SMALL, SUB, SUP

TT	Yes	Text
I	Yes	Text
B	Yes	Text
U	Yes	Text
STRIKE	Yes	Text
BIG	Yes	Text
SMALL	Yes	Text
SUB	Yes	Text
SUP	Yes	Text

Description:
These text level elements affect the text font and style used to display text. They all require start and end tags:

TT - monospaced text
I - italic text style
B - bold text style
U - underlined text style
STRIKE - strike-through text style
BIG - larger font size
SMALL - smaller font size
SUB - subscript text
SUP - superscript text.

Examples:
This has some <B>bold and <I>italic text</I></B>.

CML Representation:
The I tag is represented by the tagTextItalic tag. The B tag is represented by the tagTextBold tag. The U tag is represented by the tagTextUnderline

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tag. The TT, STRIKE, BIG, SMALL, SUB and SUP tags are represented by the tagTextFormat tag.

EM, STRONG, DFN, CODE, SAMP, KBD, VAR, CITE

EM	Yes	Text
STRONG	Yes	Text
DFN	Yes	Text
CODE	Yes	Text
SAMP	Yes	Text
KBD	Yes	Text
VAR	Yes	Text
CITE	Yes	Text

Description:

These text level elements affect the text font and style used to display text. They all require start and end tags:

EM - emphasis, typically in italic font
STRONG - strong emphasis, typically in bold font
DFN - definition
CODE - used for extracts of program code
SAMP - used for sample output from programs
KBD - used for text to be typed by the user
VAR - used for variables or arguments to commands
CITE - used for citations or references to other sources.

Examples:

<EM> This is emphasized text </EM>.

CML Representation:

The EM tag is represented by the tagTextItalic tag. The STRONG tag is represented by the tagTextBold tag. The DFN, CODE, SAMP, KBD, VAR, and CITE tags are represented by the tagTextFormat tag.

FONT

FONT	Yes	Text

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FONT Attributes:

Size	Text	Font size. Can be specified as an integer ranging from 1 to 7 or as a signed integer relative to the current base font size as set by the BASEFONT element
Color	Text	Use to set the color of the text. Given as RGB in hexadecimal notation or as one of 16 widely understood color names.

Description:
The FONT element can be used to specify a specific font size and color for the enclosed text.

Examples:
<FONT SIZE="+1">
This is size +1
</FONT>

<FONT SIZE=4>
This is absolute size 4
</FONT>

CML Representation:
The FONT tag does not have a corresponding CML representation. The attributes of the FONT tag are represented using the tagTextSize and tagTextColor CML tags.

BASEFONT

BASEFONT	No	Text

BASEFONT Attributes:

Size	number	Used to set the base font size for use with the FONT element.

Description:
The BASEFONT element is used to specify the base font size for a document. The FONT element can then reference font sizes relative to the BASEFONT.

Examples:

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<BASEFONT SIZE=4>

CML Representation:
Not required. Each FONT element in the original source will be converted to the appropriate absolute font size in the CML representation.

Hyperlinks

A

A	Yes	Text

A Attributes:

Name	text	Used to indicated named links within a document
Href	url	URL for linked resource
Rel	text	The forward relationship, also known as the "link type".
rev	text	The reverse relationship.
title	text	The advisory title for the linked resource.

Description:
The A (anchor) element represents a hyperlink.

Examples:
<A HREF="hands-on.html"> happiness
<A NAME=mit> 545 Tech Square – Hacker's Paradise

CML Representation:
This element is represented by the tagAnchor CML tag. There is no need for any of the attributes in the CML form because the wireless client 405 refers to links by index. Hence, it simply has to tell the proxy server 180 the index of which hyperlink was pressed and rely on the proxy server 180 to fetch the correct URL.

IMG

IMG	No	Text

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src	url	URL of the image
alt	text	Text to display in place of image
align	enum	Alignment of image, either TOP, MIDDLE, BOTTOM, LEFT, or RIGHT
height	number	suggested height of image
width	number	suggested width of image
border	number	suggested border width
hspace	number	suggested horizontal gutter
vspace	number	suggested vertical gutter
usemap	url	use client side image map
ismap	void	use server image map

Description:
The IMG element is used to insert images into a document.

Examples:
<IMG SRC="canyon.gif" ALT="Grand Canyon">

CML Representation:
Unlike in HTML, where images are fetched independently of the source document, CML imbeds image data directly inline with the rest of the document using tagImage tags.

MAP, AREA

MAP	Yes	Text
AREA	No	Text

MAP attributes:

Name	text	Used to associate a name with a map

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AREA attributes:

shape	enum	One of RECT, CIRCLE, or POLY
coords	text	Comma separated list of coordinates.
href	url	The URL to jump to when this region is selected
Nohref	void	This region has to action
Alt	text	Alternate text to display if no image.

Description:
The MAP element is used in conjunction with the IMG element to specify wireless client 405 side image maps. The NAME attribute of the MAP is used by the USEMAP attribute on the IMG element to reference the MAP.

Examples:

```
<IMG SRC="navbar.gif" BORDER=0 USEMAP="#map1">

<MAP NAME="map1">
 <AREA HREF=guide.html alt="Access Guide" SHAPE=RECT
coords="0,0,118,28">
 <AREA HREF=search.html alt="Search" SHAPE=RECT
coords="184,0,276,28">
</MAP>
```

CML Representation:
The proxy server 180 is responsible for mapping user actions into URLs, so the MAP element is not represented in CML. The wireless client 405 just tells the proxy server 180 when the user clicks on an active image (tagImage tag with the ismap parameter set to 1) and passes the x-y coordinates of the hit to the proxy server 180. The proxy server 180 will then look up the appropriate URL using the original document's IMG and MAP elements.

Applets

APPLET, PARAM

APPLET	Yes	Text
PARAM	Yes	Text

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APPLET Attributes:

codebase	url	code base
code	text	class file
alt	text	for display in place of applet
name	text	applet name
width	number	suggested width in pixels
height	number	suggested height in pixels
align	enum	Vertical or horizontal alignment. One of TOP, MIDDLE, BOTTOM, LEFT or RIGHT.
Hspace	number	Suggested horizontal gutter
Vspace	number	Suggested vertical gutter
Ismap	void	Use server image map

PARAM Attributes:

Name	text	the name of the parameter
Value	text	the value of the parameter

Description:
The APPLET element is used to enclose a Java applet.

Examples:
<APPLET CODE="AudioItem" WIDTH=15 HEIGHT=15">
<PARAM NAME=snd VALUE="Hello.au|Welcome.au">
Java applet that plays a welcoming sound.
</APPLET>

CML Representation:
None

PalmOS HTML Extensions

DATEPICKER

DATEPICKR	No	Text

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DATEPICKER Attributes:

Value	Text	the value of the parameter

Description:
The DATEPICKER element takes a value of a valid date in MM/DD/YY format. If no value is specified, the current date is displayed.

Examples:
DATEPICKER VALUE="11/15/96">

CML Representation:
This element is represented by the tagDatePicker CML tag.

TIMEPICKER

TIMEPICKER	No	Text	

TIMEPICKER Attributes:

Value	Text	the value of the parameter

Description:
The TIMEPICKER element takes a value of a valid time in hh:mm:ss format. If no value is specified, the current time is displayed.

Examples:

<TIMEPICKER VALUE="11:45:30">

CML Representation:
This element is represented by the tagTimePicker CML tag.

Transfer Layer

Wireless Client Software Block Diagram

Figure 6 shows a wireless client 405 processing resources (software) flow diagram 600. The boxes shown with solid lines are the actual software layers

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present on the wireless client 405. The annotated boxes shown in dotted lines indicate the format of the data passed between each of the software layers.

The content user interface 605 and e-mail application user interface 610 layers are part of the browser 104.

The content rendering layer 615 and message formatting layer 620 are also wireless client 405 processing resources. The content rendering layer 615 converts CML into the wireless communications device 100 operating system 102 drawing commands. The message formatting layer 620 converts CML messages from the network into a format compatible with the wireless communications device 100 e-mail application. The CML language is discussed in depth above including the binary format of CML, how it is created from HTML, and how it should be rendered on the wireless client 405.

The content request layer 625 and the message request layer 630 are responsible for fetching CML content from the proxy server 180. The content request layer 625 and the message request layer 630 use the compact transfer protocol (CTP) described below. These layers format request messages and accept response messages using the reliable message layer 635.

The reliable message layer 635 is responsible for reliably delivering request and response messages between the wireless client 405 and the proxy server 180. When operating over a wireless network, the reliable message layer 635 breaks up large messages into datagrams that fit into the wireless network. The reliable message layer 635 also guarantees order of delivery. When operating over a wireline network, the reliable message layer 635 passes control directly to the TCP stack of the network library (shown in Figure 11 as the "Net Library", reference number 1110). The reliable message layer 635 is described in greater detail below.

Some embodiments of the invention include a method of using a computer for receiving an HTML data object (otherwise referred to as an HTML message) from a source of data. The receiving method comprises fetching the HTML data object, compressing the HTML data object, passing representations of the data

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object to a content rendering layer 615, and rendering the representations for viewing. These embodiments combine the standard browser engine with CML and CTP to enable a wireless client 405 to fetch HTML data objects using a wireline connection to the Internet 190. Fetching, compressing, passing, and rendering are performed by processing resources. The processing resources can be located at the wireless client 405 or elsewhere in the wireline network. The HTML data object is compressed by representing selected portions of the HTML data object in CML. In some embodiments, CML embeds image data directly in line with the rest of the HTML data object.

Some embodiments of the invention comprise a method for receiving a first message (otherwise referred to as a data object) from a source of data. These embodiments employ the thin browser engine, and use the proxy server 180 and the wireless packet data network to fetch data objects from the Internet 190. The method comprises the six steps discussed below. A proxy server 180 fetches the data object from the source of data. The proxy server 180 converts the data object into a second message comprising data in CML. The proxy server 180 transmits the second message to the wireless client 405. The wireless client 405 extracts CML data from the second message. The wireless client 405 passes CML data to a content rendering layer 615. The wireless client 405 renders CML data for viewing on a wireless communications device 100 screen 101. The second message comprises packets of data. In some embodiments, only a single packet is required and the packet is smaller than five hundred fifty bytes.

In some embodiments, the CML representations of the data object comprise temporary compressed formats adapted for single packet transfer between the proxy server 180 and the wireless client 405. The temporary compressed formats are tailored for wireless client 405 attributes. In some embodiments, wireless client 405 attributes comprise viewer screen 101 size and viewer image bit-depth. In some embodiments, CML embeds image data directly in line with the rest of the second message.

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Some embodiments of the invention include a method for requesting HTML messages from a source of data. The requesting method comprises the following four steps. Submitting compressed representations of field values and field indices. Transmitting a first message in packets of data from a wireless client 405 to a proxy server 180. Transforming the first message into an HTML request. Transmitting the HTML request to the source of data. Some embodiments further comprise formatting the first message according to a compact transfer protocol using variable length binary fields to communication commands, options, parameters, and attributes.

Compact Transfer Protocol

This section discusses the implementation of the wireless communications device 100 transfer layer. Instead of the Internet standard HTTP, this layer uses the Compact Transfer Protocol (CTP) to structure requests and responses between the wireless client 405 and associated proxy server 180. In terms of functionality, the transfer layer is situated below the Content Layer (described above) and above the reliable message layer 635 (described below). CTP is designed with an emphasis on compactness over readability. Instead of using text to communicate commands, options, and attributes, CTP will use variable length binary fields.

An example of an HTTP request from a standard browser to a server would be:

```
GET/catalog/ip/ip.htm HTTP/1.0
Accept: text/plain
Accept: text/html
Accept: */*
If-Modified-Since Tue, 08 Aug 1996 06:17:33 GMT
Referer: http://www.jamsa.com/catalog/catalog.htm
User-Agent: Mozilla/2.0
```

Some of the header information included in a typical HTTP request, as seen above, is used to convey information about the standard browser features to the

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server such as version numbers, and accepted return data types. CTP saves additional bytes by simply sending the proxy server 180 an enumerated type that is understood by the proxy server 180 to represent a certain combination of features. For example, the wireless client 405 could send a CTP request that tells the proxy server 180 that the wireless client 405 is a particular wireless communications device 100. This would automatically indicate a set of attributes to the proxy server 180 including the screen size, bit depth, and accepted return data types.

To draw an analogy with Internet 190 standards, CTP has roughly the same functionality as HTTP when accessing web content and POP3 and SMTP when sending or retrieving messages. CTP was designed to replace these Internet 190 protocols because they are verbose and wasteful of network bandwidth and hence impractical to use over a wireless network.

CTP is designed to minimize the amount of data that is sent over the network between the wireless client 405 and proxy server 180. In order to achieve its minimal size, it uses binary fields to represent request and response parameters, instead of text like most Internet 190 protocols do. Hence, CTP is not human readable like HTTP, but it is very compact.

Figure 6 shows the wireless client 405 processing resources flow diagram 600 and illustrates how CTP is used on a wireless client 405 communicating with the proxy server 180.

This diagram illustrates how CTP is used to transport the high level content of both the browser 104 and the messaging applications to and from the network. Each of these applications uses CTP to send their requests to the proxy server 180 and to receive the responses. A CTP request tells the proxy server 180 what data the wireless client 405 wants. A CTP response has a success code along with the actual data requested in CML format.

The content request layer 625 formats CTP requests on behalf of the browser 104 application. When it gets a response from the proxy server 180, the

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content request layer 625 extracts the CML content and passes it on up to the content rendering layer 615.

The message request layer 630 creates CTP requests on behalf of the messaging application. When the CTP response arrives back from the proxy server 180, the message request layer 630 will extract the message data from the CTP response and pass it on up to the message formatting layer 620. Messages are also sent and received in CML format.

The lower software layers shown in Figure 6 deal with reliably sending CTP request and response messages over the network. These layers are fully described below in the "reliable message layer" 635 section below.

The notation used to represent CTP requests and responses is the same notation used to document CML. This notation was introduced and described above in the "Compact Data Structure Notation" section.

CTP Structure

CTP requests and responses are structures built up out of variable length bit fields. They are generated and parsed programattically because of the variable size nature of each field. Every CTP request starts out with a set of common request header fields followed by zero or more request specific fields. Each CTP response also starts out with a set of common header fields and may or may not also include a data payload such as the returned content from a URL request.

Even though the header fields of a CTP request or response can be any number of bits long, the data portion starts on a byte boundary and the total CTP request or response, including the optional data payload, is an even number of bytes long. In order to meet these constraints, anywhere from 0 to 7 extra pad bits are appended to the CTP header before the data section starts and the data section is always an even number of bytes long (possibly zero). The extra pad bits and even byte CTP requirements are necessary because CTP requests and responses

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can be sent using the TCP protocol which sends data in quanta of bytes. The even byte restriction is enforced whether the CTP request is sent wirelessly using RMP or wireline using TCP.

The data payload (e.g., part of an email message or part of web page) that is part of a CTP request or response, such as the content returned from a CTP URL request, is always an even number of bytes long. As an example, a CTP web content response that has a 4 bit CTP response header and 100 bytes of content payload would require 4 bits of padding between the response header and the payload section in order to bring the total size of the response to 101 bytes long. If instead the CTP response header had been 8, 16, or any other multiple of 8 bits long, then no pad bits would be inserted between the header and the data.

CTP Requests

All CTP requests start out with the following common fields:

```
CTPReqCommon:
UIntV   headerVersion
UIntV   command
UIntV   contentVersion
Bit                     encrypted
if (encrypted == 1)
UIntV  encryptionScheme
[other encryption parameters]
```

The headerVersion field is 0 for this version of CTP. The command field indicates the type of request - which could be either a request to fetch a URL, to get messages, or to send messages. The contentVersion field indicates the requested format of the returned data. Because a UIntV of value 0 is encoded using just 1 bit, both the headerVersion and contentVersion fields each take up only 1 bit in this header.

The CTP commands are pre-defined:

```
ctpCmdReqURL = 0
ctpCmdReqMail = 1
```


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ctpCmdEcho = 2
ctpCmdMsgGen = 3
ctpCmdDiscard = 4

The ctpCmdEcho, ctpCmdMsgGen, and ctpCmdDiscard commands are provided for testing proxy server 180 connectivity and are described in more detail below in the CTP Commands section along with the commands for fetching a URL (ctpCmdReqURL) and processing mail requests (ctpCmdReqMail).

When the encrypted bit is set to one, a UIntV specifying the encryption scheme follows along with encryption scheme dependent parameters. When the proxy server 180 receives an encrypted request, it returns the response in encrypted form using the same scheme as used in the request.

Depending on the value of the command and encryption fields, one or more other fields follow the common fields. The following sections describe the structure of the fields for each possible command.

CTP Responses

All CTP responses start out with the following common fields:

CTPRespCommon:
UIntV responseSize
UIntV result

The result field indicates success (0) or failure (non-zero error code) in responding to the request. The responseSize field indicates the size in bytes of the response data that immediately follows the result field and any necessary pad bits required to place the response data on a byte boundary.

Depending on the particular command that was requested, one or more other fields follow the common fields. The additional response fields for each command are described in the "CTP commands" section.

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The following CTP codes are pre-defined possible values for the result field:

```
ctpErrNone= 0                   // no error
ctpErrMalformedRequest = 1      // CTP request invalid format
ctpErrUnknownCmd = 2            // unrecognized command value
ctpErrProxy = 3                 // Proxy encountered an error while
                                //  processing request
ctpErrServer = 4                // Content or Mail server returned an
                                //  an error while processing request
ctpWarnTruncated = 0x8000       // CTP response is truncated but
// otherwise error free
```

Whenever a CTP error result is returned (non-zero result less than 0x8000), the proxy server 180 can optionally provide extended error information in the data payload area of the CTP. This extended error information is formatted as a 4 byte extended error code optionally followed by a zero-terminated 8-bit ASCII string describing that error code. For example, if the proxy server 180 can not find the server for a particular web site, the proxy server 180 can return the following CTP response:

```
UIntV       responseSize = 19       // 4 byte error code + 15 byte text
UIntV       result = 3              // proxy error
Bit         padding[...]            // 0->7 bits if necessary to place
                                    //  following data on a byte
                                    //  boundary
UInt32  proxyErr = 0xC1000011       // proxy specific error code
Char[ ]     "Host not found"        // corresponding text
```

CTP Data Types

CTP defines a number of unique data types in its various requests and responses.

DocumentAddr Type

The DocumentAddr data type is used to specify the URL when fetching a web document. This data type allows most URLs to be encoded much more

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compactly than their text equivalents would be. It even allows a pre-determined set of URLs to be specified by index - which is even more compact and useful for fetching common wireless communications device 100 specific pages.

DocumentAddr:

```
Bit      byName          // 0 if by land, 1 if by sea
if (byName == 0)
UIntV    siteNumber      // site number
else
Bit[3]   scheme          // which scheme to use (http, ftp,
                         // etc.)
Bit      pathEncoding    // if true, 5-bit encoding of path
                         //   else, ascii encoding
Text     path            // URL specified in either ascii
                         // or 5-bit encoding
```

The byName field can be either 0 or 1. If the byName field is a 0, then it is followed by a UIntV specifying the URL by number. There is a pre-determined set of URLs defined by number that is known by all wireless clients 405. For example, site #0 could be the 3COM home page.

If the byName field is 1, then a scheme and path follows. The scheme field is a 3 bit field specifying one of the following 8 possible scheme strings that are prepended to the path:

0	http://
1	https://
2	Ftp://
3	<reserved>
4	<reserved>
5	<reserved>
6	<reserved>
7	<empty>

The pathEncoding field indicates the text encoding format of the path field. If it is 0, then the path is normal 8-bit ASCII. If it's 1, then the path is encoded using a

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special 5-bit alphabet which is similar, but not identical, to the 5-bit alphabet used for CML text encoding:

Document Path 5-bit Alphabet

0	End of path
1	Escape next 8 bit ascii character
2	'.com'
3	'www. '
4	'/'
5	'.'
6-31	The lowercase letters: 'a' through 'z'

Characters in a URL which are not in the 5-bit alphabet can be included by preceding the 8-bit ASCII value of the character by the 5-bit escape character (decimal value 1).

So, using the DocumentAddr type, the entire URL: "http://www.usr.com" can be represented as:

```
Bit      type = 1                 // site by name
Bit[3]   scheme = schemeHTTP      // "http://"
Bit      encoding = 1             // 5-bit alphabet encoding
Bit[5]   char = 3                 // "www."
Bit[5]   char = 26                // "u"
Bit[5]   char = 18                // "s"
Bit[5]   char = 17                // "r"
Bit[5]   char = 2                 // ".com"
Bit[5]   endChar = 0
```

which is altogether 35 bits, or just slightly more than 4 bytes long.

Extensions Data Type

The Extensions data type is used to include optional parameters in CTP requests and responses. For example, authentication and encryption parameters can

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be included in the extensions area of a CTP request so that most requests are not burdened with the overhead of the security fields.

The format of the Extensions data type is as follows:

```
Extensions:
UInt8          id          // extension ID, 0 marks last one
if (id == 0)               // no more extensions
else if (id < 128)         // ID is a boolean extension with no
                           //  parameters
else if (id < 254)
UInt8   length             // number of bytes of parameters
UInt8[length]   data       // extension parameters
else if (id == 255)
UInt16  extID              // 16-bit extension ID
UInt16  length             // length of extension data
UInt8[length]   data       // extension parameters.
```

Basically, the extension type is a list of extensions terminated by a 0 byte. Some extensions are boolean extensions that simply change the default value of a feature. For example, a boolean extension can tell the proxy server 180 to include all images instead of ignoring them.

Other extensions have associated parameters with them. Extension IDs 128 through 254 can have up to 255 bytes of parameter data following them. Finally, extension ID #255 is for adding 16-bit extension IDs.

CTP Commands

This section lists the possible CTP commands and their request and response formats. The entire request structure, including the common fields, is shown for each type of request. Requests are sent from the wireless client 405 to the proxy server 180 and are used to request certain web pages or to send or receive messages.

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Requests

Request URL Command

Summary:

Used to fetch a URL. The command field in the common fields of the request header is set to ctpReqURL which has a value of 0.

Request Structure

The entire request, including the common fields has the following structure:

```
CTPReqCommon:
UIntV   headerVersion=0
UIntV   command=0                   // ctpCmdReqURL (=0)
UIntV   contentVersion=0
Bit             encrypted
if (encrypted == 1)
UIntV encryptionScheme
[other encryption parameters]

CTPReqURLParams:
UIntV   maxResponse                 // 0=1024, 1=2048, etc.
UIntV   part                        // which part of the response to
// fetch
UIntV   screenDepth                 // log2 of bits/pixel of client

IntV    contentWidth                // if 0: pixels=160
                                    // else pixels=contentWidth16+160
DocumentAddr docAddr                // which "URL" to fetch
Bit     hasExtensions               // true if extensions present
if (hasExtensions)
Extensions extensions               // optional extensions
UIntV   checkNewMailIDHi            // Hi 2 bytes of 6 byte mail ID
UIntV   checkNewMailIDLo            // Lo 4 bytes of 6 byte mail ID
Bit     post                        // true if using the HTTP POST method
// instead of the GET method
UIntV   dataSize                    // # of bytes of data that follow
```


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Request Description

The maxResponse parameter encodes the maximum size response that the wireless client 405 is willing to receive. The maximum size in bytes is represented by (maxResponse+1)*1024. The proxy server 180 truncates the response to this number of bytes. When a response has to be truncated, the result field in the CTP response will contain the non-fatal error code: ctpWarnTruncated.

The part parameter is used along with the maxResponse parameter to enable the wireless client 405 to request portions of a response that were previously truncated. Normally it is set to 0 to fetch the beginning of a response. If a wireless client 405 sets the truncation size to 1024 bytes (by setting the maxResponse field to 0), it could fetch the second 1024 bytes of the response by setting the part field to 1.

The screenDepth parameter contains the bit depth of the wireless client 405 screen 101 and is used by the proxy server 180 to determine the maximum bit-depth to render images at.

The contentWidth parameter contains the rough window width of the wireless client 405 and can be used by the proxy server 180 for formatting of the return content data. The default value of this parameter is zero, which yields a window width of 160. The maximum granularity of this field is 16 pixels at a time, so the actual width of the wireless client 405 window may be smaller than the specified size.

The docAddr field specifies the document address (URL) to fetch. This field is of type DocumentAddr and was described above.

The extensions field is used to specify seldom used options. This variable length field is used to indicate changes to the default behavior, such as inclusion or exclusion of images, authentication and encryption options, etc.

The following extensions are defined for this CTP request:

[redacted]

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ctpExtIncHTTPResponse	1	Boolean extension flag. If present, include HTTP response header along with data. Not applicable unless ctpExtNoContentConversion is also present
CtpExtNetID	128	Followed by length byte of 4 and a 4 byte mail network ID. Assumed to be 0 (Mobitex Network) if not present.
cptExtUserID	129	Followed by length byte of 4 and a 4 byte user ID.
ctpExUserPassword	130	Followed by length byte of 4 and a 4 byte user ID.
CtpExtUserName	131	Followed by length byte and a 0 terminated 8-bit ascii user name string. Must be specified if checking for new mail over a wireline network.
ctpExtServer	132	Followed by a length byte of 1 and 8 bits (1 byte) of server behavior flags.
ctpExtConverTo	133	Followed by length byte of 1 and a 1 byte conversion identifier ctpConvXXX. If not present then ctpConvCML is assumed. The available conversion identifiers are: CtpConvCML = 0, CML CtpConvCML8Bit = 1, CML in 8-bit debug form ctpConvCMLLZSS = 2, CML with LZSS ctpConvNone = 3 Return in native web format. When this is specified, then the response will include the ctpRspExtContenType and ctpRspExtContentEncoding extensions

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The 6 byte checkNewMailID tells the proxy server 180 whether or not to check for new mail along with fetching the given web resource. If this ID is 0, new mail is not checked. If this ID is 1, then the proxy server 180 will check for any new mail that has arrived since the last successful mail read operation. If this ID is greater than 1, then it indicates a mail message ID and the proxy will check for any new mail that has arrived after that given mail message.

Note that for wireless packet data network users, the user name can be determined from a corresponding wireless packet data unique address number which is part of the wireless network protocol headers. Consequently, when a user sends requests over the wireless network, the user does not have to include their user name in the extensions area of the CTP request. However, when using wireline networks, the user includes their user name in the CTP request itself using the ctpExtUserName extension since the wireless network is bypassed and the wireless network protocol header is not available. If a request is sent with a non-zero checkNewMailID over the wireline network without a ctpExtUserName present, the checkNewMailID is treated as if it were 0.

The post field is generally set when submitting standalone forms designed for the HTTP POST method. The post data is generally included in the data portion of the CTP request and the number of bytes of data included should be set in the dataSize field. Note that the post field only needs to be used for standalone forms. Server dependent forms are submitted in the same manner to the proxy server 180 (through the "?*" sequence in the URL) for both GET and POST methods.

Responses

Response Structure

CTPRspCommon:
UIntV responseSize
UIntV result

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```
CTPRspURLData:
Bit      hasDocAddr              // true if docAddr included
if (hasDocAddr)
DocumentAddr docAddr             // the URL of the return document

Bit      hasExtensions           // true if extensions present
if (hasExtensions)
Extensions      extensions       // optional extensions
Bit[...] cmlContent              // content in CML format.
```

Response Description

The entire response, including the common fields has the following structure:

```
CTPRspCommon common
CTPRspURLData data               // response data
```

The hasDocAddr bit will be set if the document address is included in the response. The proxy server 180 will generally include the docAddr only if the document was requested using a hot link index relative to another URL.

The hasExtensions bit will be set if extension data is included in the response. Extension data could include things like expiration date of the content, security info, etc.

Finally, the content itself follows the extension data. The content is returned in CML format and can be any number of bytes long.

Response Examples

The following is a request to fetch the first screen full of data from the U.S Robotics home page:

```
UIntV    headerVersion = 0
UIntV    command = ctpReqURL     // ctpReqURL = 0
UIntV    contentVersion = 0
Bit              encrypted = 0
UIntV    maxResponse=0           // 0=1024 bytes
UIntV    part=0                  // which part of the
                                 // response to fetch
UIntV    screenDepth=0           // 1 bit/pixel
IntV     contentWidth=0          // 0 means 160 pixels wide
DocumentAddr docAddr =           // which "URL" to fetch
```


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```
Bit             type = 1          // site by name
Bit[3]   scheme = schemeHTTP      // "http://"
Bit             encoding = 1      // 5-bit alphabet encoding
Bit[5]   char = 3                 // "www."
Bit[5]   char = 26                // "u"
Bit[5]   char = 18                // "s"
Bit[5]   char = 17                // "r"
Bit[5]   char = 2                 // ".com"
Bit[5]   endChar = 0

Bit      hasExtensions=0                  // no extensions
UIntV    checkNewMailIDHi = 0             // Hi 2 bytes
UIntV    checkNewMailIDLo = 0             // Check for new mail
```

In total, this request takes 46 bits to represent (7.5 bytes). Notice that most of the space is needed to represent the document address by name (35 bits), so requests for sites by index will be even shorter (typically 26 bits, or slightly more than 3 bytes).

The following is a response to a request to fetch the 4th hot link on the USR home page.

```
UIntV    responseSize = 403               // takes 20 bits to
                                          // represent
UIntV    result = 0                       // 1 bit
Bit             hasDocAddr = 1
DocumentAddr docAddr =                    // the actual "URL"
Bit             type = 1          // site by name
Bit[3]   scheme = schemeHTTP      // "http://"
Bit             encoding = 1      // 5-bit alphabet encoding
Bit[5]   char = 3                 // "www."
Bit[5]   char = 26                // "u"
Bit[5]   char = 18                // "s"
Bit[5]   char = 17                // "r"
Bit[5]   char = 2                 // ".com"
Bit[5]   char = 4                 // "/"
Bit[5]   char = 21                // "p"
Bit[5]   char = 6                 // "a"
Bit[5]   char = 17                // "l"
Bit[5]   char = 18                // "m"
Bit[5]   endChar = 0
Bit      hasExtensions = 0                // no extensions
Byte[]   cmlContent...                    // content is always an even
                                          // # of bytes.
```


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In total, this response is 403 bytes long. Of that, 83 bits (approximately 10 bytes) is part of the response header and roughly 393 bytes is the content itself.

Echo Command

Used for testing connectivity. This command will cause the proxy server 180 to echo back the data included in the CTP request

The entire request, including the common fields has the following structure:

```
CTPReqCommoncommon      // command field = ctpCmdEcho (2)
CTPEchoParams params    // request params.
```

Echo Structure

CTPEchoParams:

```
UIntV   dataSize        // size in bytes of echo data that
                        // follows
```

The dataSize parameter indicates the size of the data in bytes that immediately follows the CTPEchoParams structure. When the proxy server 180 receives this command, it will send a response back that contains this data.

Echo Examples

The following is a request to echo back the word "Hello"

```
UIntV   headerVersion = 0
UIntV   command = ctpCmdEcho  // ctpCmdEcho = 2
UIntV   contentVersion = 0
Bit     encrypted = 0

UIntV   dataSize = 5

Bit[..] padding             // 0 to 7 bits

Byte[5] "Hello"
```

The response will look as follows:

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```
UIntV   responseSize = 5
UIntV   result = 0
Bit[..] padding                 // 0 to 7 bits of padding
Byte[5] "Hello"
```

Message Generation Command

Used for testing connectivity. This command will cause the proxy server 180 to return the requested number of pre-initialized bytes of data. The first byte in the response data will have the value 0 and all other bytes will be incremented by 1.

The entire request, including the common fields has the following structure:

```
CTPReqCommon        common      // command field = ctpCmdMsgGen (3)
CTPMsgGenParams     params      // request params.
```

Message Generation Command Structure

CTPMsgGenParams:

```
UIntV   dataSize        // # of requested bytes of data.
```

The dataSize parameter indicates the size of the data in bytes that will be returned by the proxy server 180.

Message Generation Command Examples

The following is a request to return 10 bytes from the proxy server 180:

```
UIntV   headerVersion = 0
UIntV   command = ctpCmdMsgGen      // ctpCmdMsgGen = 3
UIntV   contentVersion = 0
Bit             encrypted = 0
UIntV   dataSize = 5
Bit[..] padding                     // 0 to 7 bits of padding
```

The response will look as follows:

```
UintV   responseSize = 5
UIntV   result = 0
```


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```
Bit[..]   padding                    // 0 to 7 bits of padding
Byte[5]   0,1,2,3,4
```

Discard Command

Used for testing connectivity. This command will cause the proxy server 180 to return a simple response with no data.

The entire request, including the common fields has the following structure:

```
CTPReqCommon        common      // command field = ctpCmdDiscard (4)
CTPDiscardParams    params      // request params.
```

Discard Structure

```
CTPDiscardParams:

UIntV   dataSize        // # of bytes of data follow
```

The dataSize parameter indicates the size of the data in bytes that immediately follow the CTP request header.

Discard Examples

The following is a request to return discard 5 bytes to the proxy server 180:

```
UIntV   headerVersion = 0
UIntV   command = ctpCmdDiscard     // ctpCmdDiscard = 4
UIntV   contentVersion = 0
Bit     encrypted= 0
UIntV   dataSize = 5
Bit[..] padding                     // 0 to 7 bits of padding
Byte[5] 0,0,0,0,0
```

The response will look as follows:

```
UintV   responseSize = 0
UIntV   result = 0
```


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Hot Link Indices

Some embodiments of the invention include a method for requesting a hyperlink document. The method uses hot link indices to compress a request message sent from the wireless client 405 to the proxy server 180. The request is for access to a hyperlink document that is in a base document. The hyperlink document is indicated by a hyperlink in a base document. The method for requesting the hyperlink document comprises sending a compact representation of the hyperlink document to a proxy server 180. The compact representation of the hyperlink document comprises a base document uniform resource locator followed by a compact representation of the hyperlink and a compact representation of a hash value corresponding to the hyperlink. The representations of the hyperlink document and the hash value are in CML. In some embodiments, the compact representation of the hyperlink comprises a character sequence indication of an indirect hyperlink followed by a hyperlink index. In some embodiments the hyperlink index is one or more letters in a base 26 number system. In some embodiments, the hash value is represented by one or more letters in a base 26 number system.

Some embodiments of the invention include a method of receiving a compressed hyperlink request represented by a hyperlink tag. The hyperlink tag comprises a compact place holder for a hyperlink and the hyperlink is in a hyperlink document. The method of receiving comprises submitting a compressed representation of a URL, indicating tag representation of the hyperlink, and determining whether the hyperlink tag corresponds to a hyperlink document version used by the proxy server 180. The compressed representation of the URL comprises the hyperlink tag and a wireless client 405 hash value corresponding to the hyperlink. Tag representation of the hyperlink is indicated by placing a first character string before the hyperlink tag. The proxy server 180 determines whether the hyperlink tag corresponds to a hyperlink document version used by the

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proxy server 180 by comparing the wireless client 405 hash value with a proxy server 180 hash value.

A typical web document has numerous hot links that can be clicked on to bring the user to another document on the web, or to another scroll position within the same document. Each hot link, especially the ones that bring the user to another document on the web, can easily take up 100 bytes or more in the web document. For example, a link that brings a user to the Palm section of the US Robotics web server would be stored in a base HTML document as <LINK HREF="http://www.usr.com/palm">'. With some of the longer path names that are present on the web, it is easy to see how large these hot link references can become.

In order to reduce the amount of data sent over the radio, the proxy server 180 tells the wireless client 405 where the hot links should appear in the base document on the screen 101, but leave out the actual web addresses of the hot links. When the user presses a hot link, the wireless client 405 tells the proxy server 180 the index corresponding to the pressed hot link. The proxy server 180 determines which document to fetch by looking up the link information for the pressed hot link from the base HTML document. Using this hot link indices approach, the user is not able to view the URL of a hotlink before activating the hotlink.

In order for the proxy server 180 to determine which information to retrieve, the proxy server 180 knows the name of the base document as well as the hot link index. Because the proxy server 180 design is stateless, the wireless client 405 includes the base document address as well as the hot link index in the request. When the requested content is returned to the wireless client 405, the actual web address of the new content will be returned as well, allowing the wireless client 405 to follow subsequent hot links. This is an area where maximum compression of data is traded off for the increased reliability of a stateless server design. Both the requests and the responses include a document address. Document addresses

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are highly compressed to minimize the number of packets required to complete a transaction.

Encoding Indirect Hyperlinks

As mentioned above, documents that are sent wirelessly to the wireless communications device 100 do not include URLs for each hyperlink. Instead, the formatted documents include tags that are placeholders for each hyperlink in the document. Consequently, when the user clicks on a hyperlink, the browser 104 cannot simply ask the proxy server 180 for that hyperlinked document directly. Instead, the browser 104 tells the proxy server 180 to fetch the n'th hyperlink of the current document (the browser 104 knows the URL of the current document). For example, if the user clicks on the 4th hyperlink in the document "www.3com.com/palm.html", the browser 104 sends a request to the proxy server 180 to return the document referenced by the 4th hyperlink in the base URL "www.3com.com/palm.htm". In order to process this request, the proxy server 180 fetches the base document, looks up the URL of the 4th hyperlink in that document, fetches the document corresponding to the 4th hyperlink, and returns it to the wireless client 405.

This form of hyperlinking is called indirect hyperlinking and in one embodiment of the invention is indicated in a URL by a pound sign (#) sign followed by an asterisk (*). A pound sign followed by a section name is the Internet standard method of indicating a particular section in a document to go to. The wireless communications device 100 builds upon this metaphor by defining #* as an indirect hyperlink to go to. The text following the #* sequence indicates the index of the indirect hyperlink to follow.

As an example, the following URL tells the proxy server 180 to return the document referenced in the 1st hyperlink of the document www.3com.com/palm.htm.

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http://www.3com.com/palm.htm#*a

The '#*' sequence indicates an indirect hyperlink and the 'a' following it indicates the hyperlink index. The hyperlink indices are represented by one or more lower case letters using a base 26 number system. The first hyperlink is represented by the letter 'a', the second by the letter 'b', the 27th by the sequence 'ba', the 28th by the sequence 'bb', etc.

The character '*' is not normally considered an unsafe or reserved character in URLs. But, because of its special significance in the browser 104 and proxy server 180, it is escaped (using the sequence %2a) if being sent as a normal text character in a path name, variable name, or any other portion of a URL.

Forms Processing

There will be a new class of form designed for the wireless communications device 100 called a server dependent form. Server dependent forms are much smaller than standard forms because information is generally not included in the form that can be provided by the proxy server 180. When forms are sent wirelessly to the wireless communications device 100, the forms will normally be sent as server dependent forms in order to save wireless network bandwidth. The compact markup language and compact transfer protocol techniques are also applied to forms that are not server dependent forms. But, the number of packets to transmit these forms would be substantially greater than for a server dependent form.

A server dependent form contains a list of input fields for the form and corresponding field types (radio button, checkbox, etc.). The server dependent form does not contain the field names or selection values for each field in the form. With the field type information, the wireless client 405 is able collect the necessary input values from the user for each field in the form. The wireless client 405 does not have all the information required for actually submitting the form request to a

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CGI script. The proxy server 180 comes in combines the input information obtained from the wireless client 405 along with information from the original HTML form (which has all the field names and selection values) in order to format the request according to the CGI script.

When the wireless client 405 needs to submit a server dependent form, the wireless client 405 transmits only the index of each field in the form and its user input value (true/false for checkboxes and radio buttons, typed in text for input items) to the proxy server 180. The proxy server 180 looks up the actual field names and values from original HTML form, formats a standard form submittal request from that information, sends the request to the CGI script on the web server, and forwards the appropriately formatted response back to the wireless client 405.

The server dependent form submittal process requires that the original HTML form be available to the proxy server 180 when the form is submitted. For forms that were recently sent down to the wireless client 405 wirelessly, this is not a serious restriction since the form has been obtained from the Internet in the first place. The form availability to the proxy server 180 restriction could be a problem however for forms that are pre-loaded into the wireless communications device 100 ROM or installed using HotSync. Therefore, forms designed to be pre-loaded into the wireless communications device 100 are built as standard forms and contain all of the field names and selection values in them. Since they will generally be loaded onto the wireless communications device 100 using non-wireless means, the bigger size of these forms is acceptable.

Encoding Normal Form Submissions

Some embodiments of the invention include a method for transmitting a first message in packets of data to the proxy server 180. The first message corresponds to a hypertext document and can be a request message submitted from the wireless client 405 to the proxy server 180. The hypertext document has fields.

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The method for transmitting the message comprises submitting compressed representations of data corresponding to the fields to wireless client 405 processing resources, and transmitting the compressed representations in packets of data from the wireless client 405 to the proxy server 180. The compressed representations are formatted according to a compact transport protocol. In some embodiments, the fields comprise input fields, control fields, and select fields. The control fields comprise radio buttons and check boxes. The input fields use text input. The radio buttons and check boxes use toggle on indications of activation by the sending wireless client 405. Select fields use toggle on indications of selection by the sending wireless client 405. The compressed representations comprise CTP representations of text and name attributes corresponding to input fields and CTP representations of values and value attributes corresponding to control fields and select fields. The CTP representations are temporary formats representing data for transfer between wireless client 405 processing resources and proxy server 180 processing resources.

Normal forms on the wireless communications device 100 have nearly as much information as standard HTML forms, including name and value attributes for each of the fields, but are still encoded using CML and hence are much more compact than their HTML equivalents. Normal forms are larger than server dependent forms and are usually only loaded onto the wireless communications device 100 using HotSync or other wireline means, or are built into the ROM itself.

In one embodiment, a normal form in CML format is indicated through a "1" in the standalone attribute bit of the form tag. A "1" in the standalone field indicates the presence of two more attributes in the form: a post attribute and an action attribute. The post attribute is "1" for forms that are submitted using the HTTP POST method and 0 for forms that are submitted through an HTTP GET method. The action attribute is the URL of the CGI-script on the web server that processes the form input.

Tag tag = tagForm

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```
UIntV       formIndex = 0
Bit         standalone = 1
Bit         post = 0          // if 1, use POST instead of GET
Text        action = "http://www.server.com/cgi-bin/submit"
```

In addition, all the input fields that are enclosed within a normal form have a name attribute and all control (radio, checkbox, select, etc.) fields also have value attributes assigned to them as well. For example, the form used in the previous section would appear as follows if it were in normal CML form format:

```
Tag         tag = tagForm
UIntV       formIndex = 0
Bit         standalone = 1
Bit         post = 0          // if 1, use POST instead of GET
Text        action = "http://www.server.com/cgi-bin/submit"

Text        "Name:"

Tag         tag = tagInputTextLine
UIntV       size = 0
UIntV       maxLength = 0
Bit         hasName = 1
Bit         hasValue = 0
Text        name = "name"

Text        "Sex:"

Tag         tag = tagInputRadio
Bit         checked = false
UIntV       group = 0
Bit         hasName = 1
Bit         hasValue = 1
Text        name = "sex"
Text        value = "m"

Text        "Male"

Tag         tag = tagInputRadio
Bit         checked = false
UIntV       group = 0
Bit         hasName = 1
Bit         hasValue = 1
Text        name = "sex"
Text        value = "f"

Text        "Female"

Tag         tag = tagInputSubmit
Bit         hasName = 1
Bit         hasValue = 1
```


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	Text	name = "ship"
	Text	value = "overnite"
	Tag	tag = tagInputSubmit
	Bit	hasName = 1
	Bit	hasValue = 1
	Text	name = "ship"
	Text	value = "1week"
	Char	endForm = endTag

The URL for submitting a normal CML form is identical to that used for submitting an HTML form. For this example, it would be:

http://www.server.com/cgi-bin/submit?name=deb&sex=f&ship=1week

Note that the field names and values are sent as-is in the URL. Thus, any forms designed to be installed onto the wireless communications device 100 as normal forms, should be written such that the field names and values are as short as possible and defined with lower case letters (which can be encoded with just 5 bits each) in order to conserve as much network bandwidth as possible when the form is submitted.

If the form was designed for POST submission, then the wireless client 405 sets the post bit in the CTP request structure, set the dataSize field appropriately, and include the form submission data in the data portion of the CTP request.

Encoding Server Dependent Form Submissions

In some embodiments, the hypertext document comprises a server dependent form. An index is used to identify which server dependent form is used by the wireless client 405. The server dependent form can include field input types and initial default values for the input fields. The server dependent form is selected from a plurality of server dependent forms. Input field types comprise input fields, select fields, and control fields. Compressed text representations are provided by the wireless client 405 for input fields. Compressed text representations are also provided by the wireless client 405 for control fields that

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have values different than the corresponding server form default value, and select fields that have been selected. Control fields that have the corresponding server dependent form default values are omitted from the first message sent to the proxy server 180. Select fields that have not been selected are also omitted from the first message.

Server dependent forms are basically forms that are missing field names and selection values in order to make them as small as possible. The only information present in a server dependent form is the field input types (radio button, checkbox, etc.) and the initial default values.

When a server dependent form is submitted by the wireless client 405, the client sends the inputted values of each field up to the proxy server 180 along with the field index. It is then up to the proxy server 180 to fetch the original HTML form from the Internet, lookup the actual field names and selection values for each of the fields in the form, and send a standard form submittal to the CGI script on the server.

When the wireless client 405 submits a server dependent form, a '*' is placed in the URL immediately after the '?' character (which is used to indicate the start of the field parameters in the URL). This extends the metaphor first introduced for indirect hyperlinks by using the " character to represent indirect form submissions as well. An example will help explain the syntax.

Normally, form submissions are accomplished through URLs such as:

http://www.server.com/cgi-bin/submit?name=deb&sex=f&ship=1week

This URL sends the form parameter info "name=deb&sex=f&ship=1week" to the CGI script called "submit" which is in the CGI-bin directory of the server www.server.com. The form parameter information indicates that the name field was filled in with the text "deb" and the radio button with a name attribute of "sex" and a value attribute of "f" was selected and that the submit button with a value of "1week" was pressed. An HTML representation of a form called "http://www.server.com/forms/myform.html") is:

<form method=GET action=http://www.server.com/CGI-bin/submit>

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```
Name: <input type=text name=name>
<p>
Sex: <input type=radio name=sex value="m"> Male
 <input type=radio name=sex value="f"> Female
<p>
<input type=submit value="overnite" name="ship">
<input type=submit value="1week" name="ship">
</form>
```

Translating the form into a CML server dependent form would result in the following format:

```
Tag         tag = tagForm
UIntV       formIndex = 0
Bit         standalone = 0

Text        "Name:"

Tag         tag = tagInputTextLine
UIntV       size = 0
UIntV       maxLength = 0
Bit         hasName = 0
Bit         hasValue = 0

Text        "Sex:"

Tag         tag = tagInputRadio
Bit         checked = false
UIntV       group = 0
Bit         hasName = 0
Bit         hasValue = 0
Text        "Male"

Tag         tag = tagInputRadio
Bit         checked = false
UIntV       group = 0
Bit         hasName = 0
Bit         hasValue = 0

Text        "Female"

Tag         tag = tagInputSubmit
Bit         hasName = 0
Bit         hasValue = 0

Tag         tag = tagInputSubmit
Bit         hasName = 0
Bit         hasValue = 0

Char        endForm = endTag
```


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In the server dependent CML form, there is no URL for the web server and CGI script (the action attribute of the HTML <form> tag). Also, there are no field name attributes (like "name" or "sex"), nor are there any value attributes for the radio buttons (like "m" or "f") in the server dependent form. The only information the wireless client 405 has about the form is its field input types and their relative order in the form. The standalone attribute of the form tag is set to 0 to indicate that this is a server dependent form. In order to submit this form, the wireless client 405 sends the following URL to the proxy server 180:

http://www.server.com/forms/myform.html?a/a=deb/c/e

Notice that http://www.server.com/forms/myform.html is the name of the form itself that is being submitted (not the CGI-script that processes it). In the parameter list, the first "a" is the form index (obtained from the formIndex attribute of the tagForm tag) the next "a" is the index of the first field in the form (using the base 26 number system introduced above in the Encoding Indirect Hyperlinks section). The next item in the list is the inputted value corresponding to the first field, "deb". The "c" is the index of the third field in the form and because the third field is a simple radio control, it does not have an associated value. The "e" is the index of the submit button that was pressed (e.g., the button with the value of "1week"). The submit button index is included even if the form only has 1 submit button. Also, between each of the field entries in the parameter list is a '/' character.

In general, the rules for creating a server dependent form submittal are:

1) The base URL is the URL of the document that contains the form itself.

2) An asterisk (*) immediately follows the '?'.

3) Immediately after the "?*" is the base 26 form index.

4) The fields are represented by sequences of: <fieldIndex>[=<fieldValue>] where fieldIndex is the base 26 index of the field and fieldValue is only included for text line or text area fields. The only characters that need to be escaped in a fieldValue are the following: /=%.

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5) The field entries are separated from each other and the form index by a '/' character.

6) Only checked radio buttons, checkboxes, and select options are included in the parameter list. Thus, the simple presence of a field index for a radio button or checkbox indicates that it is checked. Radio buttons, checkboxes, or select options which are not checked by the user are left out altogether.

7) The <select> element is treated conceptually as a set of checkboxes - each <option> in the select element gets its own field index. For example, in a form that had a single radio button followed by a 3 item select element, the three items in the select element would be identified by the field indices 'b', 'c', and 'd'. The next field in the form after the select element would have the index 'e'.

8) The index of the submit button that was pressed to submit the form is included even if there is only 1 submit button in the form.

9) Any '/' or '*' character which appears in an input text line or text area field is escaped using the sequence %2f or %2a respectively.

Secure Communications

Security support for the wireless communication system is implemented at the transfer layer. Implementing security at the transfer layer provides encryption of the actual request parameters, i.e., the requested uniform resource locator (URL), thereby hiding the request parameters from prying eyes. The common request header field corresponding to the transfer layer is a convenient place to include security parameters. By implementing security at the transfer layer, the lower level reliable message layer 635 is not burdened with being security "aware".

When an encrypted request is sent to the proxy server 180, the encrypted bit is set in the common fields of the request header and is immediately followed by an encryption scheme field and encryption scheme specific parameters. In some embodiments, everything in the request message after the encryption scheme

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parameters is encrypted, including the actual request parameters. The following is an example of an encrypted request according to one embodiment of the invention:

```
// Common Header
UIntV   headerVersion = 0
UIntV   command = ctpReqURL          // ctpReqURL = 0
UIntV   contentVersion = 0
Bit             encrypted = 1
UIntV   encryptionScheme = 0         // scheme number 0

// Encryption parameters
UInt32  dateTime                     // current date and time in seconds
UInt32  serverID                     // server's ID
UIntV   serverPublicKeyID                    // server's public key identifier.
UInt8   encDEK[16]                   // public key encrypted DEK
UInt8   encMIC[16]                   // DEK encrypted message integrity
                                             // check

// Encrypted request
UInt8   encCTPReqParams [ ]          // DEK encoded CTPReqParams
```

The primary encryption scheme is indicated by a scheme ID of 0 in the encryptionScheme field of the request header. Other schemes also have corresponding unique encryption scheme ID numbers.

Security Requirements

The security provided for sensitive wireless communications satisfies a number of requirements in order to gain trust for use in consumer commerce (i.e., transmitting credit card information) and private corporate communications (i.e., sending confidential sales forecasts, product plans, etc.).

The wireless communications system provides a level of security equal to, and in some circumstances better than, that provided by the Secure Sockets Layer (SSL) protocol widely used by Internet 190 browsers and servers. The SSL protocol is the most common security protocol used by web browsers and servers, and is generally believed to provide a satisfactory level of protection for confidential information and transactions. Rather than providing the specific

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encryption algorithms to use, SSL defines a protocol that is used to negotiate the encryption algorithms. The SSL protocol supports a number of different encryption algorithms of varying strengths. Nonetheless, most SSL implementations have settled on one of two different algorithms commonly known as 128-bit (for domestic use) and 40-bit (for export).

Unfortunately, SSL is a very chatty protocol that requires multiple messages per request. Therefore, SSL is not well adapted for networks characterized by very high latency and low bandwidth, such as the wireless packet data network. The wireless client 405 will instead uses its own secure communications protocol. However, the wireless client 405 security protocol uses encryption algorithms that are equivalent in strength to those used by "128-bit" SSL implementations.

An ideal secure protocol has the following properties:

1) Confidentiality: An eavesdropper must be unable to interpret the data sent between two private parties.

2) Authentication: The receiver of a message must be able to ascertain the origin of the message. An intruder should not be able to masquerade as someone else.

3) Integrity: The receiver of a message must be able to verify that the message has not been modified in transit. An intruder should not be able to substitute a false message for a legitimate one.

4) Nonrepudiation: A sender should not be able to falsely deny later that he sent a message.

The wireless communications system provides full confidentiality, proxy server 180 authentication, and integrity. However, the wireless communications system provides neither wireless client 405 authentication, nor nonrepudiation. Some level of wireless client 405 authentication and nonrepudiation is provided by the application layer. When the wireless client 405 is forced to enter a password when submitting a form using a browser 104, a reasonable measure of wireless

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client 405 authentication is provided. Because, the wireless client 405 password should be private, the wireless client 405 can not claim that someone else other than the wireless client 405 sent the message.

Security Protocol

The security protocol used in the wireless client 405 is optimized for use over wireless networks. As such, the security protocol is designed to minimize the number of transactions, or messages, sent between the wireless client 405 and proxy server 180. The number of messages is minimized to avoid exacerbating the latency problem inherent in wireless packet data networks. Latency is generally the most critical wireless packet data network performance bottleneck. One security scheme implemented on the wireless client 405 (scheme #0) can perform a secure transaction with just a single request message sent from the wireless client 405 to the proxy server 180; and a single response message returned from the proxy server 180 to the wireless client 405. Each message comprises at least one packet of data. The messages provide the basis of a transaction where the transaction comprises response messages and request messages exchanged between a wireless client 405 and a proxy server 180. Because of the extra parameters required for encrypted data, it is less likely that secure messages will fit in a single packet, but sending multiple packet messages has less of an impact on performance than performing multiple transactions (or sending multiple messages in either direction).

The following is a step by step description of a secure transaction between the wireless client 405 and the proxy server 180. Each secure transaction (i.e. submitting a form, and getting a response) follows these steps, including generating a new random data encryption key.

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1. The wireless client 405 generates a new 128 bit data encryption key (DEK) using the following algorithm:

DEK = MD5 (SHA (penStrokeQueue + hardwareTimerRegister + tickCount
+ timeInSeconds + lowMemoryChecksum))

MD5 is the MD5 message digest function that accepts an arbitrary length string of bytes and outputs a 128-bit hash of the input. The secure hash algorithm (SHA) accepts an arbitrary length string of bytes and outputs a 160-bit hash of the input. The '+' signs in the above equation represent concatenation, not addition. A random number generator uses input from a pen stroke queue. The pen stroke queue depends on user interaction with the pen in order to be as completely unpredictable as possible when generating the DEK. Both the MD5 and SHA functions are used in order to minimize the impact of a weakness in either one of these hash functions.

2. The wireless client 405 encrypts the DEK using the stored public key of the proxy server 180 [E_{SPUB}(DEK)].

encDEK = E_{SPUB} (DEK)

By encrypting the DEK using the public key of the proxy server 180, the wireless client 405 insures that only the proxy server 180 (using its private key) will be able to recover the DEK. The DEK is randomly generated (see step number one above) because public/private key encryption algorithms are particularly susceptible to known-plain text attacks and hence should only be used to encrypt random data. Examples of public/private key algorithms that can be used for the communications system encryption scheme include ElGamal and Elliptic Curves.

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3. The wireless client 405 forms a 128 bit message integrity check (MIC) using the following algorithm:

MIC = MD5 (SHA (ctpReqParams + dateTime + serverID))

The ctpReqParams is the CTP request parameters block that would normally follow the CTP common request header fields in an unencrypted request (as described above in the CTP Requests and CTP Commands sections). The dateTime is the current time (32-bit value) on the wireless client 405 measured in seconds since a given reference time (such as 12:00am on 1/1/97) and matches the dateTime field included in the encryption parameters area of the request. Both the wireless client 405 and the proxy server 180 know the reference time. The serverID is the proxy server 32-bit network address. The serverID comprises a byte of zeroes followed by a 24-bit unique proxy server 180 account number when using the wireless packet data network, or a 32-bit IP address when using the Internet 190. In either case, the serverID used to create the MIC must match the serverID field included in the encryption parameters area of the request.

Including all three of these elements in the MIC insures that an imposter will be unable to modify any part of the request, timeOfDay, or serverID without invalidating the MIC. The proxy server 180 uses the timeOfDay and serverID fields to detect and ignore replay attacks (i.e., where an attacker sends a copy of a request that was generated earlier by a valid wireless client 405).

4. The wireless client 405 encrypts the MIC via a symmetric encryption algorithm, such as triple-DES, using the DEK generated in step number 1.

$encMIC = E_{DEK} (MIC)$

5. The wireless client 405 encrypts the CTP request parameters via a symmetric encryption algorithm using the DEK generated in step number one.

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encCTPReqParams = E_{DEK} (ctpReqParams)

6. The wireless client 405 sends entire request, including encryption parameters, timeOfDay, serverID, encrypted DEK, encrypted MIC, and encrypted CTP request parameters to the proxy server 180:

```
// Common Header
UIntV   headerVersion
UIntV   command
UIntV   contentVersion
Bit             encrypted = 1
UIntV   encryptionScheme = 0    // scheme number 0

// Encryption parameters
UInt32  dateTime                // current date and time in seconds
UInt32  serverID                // server's ID
UIntV   serverPublicKeyID               // server's public key identifier.
UInt8   encDEK[16]              // public key encrypted DEK
UInt8   encMIC[16]              // DEK encrypted message integrity
                                // check

// Encrypted request
UInt8   encCTPReqParams[]               // DEK encoded CTPReqParams
```

7. The proxy server 180 checks message validity. If serverID does not match the ID of the proxy server 180, the request is thrown out. If the dateTime is more than 24 hours away from the current date and time, the request is thrown away. If the dateTime is less than or equal to the last encrypted request received from this wireless client 405, the request is thrown out and the event is logged as an attempted security breach. The dateTime checks insure against a replay attack to the same proxy server 180, allowing a 24 hour slack for differences in time zones. The serverID check insures that a request sent to one proxy server 180 can not be copied and replayed back to another proxy server 180. If the request is invalid, an error response is returned to the wireless client 405 explaining the reason for the rejection.

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A request can also be rejected if the public key for the proxy server 180 (identified by the serverPublicKeyID field) is no longer valid. The proxy server 180 administrator may choose to no longer recognize a public key if the corresponding private key has been compromised. In this case, the proxy server 180 will throw out the request and send back an error response message to the wireless client 405 containing a new public key and key ID. When this happens (very rarely, if ever) a dialog will appear on the wireless client 405 screen 101 asking if the wireless client 405 wants to accept the new public key. If the user accepts the new public key, the original request must be re-submitted using the new public key. The response that the proxy server 180 returns when the server private key has been changes has the following structure:

```
UIntV   responseSize
UIntV   result = invalidPublicKey
UInt8   encPublicKeyInfo[ ]
```

where encPublicKeyInfo is the following structure encrypted using the DEK from the request message:

```
UInt8   newPublicKeyMIC[16]
UInt32  serverPublicKeyID
UInt8   serverPublicKey[...]
```

and newPublicKeyMIC is the following:

newPublicKeyMIC = MD5 (SHA (serverPublicKeyID + serverPublicKey))

8. The proxy server 180 recovers the DEK by running encDEK through the public/private key decryption algorithm using the proxy server 180 stored private key.

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9. The proxy server 180 recovers the MIC by running encMIC through the symmetric decryption algorithm using the DEK as the key.

10. The proxy server 180 recovers ctpReqParams by running encCTPReqParams through the symmetric decryption algorithm using the DEK as the key.

11. The proxy server 180 computes the MIC from ctpReqParams, dateTime, and serverID using same algorithm the wireless client 405 used in step number 3 and compares the computed MIC to the MIC recovered in step number 9. If the two MICs do not match, the request is thrown away, an error response is returned to the wireless client 405, and the event is logged as an attempted security breach.

12. The proxy server 180 processes the request and forms an unencrypted response, ctpRspData.

13. The proxy server 180 computes the MIC for the response and encrypts the response MIC and the response data using the symmetric encryption algorithm with the DEK supplied by the wireless client 405. By using the same DEK to encrypt the response message and the request message, the secure communications methods uses symmetric encryption.

MICrsp = MD5 (SHA (ctpRspData))

encMICrsp = E_{DEK} (MICrsp)
encCTPRspData = E_{DEK} (ctpRspData)

14. The proxy server 180 sends the response back to wireless client 405:

UIntV responseSize
UIntV result

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UInt8 encMICrsp[16]
UInt8 encCTPRspData[...]

15. The wireless client 405 receives the encrypted response, decodes the MIC and CTPRspData using the saved DEK for this transaction, and verifies the MIC.

Some embodiments of the invention comprise a method for securely transmitting a message from a wireless client 405. The method for securely transmitting comprises encrypting a data encryption key, encrypting the message using the data encryption key, and transmitting the encrypted message to the proxy server 180. The wireless client encrypts the data encryption key using a proxy server 180 public key to form the encrypted data encryption key. The data encryption key corresponds to a specific transaction between the wireless client 405 and the proxy server 180. The wireless client encrypts the message using the data encryption key to form an encrypted message. The wireless client 405 transmits the encrypted message to the proxy server. The encrypted message comprises at least one packet of data. In some embodiments, each packet of data is formatted according to a compact transfer protocol.

In some embodiments, prior to encrypting the data encryption key, the method further comprises the step of generating the data encryption key. The data encryption key is generated by the wireless client 405 for a specific transaction between the wireless client 405 and the proxy server 180. Generating the data encryption key comprises applying a secure hash to a first input to form a first multibit hash, and applying a message digest function to the first multibit hash to form the data encryption key. The first input comprises a concatenation of an output from a random number generator and at least one other character string.

In some embodiments, the message comprises a request message corresponding to a hypertext document. The encrypted request message further comprises encrypted request parameters, an encrypted bit, an encryption scheme identifier, a proxy server public key identifier, a proxy server identifier, a wireless

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client generated indication of current date and time, an encrypted request message integrity check, and the encrypted data encryption key. The encrypted request parameters are created from request parameters using the data encryption key. The request parameters comprise compressed representations of data corresponding to fields in the hypertext document. The compressed representations are formatted according to a compact transfer protocol. The encrypted request message integrity check is encrypted using the data encryption key.

In some embodiments the method for securely transmitting the message from the wireless client further comprises validating the encrypted request message after transmitting the encrypted request message. Validating comprises comparing the wireless client generated indication of current date and time with a proxy server indication of current date and time. If the difference in these times is greater than a predetermined value (such as twenty-four hours), the proxy server 180 throws away the encrypted request message. If the difference in these times is smaller than the predetermined value, the proxy server 180 processes the encrypted request message and forms a response message.

In some embodioments, the proxy server 180 retains wireless client 405 generated indications of current date and time corresponding to each encrypted message received by the proxy server from the wireless client 405 prior to the wireless client 405 transmitting the encrypted request for a predetermined time. The method for securely transmitting the message from the wireless client 405 further comprises validating the encrypted single request message after transmitting the encrypted request message. Validating the encrypted request message comprises determining whether the wireless client 405 generated indication of current date and time submitted with the encrypted request message is less than or equal to any of the retained wireless client generated indications of current date and time. If the wireless client generated indication of current date and time submitted with the encrypted request message is less than or equal to any

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of the retained wireless client generated indications of current date and time, the proxy server throws away the encrypted request message. If the wireless client 405 generated indication of current date and time for the request message is greater than all of the retained wireless client 405 generated indications of current data and time, the proxy server 180 processes the encrypted request message and forms a response message.

In some embodiments, the specific transaction comprises a single request message and each packet of data is less than one kilobyte.

Some embodiments of the invention comprise a method for securely transmitting a message from a proxy server 180 to a wireless client 405. The method for securely transmitting comprises the following steps. The wireless client 405 encrypting a data encryption key using a proxy server public key to form an encrypted data encryption key. The proxy server receiving the encrypted data encryption key. The proxy server recovering the data encryption key. The proxy server encrypting the message using the data encryption key. The proxy server transmits the encrypted message to the wireless client. The data encryption key corresponds to a specific transaction between the proxy server and the wireless client. The proxy server recovers the data encryption key by decrypting the encrypted data encryption key using the proxy server private key. The proxy server encrypts the message using the data encryption key to form an encrypted message. The encrypted message comprises at least one packet of data. In some embodiments, the message comprises compressed data in a compact markup language. In some embodiments, the specific transaction comprises a single response message, and each packet of data is less than one kilobyte.

In some embodiments the method for securely transmitting a message from the proxy server 180 further comprises the following steps prior to recovering the data encryption key. The proxy server 180 receives an encrypted request message comprising encrypted request parameters, a wireless client 405 generated indication of current data and time, and a proxy server 180 identifier.

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The proxy server 180 receives an encrypted wireless client 405 generated request message integrity check. The encrypted request parameters are formed by encrypting request parameters using the data encryption key. The encrypted request message integrity check is formed by encrypting a wireless client generated request message integrity check using the data encryption key. The client generated request message integrity check is formed from a concatenation of the request message parameters, the wireless client generated indication of current data and time, and the proxy server identifier.

In some embodiments, the message transmitted from the proxy server 180 to the wireless client 405 comprises a response message. The method for securely transmitting a message from the proxy server further comprises the following steps before the transmitting step. The proxy server computing a response message integrity check. The proxy server encrypting the response message integrity check using the data encryption key to form an encrypted response message integrity check. The encrypted response message further comprises the encrypted response message integrity check.

Some embodiments of the invention comprise a system for secure communications. The system for secure communications comprises a source of data, a wireless client 405, and a proxy server 180. The source of data comprises means for transmitting HTML messages to the proxy server 180. The wireless client 405 comprises means for exchanging encrypted messages with the proxy server 180. The encrypted messages comprise encrypted request messages and encrypted response messages. Each encrypted message comprises at least one packet of data. Each encrypted request message comprises encrypted request parameters and an encrypted data encryption key. The request parameters corresponding to fields in a hypertext document. The HTML messages corresponding to the encrypted request messages. The proxy server 180 is in communication with the wireless client 405 and the source of data. The proxy server 180 comprises means for exchanging encrypted messages with the wireless

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client, means for fetching HTML messages from the source of data, and means for recovering the data encryption key.

Strength and Possible Attacks

The strength of the wireless communications system security is roughly equivalent to that provided by 128-bit versions of SSL. However, there are possible attacks and this section provides an overview of the possible attacks and counter measures employed to prevent them.

Attackers can be broadly classified into one of two categories: passive and active. Passive attackers are eavesdroppers who can listen in on a conversation and glean useful information from either one of the parties but otherwise do not take an active part in the conversation. Active attackers can actually take part in the conversation by impersonating one of the parties by modifying messages sent between the two parties, or by interjecting extra messages into the conversation.

Wireless networks are considered particularly susceptible to passive attacks because all that is required is a radio receiver, and there is nearly zero-chance of being detected. Active attacks on the other hand are easier to detect since most wireless networks have mechanisms for detecting and shutting down invalid transmitters (through Electronic Serial Numbers).

Passive Attacks

The wireless communication system resistance to passive attack is provided through a combination of encryption algorithms. The wireless communication system uses two encryption techniques: public key (public/private) and symmetric. Public key encryption is used to send a symmetric encryption key from the wireless client 405 to proxy server 180 and symmetric encryption is used to

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encrypt the actual message data. This combined approach leverages the strengths of the two encryption techniques while providing maximum security.

Public key encryption has the unique quality that data encrypted with the public key can only be decrypted with the private key. This is ideal for wireless communications system because the proxy server 180 private key can remain secret on the proxy server 180 and each wireless client 405 only needs the proxy server 180 public key. Therefore, any of the wireless clients 405 can encrypt data for transmittal to the proxy server 180. No one (including the sender) other than the proxy server 180 can decrypt the data once the data has been encrypted.

On the other hand, public key algorithms are much (i.e., orders of magnitude) slower than symmetric algorithms and are particularly susceptible to chosen plaintext attacks. The chosen plaintext attacks are conducted by a malicious party who selects chosen data to be encrypted with the private key. The malicious party is then able to deduce the private key from the resulting cyphertext.

In order to work around the slower performance and weakness to chosen plaintext attacks of public key encryption, the message data is encrypted using a symmetric algorithm and the slower public key algorithm is only used to encrypt the symmetric key. The symmetric data encryption key (DEK) is randomly generated so that chosen plaintext attacks can not be mounted.

Active Attacks

The wireless communication systems resistance to active attack is provided by inclusion of the message integrity check (MIC), dateTime stamp, and proxy server 180 ID fields. The combination of these elements insures that an active attacker will not be able to modify, or replay a message without being detected. If any portion of the message data is modified, the MIC will be invalid. Furthermore, because the MIC is encrypted, the MIC can not be re-generated by an active attacker without knowledge of the DEK or the proxy server (180) private key.

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Resistance to replay attacks is provided by inclusion of the dateTime and serverID stamps. The proxy server 180 keeps a record of the last dateTime stamp received from each wireless client 405 within the last 24 hours. If a duplicate dateTime stamp is detected by the proxy server 180, the proxy server rejects the request by the attacker. The proxy server 180 also performs a bounds check on the dateTime stamp and rejects the request if the dateTime stamp is off by more than 24 hours in either direction. Thereby, the proxy server 180 can safely dispose wireless client 405 dateTime stamps once the dateTime stamps become more than 24 hours old. The serverID stamp is included to foil replay attacks to a different proxy server 180. If an attacker tries to replay a request sent to proxy server A by sending it to proxy server B, proxy server B will reject the request since the serverID will not match.

Another possible attack is for someone to impersonate the base station 170 and proxy server 180. The attacking rogue server would attempt to force the wireless client 405 to accept a new public key as part of the public key rejection mechanism outlined above in step number 7 above. In order for this attack to be successful, however, the rogue server must know the private key of the real proxy server 180. Furthermore, the rogue server must be able to receive and transmit messages using the unique identification number of the real proxy server 180. Thus, although an attack premised on impersonation of a base station 170 and a proxy server is possible, such an attack would be very difficult to mount. To further reduce the risk of this attack, the wireless client 405 software asks user permission through a dialog before accepting a new public key from the proxy server 180. Users are forewarned, through means other than the wireless network (e.g., wireline e-mail, or hard copy delivery) when a proxy server 180 public key is changed so that "legal" changes to the proxy server 180 public key do not come as a surprise to a user. Because the user knows of any legal change to the proxy server 180 public key before the change is made, base station 170 and proxy server

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180 impersonation attacks can be defeated by user denial of permission to use new public keys that are not accompanied by appropriate user notification.

Encryption Algorithms

Algorithms that provide adequate protection using the wireless communications system encryption scheme include ElGamal or Elliptic Curve for the public key algorithm, and 3-way or Triple-DES for the symmetric algorithm. These algorithms are attractive because they provide high levels of security.

Administration

To ensure that the wireless communications system security is effective, the proxy server(s) 180 are located in a secure site. Because the proxy server 180 decrypts data before using SSL to transfer it to the content server, the unencrypted content reside in the proxy server 180 memory for short periods of time.

Furthermore, knowledge of the proxy server 180 private key would enable eavesdroppers to listen in on conversations between wireless clients 405 and the proxy server 180 and undermine the entire security scheme. Thus, the proxy server 180 private key is kept under complete confidence. To maintain the secrecy of the private key, the unencrypted private key never appears on paper or in electronic form, but rather is encrypted using a sufficiently long pass phrase that must be entered by a proxy server 180 administrator at run-time.

Reliable Message Layer and Reliable Message Protocol

This section describes the reliable message layer 635 of the wireless communications device 100. The reliable message layer 635 provides reliable, efficient delivery of arbitrary length messages over both wireline and wireless networks. The protocol it uses over wireless links is called the reliable message

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protocol (RMP). When operating over wireline links, it uses the Internet standard TCP protocol.

In terms of functionality, the reliable message layer 635 is situated below the transfer layer and above the network layer. The network layer is the layer responsible for sending packets over the network. On a wireless communications device 100, the network layer is the wireless communications device 100 operating system 102 network library (also referred to as NetLib, and shown as Net Library, reference number 1110 in Figure 11).

When operating over a wireline network, the reliable message layer 635 will uses the TCP Internet protocol. TCP provides guaranteed delivery of stream data and works well over networks that have relatively high bandwidth and low latency. By following a few simple usage rules that are described below, the TCP protocol is easily adapted to send discrete messages instead of stream data.

When operating over a wireless network, the reliable message layer 635 will instead use the RMP protocol. RMP is used because TCP is not practical over high latency low bandwidth networks. RMP is much more efficient than TCP and is optimized for use in an environment where small requests and responses are transferred between the wireless client 405 and the proxy server 180.

On Wireless Networks

The reliable message layer's job is to reliably send and receive messages with the remote host. A message is simply a block of data that represents either a request from a wireless client 405 to a proxy server 180, or a response from a proxy server 180 to a wireless client 405. These messages can in general be any size but the majority of them will be small enough to fit within a single wireless network packet.

Some messages will be too large to fit within a single packet. RMP therefore provides a mechanism to identify packets in such a way that the receiving

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host can reconstruct the message as each packet arrives. Furthermore, the packets are not guaranteed to arrive in the same order they were sent out, so the receiving host is also prepared to re-order them.

In some embodiments wireless networks do not guarantee delivery of packets. For such networks, RMP provides a mechanism for re-transmission of packets that are not received by the remote host. This mechanism is adapted to minimize any unnecessary traffic over networks that have guaranteed delivery.

Finally, RMP is extremely efficient in its use of network bandwidth. Wireless networks typically have a very high latency for every packet, no matter how small the packet size. For example, a one byte packet on a packet data network typically takes an average of 3 seconds just to travel from a remote wireless client 405 to the proxy server 180. To reduce overall latency then, most transactions should be accomplished with just one packet sent from wireless client 405 to proxy server 180 and just one packet returned. To reduce bandwidth, the header space used by RMP is minimal.

The following table summarizes these design goals of RMP:

1.) Minimal number of packets	If both the request and response messages are less than 1 packet in length, an entire transaction should take place with just 1 packet sent from wireless client 405 to proxy server 180 and just 1 packet returned.
2.) Minimal header size	The packet header used by RMP is minimal in size and optimized for small messages.
3.) Correct for out-of-order delivery	RMP works over networks that do not guarantee order of delivery. In particular, messages that do not fit within a single packet are correctly reconstructed at the receiving host even if the packets arrive out of order.
4.) Correct for lost packets	When operating over networks that do not guarantee delivery of packets, RMP automatically re-transmits

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	packets as necessary. This mechanism is adapted to abide by the one packet up one packet down goal when operating over networks that do provide guaranteed delivery.

The RMP Header

The following structure defines the format of the RMP header. The notation used to represent the RMP header (shown in Figure 7 as reference number 730) is the same notation used to document CML and CTP. This notation was introduced and described in the previous "Compact Data Structure Notation" section.

```
RMP Header:

Bit     lastDg      // set for last datagram in a
                    // message
UIntV   dgIndex     // index of datagram
```

As shown, the RMP header 730 has only two fields: a single bit that is set for the last datagram of a message, and a variable size integer specifying the datagram index. The datagram index is zero for the first datagram in a message and increments by one for each subsequent datagram. The maximum allowed index for a datagram is 65534 (0xFFFE).

Notice that the RMP header 730 does not contain any fields specifying the packet length, the byte offset within the message that the packet represents, addressing information or port numbers. These fields are not required because RMP datagrams are sent using the Internet UDP protocol. The IP header 710 and UDP header 720 present in a UDP packet provide the overall packet length, source and destination machine addresses, and source and destination port numbers. As a further simplification, RMP ensures that datagrams are small enough to fit within a single network packet, so a single RMP datagram will never be fragmented across 2 or more IP packets. Figure 7 illustrates an entire RMP Packet Structure 700.

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The IP header 710 and the UDP header 720 are typically transmitted over the wireless network in a highly compressed form since most of the information in these headers is redundant or unnecessary over the wireless link. When using a packet data wireless network, the IP header 710 and UDP header 720 are reduced from 28 to 3 bytes. The "Wireless Network Interface" section below describes how the IP header 710 and UDP header 720 are compressed over the packet data wireless network.

The RMP Data Area

Because RMP packets are sent using UDP, and because UDP packets are always an even number of bytes long, the total size of the RMP area (header + data) is an even number of bytes long. Since the RMP header 730 is not generally an even number of bytes long, anywhere from 0 to 7 pad bits (which are always 0 bits) are appended to the header before the start of the data area in order to place the start of the data area on an even byte boundary.

The actual messages (e.g., message fragment 740) that RMP transports are an even number of bytes long. The box below illustrates the Data Area Padding and shows an example of a single packet request that has a 2 byte message in it. Notice that the header section is padded with 6 bits. This makes the entire RMP packet an integer number of bytes long (24 bits, or 3 bytes). If instead the RMP header 730 area had been 8, 16, or any other multiple of 8 bits long, then no padding bits would be inserted before the data area.

Bit Offset		
0	Bit	lastDG = 1
1	UintV	dgIndex = 0
2	Bit[6]	padding
8	Bit[16]	data
24		

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Re-transmission of Lost Packets

When RMP is being used over a network that does not guarantee delivery of packets, RMP provides a mechanism for the re-transmission of lost packets. Most reliable protocol designs rely on acknowledgements from the remote host to indicate to the sender that a packet was properly received. Then, if an acknowledgement is not received within a specified timeout period, the packet is resent. This method is not used in RMP because it forces a minimum of three packets to be exchanged for a single transaction (request to proxy server 180, response to wireless client 405, acknowledgement of response to proxy server 180).

Instead, RMP will assume by default that packets are correctly delivered to the remote host. The only time a packet will be re-transmitted is when an RMP re-transmit request is explicitly received from a remote host. Furthermore, the only time that a remote host will even send a re-transmit request is if the remote host has not received all packets from a multi-packet message within a certain timeout period.

Thus, for transactions with single packet requests and responses, packets will never be re-transmitted. If a response is not received within a certain timeout period, the reliable message layer 635 will simply return with a timeout error and the user or higher layer software will have to re-submit the request. If at least one packet of a multi-packet message is received before the timeout period however, the reliable message layer 635 will send a re-transmit request to the remote host and tell it which datagrams of the message need to be re-transmitted. The following structure shows a re-transmit request:

```
Bit     lastDg = 1          // always 1
UIntV   dgIndex = 0xFFFF    // special value indicates
                            //  re-transmit request
UInt16  numSegments         // number of segment pairs that
                            //  follow
                            // First Segment
UInt16  startDg0            // start datagram index
UInt16  numDgs0             // number of datagrams in segment
                            // Optional Additional segments...
```


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```
UInt16 startDg1
UInt16 numDgs1
```

The first two fields, lastDg and dgIndex are set to 1 and 0xFFFF respectively in order to identify this RMP packet as a re-transmit request. The numSegments field indicates how many startDg and numDgs pairs follow. Each startDg/numDg pair indicates a range of packets that need to be re-transmitted. For example, a startDg of 2 and numDg of 3 indicates that datagrams 2, 3 and 4 need to be re-transmitted. Finally, a numDgs value of 0xFFFF is a special case that indicates that all datagrams from startDg to the end of the message need to be re-transmitted. This special value is used because the host receiving the message does not know how big the entire message is until it receives the last packet in the message (the one with the lastDg bit set).

The definition of what range of bytes a particular datagram index represents is up to the sending host to decide and maintain. The receiving host simply tells the sender which datagrams have not been received by index, not by byte number or byte count.

This protocol, although very efficient in terms of network bandwidth, can place a significant burden on the sending host to implement, particularly the proxy server 180. For example, after a proxy server 180 sends a multi-packet response, the proxy server 180 saves the response data in a buffer somewhere just in case the wireless client 405 needs part of it re-transmitted. Only after the timeout period expires (which can be quite long for wireless networks - up to 60 seconds or more) can the proxy server 180 safely dispose of the response message and recover the memory used to hold it.

The Reliable Message Protocol

The reliable message protocol (RMP) protocol is described herein through examples. The RMP protocol combined with the compact transport protocol and

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the compressed markup language provide the basis for packet minimized communications between the wireless client 405 and the proxy server 180.

One embodiment of the invention includes a method for completing a transaction between the wireless client 405 and the proxy server 180. The method comprises transmitting a single request message from the wireless client 405 to the proxy server 180, and transmitting a single response message from the proxy server 180 to the wireless client 405. The request message comprises packets of data. Transmitting the request message comprises placing in the request message a base document uniform resource locator followed by compressed data. The compressed data comprises field values and field indices corresponding to fields in a hyperlink document, and an indication of use of a hyperlink document. Field values and field indices correspond to fields in the hyperlink document. The number of packets is small and the size of each packet is small.

In some embodiments, each response message packet is less than one kilobyte.

In some embodiments, the base uniform resource locator can be expressed in CTP by a binary string. The binary string includes a first field that indicates the encoding scheme used in the request message. The binary string can also include a second field comprising a representation of a second segment of the base uniform resource locator (URL). Lower case letters in the base URL and other selected text are represented by a multi-bit alphabet. The alphabet has less than eight bits. Characters not represented by the multi-bit alphabet, are preceded by a multi-bit escape character. The escape character indicates that text following the escape character is represented by a different scheme than the multi-bit alphabet. These alternate schemes can be eight bit ASCII representation or sixteen bit ASCII representation.

The simplest RMP case is where both the request and response messages are small enough to fit in one packet. As shown in Figure 8, the wireless client 405 sends a single packet request 810 to the proxy server 180. Because the entire

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request fits in the one packet, the lastDg bit is set in the single packet request RMP header 850 to indicate that the single packet is the last packet in the request message. The single packet request 810 comprises an IP header 710, a UDP header 720, the single packet request RMP header 850, and a request message fragment (RQMF) 820.

The proxy server 180 then sends a single packet response 830 back to the wireless client 405 after processing the request. Because the entire response fits in one packet, the lastDg bit is set in the single packet response RMP header 860. The single packet response 830 comprises an IP header 710, a UDP header 720, the single packet response RMP header 860, and a response message fragment (RSMF) 840.

The RMP protocol is built on top of UDP. Each one of the examples that follow shows a complete transaction from the client's point of view. The wireless client 405 sends a single message request and receives a single message response. Whenever a wireless client 405 initiates a new transaction, the wireless client 405 uses the next available local UDP port number. This port number is sent to the proxy server 180 as part of the UDP header 720 information and tells the proxy server 180 to which port the response packets 830 are to be returned. By using a unique port number for each transaction, packets that do not belong to the current transaction can be safely and effectively ignored.

On the other hand, the destination port of each UDP transaction is constant for very transaction, i.e., the pre-defined port number for the UDP socket on the proxy server 180 that is listening for requests.

Figure 9 shows an example of a seven hundred byte response message that is too large to fit in one five hundred byte packet. The proxy server 180 sends a two packet response back to the wireless client 405 where the first response packet 910 does not have the lastDg bit set in the first response packet RMP header 920. The second response packet 940 has the lastDg bit set in the second response packet RMP header 950. An interesting point to bring up here is that the RMP headers

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never indicate how many bytes of the message have already been sent, only the relative index of each packet. It is up to the receiver to determine the correct message byte offset of each packet by adding up the message fragment sizes from the previous packets.

Figure 10 shows an example of a re-transmit packet being sent from the wireless client 405 to the proxy server 180. The proxy server 180 sends a two packet response back to the wireless client 405 but the second packet gets lost. The wireless client 405, after a timeout period, sends a re-transmit request 1010 back to the proxy server 180. Note that the numDgs field in the re-transmit request 1010 is 0xFFFF indicating that every datagram from the startDg to the end of the message is missing.

On Wireline Networks

When operating over a wireline network, the reliable message layer 635 uses the TCP Internet protocol instead of RMP to communicate with the proxy server 180. TCP provides acceptable performance over these networks because they have relatively low latency and high bandwidth. Performance issues aside, TCP is preferable over RMP because of its widespread use and implementation as an Internet standard.

The API to the reliable message layer 635 effectively hides the actual network and protocols used over the network Thus, the caller does not need to know whether RMP or TCP is being used to send messages to the remote host.

When TCP is being used on the wireless client 405, the reliable message layer 635 simply opens up a TCP connection to a pre-defined port number on the proxy server 180, and sends the actual message data. When the entire request message has been transmitted, the wireless client 405 shuts down the transmit side of the client's connection, causing the proxy server 180 to receive an end-of-file indication. This end-of-file indication informs the proxy server 180 that the request

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message as ended. Likewise, after the proxy server 180 sends the response back, it closes down the TCP connection and the wireless client 405 receives an end-of-file indication that the end of the response message has been transmitted.

Note that a new TCP connection is established for every transaction, i.e., a request message sent from wireless client 405 to proxy server 180 and a response message back from the proxy server 180. Whenever a new TCP connection is established on a host, a new unique local port number is assigned to the connection. This port number is used by TCP to keep track of connections - much like how RMP uses the UDP port number to keep track of its connections.

Reliable Message Layer Application Program Interface (API)

The reliable message layer 635 provides access to the remote host through the RMP or TCP protocols. When a wireline network is in place, the two hosts communicate using TCP, which is already built-in to nearly all desktop and server operating systems, as well as on the wireless communications device 100 operating system 102.

When a wireless network is in place, the two hosts communicate using the reliable message protocol. This protocol is unique to the wireless communications device 100 and therefore requires implementation on both the wireless client 405 and the proxy server 180. Rather than invent a whole new API however, the reliable message protocol will instead use the same Berkeley sockets API that's used for TCP and UDP. Berkeley sockets is the de-facto standard network API on most platforms.

Since both TCP and RMP are accessed through the Berkeley sockets API, there is very little layering that needs to be added on top of these two protocol APIs in order to provide a network independent reliable message layer 635 API. In fact, the only difference between the two protocols is the socket type used when opening up the socket (TCP vs. RMP). Hence, the only API call unique to the

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reliable message layer 635 on the wireless client 405 will be a call to return the preferred socket type to use when communicating over the wireless network. This call would query the list of network interfaces and return the correct socket type to use: SOCK_RDM (RMP) if there is a wireless network interface 510 available and the wireless communications device 100 antenna is up, or SOCK_STREAM (TCP) otherwise.

Using the Reliable Message Layer on the Wireless Communications Device

On the wireless communications device 100, the Reliable Message Protocol will be implemented as a new socket type to the network library. The network library is shown in Figure 11 as 1110. The network library 1110 provides a Berkeley sockets API for network IO on the wireless communications device 100. The network library 1110 can support three socket types: datagram sockets, stream sockets, and message sockets. Datagram sockets utilize the UDP protocol, stream sockets utilize the TCP protocol, and message sockets utilize the RMP protocol.

Since RMP and TCP both use the Berkeley sockets API, the reliable message layer 635 API is essentially the Berkeley sockets API. Once a socket of the appropriate type has been opened, all other calls for reading and writing data, etc. are the same for the three protocols. There are certain usage restrictions in the sockets API that are observed (see below), but these restrictions can be applied equally to the socket types.

The following sequence of instructions details how the wireless client 405 application on the wireless communications device 100 performs a transaction with the proxy server 180. Keep in mind that every new transaction will go through the following sequence:

1.) Call RMLSocketType() to find out what type of socket to open up. This call will determine whether the client radio 440 antenna is up and if so, will return

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SOCK_RDM (Reliably Delivered Message) indicating that a RMP socket should be opened. If the client radio 440 antenna is not up, or if there is no wireless network interface 510 attached, SOCK_STREAM will be returned indicating that a TCP socket should be opened.

2.) Open up the socket using the socket() call. If there are any wireless network interfaces 510 attached, the socket() call will tell the wireless network interface 510 to prepare the client radio 440 for a transaction. Preparing the client radio 440 includes taking the client radio 440 out of low power mode, verifying signal strength, searching for a base station 170 if necessary, etc.

3.) Associate a local port number to the socket using bind() and a remote host IP address and port number using connect(). The remote host port number used will be a pre-defined constant for the proxy server 180. The local host port number will be specified as 0 - which tells the sockets API to pick the next unused local port number. Similar to sockets of type SOCK_DGRAM, SOCK_MESSAGE sockets do not perform any network IO during bind or connect calls. These calls simply store the local and remote addresses in the socket structure.

4.) Send the message request using write(), send(), sendto() or sendmsg(). The entire message is passed at once (a requirement for SOCK_MESSAGE sockets) and the caller will not be allowed to send any more additional data for the same socket. After the message is sent, the socket should be shutdown in the transmit direction using shutdown() (a requirement for SOCK_STREAM sockets). The shutdown call is necessary so that the TCP socket on the proxy server 180 receives an end-of-file indication at the end of the message.

5.) Receive the response using read(), recv(), recvfrom(), or recvmsg(). These calls should be made repeatedly until end-of-file is returned, which indicates the

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end of the response message. Optionally, the caller can block on both network IO and user events simultaneously by using the select() call.

6.) Close the socket using close(). If there are any wireless network interfaces 510 attached, this will have the side effect of putting the client radio 440 back into power-save mode.

Implementation of RMP

Ideally, RMP would appear as a new socket type on both the wireless communications device 100 and the proxy server 180 platform. Unfortunately, new socket types can not be easily implemented on the proxy server 180 since this is usually not a part of the proxy server 180 operating system that can be extended by third party developers. So, a compromise will be made on the proxy server 180 side. Therefore, the RMP protocol is implemented as a layer on top of the built-in sockets API, but with more or less the same calling conventions and parameters as the sockets API.

On the wireless communications device 100, the RMP protocol is incorporated into the network l library 1110 as a new socket type. In order to accomplish this, the network library 1110 is re-structured to allow for optional extensions, like RMP, that add new socket types or network types. This approach, although more involved than the approach taken on the proxy server 180 platform, paves the way for adding other socket types to network library 1110 in the future for features such as infra-red and non-IP network protocols.

Implementation of RMP on the Proxy Server

On the proxy server 180 platform, RMP will be implemented as a layer of code on top of a TCP (SOCK_STREAM) socket. This layer of code will have the

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same calling conventions as the standard sockets API and behave in the same manner. Each of the calls in this layer will have the name RMPxxxxx where xxxxx is the name of the corresponding sockets API call.

Nearly all of the RMP socket calls correspond to an equivalent sockets API call, except RMPReady() which is used to implement select() functionality. The select call is unique in that it provides blocking support for a set of different socket types at once - both RMP sockets and standard sockets. See the description below of SuperSelect() for details on how this functionality is implemented.

For convenience, RMP socket calls are written to simply fall through to the standard sockets call if the socket descriptor is not for a RMP socket. Similarly, the SuperSelect() call is written such that it can be used in place of the standard select() call.

RMPsocket

This call creates a new socket and returns the socket refnum. It will be implemented as follows:

If the family and type of the socket are not the right values for a RMP socket, simply call socket() and return.

Allocate a private structure to hold the RMP socket info.

Create a TCP socket and store its descriptor in the newly created RMP socket info structure.

Store the RMP socket structure pointer in a global array indexed by descriptor. This array is large enough to hold all possible descriptor values for the operating system since it is used by other RMP calls to determine if a given descriptor is for a RMP socket or a built-in socket. This global array is referred to as the descriptor array.

Return the TCP socket descriptor.

RMPlisten

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This call prepares a socket to accept incoming connection requests. It will be implemented as follows:

Call listen().

RMPaccept

This call blocks until an incoming connection request arrives for the socket. It then creates a new socket for the connection and returns the new socket refnum. It will be implemented as follows:

Call accept().

RMPbind

This call specifies a local IP address and port number for the socket. It will be implemented as follows:

Call bind().

RMPconnect

This call specifies a remote IP address and port number for the socket.

Call connect().

RMPrecv

This call blocks incoming data from the remote host and returns the number of bytes read. If end-of-file has been reached (the remote host shutdown the transmit side of its connection), 0 is returned. It will be implemented as follows:

Lookup the associated RMP socket structure pointer from the global descriptor array. If this is not a RMP socket (nil RMP socket pointer), simply call recv() and return.

If the next 1 or more bytes of the message have already been queued up in the RMP socket structure, return them.

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If no more data is queued up AND all parts of the message have already been received (including the last packet which has the lastDg bit set in the RMP header 730), return end-of-file (0).

Loop calling recv() on the TCP socket. If a packet arrives out of order, queue it up in the socket structure and keep looping. Otherwise, return the requested number of bytes from the packet.

RMPsend

This call sends data to the remote host. For RMP sockets, the entire message is passed at once to RMPSend. It will be implemented as follows:

Lookup the associated RMP socket structure pointer from the global descriptor array. If this is not a RMP socket (nil RMP socket pointer), simply call send() and return.

Split the message into chunks small enough to fit into single packets, add an RMP header 730, a UDP header 720, and an IP header 710 to each packet, and send the packets to the TCP socket using send(). The lastDg bit is set in the RMP header 730 of the last packet. If the message is a multi-packet message, save it in the socket structure for a period of time (on the order of 60 seconds) in case the remote host later requests a re-transmission of some of the message. The re-transmit requests are watched for and handled by RMPclose.

Set flag in socket structure indicating that a message has been sent and that further RMPsend() calls to this socket are not allowed.

RMPshutdown

This call terminates further input and/or output on a socket. It will be implemented as follows:

Lookup the associated RMP socket structure pointer from the global descriptor array. If this is not a RMP socket (nil RMP socket pointer), simply call shutdown() and return.

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Set flags in socket structure indicating that the socket has been shutdown and that further IO in the receive and/or send direction is not allowed.

RMPclose

This call closes down a socket. It will be implemented as follows:

Lookup the associated RMP socket structure pointer from the global descriptor array. If this is not a RMP socket (nil RMP socket pointer), simply call close() and return.

Set flags in socket structure indicating that the socket has been shutdown and that further IO in the receive and send direction is not allowed.

Set flag in socket structure indicating that the socket has been closed.

If there is no message data saved for possible re-transmission (see RMPsend), free all memory allocated to the socket structure, close down the UDP socket, and remove the entry from the global descriptor array.

If there is message data saved for possible re-transmission, mark the socket structure as being in a close-wait state and block for a period of time (on the order of 60 seconds) waiting for re-transmit requests to arrive. If a re-transmit request is received during this time, re-transmit the requested packets (they were stored in the RMP socket structure pointer by RMPsend).

SuperSelect (int numfds, fd_set rfds, fd_set wfds, fd_set efds, struct timeval timeout)

This call is a replacement for the select() call. It supports RMP socket descriptors as well as standard descriptors. It blocks until any of the file descriptors in rfds, wfds, or efds become ready for IO and updates rfds, wfds, and efds with the set of ready descriptors on exit.

SuperSelect is implemented using a subroutine call named RMPReady(). RMPReady() takes a RMP socket descriptor parameter and a direction parameter. It

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returns 1 if the RMP socket is ready for IO in the given direction, 0 otherwise. The direction parameter is either -1 for input, 0 for exception, or 1 for output.

Generally, the RMPReady() just loops calling select() on the TCP socket with a timeout of 0 until the socket either returns not ready, or until the next 1 or more bytes of message data can be queued up in the RMP socket structure. Each time that select() says that the TCP socket has a packet ready, the packet is read out of the TCP socket and queued into the appropriate place of the RMP socket structure. Since packets may arrive out of order, the arrival of a packet does not necessary mean that the RMPReady should return true.

The following pseudo-code illustrates how RMPReady() can be used to implement SuperSelect(). In summary, SuperSelect first checks to see if at least one of the RMP descriptors are ready and if so, changes the timeout for the following select() call to 0. It then calls the select() call in order to update the list of standard descriptors that are ready for IO. Finally, it goes through each one of the RMP descriptors to see which RMP descriptors are ready. If no descriptors are ready at the end (which could happen if an out-of-order packet arrived at a RMP socket), it loops back to call select again.

```
int SuperSelect(int nfds, fd_set rfds, fd_set wfds, fd_set efds, struct timeval timeout)
{
numReady = 0
fd_set orig_rfds = rfds
fd_set orig_wfds = wfds
fd_set orig_efds = efds
//---------------------------------------------------------------
// First, see if at least one of the RMP descriptors are ready
//---------------------------------------------------------------
for each descriptor in rfds, wfds, efds
if it is an RMP descriptor
if timeout != 0
if RMPready(descriptor)
timeout = 0
//---------------------------------------------------------------
// If at least one of the RMP descriptors are ready, use a
// 0 timeout just to update the list of other descriptors that are
// also ready.
//---------------------------------------------------------------
while numReady == 0
rfds = orig_rfds, wfds = orig_wfds, efds = orig_efds
numReady = select(nfds, rfds, wfds, efds, timeout)
```


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```
//-------------------------------------------------------
// Update the lists of standard descriptors that are ready with
// the RMP descriptors that are also ready. RMPReady is smart
// enough not to return true if the received packet is
// out-of-order.
//-------------------------------------------------------
for each descriptor in rfds, wfds, efds
if it is an RMP descriptor
if not RMPReady(descriptor)
rfds,wfds,efds[descriptor] = false
numReady --
//end while
return numReady
}
```

Implementation of RMP on the Wireless Communications Device

On the wireless communications device 100, the RMP protocol is incorporated into the network library 1110 as a new socket type. Rather than statically link the RMP protocol into the network library 1110, the network library 1110 is re-structured to accept plug-in network library 1110 extensions that can add new socket or network types.

These network library 1110 plug-ins will be structured as wireless communications device 100 operating system 102 libraries, just like network library 1110 is a library, but with certain pre-defined entry points that are specifically for use by network library 1110. When the plug-in libraries are installed, they will register themselves with network library 1110 and tell network library 1110 which socket type(s) and network type(s) the plug-in libraries support.

Whenever network library 1110 receives a socket open request, it will check the network and socket type and call the appropriate network library 1110 plug-in library to handle the open request. In addition, any network library 1110 calls that take a socket refnum, like listen(), accept(), read(), write(), etc. will check the socket refnum and pass control onto the appropriate network library 1110 plug-in if the socket is not a built-in type.

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The select() call in the Network library 1110 will also have to be extended in order to support Network library 1110 plug-ins. One embodiment of select for the Network library 1110 includes logic similar to that described above for the SuperSelect() call on the proxy server 180. It will have to be aware of plug-in socket types and call the appropriate plug-in library for any of the socket descriptors that don't correspond to built-in socket types. The plug-in library call will tell select whether or not that particular socket is ready for IO.

In order to simplify the allocation of socket descriptors, network library 1110 reserves a first group of socket descriptors for built-in socket types. Network library 1110 plug-ins can choose a free descriptor number from one of the other 12 possible descriptors that are not reserved for the built-in sockets (there are a total of 16 possible selectors on the wireless communications device 100). Having the descriptors partitioned in this way simplifies and speeds up the logic in the select() call and other portions of the network library 1110. Network library 1110 plug-in modules will also have to call the system event group signal function SysEvGroupSignal() whenever one of their sockets becomes ready for IO, just like built-in network library 1110 sockets do. This is done in order to unblock the select() call, and could be performed from an interrupt routine or a separate background task created by the plug-in.

An important thing to note about RMP sockets, is that the caller will call either recv or select repeatedly while waiting for a response to arrive. This is due to the way that re-transmit requests from the remote host are handled. Instead of creating a separate task to watch for re-transmit requests, the RMP plug-in simply looks for and processes re-transmit requests during recv and select calls.

Network Library RMP Socket Plug-in

The following descriptions provide a cursory overview of how each of the calls in the network library 1110 RMP socket plug-in will operate on the wireless

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communications device 100. An important difference this wireless client 405 implementation and proxy server 180 implementations of RMP is that the wireless client 405 side is implemented on top of UDP whereas the proxy server 180 is implemented on top of TCP. Since the following calls are part of the network library 1110 plug-in, they will be labeled as PIxxxxx where xxxxx is the particular sockets API call that each one implements.

PIsocket

This call creates a new socket and returns the socket refnum. It will be implemented as follows:

Allocate a private structure to hold the RMP socket info and grab an unused socket descriptor in the range allowed for Network library 1110 plug-ins.

Call Network library 1110 to create a UDP socket and store its descriptor in the newly created RMP socket info structure.

Return the RMP socket descriptor obtained in step #1.

PIlisten

This call prepares a socket to accept incoming connection requests. This call will not be implemented on the wireless client 405 since it does not support incoming RMP connection requests - only the proxy server 180 implementation does.

PIaccept

This call blocks until an incoming connection request arrives for the socket. It then creates a new socket for the connection and returns the new socket refnum.

This call will not be implemented on the wireless client 405 since it does not support incoming RMP connection requests - only the proxy server 180 implementation does.

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PIbind

This call specifies a local IP address and port number for the socket. It will be implemented as follows:

Call the network library 1110 bind() call on the UDP socket descriptor.

PIconnect

This call specifies a remote IP address and port number for the socket. It will be implemented as follows:

Call the network library 1110 connect() call on the UDP socket descriptor.

PIsend, PIsendto, PIwrite, PIsendmsg

These calls send data to the remote host. For RMP sockets, the entire message is passed at once to RMPSend. They will be implemented as follows:

Get the pointer to the RMP socket info structure from the socket descriptor.

Split the message into chunks small enough to fit into single packets, add RMP headers 730, and send them to the UDP socket using send(). The lastDg bit is set in the RMP header 730 of the last packet. If the message is a multi-packet message, save it in the socket structure in case the remote host later requests a re-transmission of some of the message. The PIrecv() and PIReady() calls will take the proper action and re-transmit request packets if they detect a re-transmit request while waiting for a response to arrive.

Set flag in RMP socket info structure indicating that a message has been sent and that further PIsend() calls to this socket are not allowed.

PIrecv, PIrecvfrom, PIrecvmsg, PIread

These calls block on incoming data from the remote host and return the number of bytes read. If end-of-file has been reached (the remote host shutdown the transmit side of its connection), 0 is returned. They will be implemented as follows:

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Get the pointer to the RMP socket info structure from the socket descriptor.

If the next 1 or more bytes of the message have already been queued up in the RMP socket info structure, return them.

If no more data is queued up AND all parts of the message have already been received (including the last packet which has the lastDg bit set in the RMP header 730), return end-of-file (0).

Loop calling network library's 1110 recv() on the UDP socket. If a packet arrives out of order, queue it up in the RMP socket info structure and keep looping. If a re-transmit request packet is received, re-transmit the correct packets. Otherwise, return the requested number of bytes from the packet.

PIshutdown

This call terminates further input and/or output on a socket. It will be implemented as follows:

Set flags in socket structure indicating that the socket has been shutdown and that further IO in the receive and/or send direction is not allowed.

PIclose

This call closes down a socket. It will be implemented as follows:

Get the pointer to the RMP socket info structure from the socket descriptor.

Free the RMP socket info pointer.

Call the network library 1110 close() function on the UDP socket to close it down.

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Network Library Select Call Enhancement

As mentioned above, the network library 1110 is enhanced to support plug-ins that provide new socket types and network types. Besides branching off to the correct plug-in handler for calls that operate on sockets (like bind, connect, send, recv, etc.) the network library 1110 is also plug-in aware in order to implement the select call.

select (int numfds, fd_set rfds, fd_set wfds, fd_set efds, struct timeval timeout)

The select call blocks until any of the socket descriptors in rfds, wfds, or efds become ready for IO and updates rfds, wfds, and efds with the set of ready descriptors on exit.

Select is modified to look for sockets that belong to plug-ins and to utilize a routine in each plug-in named PIReady(). PIReady() takes a socket descriptor parameter and a direction parameter. It returns 1 if the socket is ready for IO in the given direction, 0 otherwise. The direction parameter is either -1 for input, 0 for exception, or 1 for output.

For RMP sockets, PIReady() just loops calling select() on the UDP socket that it owns with a timeout of 0 until the socket either returns not ready, or until the next 1 or more bytes of message data are queued up in the RMP socket structure. Each time that select() says that the UDP socket has a packet ready, the packet is read out and processed. Since packets may arrive out of order or they may be re-transmit requests, the arrival of a packet does not necessary mean that the PIReady should return true.

The following pseudo-code illustrates how PIReady() will be used to implement select(). In summary, it first checks to see if at least one of the plug-in descriptors are ready and if so, changes the timeout for the following select() call to 0. It then calls the select() call in order to update the list of built-in descriptors that are ready for IO. Finally, it goes through each one of the plug-in descriptors to see

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which plug-in descriptors are ready. If no descriptors are ready at the end (which could happen if an out-of-order packet arrived at a RMP socket), it loops back to call select again.

```
int select(int nfds, fd_set rfds, fd_set wfds, fd_set efds, struct  timeval timeout)
{
numReady = 0
fd_set orig_rfds = rfds
fd_set orig_wfds = wfds
fd_set orig_efds = efds
//-----------------------------------------------------------------
// First, see if at least one of the plug-in descriptors are ready
//-----------------------------------------------------------------
for each descriptor in rfds, wfds, efds
if it is an plug-in descriptor
if timeout != 0
if PIready(descriptor)
timeout = 0

//-----------------------------------------------------------------
// If at least one of the plug-in descriptors are ready, use a
// 0 timeout just to update the list of built-in descriptors that are
// also ready.
//-----------------------------------------------------------------
while numReady == 0
rfds = orig_rfds, wfds = orig_wfds, efds = orig_efds
numReady = select(nfds, rfds, wfds, efds, timeout)
//-----------------------------------------------------------------
// Update the lists of built-in descriptors that are ready with
// the plug-in descriptors that are also ready. For example,
// PIReady  for RMP sockets is smart enough not to return true
// if the received packet is  out-of-order.
//-----------------------------------------------------------------
for each descriptor in rfds, wfds, efds
if it is an plug-in descriptor
if not PIReady(descriptor)
rfds,wfds,efds[descriptor] = false
numReady --
//end while
return numReady
}
```

Wireless Network Interface

This section describes the wireless network interface 510 module for the wireless communications device 100 network library 1110. Figure 11 shows a block diagram of the lower level communication layers on a wireless

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communications device 100. The wireless network interface 510 is seen situated between the network library 1110 and the network hardware 1120. The wireless network interface 510 isolates the actual network hardware 1120 from the network library 1110 and provides a generic interface to the network library 1110. The network library 1110 serves wireless client 405 applications 1130 and a client preference panel 1140.

This module enables the network library 1110 to access the Wireless packet data network as an IP network. Once installed, any application can access the Wireless packet data network using the Berkeley sockets API of the network library 1110.

The network library 1110 is designed in such a way that support for new network hardware, like the client radio 440, can be added dynamically simply by installing an appropriate network interface module onto the wireless communications device 100. Network interface modules are separately linked databases that contain the code necessary to abstract the network hardware. They can be "attached" and "detached" from the network library 1110 at run-time, usually through a preference panel 1140. For example, both PPP and SLIP are provided by separate network interface databases in the ROM and one or the other is selected for use through the network preference panel 1140.

In addition to the PPP and SLIP interfaces, wireless communication devices 100 also have a wireless network interface 510. When this wireless network interface 510 is attached to the network library 1110, applications will be able to communicate over the wireless packet data network using the Berkeley sockets API of the network library 1110.

The wireless communications system operates primarily through the proxy server 180 and therefore does not emphasize providing support for TCP/IP clients like FTP, Telnet, etc. that talk directly to standard Internet services. In particular, the wireless packet data network does not have the built-in IP routing support that would be necessary to transfer IP packets directly from a host on the Internet to a

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wireless client 405. Furthermore, wireless clients 405 do not have a unique Internet IP address assigned to them. However, there is a mechanism in place that allows wireless clients 405 to communicate indirectly with other hosts on the Internet 190, even in the absence of direct IP routing. In some embodiments, the wireless packet data network is enhanced to support direct IP routing without any further impact on the client software.

Structure of the Wireless Network Interface

Conceptually, all wireless network interfaces 510 have two entry points: a packet read/write entry point and a settings entry point. The packet read/write entry point is used e for sending and retrieving IP packets over the network. The settings entry point is used to configure the wireless network interface 510 with the appropriate settings it needs to communicate - such as IP address, user account information, etc. Typically, only a preference panel 1140 will change or access settings and only applications will read or write packets.

There are a number of existing pre-defined settings that are applicable across all wireless network interfaces 510; like IP address, subnet mask, etc. Besides providing a mechanism to configure the wireless network interface 510, the settings can also be read in order to query the wireless network interface 510 for information. Some of the currently defined settings are very general (like IP address) or applicable only to serial based interfaces (like login script, baud rate, etc.). If a particular setting is not applicable to a wireless network interface 510, the setting can be quietly ignored. For wireless network interfaces 510, like the wireless packet data network interface, a set of new settings is defined for wireless specific functionality. These new settings provide wireless network access point radio 420 specific information like signal strength, base station 170 info, etc.

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Enhancements to the Network Library

A unique consideration of wireless network interfaces 510 is their power management. Unlike interfaces such as PPP and SLIP, it is very important that wireless network interfaces 510 are placed into power save mode whenever the wireless network interfaces 510 are not being used. In order to accomplish this, the network library 1110 is adapted to be wireless network "aware", and hence able to place wireless network interfaces 510 into power-save mode when appropriate.

The network library 1110 generally takes the following course of action: when the first socket is opened, the network library 1110 tells all attached interfaces (through a new setting) to come out of power-save mode and to prepare for transactions; when the last socket is closed, the network library 1110 tells all attached interfaces to go back into power-save mode. This requires a change to the network library's 1110 socket open and close routines and a new setting that is implemented by all wireless network interfaces 510. Existing interfaces like SLIP and PPP can quietly ignore the new setting call. This model assumes that wireless applications will be conservative about opening sockets and immediately close them when no longer needed in order to save power.

Another consideration for wireless network interfaces 510 is that they generally search for a base station 170 when the wireless network interfaces 510 first power up. Typically, this search takes only a couple seconds. But if the user has traveled across country for instance, it could take ten seconds or more. This is not entirely unlike the connection negotiation sequence that PPP goes through when it starts up and can in fact be performed when the wireless network interface 510 is told to come "up" by the network library 1110 - just like PPP and SLIP do. So, this feature of wireless network interfaces 510 does not require any new functionality on the part of the network library 1110.

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Header Compression

Some embodiments of the invention include a method for formatting a packet of data. The formatting method comprises the following four steps. Determining that the packet destination is a proxy server 180. Setting a first bit in a compressed user datagram protocol (C-UDP) header to indicate that the packet destination is the proxy server 180. Placing bit flags in the C-UDP header to indicate whether optional delivery and Internet 190 protocol fields are included in the header. Placing a source port number identifying a wireless client 405 in the C-UDP header. The packet of data comprises a message encapsulated by the C-UDP header. In some embodiments, the bit flags indicate that no optional UDP fields and no optional Internet protocol fields are included in the C-UDP header.

In some embodiments, the method for formatting a packet of data further comprises the following steps are performed prior to determining that the packet of data is to be transmitted to the proxy server 180. A reliable message protocol socket splits messages received from wireless client 405 processing resources into datagrams. The reliable message protocol socket adds a reliable message protocol header 730 to the packet of data before passing the datagram to a user datagram socket. An Internet 190 protocol stack adds an Internet 190 protocol header 710 and a best effort delivery header to the packet of data before passing the packet of data to a wireless network interface 510. The packet of data comprises one of the datagrams.

In some embodiments, the method for formatting a packet of data further comprises the following two steps after placing a source port number in the C-UDP header identifying the wireless client 405 in the compressed C-UDP header after the plurality of bit flags. A wireless network interface 510 adding a wireless system header. Encapsulating the packet of data in the following order: the wireless system header followed by the C-UDP header, followed by the reliable message protocol header 730, followed by the message.

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For some embodiments, wireless client 405 processing resources reside at a network library 1110 and comprise the reliable message protocol socket and the Internet protocol stack.

Figure 12 shows a block diagram of wireless client 405 software and the format of the data passed between each of the software layers. The application at the very highest layer sends messages to a reliable message protocol socket in the network library 1110. The reliable message protocol socket then splits the message into datagrams and adds a RMP header 730 to each datagram before passing it to a UDP socket of the network library 1110. The IP stack in the network library 1110 then adds an IP header 710 and UDP header 720 to each packet and passes the packets on down to the wireless network interface 510.

As shown in Figure 12, packets that get sent to the packet-write entry point of the wireless network interface 510 by the network library 1110 have an IP header 710, followed by a UDP header 720, followed by a RMP header 730, and finally, the message datagram.

Now, before the wireless network interface 510 passes the packet to the client radio 440, the wireless network interface 510 adds the wireless network protocol header, called a WLNP, to the packet. A WLNP header contains source and destination host addresses and the overall packet size, among other things. All hosts on the wireless packet data network are addressed using unique source account numbers that are 24 bits long.

In the case where the packets are destined for the proxy server 180, the unique destination account number will be of the tunneler 430, which can be connected through an X.25 link to a wireless network access point 410 as illustrated in Figure 5 - Wireless Network Topology. The unique source account number will be the client's unique account number. Since the source and destination host addresses are already specified in the WLNP header, the source and destination IP addresses that are in the IP header 710 are not necessary.

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In addition to source and destination IP addresses, there are a number of other fields in the IP header 710 and the UDP header 720 that are not required when transferring RMP datagrams between the wireless client 405 and the proxy server 180. In order to reduce the overall header size to an absolute minimum, the entire IP header 710 and UDP header 720 are replaced with a Compressed UDP (C-UDP) header which contains only the bare minimum amount of information necessary. Likewise, at the proxy server 180 side, the tunneler 430 will have to re-create the original IP header 710 and UDP header 720 using just the information from the WLNP and C-UDP headers.

The C-UDP Header

In order to determine what information is necessary in the C-UDP header, we look at a number of factors, including the contents of IP header 710 and the UDP header 720 as well as the environment in which the C-UDP headers are used. Unlike the IP header 710 and the UDP header 720, the C-UDP header is not optimized as a general purpose header. The C-UDP header can be highly specialized (and hence highly compressed) for use between a wireless client 405 and proxy server 180 over the wireless packet data network. The C-UDP header also provides a mechanism to represent any possible IP packet type that could be sent from a wireless packet data network wireless client 405 including IP packets meant for applications other than a wireless communications device 100.

Figure 13 shows the format of the IP header 710 and the UDP header 720. All together, the two headers take up 28 bytes: 20 for the IP header 710 and 8 for the UDP header 720.

The format of the C-UDP header using the notation used to document CML and CTP is shown below. This notation was introduced and described in "Compact Data Structure Notation" section above.

```
Bit     jerryPkt
Bit     hasVersHlenServiceTTL
```


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```
Bit     hasFragmentation
Bit     hasProtocol
Bit     hasSrcIP
Bit     hasDstIP
Bit unused
Bit     noCompression           // see description...
if (jerryPkt)
Bit[16] sourcePort              // UDP source port
else
if (hasVersHlenServiceTTL)
Bit[4]  vers
Bit[4]  hlen
Bit[8]  serviceType
Bit[8]  ttl
if (hasFragmentation)
Bit[16] identification
Bit[3]  fragFlags
Bit[13] fragOffset
if (hasProtocol)
Bit[8]  protocol
if (hasSrcIP)
Bit[32] sourceIPAddr
if (hasDstIP)
Bit[32] destIPAddr
if (hasVersHlenService)
UInt32[?] ipOptions
if (!hasProtocol || protocol == udp)
Bit[16] sourcePort
Bit[16] destPort
//Byte[] udpData
else
//Byte[] ipData           // may include TCP header
```

The C-UDP header can compress any type of IP protocol, not just the UDP protocol like the name implies. It is optimized however for UDP and doesn't provide as optimal a level of compression for other protocols like TCP.

The C-UDP header has a number of optional fields that are either present or not, depending on the value of the flag bits in the beginning of the header. The following sub-sections explain the various formats of the C-UDP header and where they are used.

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The C-UDP Header for Compressed Packets

The first bit in the header is set for packets sent using the UDP protocol to the proxy server 180. For these packets, the only fields present in the C-UDP header are the UDP source port number for the wireless client 405 and the other seven bit flags for optional UDP header 720 and IP header 710 fields as shown above. The RMP header 730 and data then immediately follow the UDP source port number. All other fields that are present in normal IP header 710 and UDP header 720 can be omitted.

The vers, hlen, and serviceType fields can be omitted because these packets use version 4 of the IP header 710, have no IP options, and use normal service type. The total length is redundant because the WLNP header contains the total length. The identification, fflags, and fragment offset fields can be omitted because RMP datagrams are guaranteed to be small enough to not require fragmentation. The time to live field is not required because these packets go directly to the proxy server 180 at the wireless network access point 410 and do not pass through any IP routers. The protocol field is not required because the protocol is always UDP. The header checksum is not required because WLNPs already have CRC checks for data integrity. The source and destination IP addresses are not required because the source and destination hosts can be identified by the source and unique destination account numbers in the WLNP header.

Regarding fields in the UDP header 720, the UDP dest port is not required since the packets are always destined for the proxy server 180 destination port and the UDP message length and checksum are not required because the WLNP header already contains the overall packet length and has a CRC check for data integrity.

The wireless network interface 510 can determine if a packet can be compressed into this format by checking that the destination IP address is for the proxy server 180, that the protocol is UDP, and that the destination UDP port number is for the proxy server 180 service port. Determining that the destination IP address is for the proxy server 180 can be done by checking for a special value or

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comparing it with a value that has been registered with the wireless network interface 510 through a settings call. Since the packet itself will not go out onto the Internet 190, the address used to identify the proxy server 180 does not have to be a unique Internet IP address.

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The C-UDP Header for Generic UDP Packets

For UDP packets that are not destined for the proxy server 180 service port, the first bit in the packet header will be 0 and will be followed by 7 more bits of flags that indicate the presence of other optional IP header 710 and UDP header 720 fields.

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If the packet has a vers field of 4, no IP options, and a standard service type field (0), then the hasVersHlenService bit will be 0. Otherwise, the vers, hlen, and serviceType fields will follow the 8 bits of flags.

If the packet is not fragmented (the more fragments bit in the fFlags field is clear and the fragment offset is 0), then the hasFragmentation bit will be 0. Otherwise, the identification, fFlags, and fragment offset will be included. Notice the only time the identification field is present is when the fragmentation fields are also included. Technically, this identification field is not required except for fragmented packets, but there is a possibility that some IP implementations may not work correctly if this field is not sent verbatim between the 2 hosts.

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20

If the packet's ttl field is the default ([what is the default value??]), then the hasTTLProtocol bit will be 0. Otherwise, the ttl and protocol (which is UDP) fields will be included.

If the source IP address is included in the packet, then the hasSrcIP bit will be set. Whether the source IP address is included or not is up to the wireless network interface 510 to decide. In some embodiments, the rule applied is to only include the source IP address if in fact the wireless client 405 has a real Internet 190 or intranet IP address. There is also a setting for wireless network interfaces

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510 that gets set by a preference panel 1140 and this new setting will tell the wireless network interface 510 whether or not the wireless client 405 owns a genuine IP address or just a fake placeholder.

If the destination IP address is included in the packet, then the hasDstIP bit will be set. The only time the destination IP address will be left out is when sending packets to the proxy server 180.

The C-UDP Header for Other IP Packets

If a packet is not a UDP packet, its compressed format will generally be the same as for generic UDP packets described above, but the hasTTLProtocol bit will be set, the ttl and protocol fields will be included, and the sourcePort and destPort fields will NOT be included. Instead, the protocol specific fields will appear as-is immediately following the C-UDP header. For example, a TCP packet that has a destination IP address but no IP options would have its IP header 710 portion compressed into the C-UDP header format but its TCP header fields would appear as-is immediately after the destIPAddr field in the C-UDP header.

Finally, yet another option for C-UDP headers is for the noCompression bit to be set. If this bit is set, there are NO other fields from the C-UDP header following the first 8 bits of flags. Instead, the original, unadulterated IP header 710 and data of the packet will immediately follow the 8 bits of flags.

Proxy Server Details

Many embodiments of the invention arise from combining the compression techniques discussed above with proxy server 180 processing resources and wireless client 405 processing resources. Some of these embodiments are discussed directly below.

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Some embodiments of the proxy server 180 include a method of transforming a first CTP message into an HTML request. In some embodiments, the method of transforming comprises combining the first message received from the wireless client 405 with a hypertext markup language hyperlink document. The first message comprises compressed representations of field values and field indices corresponding to fields in the hypertext markup language hyperlink document.

The proxy server 180 responds to requests by wireless clients 405 to fetch either web content or messaging information. The proxy server 180 carries most of the burden of bringing the information from the Internet 190, converting it to wireless client 405 compatible CTP and CML formats, and transferring it to the wireless client 405 over the wireless network. The wireless client 405, by comparison, simply sends requests to the proxy server 180 and displays the transferred data onto the wireless communications device 100 screen 101.

The proxy server 180 adequately services 100,000 users without introducing substantial delays. The proxy server 180 design is scalable so that any number of users can be supported in the future.

Besides acting as a proxy server 180 to the wireless clients 405, the proxy server 180 also acts as a client to existing Internet 190 mail and web servers. This means that the proxy server 180 includes support for almost all versions of HTML, HTTP, SMTP, POP, etc. as well as support for security protocols like SSL, S-HTTP, etc.

As described herein, some wireless network layouts require the use of multiple proxy servers 180 scattered throughout different regions in order to adequately service the entire country. Thus, proxy server 180 is designed to run on multiple machines simultaneously.

The proxy server 180 is to be stateless. In general, a stateless design is more tolerant of communication and protocol errors than a stateful design. A stateless design is also easier to implement and manage, especially with a

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network of distributed proxy servers 180. For example, with multiple distributed proxy servers 180, a stateful design would have to transfer state from one proxy server 180 to another if a user happened to temporarily move to a different region or if one of the proxy servers 180 went down for maintenance.

Because the proxy server 180 connections are distributed throughout various regions, proxy server 180 processing resources are replicated onto as many machines as necessary in order to handle regional loads. Proxy server 180 processing resources are shared on two or more machines to for load sharing for a single region and to provide both load balancing and continuous service in case a single machine goes down.

The proxy server 180 design is stateless so that the proxy servers 180 do not have to share information with each other, and so that users will not encounter any difficulties when they move from area to area and change which proxy server 180 they are using.

Some embodiments of the proxy server 180 can support a user database. The user database sets browsing options, messaging options, etc. on the proxy server 180 and reduces the amount of data that is sent between the wireless client 405 and proxy server 180 during normal operation. The user database is also used to collect statistics on usage patterns. Note that the user database is shared between all the proxy servers 180.

The proxy server 180 design also enables corporations to create their own intranets. For example, corporations can use a leased line connection from the nearest wireless network access point 410 center to a proxy server 180 at the corporation's own site and connected to the corporation's private intranet. To facilitate this, proxy server 180 processing resources are easy to setup, maintain and operate using off-the-shelf hardware.

The performance goal of the proxy server 180 is to process each request in less than 1 second. That is, given a typical request of 40 bytes to the proxy server 180, the proxy server 180 is able to access the requested content off the

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Internet, reformat it, and send a typical size response of 360 bytes to the wireless client 405 in less then one second. Taking into account the bandwidth and latency of the wireless packet data network, the user will see roughly a 7 to 11 second response time overall. The peak usage rate of the wireless communications devices 100 with 100,000 users will be 920,000 transactions per hour which is 256 transactions per second. This load can be divided up by as many proxy servers 180 as required.

Another important component of the proxy server 180 design is configuration and trouble-shooting support. Configuration support includes mechanisms for configuring the proxy server 180 for different environments, adjusting performance settings, displaying usage statistics, etc. These are all tasks that a system administrator performs when first setting up the proxy servers 180 and also performs periodically in order to keep the proxy servers 180 tuned and to monitor their performance. Trouble-shooting support includes mechanisms for an engineer to debug problems with the design and to enable special purpose diagnostics. Because of the distributed nature of the proxy server 180, these functions are controlled remotely. In order to enable remote control, the proxy server 180 processing resources support a telnet-like connection for these purposes.

Communications System Details

Many embodiments of the invention arise from combining the compression techniques discussed above with proxy server 180 processing resources, wireless client 405 processing resources, and features of the wireless packet data network. Some of these embodiments are discussed directly below.

Some embodiments of the invention provide a wireless client 405 comprising means for requesting a hyperlink document in a compressed form. The means for requesting a hyperlink document in a compressed form comprise means

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for sending a base document uniform resource locator followed by a compact representation of a first hyperlink and a compact representation of a hash value corresponding to the first hyperlink to proxy server 180 processing resources.

In some embodiments the wireless client 405 further comprises means for completing a transaction between a wireless client 405 and a proxy server 180. Some embodiments of the wireless client 405 further comprise means for transmitting a first message in packets of data to a proxy server 180. The first message corresponds to a hypertext document. The hypertext document has input fields and control fields. The means for transmitting comprises the following two steps. Submitting compressed representations of data corresponding to input fields and control fields formatted according to CTP to wireless client 405 processing resources. Transmitting packets of data comprising compressed representations of data to the proxy server 180. The compressed representations comprise text and name attributes corresponding to input fields and compressed values and value attributes corresponding to control fields and select fields.

In some embodiments of the wireless client 405 means for completing a transaction between a wireless client 405 and a proxy server 180 comprise means for transmitting a single request message sent from the wireless client 405 to a proxy server 180 and means for receiving a single response message from the proxy server 180. The request message comprises packets of data. Means for transmitting the request message comprise means for placing in the request message a base uniform resource locator followed by compressed data. The compressed data comprise field values and field indices corresponding to fields in a hyperlink document, and an indication of use of a hyperlink document.

Some embodiments of the invention include communications system comprising a source of data, a wireless client 405, and a proxy server 180. The wireless client 405 comprises means for requesting a hyperlink document in a compressed form. The proxy server 180 comprises means for transforming a first message into an HTML request, and means for converting an HTML response into

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a second message in a compact markup language. Some embodiments of the communications system further comprise a wireless network. The wireless network is in communication with both the proxy server 180 and the wireless client 405. For some embodiments of the communications system, the proxy server 180, the wireless client 405, and the source of data are disposed at three separate locations. For some embodiments of the communications system, the compact markup language comprises a stream of data comprising text and image data. The text data comprises multibit character representations for selected characters, eight-bit character representations for a first set of unselected characters, and sixteen-bit character representations for a second set of unselected characters, the multi-bit character representations comprising less than eight bits.

Some embodiments of the communications system further comprise means for completing a transaction between a wireless client 405 and a proxy server 180. The means for completing the transaction comprise means for transmitting a single request message from the wireless client 405 to the proxy server 180 and means for transmitting a single response message from the proxy server 180 to the wireless client 405. The request message comprises packets of data. Transmitting the request message comprises placing in the request message a base uniform resource locator followed by compressed data. The compressed data comprises field values and field indices corresponding to fields in a hyperlink document, and an indication of use of a hyperlink document. The single response message comprises packets of data. For some embodiments of the communications system, the number of packets in the request message is one and the packet size is less than one kilobyte.

Tunneling Support

Because the proxy server 180 is connected to the wireless network access point 410, the proxy server 180 can communicate with wireless clients 405 without

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having to go over the Internet 190. Therefore, the proxy server 180 does not require the IP routing support that other hosts on the Internet 190 would require. Generic IP access between wireless clients 405 and other hosts on the Internet 190 can be accomplished by adding the appropriate IP routing support to the wireless network access point 410 and assigning a unique Internet IP address to each wireless client 405.

As an alternative to direct IP routing support over the wireless packet data network, the proxy server 180 tunneler 430 (which can be a part of the proxy server 180 processing resources) will support a mechanism that enables wireless client 405 applications to "tunnel" IP packets to and from other hosts on the Internet 190. But, because the IP packets are imbedded within a TCP stream, custom proxy server 180 software written on the remote host is required in order to accept, process, and reply to these tunneled packets.

Figure 5, Wireless Network Topology, shows a diagram of how the wireless client 405, wireless network, and tunneler 430 are interconnected. In general, the tunneler 430 takes packets off the wireless network, restores the original IP header 710 and UDP header 720 from the WLNP and C-UDP headers, and then tunnels each packet to the appropriate host using TCP. Most of the packets off the wireless network will be destined for the proxy server 180, but the packets can be sent to any other host accessible from the tunneler 430 over TCP. The tunneler 430 simply uses the destination IP address of each packet to determine which host is to receive the packet.

For a wireless packet data network with IP routing support, the tunneler 430 can act as a gateway and send the packets directly to the remote host without tunneling them within a TCP stream. Then, because the Internet 190 routing support would be in place, the packets sent back from the remote host would find their way back to the tunneler 430 and then get forwarded back over the wireless network to the wireless client 405.

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With IP routing support present on the wireless packet data network, the tunneler 430 decides whether to send packets within a TCP stream to the remote host or to send them directly. There are advantages to tunneling packets even when IP routing support is available because the wireless client 405 can use the more efficient UDP protocol over the wireless link but still be guaranteed that the UDP packets received by the wireless access point 410 get delivered to the Internet 190 host (since they are sent using TCP). In order to make this decision easy for the tunneler 430, the following rule is used: the tunneler 430 will only tunnel UDP packets that have a destination UDP port number of between 0x7000 and 0x7FFF.

In order to effectively use the tunneler 430, the wireless client 405 and the proxy server 180 processing resources follow similar rules as those used by the RMP protocol. Namely, the host on the Internet 190 automatically closes down the TCP connection between it and the tunneler 430 whenever a transaction is over. Otherwise, TCP connections established from the tunneler 430 to remote hosts would remain open indefinitely. Just in case though, the tunneler 430 has a fairly large inactivity timeout on the TCP connections in order to automatically close them down.

Alternative System

Figure 14 illustrates another embodiment of a system that allows the wireless communications device 100 to communicate with the web server 140. The system of Figure 14 illustrates an alternative embodiment where users can turn their own desktop computers or servers into wireless communications base stations 170 and proxy servers 180 for communicating with their wireless communications devices 100. The users install transceiver cards, or other hardware, and software on their computers. In this way, users can provide localized "free" Internet 190 access to wireless communications devices 100. Corporations can purchase additional hardware and software for some user

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computers or servers throughout their campus. Thus, the corporations can provide wireless communications to their employees. Alternatively, standalone systems can be purchased and plugged directly into the corporate Intranet.

The following describes an embodiment of the invention where a user's computer is substituted for the base station 170 and the proxy server 180. The other embodiments of the invention work in a similar manner.

Instead of the base station 170 and the proxy server 180, a user computer 1482 is included in this system. The user computer 1482 is executing a wireless and Internet communications program 1486. The user computer 1482 also includes an antenna 1470 and related wireless communications hardware. The user computer 1482 has an Internet connection that can be used for communicating to the web server 140.

The wireless communications device 100 communicates wirelessly with the user computer 1482. In one embodiment of the invention, the protocols used to communicate wirelessly are the same as those used in the wireless packet data network described above. In one embodiment of the invention, the wireless communications device 100 can communicate with both the wireless packet data network and computers having the wireless communications capability of the user computer 1482. However, other communications protocols can be used instead.

The wireless and Internet communications program 1486 performs the functions of the base station 170 and the proxy server 180.

In some embodiments, the user computer 1482 couples to a proxy server 180 through the Internet 190. The wireless and Internet communications program 1486 provides wireline communications to the proxy server 180. This would be for the purposes of providing secure communications, e-mail access, or for updating query form information that is not stored in the user computer 1482. In this configuration, the wireless and Internet communications program 1486 can perform the basic wireless communications base station functions, while the proxy server 180 can still perform the security and other proxy server functions.

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This configuration helps to provide users with a higher degree of security because the proxy server 180 is performing the secure communications with the web server 140. The proxy server 180 or the user computer 1482 can perform the conversions.

In some embodiments, instead of a transceiver card, an external transceiver device is used. The external transceiver can be connected to the computer via, for example, a serial connection, a Universal Serial Bus, a SCSI connection, or some other connection.

In some embodiments, the device is a standalone device that couples directly to a network (e.g., the device has its own IP address).

In some embodiments of the invention, the wireless communications device 100 can communicate with both the Mobitex system, or some other wireless data communications system, and the wireless communications system established with the computer 1482.

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The Claims

What is claimed is:

1. A device for providing wireless Internet access comprising:

an antenna, the antenna for receiving a set of wireless queries and transmitting a set of wireless responses; and

a program, the program is for converting the set of wireless queries into Internet compatible protocols, the program is further for receiving a set of Internet protocol formatted responses corresponding to the set of wireless queries, the program is further for converting the set of Internet protocol formatted responses into the set of wireless responses.

2. The device of claim 1 wherein the device includes a computer with a transceiver card, the transceiver card is coupled to the antenna, the computer has a connection to the Internet, the computer and the transceiver card are for executing the program.

3. The device of claim 2 wherein the computer includes a network server.

4. The device of claim 2 wherein the computer includes personal computer acting as a client a local area network, the local area network being coupled in communications with the Internet.

5. The device of claim 1 including a computer and an external transceiver, the external transceiver includes the antenna, the external transceiver being coupled in

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communications with computer, the computer has a connection to the Internet, the computer and the external transceiver are for executing the program.

6. The device of claim 5 wherein the external transceiver is coupled to the computer via a Universal Serial Bus connection.

7. The device of claim 1wherein each wireless query of a subset of the set of wireless queries includes a corresponding web site identifier, and wherein the program is for converting the each wireless query of the subset into one or more of HTTP requests, the HTTP requests being addressed for the web site identified by the web site identifier.

8. The device of claim 1 wherein each wireless query of a subset of wireless queries includes a secure query, and wherein the program is for forwarding converting and forwarding each wireless query of the subset to a proxy server.

9. A wireless access device for accessing Internet based information, the wireless access device comprising:

a transceiver for receiving a set of wireless queries and transmitting a set of wireless responses;

a comptuer, the computer being coupled to the transceiver;

a program, the program is for converting the set of wireless queries into Internet compatible protocols, the program is further for receiving a set of Internet protocol formatted responses corresponding to the set of wireless queries, the program is further for converting the set of Internet protocol formatted responses into the set of wireless responses.

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10. The wireless access device of claim 9 wherein the transceiver is coupled to the computer via a PCI bus connection.

11. The wireless access device of claim 9 wherein the transceiver is coupled to the computer via a Universal Serial Bus connection.

12. A device for providing wireless Internet access comprising:

first means for receiving a set of wireless queries and transmitting a set of wireless responses; and

second means for converting the set of wireless queries into Internet compatible protocols, the second means is further for receiving a set of Internet protocol formatted responses corresponding to the set of wireless queries, the second means is further for converting the set of Internet protocol formatted responses into the set of wireless responses.

13. A wireless communications device comprising:

a transceiver for wireless communications over at least a first wireless network and a second wireless network;

a memory for storing a program and a set of data, the set of data including a set of markup language formatted descriptions, the set of data being previously installed on the wireless communications device; and

a processor, the processor being coupled in communications with the antenna and the memory, the processor for executing the program, the program for accessing the set of data and for rendering a form from the set of data, the program further for

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supporting input into the wireless communications device, the input for completing the form, the program further for generating a wireless communications query corresponding to the form.

14. The wireless communciations device of claim 13 wherein the first wireless network corresponds to a private wireless data packet network and the second wireless network corresponds to a wireless connection to a computer coupled to a network.

15. The wireless communications device of claim 14 wherin the computer is a network server.

16. The wireless communications device of claim 14 wherein the computer is a personal computer acting as a client in a local area network.

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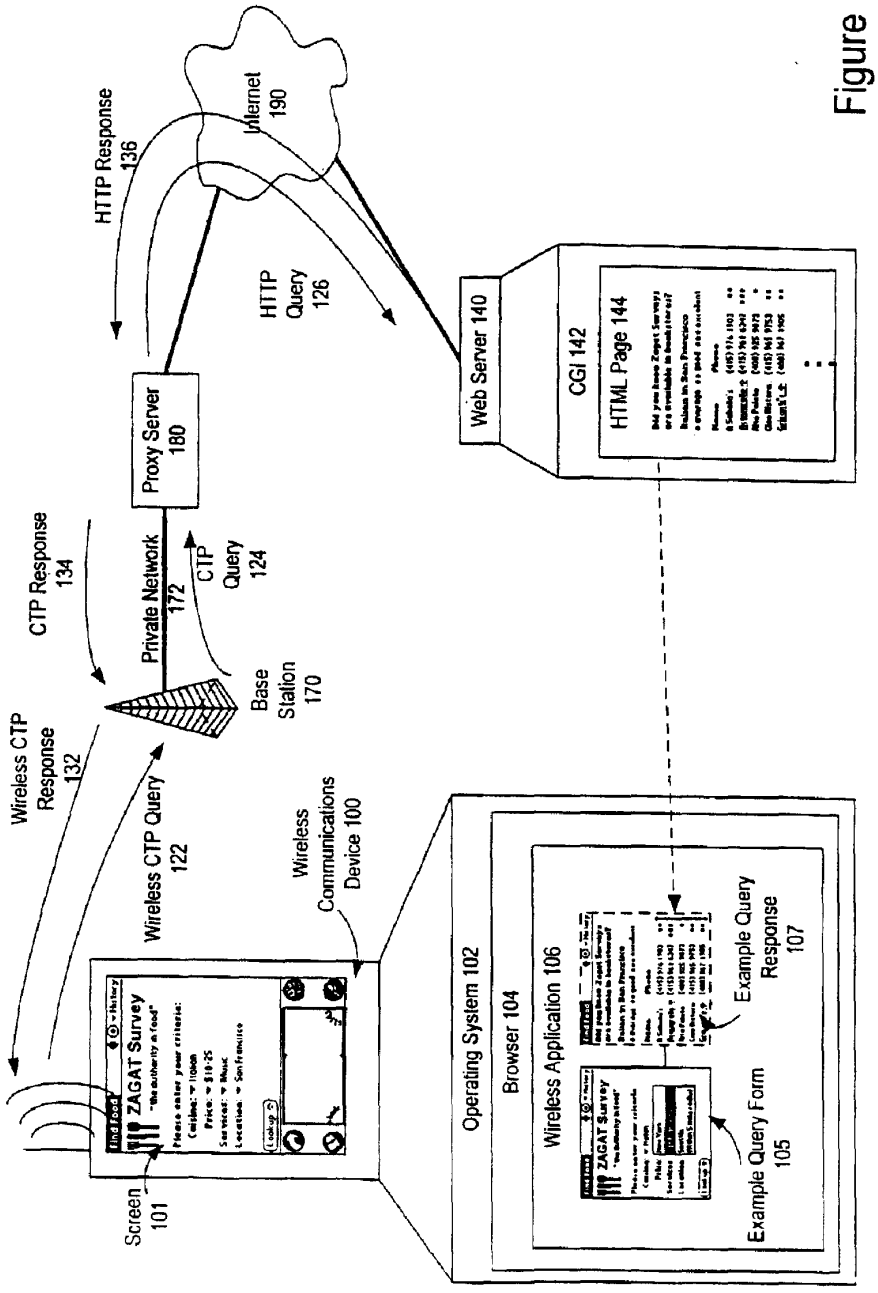


Figure 1

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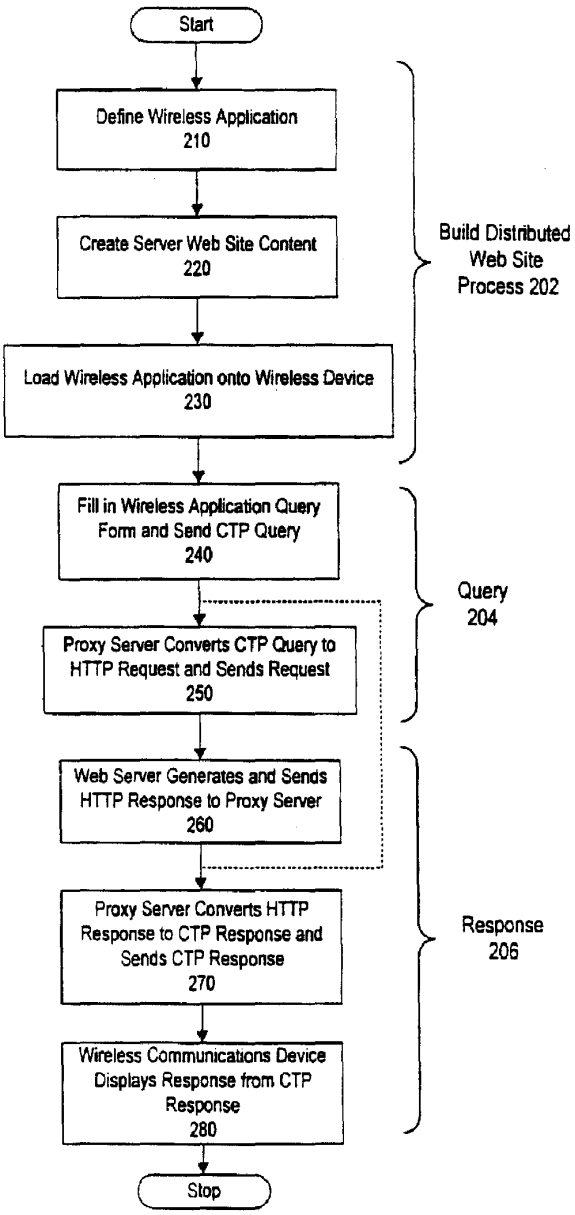


Figure 2

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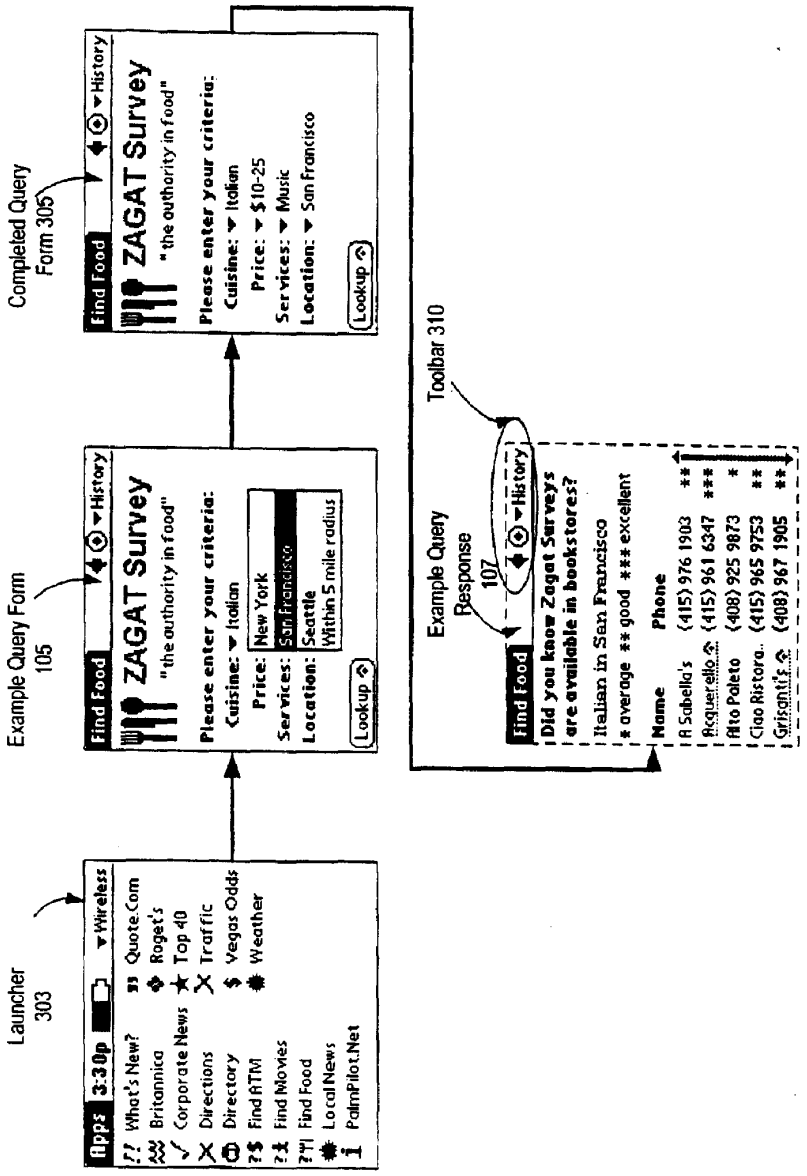


Figure 3

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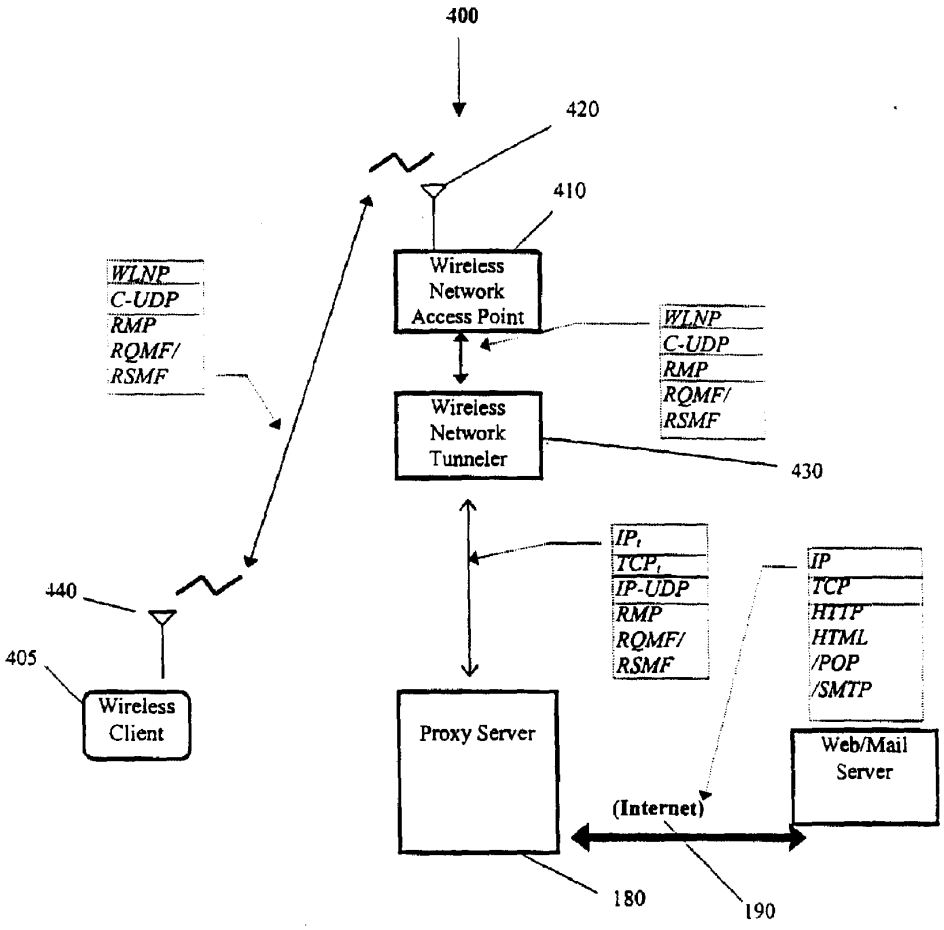


Figure 4

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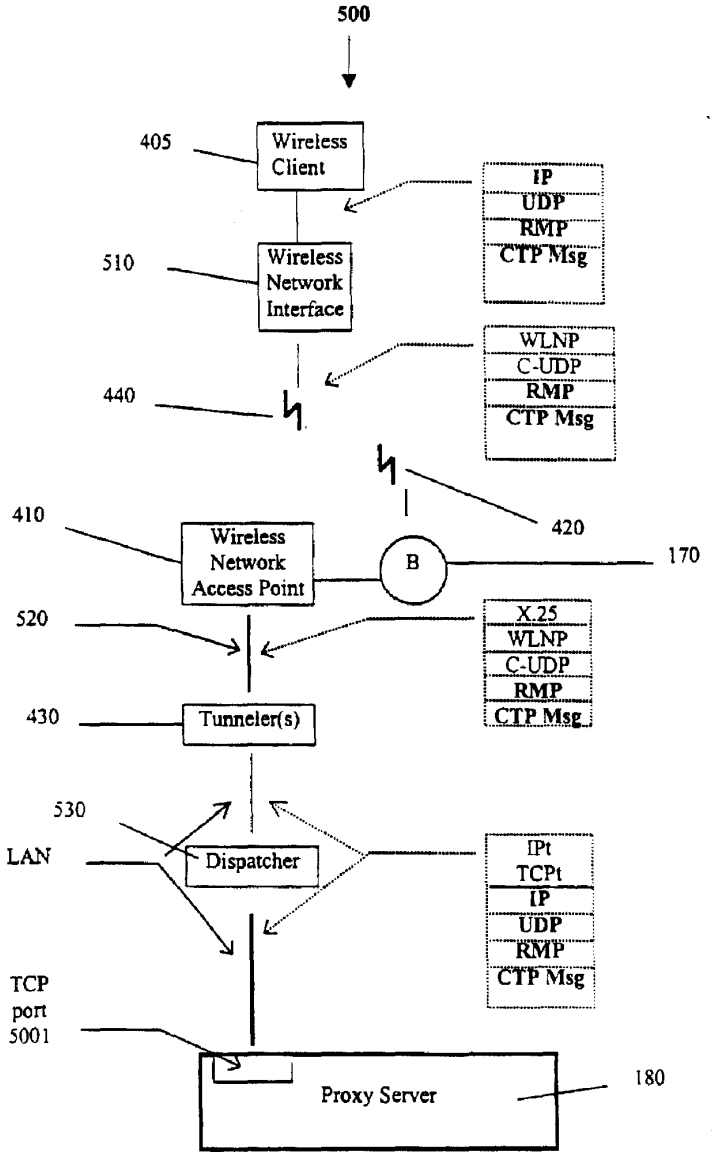


Figure 5

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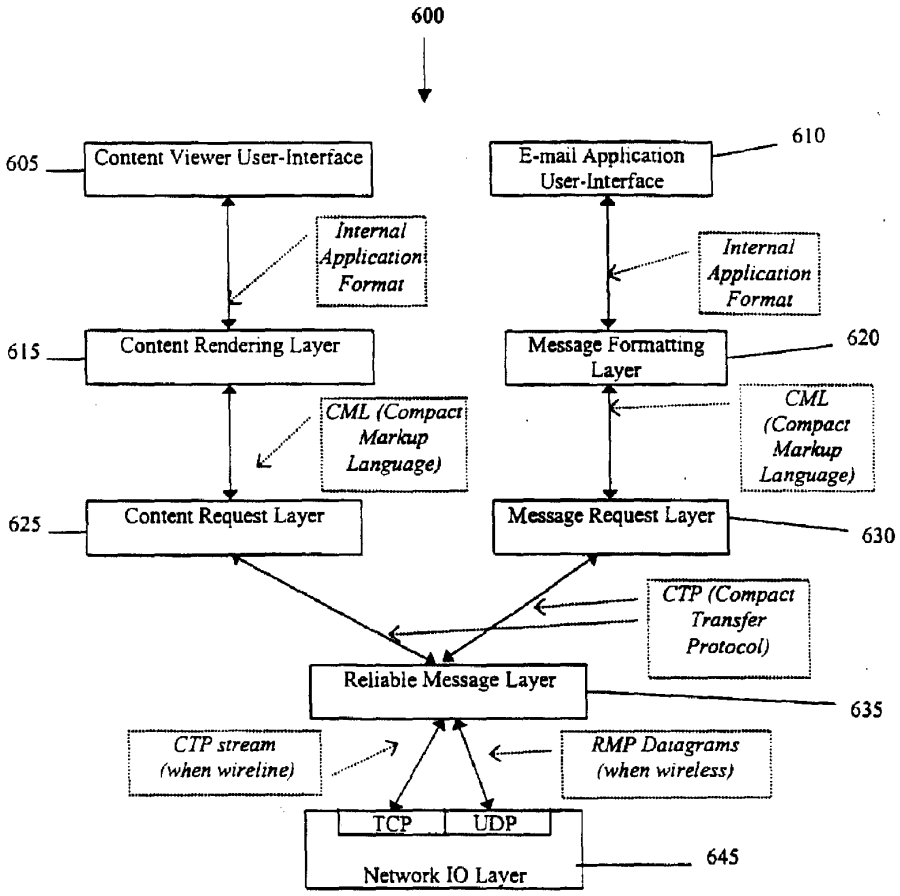


Figure 6

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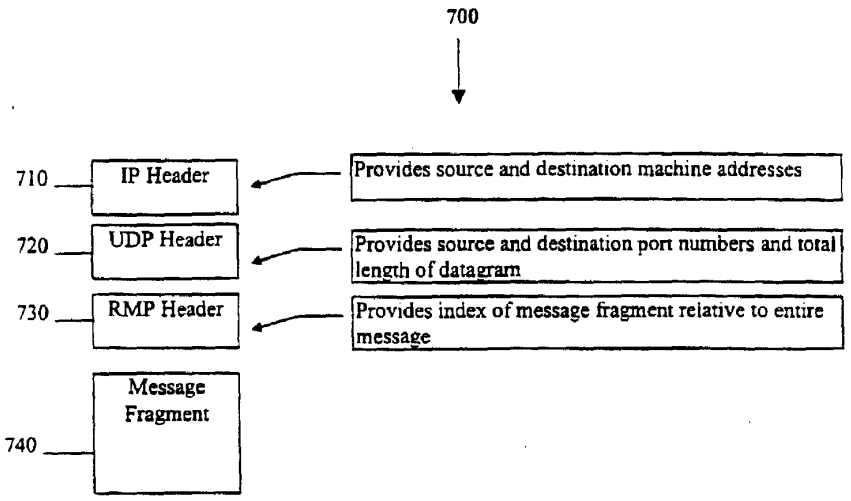


Figure 7

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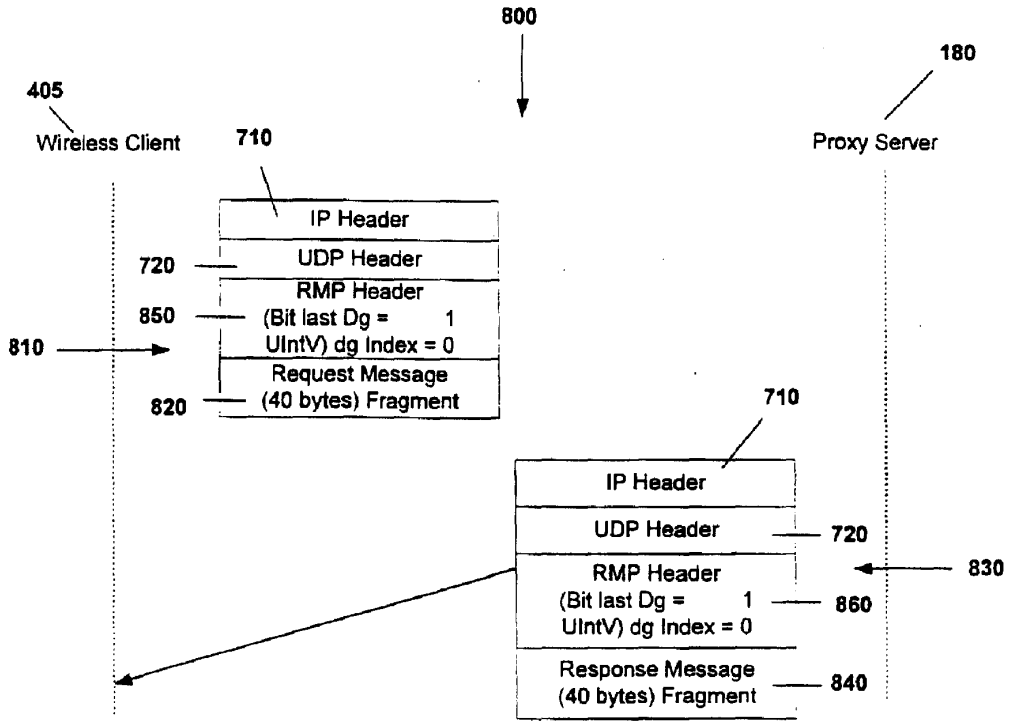


Figure 8

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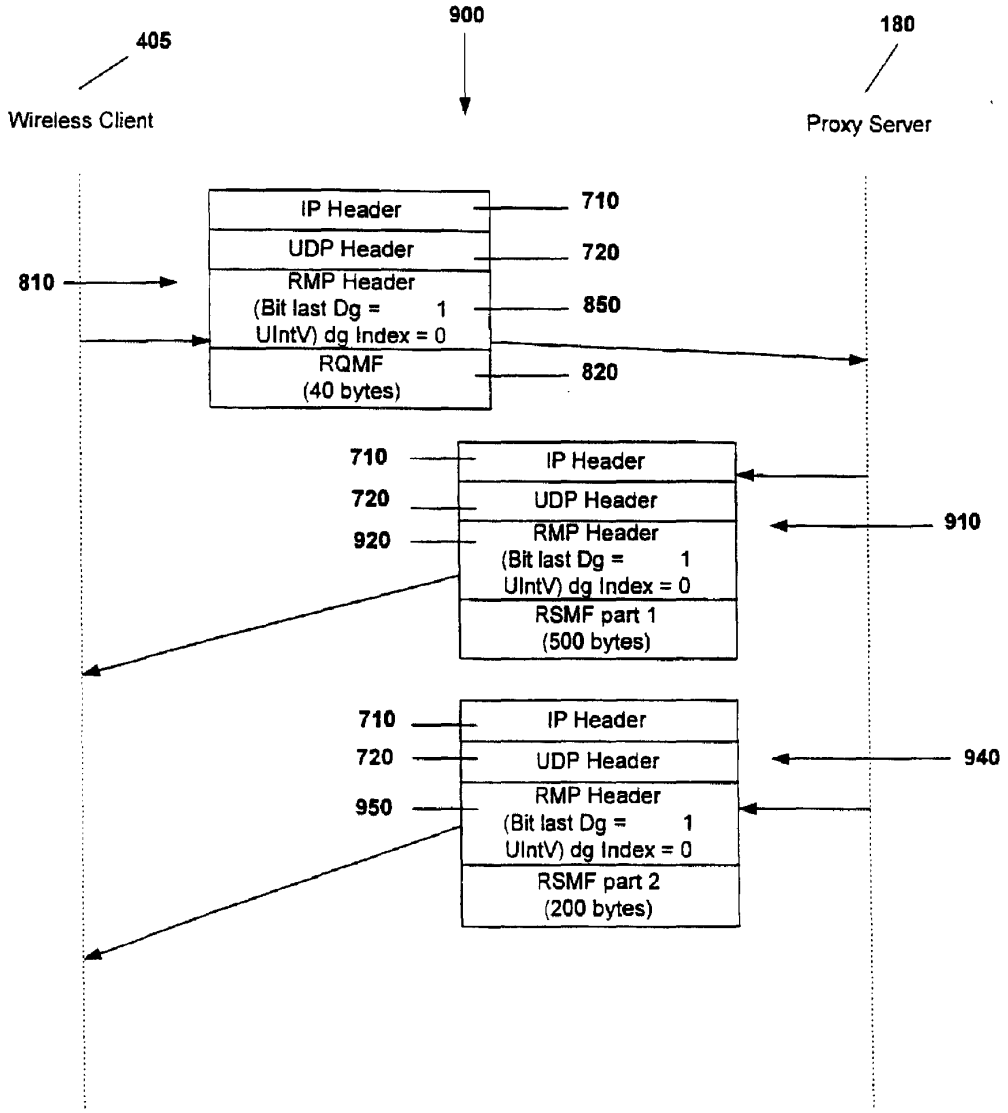


Figure 9

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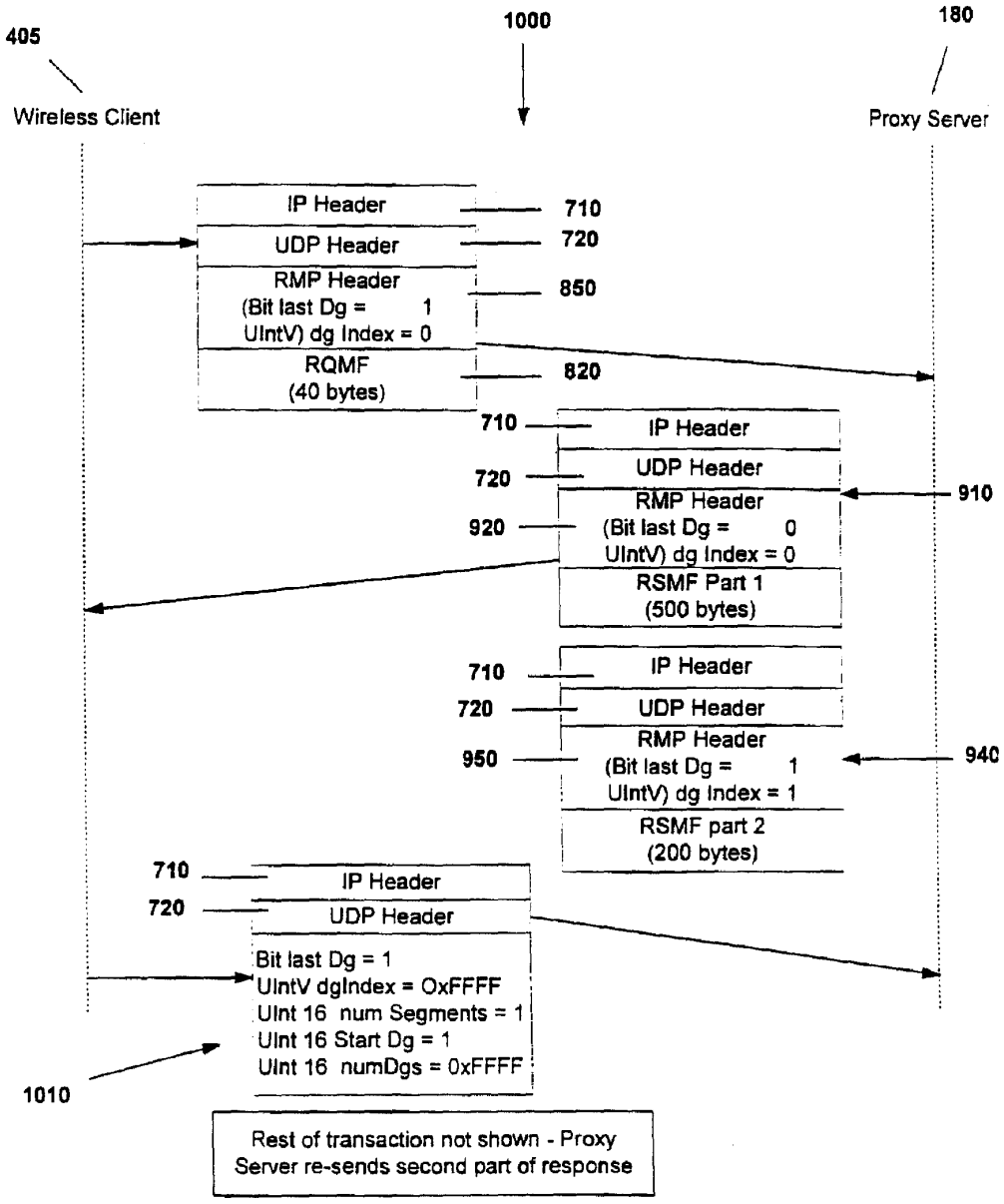


Figure 10

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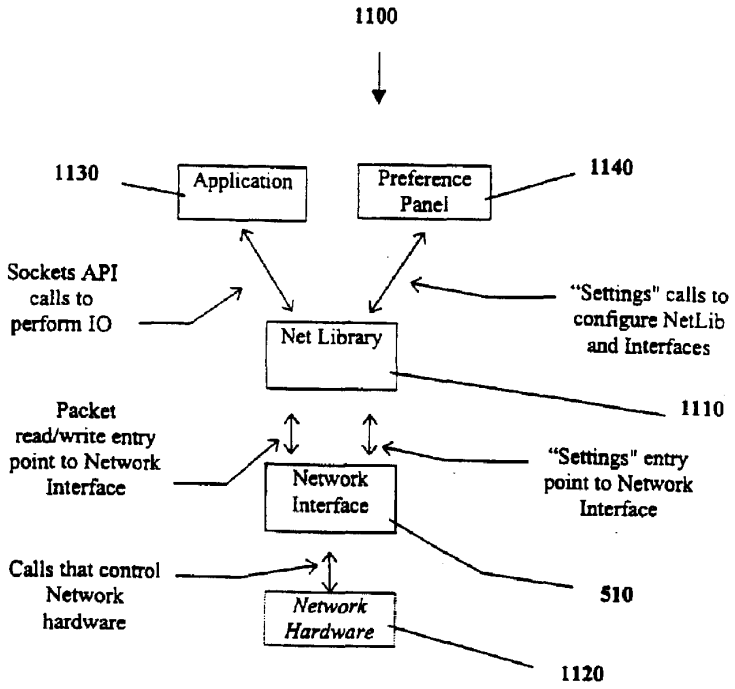


Figure 11

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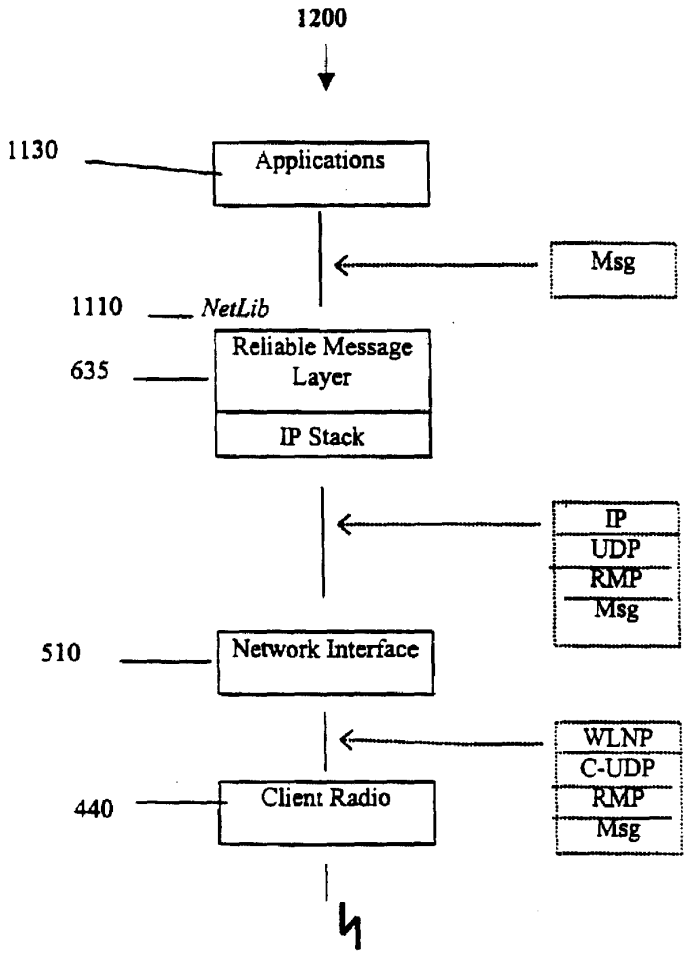


Figure 12

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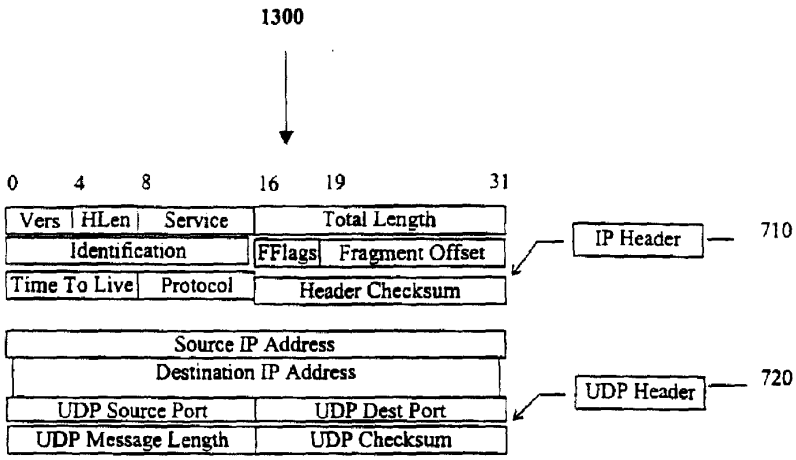


Figure 13

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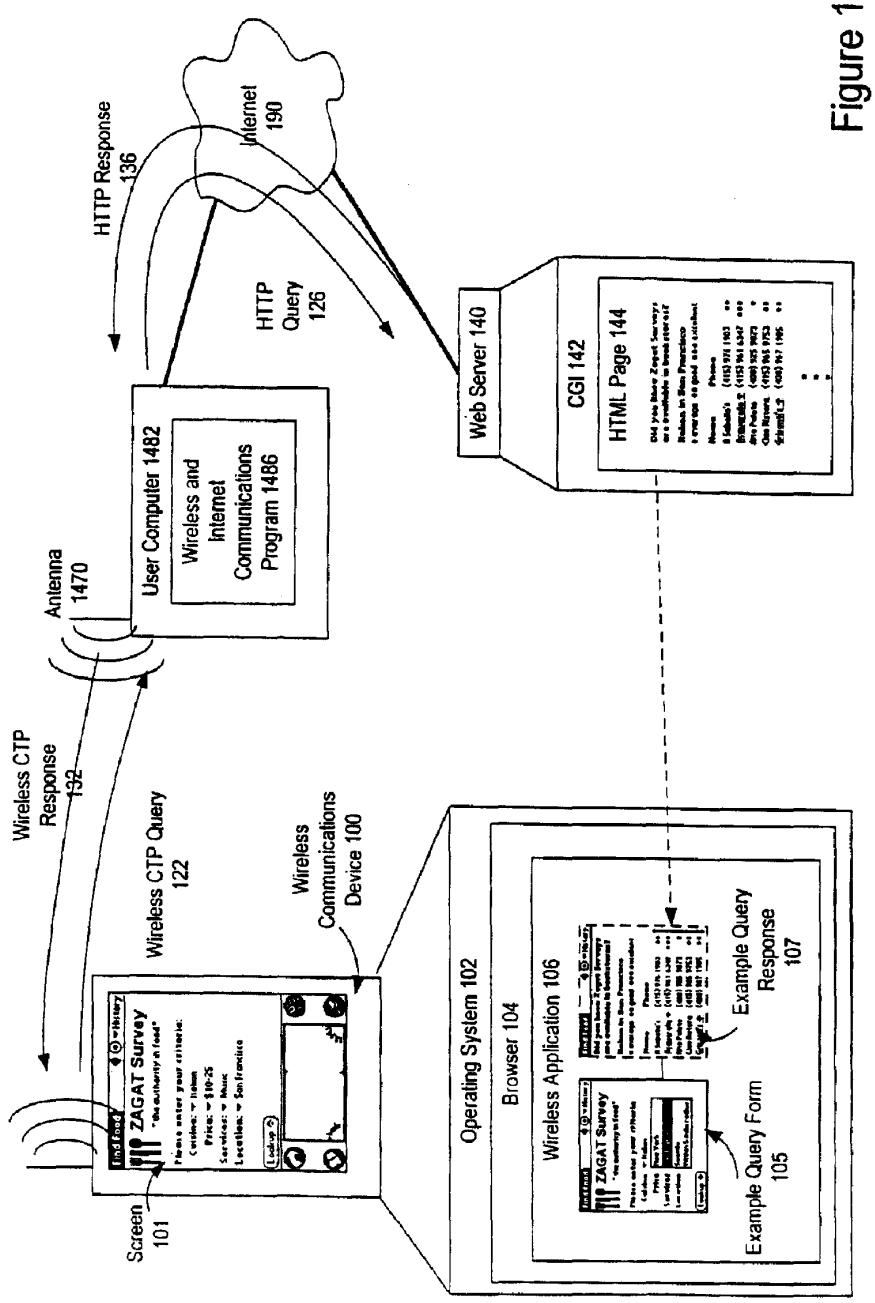


Figure 14

PTO/AIA/14 (12-13)
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U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	0679-1001-2
	Application Number	
Title of Invention	METHOD AND DEVICE FOR ACCESSING SOURCES AND SERVICES ON THE WEB	

The application data sheet is part of the provisional or nonprovisional application for which it is being submitted. The following form contains the bibliographic data arranged in a format specified by the United States Patent and Trademark Office as outlined in 37 CFR 1.76.
This document may be completed electronically and submitted to the Office in electronic format using the Electronic Filing System (EFS) or the document may be printed and included in a paper filed application.

Secrecy Order 37 CFR 5.2

☐ Portions or all of the application associated with this Application Data Sheet may fall under a Secrecy Order pursuant to 37 CFR 5.2 (Paper filers only. Applications that fall under Secrecy Order may not be filed electronically.)

Inventor Information:

Inventor 1 Remove

Legal Name

Prefix	Given Name	Middle Name	Family Name	Suffix
	Ferid		ALLANI	

Residence Information (Select One) ○ US Residency ◉ Non US Residency ○ Active US Military Service

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Postal Code		**Country** i	TN

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

Correspondence Information:

Enter either Customer Number or complete the Correspondence Information section below.
For further information see 37 CFR 1.33(a).

☐ **An Address is being provided for the correspondence Information of this application.**

Customer Number	00466		
Email Address	embon@young-thompson.com	Add Email	Remove Email

Application Information:

Title of the Invention	METHOD AND DEVICE FOR ACCESSING SOURCES AND SERVICES ON THE WEB		
Attorney Docket Number	0679-1001-2	**Small Entity Status Claimed**	☒
Application Type	Nonprovisional		
Subject Matter	Utility		
Total Number of Drawing Sheets (if any)	2	**Suggested Figure for Publication (if any)**	

PTO/AIA/14 (12-13)
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Application Data Sheet 37 CFR 1.76	Attorney Docket Number	0679-1001-2
	Application Number	
Title of Invention	METHOD AND DEVICE FOR ACCESSING SOURCES AND SERVICES ON THE WEB	

Filing By Reference :

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

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

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

Publication Information:

☐ Request Early Publication (Fee required at time of Request 37 CFR 1.219)

☐ **Request Not to Publish.** I hereby request that the attached application not be published under 35 U.S.C. 122(b) and certify that the invention disclosed in the attached application **has not and will not** be the subject of an application filed in another country, or under a multilateral international agreement, that requires publication at eighteen months after filing.

Representative Information:

Representative information should be provided for all practitioners having a power of attorney in the application. Providing this information in the Application Data Sheet does not constitute a power of attorney in the application (see 37 CFR 1.32).
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When referring to the current application, please leave the application number blank.

Prior Application Status	Pending		Remove
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)
	Continuation of	13585065	2012-08-14
Prior Application Status	Patented		Remove

Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)	Patent Number	Issue Date (YYYY-MM-DD)
13585065	Division of	10169355	2002-11-05	8271877	2012-09-18

PTO/AIA/14 (12-13)
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Application Data Sheet 37 CFR 1.76	Attorney Docket Number	0679-1001-2
	Application Number	
Title of Invention	METHOD AND DEVICE FOR ACCESSING SOURCES AND SERVICES ON THE WEB	

Prior Application Status	Abandoned		Remove
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)
10169355	a 371 of international	PCT/FR00/03759	2002-11-05
Additional Domestic Benefit/National Stage Data may be generated within this form by selecting the **Add** button.			Add

Foreign Priority Information:

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

			Remove
Application Number	Country [i]	Filing Date (YYYY-MM-DD)	Access Code [i] (if applicable)
9916704	FR	1999-12-30	
Additional Foreign Priority Data may be generated within this form by selecting the **Add** button.			Add

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

☐ This application (1) claims priority to or the benefit of an application filed before March 16, 2013 and (2) also contains, or contained at any time, a claim to a claimed invention that has an effective filing date on or after March 16, 2013.
NOTE: By providing this statement under 37 CFR 1.55 or 1.78, this application, with a filing date on or after March 16, 2013, will be examined under the first inventor to file provisions of the AIA.

Authorization to Permit Access:

☒ Authorization to Permit Access to the Instant Application by the Participating Offices

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Application Data Sheet 37 CFR 1.76	Attorney Docket Number	0679-1001-2
	Application Number	
Title of Invention	METHOD AND DEVICE FOR ACCESSING SOURCES AND SERVICES ON THE WEB	

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In accordance with 37 CFR 1.14(h)(3), access will be provided to a copy of the instant patent application with respect to: 1) the instant patent application-as-filed; 2) any foreign application to which the instant patent application claims priority under 35 U.S.C. 119(a)-(d) if a copy of the foreign application that satisfies the certified copy requirement of 37 CFR 1.55 has been filed in the instant patent application; and 3) any U.S. application-as-filed from which benefit is sought in the instant patent application.

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Applicant Information:

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Applicant 1 Remove

If the applicant is the inventor (or the remaining joint inventor or inventors under 37 CFR 1.45), this section should not be completed. The information to be provided in this section is the name and address of the legal representative who is the applicant under 37 CFR 1.43; or the name and address of the assignee, person to whom the inventor is under an obligation to assign the invention, or person who otherwise shows sufficient proprietary interest in the matter who is the applicant under 37 CFR 1.46. If the applicant is an applicant under 37 CFR 1.46 (assignee, person to whom the inventor is obligated to assign, or person who otherwise shows sufficient proprietary interest) together with one or more joint inventors, then the joint inventor or inventors who are also the applicant should be identified in this section.

Clear

◉ Assignee	○ Legal Representative under 35 U.S.C. 117	○ Joint Inventor
○ Person to whom the inventor is obligated to assign.	○ Person who shows sufficient proprietary interest	

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Application Data Sheet 37 CFR 1.76	Attorney Docket Number	0679-1001-2
	Application Number	
Title of Invention	METHOD AND DEVICE FOR ACCESSING SOURCES AND SERVICES ON THE WEB	

Mailing Address Information:			
Address 1			
Address 2			
City		**State/Province**	
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Application Data Sheet 37 CFR 1.76	Attorney Docket Number	0679-1001-2
	Application Number	
Title of Invention	METHOD AND DEVICE FOR ACCESSING SOURCES AND SERVICES ON THE WEB	

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Signature	/Benoit Castel/			Date (YYYY-MM-DD)	2014-09-09
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Apple EX1002 Page 224

Electronic Patent Application Fee Transmittal	
Application Number:	
Filing Date:	
Title of Invention:	METHOD AND DEVICE FOR ACCESSING INFORMATION SOURCES AND SERVICES ON THE WEB
First Named Inventor/Applicant Name:	Ferid ALLANI
Filer:	Thomas W. Perkins/Latasha Conley
Attorney Docket Number:	0679-1001-2
Filed as Small Entity	

Utility under 35 USC 111(a) Filing Fees

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
Utility filing Fee (Electronic filing)	4011	1	70	70
Utility Search Fee	2111	1	300	300
Utility Examination Fee	2311	1	360	360
Pages:				
Claims:				
Claims in excess of 20	2202	8	40	320
Independent Claims in Excess of 3	2201	1	210	210
Miscellaneous-Filing:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Late Filing Fee for Oath or Declaration	2051	1	70	70
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				
Miscellaneous:				
		Total in USD ($)		**1330**

Electronic Acknowledgement Receipt	
EFS ID:	20081263
Application Number:	14480701
International Application Number:	
Confirmation Number:	9483
Title of Invention:	METHOD AND DEVICE FOR ACCESSING INFORMATION SOURCES AND SERVICES ON THE WEB
First Named Inventor/Applicant Name:	Ferid ALLANI
Customer Number:	466
Filer:	Thomas W. Perkins/Latasha Conley
Filer Authorized By:	Thomas W. Perkins
Attorney Docket Number:	0679-1001-2
Receipt Date:	09-SEP-2014
Filing Date:	
Time Stamp:	10:17:18
Application Type:	Utility under 35 USC 111(a)

Payment information:

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1	Abstract	ABSTRACT.pdf	15527 a57e5eecd8a80cb8e19267544777f3fb3bbe3eb9	no	1
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Information:					
2	Non Patent Literature	CHAPPELL.pdf	31288 7534e3fb7ee23ef43fed01be03fbbcdf8a072a2b	no	1
Warnings:					
Information:					
3	Claims	CLMS.pdf	31922 7ac9d9e241a91020246f426a0bcc0d386ac14349	no	8
Warnings:					
Information:					
4	Drawings-only black and white line drawings	DWGS.pdf	233764 6fd00508c5416a4c5bf34d5328f9d53bc4b060ab	no	2
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Information:					
5	Information Disclosure Statement (IDS) Form (SB08)	IDS.pdf	613922 e604cd51bbed357a7ff8baa27f2a03872547f901	no	7
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Information:					
6	Transmittal Letter	IDS-TR.pdf	461912 4d6a4998f97f504b79dcb9848421c78337ffbf3a5	no	4
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9	Specification	SPEC.pdf	39583 6cc976e87c02587a7ca99aa03821580d418db060	no	9
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10	Transmittal of New Application	TR-APP.pdf	230470 d523197ae283a0fce461f4970edf4572bcd0b534	no	1
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11	Non Patent Literature	USERLAND.pdf	180579 38b4094e8e2da6dd3be63b73be20ccd6d8dcd165	no	6
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Information:					
12	Non Patent Literature	WUSTERMAN.pdf	694503 8376440f535ab86b22fe29bbf8ce5aeacad1979f	no	20
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13	Foreign Reference	CA2333055A1.pdf	20000583 cceb9f06141ce963d22e68cd49554fa6e1614026	no	216
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Information:					
14	Application Data Sheet	ADS.pdf	1561558 131ddd5327102d01ad2fccb00c1dc72c3aedf933	no	7
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Information:					
15	Fee Worksheet (SB06)	fee-info.pdf	39872 06bf2453d59f8724d417ada3cf19d1949cddfd96	no	2
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New International Application Filed with the USPTO as a Receiving Office
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ABSTRACT

A communication device and method for selectively accessing remote sources of information and services on the Web through a communication network.

CLAIMS

1. Apparatus for accessing information- or service-providing Web sites, comprising a communication device connectable through a communication network to the Internet, control and processing device or devices, data storage device or devices, and a display, said storage device or devices containing a plurality of selection pages within a tree menu structure, said selection pages being beforehand locally stored in said data storage device or devices and each comprising a set of icons including at least one of a direct access icon for directly accessing remote sources of information and a selection icon for locally accessing another selection page within said tree menu structure,

wherein said plurality of selection pages includes:

- a first selection page, a second selection page and a third selection page, said first selection page comprising a selection icon for locally accessing said second selection page, said second selection page comprising a selection icon for locally accessing said third selection page, said third selection page comprising one or more direct access icons for directly accessing an information- or service- providing Web site,
- at least one selection page further comprising two or more direct access icons,
- at least one selection page further comprising one or more icons for directly accessing a search engine on the Web, and

wherein the control and processing device or devices are programmed for:

- enabling a preliminary search locally performed within said communication device in different themes and sub themes within said plurality of selection pages, and
- emitting on the communication network, in response to selection of a direct access icon in a selection page being currently displayed, an address of an information- or service-providing Web site corresponding to said selected direct access icon, said address being locally generated during the preliminary search and selection.

2. The apparatus according to claim 1, characterized in that the direct access icons comprise icons for accessing commercial sites.

3. The apparatus according to claim 1, characterized in that the control and processing device or devices are arranged for receiving, by downloading from a management server, data for updating selection pages, and for processing said updating data so that new selection pages are stored in the data storage device or devices.

4. The apparatus according to claim 1, wherein said at least one selection page comprising two or more direct access icons comprises direct access icons corresponding to distinct sources of information or services.

5. The apparatus according to claim 1, implemented in a mobile phone.

6. The apparatus according to claim 1, wherein a page from a Web site is displayed on said display in response to selecting a direct access icon.

7. The apparatus according to claim 1, wherein at least one of the selection pages includes both at least one direct access icon and at least one selection icon.

8. The apparatus according to claim 1, wherein said control and processing device or devices are configured to receive, from a server, data for updating information associated with at least one of a selection page, a direct access icon and a selection icon.

9. The apparatus according to claim 8, wherein said updating information is received periodically.

10. The apparatus according to claim 9, wherein said updating information is received on demand.

11. The apparatus according to claim 1, wherein the second selection page displays information corresponding to a sub-category of the first selection page.

12. The apparatus according to claim 1, wherein said control and processing device or devices are configured to receive information from the information- or service-providing Web site corresponding to said selected direct access icon via the communication network.

13. The apparatus according to claim 1, wherein the selection icons present graphic features that are distinctive from those of the direct access icons.

14. The apparatus according to claim 1, wherein selection of a direct access icon in a selection page being displayed comprises clicking on said icon.

15. The apparatus according to claim 1, wherein said selection pages stored in said data storage device or devices are downloaded thereto.

16. The apparatus according to claim 1, wherein said selection pages stored in said data storage device or devices are downloaded thereto over a mobile connection.

17. The apparatus according to claim 1, wherein said selection pages operate as rolling menus.

18. The apparatus according to claim 1, wherein at least one of the selection pages is a trunk of the tree menu structure.

19. The apparatus according to claim 1, wherein the control and processing device or devices are configured to command a request-answer sequence characterized in that the request comprises the address of the information- or service-providing Web site, and wherein the request-answer sequence is preceded by a locally implemented selection of themes and sub-themes.

20. The apparatus according to claim 1, wherein the icons comprise logotypes, graphic marks or semi-graphic marks.

21. The apparatus according to claim 1, wherein the icons comprise textual elements.

22. A communication device connectable to remote sources of information or services through a communication network, the communication device comprising a display, data storage, a processor, a controller and a plurality of pages locally stored in said data storage and displayable on said display,

wherein a first one of said locally stored pages includes at least one selection icon capable of being selectively activated to display a second one of said locally stored pages on said display,

wherein said second one of said locally stored pages includes at least one direct access icon capable of being selectively activated to connect said communication device to a predetermined one of said remote sources of information or services, and at least one second selection icon capable of being selectively activated to display a third one of said locally stored pages on said display,

wherein at least one of said first, second and third locally stored pages further includes at least one icon for directly accessing a search engine for permitting a user to control searches on the Web.

23. The communication device according to claim 22, characterized in that said selection pages are locally stored in the data storage beforehand.

24. The communication device according to claim 22, wherein said selection pages stored in said data storage are organized in a tree menu structure.

25. A mobile communication device connectable to remote sources of information or services through a communication network, the communication device comprising a display, data storage, a processor, a controller and a plurality of pages locally stored in said data storage and displayable on said display,

wherein a first one of said locally stored pages includes at least one direct access icon capable of being selectively activated to connect said mobile communication device to a first predetermined one of said remote sources of information or services, and at least one selection icon capable of being selectively activated to display a second one of said locally stored pages on said display, wherein said second one of said locally stored pages includes at least one second direct access icon capable of being selectively activated to connect said mobile communication device to a second predetermined one of said remote sources of information or services, and at least one second selection icon capable of being selectively activated to display a third one of said locally stored pages on said display,

wherein said third one of said locally stored pages includes at least one third direct access icon capable of being selectively activated to connect said mobile communication device to a third predetermined one of said remote sources of information or services, or at least one third selection icon capable of being selectively activated to display a fourth one of said locally stored pages on said display.

26. The mobile communication device according to claim 25, wherein at least one of the selection pages further comprises one or more icons for directly accessing a search engine on the Web.

27. The mobile communication device according to claim 25, wherein selective activation of a direct access icon comprises emitting, on the communication network, an address of the first, second or third predetermined one of said remote sources.

28. A method for accessing information- or service-providing Web sites, from a mobile communication device connected through a communication network and provided with a display, comprising:

- a preliminary search for information or service, locally performed within said communication device in different themes and sub-themes within a plurality of successively displayed selection pages, said selection pages being organized in a tree menu structure and beforehand locally stored within said communication device, each said selection page comprising a set of icons, said selection pages further comprising a first selection page, a second selection page and a third selection page, said first selection page comprising a selection icon for locally accessing said second selection page, and said second selection page comprising a selection icon for locally accessing said third selection page, said third selection page comprising one or more direct access icons for directly accessing an information- or service- providing Web site, and

- emitting on the communication network, in response to a selection of a direct access icon in a selection page being currently displayed, an address of an information- or service-providing web site corresponding to said selected icon, said address being locally generated during said displaying and selection and for directly accessing said information- or service-providing Web site,

wherein:

- at least one of said selection pages further comprises two or more direct access icons, and
- at least one of said selection pages further comprises one or more icons for directly accessing a search engine on the Web.

P0
P1
Pi--m
(I) Consultation
(II) Address
http://www.site.com/---/---/---/---.htm
(III) Emission
Xxxxxxx
Xxxxxxx
Xxxxxxx
(V) Reception
(IV) Processing the request
Local
Network
Site
S1
Sm

FIG1

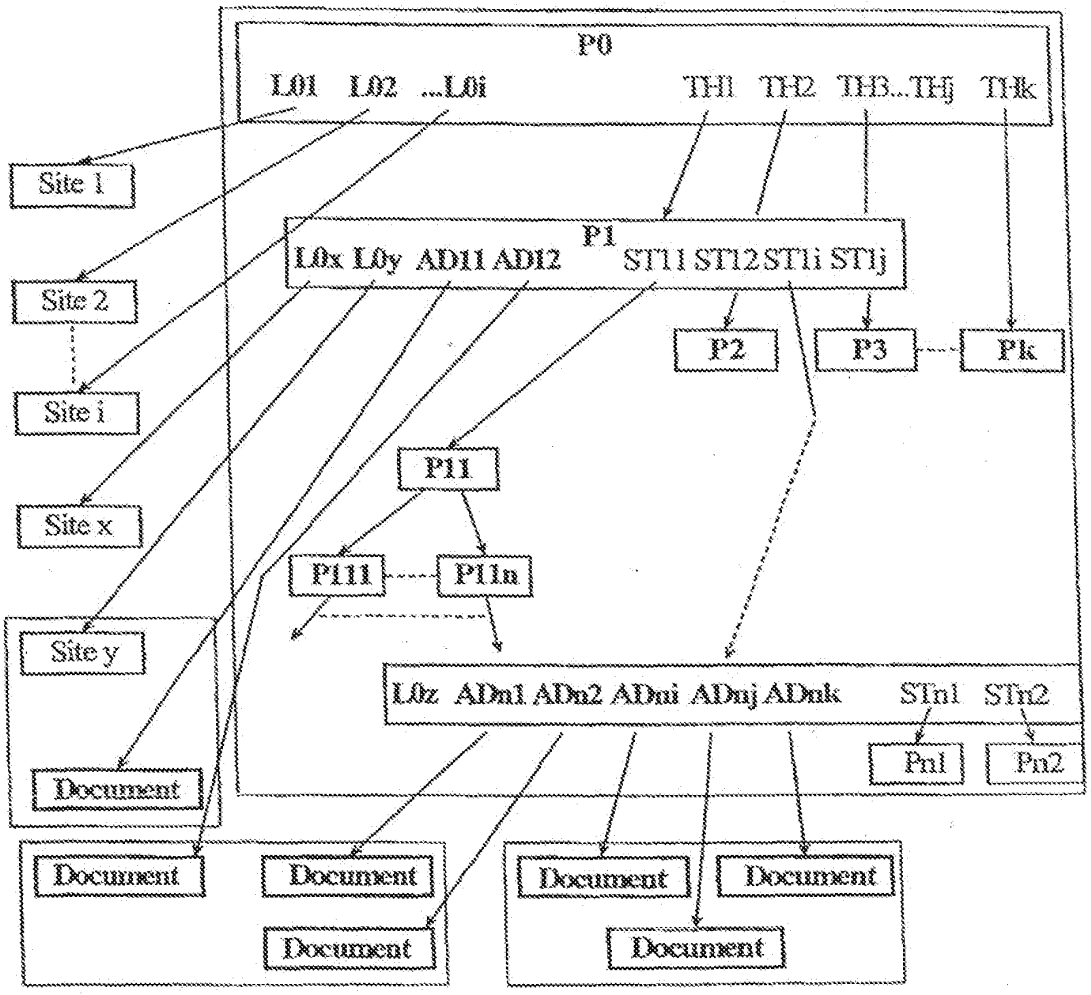

P0
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TH1 TH2 TH3...THj THk
Site 1
Site 2
Site i
Site x
Site y
P1
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P3
Pk
P11
P111
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L0z ADn1 ADn2 ADni ADnj ADnk STn1 STn2
Pn1
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FIG.2

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT (**Not for submission under 37 CFR 1.99)**		
	Application Number	
	Filing Date	2014-09-09
	First Named Inventor	Ferid ALLANI
	Art Unit	
	Examiner Name	
	Attorney Docket Number	0679-1001-2

U.S.PATENTS						Remove
Examiner Initial*	Cite No	Patent Number	Kind Code[1]	Issue Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1	6628307		2003-09-30	FAIR	
	2	7143055		2006-11-28	PERKOWSKI	
	3	5959945		1999-09-28	KLEIMAN	
	4	5933827		1999-08-03	COLE et al.	
	5	6587835		2003-07-01	TREYZ et al.	
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INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	
	Filing Date	2014-09-09
	First Named Inventor	Ferid ALLANI
	Art Unit	
	Examiner Name	
	Attorney Docket Number	0679-1001-2

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U.S.PATENT APPLICATION PUBLICATIONS Remove

Examiner Initial*	Cite No	Publication Number	Kind Code[1]	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1	20010014868		2001-08-16	HERZ et al.	

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (**Not for submission under 37 CFR 1.99)**		
	Application Number	
	Filing Date	2014-09-09
	First Named Inventor	Ferid ALLANI
	Art Unit	
	Examiner Name	
	Attorney Docket Number	0679-1001-2

	2	20040019610		2004-01-29	BURNS	
	3	20020089534		2002-07-11	SIEKMANN	

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FOREIGN PATENT DOCUMENTS Remove

Examiner Initial*	Cite No	Foreign Document Number[3]	Country Code[2] ¡	Kind Code[4]	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear	T[5]
	1	11-259496	JP		1999-09-24			☐
	2	0847019	JP		1998-06-10			☐
	3	2333055	CA		1999-12-02			☐

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NON-PATENT LITERATURE DOCUMENTS Remove

Examiner Initials*	Cite No	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, pages(s), volume-issue number(s), publisher, city and/or country where published.	T[5]
	1	Yohei YAMADA, Internet ASCII, ASCII Corporation, Japan, Vol. 4, p. 132, October 10, 1999	☐
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INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	
	Filing Date	2014-09-09
	First Named Inventor	Ferid ALLANI
	Art Unit	
	Examiner Name	
	Attorney Docket Number	0679-1001-2

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	11	JUDITH WUSTERMAN and HEATHER BROWN, "Electronic Journals using Acrobat, Mosaic and Guide", pages 1-20	☐

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EXAMINER SIGNATURE

Examiner Signature		Date Considered	

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

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
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	First Named Inventor	Ferid ALLANI
	Art Unit	
	Examiner Name	
	Attorney Docket Number	0679-1001-2

[1] See Kind Codes of USPTO Patent Documents at www.USPTO.GOV or MPEP 901.04. [2] Enter office that issued the document, by the two-letter code (WIPO Standard ST.3). [3] For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. [4] Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. [5] Applicant is to place a check mark here if English language translation is attached.

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	Art Unit	
	Examiner Name	
	Attorney Docket Number	0679-1001-2

CERTIFICATION STATEMENT

Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):

☐ That each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(1).

OR

☐ That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(2).

☐ See attached certification statement.

☐ Fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

☒ None

SIGNATURE

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature	/Benoit Castel/	Date (YYYY-MM-DD)	2014-09-09
Name/Print	Benoit Castel	Registration Number	35041

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 1 hour to complete, including gathering, preparing and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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

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

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether the Freedom of Information Act requires disclosure of these record s.

2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.

3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.

4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).

5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.

6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).

7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.

8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspections or an issued patent.

9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

IN THE U.S. PATENT AND TRADEMARK OFFICE

In re application of

Ferid ALLANI Conf.

Application No. **NEW CONTINUATION** Group Unknown

Filed September 9, 2014 Examiner Unknown

METHOD AND DEVICE FOR ACCESSING INFORMATION SOURCES AND SERVICES ON THE WEB

INFORMATION DISCLOSURE STATEMENT
(SUBMISSION FOR CONTINUATION-IN-PART OR
RULE 1.53(b) CONTINUATION OR DIVISIONAL APPLICATION)

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

September 9, 2014

Sir:

Pursuant to 37 C.F.R. §§ 1.97 and 1.98, and in fulfillment of the duty of disclosure under 37 C.F.R. § 1.56, applicant(s) hereby submit(s) an Information Disclosure Statement for consideration by the Examiner.

I. LIST OF PATENTS, PUBLICATIONS OR OTHER INFORMATION

The patents, publications, or other information submitted for consideration by the Office are listed on the PTO-1449 form(s), attached hereto.

II. REFERENCES PREVIOUSLY CITED OR SUBMITTED

Pursuant to 37 C.F.R. § 1.98(d), consideration of information listed on the PTO-1449 form(s) is requested since any patents, publications, or other information which are listed on the PTO-1449 form(s) but for which copies are not enclosed herewith, were previously cited by or submitted to the PTO in one of the following applications which has been relied upon for an earlier filing date under 35 U.S.C. § 120:

U.S. Appl. No(s).	U.S. Filing Date(s)
13/585,065	August 14, 2012

III. COPIES

☒ Copies of the U.S. patents or publications are not submitted since the USPTO has waived their submission for applications filed after June 30, 2003.

☒ Submitted herewith is a legible copy of (i) each foreign patent; (ii) each publication or that portion which caused it to be listed; and (iii) all other information or that portion which caused it to be listed.

☐ This application is a National Phase of a PCT application. Some or all of the documents listed on the PTO-1449 are not enclosed because they were cited in the International Search Report and copies should have been forwarded from the International Search Authority pursuant to the trilateral agreement between the USPTO, EPO and JPO, or they are U.S. patents or U.S. published applications. If copies are needed, please contact the undersigned.

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IV. CONCISE EXPLANATION OF THE RELEVANCE
(check at least one box)

a. ☒ **DOCUMENTS IN THE ENGLISH LANGUAGE**

The attached non U.S. patents, non U.S. patent application publications, foreign publications, or other information in the English language do not require a statement of relevancy.

b. ☐ **DOCUMENTS NOT IN THE ENGLISH LANGUAGE**

A concise explanation of the relevance of all patents, publications, or other information listed that is not in the English language is as follows:

c. ☐ **FOREIGN SEARCH REPORT OR ACTION**

An English language version of the search report or action that indicates the degree of relevance found by the foreign office is attached, thereby satisfying the requirement for a concise explanation. See MPEP 609(A)(3).

d. ☐ **OTHER**

The following additional information is provided for the Examiner's consideration.

V. FEES

This Information Disclosure Statement is being filed as the initial Information Disclosure Statement for the above-identified continuation-in-part application; and within the three month of the filing of the application; therefore, no fee is required.

If the Examiner has any questions concerning this IDS or requires a copy of any of the references cited but not provided, he/she is requested to contact the undersigned. If it is determined that this IDS has been filed under the wrong rule, the PTO is requested to consider this IDS under the proper rule (with a petition if necessary) and charge the appropriate fee to Deposit Account No. 25-0120.

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Apple EX1002 Page 251

The Commissioner is hereby authorized in this, concurrent, and future submissions to charge any additional fees(s) or underpayment of fee(s) under 37 C.F.R. §§ 1.16 and 1.17 or credit any overpayment of fee(s) to Deposit Account No. 25-0120.

Respectfully submitted,

YOUNG & THOMPSON

/Benoit Castel/

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Telephone (703) 521-2297
Telefax (703) 685-0573

BC/llc

Enclosures:
- ☒ PTO/SB/08a
- ☒ References
- ☐ Foreign Search Report
- ☐ Other:

Revised July 3, 2012

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Apple EX1002 Page 252

Method and device for accessing information sources and services on the Web

BACKGROUND OF THE INVENTION

The present invention relates to a method for accessing information sources and services on the Web. It also relates to a device for implementing said method.

The use of Internet and the Web for accessing information and sources of every kind is presently drastically increasing. To permit access to Web sites providing said information and services, navigation software like Internet Explorer™ or Navigator ™ have been widely diffused and nowadays equip every personal computer and workstation connected to Internet. These navigation software permit access to sites providing with search engines like Yahoo!™ or Voila™ allowing to emit requests in natural language and to receive in return a plurality of sites classified by decreasing relevance order. Furthermore, "portal" sites are presently developing, with a generalist or specialised objective, the function of which is proposing to a user on one hand direct accesses to some pre-selected sites and on the other hand accesses to headings. The choices of a site or of a heading are represented either by a designation or by an icon or a fixed or animated image. Pointing and clicking by means of a mouse on the corresponding active zone causes generating by the navigation software a Web address on Internet, permitting access to selected site, and within said site, to a document or a plurality of searched documents. In fact, in response to such a request, the requesting station can receive either directly a document, or usually a new HTML page containing itself a more and less high number of links among which the user will still have to make a new choice.

Now, a delay corresponds to each request-answer step, with a variable duration conditioned by non-controllable parameters

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like traffic on the network, jamming and power of servers in the consulted sites or also the memory size of the received pages. It results in a real discomfort felt by a number of Internet surfers, so far as to dissuade some of them from launching an information search that could prove to be long, tedious, and uncertain.

Furthermore, in addition to the above-cited problem of response time and search duration, the question of providing users that are not accustomed to computer tolls and Internet with a quick and easy access to information sources and services, also arises, while said quick and easy access is not properly provided by the generalist portals presently available on the Web.

Document EP0847019 discloses a method for selecting an item of information in an information processing system, wherein a user is provided with an access to two items of information through respectively two structures of multi-levels hierarchical menus. The second structure of menu comprises at least the sub-menus provided in the first structure of menu and the second sub-assembly includes at least the items of information included in the first sub-assembly. A user leaving the first structure of menu in a particular sub-menu enters the second structure of menu in a sub-menu that corresponds to this particular sub-menu.

SUMMARY OF THE INVENTION

The aim of the invention is to propose a method for accessing information sources and services on the Web, that is quicker and easier to use than the present methods for accessing information on Internet, notably with a objective of integration within interactive terminals and office automation and communication equipments.

This objective is reached with a method for accessing information sources and services on the Web, from a

communication device connected through a communication network to the Internet network, comprising:

- one or more steps for displaying a page of selection among a plurality of selection pages organized within a structure of tree menu and beforehand locally stored within said communication device, each page of selection comprising a set of icons and,
- a step for emitting on the communication network, in response to a selection of an icon in a page of selection currently displayed, the address of a source of information corresponding to said selected icon.

According to the invention, for each selection page, the set of icons includes one or more icons for directly accessing remote sources of information and/or one or more selection icons for locally accessing another selection page within said structure of tree menu, said addresses of information sources corresponding to direct access icons being beforehand locally stored in a table or base of addresses or locally generated in the progress of the display and selection steps.

Thus, by locally implementing preliminary selection steps in pages organized in a tree manner and operating as rolling menus, and by finally emitting on Internet only a complete address for accessing a well-targeted information source, the mean time duration observed for accessing searched information is drastically reduced. Besides, this method provides users poorly accustomed with computer tools and search engines with an efficient guiding to most of the useful information sources or to the most frequently consulted information sources.

These direct access icons can advantageously comprise icons for accessing merchant sites. This feature for example opens the way to customizing, with the colours of a commercial group, the access tool obtained by implementing the method according to the invention. These icons for directly accessing

a merchant or institutional site can reproduce the logotype of this site.

The selection icons preferably include an item or thematic title opening an access to a page dedicated to a given activity or theme, and present graphic features that are distinctive from those of the direct access icons. The user is thus informed about the nature of the step that follows his selection. If is an icon with the "direct access icon" type, the next step will be a step for emitting an address towards a Web site. On the contrary, if it is an icon with the "selection icon" type, the next step will be a new selection step in a selection page.

The access method according to the invention can be advantageously provided for further comprising an updating of the plurality of selection pages locally stored. This updating can be achieved by downloading from a management server programmed for achieving this operation on a plurality of access devices or terminals implementing this method.

Furthermore, it is particularly advantageous to plan in the welcome page icons for selecting a consulting language among a plurality of proposed languages, for example under the form of flags for States wherein each proposed language is used. For that, several sets of selection pages beforehand stored each corresponding to a proposed language will be provided. This linguistic functionality represents another important advantage for the process according to the invention, since a user can thus locally achieve, in the language according to his choice, a preliminary search in the different themes, sub-themes or sub-categories, while in the conventional situation of a direct search on the Web, the same user would inevitably be confronted to the linguistic bar at one point or another.

According to another aspect of the invention, a device is proposed for accessing information sources or services on the Web, comprising means for communicating through a communication network on Internet, control and processing means, data storage means, display means, capture means, and pointing and selection means, said storage means containing a plurality of selection pages each comprising a set of icons.

This device is characterized in that, for each selection page, the set of icons includes one or more icons for directly accessing remote information sources and/or one or more selection icons for locally accessing another selection page within said structure of tree menu,
and in that the control and processing means are programmed for:

- controlling the display by said display means of a selection page in response to activating a selection icon provided for locally accessing another selection page within said structure of tree menu, and
- emitting on the communication network, in response to selecting a direct access icon in a selection page being currently displayed, an address of the information source corresponding to said selected direct access icon, said addresses of information sources corresponding to direct access icons being beforehand locally stored in table or base of addresses or locally generated in the progress of display and selection steps.

This device can be realized from a personal computer, a work station or from a network terminal, or can be installed within an apparatus dedicated to functions for accessing information sources and services on the Web. For example, it can be an Internet interactive terminal or an office automation and communication equipment installed either in a public booth

in substitution of an existing phone device, or in places or public spaces or in private places or for a professional use.

BRIEF DESCRIPTION OF THE DRAWINGS

Other features and advantages of the invention will be apparent in the further description. The attached drawings are given as way of non limitative examples:

- Figure 1 is a synoptic scheme featuring the essential steps of the method according to the invention;
- Figure 2 features the mechanism for accessing on a tree mode the address of a searched information, implemented in the method according to the invention.

DETAILED DESCRIPTION

Now, with reference to Fig.1, an example of use of the access method according to the invention, implemented in an Internet terminal or in an office automation and communication apparatus, is described.

A first page Po, displayed during the initialisation of the apparatus, for example contains:

- icons LO1, LO2,…,Loi featuring logotypes, graphic or semi-graphic marks, merchant sites or portals for entering major commercial brands, for example a chain of hotels or restaurants or a large-scale distribution company,
- icons TH1, TH2, TH3,…,THj, THk each corresponding to a general purpose category or theme, for example sport, television, weather forecast or stock exchange.

This first page Po constitutes the trunk of a tree structure schematically represented in Figure 2 for the whole screen-pages locally stored in a storage unit, for example a hard disk unit or a CD-ROM, of the apparatus wherein this method is implemented.

If the user of the apparatus points on the icon of theme TH1, for example the SPORT theme, and clicks on this icon, a page P1 dedicated to the SPORT theme is then displayed. This page P1 contains for example:

- an icon Lox for accessing a site dedicated to a plurality of sports and an icon Loy for accessing a site of a major soccer club,
- an icon AD11 "calendar" for directly accessing a weekly calendar of sport events provided on the above-cited multi-sport site,
- an icon AD12 "1st division games" for directly accessing to a document presenting the next matches of the 1st division of soccer and provided by the official site of the soccer federation,
- icons ST11, ST12,…,ST1i,…,ST1j for selecting sub-categories or sub-themes, and
- an icon "Return" permitting to come back to initial page Po.

For example, it is assumed that the user of the consultation apparatus wherein the method according to the invention is implemented wishes to get the address and contact data of a club of supporters for a major basket ball team, with the intention of acquiring a shirt with the colours of this club and possibly booking places for the next championship final.

This user, after having selected the "SPORT" theme TH1 in the page Po, is naturally led to select the sub-theme ST1i "COLLECTIVE SPORTS", then, after a certain number of consulted pages, the user reaches a page Pn-m dedicated to the basket-ball championship. This page contains for example:

- an icon LOz for accessing the official site of the basket-ball championship,

- an icon ADn1 for directly accessing the site of a rival team,
- an icon ADn2 for directly accessing the site of the Club of supporters for the searched team,
- icons ADn1, ADnj, ADnk for directly accessing other information sources linked to the basket-ball championship, and
- icons STn1, STn2 corresponding to sub-themes like "Training" or "Transfers".

Then the user selects the icon ADn2 "Club of supporters" and the activation of this icon causes generating (II) the complete address of the welcome page for this site, given as a way of non-limitative example: http://site.com/--/--/--/--.htm

This address is then emitted (III) on the Web through the communication network to which the apparatus is connected, towards the concerned sire which, in return, sends a welcome page which is received (V) and displayed by the user who is the able to consult the searched information and achieve the desired order.

Thus the user has been able to access without any difficulty the information source being searched with a single request-answer sequence, the whole operations for selecting themes and sub-themes having been beforehand locally realized by means of the method according to the invention.

It has to be noted that the different consulted pages can advantageously include icons for accessing one or more search engines for permitting the user to take again as he likes the control of his searches on the Web.

Each selection page can also include usual consultation commands such as "WELCOME PAGE", "PRINT", "PREVIOUS PAGE", "NEXT PAGE", "END OF SESSION", "HELP". Moreover, especially when the method according to the invention is implemented in an office automation and communication apparatus, commands for

office automation functions such as "PHOTOCOPY", "FACSIMILE", "E-MAIL" or "VISIO-CONFERENCE" can also be proposed.

Furthermore, it is easy to conceive a process for downloading, periodically or on demand, an updating of a set of pages used in the method according to the invention, from a management server towards a plurality of office automation and communication apparatuses wherein this method is implemented.

Of course, the invention is not limited to the examples that have been described and numerous adjustments can be provided to these examples without departing from the scope of the invention. Thus, the numbers of selection pages and of selection or direct access icons are of course not limited to the described examples. It is the same for the shape and the design of these icons that can be fixed or dynamic. Besides, the method according to the invention can be implemented in every fixed or mobile equipment that permits to access resources on Internet. In particular, the access method according to the invention can be implemented in mobile phone equipments of in electronic personal digital assistants including a function for accessing Internet.

PATENT APPLICATION FEE DETERMINATION RECORD

Substitute for Form PTO-875

Application or Docket Number: 14/480,701

APPLICATION AS FILED - PART I

FOR	(Column 1) NUMBER FILED	(Column 2) NUMBER EXTRA	SMALL ENTITY RATE($)	SMALL ENTITY FEE($)	OR	OTHER THAN SMALL ENTITY RATE($)	OTHER THAN SMALL ENTITY FEE($)
BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A	70		N/A	
SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A	N/A	300		N/A	
EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A	360		N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	28 minus 20 =	* 8	x 40 =	320	OR		
INDEPENDENT CLAIMS (37 CFR 1.16(h))	4 minus 3 =	* 1	x 210 =	210			
APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is $310 ($155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).			0.00			
MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))				0.00			
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL	1260		TOTAL	

APPLICATION AS AMENDED - PART II

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

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

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.

** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".

*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".

The "Highest Number Previously Paid For" (Total or Independent) is the highest found in the appropriate box in column 1.

UNITED STATES PATENT AND TRADEMARK OFFICE

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

APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
14/480,701	09/09/2014	Ferid ALLANI	0679-1001-2

CONFIRMATION NO. 9483

466
YOUNG & THOMPSON
209 Madison Street
Suite 500
Alexandria, VA 22314

NOTICE

OC000000070779508

Date Mailed: 09/17/2014

INFORMATIONAL NOTICE TO APPLICANT

Applicant is notified that the above-identified application contains the deficiencies noted below. No period for reply is set forth in this notice for correction of these deficiencies. However, if a deficiency relates to the inventor's oath or declaration, the applicant must file an oath or declaration in compliance with 37 CFR 1.63, or a substitute statement in compliance with 37 CFR 1.64, executed by or with respect to each actual inventor no later than the expiration of the time period set in the "Notice of Allowability" to avoid abandonment. See 37 CFR 1.53(f).

The item(s) indicated below are also required and should be submitted with any reply to this notice to avoid further processing delays.

- A properly executed inventor's oath or declaration has not been received for the following inventor(s):
  Ferid ALLANI

IPR2025-00857
Apple EX1002 Page 263

UNITED STATES PATENT AND TRADEMARK OFFICE

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

APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
14/480,701	09/09/2014	Ferid ALLANI	0679-1001-2

CONFIRMATION NO. 9483

466
YOUNG & THOMPSON
209 Madison Street
Suite 500
Alexandria, VA 22314

IMPROPER CFR REQUEST

OC000000070779492

Date Mailed: 09/17/2014

RESPONSE TO REQUEST FOR CORRECTED FILING RECEIPT

Continuity, Priority Claims, Petitions, and Non-Publication Requests

In response to your request for a corrected Filing Receipt, the Office is unable to comply with your request because:

- The application(s) to which priority is claimed were filed over a year prior to the filing date of this application. Therefore, the referenced application(s) cannot be claimed as domestic or foreign priority.

/btsebhatu/

Office of Data Management, Application Assistance Unit (571) 272-4000, or (571) 272-4200, or 1-888-786-0101

UNITED STATES PATENT AND TRADEMARK OFFICE

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

APPLICATION NUMBER	FILING or 371(c) DATE	GRP ART UNIT	FIL FEE REC'D	ATTY.DOCKET.NO	TOT CLAIMS	IND CLAIMS
14/480,701	09/09/2014	2143	1330	0679-1001-2	28	4

CONFIRMATION NO. 9483

466
YOUNG & THOMPSON
209 Madison Street
Suite 500
Alexandria, VA 22314

FILING RECEIPT

OC000000070779507

Date Mailed: 09/17/2014

Receipt is acknowledged of this non-provisional patent application. The application will be taken up for examination in due course. Applicant will be notified as to the results of the examination. Any correspondence concerning the application must include the following identification information: the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. **If an error is noted on this Filing Receipt, please submit a written request for a Filing Receipt Correction. Please provide a copy of this Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts" for this application, please submit any corrections to this Filing Receipt with your reply to the Notice. When the USPTO processes the reply to the Notice, the USPTO will generate another Filing Receipt incorporating the requested corrections**

Inventor(s)

Ferid ALLANI, Kelibia, TUNISIA;

Applicant(s)

INSTITUTO MASSONE S.A., Residence Not Provided

Power of Attorney: None

Domestic Priority data as claimed by applicant

This application is a CON of 13/585,065 08/14/2012
which is a DIV of 10/169,355 11/05/2002 PAT 8271877
which is a 371 of PCT/FR00/03759 11/05/2002

Foreign Applications for which priority is claimed (You may be eligible to benefit from the **Patent Prosecution Highway** program at the USPTO. Please see http://www.uspto.gov for more information.) - None.
Foreign application information must be provided in an Application Data Sheet in order to constitute a claim to foreign priority. See 37 CFR 1.55 and 1.76.

Permission to Access - A proper **Authorization to Permit Access to Application by Participating Offices** (PTO/SB/39 or its equivalent) has been received by the USPTO.

If Required, Foreign Filing License Granted: 09/15/2014
The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is **US 14/480,701**
Projected Publication Date: 12/25/2014
Non-Publication Request: No
Early Publication Request: No

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Apple EX1002 Page 265

** SMALL ENTITY **

Title

METHOD AND DEVICE FOR ACCESSING SOURCES AND SERVICES ON THE WEB

Preliminary Class

715

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

PROTECTING YOUR INVENTION OUTSIDE THE UNITED STATES

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

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

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

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

For information on preventing theft of your intellectual property (patents, trademarks and copyrights), you may wish to consult the U.S. Government website, http://www.stopfakes.gov. Part of a Department of Commerce initiative, this website includes self-help "toolkits" giving innovators guidance on how to protect intellectual property in specific countries such as China, Korea and Mexico. For questions regarding patent enforcement issues, applicants may call the U.S. Government hotline at 1-866-999-HALT (1-866-999-4258).

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Apple EX1002 Page 266

LICENSE FOR FOREIGN FILING UNDER

Title 35, United States Code, Section 184

Title 37, Code of Federal Regulations, 5.11 & 5.15

GRANTED

The applicant has been granted a license under 35 U.S.C. 184, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" followed by a date appears on this form. Such licenses are issued in all applications where the conditions for issuance of a license have been met, regardless of whether or not a license may be required as set forth in 37 CFR 5.15. The scope and limitations of this license are set forth in 37 CFR 5.15(a) unless an earlier license has been issued under 37 CFR 5.15(b). The license is subject to revocation upon written notification. The date indicated is the effective date of the license, unless an earlier license of similar scope has been granted under 37 CFR 5.13 or 5.14.

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

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

NOT GRANTED

No license under 35 U.S.C. 184 has been granted at this time, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" DOES NOT appear on this form. Applicant may still petition for a license under 37 CFR 5.12, if a license is desired before the expiration of 6 months from the filing date of the application. If 6 months has lapsed from the filing date of this application and the licensee has not received any indication of a secrecy order under 35 U.S.C. 181, the licensee may foreign file the application pursuant to 37 CFR 5.15(b).

SelectUSA

The United States represents the largest, most dynamic marketplace in the world and is an unparalleled location for business investment, innovation, and commercialization of new technologies. The U.S. offers tremendous resources and advantages for those who invest and manufacture goods here. Through SelectUSA, our nation works to promote and facilitate business investment. SelectUSA provides information assistance to the international investor community; serves as an ombudsman for existing and potential investors; advocates on behalf of U.S. cities, states, and regions competing for global investment; and counsels U.S. economic development organizations on investment attraction best practices. To learn more about why the United States is the best country in the world to develop technology, manufacture products, deliver services, and grow your business, visit http://www.SelectUSA.gov or call +1-202-482-6800.

PATENT
0679-1001-2

IN THE U.S. PATENT AND TRADEMARK OFFICE

In re application of

Ferid ALLANI — Conf. 9483

Application No. 14/480,701 — Group 2143

Filed September 9, 2014 — Examiner

METHOD AND DEVICE FOR ACCESSING SOURCES AND SERVICES ON THE WEB

LETTER SUBMITTING
CORRECTED APPLICATION DATA SHEET

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

September 18, 2014

Sir:

Attached hereto is a Corrected Application Data Sheet, submitted in order to correct the domestic priority data. The error in the domestic priority data was inadvertent, and it is respectfully requested that the corrected Application Data Sheet be made of record.

Respectfully submitted,

YOUNG & THOMPSON

/Benoît Castel/

Benoît Castel, Reg. No. 35,041
Customer No. 00466
209 Madison Street, Suite 500
Alexandria, VA 22314
Telephone (703) 521-2297
Facsimile (703) 685-0573
(703) 979-4709

BC/alg

PTO/AIA/14 (12-13)
Approved for use through 01/31/2014. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	0679-1001-2
	Application Number	
Title of Invention	METHOD AND DEVICE FOR ACCESSING SOURCES AND SERVICES ON THE WEB	

The application data sheet is part of the provisional or nonprovisional application for which it is being submitted. The following form contains the bibliographic data arranged in a format specified by the United States Patent and Trademark Office as outlined in 37 CFR 1.76.
This document may be completed electronically and submitted to the Office in electronic format using the Electronic Filing System (EFS) or the document may be printed and included in a paper filed application.

Secrecy Order 37 CFR 5.2

☐ Portions or all of the application associated with this Application Data Sheet may fall under a Secrecy Order pursuant to 37 CFR 5.2 (Paper filers only. Applications that fall under Secrecy Order may not be filed electronically.)

Inventor Information:

Inventor 1 Remove

Legal Name

Prefix	Given Name	Middle Name	Family Name	Suffix
	Ferid		ALLANI	

Residence Information (Select One) ○ US Residency ◉ Non US Residency ○ Active US Military Service

City	Kelibia	Country of Residence [i]	TN

Mailing Address of Inventor:

Address 1	Villa Karma, El Mansourah		
Address 2			
City	Kelibia	State/Province	
Postal Code		Country [i]	TN

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

Correspondence Information:

Enter either Customer Number or complete the Correspondence Information section below.
For further information see 37 CFR 1.33(a).

☐ **An Address is being provided for the correspondence Information of this application.**

Customer Number	00466		
Email Address	embon@young-thompson.com	Add Email	Remove Email

Application Information:

Title of the Invention	METHOD AND DEVICE FOR ACCESSING SOURCES AND SERVICES ON THE WEB		
Attorney Docket Number	0679-1001-2	Small Entity Status Claimed	☒
Application Type	Nonprovisional		
Subject Matter	Utility		
Total Number of Drawing Sheets (if any)	2	Suggested Figure for Publication (if any)	

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U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
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Application Data Sheet 37 CFR 1.76	Attorney Docket Number	0679-1001-2
	Application Number	
Title of Invention	METHOD AND DEVICE FOR ACCESSING SOURCES AND SERVICES ON THE WEB	

Filing By Reference :

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

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

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

Publication Information:

☐ Request Early Publication (Fee required at time of Request 37 CFR 1.219)

☐ **Request Not to Publish.** I hereby request that the attached application not be published under 35 U.S.C. 122(b) and certify that the invention disclosed in the attached application **has not and will not** be the subject of an application filed in another country, or under a multilateral international agreement, that requires publication at eighteen months after filing.

Representative Information:

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

Please Select One:	◉ Customer Number	○ US Patent Practitioner	○ Limited Recognition (37 CFR 11.9)
Customer Number	00466		

Domestic Benefit/National Stage Information:

This section allows for the applicant to either claim benefit under 35 U.S.C. 119(e), 120, 121, or 365(c) or indicate National Stage entry from a PCT application. Providing this information in the application data sheet constitutes the specific reference required by 35 U.S.C. 119(e) or 120, and 37 CFR 1.78.
When referring to the current application, please leave the application number blank.

Prior Application Status	Pending		Remove
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)
	Continuation of	13585065	2012-08-14
Prior Application Status	Patented		Remove

Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)	Patent Number	Issue Date (YYYY-MM-DD)
13585065	Division of	10169355	2002-11-05	8271877	2012-09-18

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Application Data Sheet 37 CFR 1.76	Attorney Docket Number	0679-1001-2
	Application Number	
Title of Invention	METHOD AND DEVICE FOR ACCESSING SOURCES AND SERVICES ON THE WEB	

Prior Application Status	Abandoned		Remove
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)
10169355	a 371 of international	PCT/FR00/03759	~~2002-11-05~~ **2000-12-29**
Additional Domestic Benefit/National Stage Data may be generated within this form by selecting the **Add** button.			

Foreign Priority Information:

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

			Remove
Application Number	Country[i]	Filing Date (YYYY-MM-DD)	Access Code[i] (if applicable)
9916704	FR	1999-12-30	
Additional Foreign Priority Data may be generated within this form by selecting the **Add** button.			

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

☐ This application (1) claims priority to or the benefit of an application filed before March 16, 2013 and (2) also contains, or contained at any time, a claim to a claimed invention that has an effective filing date on or after March 16, 2013.
NOTE: By providing this statement under 37 CFR 1.55 or 1.78, this application, with a filing date on or after March 16, 2013, will be examined under the first inventor to file provisions of the AIA.

Authorization to Permit Access:

☒ Authorization to Permit Access to the Instant Application by the Participating Offices

PTO/AIA/14 (12-13)
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U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	0679-1001-2
	Application Number	
Title of Invention	METHOD AND DEVICE FOR ACCESSING SOURCES AND SERVICES ON THE WEB	

If checked, the undersigned hereby grants the USPTO authority to provide the European Patent Office (EPO), the Japan Patent Office (JPO), the Korean Intellectual Property Office (KIPO), the World Intellectual Property Office (WIPO), and any other intellectual property offices in which a foreign application claiming priority to the instant patent application is filed access to the instant patent application. See 37 CFR 1.14(c) and (h). This box should not be checked if the applicant does not wish the EPO, JPO, KIPO, WIPO, or other intellectual property office in which a foreign application claiming priority to the instant patent application is filed to have access to the instant patent application.

In accordance with 37 CFR 1.14(h)(3), access will be provided to a copy of the instant patent application with respect to: 1) the instant patent application-as-filed; 2) any foreign application to which the instant patent application claims priority under 35 U.S.C. 119(a)-(d) if a copy of the foreign application that satisfies the certified copy requirement of 37 CFR 1.55 has been filed in the instant patent application; and 3) any U.S. application-as-filed from which benefit is sought in the instant patent application.

In accordance with 37 CFR 1.14(c), access may be provided to information concerning the date o f filing this Authorization.

Applicant Information:

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

Applicant 1

If the applicant is the inventor (or the remaining joint inventor or inventors under 37 CFR 1.45), this section should not be completed. The information to be provided in this section is the name and address of the legal representative who is the applicant under 37 CFR 1.43; or the name and address of the assignee, person to whom the inventor is under an obligation to assign the invention, or person who otherwise shows sufficient proprietary interest in the matter who is the applicant under 37 CFR 1.46. If the applicant is an applicant under 37 CFR 1.46 (assignee, person to whom the inventor is obligated to assign, or person who otherwise shows sufficient proprietary interest) together with one or more joint inventors, then the joint inventor or inventors who are also the applicant should be identified in this section.

Clear

◉ Assignee	○ Legal Representative under 35 U.S.C. 117	○ Joint Inventor
○ Person to whom the inventor is obligated to assign.	○ Person who shows sufficient proprietary interest	

If applicant is the legal representative, indicate the authority to file the patent application, the inventor is:

Name of the Deceased or Legally Incapacitated Inventor :

If the Applicant is an Organization check here. ☐

Prefix	**Given Name**	Middle Name	**Family Name**	Suffix

PTO/AIA/14 (12-13)
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U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	0679-1001-2
	Application Number	
Title of Invention	METHOD AND DEVICE FOR ACCESSING SOURCES AND SERVICES ON THE WEB	

Mailing Address Information For Applicant:			
Address 1			
Address 2			
City		**State/Province**	
Country[i]		Postal Code	
Phone Number		Fax Number	
Email Address			

Additional Applicant Data may be generated within this form by selecting the Add button.

Assignee Information including Non-Applicant Assignee Information:

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

Assignee 1

Complete this section if assignee information, including non-applicant assignee information, is desired to be included on the patent application publication . An assignee-applicant identified in the "Applicant Information" section will appear on the patent application publication as an applicant. For an assignee-applicant, complete this section only if identification as an assignee is also desired on the patent application publication.

If the Assignee or Non-Applicant Assignee is an Organization check here. ☐

Prefix	**Given Name**	Middle Name	**Family Name**	Suffix

Mailing Address Information For Assignee including Non-Applicant Assignee:			
Address 1			
Address 2			
City		**State/Province**	
Country[i]		Postal Code	
Phone Number		Fax Number	
Email Address			

Additional Assignee or Non-Applicant Assignee Data may be generated within this form by selecting the Add button.

PTO/AIA/14 (12-13)
Approved for use through 01/31/2014. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
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Application Data Sheet 37 CFR 1.76	Attorney Docket Number	0679-1001-2
	Application Number	
Title of Invention	METHOD AND DEVICE FOR ACCESSING SOURCES AND SERVICES ON THE WEB	

Signature:

NOTE: This form must be signed in accordance with 37 CFR 1.33. See 37 CFR 1.4 for signature requirements and certifications.					
Signature	/Benoit Castel/			Date (YYYY-MM-DD)	2014-09-18
First Name	Benoit	Last Name	Castel	Registration Number	35041
Additional Signature may be generated within this form by selecting the Add button.					

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

Privacy Act Statement

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

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

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether the Freedom of Information Act requires disclosure of these records.

2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.

3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.

4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).

5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent C o o p eration Treaty.

6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).

7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.

8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspections or an issued patent.

9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

IPR2025-00857
Apple EX1002 Page 275

Electronic Acknowledgement Receipt	
EFS ID:	20173909
Application Number:	14480701
International Application Number:	
Confirmation Number:	9483
Title of Invention:	METHOD AND DEVICE FOR ACCESSING SOURCES AND SERVICES ON THE WEB
First Named Inventor/Applicant Name:	Ferid ALLANI
Customer Number:	466
Filer:	Benoit Castel/Amanda Goode
Filer Authorized By:	Benoit Castel
Attorney Docket Number:	0679-1001-2
Receipt Date:	18-SEP-2014
Filing Date:	09-SEP-2014
Time Stamp:	12:41:48
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Miscellaneous Incoming Letter	CORR_ADS_LTR.pdf	14390 a8dcd7f4b74094a7e6927d99c381d261ebfa3ceb	no	1

Warnings:
Information:

2	Application Data Sheet	CORR_ADS.pdf	1468836 d68af0da0f2b81b77c2da50b7b1f0b7ffa02d8cc	no	7
Warnings:					
Information:					
This is not an USPTO supplied ADS fillable form					
			Total Files Size (in bytes):	1483226	

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

New Applications Under 35 U.S.C. 111
If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

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

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

PATENT
0679-1001-2

IN THE U.S. PATENT AND TRADEMARK OFFICE

In re application of

Ferid ALLANI Conf. 9483

Application No. 14/480,701 Group 2143

Filed September 9, 2014 Examiner

METHOD AND DEVICE FOR ACCESSING SOURCES AND SERVICES ON THE WEB

REQUEST FOR CORRECTED FILING RECEIPT

Assistant Commissioner for Patents September 22, 2014
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

Receipt is acknowledged of the Filing Receipt for Serial No. 14/480,701, filed September 9, 2014, in the names of Ferid ALLANI, in Group 2143.

It is requested that a new Filing Receipt be issued on which the applicant, INSTITUTO MASSONE S.A., is removed. There is no applicant in the above-identified application, as shown by the accompanying originally-filed Application Data Sheet and the Corrected Application Data Sheet filed on September 18, 2014.

Respectfully submitted,

YOUNG & THOMPSON

/Benoit Castel/

Benoit Castel, Reg. No. 35,041
209 Madison Street, Suite 500
Alexandria, VA 22314
Telephone (703) 521-2297
Telefax (703) 685-0573
(703) 979-4709

BC/alg

UNITED STATES PATENT AND TRADEMARK OFFICE

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

APPLICATION NUMBER	FILING or 371(c) DATE	GRP ART UNIT	FIL FEE REC'D	ATTY.DOCKET.NO	TOT CLAIMS	IND CLAIMS
14/480,701	09/09/2014	2143	1330	0679-1001-2	28	4

CONFIRMATION NO. 9483

466
YOUNG & THOMPSON
209 Madison Street
Suite 500
Alexandria, VA 22314

FILING RECEIPT

OC00000007079507

Date Mailed: 09/17/2014

Receipt is acknowledged of this non-provisional patent application. The application will be taken up for examination in due course. Applicant will be notified as to the results of the examination. Any correspondence concerning the application must include the following identification information: the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. **If an error is noted on this Filing Receipt, please submit a written request for a Filing Receipt Correction. Please provide a copy of this Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts" for this application, please submit any corrections to this Filing Receipt with your reply to the Notice. When the USPTO processes the reply to the Notice, the USPTO will generate another Filing Receipt incorporating the requested corrections**

Inventor(s)

Ferid ALLANI, Kelibia, TUNISIA;

Applicant(s)

~~INSTITUTO MASSONE S.A., Residence Not Provided~~

Power of Attorney: None

Domestic Priority data as claimed by applicant

This application is a CON of 13/585,065 08/14/2012
which is a DIV of 10/169,355 11/05/2002 PAT 8271877
which is a 371 of PCT/FR00/03759 11/05/2002

Foreign Applications for which priority is claimed (You may be eligible to benefit from the **Patent Prosecution Highway** program at the USPTO. Please see http://www.uspto.gov for more information.) - None.
Foreign application information must be provided in an Application Data Sheet in order to constitute a claim to foreign priority. See 37 CFR 1.55 and 1.76.

Permission to Access - A proper **Authorization to Permit Access to Application by Participating Offices** (PTO/SB/39 or its equivalent) has been received by the USPTO.

If Required, Foreign Filing License Granted: 09/15/2014
The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is **US 14/480,701**
Projected Publication Date: 12/25/2014
Non-Publication Request: No
Early Publication Request: No

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Apple EX1002 Page 279

** SMALL ENTITY **
Title

METHOD AND DEVICE FOR ACCESSING SOURCES AND SERVICES ON THE WEB

Preliminary Class

715

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

PROTECTING YOUR INVENTION OUTSIDE THE UNITED STATES

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

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

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

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

For information on preventing theft of your intellectual property (patents, trademarks and copyrights), you may wish to consult the U.S. Government website, http://www.stopfakes.gov. Part of a Department of Commerce initiative, this website includes self-help "toolkits" giving innovators guidance on how to protect intellectual property in specific countries such as China, Korea and Mexico. For questions regarding patent enforcement issues, applicants may call the U.S. Government hotline at 1-866-999-HALT (1-866-999-4258).

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Apple EX1002 Page 280

LICENSE FOR FOREIGN FILING UNDER

Title 35, United States Code, Section 184

Title 37, Code of Federal Regulations, 5.11 & 5.15

GRANTED

The applicant has been granted a license under 35 U.S.C. 184, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" followed by a date appears on this form. Such licenses are issued in all applications where the conditions for issuance of a license have been met, regardless of whether or not a license may be required as set forth in 37 CFR 5.15. The scope and limitations of this license are set forth in 37 CFR 5.15(a) unless an earlier license has been issued under 37 CFR 5.15(b). The license is subject to revocation upon written notification. The date indicated is the effective date of the license, unless an earlier license of similar scope has been granted under 37 CFR 5.13 or 5.14.

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

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

NOT GRANTED

No license under 35 U.S.C. 184 has been granted at this time, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" DOES NOT appear on this form. Applicant may still petition for a license under 37 CFR 5.12, if a license is desired before the expiration of 6 months from the filing date of the application. If 6 months has lapsed from the filing date of this application and the licensee has not received any indication of a secrecy order under 35 U.S.C. 181, the licensee may foreign file the application pursuant to 37 CFR 5.15(b).

SelectUSA

The United States represents the largest, most dynamic marketplace in the world and is an unparalleled location for business investment, innovation, and commercialization of new technologies. The U.S. offers tremendous resources and advantages for those who invest and manufacture goods here. Through SelectUSA, our nation works to promote and facilitate business investment. SelectUSA provides information assistance to the international investor community; serves as an ombudsman for existing and potential investors; advocates on behalf of U.S. cities, states, and regions competing for global investment; and counsels U.S. economic development organizations on investment attraction best practices. To learn more about why the United States is the best country in the world to develop technology, manufacture products, deliver services, and grow your business, visit http://www.SelectUSA.gov or call +1-202-482-6800.

PTO/AIA/14 (12-13)
Approved for use through 01/31/2014. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	0679-1001-2
	Application Number	
Title of Invention	METHOD AND DEVICE FOR ACCESSING SOURCES AND SERVICES ON THE WEB	

The application data sheet is part of the provisional or nonprovisional application for which it is being submitted. The following form contains the bibliographic data arranged in a format specified by the United States Patent and Trademark Office as outlined in 37 CFR 1.76.
This document may be completed electronically and submitted to the Office in electronic format using the Electronic Filing System (EFS) or the document may be printed and included in a paper filed application.

Secrecy Order 37 CFR 5.2

☐ Portions or all of the application associated with this Application Data Sheet may fall under a Secrecy Order pursuant to 37 CFR 5.2 (Paper filers only. Applications that fall under Secrecy Order may not be filed electronically.)

Inventor Information:

Inventor 1 Remove

Legal Name

Prefix	Given Name	Middle Name	Family Name	Suffix
	Ferid		ALLANI	

Residence Information (Select One) ○ US Residency ◉ Non US Residency ○ Active US Military Service

City	Kelibia	Country of Residence i	TN

Mailing Address of Inventor:

Address 1	Villa Karma, El Mansourah		
Address 2			
City	Kelibia	**State/Province**	
Postal Code		**Country** i	TN

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

Correspondence Information:

Enter either Customer Number or complete the Correspondence Information section below.
For further information see 37 CFR 1.33(a).

☐ **An Address is being provided for the correspondence Information of this application.**

Customer Number	00466		
Email Address	embon@young-thompson.com	Add Email	Remove Email

Application Information:

Title of the Invention	METHOD AND DEVICE FOR ACCESSING SOURCES AND SERVICES ON THE WEB		
Attorney Docket Number	0679-1001-2	**Small Entity Status Claimed**	☒
Application Type	Nonprovisional		
Subject Matter	Utility		
Total Number of Drawing Sheets (if any)	2	**Suggested Figure for Publication (if any)**	

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U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
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Application Data Sheet 37 CFR 1.76	Attorney Docket Number	0679-1001-2
	Application Number	
Title of Invention	METHOD AND DEVICE FOR ACCESSING SOURCES AND SERVICES ON THE WEB	

Filing By Reference :

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

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

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

Publication Information:

☐ Request Early Publication (Fee required at time of Request 37 CFR 1.219)

☐ **Request Not to Publish.** I hereby request that the attached application not be published under 35 U.S.C. 122(b) and certify that the invention disclosed in the attached application **has not and will not** be the subject of an application filed in another country, or under a multilateral international agreement, that requires publication at eighteen months after filing.

Representative Information:

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

Please Select One:	◉ Customer Number	○ US Patent Practitioner	○ Limited Recognition (37 CFR 11.9)
Customer Number	00466		

Domestic Benefit/National Stage Information:

This section allows for the applicant to either claim benefit under 35 U.S.C. 119(e), 120, 121, or 365(c) or indicate National Stage entry from a PCT application. Providing this information in the application data sheet constitutes the specific reference required by 35 U.S.C. 119(e) or 120, and 37 CFR 1.78.
When referring to the current application, please leave the application number blank.

Prior Application Status	Pending		Remove
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)
	Continuation of	13585065	2012-08-14
Prior Application Status	Patented		Remove

Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)	Patent Number	Issue Date (YYYY-MM-DD)
13585065	Division of	10169355	2002-11-05	8271877	2012-09-18

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Application Data Sheet 37 CFR 1.76	Attorney Docket Number	0679-1001-2
	Application Number	
Title of Invention	METHOD AND DEVICE FOR ACCESSING SOURCES AND SERVICES ON THE WEB	

Prior Application Status	Abandoned		Remove
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)
10169355	a 371 of international	PCT/FR00/03759	2002-11-05
Additional Domestic Benefit/National Stage Data may be generated within this form by selecting the **Add** button.			Add

Foreign Priority Information:

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

			Remove
Application Number	Country [i]	Filing Date (YYYY-MM-DD)	Access Code [i] (if applicable)
9916704	FR	1999-12-30	
Additional Foreign Priority Data may be generated within this form by selecting the **Add** button.			Add

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

☐ This application (1) claims priority to or the benefit of an application filed before March 16, 2013 and (2) also contains, or contained at any time, a claim to a claimed invention that has an effective filing date on or after March 16, 2013.
NOTE: By providing this statement under 37 CFR 1.55 or 1.78, this application, with a filing date on or after March 16, 2013, will be examined under the first inventor to file provisions of the AIA.

Authorization to Permit Access:

☒ Authorization to Permit Access to the Instant Application by the Participating Offices

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Apple EX1002 Page 284

PTO/AIA/14 (12-13)
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U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
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Application Data Sheet 37 CFR 1.76	Attorney Docket Number	0679-1001-2
	Application Number	
Title of Invention	METHOD AND DEVICE FOR ACCESSING SOURCES AND SERVICES ON THE WEB	

If checked, the undersigned hereby grants the USPTO authority to provide the European Patent Office (EPO), the Japan Patent Office (JPO), the Korean Intellectual Property Office (KIPO), the World Intellectual Property Office (WIPO), and any other intellectual property offices in which a foreign application claiming priority to the instant patent application is filed access to the instant patent application. See 37 CFR 1.14(c) and (h). This box should not be checked if the applicant does not wish the EPO, JPO, KIPO, WIPO, or other intellectual property office in which a foreign application claiming priority to the instant patent application is filed to have access to the instant patent application.

In accordance with 37 CFR 1.14(h)(3), access will be provided to a copy of the instant patent application with respect to: 1) the instant patent application-as-filed; 2) any foreign application to which the instant patent application claims priority under 35 U.S.C. 119(a)-(d) if a copy of the foreign application that satisfies the certified copy requirement of 37 CFR 1.55 has been filed in the instant patent application; and 3) any U.S. application-as-filed from which benefit is sought in the instant patent application.

In accordance with 37 CFR 1.14(c), access may be provided to information concerning the date of filing this Authorization.

Applicant Information:

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

Applicant 1 Remove

If the applicant is the inventor (or the remaining joint inventor or inventors under 37 CFR 1.45), this section should not be completed. The information to be provided in this section is the name and address of the legal representative who is the applicant under 37 CFR 1.43; or the name and address of the assignee, person to whom the inventor is under an obligation to assign the invention, or person who otherwise shows sufficient proprietary interest in the matter who is the applicant under 37 CFR 1.46. If the applicant is an applicant under 37 CFR 1.46 (assignee, person to whom the inventor is obligated to assign, or person who otherwise shows sufficient proprietary interest) together with one or more joint inventors, then the joint inventor or inventors who are also the applicant should be identified in this section.

Clear

◉ Assignee	○ Legal Representative under 35 U.S.C. 117	○ Joint Inventor
○ Person to whom the inventor is obligated to assign.	○ Person who shows sufficient proprietary interest	

If applicant is the legal representative, indicate the authority to file the patent application, the inventor is:

Name of the Deceased or Legally Incapacitated Inventor :

If the Applicant is an Organization check here. ☐

Prefix	**Given Name**	Middle Name	**Family Name**	Suffix

PTO/AIA/14 (12-13)
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U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	0679-1001-2
	Application Number	
Title of Invention	METHOD AND DEVICE FOR ACCESSING SOURCES AND SERVICES ON THE WEB	

Mailing Address Information:			
Address 1			
Address 2			
City		**State/Province**	
Country i		Postal Code	
Phone Number		Fax Number	
Email Address			

Additional Applicant Data may be generated within this form by selecting the Add button. Add

Assignee Information including Non-Applicant Assignee Information:

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

Assignee 1

Complete this section if assignee information, including non-applicant assignee information, is desired to be included on the patent application publication . An assignee-applicant identified in the "Applicant Information" section will appear on the patent application publication as an applicant. For an assignee-applicant, complete this section only if identification as an assignee is also desired on the patent application publication.

Remove

If the Assignee or Non-Applicant Assignee is an Organization check here. ☐

Prefix	**Given Name**	Middle Name	**Family Name**	Suffix

Mailing Address Information For Assignee including Non-Applicant Assignee:

Address 1			
Address 2			
City		**State/Province**	
Country i		Postal Code	
Phone Number		Fax Number	
Email Address			

Additional Assignee or Non-Applicant Assignee Data may be generated within this form by selecting the Add button. Add

PTO/AIA/14 (12-13)
Approved for use through 01/31/2014. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	0679-1001-2
	Application Number	
Title of Invention	METHOD AND DEVICE FOR ACCESSING SOURCES AND SERVICES ON THE WEB	

Signature:

Remove

NOTE: This form must be signed in accordance with 37 CFR 1.33. See 37 CFR 1.4 for signature requirements and certifications					
Signature	/Benoit Castel/			Date (YYYY-MM-DD)	2014-09-09
First Name	Benoit	Last Name	Castel	Registration Number	35041
Additional Signature may be generated within this form by selecting the Add button. Add					

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

Privacy Act Statement

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

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

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether the Freedom of Information Act requires disclosure of these records.

2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.

3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.

4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).

5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.

6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).

7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.

8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspections or an issued patent.

9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

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PTO/AIA/14 (12-13)
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Application Data Sheet 37 CFR 1.76	Attorney Docket Number	0679-1001-2
	Application Number	
Title of Invention	METHOD AND DEVICE FOR ACCESSING SOURCES AND SERVICES ON THE WEB	

The application data sheet is part of the provisional or nonprovisional application for which it is being submitted. The following form contains the bibliographic data arranged in a format specified by the United States Patent and Trademark Office as outlined in 37 CFR 1.76.
This document may be completed electronically and submitted to the Office in electronic format using the Electronic Filing System (EFS) or the document may be printed and included in a paper filed application.

Secrecy Order 37 CFR 5.2

☐ Portions or all of the application associated with this Application Data Sheet may fall under a Secrecy Order pursuant to 37 CFR 5.2 (Paper filers only. Applications that fall under Secrecy Order may not be filed electronically.)

Inventor Information:

Inventor 1 Remove

Legal Name

Prefix	Given Name	Middle Name	Family Name	Suffix
	Ferid		ALLANI	

Residence Information (Select One) ○ US Residency ◉ Non US Residency ○ Active US Military Service

City	Kelibia	Country of Residence	TN

Mailing Address of Inventor:

Address 1	Villa Karma, El Mansourah		
Address 2			
City	Kelibia	**State/Province**	
Postal Code		**Country**	TN

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

Correspondence Information:

Enter either Customer Number or complete the Correspondence Information section below.
For further information see 37 CFR 1.33(a).

☐ **An Address is being provided for the correspondence Information of this application.**

Customer Number	00466		
Email Address	embon@young-thompson.com	Add Email	Remove Email

Application Information:

Title of the Invention	METHOD AND DEVICE FOR ACCESSING SOURCES AND SERVICES ON THE WEB		
Attorney Docket Number	0679-1001-2	**Small Entity Status Claimed**	☒
Application Type	Nonprovisional		
Subject Matter	Utility		
Total Number of Drawing Sheets (if any)	2	**Suggested Figure for Publication (if any)**	

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PTO/AIA/14 (12-13)
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U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
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Application Data Sheet 37 CFR 1.76	Attorney Docket Number	0679-1001-2
	Application Number	
Title of Invention	METHOD AND DEVICE FOR ACCESSING SOURCES AND SERVICES ON THE WEB	

Filing By Reference :

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

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

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

Publication Information:

☐ Request Early Publication (Fee required at time of Request 37 CFR 1.219)

☐ **Request Not to Publish.** I hereby request that the attached application not be published under 35 U.S.C. 122(b) and certify that the invention disclosed in the attached application **has not and will not** be the subject of an application filed in another country, or under a multilateral international agreement, that requires publication at eighteen months after filing.

Representative Information:

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

Please Select One:	◉ Customer Number	○ US Patent Practitioner	○ Limited Recognition (37 CFR 11.9)
Customer Number	00466		

Domestic Benefit/National Stage Information:

This section allows for the applicant to either claim benefit under 35 U.S.C. 119(e), 120, 121, or 365(c) or indicate National Stage entry from a PCT application. Providing this information in the application data sheet constitutes the specific reference required by 35 U.S.C. 119(e) or 120, and 37 CFR 1.78.
When referring to the current application, please leave the application number blank.

Prior Application Status	Pending		Remove
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)
	Continuation of	13585065	2012-08-14
Prior Application Status	Patented		Remove

Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)	Patent Number	Issue Date (YYYY-MM-DD)
13585065	Division of	10169355	2002-11-05	8271877	2012-09-18

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PTO/AIA/14 (12-13)
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U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
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Application Data Sheet 37 CFR 1.76	Attorney Docket Number	0679-1001-2
	Application Number	
Title of Invention	METHOD AND DEVICE FOR ACCESSING SOURCES AND SERVICES ON THE WEB	

Prior Application Status	Abandoned		Remove
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)
10169355	a 371 of international	PCT/FR00/03759	~~2002-11-05~~ **2000-12-29**
Additional Domestic Benefit/National Stage Data may be generated within this form by selecting the **Add** button.			

Foreign Priority Information:

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

			Remove
Application Number	Country[1]	Filing Date (YYYY-MM-DD)	Access Code[1] (if applicable)
9916704	FR	1999-12-30	
Additional Foreign Priority Data may be generated within this form by selecting the **Add** button.			

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

☐ This application (1) claims priority to or the benefit of an application filed before March 16, 2013 and (2) also contains, or contained at any time, a claim to a claimed invention that has an effective filing date on or after March 16, 2013.
NOTE: By providing this statement under 37 CFR 1.55 or 1.78, this application, with a filing date on or after March 16, 2013, will be examined under the first inventor to file provisions of the AIA.

Authorization to Permit Access:

☒ Authorization to Permit Access to the Instant Application by the Participating Offices

PTO/AIA/14 (12-13)
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U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
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Application Data Sheet 37 CFR 1.76	Attorney Docket Number	0679-1001-2
	Application Number	
Title of Invention	METHOD AND DEVICE FOR ACCESSING SOURCES AND SERVICES ON THE WEB	

If checked, the undersigned hereby grants the USPTO authority to provide the European Patent Office (EPO), the Japan Patent Office (JPO), the Korean Intellectual Property Office (KIPO), the World Intellectual Property Office (WIPO), and any other intellectual property offices in which a foreign application claiming priority to the instant patent application is filed access to the instant patent application. See 37 CFR 1.14(c) and (h). This box should not be checked if the applicant does not wish the EPO, JPO, KIPO, WIPO, or other intellectual property office in which a foreign application claiming priority to the instant patent application is filed to have access to the instant patent application.

In accordance with 37 CFR 1.14(h)(3), access will be provided to a copy of the instant patent application with respect to: 1) the instant patent application-as-filed; 2) any foreign application to which the instant patent application claims priority under 35 U.S.C. 119(a)-(d) if a copy of the foreign application that satisfies the certified copy requirement of 37 CFR 1.55 has been filed in the instant patent application; and 3) any U.S. application-as-filed from which benefit is sought in the instant patent application.

In accordance with 37 CFR 1.14(c), access may be provided to information concerning the date o f filing this Authorization.

Applicant Information:

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

Applicant 1

If the applicant is the inventor (or the remaining joint inventor or inventors under 37 CFR 1.45), this section should not be completed. The information to be provided in this section is the name and address of the legal representative who is the applicant under 37 CFR 1.43; or the name and address of the assignee, person to whom the inventor is under an obligation to assign the invention, or person who otherwise shows sufficient proprietary interest in the matter who is the applicant under 37 CFR 1.46. If the applicant is an applicant under 37 CFR 1.46 (assignee, person to whom the inventor is obligated to assign, or person who otherwise shows sufficient proprietary interest) together with one or more joint inventors, then the joint inventor or inventors who are also the applicant should be identified in this section.

Clear

◉ Assignee	○ Legal Representative under 35 U.S.C. 117	○ Joint Inventor
○ Person to whom the inventor is obligated to assign.	○ Person who shows sufficient proprietary interest	

If applicant is the legal representative, indicate the authority to file the patent application, the inventor is:

Name of the Deceased or Legally Incapacitated Inventor :

If the Applicant is an Organization check here. ☐

Prefix	Given Name	Middle Name	Family Name	Suffix

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Apple EX1002 Page 292

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Application Data Sheet 37 CFR 1.76	Attorney Docket Number	0679-1001-2
	Application Number	
Title of Invention	METHOD AND DEVICE FOR ACCESSING SOURCES AND SERVICES ON THE WEB	

Mailing Address Information For Applicant:			
Address 1			
Address 2			
City		**State/Province**	
Country		Postal Code	
Phone Number		Fax Number	
Email Address			

Additional Applicant Data may be generated within this form by selecting the Add button.

Assignee Information including Non-Applicant Assignee Information:

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

Assignee 1

Complete this section if assignee information, including non-applicant assignee information, is desired to be included on the patent application publication . An assignee-applicant identified in the "Applicant Information" section will appear on the patent application publication as an applicant. For an assignee-applicant, complete this section only if identification as an assignee is also desired on the patent application publication.

If the Assignee or Non-Applicant Assignee is an Organization check here. ☐

Prefix	**Given Name**	Middle Name	**Family Name**	Suffix

Mailing Address Information For Assignee including Non-Applicant Assignee:			
Address 1			
Address 2			
City		**State/Province**	
Country		Postal Code	
Phone Number		Fax Number	
Email Address			

Additional Assignee or Non-Applicant Assignee Data may be generated within this form by selecting the Add button.

PTO/AIA/14 (12-13)
Approved for use through 01/31/2014. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
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Application Data Sheet 37 CFR 1.76	Attorney Docket Number	0679-1001-2
	Application Number	
Title of Invention	METHOD AND DEVICE FOR ACCESSING SOURCES AND SERVICES ON THE WEB	

Signature:

NOTE: This form must be signed in accordance with 37 CFR 1.33. See 37 CFR 1.4 for signature requirements and certifications.					
Signature	/Benoit Castel/			Date (YYYY-MM-DD)	2014-09-18
First Name	Benoit	Last Name	Castel	Registration Number	35041
Additional Signature may be generated within this form by selecting the Add button.					

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

Privacy Act Statement

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

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

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether the Freedom of Information Act requires disclosure of these records.

2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.

3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.

4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).

5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent C o o p eration Treaty.

6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).

7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.

8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspections or an issued patent.

9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

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Apple EX1002 Page 295

Electronic Acknowledgement Receipt	
EFS ID:	20198685
Application Number:	14480701
International Application Number:	
Confirmation Number:	9483
Title of Invention:	METHOD AND DEVICE FOR ACCESSING SOURCES AND SERVICES ON THE WEB
First Named Inventor/Applicant Name:	Ferid ALLANI
Customer Number:	466
Filer:	Benoit Castel/Amanda Goode
Filer Authorized By:	Benoit Castel
Attorney Docket Number:	0679-1001-2
Receipt Date:	22-SEP-2014
Filing Date:	09-SEP-2014
Time Stamp:	08:47:07
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Request for Corrected Filing Receipt	REQ_FOR_CORR_OFR.pdf	14445 09d612ade93a9ab75fb5ec91190a894ab15481dc	no	1
Warnings:					
Information:					

2	Request for Corrected Filing Receipt	OFR_MARKED_UP.pdf	3959979 2a6fca0bb0f56f6024077308d75f9a3cad717b83	no	3
Warnings:					
Information:					
3	Application Data Sheet	2014-09-09_ADS.pdf	1561310 7d99e74854ffe75eb9f6a546e3ab1c5d29b87618	no	7
Warnings:					
Information:					
4	Application Data Sheet	2014-09-18_CORR_ADS.pdf	1449184 8befd2329bf960bba23939b307b2daee607a7d18	no	7
Warnings:					
Information:					
This is not an USPTO supplied ADS fillable form					
			Total Files Size (in bytes):	6984918	

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

<u>New Applications Under 35 U.S.C. 111</u>
If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

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

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

UNITED STATES PATENT AND TRADEMARK OFFICE

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

APPLICATION NUMBER	FILING or 371(c) DATE	GRP ART UNIT	FIL FEE REC'D	ATTY.DOCKET.NO	TOT CLAIMS	IND CLAIMS
14/480,701	09/09/2014	2172	1330	0679-1001-2	28	4

CONFIRMATION NO. 9483

CORRECTED FILING RECEIPT

466
YOUNG & THOMPSON
209 Madison Street
Suite 500
Alexandria, VA 22314

OC00000070987211

Date Mailed: 09/29/2014

Receipt is acknowledged of this non-provisional patent application. The application will be taken up for examination in due course. Applicant will be notified as to the results of the examination. Any correspondence concerning the application must include the following identification information: the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. **If an error is noted on this Filing Receipt, please submit a written request for a Filing Receipt Correction. Please provide a copy of this Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts" for this application, please submit any corrections to this Filing Receipt with your reply to the Notice. When the USPTO processes the reply to the Notice, the USPTO will generate another Filing Receipt incorporating the requested corrections**

Inventor(s)

Ferid ALLANI, Kelibia, TUNISIA;

Applicant(s)

Ferid ALLANI, Kelibia, TUNISIA;

Power of Attorney: None

Domestic Priority data as claimed by applicant

This application is a CON of 13/585,065 08/14/2012
which is a DIV of 10/169,355 11/05/2002 PAT 8271877
which is a 371 of PCT/FR00/03759 11/05/2002

Foreign Applications for which priority is claimed (You may be eligible to benefit from the **Patent Prosecution Highway** program at the USPTO. Please see http://www.uspto.gov for more information.) - None.
Foreign application information must be provided in an Application Data Sheet in order to constitute a claim to foreign priority. See 37 CFR 1.55 and 1.76.

Permission to Access - A proper **Authorization to Permit Access to Application by Participating Offices** (PTO/SB/39 or its equivalent) has been received by the USPTO.

If Required, Foreign Filing License Granted: 09/15/2014
The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is **US 14/480,701**
Projected Publication Date: 12/25/2014
Non-Publication Request: No
Early Publication Request: No

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Apple EX1002 Page 298

**** SMALL ENTITY ****
Title

METHOD AND DEVICE FOR ACCESSING SOURCES AND SERVICES ON THE WEB

Preliminary Class

715

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

PROTECTING YOUR INVENTION OUTSIDE THE UNITED STATES

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

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

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

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

For information on preventing theft of your intellectual property (patents, trademarks and copyrights), you may wish to consult the U.S. Government website, http://www.stopfakes.gov. Part of a Department of Commerce initiative, this website includes self-help "toolkits" giving innovators guidance on how to protect intellectual property in specific countries such as China, Korea and Mexico. For questions regarding patent enforcement issues, applicants may call the U.S. Government hotline at 1-866-999-HALT (1-866-999-4258).

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Apple EX1002 Page 299

LICENSE FOR FOREIGN FILING UNDER

Title 35, United States Code, Section 184

Title 37, Code of Federal Regulations, 5.11 & 5.15

GRANTED

The applicant has been granted a license under 35 U.S.C. 184, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" followed by a date appears on this form. Such licenses are issued in all applications where the conditions for issuance of a license have been met, regardless of whether or not a license may be required as set forth in 37 CFR 5.15. The scope and limitations of this license are set forth in 37 CFR 5.15(a) unless an earlier license has been issued under 37 CFR 5.15(b). The license is subject to revocation upon written notification. The date indicated is the effective date of the license, unless an earlier license of similar scope has been granted under 37 CFR 5.13 or 5.14.

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

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

NOT GRANTED

No license under 35 U.S.C. 184 has been granted at this time, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" DOES NOT appear on this form. Applicant may still petition for a license under 37 CFR 5.12, if a license is desired before the expiration of 6 months from the filing date of the application. If 6 months has lapsed from the filing date of this application and the licensee has not received any indication of a secrecy order under 35 U.S.C. 181, the licensee may foreign file the application pursuant to 37 CFR 5.15(b).

SelectUSA

The United States represents the largest, most dynamic marketplace in the world and is an unparalleled location for business investment, innovation, and commercialization of new technologies. The U.S. offers tremendous resources and advantages for those who invest and manufacture goods here. Through SelectUSA, our nation works to promote and facilitate business investment. SelectUSA provides information assistance to the international investor community; serves as an ombudsman for existing and potential investors; advocates on behalf of U.S. cities, states, and regions competing for global investment; and counsels U.S. economic development organizations on investment attraction best practices. To learn more about why the United States is the best country in the world to develop technology, manufacture products, deliver services, and grow your business, visit http://www.SelectUSA.gov or call +1-202-482-6800.

PATENT
0679-1001-2

IN THE U.S. PATENT AND TRADEMARK OFFICE

In re application of

Ferid ALLANI Conf. 9483

Application No. 14/480,701 Group 2172

Filed September 9, 2014 Examiner Boris M. PESIN

METHOD AND DEVICE FOR ACCESSING SOURCES AND SERVICES ON THE WEB

SECOND REQUEST FOR CORRECTED FILING RECEIPT

Assistant Commissioner for Patents October 8, 2014
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

Receipt is acknowledged of the Corrected Filing Receipt for Serial No. 14/480,701, filed September 9, 2014, in the name of Ferid ALLANI, in Group 2143.

It is requested that a new Filing Receipt be issued on which the filing date of prior application number PCT/FR00/03759 is correctly given as **December 29, 2000**, as shown by the accompanying originally-filed Application Data Sheet and the Corrected Application Data Sheet filed on September 18, 2014.

Respectfully submitted,

YOUNG & THOMPSON

/Benoit Castel/

Benoit Castel, Reg. No. 35,041
209 Madison Street, Suite 500
Alexandria, VA 22314
Telephone (703) 521-2297
Telefax (703) 685-0573
(703) 979-4709

BC/alg

UNITED STATES PATENT AND TRADEMARK OFFICE

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

APPLICATION NUMBER	FILING or 371(c) DATE	GRP ART UNIT	FIL FEE REC'D	ATTY.DOCKET.NO	TOT CLAIMS	IND CLAIMS
14/480,701	09/09/2014	2172	1330	0679-1001-2	28	4

CONFIRMATION NO. 9483

CORRECTED FILING RECEIPT

466
YOUNG & THOMPSON
209 Madison Street
Suite 500
Alexandria, VA 22314

OC00000070987211

Date Mailed: 09/29/2014

Receipt is acknowledged of this non-provisional patent application. The application will be taken up for examination in due course. Applicant will be notified as to the results of the examination. Any correspondence concerning the application must include the following identification information: the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. **If an error is noted on this Filing Receipt, please submit a written request for a Filing Receipt Correction. Please provide a copy of this Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts" for this application, please submit any corrections to this Filing Receipt with your reply to the Notice. When the USPTO processes the reply to the Notice, the USPTO will generate another Filing Receipt incorporating the requested corrections**

Inventor(s)

Ferid ALLANI, Kelibia, TUNISIA;

Applicant(s)

Ferid ALLANI, Kelibia, TUNISIA;

Power of Attorney: None

Domestic Priority data as claimed by applicant

This application is a CON of 13/585,065 08/14/2012
which is a DIV of 10/169,355 11/05/2002 PAT 8271877
which is a 371 of PCT/FR00/03759 ~~11/05/2002~~ **12/29/2000**

Foreign Applications for which priority is claimed (You may be eligible to benefit from the **Patent Prosecution Highway** program at the USPTO. Please see http://www.uspto.gov for more information.) - None.
Foreign application information must be provided in an Application Data Sheet in order to constitute a claim to foreign priority. See 37 CFR 1.55 and 1.76.

Permission to Access - A proper **Authorization to Permit Access to Application by Participating Offices** (PTO/SB/39 or its equivalent) has been received by the USPTO.

If Required, Foreign Filing License Granted: 09/15/2014
The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is **US 14/480,701**
Projected Publication Date: 12/25/2014
Non-Publication Request: No
Early Publication Request: No

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** SMALL ENTITY **

Title

METHOD AND DEVICE FOR ACCESSING SOURCES AND SERVICES ON THE WEB

Preliminary Class

715

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

PROTECTING YOUR INVENTION OUTSIDE THE UNITED STATES

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

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

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

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

For information on preventing theft of your intellectual property (patents, trademarks and copyrights), you may wish to consult the U.S. Government website, http://www.stopfakes.gov. Part of a Department of Commerce initiative, this website includes self-help "toolkits" giving innovators guidance on how to protect intellectual property in specific countries such as China, Korea and Mexico. For questions regarding patent enforcement issues, applicants may call the U.S. Government hotline at 1-866-999-HALT (1-866-999-4258).

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Apple EX1002 Page 303

LICENSE FOR FOREIGN FILING UNDER

Title 35, United States Code, Section 184

Title 37, Code of Federal Regulations, 5.11 & 5.15

GRANTED

The applicant has been granted a license under 35 U.S.C. 184, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" followed by a date appears on this form. Such licenses are issued in all applications where the conditions for issuance of a license have been met, regardless of whether or not a license may be required as set forth in 37 CFR 5.15. The scope and limitations of this license are set forth in 37 CFR 5.15(a) unless an earlier license has been issued under 37 CFR 5.15(b). The license is subject to revocation upon written notification. The date indicated is the effective date of the license, unless an earlier license of similar scope has been granted under 37 CFR 5.13 or 5.14.

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

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

NOT GRANTED

No license under 35 U.S.C. 184 has been granted at this time, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" DOES NOT appear on this form. Applicant may still petition for a license under 37 CFR 5.12, if a license is desired before the expiration of 6 months from the filing date of the application. If 6 months has lapsed from the filing date of this application and the licensee has not received any indication of a secrecy order under 35 U.S.C. 181, the licensee may foreign file the application pursuant to 37 CFR 5.15(b).

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The United States represents the largest, most dynamic marketplace in the world and is an unparalleled location for business investment, innovation, and commercialization of new technologies. The U.S. offers tremendous resources and advantages for those who invest and manufacture goods here. Through SelectUSA, our nation works to promote and facilitate business investment. SelectUSA provides information assistance to the international investor community; serves as an ombudsman for existing and potential investors; advocates on behalf of U.S. cities, states, and regions competing for global investment; and counsels U.S. economic development organizations on investment attraction best practices. To learn more about why the United States is the best country in the world to develop technology, manufacture products, deliver services, and grow your business, visit http://www.SelectUSA.gov or call +1-202-482-6800.

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U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
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Application Data Sheet 37 CFR 1.76	Attorney Docket Number	0679-1001-2
	Application Number	
Title of Invention	METHOD AND DEVICE FOR ACCESSING SOURCES AND SERVICES ON THE WEB	

The application data sheet is part of the provisional or nonprovisional application for which it is being submitted. The following form contains the bibliographic data arranged in a format specified by the United States Patent and Trademark Office as outlined in 37 CFR 1.76.
This document may be completed electronically and submitted to the Office in electronic format using the Electronic Filing System (EFS) or the document may be printed and included in a paper filed application.

Secrecy Order 37 CFR 5.2

☐ Portions or all of the application associated with this Application Data Sheet may fall under a Secrecy Order pursuant to 37 CFR 5.2 (Paper filers only. Applications that fall under Secrecy Order may not be filed electronically.)

Inventor Information:

Inventor 1 Remove

Legal Name

Prefix	Given Name	Middle Name	Family Name	Suffix
	Ferid		ALLANI	

Residence Information (Select One) ○ US Residency ◉ Non US Residency ○ Active US Military Service

City	Kelibia	Country of Residence	TN

Mailing Address of Inventor:

Address 1	Villa Karma, El Mansourah		
Address 2			
City	Kelibia	**State/Province**	
Postal Code		**Country**	TN

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

Correspondence Information:

Enter either Customer Number or complete the Correspondence Information section below.
For further information see 37 CFR 1.33(a).

☐ **An Address is being provided for the correspondence Information of this application.**

Customer Number	00466		
Email Address	embon@young-thompson.com	Add Email	Remove Email

Application Information:

Title of the Invention	METHOD AND DEVICE FOR ACCESSING SOURCES AND SERVICES ON THE WEB		
Attorney Docket Number	0679-1001-2	**Small Entity Status Claimed**	☒
Application Type	Nonprovisional		
Subject Matter	Utility		
Total Number of Drawing Sheets (if any)	2	**Suggested Figure for Publication (if any)**	

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Apple EX1002 Page 305

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Application Data Sheet 37 CFR 1.76	Attorney Docket Number	0679-1001-2
	Application Number	
Title of Invention	METHOD AND DEVICE FOR ACCESSING SOURCES AND SERVICES ON THE WEB	

Filing By Reference :

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

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

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

Publication Information:

☐ Request Early Publication (Fee required at time of Request 37 CFR 1.219)

☐ **Request Not to Publish.** I hereby request that the attached application not be published under 35 U.S.C. 122(b) and certify that the invention disclosed in the attached application **has not and will not** be the subject of an application filed in another country, or under a multilateral international agreement, that requires publication at eighteen months after filing.

Representative Information:

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

Please Select One:	◉ Customer Number	○ US Patent Practitioner	○ Limited Recognition (37 CFR 11.9)
Customer Number	00466		

Domestic Benefit/National Stage Information:

This section allows for the applicant to either claim benefit under 35 U.S.C. 119(e), 120, 121, or 365(c) or indicate National Stage entry from a PCT application. Providing this information in the application data sheet constitutes the specific reference required by 35 U.S.C. 119(e) or 120, and 37 CFR 1.78.
When referring to the current application, please leave the application number blank.

Prior Application Status	Pending		Remove
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)
	Continuation of	13585065	2012-08-14
Prior Application Status	Patented		Remove

Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)	Patent Number	Issue Date (YYYY-MM-DD)
13585065	Division of	10169355	2002-11-05	8271877	2012-09-18

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Application Data Sheet 37 CFR 1.76	Attorney Docket Number	0679-1001-2
	Application Number	
Title of Invention	METHOD AND DEVICE FOR ACCESSING SOURCES AND SERVICES ON THE WEB	

Prior Application Status	Abandoned		Remove
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)
10169355	a 371 of international	PCT/FR00/03759	~~2002-11-05~~ **2000-12-29**
Additional Domestic Benefit/National Stage Data may be generated within this form by selecting the **Add** button.			

Foreign Priority Information:

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

			Remove
Application Number	Country[1]	Filing Date (YYYY-MM-DD)	Access Code[1] (if applicable)
9916704	FR	1999-12-30	
Additional Foreign Priority Data may be generated within this form by selecting the **Add** button.			

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

☐ This application (1) claims priority to or the benefit of an application filed before March 16, 2013 and (2) also contains, or contained at any time, a claim to a claimed invention that has an effective filing date on or after March 16, 2013.
NOTE: By providing this statement under 37 CFR 1.55 or 1.78, this application, with a filing date on or after March 16, 2013, will be examined under the first inventor to file provisions of the AIA.

Authorization to Permit Access:

☒ Authorization to Permit Access to the Instant Application by the Participating Offices

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Application Data Sheet 37 CFR 1.76	Attorney Docket Number	0679-1001-2
	Application Number	
Title of Invention	METHOD AND DEVICE FOR ACCESSING SOURCES AND SERVICES ON THE WEB	

If checked, the undersigned hereby grants the USPTO authority to provide the European Patent Office (EPO), the Japan Patent Office (JPO), the Korean Intellectual Property Office (KIPO), the World Intellectual Property Office (WIPO), and any other intellectual property offices in which a foreign application claiming priority to the instant patent application is filed access to the instant patent application. See 37 CFR 1.14(c) and (h). This box should not be checked if the applicant does not wish the EPO, JPO, KIPO, WIPO, or other intellectual property office in which a foreign application claiming priority to the instant patent application is filed to have access to the instant patent application.

In accordance with 37 CFR 1.14(h)(3), access will be provided to a copy of the instant patent application with respect to: 1) the instant patent application-as-filed; 2) any foreign application to which the instant patent application claims priority under 35 U.S.C. 119(a)-(d) if a copy of the foreign application that satisfies the certified copy requirement of 37 CFR 1.55 has been filed in the instant patent application; and 3) any U.S. application-as-filed from which benefit is sought in the instant patent application.

In accordance with 37 CFR 1.14(c), access may be provided to information concerning the date o f filing this Authorization.

Applicant Information:

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

Applicant 1

If the applicant is the inventor (or the remaining joint inventor or inventors under 37 CFR 1.45), this section should not be completed. The information to be provided in this section is the name and address of the legal representative who is the applicant under 37 CFR 1.43; or the name and address of the assignee, person to whom the inventor is under an obligation to assign the invention, or person who otherwise shows sufficient proprietary interest in the matter who is the applicant under 37 CFR 1.46. If the applicant is an applicant under 37 CFR 1.46 (assignee, person to whom the inventor is obligated to assign, or person who otherwise shows sufficient proprietary interest) together with one or more joint inventors, then the joint inventor or inventors who are also the applicant should be identified in this section.

Clear

◉ Assignee	○ Legal Representative under 35 U.S.C. 117	○ Joint Inventor
○ Person to whom the inventor is obligated to assign.	○ Person who shows sufficient proprietary interest	

If applicant is the legal representative, indicate the authority to file the patent application, the inventor is:

Name of the Deceased or Legally Incapacitated Inventor :

If the Applicant is an Organization check here. ☐

Prefix	**Given Name**	Middle Name	**Family Name**	Suffix

IPR2025-00857
Apple EX1002 Page 308

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

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	0679-1001-2
	Application Number	
Title of Invention	METHOD AND DEVICE FOR ACCESSING SOURCES AND SERVICES ON THE WEB	

Mailing Address Information For Applicant:			
Address 1			
Address 2			
City		**State/Province**	
Country		Postal Code	
Phone Number		Fax Number	
Email Address			

Additional Applicant Data may be generated within this form by selecting the Add button.

Assignee Information including Non-Applicant Assignee Information:

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

Assignee 1

Complete this section if assignee information, including non-applicant assignee information, is desired to be included on the patent application publication . An assignee-applicant identified in the "Applicant Information" section will appear on the patent application publication as an applicant. For an assignee-applicant, complete this section only if identification as an assignee is also desired on the patent application publication.

If the Assignee or Non-Applicant Assignee is an Organization check here. ☐

Prefix	**Given Name**	Middle Name	**Family Name**	Suffix

Mailing Address Information For Assignee including Non-Applicant Assignee:			
Address 1			
Address 2			
City		**State/Province**	
Country		Postal Code	
Phone Number		Fax Number	
Email Address			

Additional Assignee or Non-Applicant Assignee Data may be generated within this form by selecting the Add button.

PTO/AIA/14 (12-13)
Approved for use through 01/31/2014. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	0679-1001-2
	Application Number	
Title of Invention	METHOD AND DEVICE FOR ACCESSING SOURCES AND SERVICES ON THE WEB	

Signature:

NOTE: This form must be signed in accordance with 37 CFR 1.33. See 37 CFR 1.4 for signature requirements and certifications.					
Signature	/Benoit Castel/			Date (YYYY-MM-DD)	2014-09-18
First Name	Benoit	Last Name	Castel	Registration Number	35041
Additional Signature may be generated within this form by selecting the Add button.					

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

Privacy Act Statement

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

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

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether the Freedom of Information Act requires disclosure of these records.

2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.

3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.

4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).

5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent C o o p eration Treaty.

6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).

7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.

8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspections or an issued patent.

9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

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Apple EX1002 Page 311

Electronic Acknowledgement Receipt	
EFS ID:	20356992
Application Number:	14480701
International Application Number:	
Confirmation Number:	9483
Title of Invention:	METHOD AND DEVICE FOR ACCESSING SOURCES AND SERVICES ON THE WEB
First Named Inventor/Applicant Name:	Ferid ALLANI
Customer Number:	466
Filer:	Benoit Castel/Amanda Goode
Filer Authorized By:	Benoit Castel
Attorney Docket Number:	0679-1001-2
Receipt Date:	08-OCT-2014
Filing Date:	09-SEP-2014
Time Stamp:	07:37:06
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Request for Corrected Filing Receipt	SECOND_REQ_FOR_CORR_OFR.pdf	15727 776d3688e4cce8b09eb242581f13784ddcf390f5	no	1

Warnings:
Information:

2	Request for Corrected Filing Receipt	OFR_MARKED_UP.pdf	430490 332db28bac08904404d0b563ffa938b6696e1999	no	3
Warnings:					
Information:					
3	Application Data Sheet	2014-09-18_CORR_ADS.pdf	1449185 009ea090025246635f8ceab85b7cad086a200504	no	7
Warnings:					
Information:					
This is not an USPTO supplied ADS fillable form					
		Total Files Size (in bytes):	1895402		

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

<u>New Applications Under 35 U.S.C. 111</u>
If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

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

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

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APPLICATION NUMBER	FILING or 371(c) DATE	GRP ART UNIT	FIL FEE REC'D	ATTY.DOCKET.NO	TOT CLAIMS	IND CLAIMS
14/480,701	09/09/2014	2172	1330	0679-1001-2	28	4

CONFIRMATION NO. 9483

CORRECTED FILING RECEIPT

466
YOUNG & THOMPSON
209 Madison Street
Suite 500
Alexandria, VA 22314

OC000000071286565

Date Mailed: 10/23/2014

Receipt is acknowledged of this non-provisional patent application. The application will be taken up for examination in due course. Applicant will be notified as to the results of the examination. Any correspondence concerning the application must include the following identification information: the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. **If an error is noted on this Filing Receipt, please submit a written request for a Filing Receipt Correction. Please provide a copy of this Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts" for this application, please submit any corrections to this Filing Receipt with your reply to the Notice. When the USPTO processes the reply to the Notice, the USPTO will generate another Filing Receipt incorporating the requested corrections**

Inventor(s)

Ferid ALLANI, Kelibia, TUNISIA;

Applicant(s)

Ferid ALLANI, Kelibia, TUNISIA;

Power of Attorney: None

Domestic Priority data as claimed by applicant

This application is a CON of 13/585,065 08/14/2012
which is a DIV of 10/169,355 11/05/2002 PAT 8271877
which is a 371 of PCT/FR00/03759 12/29/2000

Foreign Applications for which priority is claimed (You may be eligible to benefit from the **Patent Prosecution Highway** program at the USPTO. Please see http://www.uspto.gov for more information.) - None.
Foreign application information must be provided in an Application Data Sheet in order to constitute a claim to foreign priority. See 37 CFR 1.55 and 1.76.

Permission to Access - A proper **Authorization to Permit Access to Application by Participating Offices** (PTO/SB/39 or its equivalent) has been received by the USPTO.

If Required, Foreign Filing License Granted: 09/15/2014
The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is **US 14/480,701**
Projected Publication Date: 01/15/2015
Non-Publication Request: No
Early Publication Request: No

IPR2025-00857
Apple EX1002 Page 314

** SMALL ENTITY **

Title

METHOD AND DEVICE FOR ACCESSING SOURCES AND SERVICES ON THE WEB

Preliminary Class

715

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

PROTECTING YOUR INVENTION OUTSIDE THE UNITED STATES

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

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

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

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

For information on preventing theft of your intellectual property (patents, trademarks and copyrights), you may wish to consult the U.S. Government website, http://www.stopfakes.gov. Part of a Department of Commerce initiative, this website includes self-help "toolkits" giving innovators guidance on how to protect intellectual property in specific countries such as China, Korea and Mexico. For questions regarding patent enforcement issues, applicants may call the U.S. Government hotline at 1-866-999-HALT (1-866-999-4258).

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Apple EX1002 Page 315

LICENSE FOR FOREIGN FILING UNDER

Title 35, United States Code, Section 184

Title 37, Code of Federal Regulations, 5.11 & 5.15

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NOT GRANTED

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The United States represents the largest, most dynamic marketplace in the world and is an unparalleled location for business investment, innovation, and commercialization of new technologies. The U.S. offers tremendous resources and advantages for those who invest and manufacture goods here. Through SelectUSA, our nation works to promote and facilitate business investment. SelectUSA provides information assistance to the international investor community; serves as an ombudsman for existing and potential investors; advocates on behalf of U.S. cities, states, and regions competing for global investment; and counsels U.S. economic development organizations on investment attraction best practices. To learn more about why the United States is the best country in the world to develop technology, manufacture products, deliver services, and grow your business, visit http://www.SelectUSA.gov or call +1-202-482-6800.

Mail Stop Missing Parts
PATENT
0679-1001-2

IN THE U.S. PATENT AND TRADEMARK OFFICE

In re application of

Attn: Appln. Processing Div.
Special Processing and
Correspondence Branch

Ferid ALLANI

Conf. 9483

Application No. 14/480,701

Group 2172

Filed September 9, 2014

Examiner Boris M. PESIN

METHOD AND DEVICE FOR ACCESSING SOURCES AND SERVICES ON THE WEB

SUBMISSION OF DECLARATION

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

January 2, 2015

Sir:

We enclose herewith the executed declaration which was omitted at the time of filing the above-captioned application.

The surcharge - late filing fee under 37 CFR 1.16(f) was paid at the time of filing the application.

The Commissioner is hereby authorized in this, concurrent, and future submissions to charge any additional fees(s) or underpayment of fee(s) under 37 C.F.R. §§ 1.16 and 1.17 or credit any overpayment of fee(s) to Deposit Account No. 25-0120.

Respectfully submitted,

YOUNG & THOMPSON

/Benoît Castel/

Benoît Castel, Reg. No. 35,041
Customer No. 00466
209 Madison Street, Suite 500
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Telephone (703) 521-2297
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BC/alg

Y&T Form D (form PTO/AIA/01 equivalent)
Attorney Docket No. 0679-1001-2

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

Title of Invention:	METHOD AND DEVICE FOR ACCESSING INFORMATION SOURCES AND SERVICES ON THE WEB

As the below named inventor, I hereby declare that:

This declaration is directed to:

☒ The attached application, or
☐ United States application or PCT international application No. _____ filed on _____

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

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

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

The undersigned hereby authorizes the U.S. attorney or agent named herein to accept and follow instructions from ALL NEas to any action to be taken in the U.S. Patent and Trademark Office regarding this application without direct communication between the U.S. attorney or agent and the undersigned. In the event of a change in the persons from whom instructions may be taken, the U.S. attorney or agent named herein will be so notified by the undersigned.

As a named inventor, I hereby appoint the registered patent attorneys or agents represented by Customer No. **00466** to prosecute this application and transact all business in the Patent and Trademark Office connected therewith.

c/o YOUNG & THOMPSON
209 Madison Street, Suite 500
Alexandria, VA 22314

Customer Number
00466

Address all telephone calls to Young & Thompson at 703-521-2297. Facsimile: 703-685-0573.

Legal Name of Inventor: **Ferid ALLANI**

Inventor's signature: _____ Date

Legal Name of Inventor: _____

Inventor's signature: _____ Date

Legal Name of Inventor: _____

Inventor's signature: _____ Date

Legal Name of Inventor: _____

Inventor's signature: _____ Date

Electronic Acknowledgement Receipt	
EFS ID:	21105058
Application Number:	14480701
International Application Number:	
Confirmation Number:	9483
Title of Invention:	METHOD AND DEVICE FOR ACCESSING SOURCES AND SERVICES ON THE WEB
First Named Inventor/Applicant Name:	Ferid ALLANI
Customer Number:	466
Filer:	Benoit Castel/Amanda Goode
Filer Authorized By:	Benoit Castel
Attorney Docket Number:	0679-1001-2
Receipt Date:	02-JAN-2015
Filing Date:	09-SEP-2014
Time Stamp:	11:00:22
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Miscellaneous Incoming Letter	SUBM_OF_DECL.pdf	16774 3f15977c5dbb2204bde6773f0f7e60e48bfe7f49	no	1

Warnings:
Information:

2	Oath or Declaration filed	DECL.pdf	129547 dcd992da1eb58a2f5af8173304d78a5252385f52	no	1
Warnings:					
Information:					
			Total Files Size (in bytes):	146321	

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New Applications Under 35 U.S.C. 111
If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

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

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

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APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
14/480,701	09/09/2014	Ferid ALLANI	0679-1001-2

CONFIRMATION NO. 9483

466
YOUNG & THOMPSON
209 Madison Street
Suite 500
Alexandria, VA 22314

PUBLICATION NOTICE



Title:METHOD AND DEVICE FOR ACCESSING SOURCES AND SERVICES ON THE WEB

Publication No.US-2015-0020005-A1
Publication Date:01/15/2015

NOTICE OF PUBLICATION OF APPLICATION

The above-identified application will be electronically published as a patent application publication pursuant to 37 CFR 1.211, et seq. The patent application publication number and publication date are set forth above.

The publication may be accessed through the USPTO's publically available Searchable Databases via the Internet at www.uspto.gov. The direct link to access the publication is currently http://www.uspto.gov/patft/.

The publication process established by the Office does not provide for mailing a copy of the publication to applicant. A copy of the publication may be obtained from the Office upon payment of the appropriate fee set forth in 37 CFR 1.19(a)(1). Orders for copies of patent application publications are handled by the USPTO's Office of Public Records. The Office of Public Records can be reached by telephone at (703) 308-9726 or (800) 972-6382, by facsimile at (703) 305-8759, by mail addressed to the United States Patent and Trademark Office, Office of Public Records, Alexandria, VA 22313-1450 or via the Internet.

In addition, information on the status of the application, including the mailing date of Office actions and the dates of receipt of correspondence filed in the Office, may also be accessed via the Internet through the Patent Electronic Business Center at www.uspto.gov using the public side of the Patent Application Information and Retrieval (PAIR) system. The direct link to access this status information is currently http://pair.uspto.gov/. Prior to publication, such status information is confidential and may only be obtained by applicant using the private side of PAIR.

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Office of Data Managment, Application Assistance Unit (571) 272-4000, or (571) 272-4200, or 1-888-786-0101

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
14/480,701	09/09/2014	Ferid ALLANI	0679-1001-2	9483

466 7590 09/08/2016

YOUNG & THOMPSON
209 Madison Street
Suite 500
Alexandria, VA 22314

EXAMINER	
MUHEBBULLAH, SAJEDA	

ART UNIT	PAPER NUMBER
2141	

NOTIFICATION DATE	DELIVERY MODE
09/08/2016	ELECTRONIC

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

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

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

DocketingDept@young-thompson.com
yandtpair@firsttofile.com

Office Action Summary	Application No. 14/480,701	Applicant(s) ALLANI, FERID	
	Examiner SAJEDA MUHEBBULLAH	Art Unit 2141	AIA (First Inventor to File) Status No

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

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTHS FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *09/09/2014*.

☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on _____; the restriction requirement and election have been incorporated into this action.

4)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims*

5)☒ Claim(s) *1-28* is/are pending in the application.

5a) Of the above claim(s) _____ is/are withdrawn from consideration.

6)☐ Claim(s) _____ is/are allowed.

7)☒ Claim(s) *1-28* is/are rejected.

8)☐ Claim(s) _____ is/are objected to.

9)☐ Claim(s) _____ are subject to restriction and/or election requirement.

* If any claims have been determined allowable, you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see http://www.uspto.gov/patents/init_events/pph/index.jsp or send an inquiry to PPHfeedback@uspto.gov.

Application Papers

10)☐ The specification is objected to by the Examiner.

11)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

Priority under 35 U.S.C. § 119

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

Certified copies:

a)☐ All b)☐ Some** c)☐ None of the:

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

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

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

** See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☒ Information Disclosure Statement(s) (PTO/SB/08a and/or PTO/SB/08b) Paper No(s)/Mail Date *9/9/14*.

3) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

4) ☐ Other: _____.

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DETAILED ACTION

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

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1-2, 4, 6-12, 14-15 and 17-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Iki et al. ("Iki", US 6,816,172) in view of Fair (US 6,628,307).

As per claim 1, Iki teaches an apparatus for accessing information- or service-providing Web sites, comprising a communication device connectable through a communication network to the Internet (col.5, lines 6-40), control and processing device or devices (col.2, lines 57-64; col.3, lines 35-40), data storage device or devices (col.2, lines 57-64), and a display (col.4, lines 15-19), said storage device or devices containing a set of icons including at least one of a direct access icon for directly accessing remote sources of information (col.6, lines 18-20; col.7, line 62-col.8, line 7; col.5, lines 48-55, URLs) and wherein the control and processing device or devices are programmed for: enabling a preliminary search locally performed within said communication device (col.8, line 63-col.9, line 3), and emitting on the communication network, in response to selection of a direct access icon in a selection page being currently displayed, an address of an information- or service-providing Web site corresponding to said selected direct

access icon, said address being locally generated during the preliminary search and selection (col.6, lines 14-20; col.7, lines 2-4).

However, Iki does not teach said storage device containing a plurality of selection pages within a tree menu structure, said selection pages being beforehand locally stored in said data storage device or devices, a selection icon for locally accessing another selection page within said tree menu structure, wherein said plurality of selection pages includes: a first selection page, a second selection page and a third selection page, said first selection page comprising a selection icon for locally accessing said second selection page, said second selection page comprising a selection icon for locally accessing said third selection page, said third selection page comprising one or more direct access icons for directly accessing an information- or service-providing Web site, at least one selection page further comprising two or more direct access icons, at least one selection page further comprising one or more icons for directly accessing a search engine on the Web, and enabling a search performed in different themes and sub themes within said plurality of selection pages.

Fair teaches an apparatus for selection of hierarchically organized pages stored locally containing selectable icons linking to additional pages and websites wherein pages may be accessed locally without having to connect to the website (Fair, col.4, lines 20-25, *hierarchy of selection pages*; col.5, lines 6-14, *pages locally stored*; col.6, lines 4-6, 50-54, *direct icons and icons to other pages*; col.7, lines 4-11, 50-59), page comprising an icon to access a search engine (Fair, col.8, lines 20-41, *vehicle icons 170,172,174*) and pages organized by theme to access remotely located data (Fair, col.4, lines 29-37, *grocery theme icon accesses remotely located grocery related data;* col.6, lines 48-61, *bank theme icon accesses remotely located bank related*

data). It would have been obvious to one of ordinary skill in the art to include Fair's teaching with Iki's device in order to save access time (Fair, col.1, line 61-col.2, line 20).

As per claim 2, the apparatus of Iki and Fair teaches the apparatus according to claim 1, characterized in that the direct access icons comprise icons for accessing commercial sites (Iki, col.7, lines 57-61).

As per claim 4, the apparatus of Iki and Fair teaches the apparatus according to claim 1, wherein said at least one selection page comprising two or more direct access icons comprises direct access icons corresponding to distinct sources of information or services (Iki, col.7, lines 34-61).

As per claim 6, the apparatus of Iki and Fair teaches the apparatus according to claim 1, wherein a page from a Web site is displayed on said display in response to selecting a direct access icon (Fair, col.4, lines 29-37, col.6, lines 4-6, 48-61).

As per claim 7, the apparatus of Iki and Fair teaches the apparatus according to claim 1, wherein at least one of the selection pages includes both at least one direct access icon (Iki, col.6, lines 18-20) and at least one selection icon (Iki, col.8, lines 37-51).

As per claim 8, the apparatus of Iki and Fair teaches the apparatus according to claim 1, wherein said control and processing device or devices are configured to receive, from a server, data for updating information associated with at least one of a selection page, a direct access icon and a selection icon (Fair, col.6, lines 6-13).

As per claim 9, the apparatus of Iki and Fair teaches the apparatus according to claim 8, wherein said updating information is received periodically (Fair, col.6, lines 6-13).

As per claim 10, the apparatus of Iki and Fair teaches the apparatus according to claim 9, wherein said updating information is received on demand (Fair, col.6, lines 2-10).

As per claim 11, the apparatus of Iki and Fair teaches the apparatus according to claim 1, wherein the second selection page displays information corresponding to a sub-category of the first selection page (Iki, col.8, lines 19-51).

As per claim 12, the apparatus of Iki and Fair teaches the apparatus according to claim 1, wherein said control and processing device or devices are configured to receive information from the information- or service-providing Web site corresponding to said selected direct access icon via the communication network (Iki, col.6, lines 14-20; col.7, lines 2-4).

As per claim 14, the apparatus of Iki and Fair teaches the apparatus according to claim 1, wherein selection of a direct access icon in a selection page being displayed comprises clicking on said icon (Fair, col.4, lines 8-14).

As per claim 15, the apparatus of Iki and Fair teaches the apparatus according to claim 1, wherein said selection pages stored in said data storage device or devices are downloaded thereto (Fair, col.6, lines 1-22).

As per claim 17, the apparatus of Iki and Fair teaches the apparatus according to claim 1, wherein said selection pages operate as rolling menus (Fair, col.4, lines 20-28).

As per claim 18, the apparatus of Iki and Fair teaches the apparatus according to claim 1, wherein at least one of the selection pages is a trunk of the tree menu structure (Fair, col.6, lines 48-61).

As per claim 19, the apparatus of Iki and Fair teaches the apparatus according to claim 1, wherein the control and processing device or devices are configured to command a request-

answer sequence characterized in that the request comprises the address of the information- or service-providing Web site, and wherein the request-answer sequence is preceded by a locally implemented selection of themes and sub-themes (Fair, col.4, lines 29-37, *grocery theme icon accesses remotely located grocery related data;* col.6, lines 1-4, 48-61, *bank theme icon accesses remotely located bank related data*).

As per claim 20, the apparatus of Iki and Fair teaches the apparatus according to claim 1, wherein the icons comprise logotypes, graphic marks or semi-graphic marks (Iki, Fig.5, col.7, lines 24-30).

As per claim 21, the apparatus of Iki and Fair teaches the apparatus according to claim 1, wherein the icons comprise textual elements (Iki, col.7, lines 24-30).

As per claim 22, Iki teaches a communication device connectable to remote sources of information or services through a communication network (col.5, lines 6-40), the communication device comprising a display (col.4, lines 15-19), data storage (col.2, lines 57-64), a processor (col.3, lines 35-40), a controller (col.2, lines 57-64) and at least one direct access icon capable of being selectively activated to connect said communication device to a predetermined one of said remote sources of information or services (col.6, lines 18-20; col.7, line 62-col.8, line 7; col.5, lines 48-55, URLs).

However, Iki does not teach a plurality of pages locally stored in said data storage and displayable on said display, wherein a first one of said locally stored pages includes at least one selection icon capable of being selectively activated to display a second one of said locally stored pages on said display and at least one second selection icon capable of being selectively activated to display a third one of said locally stored pages on said display and, wherein at least

one of said first, second and third locally stored pages further includes at least one icon for directly accessing a search engine for permitting a user to control searches on the Web.

Fair teaches an apparatus for selection of hierarchically organized pages stored locally containing selectable icons linking to additional pages and websites wherein pages may be accessed locally without having to connect to the website (Fair, col.4, lines 20-25, *hierarchy of selection pages*; col.5, lines 6-14, *pages locally stored*; col.6, lines 4-6, 50-54, *direct icons and icons to other pages*; col.7, lines 4-11, 50-59), page comprising an icon to access a search engine (Fair, col.8, lines 20-41, *vehicle icons 170,172,174*) and pages organized to access remotely located data (Fair, col.4, lines 29-37, *grocery theme icon accesses remotely located grocery related data;* col.6, lines 48-61, *bank theme icon accesses remotely located bank related data*). It would have been obvious to one of ordinary skill in the art to include Fair's teaching with Iki's device in order to save access time (Fair, col.1, line 61-col.2, line 20).

As per claim 23, the device of Iki and Fair teaches the communication device according to claim 22, characterized in that said selection pages are locally stored in the data storage beforehand (Fair, col.5, lines 6-14, *pages locally stored*).

As per claim 24, the device of Iki and Fair teaches the communication device according to claim 22, wherein said selection pages stored in said data storage are organized in a tree menu structure (Fair, col.4, lines 20-25, *hierarchy of selection pages).*

4. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Iki et al. ("Iki", US 6,816,172) and Fair (US 6,628,307) in view of Schagen et al. ("Schagen", US 6,702,492).

As per claim 3, the apparatus of Iki and Fair teaches the apparatus according to claim 1, characterized in that the control and processing device or devices are arranged for receiving, data for updating selection pages, and for processing said updating data so that new selection pages are stored in the data storage device or devices (Fair, col.6, lines 6-10). However, the apparatus does not teach updating by downloading from a management server. Schagen teaches an apparatus for searching data from local and remote sources of information that are hierarchically organized wherein updating is achieved from a central server (Schagen, col.9, lines 37-42). It would have been obvious to one of ordinary skill in the art at the time of the invention to include Schagen's teaching with the apparatus of Iki and Fair for central management of updates (Schagen, col.3, lines 42-44).

5. Claims 5, 16 and 25-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Iki et al. ("Iki", US 6,816,172) and Fair (US 6,628,307) in view of Burns (US 2004/0019610).

As per claim 5, the apparatus of Iki and Fair teaches the apparatus according to claim 1, however does not teach the apparatus implemented in a mobile phone. Burns teaches an apparatus for organizing information from various sources wherein the apparatus may be a mobile phone (Burns, para.27-28). It would have been obvious to one of ordinary skill in the art at the time of the invention to include Burns' teaching with the apparatus of Iki and Fair for allowing portability (Burns, para.27-28).

As per claim 16, the apparatus of Iki and Fair teaches the apparatus according to claim 1, wherein said selection pages stored in said data storage device or devices are downloaded (Fair, col.6, lines 1-22) however does not teach downloaded over a mobile connection. Burns teaches an apparatus for organizing information from various sources wherein the apparatus may consist of a mobile connection (Burns, para.27-28). It would have been obvious to one of ordinary skill in the art at the time of the invention to include Burns' teaching with the apparatus of Iki and Fair for allowing portability (Burns, para.27-28).

As per claim 25, Iki teaches a communication device connectable to remote sources of information or services through a communication network (col.5, lines 6-40), the communication device comprising a display (col.4, lines 15-19), data storage (col.2, lines 57-64), a processor (col.3, lines 35-40), a controller (col.2, lines 57-64) and at least one direct access icon capable of being selectively activated to connect said communication device to a predetermined one of said remote sources of information or services (col.6, lines 18-20; col.7, line 62-col.8, line 7; col.5, lines 48-55, URLs) and at least one second direct access icon capable of being selectively activated to connect said mobile communication device to a second predetermined one of said remote sources of information or services (col.6, lines 18-20; col.7, line 62-col.8, line 7; col.5, lines 48-55, URLs), and wherein said third one of said locally stored pages includes at least one third direct access icon capable of being selectively activated to connect said mobile communication device to a third predetermined one of said remote sources of information or services (col.6, lines 18-20; col.7, line 62-col.8, line 7; col.5, lines 48-55, URLs).

However, Iki does not teach a mobile communication device, a plurality of pages locally stored in said data storage and displayable on said display, wherein a first one of said locally

stored pages includes at least one selection icon capable of being selectively activated to display a second one of said locally stored pages on said display and at least one second selection icon capable of being selectively activated to display a third one of said locally stored pages on said display and at least one third selection icon capable of being selectively activated to display a fourth one of said locally stored pages on said display.

Fair teaches a device for selection of hierarchically organized pages stored locally containing selectable icons linking to additional pages and websites wherein pages may be accessed locally without having to connect to the website (Fair, col.4, lines 20-25, *hierarchy of selection pages*; col.5, lines 6-14, *pages locally stored*; col.6, lines 4-6, 50-54, *direct icons and icons to other pages*; col.7, lines 4-11, 50-59) and pages organized to access remotely located data (Fair, col.4, lines 29-37, *grocery theme icon accesses remotely located grocery related data;* col.6, lines 48-61, *bank theme icon accesses remotely located bank related data*). It would have been obvious to one of ordinary skill in the art to include Fair's teaching with Iki's device in order to save access time (Fair, col.1, line 61-col.2, line 20).

Furthermore, the device of Iki and Fair does not teach the device implemented in a mobile phone. Burns teaches a device for organizing information from various sources wherein the device may be a mobile phone (Burns, para.27-28). It would have been obvious to one of ordinary skill in the art at the time of the invention to include Burns' teaching with the device of Iki and Fair for allowing portability (Burns, para.27-28).

As per claim 26, the device of Iki, Fair and Burns teaches the mobile communication device according to claim 25, wherein at least one of the selection pages further comprises one or

more icons for directly accessing a search engine on the Web (Fair, col.8, lines 20-41, *vehicle icons 170,172,174*).

As per claim 27, the device of Iki, Fair and Burns teaches the mobile communication device according to claim 25, wherein selective activation of a direct access icon comprises emitting, on the communication network, an address of the first, second or third predetermined one of said remote sources (Iki, col.6, lines 14-20; col.7, lines 2-4).

Claim 28 is similar in scope to claim 5, and is therefore rejected under similar rationale.

6. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Iki et al. ("Iki", US 6,816,172) and Fair (US 6,628,307) in view of Rush et al. ("Rush", US 7,131,069).

As per claim 13, the apparatus of Iki and Fair teaches the apparatus according to claim 1, wherein icons present graphic features, however, the apparatus does not teach the selection icons to be distinctive from those of the direct access icons. Rush teaches an apparatus for organizing information wherein the apparatus distinguishes icons according to the node type (Rush, col.23, lines 4-15). It would have been obvious to one of ordinary skill in the art at the time of the invention to include Rush's teaching with the apparatus of Iki and Fair in order to quickly distinguish the type of node (Rush, col.23, lines 4-15).

Communications

Any inquiry concerning this communication or earlier communications from the examiner should be directed to SAJEDA MUHEBBULLAH whose telephone number is (571)272-4065. The examiner can normally be reached on Mon-Thur 8am-4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amy Ng can be reached on 571-270-1698. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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/S. M./
Sajeda Muhebbullah
Examiner, Art Unit 2141

/NICHOLAS AUGUSTINE/
Primary Examiner, Art Unit 2141

Notice of References Cited	Application/Control No. 14/480,701	Applicant(s)/Patent Under Reexamination ALLANI, FERID	
	Examiner SAJEDA MUHEBBULLAH	Art Unit 2141	Page 1 of 1

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	CPC Classification	US Classification
*	A	US-6,816,172 B1	11-2004	Iki; Jean M.	G06F3/0481	348/E5.105
*	B	US-6,628,307 B1	09-2003	Fair; Ronald J.	G06F17/30873	707/E17.111
*	C	US-7,131,069 B1	10-2006	Rush; Gary W.	G06F3/0482	715/738
*	D	US-2004/0019610 A1	01-2004	Burns, Kevin S.	G06F17/212	1/1
*	E	US-6,072,492 A	06-2000	Schagen; Cornelis M.	G06F17/30994	707/E17.142
*	F	US-6,665,687 B1	12-2003	Burke; Alexander James	G06F17/30864	1/1
*	G	US-6,516,329 B1	02-2003	Smith; Kim C.	G06F17/30699	707/999.003
	H	US-				
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Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
	14480701	ALLANI, FERID
	Examiner	Art Unit
	SAJEDA MUHEBBULLAH	2141

CPC- SEARCHED		
Symbol	Date	Examiner
G06F 3/0483	9/1/2016	SM
G06F 3/04817	9/1/2016	SM
G06F 17/30873	9/1/2016	SM
G06F 17/30876	9/1/2016	SM
G06F 17/30994	9/1/2016	SM
G06F 17/3089	9/1/2016	SM
G06F 17/30893	9/1/2016	SM
G06F 17/30896	9/1/2016	SM
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US CLASSIFICATION SEARCHED			
Class	Subclass	Date	Examiner

SEARCH NOTES		
Search Notes	Date	Examiner
EAST text search included (USPAT & USPGPUB)	9/1/2016	SM

INTERFERENCE SEARCH			
US Class/ CPC Symbol	US Subclass / CPC Group	Date	Examiner

Doc code: IDS
Doc description: Information Disclosure Statement (IDS) Filed

PTO/SB/08a (01-10)
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INFORMATION DISCLOSURE STATEMENT BY APPLICANT (**Not for submission under 37 CFR 1.99)**		
	Application Number	
	Filing Date	2014-09-09
	First Named Inventor	Ferid ALLANI
	Art Unit	
	Examiner Name	
	Attorney Docket Number	0679-1001-2

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Examiner Initial*	Cite No	Patent Number	Kind Code[1]	Issue Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1	6628307		2003-09-30	FAIR	
	2	7143055		2006-11-28	PERKOWSKI	
	3	5959945		1999-09-28	KLEIMAN	
	4	5933827		1999-08-03	COLE et al.	
	5	6587835		2003-07-01	TREYZ et al.	
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	7	6072492		2000-06-06	SCHAGEN et al.	
	8	6816172		2004-11-09	IKI et al.	

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /S.M./

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	10	6456303		2002-09-24	WALDEN et al.	
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	1	20010014868		2001-08-16	HERZ et al.	

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	Art Unit	
	Examiner Name	
	Attorney Docket Number	0679-1001-2

	2	20040019610		2004-01-29	BURNS	
	3	20020089534		2002-07-11	SIEKMANN	

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	1	11-259496	JP		1999-09-24			☐
	2	0847019	JP		1998-06-10			☐
	3	2333055	CA		1999-12-02			☐

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Examiner Initials*	Cite No	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, pages(s), volume-issue number(s), publisher, city and/or country where published.	T[5]
	1	Yohei YAMADA, Internet ASCII, ASCII Corporation, Japan, Vol. 4, p. 132, October 10, 1999	☐
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Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):

☐ That each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(1).

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☐ See attached certification statement.

☐ Fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

☒ None

SIGNATURE

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature	/Benoit Castel/	Date (YYYY-MM-DD)	2014-09-09
Name/Print	Benoit Castel	Registration Number	35041

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EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	20	(US-20040019610-$ or US-20010014868-$ or US-20020089534-$).did. or (US-6665687-$ or US-5933827-$ or US-5959945-$ or US-6032130-$ or US-6587835-$ or US-6934690-$ or US-5930769-$ or US-6456303-$ or US-7454706-$ or US-6816172-$ or US-6072492-$ or US-6868525-$ or US-6516329-$ or US-6211871-$ or US-7143055-$ or US-6628307-$ or US-5875446-$).did.	US-PGPUB; USPAT	OR	ON	2016/09/03 02:05
L2	12	L1 and click$4	US-PGPUB; USPAT	OR	ON	2016/09/03 02:05
L3	16	L1 and (load$3 or download$3)	US-PGPUB; USPAT	OR	ON	2016/09/03 02:12
L4	0	icon with distin$5 with local$4 with (link or webpage or website)	US-PGPUB; USPAT	OR	ON	2016/09/03 02:38
L5	161	icon with distin$5 with (link or webpage or website)	US-PGPUB; USPAT	OR	ON	2016/09/03 02:39
L6	16	@ad<"19991230" and 5	US-PGPUB; USPAT	OR	ON	2016/09/03 02:39
L7	1559	icon near4 (distinguish$ or different$4 or distinct$4) near4 visual$4	US-PGPUB; USPAT	OR	ON	2016/09/03 02:44
L8	91	@ad<"19991230" and 7	US-PGPUB; USPAT	OR	ON	2016/09/03 02:44
L9	26	icon near4 (distinguish$ or different$4 or distinct$4) near4 visual$4 near5 level	US-PGPUB; USPAT	OR	ON	2016/09/03 02:45
L10	2	@ad<"19991230" and 9	US-PGPUB; USPAT	OR	ON	2016/09/03 02:45
L11	13	icon near4 (distinguish$ or different$4 or distinct$4) near4 visual$4 with (hierarch$7 or tree)	US-PGPUB; USPAT	OR	ON	2016/09/03 02:46
L12	3	@ad<"19991230" and 11	US-PGPUB; USPAT	OR	ON	2016/09/03 02:46
S1	15	("5959945" | "5930769" | "6032130" | "5933827" | "6072492" | "6665687" | "6587835" | "7454706" | "6456303" | "6816172" | "20010014868" |	US-PGPUB; USPAT	OR	ON	2012/06/12 10:00

		"20040019610" | "6934690" | "20020089534" | "6868525").PN.				
S2	324	715/712-713.ccls.	US-PGPUB; USPAT	OR	ON	2012/06/12 10:05
S3	121	715/712-713.ccls. and (mobil$4 or portab$5)	US-PGPUB; USPAT	OR	ON	2012/06/12 10:06
S4	116	715/712-713.ccls. and (mobil$4 or portab$5) and (quer$3 or search$3 or locat$3 or retriev$4)	US-PGPUB; USPAT	OR	ON	2012/06/12 10:07
S5	10	"169355".ap.	US-PGPUB; USPAT	OR	ON	2012/06/12 10:07
S6	0	("2003/0120746").URPN.	USPAT	OR	ON	2012/06/12 10:08
S7	2998014	@ad<"19991230"	US-PGPUB; USPAT	OR	ON	2012/06/12 10:09
S8	171716	S7 and (mobil$4 or portab$5) and (quer$3 or search$3 or locat$3 or retriev$4)	US-PGPUB; USPAT	OR	ON	2012/06/12 10:09
S9	25034	S7 and (mobil$4 or portab$5) and (quer$3 or search$3 or locat$3 or retriev$4) and (website or webpage or internet or web$5)	US-PGPUB; USPAT	OR	ON	2012/06/12 10:10
S10	65514	"715"/$.ccls.	US-PGPUB; USPAT	OR	ON	2012/06/12 10:11
S11	953	S10 and S7 and (mobil$4 or portab$5) and (quer$3 or search$3 or locat$3 or retriev$4) and (website or webpage or internet or web$5)	US-PGPUB; USPAT	OR	ON	2012/06/12 10:11
S12	587	S10 and S7 and (mobil$4 or portab$5) and ((quer$3 or search$3 or locat$3 or retriev$4) same (website or webpage or internet or web$5))	US-PGPUB; USPAT	OR	ON	2012/06/12 10:13
S13	156	S10 and S7 and (mobil$4 or portab$5) and ((quer$3 or search$3 or locat$3 or retriev$4) same (website or webpage or internet or web$5) same (categor$4 or hierarch$6 or directory or tree or catalog$3 or guide))	US-PGPUB; USPAT	OR	ON	2012/06/12 10:14
S14	89	S10 and S7 and icon$3 and (mobil$4 or portab$5) and ((quer$3 or search$3 or locat$3 or retriev$4) same (website or webpage or internet or web$5) same (categor$4 or hierarch$6 or directory or tree or catalog$3 or guide))	US-PGPUB; USPAT	OR	ON	2012/06/12 11:07
S15	8	"912135".ap.	US-PGPUB; USPAT	OR	ON	2012/06/12 15:07
S16	3	("20110257874" | "7570178" | "20100332054").PN.	US-PGPUB; USPAT	OR	ON	2012/06/12 15:09
S17	297	340/970.ccls.	US-PGPUB; USPAT	OR	ON	2012/06/12 15:15
S18	12	340/970.ccls. and altitude and (user adj	US-	OR	ON	2012/06/12

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		interface)	PGPUB; USPAT			15:15
S19	17	("5959945" | "6072492" | "6816172" | "20010014868" | "20020089534" | "6032130" | "6628307" | "5933827" | "6587835" | "7143055" | "20040019610" | "6665687" | "7454706" | "6456303" | "6868525" | "6934690" | "5930769").PN.	US-PGPUB; USPAT	OR	ON	2016/05/31 09:29
S20	19	(US-20040019610-$ or US-20010014868-$ or US-20020089534-$).did. or (US-6665687-$ or US-5933827-$ or US-5959945-$ or US-6032130-$ or US-6587835-$ or US-6934690-$ or US-5930769-$ or US-6456303-$ or US-7454706-$ or US-6816172-$ or US-6072492-$ or US-6868525-$ or US-6516329-$ or US-6211871-$ or US-7143055-$ or US-6628307-$).did.	US-PGPUB; USPAT	OR	ON	2016/09/02 21:31
S21	11	S20 and (search near3 engine)	US-PGPUB; USPAT	OR	ON	2016/09/02 21:31
S22	2998271	@ad<"19991230"	US-PGPUB; USPAT	OR	ON	2016/09/02 21:40
S23	1090	multi$4 near3 page near3 interface	US-PGPUB; USPAT	OR	ON	2016/09/02 21:40
S24	31	@ad<"19991230" and S23	US-PGPUB; USPAT	OR	ON	2016/09/02 21:40
S25	169	(hierarch$7 or tree) near3 page near3 interface	US-PGPUB; USPAT	OR	ON	2016/09/02 21:45
S26	2	@ad<"19991230" and S25	US-PGPUB; USPAT	OR	ON	2016/09/02 21:45
S27	1315	((hierarch$7 or tree) near3 page) same interface	US-PGPUB; USPAT	OR	ON	2016/09/02 21:47
S28	66	@ad<"19991230" and S27	US-PGPUB; USPAT	OR	ON	2016/09/02 21:47
S29	656	((hierarch$7 or tree) near3 page) with search$3	US-PGPUB; USPAT	OR	ON	2016/09/02 22:11
S30	38	@ad<"19991230" and S29	US-PGPUB; USPAT	OR	ON	2016/09/02 22:11
S31	1544	((hierarch$7 or tree) near3 page) with (quer$3 or search$3 or locat$3 or retriev$4)	US-PGPUB; USPAT	OR	ON	2016/09/02 22:19
S32	675327	local$4 with (website or webpage or internet or web$5 or remote$4)	US-PGPUB; USPAT	OR	ON	2016/09/02 22:20
S33	26	S31 same S32	US-PGPUB; USPAT	OR	ON	2016/09/02 22:20
S34	1	@ad<"19991230" and S33	US-	OR	ON	2016/09/02

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			PGPUB; USPAT			22:20
S35	111717	((hierarch$7 or tree)) with (quer$3 or search$3 or locat$3 or retriev$4)	US-PGPUB; USPAT	OR	ON	2016/09/02 22:21
S36	1473	S35 same S32	US-PGPUB; USPAT	OR	ON	2016/09/02 22:21
S37	85	@ad<"19991230" and S36	US-PGPUB; USPAT	OR	ON	2016/09/02 22:21
S38	26881	G06F17/30873.cpc. or G06F17/30876.cpc. or G06F17/30994.cpc. or G06F17/3089.cpc. or G06F17/30893.cpc. or G06F17/30896.cpc. or G06F17/2247.cpc. or G06F3/04817.cpc or G06F3/0483.cpc.	US-PGPUB; USPAT	OR	ON	2016/09/02 22:24
S39	38	@ad<"19991230" and S36 and (G06F17/$.cpc. or G06F3/$.cpc.)	US-PGPUB; USPAT	OR	ON	2016/09/02 22:24
S40	13	"480701".ap.	US-PGPUB; USPAT	OR	ON	2016/09/02 23:26
S41	1	(US-20150020005-$).did.	US-PGPUB	OR	ON	2016/09/02 23:47
S42	1	S41 and rolling	US-PGPUB; USPAT	OR	ON	2016/09/02 23:47
S43	15	rolling adj menu	US-PGPUB; USPAT	OR	ON	2016/09/02 23:48
S44	20	(US-20040019610-$ or US-20010014868-$ or US-20020089534-$).did. or (US-6665687-$ or US-5933827-$ or US-5959945-$ or US-6032130-$ or US-6587835-$ or US-6934690-$ or US-5930769-$ or US-6456303-$ or US-7454706-$ or US-6816172-$ or US-6072492-$ or US-6868525-$ or US-6516329-$ or US-6211871-$ or US-7143055-$ or US-6628307-$ or US-5875446-$).did.	US-PGPUB; USPAT	OR	ON	2016/09/03 00:26
S45	19	S44 and updat$4	US-PGPUB; USPAT	OR	ON	2016/09/03 00:26
S46	5	S44 and (cellular or mobile or cellphone)	US-PGPUB; USPAT	OR	ON	2016/09/03 00:43
S47	7	S44 and (phone)	US-PGPUB; USPAT	OR	ON	2016/09/03 00:45
S48	13	S44 and (telephone)	US-PGPUB; USPAT	OR	ON	2016/09/03 00:45
S49	5	S44 and pda	US-PGPUB; USPAT	OR	ON	2016/09/03 00:47
S50	5	S44 and (cell$6 or mobile or cellphone)	US-PGPUB;	OR	ON	2016/09/03 00:49

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			USPAT			

EAST Search History (Interference)

< This search history is empty>

9/ 3/ 2016 3:50:53 AM
H:\ EAST\ Workspaces\ 14480701.wsp

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Index of Claims	Application/Control No.	Applicant(s)/Patent Under Reexamination
	14480701	ALLANI, FERID
	Examiner	Art Unit
	SAJEDA MUHEBBULLAH	2141

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

☐ Claims renumbered in the same order as presented by applicant ☐ CPA ☐ T.D. ☐ R.1.47

CLAIM		DATE								
Final	Original	09/01/2016								
	1	✓								
	2	✓								
	3	✓								
	4	✓								
	5	✓								
	6	✓								
	7	✓								
	8	✓								
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	24	✓								
	25	✓								
	26	✓								
	27	✓								
	28	✓								

MS AMENDMENT
PATENT
0679-1001-2

IN THE U. S. PATENT AND TRADEMARK OFFICE

In re application of

Ferid ALLANI Conf. 9483

Application No. 14/480,701 Group 2141

Filed September 9, 2014 Examiner Sajeda Muhebbullah

METHOD AND DEVICE FOR ACCESSING SOURCES AND SERVICES ON THE WEB

AMENDMENT

Commissioner for Patents March 7, 2017
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

In response to the non-final Official Action mailed September 8, 2016, for which the period for response has been extended three months, please amend the above-identified application as follows:

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

Remarks begin on page 13 of this paper.

AMENDMENTS TO THE CLAIMS:

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

LISTING OF CLAIMS:

1. (currently amended) Apparatus for accessing information- or service- providing Web sites, comprising a communication device connectable through a communication network to the Internet, control and processing device or devices, data storage device or devices, and a display, said storage device or devices containing a plurality of selection pages within a tree menu structure, said selection pages being beforehand locally stored in said data storage device or devices and each comprising a set of icons including at least one of a direct access icon for directly accessing remote sources of information and a selection icon for locally accessing another selection page within said tree menu structure,

wherein said plurality of selection pages includes:

- a first selection page, a second selection page and a third selection page, said first selection page comprising a selection icon for locally accessing said second selection page, said second selection page comprising a selection icon for locally accessing said third selection page, said third selection page comprising one or more direct access icons for

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directly accessing an information- or service-providing Web site,

- ~~at least one selection page further comprising two or more direct access icons~~,
- at least one selection page further comprising one or more icons for directly accessing a search engine on the Web, and
- at least one selection page further comprising an icon for directly accessing a portal of a Web site and an icon for directly accessing a document provided by said Web site,

wherein the control and processing device or devices are programmed for:

- enabling a preliminary search locally performed within said communication device in different themes and sub themes within said plurality of selection pages, and
- emitting on the communication network, in response to selection of a direct access icon in a selection page being currently displayed, an address of an information- or service-providing Web site corresponding to said selected direct access icon, said address being locally generated during the preliminary search and selection.

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2. (previously presented) The apparatus according to claim 1, characterized in that the direct access icons comprise icons for accessing commercial sites.

3. (previously presented) The apparatus according to claim 1, characterized in that the control and processing device or devices are arranged for receiving, by downloading from a management server, data for updating selection pages, and for processing said updating data so that new selection pages are stored in the data storage device or devices.

4. (previously presented) The apparatus according to claim 1, wherein said at least one selection page comprising two or more direct access icons comprises direct access icons corresponding to distinct sources of information or services.

5. (previously presented) The apparatus according to claim 1, implemented in a mobile phone.

6. (previously presented) The apparatus according to claim 1, wherein a page from a Web site is displayed on said display in response to selecting a direct access icon.

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7. (previously presented) The apparatus according to claim 1, wherein at least one of the selection pages includes both at least one direct access icon and at least one selection icon.

8. (previously presented) The apparatus according to claim 1, wherein said control and processing device or devices are configured to receive, from a server, data for updating information associated with at least one of a selection page, a direct access icon and a selection icon.

9. (previously presented) The apparatus according to claim 8, wherein said updating information is received periodically.

10. (previously presented) The apparatus according to claim 9, wherein said updating information is received on demand.

11. (previously presented) The apparatus according to claim 1, wherein the second selection page displays information corresponding to a sub-category of the first selection page.

12. (previously presented) The apparatus according to claim 1, wherein said control and processing device or devices are configured to receive information from the information- or

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service-providing Web site corresponding to said selected direct access icon via the communication network.

13. (previously presented) The apparatus according to claim 1, wherein the selection icons present graphic features that are distinctive from those of the direct access icons.

14. (previously presented) The apparatus according to claim 1, wherein selection of a direct access icon in a selection page being displayed comprises clicking on said icon.

15. (previously presented) The apparatus according to claim 1, wherein said selection pages stored in said data storage device or devices are downloaded thereto.

16. (previously presented) The apparatus according to claim 1, wherein said selection pages stored in said data storage device or devices are downloaded thereto over a mobile connection.

17. (previously presented) The apparatus according to claim 1, wherein said selection pages operate as rolling menus.

18. (previously presented) The apparatus according to claim 1, wherein at least one of the selection pages is a trunk of the tree menu structure.

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19. (previously presented) The apparatus according to claim 1, wherein the control and processing device or devices are configured to command a request-answer sequence characterized in that the request comprises the address of the information- or service-providing Web site, and wherein the request-answer sequence is preceded by a locally implemented selection of themes and sub-themes.

20. (previously presented) The apparatus according to claim 1, wherein the icons comprise logotypes, graphic marks or semi-graphic marks.

21. (previously presented) The apparatus according to claim 1, wherein the icons comprise textual elements.

22. (currently amended) A communication device connectable to remote sources of information or services through a communication network, the communication device comprising a display, data storage, a processor, a controller and a plurality of pages locally stored in said data storage and displayable on said display,

wherein a first one of said locally stored pages includes at least one selection icon capable of being selectively activated to display a second one of said locally stored pages on said display,

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wherein said second one of said locally stored pages includes at least one direct access icon capable of being selectively activated to connect said communication device to a predetermined one of said remote sources of information or services, and at least one second selection icon capable of being selectively activated to display a third one of said locally stored pages on said display,

wherein at least one of said first, second and third locally stored pages further includes at least one icon for directly accessing a search engine for permitting a user to control searches on the Web,

wherein at least one of said first, second and third locally stored pages further includes at least one icon for directly accessing a portal of Web site and one icon for directly accessing a document provided by said Web site.

23. (previously presented) The communication device according to claim 22, characterized in that said selection pages are locally stored in the data storage beforehand.

24. (previously presented) The communication device according to claim 22, wherein said selection pages stored in said data storage are organized in a tree menu structure.

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25. (currently amended) A mobile communication device connectable to remote sources of information or services through a communication network, the communication device comprising a display, data storage, a processor, a controller and a plurality of pages locally stored in said data storage and displayable on said display,

wherein a first one of said locally stored pages includes at least one direct access icon capable of being selectively activated to connect said mobile communication device to a first predetermined one of said remote sources of information or services, and at least one selection icon capable of being selectively activated to display a second one of said locally stored pages on said display, wherein said second one of said locally stored pages includes at least one second direct access icon capable of being selectively activated to connect said mobile communication device to a second predetermined one of said remote sources of information or services, and at least one second selection icon capable of being selectively activated to display a third one of said locally stored pages on said display,

wherein said third one of said locally stored pages includes at least one third direct access icon capable of being selectively activated to connect said mobile communication device to a third predetermined one of said remote sources of information or services, or at least one third selection icon

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capable of being selectively activated to display a fourth one of said locally stored pages on said display,

wherein at least one of said locally stored pages further comprises an icon for directly accessing a portal of a Web site and an icon for directly accessing a document provided by said Web site.

26. (previously presented) The mobile communication device according to claim 25, wherein at least one of the selection pages further comprises one or more icons for directly accessing a search engine on the Web.

27. (previously presented) The mobile communication device according to claim 25, wherein selective activation of a direct access icon comprises emitting, on the communication network, an address of the first, second or third predetermined one of said remote sources.

28. (currently amended) A method for accessing information- or service-providing Web sites, from a mobile communication device connected through a communication network and provided with a display, comprising:

- a preliminary search for information or service, locally performed within said communication device in different themes and sub-themes within a plurality of

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successively displayed selection pages, said selection pages being organized in a tree menu structure and beforehand locally stored within said communication device, each said selection page comprising a set of icons, said selection pages further comprising a first selection page, a second selection page and a third selection page, said first selection page comprising a selection icon for locally accessing said second selection page, and said second selection page comprising a selection icon for locally accessing said third selection page, said third selection page comprising one or more direct access icons for directly accessing an information- or service-providing Web site, and

- emitting on the communication network, in response to a selection of a direct access icon in a selection page being currently displayed, an address of an information- or service-providing web site corresponding to said selected icon, said address being locally generated during said displaying and selection and for directly accessing said information- or service-providing Web site,

wherein:

- at least one of said selection pages further comprises an icon for directly accessing a portal of Web site

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and an icon for directly accessing a document provided by said Web site ~~two or more direct access icons, and~~

- at least one of said selection pages further comprises one or more icons for directly accessing a search engine on the Web.

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REMARKS

Claims 1-28 remain in this application. Claims 1, 22, 25 and 28 have been amended.

Claims 1-2, 4, 6-12, 14-15 and 17-24 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Iki et al. ("Iki", US 6,816,172) in view of Fair (US 6,628,307).

Claim 3 stands rejected under 35 U.S.C. 103(a) as being unpatentable over Iki and Fair in view of Schagen et al. ("Schagen", US 6,702,492).

Claims 5, 16 and 25-28 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Iki and Fair in view of Burns (US 2004/0019610).

Claim 13 stands rejected under 35 U.S.C. 103(a) as being unpatentable over Iki and Fair in view of Rush et al. ("Rush", US 7,131,069).

Amended Claim 1 recites an Apparatus for accessing information-providing or service-providing Web sites, comprising a communication device connectable through a communication network to the Internet, control and processing device or devices, data storage device or devices, and a display, said storage device or devices containing a plurality of selection pages within a tree menu structure, said selection pages being beforehand locally stored in said data storage device or devices and each comprising a set of icons including at least one of a direct access icon for directly accessing remote sources of

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information and a selection icon for locally accessing another selection page within said tree menu structure, wherein said plurality of selection pages includes:

-a first selection page, a second selection page and a third selection page, said first selection page comprising a selection icon for locally accessing said second selection page, said second selection page comprising a selection icon for locally accessing said third selection page, said third selection page comprising one or more direct access icons for directly accessing an information- or service- providing Web site,

-at least one selection page further comprising one or more icons for directly accessing a search engine on the Web, and

-<u>at least one selection page further comprising an icon for directly accessing a portal of a Web site and an icon for directly accessing a document provided by said Web site.</u>

The amendment to Claim 1 and the other independent claims finds support on page 7 of the specification, which states:

This page P1 contains for example:

- an icon Lox for accessing a site dedicated to a plurality of sports and an icon Loy for accessing a site of a major soccer club,

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- an icon AD11 “calendar” for directly accessing a weekly calendar of sport events provided on the above-cited multi-sport site,

In Iki et al., the “multimedia identifiers” 521-525 featured in the graphical user interface 500 are arranged to retrieve entertainment system data such as an article 527, but not to access a portal of a web site. Iki fails to disclose a selection page comprising both an icon for directly accessing a portal of a Web site and an icon for directly accessing a document provided by this Web site.

In Fair, the first “village” page 130 can’t be considered as comprising both an icon for directly accessing a portal of a Web site and an icon for directly accessing a document provided by this Web site. Indeed, there is a “sun” icon 138 for directly accessing a weather forecast service provider but no distinct icon for directly accessing a specific document, for example a dedicated report, which could have been supplied by this provider.

The second page illustrated in Fig. 4 and the third page illustrated in Fig. 5 do not contain this claimed combination of an icon for directly accessing a portal of a Web site and an icon for directly accessing a document provided by said Web site.

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Furthermore, the paragraph at col.6, lines 50-60 relating to the "bank" icon 133 recites that "*selecting the bank 133 shown in Fig.3 returns a page showing icons pr other links to pages associated with banking, financial planning, stock brokering, loan companies, insurance companies, and stock market information services, as shown in Fig.1*." But Fig. 1 is a mere list of services offered by providers who are partners of the "Village" user interface.

Consequently, neither Iki nor Fair discloses a selection page comprising both an icon for directly accessing a portal of a Web site and an icon for directly accessing a document provided by said document.

Indeed, this additional feature recited in the amended Claim 1 permits users to obtain, by clicking on the "document" direct-access icon, easy and direct access to information contained in a specific document while avoiding a potentially time-consuming and hazardous navigation within the Web site providing this document. If these users are finally interested in obtaining more information or a specific service from this Web site, it is very simple for the user to click on the related "portal" direct-access icon located on the same selection page.

It would not be obvious to one skilled in the art to create to the claimed apparatus from the teaching of Iki and Fair, considered independently or in combination.

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Entry of the above amendments is earnestly solicited. Applicant respectfully requests that a timely Notice of Allowance be issued in this case.

Should there be any matters that need to be resolved in the present application, the Examiner is respectfully requested to contact the undersigned at the telephone number listed below. The Commissioner is hereby authorized in this, concurrent, and future submissions to charge any additional fees(s) or underpayment of fee(s) under 37 C.F.R. §§ 1.16 and 1.17 or credit any overpayment of fee(s) to Deposit Account No. 25-0120.

Respectfully submitted,

YOUNG & THOMPSON

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JMG/jr

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Electronic Patent Application Fee Transmittal	
Application Number:	14480701
Filing Date:	09-Sep-2014
Title of Invention:	METHOD AND DEVICE FOR ACCESSING SOURCES AND SERVICES ON THE WEB
First Named Inventor/Applicant Name:	Ferid ALLANI
Filer:	Eric Jensen/Joni Ralls
Attorney Docket Number:	0679-1001-2
Filed as Small Entity	
Filing Fees for Utility under 35 USC 111(a)	

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				

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

Electronic Acknowledgement Receipt	
EFS ID:	28557616
Application Number:	14480701
International Application Number:	
Confirmation Number:	9483
Title of Invention:	METHOD AND DEVICE FOR ACCESSING SOURCES AND SERVICES ON THE WEB
First Named Inventor/Applicant Name:	Ferid ALLANI
Customer Number:	466
Filer:	Eric Jensen/Joni Ralls
Filer Authorized By:	Eric Jensen
Attorney Docket Number:	0679-1001-2
Receipt Date:	07-MAR-2017
Filing Date:	09-SEP-2014
Time Stamp:	14:46:59
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	CARD
Payment was successfully received in RAM	$700
RAM confirmation Number	030817INTEFSW14474300
Deposit Account	250120
Authorized User	Joni Ralls
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File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		AMD.pdf	140502 d0c0e74ff68a414856dcff2f2beacafd53261a2b	yes	17
	Multipart Description/PDF files in .zip description				
	Document Description		**Start**	**End**	
	Amendment/Req. Reconsideration-After Non-Final Reject		1	1	
	Claims		2	12	
	Applicant Arguments/Remarks Made in an Amendment		13	17	
Warnings:					
Information:					
2	Fee Worksheet (SB06)	fee-info.pdf	30729 4b6b5803d98010a1f860937726aaba422f9bd0c4	no	2
Warnings:					
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		Total Files Size (in bytes):	171231		

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New Applications Under 35 U.S.C. 111

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

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

New International Application Filed with the USPTO as a Receiving Office

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

PTO/SB/06 (09-11)
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PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875	Application or Docket Number 14/480,701	Filing Date 09/09/2014	☐ To be Mailed

ENTITY: ☐ LARGE ☒ SMALL ☐ MICRO

APPLICATION AS FILED – PART I

FOR	(Column 1) NUMBER FILED	(Column 2) NUMBER EXTRA	RATE ($)	FEE ($)
☐ BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A	
☐ SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A	N/A	
☐ EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	minus 20 =	*	X $ =	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*	X $ =	
☐ APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is $310 ($155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).			
☐ MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))				
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL	

APPLICATION AS AMENDED – PART II

AMENDMENT **03/07/2017**

	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	RATE ($)	ADDITIONAL FEE ($)
Total (37 CFR 1.16(i))	* 28	Minus	** 28	= 0	X $40 =	0
Independent (37 CFR 1.16(h))	* 2	Minus	***4	= 0	X $210 =	0
☐ Application Size Fee (37 CFR 1.16(s))						
☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))						
					TOTAL ADD'L FEE	0

AMENDMENT

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

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

LIE
DIANE JOHNSON

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
14/480,701	09/09/2014	Ferid ALLANI	0679-1001-2	9483

466 7590 06/14/2017

YOUNG & THOMPSON
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EXAMINER	
MUHEBBULLAH, SAJEDA	

ART UNIT	PAPER NUMBER
2141	

NOTIFICATION DATE	DELIVERY MODE
06/14/2017	ELECTRONIC

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

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

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

DocketingDept@young-thompson.com
yandtpair@firsttofile.com

Office Action Summary	Application No. 14/480,701	Applicant(s) ALLANI, FERID	
	Examiner SAJEDA MUHEBBULLAH	Art Unit 2141	AIA (First Inventor to File) Status No

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

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTHS FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *03/07/2017*.

☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on _____.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on _____; the restriction requirement and election have been incorporated into this action.

4)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims*

5)☒ Claim(s) *1-28* is/are pending in the application.

5a) Of the above claim(s) _____ is/are withdrawn from consideration.

6)☐ Claim(s) _____ is/are allowed.

7)☒ Claim(s) *1-28* is/are rejected.

8)☐ Claim(s) _____ is/are objected to.

9)☐ Claim(s) _____ are subject to restriction and/or election requirement.

* If any claims have been determined allowable, you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see http://www.uspto.gov/patents/init_events/pph/index.jsp or send an inquiry to PPHfeedback@uspto.gov.

Application Papers

10)☐ The specification is objected to by the Examiner.

11)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

Priority under 35 U.S.C. § 119

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

Certified copies:

a)☐ All b)☐ Some** c)☐ None of the:

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

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

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

** See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Information Disclosure Statement(s) (PTO/SB/08a and/or PTO/SB/08b) Paper No(s)/Mail Date _____.

3) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

4) ☐ Other: _____.

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Apple EX1002 Page 374

DETAILED ACTION

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

2. This communication is responsive to Amendment filed 03/07/2017.

3. Claims 1-28 are pending in this application. Claims 1, 22, 25 and 28 are amended. This action is made Final.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 1-2, 4, 6-12, 14-15 and 17-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Iki et al. ("Iki", US 6,816,172) in view of Fair (US 6,628,307) and further in view of Hsu et al. ("Hsu", US 6,970,867).

As per claim 1, Iki teaches an apparatus for accessing information- or service-providing Web sites, comprising a communication device connectable through a communication network to the Internet (col.5, lines 6-40), control and processing device or devices (col.2, lines 57-64; col.3, lines 35-40), data storage device or devices (col.2, lines 57-64), and a display (col.4, lines 15-19), said storage device or devices containing a set of icons including at least one of a direct access icon for directly accessing remote sources of information (col.6, lines 18-20; col.7, line 62-col.8, line 7; col.5, lines 48-55, URLs) and wherein the control and processing device or devices are programmed for: enabling a preliminary search locally performed within said communication device (col.8, line 63-col.9, line 3), and emitting on the communication network,

in response to selection of a direct access icon in a selection page being currently displayed, an address of an information- or service-providing Web site corresponding to said selected direct access icon, said address being locally generated during the preliminary search and selection (col.6, lines 14-20; col.7, lines 2-4).

However, Iki does not teach said storage device containing a plurality of selection pages within a tree menu structure, said selection pages being beforehand locally stored in said data storage device or devices, a selection icon for locally accessing another selection page within said tree menu structure, wherein said plurality of selection pages includes: a first selection page, a second selection page and a third selection page, said first selection page comprising a selection icon for locally accessing said second selection page, said second selection page comprising a selection icon for locally accessing said third selection page, said third selection page comprising one or more direct access icons for directly accessing an information- or service-providing Web site, at least one selection page further comprising one or more icons for directly accessing a search engine on the Web, at least one selection page further comprising an icon for directly accessing a portal of a Web site and an icon for directly accessing a document provided by said Web site and enabling a search performed in different themes and sub themes within said plurality of selection pages.

Fair teaches an apparatus for selection of hierarchically organized pages stored locally containing selectable icons linking to additional pages and websites wherein pages may be accessed locally without having to connect to the website (Fair, col.4, lines 20-25, *hierarchy of selection pages*; col.5, lines 6-14, *pages locally stored*; col.6, lines 4-6, 50-54, *direct icons and icons to other pages*; col.7, lines 4-11, 50-59), page comprising an icon to access a search engine

(Fair, col.8, lines 20-41, *vehicle icons 170,172,174*) and pages organized by theme to access remotely located data (Fair, col.4, lines 29-37, *grocery theme icon accesses remotely located grocery related data;* col.6, lines 48-61, *bank theme icon accesses remotely located bank related data*). It would have been obvious to one of ordinary skill in the art to include Fair's teaching with Iki's device in order to save access time (Fair, col.1, line 61-col.2, line 20).

Furthermore, the apparatus of Iki and Fair does not teach at least one selection page further comprising an icon for directly accessing a portal of a Web site and an icon for directly accessing a document provided by said Web site. Hsu teaches a selection bookmark page where a user may create both a link to a Webpage and a link to a document within that Webpage on the bookmark menu page (Hsu, Fig.4, *bookmark menu page 68;* col.5, lines 1-67, *link to secondary document of Webpage 64 and link to whole Webpage 63 added to menu page 68*). It would have been obvious to one of ordinary skill in the art at the time of the invention to include Hsu's teaching with the apparatus of Iki and Fair for quick access to areas of interest (Hsu, col.1, lines 59-63).

As per claim 2, the apparatus of Iki, Fair and Hsu teaches the apparatus according to claim 1, characterized in that the direct access icons comprise icons for accessing commercial sites (Iki, col.7, lines 57-61).

As per claim 4, the apparatus of Iki, Fair and Hsu teaches the apparatus according to claim 1, wherein said at least one selection page comprising two or more direct access icons comprises direct access icons corresponding to distinct sources of information or services (Iki, col.7, lines 34-61).

As per claim 6, the apparatus of Iki, Fair and Hsu teaches the apparatus according to claim 1, wherein a page from a Web site is displayed on said display in response to selecting a direct access icon (Fair, col.4, lines 29-37, col.6, lines 4-6, 48-61).

As per claim 7, the apparatus of Iki, Fair and Hsu teaches the apparatus according to claim 1, wherein at least one of the selection pages includes both at least one direct access icon (Iki, col.6, lines 18-20) and at least one selection icon (Iki, col.8, lines 37-51).

As per claim 8, the apparatus of Iki, Fair and Hsu teaches the apparatus according to claim 1, wherein said control and processing device or devices are configured to receive, from a server, data for updating information associated with at least one of a selection page, a direct access icon and a selection icon (Fair, col.6, lines 6-13).

As per claim 9, the apparatus of Iki, Fair and Hsu teaches the apparatus according to claim 8, wherein said updating information is received periodically (Fair, col.6, lines 6-13).

As per claim 10, the apparatus of Iki, Fair and Hsu teaches the apparatus according to claim 9, wherein said updating information is received on demand (Fair, col.6, lines 2-10).

As per claim 11, the apparatus of Iki, Fair and Hsu teaches the apparatus according to claim 1, wherein the second selection page displays information corresponding to a sub-category of the first selection page (Iki, col.8, lines 19-51).

As per claim 12, the apparatus of Iki, Fair and Hsu teaches the apparatus according to claim 1, wherein said control and processing device or devices are configured to receive information from the information- or service-providing Web site corresponding to said selected direct access icon via the communication network (Iki, col.6, lines 14-20; col.7, lines 2-4).

As per claim 14, the apparatus of Iki, Fair and Hsu teaches the apparatus according to claim 1, wherein selection of a direct access icon in a selection page being displayed comprises clicking on said icon (Fair, col.4, lines 8-14).

As per claim 15, the apparatus of Iki, Fair and Hsu teaches the apparatus according to claim 1, wherein said selection pages stored in said data storage device or devices are downloaded thereto (Fair, col.6, lines 1-22).

As per claim 17, the apparatus of Iki, Fair and Hsu teaches the apparatus according to claim 1, wherein said selection pages operate as rolling menus (Fair, col.4, lines 20-28).

As per claim 18, the apparatus of Iki, Fair and Hsu teaches the apparatus according to claim 1, wherein at least one of the selection pages is a trunk of the tree menu structure (Fair, col.6, lines 48-61).

As per claim 19, the apparatus of Iki, Fair and Hsu teaches the apparatus according to claim 1, wherein the control and processing device or devices are configured to command a request-answer sequence characterized in that the request comprises the address of the information- or service-providing Web site, and wherein the request-answer sequence is preceded by a locally implemented selection of themes and sub-themes (Fair, col.4, lines 29-37, *grocery theme icon accesses remotely located grocery related data;* col.6, lines 1-4, 48-61, *bank theme icon accesses remotely located bank related data*).

As per claim 20, the apparatus of Iki, Fair and Hsu teaches the apparatus according to claim 1, wherein the icons comprise logotypes, graphic marks or semi-graphic marks (Iki, Fig.5, col.7, lines 24-30).

As per claim 21, the apparatus of Iki, Fair and Hsu teaches the apparatus according to claim 1, wherein the icons comprise textual elements (Iki, col.7, lines 24-30).

As per claim 22, Iki teaches a communication device connectable to remote sources of information or services through a communication network (col.5, lines 6-40), the communication device comprising a display (col.4, lines 15-19), data storage (col.2, lines 57-64), a processor (col.3, lines 35-40), a controller (col.2, lines 57-64) and at least one direct access icon capable of being selectively activated to connect said communication device to a predetermined one of said remote sources of information or services (col.6, lines 18-20; col.7, line 62-col.8, line 7; col.5, lines 48-55, URLs).

However, Iki does not teach a plurality of pages locally stored in said data storage and displayable on said display, wherein a first one of said locally stored pages includes at least one selection icon capable of being selectively activated to display a second one of said locally stored pages on said display and at least one second selection icon capable of being selectively activated to display a third one of said locally stored pages on said display and, wherein at least one of said first, second and third locally stored pages further includes at least one icon for directly accessing a search engine for permitting a user to control searches on the Web, wherein at least one of said first, second and third locally stored pages further includes at least one icon for directly accessing a portal of a Web site and one icon for directly accessing a document provided by said Web site.

Fair teaches an apparatus for selection of hierarchically organized pages stored locally containing selectable icons linking to additional pages and websites wherein pages may be accessed locally without having to connect to the website (Fair, col.4, lines 20-25, *hierarchy of*

selection pages; col.5, lines 6-14, *pages locally stored*; col.6, lines 4-6, 50-54, *direct icons and icons to other pages*; col.7, lines 4-11, 50-59), page comprising an icon to access a search engine (Fair, col.8, lines 20-41, *vehicle icons 170,172,174*) and pages organized to access remotely located data (Fair, col.4, lines 29-37, *grocery theme icon accesses remotely located grocery related data;* col.6, lines 48-61, *bank theme icon accesses remotely located bank related data*). It would have been obvious to one of ordinary skill in the art to include Fair's teaching with Iki's device in order to save access time (Fair, col.1, line 61-col.2, line 20).

Furthermore, the device of Iki and Fair does not teach at least one selection page further comprising an icon for directly accessing a portal of a Web site and an icon for directly accessing a document provided by said Web site. Hsu teaches a selection bookmark page where a user may create both a link to a Webpage and a link to a document within that Webpage on the bookmark menu page (Hsu, Fig.4, *bookmark menu page 68;* col.5, lines 1-67, *link to secondary document of Webpage 64 and link to whole Webpage 63 added to menu page 68*). It would have been obvious to one of ordinary skill in the art at the time of the invention to include Hsu's teaching with the device of Iki and Fair for quick access to areas of interest (Hsu, col.1, lines 59-63).

As per claim 23, the device of Iki, Fair and Hsu teaches the communication device according to claim 22, characterized in that said selection pages are locally stored in the data storage beforehand (Fair, col.5, lines 6-14, *pages locally stored*).

As per claim 24, the device of Iki, Fair and Hsu teaches the communication device according to claim 22, wherein said selection pages stored in said data storage are organized in a tree menu structure (Fair, col.4, lines 20-25, *hierarchy of selection pages).*

6. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Iki et al. ("Iki", US 6,816,172), Fair (US 6,628,307) and Hsu et al. ("Hsu", US 6,970,867) in view of Schagen et al. ("Schagen", US 6,702,492).

As per claim 3, the apparatus of Iki, Fair and Hsu teaches the apparatus according to claim 1, characterized in that the control and processing device or devices are arranged for receiving, data for updating selection pages, and for processing said updating data so that new selection pages are stored in the data storage device or devices (Fair, col.6, lines 6-10). However, the apparatus does not teach updating by downloading from a management server. Schagen teaches an apparatus for searching data from local and remote sources of information that are hierarchically organized wherein updating is achieved from a central server (Schagen, col.9, lines 37-42). It would have been obvious to one of ordinary skill in the art at the time of the invention to include Schagen's teaching with the apparatus of Iki, Fair and Hsu for central management of updates (Schagen, col.3, lines 42-44).

7. Claims 5, 16 and 25-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Iki et al. ("Iki", US 6,816,172), Fair (US 6,628,307) and Hsu et al. ("Hsu", US 6,970,867) in view of Burns (US 2004/0019610).

As per claim 5, the apparatus of Iki, Fair and Hsu teaches the apparatus according to claim 1, however does not teach the apparatus implemented in a mobile phone. Burns teaches an apparatus for organizing information from various sources wherein the apparatus may be a mobile phone (Burns, para.27-28). It would have been obvious to one of ordinary skill in the art

at the time of the invention to include Burns' teaching with the apparatus of Iki, Fair and Hsu for allowing portability (Burns, para.27-28).

As per claim 16, the apparatus of Iki, Fair and Hsu teaches the apparatus according to claim 1, wherein said selection pages stored in said data storage device or devices are downloaded (Fair, col.6, lines 1-22) however does not teach downloaded over a mobile connection. Burns teaches an apparatus for organizing information from various sources wherein the apparatus may consist of a mobile connection (Burns, para.27-28). It would have been obvious to one of ordinary skill in the art at the time of the invention to include Burns' teaching with the apparatus of Iki, Fair and Hsu for allowing portability (Burns, para.27-28).

As per claim 25, Iki teaches a communication device connectable to remote sources of information or services through a communication network (col.5, lines 6-40), the communication device comprising a display (col.4, lines 15-19), data storage (col.2, lines 57-64), a processor (col.3, lines 35-40), a controller (col.2, lines 57-64) and at least one direct access icon capable of being selectively activated to connect said communication device to a predetermined one of said remote sources of information or services (col.6, lines 18-20; col.7, line 62-col.8, line 7; col.5, lines 48-55, URLs) and at least one second direct access icon capable of being selectively activated to connect said mobile communication device to a second predetermined one of said remote sources of information or services (col.6, lines 18-20; col.7, line 62-col.8, line 7; col.5, lines 48-55, URLs), and wherein said third one of said locally stored pages includes at least one third direct access icon capable of being selectively activated to connect said mobile communication device to a third predetermined one of said remote sources of information or services (col.6, lines 18-20; col.7, line 62-col.8, line 7; col.5, lines 48-55, URLs).

However, Iki does not teach a mobile communication device, a plurality of pages locally stored in said data storage and displayable on said display, wherein a first one of said locally stored pages includes at least one selection icon capable of being selectively activated to display a second one of said locally stored pages on said display and at least one second selection icon capable of being selectively activated to display a third one of said locally stored pages on said display and at least one third selection icon capable of being selectively activated to display a fourth one of said locally stored pages on said display, wherein at least one of said locally stored pages further comprises an icon for directly accessing a portal of a Web site and an icon for directly accessing a document provided by said Web site.

Fair teaches a device for selection of hierarchically organized pages stored locally containing selectable icons linking to additional pages and websites wherein pages may be accessed locally without having to connect to the website (Fair, col.4, lines 20-25, *hierarchy of selection pages*; col.5, lines 6-14, *pages locally stored*; col.6, lines 4-6, 50-54, *direct icons and icons to other pages*; col.7, lines 4-11, 50-59) and pages organized to access remotely located data (Fair, col.4, lines 29-37, *grocery theme icon accesses remotely located grocery related data;* col.6, lines 48-61, *bank theme icon accesses remotely located bank related data*). It would have been obvious to one of ordinary skill in the art to include Fair's teaching with Iki's device in order to save access time (Fair, col.1, line 61-col.2, line 20).

Furthermore, the device of Iki and Fair does not teach at least one selection page further comprising an icon for directly accessing a portal of a Web site and an icon for directly accessing a document provided by said Web site. Hsu teaches a selection bookmark page where a user may create both a link to a Webpage and a link to a document within that Webpage on the

bookmark menu page (Hsu, Fig.4, *bookmark menu page 68;* col.5, lines 1-67, *link to secondary document of Webpage 64 and link to whole Webpage 63 added to menu page 68*). It would have been obvious to one of ordinary skill in the art at the time of the invention to include Hsu's teaching with the device of Iki and Fair for quick access to areas of interest (Hsu, col.1, lines 59-63).

Additionally, the device of Iki, Fair and Hsu does not teach the device implemented in a mobile phone. Burns teaches a device for organizing information from various sources wherein the device may be a mobile phone (Burns, para.27-28). It would have been obvious to one of ordinary skill in the art at the time of the invention to include Burns' teaching with the device of Iki, Fair and Hsu for allowing portability (Burns, para.27-28).

As per claim 26, the device of Iki, Fair, Hsu and Burns teaches the mobile communication device according to claim 25, wherein at least one of the selection pages further comprises one or more icons for directly accessing a search engine on the Web (Fair, col.8, lines 20-41, *vehicle icons 170,172,174*).

As per claim 27, the device of Iki, Fair, Hsu and Burns teaches the mobile communication device according to claim 25, wherein selective activation of a direct access icon comprises emitting, on the communication network, an address of the first, second or third predetermined one of said remote sources (Iki, col.6, lines 14-20; col.7, lines 2-4).

Claim 28 is similar in scope to claim 5, and is therefore rejected under similar rationale.

8. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Iki et al. ("Iki", US 6,816,172), Fair (US 6,628,307) and Hsu et al. ("Hsu", US 6,970,867) in view of Rush et al. ("Rush", US 7,131,069).

As per claim 13, the apparatus of Iki, Fair and Hsu teaches the apparatus according to claim 1, wherein icons present graphic features, however, the apparatus does not teach the selection icons to be distinctive from those of the direct access icons. Rush teaches an apparatus for organizing information wherein the apparatus distinguishes icons according to the node type (Rush, col.23, lines 4-15). It would have been obvious to one of ordinary skill in the art at the time of the invention to include Rush's teaching with the apparatus of Iki, Fair and Hsu in order to quickly distinguish the type of node (Rush, col.23, lines 4-15).

Conclusion

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

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

however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Communications

Any inquiry concerning this communication or earlier communications from the examiner should be directed to SAJEDA MUHEBBULLAH whose telephone number is (571)272-4065. The examiner can normally be reached on Mon-Thur 8am-4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amy Ng can be reached on 571-270-1698. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/S. M./
Sajeda Muhebbullah
Examiner, Art Unit 2141

/AMY NG/
Supervisory Patent Examiner, Art Unit 2141

Notice of References Cited	Application/Control No. 14/480,701	Applicant(s)/Patent Under Reexamination ALLANI, FERID	
	Examiner SAJEDA MUHEBBULLAH	Art Unit 2141	Page 1 of 1

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	CPC Classification	US Classification
*	A	US-6,970,867 B1	11-2005	Hsu; Peter Yue-der	G06F17/30884	1/1
	B	US-				
	C	US-				
	D	US-				
	E	US-				
	F	US-				
	G	US-				
	H	US-				
	I	US-				
	J	US-				
	K	US-				
	L	US-				
	M	US-				

FOREIGN PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	CPC Classification
	N					
	O					
	P					
	Q					
	R					
	S					
	T					

NON-PATENT DOCUMENTS

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
	U	
	V	
	W	
	X	

*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L3	25	(US-20040019610-$ or US-20010014868-$ or US-20020089534-$).did. or (US-6665687-$ or US-5933827-$ or US-5959945-$ or US-6032130-$ or US-6587835-$ or US-6934690-$ or US-5930769-$ or US-6456303-$ or US-7454706-$ or US-6816172-$ or US-6072492-$ or US-6868525-$ or US-6516329-$ or US-6211871-$ or US-7143055-$ or US-6628307-$ or US-5875446-$ or US-5977972-$ or US-7131069-$ or US-6100890-$ or US-6970867-$ or US-6088707-$).did.	US-PGPUB; USPAT	OR	OFF	2017/06/09 00:14
L4	7	3 and bookmark$3	US-PGPUB; USPAT	OR	OFF	2017/06/09 00:14
S1	15	("5959945" | "5930769" | "6032130" | "5933827" | "6072492" | "6665687" | "6587835" | "7454706" | "6456303" | "6816172" | "20010014868" | "20040019610" | "6934690" | "20020089534" | "6868525").PN.	US-PGPUB; USPAT	OR	ON	2012/06/12 10:00
S2	324	715/712-713.ccls.	US-PGPUB; USPAT	OR	ON	2012/06/12 10:05
S3	121	715/712-713.ccls. and (mobil$4 or portab$5)	US-PGPUB; USPAT	OR	ON	2012/06/12 10:06
S4	116	715/712-713.ccls. and (mobil$4 or portab$5) and (quer$3 or search$3 or locat$3 or retriev$4)	US-PGPUB; USPAT	OR	ON	2012/06/12 10:07
S5	10	"169355".ap.	US-PGPUB; USPAT	OR	ON	2012/06/12 10:07
S6	0	("2003/0120746").URPN.	USPAT	OR	ON	2012/06/12 10:08
S7	2998014	@ad<"19991230"	US-PGPUB; USPAT	OR	ON	2012/06/12 10:09
S8	171716	S7 and (mobil$4 or portab$5) and (quer$3 or search$3 or locat$3 or retriev$4)	US-PGPUB; USPAT	OR	ON	2012/06/12 10:09
S9	25034	S7 and (mobil$4 or portab$5) and (quer$3 or search$3 or locat$3 or retriev$4) and (website or webpage or internet or web$5)	US-PGPUB; USPAT	OR	ON	2012/06/12 10:10
S10	65514	"715"/$.ccls.	US-PGPUB; USPAT	OR	ON	2012/06/12 10:11

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S11	953	S10 and S7 and (mobil$4 or portab$5) and (quer$3 or search$3 or locat$3 or retriev$4) and (website or webpage or internet or web$5)	US-PGPUB; USPAT	OR	ON	2012/06/12 10:11
S12	587	S10 and S7 and (mobil$4 or portab$5) and ((quer$3 or search$3 or locat$3 or retriev$4) same (website or webpage or internet or web$5))	US-PGPUB; USPAT	OR	ON	2012/06/12 10:13
S13	156	S10 and S7 and (mobil$4 or portab$5) and ((quer$3 or search$3 or locat$3 or retriev$4) same (website or webpage or internet or web$5) same (categor$4 or hierarch$6 or directory or tree or catalog$3 or guide))	US-PGPUB; USPAT	OR	ON	2012/06/12 10:14
S14	89	S10 and S7 and icon$3 and (mobil$4 or portab$5) and ((quer$3 or search$3 or locat$3 or retriev$4) same (website or webpage or internet or web$5) same (categor$4 or hierarch$6 or directory or tree or catalog$3 or guide))	US-PGPUB; USPAT	OR	ON	2012/06/12 11:07
S15	8	"912135".ap.	US-PGPUB; USPAT	OR	ON	2012/06/12 15:07
S16	3	("20110257874" | "7570178" | "20100332054").PN.	US-PGPUB; USPAT	OR	ON	2012/06/12 15:09
S17	297	340/970.ccls.	US-PGPUB; USPAT	OR	ON	2012/06/12 15:15
S18	12	340/970.ccls. and altitude and (user adj interface)	US-PGPUB; USPAT	OR	ON	2012/06/12 15:15
S19	17	("5959945" | "6072492" | "6816172" | "20010014868" | "20020089534" | "6032130" | "6628307" | "5933827" | "6587835" | "7143055" | "20040019610" | "6665687" | "7454706" | "6456303" | "6868525" | "6934690" | "5930769").PN.	US-PGPUB; USPAT	OR	ON	2016/05/31 09:29
S20	19	(US-20040019610-$ or US-20010014868-$ or US-20020089534-$).did. or (US-6665687-$ or US-5933827-$ or US-5959945-$ or US-6032130-$ or US-6587835-$ or US-6934690-$ or US-5930769-$ or US-6456303-$ or US-7454706-$ or US-6816172-$ or US-6072492-$ or US-6868525-$ or US-6516329-$ or US-6211871-$ or US-7143055-$ or US-6628307-$).did.	US-PGPUB; USPAT	OR	ON	2016/09/02 21:31
S21	11	S20 and (search near3 engine)	US-PGPUB; USPAT	OR	ON	2016/09/02 21:31
S22	2998271	@ad<"19991230"	US-PGPUB; USPAT	OR	ON	2016/09/02 21:40
S23	1090	multi$4 near3 page near3 interface	US-PGPUB; USPAT	OR	ON	2016/09/02 21:40
S24	31	@ad<"19991230" and S23	US-PGPUB;	OR	ON	2016/09/02 21:40

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			USPAT			
S25	169	(hierarch$7 or tree) near3 page near3 interface	US-PGPUB; USPAT	OR	ON	2016/09/02 21:45
S26	2	@ad<"19991230" and S25	US-PGPUB; USPAT	OR	ON	2016/09/02 21:45
S27	1315	((hierarch$7 or tree) near3 page) same interface	US-PGPUB; USPAT	OR	ON	2016/09/02 21:47
S28	66	@ad<"19991230" and S27	US-PGPUB; USPAT	OR	ON	2016/09/02 21:47
S29	656	((hierarch$7 or tree) near3 page) with search$3	US-PGPUB; USPAT	OR	ON	2016/09/02 22:11
S30	38	@ad<"19991230" and S29	US-PGPUB; USPAT	OR	ON	2016/09/02 22:11
S31	1544	((hierarch$7 or tree) near3 page) with (quer$3 or search$3 or locat$3 or retriev$4)	US-PGPUB; USPAT	OR	ON	2016/09/02 22:19
S32	675327	local$4 with (website or webpage or internet or web$5 or remote$4)	US-PGPUB; USPAT	OR	ON	2016/09/02 22:20
S33	26	S31 same S32	US-PGPUB; USPAT	OR	ON	2016/09/02 22:20
S34	1	@ad<"19991230" and S33	US-PGPUB; USPAT	OR	ON	2016/09/02 22:20
S35	111717	((hierarch$7 or tree)) with (quer$3 or search$3 or locat$3 or retriev$4)	US-PGPUB; USPAT	OR	ON	2016/09/02 22:21
S36	1473	S35 same S32	US-PGPUB; USPAT	OR	ON	2016/09/02 22:21
S37	85	@ad<"19991230" and S36	US-PGPUB; USPAT	OR	ON	2016/09/02 22:21
S38	26881	G06F17/30873.cpc. or G06F17/30876.cpc. or G06F17/30994.cpc. or G06F17/3089.cpc. or G06F17/30893.cpc. or G06F17/30896.cpc. or G06F17/2247.cpc. or G06F3/04817.cpc or G06F3/0483.cpc.	US-PGPUB; USPAT	OR	ON	2016/09/02 22:24
S39	38	@ad<"19991230" and S36 and (G06F17/$.cpc. or G06F3/$.cpc.)	US-PGPUB; USPAT	OR	ON	2016/09/02 22:24
S40	13	"480701".ap.	US-PGPUB; USPAT	OR	ON	2016/09/02 23:26
S41	1	(US-20150020005-$).did.	US-PGPUB	OR	ON	2016/09/02 23:47
S42	1	S41 and rolling	US-PGPUB; USPAT	OR	ON	2016/09/02 23:47
S43	15	rolling adj menu	US-	OR	ON	2016/09/02

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			PGPUB; USPAT			23:48
S44	20	(US-20040019610-$ or US-20010014868-$ or US-20020089534-$).did. or (US-6665687-$ or US-5933827-$ or US-5959945-$ or US-6032130-$ or US-6587835-$ or US-6934690-$ or US-5930769-$ or US-6456303-$ or US-7454706-$ or US-6816172-$ or US-6072492-$ or US-6868525-$ or US-6516329-$ or US-6211871-$ or US-7143055-$ or US-6628307-$ or US-5875446-$).did.	US-PGPUB; USPAT	OR	ON	2016/09/03 00:26
S45	19	S44 and updat$4	US-PGPUB; USPAT	OR	ON	2016/09/03 00:26
S46	5	S44 and (cellular or mobile or cellphone)	US-PGPUB; USPAT	OR	ON	2016/09/03 00:43
S47	7	S44 and (phone)	US-PGPUB; USPAT	OR	ON	2016/09/03 00:45
S48	13	S44 and (telephone)	US-PGPUB; USPAT	OR	ON	2016/09/03 00:45
S49	5	S44 and pda	US-PGPUB; USPAT	OR	ON	2016/09/03 00:47
S50	5	S44 and (cell$6 or mobile or cellphone)	US-PGPUB; USPAT	OR	ON	2016/09/03 00:49
S51	20	(US-20040019610-$ or US-20010014868-$ or US-20020089534-$).did. or (US-6665687-$ or US-5933827-$ or US-5959945-$ or US-6032130-$ or US-6587835-$ or US-6934690-$ or US-5930769-$ or US-6456303-$ or US-7454706-$ or US-6816172-$ or US-6072492-$ or US-6868525-$ or US-6516329-$ or US-6211871-$ or US-7143055-$ or US-6628307-$ or US-5875446-$).did.	US-PGPUB; USPAT	OR	ON	2016/09/03 02:05
S52	12	S51 and click$4	US-PGPUB; USPAT	OR	ON	2016/09/03 02:05
S53	16	S51 and (load$3 or download$3)	US-PGPUB; USPAT	OR	ON	2016/09/03 02:12
S54	0	icon with distin$5 with local$4 with (link or webpage or website)	US-PGPUB; USPAT	OR	ON	2016/09/03 02:38
S55	161	icon with distin$5 with (link or webpage or website)	US-PGPUB; USPAT	OR	ON	2016/09/03 02:39
S56	16	@ad<"19991230" and S55	US-PGPUB; USPAT	OR	ON	2016/09/03 02:39
S57	1559	icon near4 (distinguish$ or different$4 or distinct$4) near4 visual$4	US-PGPUB;	OR	ON	2016/09/03 02:44

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			USPAT			
S58	91	@ad<"19991230" and S57	US-PGPUB; USPAT	OR	ON	2016/09/03 02:44
S59	26	icon near4 (distinguish$ or different$4 or distinct$4) near4 visual$4 near5 level	US-PGPUB; USPAT	OR	ON	2016/09/03 02:45
S60	2	@ad<"19991230" and S59	US-PGPUB; USPAT	OR	ON	2016/09/03 02:45
S61	13	icon near4 (distinguish$ or different$4 or distinct$4) near4 visual$4 with (hierarch$7 or tree)	US-PGPUB; USPAT	OR	ON	2016/09/03 02:46
S62	3	@ad<"19991230" and S61	US-PGPUB; USPAT	OR	ON	2016/09/03 02:46
S63	338	icon near4 (bookmark) with web$4	US-PGPUB; USPAT	OR	ON	2017/06/08 16:01
S64	9	@ad<"19991230" and S63	US-PGPUB; USPAT	OR	ON	2017/06/08 16:02
S65	59	icon near4 (document) with (web$4 adj2 link)	US-PGPUB; USPAT	OR	ON	2017/06/08 18:26
S66	5	@ad<"19991230" and S65	US-PGPUB; USPAT	OR	ON	2017/06/08 18:26
S67	70	icon near4 (document) with (web$4 adj2 (URL or link))	US-PGPUB; USPAT	OR	ON	2017/06/08 19:25
S68	7	@ad<"19991230" and S67	US-PGPUB; USPAT	OR	ON	2017/06/08 19:26
S69	49	bookmark with (document) with (web$4 adj2 (URL or link))	US-PGPUB; USPAT	OR	ON	2017/06/08 19:27
S70	2	@ad<"19991230" and S69	US-PGPUB; USPAT	OR	ON	2017/06/08 19:27
S71	52	bookmark$3 with (document) with (web$4 adj2 (URL or link))	US-PGPUB; USPAT	OR	ON	2017/06/08 19:27
S72	2	@ad<"19991230" and S71	US-PGPUB; USPAT	OR	ON	2017/06/08 19:27
S73	142	bookmark$3 same (document) same (web$4 adj2 (URL or link))	US-PGPUB; USPAT	OR	ON	2017/06/08 19:29
S74	14	@ad<"19991230" and S73	US-PGPUB; USPAT	OR	ON	2017/06/08 19:29
S75	565	bookmark$3 with (web$4 adj2 (URL or link))	US-PGPUB; USPAT	OR	ON	2017/06/08 19:36
S76	25	@ad<"19991230" and S75	US-PGPUB;	OR	ON	2017/06/08 19:36

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			USPAT			
S77	2279	bookmark$3 near5 (document)	US-PGPUB; USPAT	OR	ON	2017/06/08 20:00
S78	124	@ad<"19991230" and S77	US-PGPUB; USPAT	OR	ON	2017/06/08 20:00

6/9/2017 12:50:53 AM
H:\EAST\Workspaces\14480701.wsp

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Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
	14480701	ALLANI, FERID
	Examiner	Art Unit
	SAJEDA MUHEBBULLAH	2141

CPC- SEARCHED		
Symbol	Date	Examiner
G06F 3/0483	6/8/2017	SM
G06F 3/04817	6/8/2017	SM
G06F 17/30873	6/8/2017	SM
G06F 17/30876	6/8/2017	SM
G06F 17/30994	6/8/2017	SM
G06F 17/3089	6/8/2017	SM
G06F 17/30893	6/8/2017	SM
G06F 17/30896	6/8/2017	SM
G06F 17/2247	6/8/2017	SM

CPC COMBINATION SETS - SEARCHED		
Symbol	Date	Examiner

US CLASSIFICATION SEARCHED			
Class	Subclass	Date	Examiner

SEARCH NOTES		
Search Notes	Date	Examiner
EAST text search included (USPAT & USPGPUB)	6/8/2017	SM

INTERFERENCE SEARCH			
US Class/ CPC Symbol	US Subclass / CPC Group	Date	Examiner

Index of Claims	Application/Control No.	Applicant(s)/Patent Under Reexamination
	14480701	ALLANI, FERID
	Examiner	**Art Unit**
	SAJEDA MUHEBBULLAH	2141

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

☐ Claims renumbered in the same order as presented by applicant ☐ CPA ☐ T.D. ☐ R.1.47

CLAIM		DATE								
Final	Original	09/01/2016	06/08/2017							
	1	✓	✓							
	2	✓	✓							
	3	✓	✓							
	4	✓	✓							
	5	✓	✓							
	6	✓	✓							
	7	✓	✓							
	8	✓	✓							
	9	✓	✓							
	10	✓	✓							
	11	✓	✓							
	12	✓	✓							
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	24	✓	✓							
	25	✓	✓							
	26	✓	✓							
	27	✓	✓							
	28	✓	✓							

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NOTICE OF APPEAL FROM THE EXAMINER TO THE PATENT TRIAL AND APPEAL BOARD		Docket Number 0679-1001-2
Applicant(s):	Ferid ALLANI	Conf.: 9483
Application #:	14/480,701	Filed: September 9, 2014
Title:	METHOD AND DEVICE FOR ACCESSING SOURCES AND SERVICES ON THE WEB	
Group Art Unit:	2141	Examiner: Sajeda Muhebbullah

Applicant hereby appeals to the Patent Trial and Appeal Board from the decision of the Examiner dated **June 14, 2017** rejecting the following claims: **1-28**.

The fee for this Notice of Appeal is: $400.00

If I have checked one of the boxes below, then this is also a petition for an extension of time under 37 CFR 1.136(a) to reply to the rejection:

Extension of time requested for:	Small entity fee for extension of time:
☐ - 1 Month	$100.00
☐ - 2 Months	$300.00
☒ - 3 Months	$700.00
☐ - 4 Months (if available)	$1,100.00

The sum of the fee for the Notice of Appeal and the fee for any extension of time is: **$1,100.00**

☒ Applicant claims small entity status. See 37 CFR 1.27.

☐ A check in the amount of the fee is enclosed.

☒ The required filing fees are being paid simultaneously herewith by credit card.

☒ The Commissioner is hereby authorized to charge any fees, deficiency, or credit any overpayment which may be required, to our credit card or Deposit Account No. 25-0120.

Respectfully submitted,

YOUNG & THOMPSON

/Jeffrey M. Goehring/

Jeffrey M. Goehring, Reg. No. 52,948
Customer No. 00466
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Alexandria, VA 22314
Telephone (703) 521-2297
Facsimile (703) 685-0573

JMG/jr
December 8, 2017

Electronic Patent Application Fee Transmittal

Application Number:	14480701
Filing Date:	09-Sep-2014
Title of Invention:	METHOD AND DEVICE FOR ACCESSING SOURCES AND SERVICES ON THE WEB
First Named Inventor/Applicant Name:	Ferid ALLANI
Filer:	Eric Jensen/Joni Ralls
Attorney Docket Number:	0679-1001-2

Filed as Small Entity

Filing Fees for Utility under 35 USC 111(a)

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
NOTICE OF APPEAL	2401	1	400	400
Post-Allowance-and-Post-Issuance:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Extension-of-Time:				
Extension - 3 months with $0 paid	2253	1	700	700
Miscellaneous:				
		Total in USD ($)		**1100**

Electronic Acknowledgement Receipt	
EFS ID:	31167454
Application Number:	14480701
International Application Number:	
Confirmation Number:	9483
Title of Invention:	METHOD AND DEVICE FOR ACCESSING SOURCES AND SERVICES ON THE WEB
First Named Inventor/Applicant Name:	Ferid ALLANI
Customer Number:	466
Filer:	Eric Jensen/Joni Ralls
Filer Authorized By:	Eric Jensen
Attorney Docket Number:	0679-1001-2
Receipt Date:	08-DEC-2017
Filing Date:	09-SEP-2014
Time Stamp:	09:34:17
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	CARD
Payment was successfully received in RAM	$1100
RAM confirmation Number	120817INTEFSW09345500
Deposit Account	
Authorized User	
The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:	

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Notice of Appeal Filed	NOAP.pdf	72979 3bb78e64ce73e7cf4fe1e1199cb68d8090af01cc	no	1
Warnings:					
Information:					
2	Fee Worksheet (SB06)	fee-info.pdf	32313 c253a6f6143c396978b483e62adcc50451e73491	no	2
Warnings:					
Information:					
		Total Files Size (in bytes):	105292		

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

New Applications Under 35 U.S.C. 111
If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.
National Stage of an International Application under 35 U.S.C. 371
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0679-1001-2

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE BEFORE THE PATENT TRIAL AND APPEAL BOARD

In re application of	Appeal No.
Ferid ALLANI	Conf. 9483
Application No. 14/480,701	Group 2141
Filed September 9, 2014	Examiner SAJEDA MUHEBBULLAH

METHOD AND DEVICE FOR ACCESSING INFORMATION SOURCES AND SERVICES ON THE WEB

APPEAL BRIEF

MAY IT PLEASE YOUR HONORS:

Applicant respectfully appeals the final rejection of claims 1-28 as unpatentable under 35 U.S.C. 103(a), as set forth in the Office Action mailed June 14, 2017.

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(i) Real Party in Interest

The real party in interest in this appeal is the sole inventor Ferid Allani.

(ii) Related Appeals and Interferences

A prior application from which this application is a continuation is currently under appeal. The prior application number is 13/585,065, filed August 14, 2012. The appeal number is 2018-000808.

(iii) Summary of Claimed Subject Matter

The claimed subject matter is described in independent claims 1, 22, 25, and 28. Claims 1, 22, and 25 claim a device described variously as an "Apparatus for accessing information- or service- providing Web sites" (claim 1) or "A communication device connectable to remote sources of information or services through a communication network" (claim 22) or "A mobile communication device connectable to remote sources of information or services through a communication network" (claim 25). Claim 28 is directed to "A method for accessing information- or service-providing Web sites, from a mobile communication device connected through a communication network and provided with a display.

In all claims, the device is connected to a communication network (spec. 2:1-2) and includes a display

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(spec. 5:5) and memory (spec. 5:4) for locally storing information. Each of the independent claims requires at least three (spec. 3:20-22; 4:23-24; 5:6-7; 9:11-14) successively displayed "selection pages" wherein each of the three selection pages is "locally stored" (spec. 3:3-7) in a memory of the device and includes a "selection icon" (spec. 4:3-12) to navigate from one selection page to the next selection page (spec. 5:8-14). The selection pages also include "direct access icons" (spec. 3:17), which can be used to directly access remote sources of information such as a web page and a document on the webpage (spec. 3:29-4:12).

Each claim also requires that at least one of the selection pages includes both (1) "an icon for directly accessing a portal of a Web site" (spec. 1:18-21; 2:7-13; 6:21-24; 5:1-7) and (2) "an icon for directly accessing a document provided by said Web site" (spec. 1:29-32; 4:8-12; 7:11-14).

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(iv) Argument

a. First and Only Ground of Rejection

Whether claims 1-2, 4, 6-12, 14-15 and 17-24 are obvious under 35 U.S.C. 103(a) over Iki et al. ("Iki", US 6,816,172) in view of Fair (US 6,628,307) and further in view of Hsu et al. ("Hsu", US 6,970,867).

Each independent claim (claims, 1, 22, 25, and 26) requires that at least one of the three claimed selection pages further includes at least one icon for directly accessing a portal of a Web site and at least one icon for directly accessing a document provided by said Web site. The Final Office Action at page 4 acknowledges that the combination of of Iki and Fair does not teach this element and combines Hsu for this teaching. However, the teachings of Hsu do not disclose or teach the missing element.

Hsu does not recite the notions of a “selection page”, an “icon”, or a “portal”. The bookmarking process disclosed in Hsu is fully dedicated to users of Web browsers who want to easily bookmark sections of interest within Web pages. The purpose of this bookmarking process disclosed by Hsu is very different from the purpose of the claimed invention since in Hsu the user himself creates book markings for selected sections of a Web page while, in the claimed invention, the user is able to select an icon among existing icons arranged in selection pages

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and these selection pages are designed to provide easy access to selection icons and direct-access icons.

Citing Fig.4 and col. 5, lines 1-67 of Hsu the Office Action concludes that:

1. the claimed "a selection page" is the "the bookmark menu page 68" of Hsu,
2. the claimed "an icon for directly accessing a portal of a Web site" is the "link to whole Webpage 63 added to menu page 68" of Hsu, and
3. the claimed "an icon for directly accessing a document provided by said Web site" is the "link to secondary document of Webpage 64" of Hsu.

Applicant respectfully disagrees with the Examiner's conclusions for the following reasons.

First, the Favorites menu 68 of Hsu contains the option 71 "Add to Favorites", and a list of already bookmarked Favorites including secondary document 64 and whole Web page 63. The disclosed "whole Web page 63" cannot be considered to be the claimed "portal of a Web site" because it is disclosed as merely a Web page accessed through Internet Explorer™ as described in Column 5, lines 31-33.

Second, the "secondary document 64" of Hsu is not the claimed icon "for directly accessing a document provided by" the

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website because it is not directly accessed from a Web site. To the contrary, as recited by Hsu, column 5, line 60 to column 6, line 6:

> When a bookmarked secondary document is subsequently accessed through its bookmark, it still retains its connections with the basic Web page and other secondary documents on the Web by means of JavaScript code embedded in HTML text of the secondary bookmarked document. Thus, when a secondary bookmarked document is accessed through its bookmark, the basic browser being used interprets the JavaScript code in the bookmarked secondary document and displays all other secondary documents associated with it.

According to the above, the link to the secondary document 64 is not processed in Hsu as a link for directly accessing a document provided by a Web site.

Third, the Favorites menu 68 of Hsu cannot be considered the claimed selection page comprising a set of icons including at least one of a direct access icon for directly accessing remote sources of information and a selection icon for locally accessing another selection page within a tree menu structure. The menu 68 does not include a selection icon for locally accessing another selection page. In Hsu, the option 71 “add to Favorites” is not another selection page.

From the foregoing discussion, it is believed to be apparent that the ground of rejection on appeal is improper and should be reversed. Such action is accordingly respectfully requested.

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If necessary, the Commissioner is hereby authorized in this, concurrent, and future submissions, to charge any underpayment or credit any overpayment to Deposit Account No. 25-0120 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17.

Respectfully submitted,

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JMG/jr
February 8, 2018

Enclosures: Claims Appendix

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(v) Claims Appendix

1. Apparatus for accessing information- or service-providing Web sites, comprising a communication device connectable through a communication network to the Internet, control and processing device or devices, data storage device or devices, and a display, said storage device or devices containing a plurality of selection pages within a tree menu structure, said selection pages being beforehand locally stored in said data storage device or devices and each comprising a set of icons including at least one of a direct access icon for directly accessing remote sources of information and a selection icon for locally accessing another selection page within said tree menu structure,

wherein said plurality of selection pages includes:

- a first selection page, a second selection page and a third selection page, said first selection page comprising a selection icon for locally accessing said second selection page, said second selection page comprising a selection icon for locally accessing said third selection page, said third selection page comprising one or more direct access icons for directly accessing an information- or service-providing Web site,

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- at least one selection page further comprising one or more icons for directly accessing a search engine on the Web, and
- at least one selection page further comprising an icon for directly accessing a portal of a Web site and an icon for directly accessing a document provided by said Web site,

wherein the control and processing device or devices are programmed for:

- enabling a preliminary search locally performed within said communication device in different themes and sub themes within said plurality of selection pages, and
- emitting on the communication network, in response to selection of a direct access icon in a selection page being currently displayed, an address of an information- or service-providing Web site corresponding to said selected direct access icon, said address being locally generated during the preliminary search and selection.

2. The apparatus according to claim 1, characterized in that the direct access icons comprise icons for accessing commercial sites.

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3. The apparatus according to claim 1, characterized in that the control and processing device or devices are arranged for receiving, by downloading from a management server, data for updating selection pages, and for processing said updating data so that new selection pages are stored in the data storage device or devices.

4. The apparatus according to claim 1, wherein said at least one selection page comprising two or more direct access icons comprises direct access icons corresponding to distinct sources of information or services.

5. The apparatus according to claim 1, implemented in a mobile phone.

6. The apparatus according to claim 1, wherein a page from a Web site is displayed on said display in response to selecting a direct access icon.

7. The apparatus according to claim 1, wherein at least one of the selection pages includes both at least one direct access icon and at least one selection icon.

8. The apparatus according to claim 1, wherein said control and processing device or devices are configured to

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receive, from a server, data for updating information associated with at least one of a selection page, a direct access icon and a selection icon.

9. The apparatus according to claim 8, wherein said updating information is received periodically.

10. The apparatus according to claim 9, wherein said updating information is received on demand.

11. The apparatus according to claim 1, wherein the second selection page displays information corresponding to a sub-category of the first selection page.

12. The apparatus according to claim 1, wherein said control and processing device or devices are configured to receive information from the information- or service-providing Web site corresponding to said selected direct access icon via the communication network.

13. The apparatus according to claim 1, wherein the selection icons present graphic features that are distinctive from those of the direct access icons.

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14. The apparatus according to claim 1, wherein selection of a direct access icon in a selection page being displayed comprises clicking on said icon.

15. The apparatus according to claim 1, wherein said selection pages stored in said data storage device or devices are downloaded thereto.

16. The apparatus according to claim 1, wherein said selection pages stored in said data storage device or devices are downloaded thereto over a mobile connection.

17. The apparatus according to claim 1, wherein said selection pages operate as rolling menus.

18. The apparatus according to claim 1, wherein at least one of the selection pages is a trunk of the tree menu structure.

19. The apparatus according to claim 1, wherein the control and processing device or devices are configured to command a request-answer sequence characterized in that the request comprises the address of the information- or service-providing Web site, and wherein the request-answer sequence is

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preceded by a locally implemented selection of themes and sub-themes.

20. The apparatus according to claim 1, wherein the icons comprise logotypes, graphic marks or semi-graphic marks.

21. The apparatus according to claim 1, wherein the icons comprise textual elements.

22. A communication device connectable to remote sources of information or services through a communication network, the communication device comprising a display, data storage, a processor, a controller and a plurality of pages locally stored in said data storage and displayable on said display,

wherein a first one of said locally stored pages includes at least one selection icon capable of being selectively activated to display a second one of said locally stored pages on said display,

wherein said second one of said locally stored pages includes at least one direct access icon capable of being selectively activated to connect said communication device to a predetermined one of said remote sources of information or services, and at least one second selection icon capable of

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being selectively activated to display a third one of said locally stored pages on said display,

wherein at least one of said first, second and third locally stored pages further includes at least one icon for directly accessing a search engine for permitting a user to control searches on the Web,

wherein at least one of said first, second and third locally stored pages further includes at least one icon for directly accessing a portal of Web site and one icon for directly accessing a document provided by said Web site.

23. The communication device according to claim 22, characterized in that said selection pages are locally stored in the data storage beforehand.

24. The communication device according to claim 22, wherein said selection pages stored in said data storage are organized in a tree menu structure.

25. A mobile communication device connectable to remote sources of information or services through a communication network, the communication device comprising a display, data storage, a processor, a controller and a plurality

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of pages locally stored in said data storage and displayable on said display,

wherein a first one of said locally stored pages includes at least one direct access icon capable of being selectively activated to connect said mobile communication device to a first predetermined one of said remote sources of information or services, and at least one selection icon capable of being selectively activated to display a second one of said locally stored pages on said display, wherein said second one of said locally stored pages includes at least one second direct access icon capable of being selectively activated to connect said mobile communication device to a second predetermined one of said remote sources of information or services, and at least one second selection icon capable of being selectively activated to display a third one of said locally stored pages on said display,

wherein said third one of said locally stored pages includes at least one third direct access icon capable of being selectively activated to connect said mobile communication device to a third predetermined one of said remote sources of information or services, or at least one third selection icon capable of being selectively activated to display a fourth one of said locally stored pages on said display,

wherein at least one of said locally stored pages further comprises an icon for directly accessing a portal of a

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Web site and an icon for directly accessing a document provided by said Web site.

26. The mobile communication device according to claim 25, wherein at least one of the selection pages further comprises one or more icons for directly accessing a search engine on the Web.

27. The mobile communication device according to claim 25, wherein selective activation of a direct access icon comprises emitting, on the communication network, an address of the first, second or third predetermined one of said remote sources.

28. A method for accessing information- or service-providing Web sites, from a mobile communication device connected through a communication network and provided with a display, comprising:

- a preliminary search for information or service, locally performed within said communication device in different themes and sub-themes within a plurality of successively displayed selection pages, said selection pages being organized in a tree menu structure and beforehand locally stored within said communication device, each said selection page comprising a set of

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icons, said selection pages further comprising a first selection page, a second selection page and a third selection page, said first selection page comprising a selection icon for locally accessing said second selection page, and said second selection page comprising a selection icon for locally accessing said third selection page, said third selection page comprising one or more direct access icons for directly accessing an information- or service-providing Web site, and

- emitting on the communication network, in response to a selection of a direct access icon in a selection page being currently displayed, an address of an information- or service-providing web site corresponding to said selected icon, said address being locally generated during said displaying and selection and for directly accessing said information- or service-providing Web site,

wherein:

- at least one of said selection pages further comprises an icon for directly accessing a portal of Web site and an icon for directly accessing a document provided by said Web site

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- at least one of said selection pages further comprises one or more icons for directly accessing a search engine on the Web.

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EXAMINER	
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BEFORE THE PATENT TRIAL AND APPEAL BOARD

Application Number: 14/480,701
Filing Date: 9 Sep 2014
Appellant(s): ALLANI, Ferid,

Jeffrey Goehring (Attorney)
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed February 08, 2018 appealing from the Office Action mailed June 14, 2017.

(1) Grounds of Rejection to be Reviewed on Appeal

Every ground of rejection set forth in the Office action dated June 14, 2017 from which the appeal is taken is being maintained by the examiner except for the grounds of rejection (if any) listed under the subheading "WITHDRAWN REJECTIONS." New grounds of rejection (if any) are provided under the subheading "NEW GROUNDS OF REJECTION."

(2) Restatement of Rejection

The following ground(s) of rejection are applicable to the appealed claims.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-2, 4, 6-12, 14-15 and 17-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Iki et al. ("Iki", US 6,816,172) in view of Fair (US 6,628,307) and further in view of Hsu et al. ("Hsu", US 6,970,867).

As per claim 1, Iki teaches an apparatus for accessing information- or service-providing Web sites, comprising a communication device connectable through a communication network to the Internet (col.5, lines 6-40, *remote systems accessed via Internet*), control and processing device or devices (col.2, lines 57-64; col.3, lines 35-40, *system controller 140, processor 201*), data storage device or devices (col.2, lines 57-64, *controller stores data from data sources*), and a display (col.4, lines 15-19, *display device*), said storage device or devices containing a set of icons including at least one of a direct access icon for directly accessing remote sources of

information (col.6, lines 18-20; col.7, line 62-col.8, line 7; col.5, lines 48-55, *graphical image corresponding to identifiers to a remote web server*) and wherein the control and processing device or devices are programmed for: enabling a preliminary search locally performed within said communication device (col.8, line 63-col.9, line 3, *data corresponding to identifier retrieved from local storage medium*), and emitting on the communication network, in response to selection of a direct access icon in a selection page being currently displayed (col.6, lines 18-20; col.7, line 62-col.8, line 7; col.5, lines 48-55, *graphical image corresponding to identifiers to a remote web server*), an address of an information- or service-providing Web site corresponding to said selected direct access icon, said address being locally generated during the preliminary search and selection (col.6, lines 14-20; col.7, lines 2-4, *data portion includes address of information in identifier*).

However, Iki does not teach said storage device containing a plurality of selection pages within a tree menu structure, said selection pages being beforehand locally stored in said data storage device or devices, a selection icon for locally accessing another selection page within said tree menu structure, wherein said plurality of selection pages includes: a first selection page, a second selection page and a third selection page, said first selection page comprising a selection icon for locally accessing said second selection page, said second selection page comprising a selection icon for locally accessing said third selection page, said third selection page comprising one or more direct access icons for directly accessing an information- or service-providing Web site, at least one selection page further comprising one or more icons for directly accessing a search engine on the Web, at least one selection page further comprising an icon for directly accessing a portal of a Web site and an icon for directly accessing a document

provided by said Web site and enabling a search performed in different themes and sub themes within said plurality of selection pages.

Fair teaches an apparatus for selection of hierarchically organized pages stored locally containing selectable icons linking to additional pages and websites wherein pages may be accessed locally without having to connect to the website (Fair, col.4, lines 20-25, *hierarchy of selection pages*; col.5, lines 6-14, *pages locally stored*; col.6, lines 4-6, 50-54, *direct icons and icons to other pages*; col.7, lines 4-11, 50-59), page comprising an icon to access a search engine (Fair, col.8, lines 20-41, *vehicle icons 170,172,174*) and pages organized by theme to access remotely located data (Fair, col.4, lines 29-37, *grocery theme icon accesses remotely located grocery related data;* col.6, lines 48-61, *bank theme icon accesses remotely located bank related data*). It would have been obvious to one of ordinary skill in the art to include Fair's teaching with Iki's device in order to save access time (Fair, col.1, line 61-col.2, line 20).

Furthermore, the apparatus of Iki and Fair does not teach at least one selection page further comprising an icon for directly accessing a portal of a Web site and an icon for directly accessing a document provided by said Web site. Hsu teaches a selection bookmark page where a user may create both a link to a Webpage and a link to a document within that Webpage on the bookmark menu page (Hsu, Fig.4, *bookmark menu page 68;* col.5, lines 1-67, *link to secondary document of Webpage 64 and link to whole Webpage 63 added to menu page 68*). It would have been obvious to one of ordinary skill in the art at the time of the invention to include Hsu's teaching with the apparatus of Iki and Fair for quick access to areas of interest (Hsu, col.1, lines 59-63).

As per claim 2, the apparatus of Iki, Fair and Hsu teaches the apparatus according to claim 1, characterized in that the direct access icons comprise icons for accessing commercial sites (Iki, col.7, lines 57-61, *merchandise may be purchased*).

As per claim 4, the apparatus of Iki, Fair and Hsu teaches the apparatus according to claim 1, wherein said at least one selection page comprising two or more direct access icons comprises direct access icons corresponding to distinct sources of information or services (Iki, col.7, lines 34-61, *icons corresponding to videos, songs, critiques, etc*).

As per claim 6, the apparatus of Iki, Fair and Hsu teaches the apparatus according to claim 1, wherein a page from a Web site is displayed on said display in response to selecting a direct access icon (Fair, col.4, lines 29-37, *grocery theme icon accesses remotely located grocery related data;* col.6, lines 48-61, *bank theme icon accesses remotely located bank related data*).

As per claim 7, the apparatus of Iki, Fair and Hsu teaches the apparatus according to claim 1, wherein at least one of the selection pages includes both at least one direct access icon (Iki, col.6, lines 18-20, *URL*) and at least one selection icon (Iki, col.8, lines 37-51, *second interface displaying add'l identifiers*).

As per claim 8, the apparatus of Iki, Fair and Hsu teaches the apparatus according to claim 1, wherein said control and processing device or devices are configured to receive, from a server, data for updating information associated with at least one of a selection page, a direct access icon and a selection icon (Fair, col.6, lines 6-13, *provider updates pages*).

As per claim 9, the apparatus of Iki, Fair and Hsu teaches the apparatus according to claim 8, wherein said updating information is received periodically (Fair, col.6, lines 6-13, *provider updates pages periodically*).

As per claim 10, the apparatus of Iki, Fair and Hsu teaches the apparatus according to claim 9, wherein said updating information is received on demand (Fair, col.6, lines 2-10, *updated pages pulled by user*).

As per claim 11, the apparatus of Iki, Fair and Hsu teaches the apparatus according to claim 1, wherein the second selection page displays information corresponding to a sub-category of the first selection page (Iki, col.8, lines 19-51, *retrieves add'l data corresponding to selected first selection*).

As per claim 12, the apparatus of Iki, Fair and Hsu teaches the apparatus according to claim 1, wherein said control and processing device or devices are configured to receive information from the information- or service-providing Web site corresponding to said selected direct access icon via the communication network (Iki, col.6, lines 14-20; col.7, lines 2-4, *link to a remote web server*).

As per claim 14, the apparatus of Iki, Fair and Hsu teaches the apparatus according to claim 1, wherein selection of a direct access icon in a selection page being displayed comprises clicking on said icon (Fair, col.4, lines 8-14, *clicking on icon retrieves page*).

As per claim 15, the apparatus of Iki, Fair and Hsu teaches the apparatus according to claim 1, wherein said selection pages stored in said data storage device or devices are downloaded thereto (Fair, col.6, lines 1-22, *pages stored in local memory from website*).

As per claim 17, the apparatus of Iki, Fair and Hsu teaches the apparatus according to claim 1, wherein said selection pages operate as rolling menus (Fair, col.4, lines 20-28, *linking of pages*).

As per claim 18, the apparatus of Iki, Fair and Hsu teaches the apparatus according to claim 1, wherein at least one of the selection pages is a trunk of the tree menu structure (Fair, col.6, lines 48-61, *upper-level page leads to lower-level pages*).

As per claim 19, the apparatus of Iki, Fair and Hsu teaches the apparatus according to claim 1, wherein the control and processing device or devices are configured to command a request-answer sequence characterized in that the request comprises the address of the information- or service-providing Web site, and wherein the request-answer sequence is preceded by a locally implemented selection of themes and sub-themes (Fair, col.4, lines 29-37, *grocery theme icon accesses remotely located grocery related data;* col.6, lines 1-4, 48-61, *bank theme icon accesses remotely located bank related data*).

As per claim 20, the apparatus of Iki, Fair and Hsu teaches the apparatus according to claim 1, wherein the icons comprise logotypes, graphic marks or semi-graphic marks (Iki, Fig.5, col.7, lines 24-30, *graphical images*).

As per claim 21, the apparatus of Iki, Fair and Hsu teaches the apparatus according to claim 1, wherein the icons comprise textual elements (Iki, col.7, lines 24-30, *words related to identifiers*).

As per claim 22, Iki teaches a communication device connectable to remote sources of information or services through a communication network (col.5, lines 6-40, *Internet*), the communication device comprising a display (col.4, lines 15-19, *display device*), data storage (col.2, lines 57-64, *controller stores data from data sources*), a processor (col.3, lines 35-40, *processor 201*), a controller (col.2, lines 57-64, *system controller 140*) and at least one direct access icon capable of being selectively activated to connect said communication device to a predetermined one of said remote sources of information or services (col.6, lines 18-20; col.7,

line 62-col.8, line 7; col.5, lines 48-55, *graphical image corresponding to identifiers to a remote web server*).

However, Iki does not teach a plurality of pages locally stored in said data storage and displayable on said display, wherein a first one of said locally stored pages includes at least one selection icon capable of being selectively activated to display a second one of said locally stored pages on said display and at least one second selection icon capable of being selectively activated to display a third one of said locally stored pages on said display and, wherein at least one of said first, second and third locally stored pages further includes at least one icon for directly accessing a search engine for permitting a user to control searches on the Web, wherein at least one of said first, second and third locally stored pages further includes at least one icon for directly accessing a portal of a Web site and one icon for directly accessing a document provided by said Web site.

Fair teaches an apparatus for selection of hierarchically organized pages stored locally containing selectable icons linking to additional pages and websites wherein pages may be accessed locally without having to connect to the website (Fair, col.4, lines 20-25, *hierarchy of selection pages*; col.5, lines 6-14, *pages locally stored*; col.6, lines 4-6, 50-54, *direct icons and icons to other pages*; col.7, lines 4-11, 50-59), page comprising an icon to access a search engine (Fair, col.8, lines 20-41, *vehicle icons 170,172,174*) and pages organized to access remotely located data (Fair, col.4, lines 29-37, *grocery theme icon accesses remotely located grocery related data;* col.6, lines 48-61, *bank theme icon accesses remotely located bank related data*). It would have been obvious to one of ordinary skill in the art to include Fair's teaching with Iki's device in order to save access time (Fair, col.1, line 61-col.2, line 20).

Furthermore, the device of Iki and Fair does not teach at least one selection page further comprising an icon for directly accessing a portal of a Web site and an icon for directly accessing a document provided by said Web site. Hsu teaches a selection bookmark page where a user may create both a link to a Webpage and a link to a document within that Webpage on the bookmark menu page (Hsu, Fig.4, *bookmark menu page 68;* col.5, lines 1-67, *link to secondary document of Webpage 64 and link to whole Webpage 63 added to menu page 68*). It would have been obvious to one of ordinary skill in the art at the time of the invention to include Hsu's teaching with the device of Iki and Fair for quick access to areas of interest (Hsu, col.1, lines 59-63).

As per claim 23, the device of Iki, Fair and Hsu teaches the communication device according to claim 22, characterized in that said selection pages are locally stored in the data storage beforehand (Fair, col.5, lines 6-14, *pages locally stored*).

As per claim 24, the device of Iki, Fair and Hsu teaches the communication device according to claim 22, wherein said selection pages stored in said data storage are organized in a tree menu structure (Fair, col.4, lines 20-25, *hierarchy of selection pages).*

3. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Iki et al. ("Iki", US 6,816,172), Fair (US 6,628,307) and Hsu et al. ("Hsu", US 6,970,867) in view of Schagen et al. ("Schagen", US 6,702,492).

As per claim 3, the apparatus of Iki, Fair and Hsu teaches the apparatus according to claim 1, characterized in that the control and processing device or devices are arranged for receiving, data for updating selection pages, and for processing said updating data so that new selection pages are stored in the data storage device or devices (Fair, col.6, lines 6-10, *provider*

updates pages periodically). However, the apparatus does not teach updating by downloading from a management server. Schagen teaches an apparatus for searching data from local and remote sources of information that are hierarchically organized wherein updating is achieved from a central server (Schagen, col.9, lines 37-42, *central station*). It would have been obvious to one of ordinary skill in the art at the time of the invention to include Schagen's teaching with the apparatus of Iki, Fair and Hsu for central management of updates (Schagen, col.3, lines 42-44).

4. Claims 5, 16 and 25-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Iki et al. ("Iki", US 6,816,172), Fair (US 6,628,307) and Hsu et al. ("Hsu", US 6,970,867) in view of Burns (US 2004/0019610).

As per claim 5, the apparatus of Iki, Fair and Hsu teaches the apparatus according to claim 1, however does not teach the apparatus implemented in a mobile phone. Burns teaches an apparatus for organizing information from various sources wherein the apparatus may be a mobile phone (Burns, para.27-28, *mobile units like PDAs*). It would have been obvious to one of ordinary skill in the art at the time of the invention to include Burns' teaching with the apparatus of Iki, Fair and Hsu for allowing portability (Burns, para.27-28).

As per claim 16, the apparatus of Iki, Fair and Hsu teaches the apparatus according to claim 1, wherein said selection pages stored in said data storage device or devices are downloaded (Fair, col.6, lines 1-22) however does not teach downloaded over a mobile connection. Burns teaches an apparatus for organizing information from various sources wherein the apparatus may consist of a mobile connection (Burns, para.27-28, *mobile units like PDAs*). It would have been obvious to one of ordinary skill in the art at the time of the invention to include

Burns' teaching with the apparatus of Iki, Fair and Hsu for allowing portability (Burns, para.27-28).

As per claim 25, Iki teaches a communication device connectable to remote sources of information or services through a communication network (col.5, lines 6-40, *remote systems accessed via Internet*), the communication device comprising a display (col.4, lines 15-19, *display device*), data storage (col.2, lines 57-64, *controller stores data from data sources*), a processor (col.3, lines 35-40, *processor 201*), a controller (col.2, lines 57-64, *system controller 140*) and at least one direct access icon capable of being selectively activated to connect said communication device to a predetermined one of said remote sources of information or services (col.6, lines 18-20; col.7, line 62-col.8, line 7; col.5, lines 48-55, *graphical image corresponding to identifiers to a remote web server*) and at least one second direct access icon capable of being selectively activated to connect said mobile communication device to a second predetermined one of said remote sources of information or services (col.6, lines 18-20; col.7, line 62-col.8, line 7; col.5, lines 48-55, *graphical image corresponding to identifiers to a remote web server)*, and wherein said third one of said locally stored pages includes at least one third direct access icon capable of being selectively activated to connect said mobile communication device to a third predetermined one of said remote sources of information or services (col.6, lines 18-20; col.7, line 62-col.8, line 7; col.5, lines 48-55, *graphical image corresponding to identifiers to a remote web server*).

However, Iki does not teach a mobile communication device, a plurality of pages locally stored in said data storage and displayable on said display, wherein a first one of said locally stored pages includes at least one selection icon capable of being selectively activated to display a second one of said locally stored pages on said display and at least one second selection icon

capable of being selectively activated to display a third one of said locally stored pages on said display and at least one third selection icon capable of being selectively activated to display a fourth one of said locally stored pages on said display, wherein at least one of said locally stored pages further comprises an icon for directly accessing a portal of a Web site and an icon for directly accessing a document provided by said Web site.

Fair teaches a device for selection of hierarchically organized pages stored locally containing selectable icons linking to additional pages and websites wherein pages may be accessed locally without having to connect to the website (Fair, col.4, lines 20-25, *hierarchy of selection pages*; col.5, lines 6-14, *pages locally stored*; col.6, lines 4-6, 50-54, *direct icons and icons to other pages*; col.7, lines 4-11, 50-59) and pages organized to access remotely located data (Fair, col.4, lines 29-37, *grocery theme icon accesses remotely located grocery related data;* col.6, lines 48-61, *bank theme icon accesses remotely located bank related data*). It would have been obvious to one of ordinary skill in the art to include Fair's teaching with Iki's device in order to save access time (Fair, col.1, line 61-col.2, line 20).

Furthermore, the device of Iki and Fair does not teach at least one selection page further comprising an icon for directly accessing a portal of a Web site and an icon for directly accessing a document provided by said Web site. Hsu teaches a selection bookmark page where a user may create both a link to a Webpage and a link to a document within that Webpage on the bookmark menu page (Hsu, Fig.4, *bookmark menu page 68;* col.5, lines 1-67, *link to secondary document of Webpage 64 and link to whole Webpage 63 added to menu page 68*). It would have been obvious to one of ordinary skill in the art at the time of the invention to include Hsu's teaching with the device of Iki and Fair for quick access to areas of interest (Hsu, col.1, lines 59-63).

Additionally, the device of Iki, Fair and Hsu does not teach the device implemented in a mobile phone. Burns teaches a device for organizing information from various sources wherein the device may be a mobile phone (Burns, para.27-28, *mobile units like PDAs*). It would have been obvious to one of ordinary skill in the art at the time of the invention to include Burns' teaching with the device of Iki, Fair and Hsu for allowing portability (Burns, para.27-28).

As per claim 26, the device of Iki, Fair, Hsu and Burns teaches the mobile communication device according to claim 25, wherein at least one of the selection pages further comprises one or more icons for directly accessing a search engine on the Web (Fair, col.8, lines 20-41, *vehicle icons 170,172,174*).

As per claim 27, the device of Iki, Fair, Hsu and Burns teaches the mobile communication device according to claim 25, wherein selective activation of a direct access icon comprises emitting, on the communication network, an address of the first, second or third predetermined one of said remote sources (Iki, col.6, lines 14-20; col.7, lines 2-4, *data portion includes address of information in identifier*).

Claim 28 is similar in scope to claim 5, and is therefore rejected under similar rationale.

5. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Iki et al. ("Iki", US 6,816,172), Fair (US 6,628,307) and Hsu et al. ("Hsu", US 6,970,867) in view of Rush et al. ("Rush", US 7,131,069).

As per claim 13, the apparatus of Iki, Fair and Hsu teaches the apparatus according to claim 1, wherein icons present graphic features, however, the apparatus does not teach the selection icons to be distinctive from those of the direct access icons. Rush teaches an apparatus for organizing information wherein the apparatus distinguishes icons according to the node type

(Rush, col.23, lines 4-15, *icons visually symbolize different types of objects*). It would have been obvious to one of ordinary skill in the art at the time of the invention to include Rush's teaching with the apparatus of Iki, Fair and Hsu in order to quickly distinguish the type of node (Rush, col.23, lines 4-15).

(3) Response to Argument

Applicant's arguments filed in the Appeal Brief have been fully considered but they are not persuasive.

a) Applicant argued that Hsu does not recite the notions of a 'selection page', an 'icon', or a 'portal'. The disclosed "whole Web page 63" cannot be considered to be the claimed "portal of a Web site" because it is disclosed as merely a Web page accessed through the Internet Explorer as described in col.5, lines 31-33 of Hsu. **Second,** the "secondary document 64" of Hsu is not the claimed icon "for directly accessing a document provided by" the website because it is not directly accessed from a Web site. The link to the secondary document 64 is not processed in Hsu as a link for directly accessing a document provided by a Web site. **Third**, the Favorites menu 68 of Hsu cannot be considered the claimed selection page comprising a set of icons including at least one of a direct access icon for directly accessing remote sources of information and a selection icon for locally accessing another selection page within a tree menu structure. The menu 68 does not include a selection icon for locally accessing another selection page. In Hsu, the option 71 "add to Favorites" is not another selection page.

Per a), The Examiner respectfully disagrees in response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references

individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.,* 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). The Hsu prior art is combined with the device of Iki and Fair to only teach the limitation of an icon for accessing a webpage and an icon for accessing a document provided by said webpage on the same page (Hsu, Fig.4, *bookmark menu page 68;* col.5, lines 1-67, *link to secondary document of Webpage 64 and link to whole Webpage 63 added to menu page 68*). The claim recites a page "*comprising an icon for directly accessing a portal of a Web site*". A portal to a website is merely a website combining content from different sources onto a single interface which is similar to Hsu's Web page 63 in Figs.3-4 which combines links 62 onto a single Web page interface 63. **Second**, the claim recites "*an icon for directly accessing a document provided by said Web site*". Hsu teaches adding a bookmark to a bookmark menu page 68 which results in an icon linking to the secondary document 64 which is a document accessed from the portal Webpage 64. **Third**, Hsu does teach a bookmark page 68 including both a link to a portal of a Web page 63 and a link for directly accessing secondary document 64 provided by said Web page 63 whereas the limitation of a "selection page comprising a set of icons including at least one of a direct access icon for directly accessing remote sources of information and a selection icon for locally accessing another selection page within a tree menu structure" has been already shown to be taught by Fair (Fair, col.4, lines 20-25, *hierarchy of selection pages*; col.5, lines 6-14, *pages locally stored*; col.6, lines 4-6, 50-54, *direct icons and icons to other pages*; col.7, lines 4-11, 50-59).

(4) Conclusion of Examiner Answer

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

/S. M./
Sajeda Muhebbullah
Examiner, Art Unit 2141

Conferees:

/AMY NG/
Supervisory Patent Examiner, Art Unit 2141

/KAVITA PADMANABHAN/
Supervisory Patent Examiner, Art Unit 2176

Requirement to pay appeal forwarding fee. In order to avoid dismissal of the instant appeal in any application or ex parte reexamination proceeding, 37 CFR 41.45 requires payment of an appeal forwarding fee within the time permitted by 37 CFR 41.45(a), unless appellant had timely paid the fee for filing a brief required by 37 CFR 41.20(b) in effect on March 18, 2013.

Doc code: RCEX
Doc description: Request for Continued Examination (RCE)

PTO/SB/30EFS (07-14)
Approved for use through 07/31/2016. OMB 0651-0031
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Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

REQUEST FOR CONTINUED EXAMINATION(RCE)TRANSMITTAL
(Submitted Only via EFS-Web)

Application Number	14480701	Filing Date	2014-09-09	Docket Number (if applicable)	0679-1001-2	Art Unit	2141
First Named Inventor	Ferid ALLANI			Examiner Name	Sajeda Muhebbullah		

This is a Request for Continued Examination (RCE) under 37 CFR 1.114 of the above-identified application.
Request for Continued Examination (RCE) practice under 37 CFR 1.114 does not apply to any utility or plant application filed prior to June 8, 1995, to any international application that does not comply with the requirements of 35 U.S.C. 371, or to any design application. The Instruction Sheet for this form is located at WWW.USPTO.GOV.

SUBMISSION REQUIRED UNDER 37 CFR 1.114

Note: If the RCE is proper, any previously filed unentered amendments and amendments enclosed with the RCE will be entered in the order in which they were filed unless applicant instructs otherwise. If applicant does not wish to have any previously filed unentered amendment(s) entered, applicant must request non-entry of such amendment(s).

☐ Previously submitted. If a final Office action is outstanding, any amendments filed after the final Office action may be considered as a submission even if this box is not checked.

- ☐ Consider the arguments in the Appeal Brief or Reply Brief previously filed on _____
- ☐ Other _____

☒ Enclosed

- ☒ Amendment/Reply
- ☐ Information Disclosure Statement (IDS)
- ☒ Affidavit(s)/ Declaration(s)
- ☐ Other _____

MISCELLANEOUS

☐ Suspension of action on the above-identified application is requested under 37 CFR 1.103(c) for a period of months _____
(Period of suspension shall not exceed 3 months; Fee under 37 CFR 1.17(i) required)

☐ Other _____

FEES

☒ **The RCE fee under 37 CFR 1.17(e) is required by 37 CFR 1.114 when the RCE is filed.**
The Director is hereby authorized to charge any underpayment of fees, or credit any overpayments, to Deposit Account No 250120

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT REQUIRED

☒ Patent Practitioner Signature

Applicant Signature

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PTO/SB/30EFS (07-14)
Approved for use through 07/31/2016. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Signature of Registered U.S. Patent Practitioner			
Signature	/Jeffrey M. Goehring/	Date (YYYY-MM-DD)	2018-06-19
Name	Jeffrey M. Goehring	Registration Number	52948

This collection of information is required by 37 CFR 1.114. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450.

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

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

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

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether the Freedom of Information Act requires disclosure of these records.

2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.

3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.

4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).

5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.

6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).

7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.

8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspections or an issued patent.

9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

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Electronic Patent Application Fee Transmittal	
Application Number:	14480701
Filing Date:	09-Sep-2014
Title of Invention:	METHOD AND DEVICE FOR ACCESSING SOURCES AND SERVICES ON THE WEB
First Named Inventor/Applicant Name:	Ferid ALLANI
Filer:	Eric Jensen/Linda Sayyad
Attorney Docket Number:	0679-1001-2

Filed as Small Entity

Filing Fees for Utility under 35 USC 111(a)

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Miscellaneous:				
RCE- 1ST REQUEST	2801	1	650	650
		Total in USD ($)		**650**

Electronic Acknowledgement Receipt	
EFS ID:	32933159
Application Number:	14480701
International Application Number:	
Confirmation Number:	9483
Title of Invention:	METHOD AND DEVICE FOR ACCESSING SOURCES AND SERVICES ON THE WEB
First Named Inventor/Applicant Name:	Ferid ALLANI
Customer Number:	466
Filer:	Eric Jensen/Linda Sayyad
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Attorney Docket Number:	0679-1001-2
Receipt Date:	19-JUN-2018
Filing Date:	09-SEP-2014
Time Stamp:	10:39:04
Application Type:	Utility under 35 USC 111(a)

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

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		AMD_RCE.pdf	69778 0154e36cfc3ec642fdcb1be45483c1e479e3f932	yes	17
	Multipart Description/PDF files in .zip description				
	Document Description		**Start**	**End**	
	Amendment Submitted/Entered with Filing of CPA/RCE		1	1	
	Claims		2	12	
	Applicant Arguments/Remarks Made in an Amendment		13	17	
Warnings:					
Information:					
2	Affidavit-Rule 131-pre-AIA (FTI) ONLY	DEC_Allani.pdf	11750014 ccd96b82ccb9b18016ce18058c7b7bc76736b657	no	13
Warnings:					
Information:					
3	Request for Continued Examination (RCE)	RCE.pdf	1369385 4049e446c7a0d037e3ac0a253ef2f7a846956341	no	3
Warnings:					
Information:					
4	Fee Worksheet (SB06)	fee-info.pdf	30307 972aefd6b02fd38bf8c7b407a87be4d938f3c322	no	2
Warnings:					
Information:					
		Total Files Size (in bytes):	13219484		

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New Applications Under 35 U.S.C. 111

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

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

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

New International Application Filed with the USPTO as a Receiving Office

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

MS RCE
PATENT
0679-1001-2

IN THE U. S. PATENT AND TRADEMARK OFFICE

In re application of

Ferid ALLANI Conf. 9483

Application No. 14/480,701 Group 2141

Filed September 9, 2014 Examiner Sajeda Muhebbullah

METHOD AND DEVICE FOR ACCESSING SOURCES AND SERVICES ON THE WEB

WITHDRAWAL OF APPEAL, AMENDMENT, AND RCE

Commissioner for Patents June 19, 2018
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

Applicant hereby withdraws the appeal. In response to the final Office Action of June 14, 2017, and in conjunction with a Request for Continued Examination filed concurrently herewith, please amend the above-identified application as follows:

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

Remarks begin on page 13 of this paper.

AMENDMENTS TO THE CLAIMS:

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

LISTING OF CLAIMS:

1. (currently amended) Apparatus for accessing information- or service- providing Web sites, comprising a communication device connectable through a communication network to the Internet, control and processing device or devices, data storage device or devices, and a display, said storage device or devices containing a plurality of selection pages within a tree menu structure, said selection pages being beforehand locally stored in said data storage device or devices and each comprising a set of icons including at least one of a direct access icon for directly accessing remote sources of information and a selection icon for locally accessing another selection page within said tree menu structure,

wherein said plurality of selection pages includes:

- a first selection page, a second selection page and a third selection page, said first selection page comprising a selection icon for locally accessing said second selection page, said second selection page comprising a selection icon for locally accessing said third selection page, said third selection page comprising one or more direct access icons for

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directly accessing an information- or service-providing Web site,

- [[,]]
- at least one selection page further comprising one or more icons for directly accessing a search engine on the Web, and
- at least one selection page further comprising an icon for directly accessing a portal of a Web site and an icon for directly accessing a document provided by said Web site,

wherein the control and processing device or devices are programmed for:

- enabling a preliminary search locally performed within said communication device in different themes and sub themes within said plurality of selection pages, and
- emitting on the communication network, in response to selection of a direct access icon in a selection page being currently displayed, an address of an information- or service-providing Web site corresponding to said selected direct access icon, said address being locally generated during the preliminary search and selection.

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2. (previously presented) The apparatus according to claim 1, characterized in that the direct access icons comprise icons for accessing commercial sites.

3. (previously presented) The apparatus according to claim 1, characterized in that the control and processing device or devices are arranged for receiving, by downloading from a management server, data for updating selection pages, and for processing said updating data so that new selection pages are stored in the data storage device or devices.

4. (previously presented) The apparatus according to claim 1, wherein said at least one selection page comprising two or more direct access icons comprises direct access icons corresponding to distinct sources of information or services.

5. (previously presented) The apparatus according to claim 1, implemented in a mobile phone.

6. (previously presented) The apparatus according to claim 1, wherein a page from a Web site is displayed on said display in response to selecting a direct access icon.

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7. (previously presented) The apparatus according to claim 1, wherein at least one of the selection pages includes both at least one direct access icon and at least one selection icon.

8. (previously presented) The apparatus according to claim 1, wherein said control and processing device or devices are configured to receive, from a server, data for updating information associated with at least one of a selection page, a direct access icon and a selection icon.

9. (previously presented) The apparatus according to claim 8, wherein said updating information is received periodically.

10. (previously presented) The apparatus according to claim 9, wherein said updating information is received on demand.

11. (previously presented) The apparatus according to claim 1, wherein the second selection page displays information corresponding to a sub-category of the first selection page.

12. (previously presented) The apparatus according to claim 1, wherein said control and processing device or devices are configured to receive information from the information- or

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service-providing Web site corresponding to said selected direct access icon via the communication network.

13. (previously presented) The apparatus according to claim 1, wherein the selection icons present graphic features that are distinctive from those of the direct access icons.

14. (previously presented) The apparatus according to claim 1, wherein selection of a direct access icon in a selection page being displayed comprises clicking on said icon.

15. (previously presented) The apparatus according to claim 1, wherein said selection pages stored in said data storage device or devices are downloaded thereto.

16. (previously presented) The apparatus according to claim 1, wherein said selection pages stored in said data storage device or devices are downloaded thereto over a mobile connection.

17. (previously presented) The apparatus according to claim 1, wherein said selection pages operate as rolling menus.

18. (previously presented) The apparatus according to claim 1, wherein at least one of the selection pages is a trunk of the tree menu structure.

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19. (previously presented) The apparatus according to claim 1, wherein the control and processing device or devices are configured to command a request-answer sequence characterized in that the request comprises the address of the information- or service-providing Web site, and wherein the request-answer sequence is preceded by a locally implemented selection of themes and sub-themes.

20. (previously presented) The apparatus according to claim 1, wherein the icons comprise logotypes, graphic marks or semi-graphic marks.

21. (previously presented) The apparatus according to claim 1, wherein the icons comprise textual elements.

22. (previously presented) A communication device connectable to remote sources of information or services through a communication network, the communication device comprising a display, data storage, a processor, a controller and a plurality of pages locally stored in said data storage and displayable on said display,

wherein a first one of said locally stored pages includes at least one selection icon capable of being selectively activated to display a second one of said locally stored pages on said display,

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wherein said second one of said locally stored pages includes at least one direct access icon capable of being selectively activated to connect said communication device to a predetermined one of said remote sources of information or services, and at least one second selection icon capable of being selectively activated to display a third one of said locally stored pages on said display,

wherein at least one of said first, second and third locally stored pages further includes at least one icon for directly accessing a search engine for permitting a user to control searches on the Web,

wherein at least one of said first, second and third locally stored pages further includes at least one icon for directly accessing a portal of Web site and one icon for directly accessing a document provided by said Web site.

23. (previously presented) The communication device according to claim 22, characterized in that said selection pages are locally stored in the data storage beforehand.

24. (previously presented) The communication device according to claim 22, wherein said selection pages stored in said data storage are organized in a tree menu structure.

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25. (previously presented) A mobile communication device connectable to remote sources of information or services through a communication network, the communication device comprising a display, data storage, a processor, a controller and a plurality of pages locally stored in said data storage and displayable on said display,

wherein a first one of said locally stored pages includes at least one direct access icon capable of being selectively activated to connect said mobile communication device to a first predetermined one of said remote sources of information or services, and at least one selection icon capable of being selectively activated to display a second one of said locally stored pages on said display, wherein said second one of said locally stored pages includes at least one second direct access icon capable of being selectively activated to connect said mobile communication device to a second predetermined one of said remote sources of information or services, and at least one second selection icon capable of being selectively activated to display a third one of said locally stored pages on said display,

wherein said third one of said locally stored pages includes at least one third direct access icon capable of being selectively activated to connect said mobile communication device to a third predetermined one of said remote sources of information or services, or at least one third selection icon

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capable of being selectively activated to display a fourth one of said locally stored pages on said display,

wherein at least one of said locally stored pages further comprises an icon for directly accessing a portal of a Web site and an icon for directly accessing a document provided by said Web site.

26. (previously presented) The mobile communication device according to claim 25, wherein at least one of the selection pages further comprises one or more icons for directly accessing a search engine on the Web.

27. (previously presented) The mobile communication device according to claim 25, wherein selective activation of a direct access icon comprises emitting, on the communication network, an address of the first, second or third predetermined one of said remote sources.

28. (previously presented) A method for accessing information- or service-providing Web sites, from a mobile communication device connected through a communication network and provided with a display, comprising:

- a preliminary search for information or service, locally performed within said communication device in different themes and sub-themes within a plurality of

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successively displayed selection pages, said selection pages being organized in a tree menu structure and beforehand locally stored within said communication device, each said selection page comprising a set of icons, said selection pages further comprising a first selection page, a second selection page and a third selection page, said first selection page comprising a selection icon for locally accessing said second selection page, and said second selection page comprising a selection icon for locally accessing said third selection page, said third selection page comprising one or more direct access icons for directly accessing an information- or service-providing Web site, and

- emitting on the communication network, in response to a selection of a direct access icon in a selection page being currently displayed, an address of an information- or service-providing web site corresponding to said selected icon, said address being locally generated during said displaying and selection and for directly accessing said information- or service-providing Web site,

wherein:

- at least one of said selection pages further comprises an icon for directly accessing a portal of Web site

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and an icon for directly accessing a document provided by said Web site

- at least one of said selection pages further comprises one or more icons for directly accessing a search engine on the Web.

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REMARKS

Claims 1-28 remain in this application. Claim 1 has been amended.

Withdrawal of Appeal

Applicant timely filed a Notice of Appeal with the appropriate fee, and timely filed a brief. The Examiner filed an Answer on April 19, 2018, but jurisdiction has not yet transferred to the Board because Applicant has not yet paid the appeal forwarding fee or filed a reply brief, and the deadline for doing so is not until June 19, 2018.

As stated in MPEP 1215.01, "If a brief has been filed within the time permitted by 37 CFR 41.37 (or any extension thereof) and an answer mailed and appellant withdraws the appeal prior to transfer of jurisdiction to the Board under 37 CFR 41.35(a), the application is returned to the examiner." Applicant herein withdraws the appeal and submits a suitable Amendment and Response with an RCE, such that the application returns to the Examiner.

Rejection under 35 U.S.C. 103, obviousness

Claims 1, 2, 4, 6-12, 14-15, and 17-24 stand rejected by the final Office Action dated June 14, 2017 under 35 U.S.C. 103(a) as obvious over Iki et al. ("Iki", US 6,816,172) in view of Fair (US 6,628,307) and further in view of Hsu et al. ("Hsu",

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US 6,970,867). Schagen et al. ("Schagen", US 6,702,492) is added the combination to reject claim 3. Burns (US 2004/0019610) is added to the initial combination to reject claims 5, 16, and 25-28. Rush et al. ("Rush", US 7,131,069) is added to the initial combination to reject claim 13.

1.131(a) Declaration to Swear Behind *Fair*

This application is subject to pre-AIA rules regarding first to invent and prior art. It is a continuation of application no. 13585065 filed August 14, 2012, which is a divisional of application no. 10169355 filed November 5, 2002, which claims priority to French application no 9916704 filed December 30, 1999.

Fair is prior art under pre-AIA 35 U.S.C. 102(e) as of its effective U.S. filing date, which is November 3, 1999. Applicant's within application claims priority to French application No. 9916704 filed December 30, 1999. Accordingly, Applicant may "swear behind" the *Fair* reference and remove its status as prior art against this application using an appropriate declaration under 37 C.F.R. 1.131(a) that shows that applicant conceived of the invention and reduced it to practice, actually or constructively, prior to November 3, 1999, or conceived of the invention prior to that date and diligently worked to reduce it to practice after that date, either actually or constructively.

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Reduction to practice may be an actual reduction or a constructive reduction to practice, which occurs when a patent application on the claimed invention is filed. MPEP 2138.05. A reduction to practice can be done by another on behalf of the inventor. *Id.* The diligence of attorney in preparing and filing patent application inures to the benefit of the inventor. MPEP 2138.06.

Attached hereto is the Rule 1.131(a) Declaration of the sole inventor, Ferid Allani. It establishes that he conceived of the invention prior the priority date of *Fair*, and at least as early as October 12th and 28th 1999, when he disclosed the invention to his attorney in communications on those dates. The invention disclosures of those dates are attached to the declaration. The declaration identifies how the invention disclosures of October 1999 show conception of the presently claimed invention. It also identifies timely constructive reduction to practice in the form of a French patent application filed December 30, 1999, preceded by edits and drafts between Mr. Allani and his attorney after the initial invention disclosures in October 1999.

In Iki et al., the “multimedia identifiers” 521-525 featured in the graphical user interface 500 are arranged to retrieve entertainment system data such as an article 527, but not to access a portal of a web site. Iki fails to disclose at least a selection page comprising both an icon for directly

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accessing a portal of a Web site and an icon for directly accessing a document provided by this Web site. This feature recited in Claim 1 permits users to obtain, by clicking on the "document" direct-access icon, easy and direct access to information contained in a specific document while avoiding a potentially time-consuming and hazardous navigation within the Web site providing this document. If these users are finally interested in obtaining more information or a specific service from this Web site, it is very simple for the user to click on the related "portal" direct-access icon located on the same selection page.

Assuming *Fair* has been removed as prior art, there is no secondary reference combinable with *Iki* to sustain the rejection.

Applicant respectfully requests that a timely Notice of Allowance be issued in this case.

Should there be any matters that need to be resolved in the present application, the Examiner is respectfully requested to contact the undersigned at the telephone number listed below.

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The Commissioner is hereby authorized in this, concurrent, and future submissions to charge any additional fees(s) or underpayment of fee(s) under 37 C.F.R. §§ 1.16 and 1.17 or credit any overpayment of fee(s) to Deposit Account No. 25-0120.

Respectfully submitted,

YOUNG & THOMPSON

_____/Jeffrey M. Goehring/_____
Jeffrey M. Goehring, Reg. No. 52,948
Customer No. 00466
209 Madison Street, Suite 500
Alexandria, VA 22314
Telephone (703) 521-2297
Facsimile (703) 685-0573

JMG/lrs

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IN THE U.S. PATENT AND TRADEMARK OFFICE

In re application of

Ferid ALLANI — Conf. 9841

Application No. 13/585,065 — Group 2141

Filed August 14, 2012 — Examiner Sajeda

Muhebbullah

METHOD AND DEVICE FOR ACCESSING INFORMATION SOURCES AND SERVICES ON THE WEB

DECLARATION OF FERID ALLANI UNDER 37 C.F.R. § 1.131

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

Sir:

1. I, Ferid Allani do declare and state:

2. I am the sole inventor of U.S. application No. 13/585,065.

3. I make the following statements to establish that I invented the subject matter of the '065 application prior to the priority date of U.S. Patent No. 6,628,307, which I understand is November 3, 1999.

4. On October 12, 1999 I disclosed by email the invention of the '065 application to my French patent attorney, Mr. Sylvain Allano. The email included a description of the

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main features of the invention as well as an attachment showing how it would be implemented on a computer screen with icons.

5. Attached hereto are two true and correct copies of the October 12, 1999 email and the accompanying attachment, as well as an English machine translation of the email.

6. The October 12, 1999 email refers to implementation of the invention on a "webphone . . . or any other equipment for connecting to the internet". It discloses a structure of successive pages for navigation by a person without special skills or knowledge regarding web addresses, and which allows such a person to obtain information by selecting "Button" icons. It discloses that the button icons appear on successive linked screens that appear successively from a home page then a theme page then topics and subtopics pages then validation pages.

7. The attachment to the email depicts an embodiment of the invention in the form of a computer screen depicting selectable icons, wherein the screen is part of a successively linked series of pages. The screen prominently displays the term "web menu".

8. The screen of the attachment refers to a tree structure of pages with the reference to "Sommaire/Shopping/Au

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feminine/Vetements", which translates to "Summary/Shopping/for Women/Clothing".

9. The screen depicted in the attachment is the "Clothing" page, the last page, in the successively linked pages identified as "Summary/Shopping/for Women/Clothing". This clothing page is navigated to from the previous "for Women" page, and the "Shopping" page previous to that, and the "Clothing" page previous to that.

10. The screen depicted in the attachment shows selectable icons for specific brand name stores that sell women's clothing, in particular "Gap", "Jean Paul Gaultier", etc. These are meant to link to the outside sources of information or retail services provided by the clothing companies.

11. The screen depicted in the attachment also shows selectable icons other than those that direct to women's clothing stores. In particular, the screen shows selectable icons for the "Internet", which is an icon that links to an internet browser.

12. There are also selectable icons for navigating to email, to a printer, to return to the summary page that is the beginning of the tree menu ("Return to Summary" / "Retour au Sommaire"), to return to the previous page in the tree menu ("Previous Page" / "Page Précédente"), and

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to go to the next page in the tree menu ("Next Page" / "Page Suivante").

13. It is apparent that the screen is not a webpage itself but is instead a locally stored interface with locally stored icons that are used to access the internet or other networked information or services.

14. The attachment says "choisissez votre thème en tapant la touche correspondante ou tapez l'addresse du site", which translates to "choose your theme by typing the corresponding key or type the address of the site"

15. At the bottom, the attachment says, "à tout moment vous pouvez choisir un des services ci dessus", which translates to "at any time you can choose one of the services above"

16. On October 28, 1999, I sent a facsimile to Mr. Allano. A true and correct copy of the October 28, 1999 facsimile is also attached hereto, with translation.

17. The October 28 facsimile emphasizes the advantages of my invention as compared to prior art methods of navigating the internet. As noted in the facsimile, websites at the time were structured in a "newspaper" format, with headings, summaries, text, advertising, etc. In contrast, as noted in the email, the invention provides for a "homepage" comprising a "menu" in the form

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of the button icons disclosed in the October 12 email, wherein the selectable icons are arranged with "themes, headings, subheadings, etc."

18. The facsimile emphasizes the conception of a homepage in the form of a menu with themes, headings, and subheadings.

19. Based on the above disclosures, my attorney Mr. Allano submitted to me a draft of the application on November 16, 1999.

20. Thereafter, we edited the draft and an application was filed with the French patent office on December 30, 1999.

21. Conception of the invention by occurred in France where I resided at that time.

22. The drafting of the application took place in France by my attorney, Mr. Allano. France has been a member of the WTO since 1995.

I declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true, and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under §1001 of Title 18 of the United States Code and

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that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

Date: April the 6th

FERID ALIANI

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Sent: Tuesday, October 12, 1999 6:58 PM
Subject: Dépot de brevet Propriété Intelectuelle

Cher Maître ALLANO ,

Vous semble t-il possible de déposer une demande de brevet , français et international ,suivant les éléments ci-aprés ?

Titulaire : Férid ALLANI
de préférence domicilié en Tunisie , à Kélibia , Villa El Karma , Kélibia Plage
sinon domicilié à Paris au 65 Boulevard LANNES 75 016

Inventeur : Idem

Objet : Application (sur Ordinateur Individuel ,Borne ,Webphone , Screenphone ou tout autre equipement permettant de se connecter à Internet ou à un ou des Intranet) Grand Public d'accés à Internet qui dirige l'utilisateur vers le site choisi par lui par le truchement de plusieurs écrans liés entre eux sur lesquels apparaissent successivement des pages Accueil puis des pages Themes puis des pages Rubriques puis des pages Sous-Rubriques puis des pages Validations (en nombre nécessaire sans que ni le type de page ni le nombre de pages de type différent ou du même type soit limitatif ou obligatoire)

L'application s'adresse a toute personne , sans aucune compétence ni connaissance particulière en matière de site ou d'adresse Web , désireuse d'obtenir des informations sur Internet , sur Intranet ou sur Minitel

L'application offre le choix de toutes les langues écrites (avec des caractères latins dans une première version)

L'utilisateur fait ses choix soit en appuyant sur une icône " Bouton " dans le cas d'un écran tactile , soit en tapant sur le clavier ou par tout autre fonction qui lui est indiquée sur l'écran .

Il y a lieu de protéger de la même manière les concepts de **" Fond d'Ecran avec Arobase "** et de **" Bouton sur Arobase "**

Les fichiers des écrans ci-joint permettent une illustration des concepts

Dans l'attente , je vous prie de croire , cher maître , en l'expression de mes sentiments les plus distingués

Férid ALLANI

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Sent: Tuesday, October 12, 1999 6:58 PM
Subject: Patent Application Intellectual Property

Dear Master ALLANO,

Does it seem possible to file a patent application, French and international, following the following elements? -.

Holder: Ferid ALLANI preferably living in Tunisia, in Kélibia, Villa El Karma, Kélibia Beach if not domiciled in Paris at 65 Boulevard LANNES 75 016

Inventor Idem

Subject: Application (on Individual Computer, Terminal, Webphone, Screenphone or any other equipment allowing to connect to the Internet or Intranet) General Public of access to Internet which directs the user towards the site chosen by him by the through several interconnected screens on which are successively pages Home then Themes pages then pages Topics then pages Sub-Topics then pages Validations (in necessary number without that the type of page nor the number of pages of type different or of the same type, either limiting or mandatory)

The application is intended for anyone, without any skills or knowledge of a particular site or web address, wishing to obtain information on the Internet, Intranet or Minitel

The application offers the choice of all written languages (with Latin characters in a first version)

The user makes his choices either by pressing a "Button" icon in the case of a touch screen, or by tapping the keyboard or by any other function that is indicated on the screen.

It is necessary to protect in the same way the concepts of "Wallpaper with Arobase" and "Button on Arobase"

The attached screen files allow an illustration of the concepts

In the meantime, I beg you to believe, dear master, in expressing my most distinguished

SECURINFO
Internet
F1
Galeries Lafayette
F2
Jean paul Gaultier
F3
Kookai
F4
Kiabi
F5
La Redoute
F6
Pimkie
F7
Bonobo
F8
Sessun
F9
Elle
F10
Camaieu
F11
Pomax
F12
Sommaire/Shopping/Au feminin/Vetements
Choisissez votre interlocuteur dans la liste ci-dessous puis cliquez sur Aller
Aller
Imprimer
Photocopie
Fax
E-Mail
Visio Conférence
Retour au Sommaire
Page Precedente
Page Suivante
Fin de Session
Aide

1 - Print
2 - Photocopy
3 - Fax
4 - E-mail
5 - Visio conference
6 - Back to the summary
7 - Previous page
8 - next page
9 - end of session
0 – help

à tout moment vous pouvez choisir un des services ci dessus
at any time you can choose one of the services above

choisissez votre thème en tapant la touche correspondante ou tapez l'addresse du site
choose your theme by typing the corresponding key or type the address of the site

Férid ALLANI
El Mansourah
Kélibia - Cap Bon
TUNIS

REÇU LE
28 OCT. 1999
PONTET & ALLANO

Maître ALLANO
25, Rue Jean Rostand
Parc Club Orsay Université

91893 – ORSAY Cédex –

Lettre transmise par fax

Objet : *Dépôt de Brevet Propriété Intellectuelle du 12/10/1999*

Cher Maître,

Pour faire suite à mon courrier du 12 Octobre 1999, mes diverses recherches m'ont permis de constater que la plupart des sites Web, que ce soit des moteurs de recherche, des providers ou des sites privés de sociétés se présentent sous la forme de pages de journaux (sur lesquelles apparaissent des rubriques, du sommaire, des textes, de la publicité, etc ...)ainsi que le montrent les exemples ci-joints sur lesquels vous constaterez que beaucoup d'entre elles sinon la totalité font l'objet de copyright.

A ma connaissance, aucun site ne se présente sous la forme d'un menu avec des thèmes, rubriques, sous-rubriques, etc ... je suis donc le seul à avoir imaginé des pages d'accueil pour des sites internet sous la forme que je vous ai exposé dans mon précédent courrier et c'est cette création intellectuelle prise sous sa forme la plus générale que je souhaite protéger.

Vous remerciant de l'attention que vous voudrez bien porter à ce projet,

*Je vous prie de croire, **Cher Maître**, en l'expression de mes sentiments les meilleurs.*

Férid ALLANI



Subject: Patent application Intellectual property of 12/10/1999

Dear Master

As a follow-up to my mail of October 12, 1999. my various research found that most websites, whether search engines. providers or private sites of companies are in the form of newspaper pages (on which appear headings, summary, texts, advertising, etc. ..) as shown by the attached examples on which you will find that many if not all are copyrighted.

To my knowledge, no site is in the form of a menu with themes, headings, subheadings. etc .. I am therefore the only one to have designed homepages for websites in the form that I explained to you in my previous post and it is this intellectual creation taken in its most general form that I want to protect.

Thanking you for! the attention you would like to bring to this project.

I beg you to believe. Dear Master, expressing my best feelings.

PTO/SB/06 (09-11)
Approved for use through 1/31/2014. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875	Application or Docket Number 14/480,701	Filing Date 09/09/2014	☐ To be Mailed

ENTITY: ☐ LARGE ☑ SMALL ☐ MICRO

APPLICATION AS FILED - PART I

FOR	(Column 1) NUMBER FILED	(Column 2) NUMBER EXTRA		RATE ($)	FEE ($)
☐ BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A		N/A	
☐ SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A		N/A	
☐ EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A		N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	minus 20 =	*		x $40 =	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*		x $210 =	
☐ APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is $310 ($155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).				
☐ MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))					
* If the difference in column 1 is less than zero, enter "0" in column 2.				TOTAL	

APPLICATION AS AMENDED - PART II

		(Column 1)		(Column 2)	(Column 3)			
AMENDMENT	06/19/2018	CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA		RATE ($)	ADDITIONAL FEE ($)
	Total (37 CFR 1.16(i))	* 28	Minus	** 28	= 0		x $50 =	0
	Independent (37 CFR 1.16(h))	* 4	Minus	*** 4	= 0		x $230 =	0
	☐ Application Size Fee (37 CFR 1.16(s))							
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							
							TOTAL ADD'L FEE	0

		(Column 1)		(Column 2)	(Column 3)			
AMENDMENT		CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA		RATE ($)	ADDITIONAL FEE ($)
	Total (37 CFR 1.16(i))	*	Minus	**	=		x $0 =	
	Independent (37 CFR 1.16(h))	*	Minus	***	=		x $0 =	
	☐ Application Size Fee (37 CFR 1.16(s))							
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							
							TOTAL ADD'L FEE	

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

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
14/480,701	09/09/2014	Ferid ALLANI	0679-1001-2	9483

466 7590 10/05/2018

YOUNG & THOMPSON
209 Madison Street
Suite 500
Alexandria, VA 22314

EXAMINER	
MUHEBBULLAH, SAJEDA	

ART UNIT	PAPER NUMBER
2141	

NOTIFICATION DATE	DELIVERY MODE
10/05/2018	ELECTRONIC

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

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

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

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Office Action Summary	**Application No.** 14/480,701	**Applicant(s)** ALLANI, Ferid	
	Examiner SAJEDA MUHEBBULLAH	**Art Unit** 2141	**AIA Status** No

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

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTHS FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☑ Responsive to communication(s) filed on 19 June 2018.

☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on _____.

2a)☐ This action is **FINAL.** 2b) ☑ This action is non-final.

3)☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on _____; the restriction requirement and election have been incorporated into this action.

4)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims*

5) ☑ Claim(s) 1-28 is/are pending in the application.

5a) Of the above claim(s) _____ is/are withdrawn from consideration.

6) ☐ Claim(s) _____ is/are allowed.

7) ☑ Claim(s) 1-28 is/are rejected.

8) ☐ Claim(s) _____ is/are objected to.

9) ☐ Claim(s) _____ are subject to restriction and/or election requirement

* If any claims have been determined allowable, you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see http://www.uspto.gov/patents/init_events/pph/index.jsp or send an inquiry to **PPHfeedback@uspto.gov.**

Application Papers

10)☐ The specification is objected to by the Examiner.

11)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

Priority under 35 U.S.C. § 119

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

Certified copies:

a)☐ All b)☐ Some** c)☐ None of the:

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

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

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

** See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☑ Notice of References Cited (PTO-892)

2) ☐ Information Disclosure Statement(s) (PTO/SB/08a and/or PTO/SB/08b) Paper No(s)/Mail Date _____.

3) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date _____.

4) ☐ Other: _____.

DETAILED ACTION

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

2. This communication is responsive to RCE/Amendment filed 06/19/2018.

3. Claims 1-28 are pending in this application. In the Amendment, claim 1 was amended.

Response to Amendment

4. The affidavit filed on 06/19/2018 under 37 CFR 1.131(a) is sufficient to overcome the Fair (US 6,628,307) reference.

Response to Arguments

5. Applicant's arguments filed 02/08/2018 have been fully considered but they are not persuasive.

a) Applicant argued that Hsu does not recite the notions of a 'selection page', an 'icon', or a 'portal'. The disclosed "whole Web page 63" cannot be considered to be the claimed "portal of a Web site" because it is disclosed as merely a Web page accessed through the Internet Explorer as described in col.5, lines 31-33 of Hsu. **Second,** the "secondary document 64" of Hsu is not the claimed icon "for directly accessing a document provided by" the website because it is not directly accessed from a Web site. The link to the secondary document 64 is not processed in Hsu as a link for directly accessing a document provided by a Web site. **Third**, the Favorites menu 68 of Hsu cannot be considered the claimed selection page comprising a set of icons including at least one of a direct access icon for directly accessing remote sources of information and a selection icon for locally accessing another selection page within a tree menu structure. The menu 68 does not include a selection icon for locally accessing another selection page. In Hsu, the option 71 "add to Favorites" is not another selection page.

Per a), The Examiner respectfully disagrees in response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.,* 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). The Hsu prior art is combined with the device of Iki, Logan and Cole to only teach the limitation of an icon for accessing a webpage and an icon for accessing a document provided by said webpage on the same page (Hsu, Fig.4, *bookmark menu page 68;* col.5, lines 1-67, *link to secondary document of Webpage 64 and link to whole Webpage 63 added to menu page 68*). The claim recites a page "*comprising an icon for directly accessing a portal of a Web site*". A portal to a website is merely a website combining content from different sources onto a single interface which is similar to Hsu's Web page 63 in Figs.3-4 which combines links 62 onto a single Web page interface 63. **Second**, the claim recites "*an icon for directly accessing a document provided by said Web site*". Hsu teaches adding a bookmark to a bookmark menu page 68 which results in an icon linking to the secondary document 64 which is a document accessed from the portal Webpage 64. **Third**, Hsu does teach a bookmark page 68 including both a link to a portal of a Web page 63 and a link for directly accessing secondary document 64 provided by said Web page 63 whereas the limitation of a "selection page comprising a set of icons including at least one of a direct access icon for directly accessing remote sources of information and a selection icon for locally accessing another selection page within a tree menu structure" has been already shown to be taught by Logan (Logan, Fig.1, *LINK 1, LINK2 selection icons to local pages and LINK 3/4 are direct access icons to remote pages*; col.4, line 64-col.5, line 9).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. Claims 1-2, 4, 6-12, 14-15 and 17-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Iki et al. ("Iki", US 6,816,172) in view of Logan et al. ("Logan", US 5,802,299) in view of Cole et al. ("Cole", US 5,933,827) and further in view of Hsu et al. ("Hsu", US 6,970,867).

As per claim 1, Iki teaches an apparatus for accessing information- or service-providing Web sites, comprising a communication device connectable through a communication network to the Internet (col.5, lines 6-40, *remote systems accessed via Internet*), control and processing device or devices (col.2, lines 57-64; col.3, lines 35-40, *system controller 140, processor 201*), data storage device or devices (col.2, lines 57-64, *controller stores data from data sources*), and a display (col.4, lines 15-19, *display device*), said storage device or devices containing a set of icons including at least one of a direct access icon for directly accessing remote sources of information (col.6, lines 18-20; col.7, line 62-col.8, line 7; col.5, lines 48-55, *graphical image corresponding to identifiers to a remote web server*) and wherein the control and processing device or devices are programmed for: enabling a preliminary search locally performed within said communication device (col.8, line 63-col.9, line 3, *data corresponding to identifier retrieved from local storage medium*), and emitting on the communication network, in response to selection of a direct access icon in a selection page being currently displayed (col.6, lines 18-20; col.7, line 62-col.8, line 7; col.5, lines 48-55, *graphical image corresponding to identifiers to a*

remote web server), an address of an information- or service-providing Web site corresponding to said selected direct access icon, said address being locally generated during the preliminary search and selection (col.6, lines 14-20; col.7, lines 2-4, *data portion includes address of information in identifier*).

However, Iki does not teach said storage device containing a plurality of selection pages within a tree menu structure, said selection pages being beforehand locally stored in said data storage device or devices, a selection icon for locally accessing another selection page within said tree menu structure, wherein said plurality of selection pages includes: a first selection page, a second selection page and a third selection page, said first selection page comprising a selection icon for locally accessing said second selection page, said second selection page comprising a selection icon for locally accessing said third selection page, said third selection page comprising one or more direct access icons for directly accessing an information- or service-providing Web site, at least one selection page further comprising one or more icons for directly accessing a search engine on the Web, at least one selection page further comprising an icon for directly accessing a portal of a Web site and an icon for directly accessing a document provided by said Web site and enabling a search performed in different themes and sub themes within said plurality of selection pages.

Logan teaches a device for selection of pages stored locally containing selectable icons linking to additional pages and websites wherein pages may be accessed locally without having to connect to the website (Logan, Fig.1, *LINK 1, LINK2 selection icons to local pages and LINK 3/4 are direct access icons to remote pages*; col.4, line 64-col.5, line 9). It would have been obvious to one of ordinary skill in the art to include Logan's teaching with Iki's apparatus in order to save access time in retrieving data.

Furthermore, the apparatus of Iki and Logan does not teach at least one selection page further comprising one or more icons for directly accessing a search engine on the Web and enabling a search performed in different themes and sub themes within said plurality of selection pages. Cole teaches a device for displaying selection pages wherein categories are selected and another page of subcategories is displayed (Cole, col.4, line 38-41, col.5, lines 19-25) and a search engine (Cole, col.5, lines 26-59). It would have been obvious to one of ordinary skill in the art to include Cole's teaching with the apparatus of Iki and Logan in order to limit the searching to relevant data.

Additionally, the apparatus of Iki, Logan and Cole does not teach at least one selection page further comprising an icon for directly accessing a portal of a Web site and an icon for directly accessing a document provided by said Web site. Hsu teaches a selection bookmark page where a user may create both a link to a Webpage and a link to a document within that Webpage on the bookmark menu page (Hsu, Fig.4, *bookmark menu page 68;* col.5, lines 1-67, *link to secondary document of Webpage 64 and link to whole Webpage 63 added to menu page 68*). It would have been obvious to one of ordinary skill in the art at the time of the invention to include Hsu's teaching with the apparatus of Iki, Logan and Cole for quick access to areas of interest (Hsu, col.1, lines 59-63).

As per claim 2, the apparatus of Iki, Logan, Cole and Hsu teaches the apparatus according to claim 1, characterized in that the direct access icons comprise icons for accessing commercial sites (Iki, col.7, lines 57-61, *merchandise may be purchased*).

As per claim 4, the apparatus of Iki, Logan, Cole and Hsu teaches the apparatus according to claim 1, wherein said at least one selection page comprising two or more direct

access icons comprises direct access icons corresponding to distinct sources of information or services (Iki, col.7, lines 34-61, *icons corresponding to videos, songs, critiques, etc*).

As per claim 6, the apparatus of Iki, Logan, Cole and Hsu teaches the apparatus according to claim 1, wherein a page from a Web site is displayed on said display in response to selecting a direct access icon (Logan, Fig.1, *LINK 1, LINK2 selection icons to local pages and LINK 3/4 are direct access icons to remote pages*; col.4, line 64-col.5, line 9).

As per claim 7, the apparatus of Iki, Logan, Cole and Hsu teaches the apparatus according to claim 1, wherein at least one of the selection pages includes both at least one direct access icon (Iki, col.6, lines 18-20, *URL*) and at least one selection icon (Iki, col.8, lines 37-51, *second interface displaying add'l identifiers;* Logan, Fig.1, *LINK 1, LINK2 selection icons to local pages and LINK 3/4 are direct access icons to remote pages*; col.4, line 64-col.5, line 9).

As per claim 8, the apparatus of Iki, Logan, Cole and Hsu teaches the apparatus according to claim 1, wherein said control and processing device or devices are configured to receive, from a server, data for updating information associated with at least one of a selection page, a direct access icon and a selection icon (Logan, col.14, lines 34-45; col.18, lines 55-64).

As per claim 9, the apparatus of Iki, Logan, Cole and Hsu teaches the apparatus according to claim 8, wherein said updating information is received periodically (Logan, col.4, lines 14-22; col.18, lines 61-64, *stored information periodically updated*).

As per claim 10, the apparatus of Iki, Logan, Cole and Hsu teaches the apparatus according to claim 9, wherein said updating information is received on demand (Logan, col.19, lines 30-col.20, line 16, *updated information received if modified*).

As per claim 11, the apparatus of Iki, Logan, Cole and Hsu teaches the apparatus according to claim 1, wherein the second selection page displays information corresponding to a

sub-category of the first selection page (Iki, col.8, lines 19-51, *retrieves add'l data corresponding to selected first selection;* Cole, col.4, line 38-41, col.5, lines 19-25).

As per claim 12, the apparatus of Iki, Logan, Cole and Hsu teaches the apparatus according to claim 1, wherein said control and processing device or devices are configured to receive information from the information- or service-providing Web site corresponding to said selected direct access icon via the communication network (Iki, col.6, lines 14-20; col.7, lines 2-4, *link to a remote web server*).

As per claim 14, the apparatus of Iki, Logan, Cole and Hsu teaches the apparatus according to claim 1, wherein selection of a direct access icon in a selection page being displayed comprises clicking on said icon (Logan, col.5, lines 1-9, *LINK is graphic visually represents the linked subject matter*).

As per claim 15, the apparatus of Iki, Logan, Cole and Hsu teaches the apparatus according to claim 1, wherein said selection pages stored in said data storage device or devices are downloaded thereto (Logan, col.5, lines 20-30, *locally stored documents*).

As per claim 17, the apparatus of Iki, Logan, Cole and Hsu teaches the apparatus according to claim 1, wherein said selection pages operate as rolling menus (Logan, Fig.1, *LINK 1, LINK2 selection icons to local pages and LINK 3/4 are direct access icons to remote pages*; col.4, line 64-col.5, line 9).

As per claim 18, the apparatus of Iki, Logan, Cole and Hsu teaches the apparatus according to claim 1, wherein at least one of the selection pages is a trunk of the tree menu structure (Logan, Fig.1, *attract page 81*; col.4, line 64-col.5, line 9).

As per claim 19, the apparatus of Iki, Logan, Cole and Hsu teaches the apparatus according to claim 1, wherein the control and processing device or devices are configured to

command a request-answer sequence characterized in that the request comprises the address of the information- or service-providing Web site (Logan, Fig.1, *LINK 1, LINK2 selection icons to local pages and LINK 3/4 are direct access icons to remote pages*; col.4, line 64-col.5, line 9), and wherein the request-answer sequence is preceded by a locally implemented selection of themes and sub-themes (Cole, col.4, line 38-41, col.5, lines 19-25).

As per claim 20, the apparatus of Iki, Logan, Cole and Hsu teaches the apparatus according to claim 1, wherein the icons comprise logotypes, graphic marks or semi-graphic marks (Iki, Fig.5, col.7, lines 24-30, *graphical images;* Logan, col.5, lines 1-9, *LINK is graphic visually represents the linked subject matter*).

As per claim 21, the apparatus of Iki, Logan, Cole and Hsu teaches the apparatus according to claim 1, wherein the icons comprise textual elements (Iki, col.7, lines 24-30, *words related to identifiers*).

As per claim 22, Iki teaches a communication device connectable to remote sources of information or services through a communication network (col.5, lines 6-40, *Internet*), the communication device comprising a display (col.4, lines 15-19, *display device*), data storage (col.2, lines 57-64, *controller stores data from data sources*), a processor (col.3, lines 35-40, *processor 201*), a controller (col.2, lines 57-64, *system controller 140*) and at least one direct access icon capable of being selectively activated to connect said communication device to a predetermined one of said remote sources of information or services (col.6, lines 18-20; col.7, line 62-col.8, line 7; col.5, lines 48-55, *graphical image corresponding to identifiers to a remote web server*).

However, Iki does not teach a plurality of pages locally stored in said data storage and displayable on said display, wherein a first one of said locally stored pages includes at least one

selection icon capable of being selectively activated to display a second one of said locally stored pages on said display and at least one second selection icon capable of being selectively activated to display a third one of said locally stored pages on said display and, wherein at least one of said first, second and third locally stored pages further includes at least one icon for directly accessing a search engine for permitting a user to control searches on the Web, wherein at least one of said first, second and third locally stored pages further includes at least one icon for directly accessing a portal of a Web site and one icon for directly accessing a document provided by said Web site.

Logan teaches a device for selection of pages stored locally containing selectable icons linking to additional pages and websites wherein pages may be accessed locally without having to connect to the website (Logan, Fig.1, *LINK 1, LINK2 selection icons to local pages and LINK 3/4 are direct access icons to remote pages*; col.4, line 64-col.5, line 9). It would have been obvious to one of ordinary skill in the art to include Logan's teaching with Iki's device in order to save access time in retrieving data.

Furthermore, the device of Iki and Logan does not teach at least one selection page further comprising one or more icons for directly accessing a search engine for permitting a user to control searches on the Web. Cole teaches a device for displaying selection pages wherein categories are selected and another page of subcategories is displayed (Cole, col.4, line 38-41, col.5, lines 19-25) and a search engine for searching on the Web (Cole, col.5, lines 26-59). It would have been obvious to one of ordinary skill in the art to include Cole's teaching with the device of Iki and Logan in order to limit the searching to relevant data.

Additionally, the device of Iki, Logan and Cole does not teach at least one selection page further comprising an icon for directly accessing a portal of a Web site and an icon for directly

accessing a document provided by said Web site. Hsu teaches a selection bookmark page where a user may create both a link to a Webpage and a link to a document within that Webpage on the bookmark menu page (Hsu, Fig.4, *bookmark menu page 68;* col.5, lines 1-67, *link to secondary document of Webpage 64 and link to whole Webpage 63 added to menu page 68*). It would have been obvious to one of ordinary skill in the art at the time of the invention to include Hsu's teaching with the device of Iki, Logan and Cole for quick access to areas of interest (Hsu, col.1, lines 59-63).

As per claim 23, the device of Iki, Logan, Cole and Hsu teaches the communication device according to claim 22, characterized in that said selection pages are locally stored in the data storage beforehand (Logan, Fig.1, *documents stored locally*; col.4, line 64-col.5, line 9).

As per claim 24, the device of Iki, Logan, Cole and Hsu teaches the communication device according to claim 22, wherein said selection pages stored in said data storage are organized in a tree menu structure (Logan, Fig.1, *LINK 1, LINK2 selection icons to local pages and LINK 3/4 are direct access icons to remote pages*; col.4, line 64-col.5, line 9*)*.

8. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Iki et al. ("Iki", US 6,816,172), Logan et al. ("Logan", US 5,802,299), Cole et al. ("Cole", US 5,933,827) and Hsu et al. ("Hsu", US 6,970,867) in view of Schagen et al. ("Schagen", US 6,702,492).

As per claim 3, the apparatus of Iki, Logan, Cole and Hsu teaches the apparatus according to claim 1, characterized in that the control and processing device or devices are arranged for receiving, data for updating selection pages, and for processing said updating data so that new selection pages are stored in the data storage device or devices (Logan, col.4, lines 14-22; col.14, lines 34-45; col.18, lines 55-64, *stored information periodically updated*).

However, the apparatus does not teach updating by downloading from a management server. Schagen teaches an apparatus for searching data from local and remote sources of information that are hierarchically organized wherein updating is achieved from a central server (Schagen, col.9, lines 37-42, *central station*). It would have been obvious to one of ordinary skill in the art at the time of the invention to include Schagen's teaching with the apparatus of Iki, Logan, Cole and Hsu for central management of updates (Schagen, col.3, lines 42-44).

9. Claims 5 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Iki et al. ("Iki", US 6,816,172), Logan et al. ("Logan", US 5,802,299), Cole et al. ("Cole", US 5,933,827) and Hsu et al. ("Hsu", US 6,970,867) in view of Burns (US 2004/0019610).

As per claim 5, the apparatus of Iki, Logan, Cole and Hsu teaches the apparatus according to claim 1, however does not teach the apparatus implemented in a mobile phone. Burns teaches an apparatus for organizing information from various sources wherein the apparatus may be a mobile phone (Burns, para.27-28, *mobile units like PDAs*). It would have been obvious to one of ordinary skill in the art at the time of the invention to include Burns' teaching with the apparatus of Iki, Logan, Cole and Hsu for allowing portability (Burns, para.27-28).

As per claim 16, the apparatus of Iki, Logan, Cole and Hsu teaches the apparatus according to claim 1, wherein said selection pages stored in said data storage device or devices are downloaded (Logan, col.5, lines 20-30, *locally stored documents*) however does not teach downloaded over a mobile connection. Burns teaches an apparatus for organizing information from various sources wherein the apparatus may consist of a mobile connection (Burns, para.27-28, *mobile units like PDAs*). It would have been obvious to one of ordinary skill in the art at the

time of the invention to include Burns' teaching with the apparatus of Iki, Logan, Cole and Hsu for allowing portability (Burns, para.27-28).

10. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Iki et al. ("Iki", US 6,816,172), Logan et al. ("Logan", US 5,802,299), Cole et al. ("Cole", US 5,933,827) and Hsu et al. ("Hsu", US 6,970,867) in view of Rush et al. ("Rush", US 7,131,069).

As per claim 13, the apparatus of Iki, Logan, Cole and Hsu teaches the apparatus according to claim 1, wherein icons present graphic features, however, the apparatus does not teach the selection icons to be distinctive from those of the direct access icons. Rush teaches an apparatus for organizing information wherein the apparatus distinguishes icons according to the node type (Rush, col.23, lines 4-15, *icons visually symbolize different types of objects*). It would have been obvious to one of ordinary skill in the art at the time of the invention to include Rush's teaching with the apparatus of Iki, Logan, Cole and Hsu in order to quickly distinguish the type of node (Rush, col.23, lines 4-15).

11. Claims 25 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Iki et al. ("Iki", US 6,816,172) in view of Logan et al. ("Logan", US 5,802,299) in view of Hsu et al. ("Hsu", US 6,970,867) and further in view of Burns (US 2004/0019610).

As per claim 25, Iki teaches a communication device connectable to remote sources of information or services through a communication network (col.5, lines 6-40, *remote systems accessed via Internet*), the communication device comprising a display (col.4, lines 15-19, *display device*), data storage (col.2, lines 57-64, *controller stores data from data sources*), a processor (col.3, lines 35-40, *processor 201*), a controller (col.2, lines 57-64, *system controller*

140) and at least one direct access icon capable of being selectively activated to connect said communication device to a predetermined one of said remote sources of information or services (col.6, lines 18-20; col.7, line 62-col.8, line 7; col.5, lines 48-55, *graphical image corresponding to identifiers to a remote web server*) and at least one second direct access icon capable of being selectively activated to connect said mobile communication device to a second predetermined one of said remote sources of information or services (col.6, lines 18-20; col.7, line 62-col.8, line 7; col.5, lines 48-55, *graphical image corresponding to identifiers to a remote web server)*, and wherein said third one of said locally stored pages includes at least one third direct access icon capable of being selectively activated to connect said mobile communication device to a third predetermined one of said remote sources of information or services (col.6, lines 18-20; col.7, line 62-col.8, line 7; col.5, lines 48-55, *graphical image corresponding to identifiers to a remote web server*).

However, Iki does not teach a mobile communication device, a plurality of pages locally stored in said data storage and displayable on said display, wherein a first one of said locally stored pages includes at least one selection icon capable of being selectively activated to display a second one of said locally stored pages on said display and at least one second selection icon capable of being selectively activated to display a third one of said locally stored pages on said display and at least one third selection icon capable of being selectively activated to display a fourth one of said locally stored pages on said display, wherein at least one of said locally stored pages further comprises an icon for directly accessing a portal of a Web site and an icon for directly accessing a document provided by said Web site.

Logan teaches a device for selection of pages stored locally containing selectable icons linking to additional pages and websites wherein pages may be accessed locally without having

to connect to the website (Logan, Fig.1, *LINK 1, LINK2 selection icons to local pages and LINK 3/4 are direct access icons to remote pages*; col.4, line 64-col.5, line 9). It would have been obvious to one of ordinary skill in the art to include Logan's teaching with Iki's device in order to save access time in retrieving data.

Furthermore, the device of Iki and Logan does not teach at least one selection page further comprising an icon for directly accessing a portal of a Web site and an icon for directly accessing a document provided by said Web site. Hsu teaches a selection bookmark page where a user may create both a link to a Webpage and a link to a document within that Webpage on the bookmark menu page (Hsu, Fig.4, *bookmark menu page 68;* col.5, lines 1-67, *link to secondary document of Webpage 64 and link to whole Webpage 63 added to menu page 68*). It would have been obvious to one of ordinary skill in the art at the time of the invention to include Hsu's teaching with the device of Iki and Logan for quick access to areas of interest (Hsu, col.1, lines 59-63).

Additionally, the device of Iki, Logan and Hsu does not teach the device implemented in a mobile phone. Burns teaches a device for organizing information from various sources wherein the device may be a mobile phone (Burns, para.27-28, *mobile units like PDAs*). It would have been obvious to one of ordinary skill in the art at the time of the invention to include Burns' teaching with the device of Iki, Logan and Hsu for allowing portability (Burns, para.27-28).

As per claim 27, the device of Iki, Logan, Hsu and Burns teaches the mobile communication device according to claim 25, wherein selective activation of a direct access icon comprises emitting, on the communication network, an address of the first, second or third predetermined one of said remote sources (Iki, col.6, lines 14-20; col.7, lines 2-4, *data portion includes address of information in identifier*).

12. Claims 26 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Iki et al. ("Iki", US 6,816,172), Logan et al. ("Logan", US 5,802,299), Hsu et al. ("Hsu", US 6,970,867) and Burns (US 2004/0019610) in view of Cole et al. ("Cole", US 5,933,827).

As per claim 26, the device of Iki, Logan, Hsu and Burns teaches the mobile communication device according to claim 25, however does not teach wherein at least one of the selection pages further comprises one or more icons for directly accessing a search engine on the Web. Cole teaches a device for displaying selection pages wherein categories are selected and another page of subcategories is displayed (Cole, col.4, line 38-41, col.5, lines 19-25) and a search engine for searching on the Web (Cole, col.5, lines 26-59). It would have been obvious to one of ordinary skill in the art to include Cole's teaching with the device of Iki, Logan, Hsu and Burns in order to limit the searching to relevant data.

Claim 28 is similar in scope to claim 26, and is therefore rejected under similar rationale.

Inquiries

Any inquiry concerning this communication or earlier communications from the examiner should be directed to SAJEDA MUHEBBULLAH whose telephone number is (571)272-4065. The examiner can normally be reached on Mon-Thur 8am-5pm.

Examiner interviews are available via telephone, in-person, and video conferencing using a USPTO supplied web-based collaboration tool. To schedule an interview, applicant is encouraged to use the USPTO Automated Interview Request (AIR) at http://www.uspto.gov/interviewpractice.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amy Ng can be reached on 571-270-1698. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/S.M./
Sajeda Muhebbullah
Examiner, Art Unit 2141

/AMY NG/
Supervisory Patent Examiner, Art Unit 2141

Notice of References Cited	Application/Control No. 14/480,701	Applicant(s)/Patent Under Reexamination ALLANI, Ferid	
	Examiner SAJEDA MUHEBBULLAH	Art Unit 2141	Page 1 of 1

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	CPC Classification	US Classification
*	A	US-5802299-A	09-1998	Logan; James	G06F17/30905	707/E17.121
*	B	US-5933827-A	08-1999	Cole; Gary Lee	G06F17/30867	1/1
	C					
	D					
	E					
	F					
	G					
	H					
	I					
	J					
	K					
	L					
	M					

FOREIGN PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	CPC Classification
	N					
	O					
	P					
	Q					
	R					
	S					
	T					

NON-PATENT DOCUMENTS

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
	U	
	V	
	W	
	X	

*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
	14/480,701	ALLANI, Ferid
	Examiner	Art Unit
	SAJEDA MUHEBBULLAH	2141

CPC - Searched*		
Symbol	Date	Examiner
G06F 3/0483	09/28/2018	SM
G06F 3/04817	09/28/2018	SM
G06F 17/30873	09/28/2018	SM
G06F 17/30876	09/28/2018	SM
G06F 17/30994	09/28/2018	SM
G06F 17/3089	09/28/2018	SM
G06F 17/30893	09/28/2018	SM
G06F 17/30896	09/28/2018	SM
G06F 17/2247	09/28/2018	SM

CPC Combination Sets - Searched*		
Symbol	Date	Examiner

US Classification - Searched*			
Class	Subclass	Date	Examiner

* See search history printout included with this form or the SEARCH NOTES box below to determine the scope of the search.

Search Notes		
Search Notes	Date	Examiner
EAST text search included (USPAT & USPGPUB)	09/28/2018	SM

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Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
	14/480,701	ALLANI, Ferid
	Examiner	Art Unit
	SAJEDA MUHEBBULLAH	2141

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

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Index of Claims	Application/Control No.	Applicant(s)/Patent Under Reexamination
	14/480,701	ALLANI, Ferid
	Examiner	**Art Unit**
	SAJEDA MUHEBBULLAH	2141

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

CLAIMS

☐ Claims renumbered in the same order as presented by applicant ☐ CPA ☐ T.D. ☐ R.1.47

CLAIM		DATE								
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	27	✓	✓	✓	✓					
	28	✓	✓	✓	✓					

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EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
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L13	15	7 and (search adj engine)	US-PGPUB; USPAT	OR	ON	2018/09/28 23:37
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S2	324	715/712-713.ccls.	US-PGPUB; USPAT	OR	ON	2012/06/12 10:05
S3	121	715/712-713.ccls. and (mobil$4 or portab$5)	US-PGPUB; USPAT	OR	ON	2012/06/12 10:06
S4	116	715/712-713.ccls. and (mobil$4 or portab$5) and (quer$3 or search$3 or locat$3 or retriev$4)	US-PGPUB; USPAT	OR	ON	2012/06/12 10:07
S5	10	"169355".ap.	US-PGPUB; USPAT	OR	ON	2012/06/12 10:07
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S10	65514	"715"/$.ccls.	US-PGPUB; USPAT	OR	ON	2012/06/12 10:11
S11	953	S10 and S7 and (mobil$4 or portab$5) and (quer$3 or search$3 or locat$3 or retriev$4) and (website or webpage or internet or web$5)	US-PGPUB; USPAT	OR	ON	2012/06/12 10:11
S12	587	S10 and S7 and (mobil$4 or portab$5) and ((quer$3 or search$3 or locat$3 or retriev$4) same (website or webpage or internet or web$5))	US-PGPUB; USPAT	OR	ON	2012/06/12 10:13
S13	156	S10 and S7 and (mobil$4 or portab$5) and ((quer$3 or search$3 or locat$3 or retriev$4) same (website or webpage or internet or web$5) same (categor$4 or hierarch$6 or directory or tree or catalog$3 or guide))	US-PGPUB; USPAT	OR	ON	2012/06/12 10:14
S14	89	S10 and S7 and icon$3 and (mobil$4 or	US-	OR	ON	2012/06/12

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		portab$5) and ((quer$3 or search$3 or locat$3 or retriev$4) same (website or webpage or internet or web$5) same (categor$4 or hierarch$6 or directory or tree or catalog$3 or guide))	PGPUB; USPAT			11:07
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S18	12	340/970.ccls. and altitude and (user adj interface)	US-PGPUB; USPAT	OR	ON	2012/06/12 15:15
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S33	26	S31 same S32	US-PGPUB; USPAT	OR	ON	2016/09/02 22:20
S34	1	@ad<"19991230" and S33	US-PGPUB; USPAT	OR	ON	2016/09/02 22:20
S35	111717	((hierarch$7 or tree)) with (quer$3 or search$3 or locat$3 or retriev$4)	US-PGPUB; USPAT	OR	ON	2016/09/02 22:21
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S37	85	@ad<"19991230" and S36	US-PGPUB; USPAT	OR	ON	2016/09/02 22:21
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S48	13	S44 and (telephone)	US-PGPUB; USPAT	OR	ON	2016/09/03 00:45
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S65	59	icon near4 (document) with (web$4 adj2 link)	US-PGPUB; USPAT	OR	ON	2017/06/08 18:26
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S67	70	icon near4 (document) with (web$4 adj2 (URL or link))	US-PGPUB; USPAT	OR	ON	2017/06/08 19:25
S68	7	@ad<"19991230" and S67	US-PGPUB; USPAT	OR	ON	2017/06/08 19:26
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S71	52	bookmark$3 with (document) with (web$4 adj2 (URL or link))	US-PGPUB; USPAT	OR	ON	2017/06/08 19:27
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9/ 28/ 2018 11:51:10 PM
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MAIL STOP AMENDMENT
PATENT
0679-1001-2

IN THE U. S. PATENT AND TRADEMARK OFFICE

In re application of

Ferid ALLANI Conf. 9483

Application No. 14/480,701 Group 2141

Filed September 9, 2014 Examiner Sajeda Muhebbullah

METHOD AND DEVICE FOR ACCESSING SOURCES AND SERVICES ON THE WEB

AMENDMENT

Commissioner for Patents March 5, 2019
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

In response to the non-final Office Action of October 5, 2018, please amend the above-identified application as follows:

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

Remarks begin on page 13 of this paper.

AMENDMENTS TO THE CLAIMS:

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

LISTING OF CLAIMS:

1. (currently amended) Apparatus for accessing information- or service- providing Web sites, comprising a communication device connectable through a communication network to the Internet, control and processing device or devices, data storage device or devices, and a display, said storage device or devices containing a plurality of selection pages within a tree menu structure, said selection pages being beforehand locally stored in said data storage device or devices and each comprising a set of icons including at least one of a direct access icon for directly accessing remote sources of information and a selection icon for locally accessing another selection page within said tree menu structure,

wherein said plurality of selection pages includes:

- a first selection page, a second selection page and a third selection page, said first selection page comprising a selection icon for locally accessing said second selection page, said second selection page comprising a selection icon for locally accessing said third selection page, said third selection page comprising one or more direct access icons for

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directly accessing an information- or service-providing Web site, and

- at least one selection page further comprising one or more icons for directly accessing a search engine on the Web, ~~and~~

~~- at least one selection page further comprising an icon for directly accessing a portal of a Web site and an icon for directly accessing a document provided by said Web site,~~

wherein the control and processing device or devices are programmed for:

- enabling a preliminary search locally performed within said communication device in different themes and sub themes within said plurality of selection pages, and
- emitting on the communication network, in response to selection of a direct access icon in a selection page being currently displayed, an address of an information- or service-providing Web site corresponding to said selected direct access icon, said address being locally generated during the preliminary search and selection.

2. (previously presented) The apparatus according to claim 1, characterized in that the direct access icons comprise icons for accessing commercial sites.

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3. (previously presented) The apparatus according to claim 1, characterized in that the control and processing device or devices are arranged for receiving, by downloading from a management server, data for updating selection pages, and for processing said updating data so that new selection pages are stored in the data storage device or devices.

4. (previously presented) The apparatus according to claim 1, wherein said at least one selection page comprising two or more direct access icons comprises direct access icons corresponding to distinct sources of information or services.

5. (previously presented) The apparatus according to claim 1, implemented in a mobile phone.

6. (previously presented) The apparatus according to claim 1, wherein a page from a Web site is displayed on said display in response to selecting a direct access icon.

7. (previously presented) The apparatus according to claim 1, wherein at least one of the selection pages includes both at least one direct access icon and at least one selection icon.

8. (previously presented) The apparatus according to claim 1, wherein said control and processing device or devices

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are configured to receive, from a server, data for updating information associated with at least one of a selection page, a direct access icon and a selection icon.

9. (previously presented) The apparatus according to claim 8, wherein said updating information is received periodically.

10. (previously presented) The apparatus according to claim 9, wherein said updating information is received on demand.

11. (previously presented) The apparatus according to claim 1, wherein the second selection page displays information corresponding to a sub-category of the first selection page.

12. (previously presented) The apparatus according to claim 1, wherein said control and processing device or devices are configured to receive information from the information- or service-providing Web site corresponding to said selected direct access icon via the communication network.

13. (previously presented) The apparatus according to claim 1, wherein the selection icons present graphic features that are distinctive from those of the direct access icons.

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14. (previously presented) The apparatus according to claim 1, wherein selection of a direct access icon in a selection page being displayed comprises clicking on said icon.

15. (previously presented) The apparatus according to claim 1, wherein said selection pages stored in said data storage device or devices are downloaded thereto.

16. (previously presented) The apparatus according to claim 1, wherein said selection pages stored in said data storage device or devices are downloaded thereto over a mobile connection.

17. (previously presented) The apparatus according to claim 1, wherein said selection pages operate as rolling menus.

18. (previously presented) The apparatus according to claim 1, wherein at least one of the selection pages is a trunk of the tree menu structure.

19. (previously presented) The apparatus according to claim 1, wherein the control and processing device or devices are configured to command a request-answer sequence characterized in that the request comprises the address of the information- or service-providing Web site, and wherein the

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request-answer sequence is preceded by a locally implemented selection of themes and sub-themes.

20. (previously presented) The apparatus according to claim 1, wherein the icons comprise logotypes, graphic marks or semi-graphic marks.

21. (previously presented) The apparatus according to claim 1, wherein the icons comprise textual elements.

22. (previously presented) A communication device connectable to remote sources of information or services through a communication network, the communication device comprising a display, data storage, a processor, a controller and a plurality of pages locally stored in said data storage and displayable on said display,

wherein a first one of said locally stored pages includes at least one selection icon capable of being selectively activated to display a second one of said locally stored pages on said display,

wherein said second one of said locally stored pages includes at least one direct access icon capable of being selectively activated to connect said communication device to a predetermined one of said remote sources of information or services, and at least one second selection icon capable of

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being selectively activated to display a third one of said locally stored pages on said display,

wherein at least one of said first, second and third locally stored pages further includes at least one icon for directly accessing a search engine for permitting a user to control searches on the Web,

wherein at least one of said first, second and third locally stored pages further includes at least one icon for directly accessing a portal of Web site and one icon for directly accessing a document provided by said Web site.

23. (previously presented) The communication device according to claim 22, characterized in that said selection pages are locally stored in the data storage beforehand.

24. (previously presented) The communication device according to claim 22, wherein said selection pages stored in said data storage are organized in a tree menu structure.

25. (currently amended) A mobile communication device connectable to remote sources of information or services through a communication network, the communication device comprising a display, data storage, a processor, a controller and a plurality

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of pages locally stored in said data storage and displayable on said display,

wherein a first one of said locally stored pages includes at least one direct access icon capable of being selectively activated to connect said mobile communication device to a first predetermined one of said remote sources of information or services, and at least one selection icon capable of being selectively activated to display a second one of said locally stored pages on said display, wherein said second one of said locally stored pages includes at least one second direct access icon capable of being selectively activated to connect said mobile communication device to a second predetermined one of said remote sources of information or services, and at least one second selection icon capable of being selectively activated to display a third one of said locally stored pages on said display,

wherein said third one of said locally stored pages includes at least one third direct access icon capable of being selectively activated to connect said mobile communication device to a third predetermined one of said remote sources of information or services, or at least one third selection icon capable of being selectively activated to display a fourth one of said locally stored pages on said display~~,~~

~~wherein at least one of said locally stored pages further comprises an icon for directly accessing a portal of a~~

~~Web site and an icon for directly accessing a document provided by said Web site~~.

26. (previously presented) The mobile communication device according to claim 25, wherein at least one of the selection pages further comprises one or more icons for directly accessing a search engine on the Web.

27. (previously presented) The mobile communication device according to claim 25, wherein selective activation of a direct access icon comprises emitting, on the communication network, an address of the first, second or third predetermined one of said remote sources.

28. (currently amended) A method for accessing information- or service-providing Web sites, from a mobile communication device connected through a communication network and provided with a display, comprising:

- a preliminary search for information or service, locally performed within said communication device in different themes and sub-themes within a plurality of successively displayed selection pages, said selection pages being organized in a tree menu structure and beforehand locally stored within said communication device, each said selection page comprising a set of

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icons, said selection pages further comprising a first selection page, a second selection page and a third selection page, said first selection page comprising a selection icon for locally accessing said second selection page, and said second selection page comprising a selection icon for locally accessing said third selection page, said third selection page comprising one or more direct access icons for directly accessing an information- or service-providing Web site, and

- emitting on the communication network, in response to a selection of a direct access icon in a selection page being currently displayed, an address of an information- or service-providing web site corresponding to said selected icon, said address being locally generated during said displaying and selection and for directly accessing said information- or service-providing Web site,

wherein:

~~at least one of said selection pages further comprises an icon for directly accessing a portal of Web site and an icon for directly accessing a document provided by said Web site~~

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- at least one of said selection pages further comprises one or more icons for directly accessing a search engine on the Web.

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REMARKS

Claims 1-28 are pending, with claims 1, 22, 25, and 28 being independent. Claims 1, 25, and 28 have been amended. No new subject matter has been added.

Rejection under 35 U.S.C. 103, obviousness

Claims 1-2, 4, 6-12, 14-15, and 17-24 stand rejected as obvious over Iki et al. ("Iki", US 6,816,172) in view of Logan et al. ("Logan", US 5,802,299) and in view of Cole et al. ("Cole", US 5,933,827) and further in view of Hsu et al. (“Hsu”, US 6,970,867. Schagen et al. US 6,072,492 is added to reject claim 3. Burns US 2004/0019610 is added to reject claims 5 and 16. Rush et al. US 7,131,069 is added to reject claims 13, 25, and 27. Claims 26 and 28 are rejected over Iki, Logan, Hsu, Burns, and Cole.

The Office Action concludes on page 5 that, “Logan teaches a device for selection pages stored locally containing selectable icons linking to additional pages and websites wherein pages may be accessed locally without having to connect to the website”.

Logan indeed teaches “an attract page 81 which might contain imbedded hypertext links LINK1 and LINK2 to other locally stored pages 82 and 83 respectively, as well as LINK3 to a home page stored by the web server computer 20, and LINK4 to a further

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web page 95 stored on the web server computer 25" (column 4, ln.66 - column 5, ln.4).

However, Logan does not teach that the "attract page 81" contains a link to a second selection page that would comprise a selection icon for locally accessing a third selection page that would comprise one or more direct-access icons for directly accessing an information or service-providing Web site.

In Logan, locally stored pages 82 and 83 are not disclosed as the claimed selection pages. In fact, a cascade of selection pages is only graphically displayed in Figure 1 for a group of "Remote Web Pages" stored in the remotely located computer 20 and accessed by LINK3 and for another group "Remote Web pages" stored in the web server computer 25 and accessed by LINK4.

This specific arrangement disclosed in Logan - a combination of an "interactive computer display kiosk" 10 and of two remote computers 20, 25 - is quite far from the communication device of the present invention which gathers in a unique location a plurality of selection pages fully dedicated to host selection icons and direct-access icons.

Furthermore, in Logan, the locally stored pages are hypertext documents (see column 4, lines 19-22) cited as "displayable hypertext data" and the objective of limiting the browsing time is reached by restricting the number of accessible

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hypertext contents, and not by providing the user with a tree-menu of selection pages as claimed by the present invention.

Therefore, one skilled in the art of information access would not have found in Logan any teaching for designing within the Iki apparatus a plurality of selection pages containing icons and not hypertext or HTML documents.

Additionally, Cole teaches a typical client-server system wherein a catalog comprising categories and sub-categories is remotely built on the basis of selection requests addressed by a user (see Figure 2). This is an approach which is drastically opposite to the one recited in the present invention, since in said present invention the tree-menu structure of selection pages is provided as a whole to a user of the communication device and not the result of a profile building. Moreover, the teachings from Cole are not compatible with the Iki approach of a graphical user interface with multimedia identifiers which are linked to data on broadcast programs.

In conclusion, we consider that the combination of Iki, Logan and Cole is not relevant towards the non-obviousness of newly amended Claims 1, 25 and 28.

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The Commissioner is hereby authorized in this, concurrent, and future submissions to charge any additional fees(s) or underpayment of fee(s) under 37 C.F.R. §§ 1.16 and 1.17 or credit any overpayment of fee(s) to Deposit Account No. 25-0120.

Respectfully submitted,

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Electronic Patent Application Fee Transmittal					
Application Number:	14480701				
Filing Date:	09-Sep-2014				
Title of Invention:	METHOD AND DEVICE FOR ACCESSING SOURCES AND SERVICES ON THE WEB				
First Named Inventor/Applicant Name:	Ferid ALLANI				
Filer:	Eric Jensen/Linda Sayyad				
Attorney Docket Number:	0679-1001-2				
Filed as Small Entity					
Filing Fees for Utility under 35 USC 111(a)					
Description		**Fee Code**	**Quantity**	**Amount**	**Sub-Total in USD($)**
Basic Filing:					
Pages:					
Claims:					
Miscellaneous-Filing:					
Petition:					
Patent-Appeals-and-Interference:					
Post-Allowance-and-Post-Issuance:					
Extension-of-Time:					

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Extension - 2 months with $0 paid	2252	1	300	300
Miscellaneous:				
		Total in USD ($)		**300**

Electronic Acknowledgement Receipt	
EFS ID:	35322904
Application Number:	14480701
International Application Number:	
Confirmation Number:	9483
Title of Invention:	METHOD AND DEVICE FOR ACCESSING SOURCES AND SERVICES ON THE WEB
First Named Inventor/Applicant Name:	Ferid ALLANI
Customer Number:	466
Filer:	Eric Jensen/Linda Sayyad
Filer Authorized By:	Eric Jensen
Attorney Docket Number:	0679-1001-2
Receipt Date:	05-MAR-2019
Filing Date:	09-SEP-2014
Time Stamp:	09:38:31
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	CARD
Payment was successfully received in RAM	$300
RAM confirmation Number	030519INTEFSW09390000
Deposit Account	
Authorized User	
The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:	

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		AMD.pdf	61457 6dab053936372e759e3c0cd13100cf3143b93f46	yes	16
	Multipart Description/PDF files in .zip description				
	Document Description		**Start**	**End**	
	Amendment/Req. Reconsideration-After Non-Final Reject		1	1	
	Claims		2	12	
	Applicant Arguments/Remarks Made in an Amendment		13	16	
Warnings:					
Information:					
2	Fee Worksheet (SB06)	fee-info.pdf	30682 7586f315cb94874c34a98058081a19b9ddeaaaa1	no	2
Warnings:					
Information:					
		Total Files Size (in bytes):	92139		

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

New Applications Under 35 U.S.C. 111

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

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

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

New International Application Filed with the USPTO as a Receiving Office

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

PTO/SB/06 (09-11)
Approved for use through 1/31/2014. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875	Application or Docket Number 14/480,701	Filing Date 09/09/2014	☐ To be Mailed

ENTITY: ☐ LARGE ☑ SMALL ☐ MICRO

APPLICATION AS FILED - PART I

FOR	(Column 1) NUMBER FILED	(Column 2) NUMBER EXTRA		RATE ($)	FEE ($)
☐ BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A		N/A	
☐ SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A		N/A	
☐ EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A		N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	minus 20 =	*		x $40 =	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*		x $210 =	
☐ APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is $310 ($155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).				
☐ MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))					
* If the difference in column 1 is less than zero, enter "0" in column 2.				TOTAL	

APPLICATION AS AMENDED - PART II

		(Column 1)		(Column 2)	(Column 3)			
AMENDMENT	03/05/2019	CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA		RATE ($)	ADDITIONAL FEE ($)
	Total (37 CFR 1.16(i))	* 28	Minus	** 28	= 0		x $50 =	0
	Independent (37 CFR 1.16(h))	* 4	Minus	*** 4	= 0		x $230 =	0
	☐ Application Size Fee (37 CFR 1.16(s))							
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							
							TOTAL ADD'L FEE	0

		(Column 1)		(Column 2)	(Column 3)			
AMENDMENT		CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA		RATE ($)	ADDITIONAL FEE ($)
	Total (37 CFR 1.16(i))	*	Minus	**	=		x $0 =	
	Independent (37 CFR 1.16(h))	*	Minus	***	=		x $0 =	
	☐ Application Size Fee (37 CFR 1.16(s))							
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							
							TOTAL ADD'L FEE	

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

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
14/480,701	09/09/2014	Ferid ALLANI	0679-1001-2	9483

466 7590 05/31/2019

YOUNG & THOMPSON
209 Madison Street
Suite 500
Alexandria, VA 22314

EXAMINER	
MUHEBBULLAH, SAJEDA	

ART UNIT	PAPER NUMBER
2141	

NOTIFICATION DATE	DELIVERY MODE
05/31/2019	ELECTRONIC

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

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

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

DocketingDept@young-thompson.com
yandtpair@firsttofile.com

Office Action Summary	**Application No.** 14/480,701	**Applicant(s)** ALLANI, Ferid	
	Examiner SAJEDA MUHEBBULLAH	**Art Unit** 2141	**AIA (FITF) Status** No

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

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTHS FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☑ Responsive to communication(s) filed on 05 March 2019.

☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on _____.

2a)☑ This action is **FINAL.** 2b) ☐ This action is non-final.

3)☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on _____; the restriction requirement and election have been incorporated into this action.

4)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims*

5) ☑ Claim(s) 1-28 is/are pending in the application.

5a) Of the above claim(s) _____ is/are withdrawn from consideration.

6) ☐ Claim(s) _____ is/are allowed.

7) ☑ Claim(s) 1-28 is/are rejected.

8) ☐ Claim(s) _____ is/are objected to.

9) ☐ Claim(s) _____ are subject to restriction and/or election requirement

* If any claims have been determined allowable, you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see http://www.uspto.gov/patents/init_events/pph/index.jsp or send an inquiry to **PPHfeedback@uspto.gov.**

Application Papers

10)☐ The specification is objected to by the Examiner.

11)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

Priority under 35 U.S.C. § 119

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

Certified copies:

a)☐ All b)☐ Some** c)☐ None of the:

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

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

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

** See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)

2) ☐ Information Disclosure Statement(s) (PTO/SB/08a and/or PTO/SB/08b) Paper No(s)/Mail Date _____.

3) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date _____.

4) ☐ Other: _____.

DETAILED ACTION

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

2. This communication is responsive to Amendment filed 03/05/2019.

3. Claims 1-28 are pending in this application. In the Amendment, claims 1, 25 and 28 are amended. This action is made Final.

Response to Arguments

4. Applicant's arguments filed 03/05/2019 have been fully considered but they are not persuasive.

a) Applicant argued Logan does not teach that the "attract page 81" contains a link to a second selection page that would comprise a selection icon for locally accessing a third selection page that would comprise one or more direct-access icons for directly accessing an information or service-providing Web site. Therefore, Logan does not teach designing within the Iki apparatus a plurality of selection pages containing icons and not hypertext or HTML documents.

Per a), The Examiner respectfully disagrees as Logan teaches a device for selection of pages stored locally (Fig.1, *HTML documents 80*) containing selectable icons linking to additional pages (Fig.1, *LINK 1 links to HTML document 82, LINK 2 links to HTML document 83*) and websites (Fig.1, *LINK 3 links to remote webpage 90, LINK 4 links to remote webpage 95*) wherein pages may be accessed locally without having to connect to the website as a result of a locally performed preliminary search of the HTML documents (Logan, Fig.1, *LINK 1, LINK2 selection icons to local pages and LINK 3/4 are direct access icons to remote pages*; col.4, line 34-col.5, line 9). Logan teaches the HTML documents locally stored to include imbedded links to other locally stored doc/files as well as webpages (Logan, col.4, lines 34-52,

HTML documents 80 which include 82-83 include imbedded links to other web pages and other locally stored documents/files).

b) Applicant argued Cole teaches a typical client-server system wherein a catalog comprising categories and sub-categories is remotely built on the basis of selection requests addressed by a user (see Figure 2). This is an approach which is drastically opposite to the one recited in the present invention, since in said present invention the tree-menu structure of selection pages is provided as a whole to a user of the communication device and not the result of a profile building. Moreover, the teachings from Cole are not compatible with the Iki approach of a graphical user interface with multimedia identifiers which are linked to data on broadcast programs.

Per b), The Examiner respectfully disagrees in response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.,* 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). The limitation of locally performing a preliminary search is taught by Logan thru the locally stored HTML documents linking to other HTML documents or remote webpages (Logan, col.4, lines 34-52, *HTML documents 80 which include 82-83 include imbedded links to other web pages and other locally stored documents/files*). Cole teaches the limitations of themes wherein a device for displaying selection pages including categories are selected and another page of subcategories is displayed (Cole, col.4, line 38-41, col.5, lines 19-25).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 1-2, 4, 6-12, 14-15 and 17-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Iki et al. ("Iki", US 6,816,172) in view of Logan et al. ("Logan", US 5,802,299) and further in view of Cole et al. ("Cole", US 5,933,827).

As per claim 1, Iki teaches an apparatus for accessing information- or service-providing Web sites, comprising a communication device connectable through a communication network to the Internet (col.5, lines 6-40, *remote systems accessed via Internet*), control and processing device or devices (col.2, lines 57-64; col.3, lines 35-40, *system controller 140, processor 201*), data storage device or devices (col.2, lines 57-64, *controller stores data from data sources*), and a display (col.4, lines 15-19, *display device*), said storage device or devices containing a set of icons including at least one of a direct access icon for directly accessing remote sources of information (col.6, lines 18-20; col.7, line 62-col.8, line 7; col.5, lines 48-55, *graphical image corresponding to identifiers to a remote web server*) and wherein the control and processing device or devices are programmed for: enabling a preliminary search locally performed within said communication device (col.8, line 63-col.9, line 3, *data corresponding to identifier retrieved from local storage medium*), and emitting on the communication network, in response to selection of a direct access icon in a selection page being currently displayed (col.6, lines 18-20; col.7, line 62-col.8, line 7; col.5, lines 48-55, *graphical image corresponding to identifiers to a remote web server*), an address of an information- or service-providing Web site corresponding to said selected direct access icon, said address being locally generated during the preliminary

search and selection (col.6, lines 14-20; col.7, lines 2-4, *data portion includes address of information in identifier*).

However, Iki does not teach said storage device containing a plurality of selection pages within a tree menu structure, said selection pages being beforehand locally stored in said data storage device or devices, a selection icon for locally accessing another selection page within said tree menu structure, wherein said plurality of selection pages includes: a first selection page, a second selection page and a third selection page, said first selection page comprising a selection icon for locally accessing said second selection page, said second selection page comprising a selection icon for locally accessing said third selection page, said third selection page comprising one or more direct access icons for directly accessing an information- or service-providing Web site and at least one selection page further comprising one or more icons for directly accessing a search engine on the Web and enabling a search performed in different themes and sub themes within said plurality of selection pages.

Logan teaches a device for selection of pages stored locally containing selectable icons linking to additional pages and websites wherein pages may be accessed locally without having to connect to the website (Logan, Fig.1, *LINK 1, LINK2 selection icons to local pages and LINK 3/4 are direct access icons to remote pages*; col.4, line 64-col.5, line 9). It would have been obvious to one of ordinary skill in the art to include Logan's teaching with Iki's apparatus in order to save access time in retrieving data.

Furthermore, the apparatus of Iki and Logan does not teach at least one selection page further comprising one or more icons for directly accessing a search engine on the Web and enabling a search performed in different themes and sub themes within said plurality of selection pages. Cole teaches a device for displaying selection pages wherein categories are selected and

another page of subcategories is displayed (Cole, col.4, line 38-41, col.5, lines 19-25) and a search engine (Cole, col.5, lines 26-59). It would have been obvious to one of ordinary skill in the art to include Cole's teaching with the apparatus of Iki and Logan in order to limit the searching to relevant data.

As per claim 2, the apparatus of Iki, Logan and Cole teaches the apparatus according to claim 1, characterized in that the direct access icons comprise icons for accessing commercial sites (Iki, col.7, lines 57-61, *merchandise may be purchased*).

As per claim 4, the apparatus of Iki, Logan and Cole teaches the apparatus according to claim 1, wherein said at least one selection page comprising two or more direct access icons comprises direct access icons corresponding to distinct sources of information or services (Iki, col.7, lines 34-61, *icons corresponding to videos, songs, critiques, etc*).

As per claim 6, the apparatus of Iki, Logan and Cole teaches the apparatus according to claim 1, wherein a page from a Web site is displayed on said display in response to selecting a direct access icon (Logan, Fig.1, *LINK 1, LINK2 selection icons to local pages and LINK 3/4 are direct access icons to remote pages*; col.4, line 64-col.5, line 9).

As per claim 7, the apparatus of Iki, Logan and Cole teaches the apparatus according to claim 1, wherein at least one of the selection pages includes both at least one direct access icon (Iki, col.6, lines 18-20, *URL*) and at least one selection icon (Iki, col.8, lines 37-51, *second interface displaying add'l identifiers;* Logan, Fig.1, *LINK 1, LINK2 selection icons to local pages and LINK 3/4 are direct access icons to remote pages*; col.4, line 64-col.5, line 9).

As per claim 8, the apparatus of Iki, Logan and Cole teaches the apparatus according to claim 1, wherein said control and processing device or devices are configured to receive, from a

server, data for updating information associated with at least one of a selection page, a direct access icon and a selection icon (Logan, col.14, lines 34-45; col.18, lines 55-64).

As per claim 9, the apparatus of Iki, Logan and Cole teaches the apparatus according to claim 8, wherein said updating information is received periodically (Logan, col.4, lines 14-22; col.18, lines 61-64, *stored information periodically updated*).

As per claim 10, the apparatus of Iki, Logan and Cole teaches the apparatus according to claim 9, wherein said updating information is received on demand (Logan, col.19, lines 30-col.20, line 16, *updated information received if modified*).

As per claim 11, the apparatus of Iki, Logan and Cole teaches the apparatus according to claim 1, wherein the second selection page displays information corresponding to a sub-category of the first selection page (Iki, col.8, lines 19-51, *retrieves add'l data corresponding to selected first selection;* Cole, col.4, line 38-41, col.5, lines 19-25).

As per claim 12, the apparatus of Iki, Logan and Cole teaches the apparatus according to claim 1, wherein said control and processing device or devices are configured to receive information from the information- or service-providing Web site corresponding to said selected direct access icon via the communication network (Iki, col.6, lines 14-20; col.7, lines 2-4, *link to a remote web server*).

As per claim 14, the apparatus of Iki, Logan and Cole teaches the apparatus according to claim 1, wherein selection of a direct access icon in a selection page being displayed comprises clicking on said icon (Logan, col.5, lines 1-9, *LINK is graphic visually represents the linked subject matter*).

As per claim 15, the apparatus of Iki, Logan and Cole teaches the apparatus according to claim 1, wherein said selection pages stored in said data storage device or devices are downloaded thereto (Logan, col.5, lines 20-30, *locally stored documents*).

As per claim 17, the apparatus of Iki, Logan and Cole teaches the apparatus according to claim 1, wherein said selection pages operate as rolling menus (Logan, Fig.1, *LINK 1, LINK2 selection icons to local pages and LINK 3/4 are direct access icons to remote pages*; col.4, line 64-col.5, line 9).

As per claim 18, the apparatus of Iki, Logan and Cole teaches the apparatus according to claim 1, wherein at least one of the selection pages is a trunk of the tree menu structure (Logan, Fig.1, *attract page 81*; col.4, line 64-col.5, line 9).

As per claim 19, the apparatus of Iki, Logan and Cole teaches the apparatus according to claim 1, wherein the control and processing device or devices are configured to command a request-answer sequence characterized in that the request comprises the address of the information- or service-providing Web site (Logan, Fig.1, *LINK 1, LINK2 selection icons to local pages and LINK 3/4 are direct access icons to remote pages*; col.4, line 64-col.5, line 9), and wherein the request-answer sequence is preceded by a locally implemented selection of themes and sub-themes (Cole, col.4, line 38-41, col.5, lines 19-25).

As per claim 20, the apparatus of Iki, Logan and Cole teaches the apparatus according to claim 1, wherein the icons comprise logotypes, graphic marks or semi-graphic marks (Iki, Fig.5, col.7, lines 24-30, *graphical images;* Logan, col.5, lines 1-9, *LINK is graphic visually represents the linked subject matter*).

As per claim 21, the apparatus of Iki, Logan and Cole teaches the apparatus according to claim 1, wherein the icons comprise textual elements (Iki, col.7, lines 24-30, *words related to identifiers*).

7. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Iki et al. ("Iki", US 6,816,172), Logan et al. ("Logan", US 5,802,299) and Cole et al. ("Cole", US 5,933,827) in view of Schagen et al. ("Schagen", US 6,702,492).

As per claim 3, the apparatus of Iki, Logan and Cole teaches the apparatus according to claim 1, characterized in that the control and processing device or devices are arranged for receiving, data for updating selection pages, and for processing said updating data so that new selection pages are stored in the data storage device or devices (Logan, col.4, lines 14-22; col.14, lines 34-45; col.18, lines 55-64, *stored information periodically updated*). However, the apparatus does not teach updating by downloading from a management server. Schagen teaches an apparatus for searching data from local and remote sources of information that are hierarchically organized wherein updating is achieved from a central server (Schagen, col.9, lines 37-42, *central station*). It would have been obvious to one of ordinary skill in the art at the time of the invention to include Schagen's teaching with the apparatus of Iki, Logan and Cole for central management of updates (Schagen, col.3, lines 42-44).

8. Claims 5 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Iki et al. ("Iki", US 6,816,172), Logan et al. ("Logan", US 5,802,299) and Cole et al. ("Cole", US 5,933,827) in view of Burns (US 2004/0019610).

As per claim 5, the apparatus of Iki, Logan and Cole teaches the apparatus according to claim 1, however does not teach the apparatus implemented in a mobile phone. Burns teaches an apparatus for organizing information from various sources wherein the apparatus may be a mobile phone (Burns, para.27-28, *mobile units like PDAs*). It would have been obvious to one of ordinary skill in the art at the time of the invention to include Burns' teaching with the apparatus of Iki, Logan and Cole for allowing portability (Burns, para.27-28).

As per claim 16, the apparatus of Iki, Logan and Cole teaches the apparatus according to claim 1, wherein said selection pages stored in said data storage device or devices are downloaded (Logan, col.5, lines 20-30, *locally stored documents*) however does not teach downloaded over a mobile connection. Burns teaches an apparatus for organizing information from various sources wherein the apparatus may consist of a mobile connection (Burns, para.27-28, *mobile units like PDAs*). It would have been obvious to one of ordinary skill in the art at the time of the invention to include Burns' teaching with the apparatus of Iki, Logan and Cole for allowing portability (Burns, para.27-28).

9. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Iki et al. ("Iki", US 6,816,172), Logan et al. ("Logan", US 5,802,299) and Cole et al. ("Cole", US 5,933,827) in view of Rush et al. ("Rush", US 7,131,069).

As per claim 13, the apparatus of Iki, Logan and Cole teaches the apparatus according to claim 1, wherein icons present graphic features, however, the apparatus does not teach the selection icons to be distinctive from those of the direct access icons. Rush teaches an apparatus for organizing information wherein the apparatus distinguishes icons according to the node type (Rush, col.23, lines 4-15, *icons visually symbolize different types of objects*). It would have been

obvious to one of ordinary skill in the art at the time of the invention to include Rush's teaching with the apparatus of Iki, Logan and Cole in order to quickly distinguish the type of node (Rush, col.23, lines 4-15).

10. Claims 22-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Iki et al. ("Iki", US 6,816,172) in view of Logan et al. ("Logan", US 5,802,299) in view of Cole et al. ("Cole", US 5,933,827) and further in view of Hsu et al. ("Hsu", US 6,970,867).

As per claim 22, Iki teaches a communication device connectable to remote sources of information or services through a communication network (col.5, lines 6-40, *Internet*), the communication device comprising a display (col.4, lines 15-19, *display device*), data storage (col.2, lines 57-64, *controller stores data from data sources*), a processor (col.3, lines 35-40, *processor 201*), a controller (col.2, lines 57-64, *system controller 140*) and at least one direct access icon capable of being selectively activated to connect said communication device to a predetermined one of said remote sources of information or services (col.6, lines 18-20; col.7, line 62-col.8, line 7; col.5, lines 48-55, *graphical image corresponding to identifiers to a remote web server*).

However, Iki does not teach a plurality of pages locally stored in said data storage and displayable on said display, wherein a first one of said locally stored pages includes at least one selection icon capable of being selectively activated to display a second one of said locally stored pages on said display and at least one second selection icon capable of being selectively activated to display a third one of said locally stored pages on said display and, wherein at least one of said first, second and third locally stored pages further includes at least one icon for directly accessing a search engine for permitting a user to control searches on the Web, wherein

at least one of said first, second and third locally stored pages further includes at least one icon for directly accessing a portal of a Web site and one icon for directly accessing a document provided by said Web site.

Logan teaches a device for selection of pages stored locally containing selectable icons linking to additional pages and websites wherein pages may be accessed locally without having to connect to the website (Logan, Fig.1, *LINK 1, LINK2 selection icons to local pages and LINK 3/4 are direct access icons to remote pages*; col.4, line 64-col.5, line 9). It would have been obvious to one of ordinary skill in the art to include Logan's teaching with Iki's device in order to save access time in retrieving data.

Furthermore, the device of Iki and Logan does not teach at least one selection page further comprising one or more icons for directly accessing a search engine for permitting a user to control searches on the Web. Cole teaches a device for displaying selection pages wherein categories are selected and another page of subcategories is displayed (Cole, col.4, line 38-41, col.5, lines 19-25) and a search engine for searching on the Web (Cole, col.5, lines 26-59). It would have been obvious to one of ordinary skill in the art to include Cole's teaching with the device of Iki and Logan in order to limit the searching to relevant data.

Additionally, the device of Iki, Logan and Cole does not teach at least one selection page further comprising an icon for directly accessing a portal of a Web site and an icon for directly accessing a document provided by said Web site. Hsu teaches a selection bookmark page where a user may create both a link to a Webpage and a link to a document within that Webpage on the bookmark menu page (Hsu, Fig.4, *bookmark menu page 68;* col.5, lines 1-67, *link to secondary document of Webpage 64 and link to whole Webpage 63 added to menu page 68*). It would have been obvious to one of ordinary skill in the art at the time of the invention to include Hsu's

teaching with the device of Iki, Logan and Cole for quick access to areas of interest (Hsu, col.1, lines 59-63).

As per claim 23, the device of Iki, Logan, Cole and Hsu teaches the communication device according to claim 22, characterized in that said selection pages are locally stored in the data storage beforehand (Logan, Fig.1, *documents stored locally*; col.4, line 64-col.5, line 9).

As per claim 24, the device of Iki, Logan, Cole and Hsu teaches the communication device according to claim 22, wherein said selection pages stored in said data storage are organized in a tree menu structure (Logan, Fig.1, *LINK 1, LINK2 selection icons to local pages and LINK 3/4 are direct access icons to remote pages*; col.4, line 64-col.5, line 9*)*.

11. Claims 25 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Iki et al. ("Iki", US 6,816,172) in view of Logan et al. ("Logan", US 5,802,299) and further in view of Burns (US 2004/0019610).

As per claim 25, Iki teaches a communication device connectable to remote sources of information or services through a communication network (col.5, lines 6-40, *remote systems accessed via Internet*), the communication device comprising a display (col.4, lines 15-19, *display device*), data storage (col.2, lines 57-64, *controller stores data from data sources*), a processor (col.3, lines 35-40, *processor 201*), a controller (col.2, lines 57-64, *system controller 140*) and at least one direct access icon capable of being selectively activated to connect said communication device to a predetermined one of said remote sources of information or services (col.6, lines 18-20; col.7, line 62-col.8, line 7; col.5, lines 48-55, *graphical image corresponding to identifiers to a remote web server*) and at least one second direct access icon capable of being selectively activated to connect said mobile communication device to a second predetermined

one of said remote sources of information or services (col.6, lines 18-20; col.7, line 62-col.8, line 7; col.5, lines 48-55, *graphical image corresponding to identifiers to a remote web server)*, and wherein said third one of said locally stored pages includes at least one third direct access icon capable of being selectively activated to connect said mobile communication device to a third predetermined one of said remote sources of information or services (col.6, lines 18-20; col.7, line 62-col.8, line 7; col.5, lines 48-55, *graphical image corresponding to identifiers to a remote web server*).

However, Iki does not teach a mobile communication device, a plurality of pages locally stored in said data storage and displayable on said display, wherein a first one of said locally stored pages includes at least one selection icon capable of being selectively activated to display a second one of said locally stored pages on said display and at least one second selection icon capable of being selectively activated to display a third one of said locally stored pages on said display and at least one third selection icon capable of being selectively activated to display a fourth one of said locally stored pages on said display.

Logan teaches a device for selection of pages stored locally containing selectable icons linking to additional pages and websites wherein pages may be accessed locally without having to connect to the website (Logan, Fig.1, *LINK 1, LINK2 selection icons to local pages and LINK 3/4 are direct access icons to remote pages*; col.4, line 64-col.5, line 9). It would have been obvious to one of ordinary skill in the art to include Logan's teaching with Iki's device in order to save access time in retrieving data.

Additionally, the device of Iki and Logan does not teach the device implemented in a mobile phone. Burns teaches a device for organizing information from various sources wherein the device may be a mobile phone (Burns, para.27-28, *mobile units like PDAs*). It would have

been obvious to one of ordinary skill in the art at the time of the invention to include Burns' teaching with the device of Iki and Logan for allowing portability (Burns, para.27-28).

As per claim 27, the device of Iki, Logan and Burns teaches the mobile communication device according to claim 25, wherein selective activation of a direct access icon comprises emitting, on the communication network, an address of the first, second or third predetermined one of said remote sources (Iki, col.6, lines 14-20; col.7, lines 2-4, *data portion includes address of information in identifier*).

12. Claims 26 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Iki et al. ("Iki", US 6,816,172), Logan et al. ("Logan", US 5,802,299) and Burns (US 2004/0019610) in view of Cole et al. ("Cole", US 5,933,827).

As per claim 26, the device of Iki, Logan and Burns teaches the mobile communication device according to claim 25, however does not teach wherein at least one of the selection pages further comprises one or more icons for directly accessing a search engine on the Web. Cole teaches a device for displaying selection pages wherein categories are selected and another page of subcategories is displayed (Cole, col.4, line 38-41, col.5, lines 19-25) and a search engine for searching on the Web (Cole, col.5, lines 26-59). It would have been obvious to one of ordinary skill in the art to include Cole's teaching with the device of Iki, Logan and Burns in order to limit the searching to relevant data.

Claim 28 is similar in scope to claim 26, and is therefore rejected under similar rationale.

Conclusion

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

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

Inquiries

Any inquiry concerning this communication or earlier communications from the examiner should be directed to SAJEDA MUHEBBULLAH whose telephone number is (571)272-4065. The examiner can normally be reached on Mon-Thur 8am-5pm.

Examiner interviews are available via telephone, in-person, and video conferencing using a USPTO supplied web-based collaboration tool. To schedule an interview, applicant is encouraged to use the USPTO Automated Interview Request (AIR) at http://www.uspto.gov/interviewpractice.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amy Ng can be reached on 571-270-1698. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/S.M./
Sajeda Muhebbullah
Examiner, Art Unit 2141
/AMY NG/
Supervisory Patent Examiner, Art Unit 2141

Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
	14/480,701	ALLANI, Ferid
	Examiner	Art Unit
	SAJEDA MUHEBBULLAH	2141

CPC - Searched*		
Symbol	Date	Examiner
G06F 3/0483	05/20/2019	SM
G06F 3/04817	05/20/2019	SM
G06F 17/30873	05/20/2019	SM
G06F 17/30876	05/20/2019	SM
G06F 17/30994	05/20/2019	SM
G06F 17/3089	05/20/2019	SM
G06F 17/30893	05/20/2019	SM
G06F 17/30896	05/20/2019	SM
G06F 17/2247	05/20/2019	SM

CPC Combination Sets - Searched*		
Symbol	Date	Examiner

US Classification - Searched*			
Class	Subclass	Date	Examiner

* See search history printout included with this form or the SEARCH NOTES box below to determine the scope of the search.

Search Notes		
Search Notes	Date	Examiner
EAST text search included (USPAT & USPGPUB)	05/20/2019	SM

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Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
	14/480,701	ALLANI, Ferid
	Examiner	Art Unit
	SAJEDA MUHEBBULLAH	2141

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

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Index of Claims	Application/Control No.	Applicant(s)/Patent Under Reexamination
	14/480,701	ALLANI, Ferid
	Examiner	Art Unit
	SAJEDA MUHEBBULLAH	2141

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

CLAIMS

☐ Claims renumbered in the same order as presented by applicant ☐ CPA ☐ T.D. ☐ R.1.47

CLAIM		DATE								
Final	Original	09/01/2016	06/08/2017	09/20/2018	09/28/2018	05/20/2019				
	1	✓	✓	✓	✓	✓				
	2	✓	✓	✓	✓	✓				
	3	✓	✓	✓	✓	✓				
	4	✓	✓	✓	✓	✓				
	5	✓	✓	✓	✓	✓				
	6	✓	✓	✓	✓	✓				
	7	✓	✓	✓	✓	✓				
	8	✓	✓	✓	✓	✓				
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	10	✓	✓	✓	✓	✓				
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	23	✓	✓	✓	✓	✓				
	24	✓	✓	✓	✓	✓				
	25	✓	✓	✓	✓	✓				
	26	✓	✓	✓	✓	✓				
	27	✓	✓	✓	✓	✓				
	28	✓	✓	✓	✓	✓				

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EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L6	13669	G06F17/30873.cpc. or G06F17/30876.cpc. or G06F17/30994.cpc. or G06F17/3089.cpc. or G06F17/30893.cpc. or G06F17/30896.cpc. or G06F17/2247.cpc. or G06F3/04817.cpc or G06F3/0483.cpc.	US-PGPUB; USPAT	OR	ON	2019/05/24 00:37
L7	945247	local$4 with (website or webpage or internet or web$5 or remote$4)	US-PGPUB; USPAT	OR	ON	2019/05/24 00:38
L8	139335	((hierarch$7 or tree)) with (quer$3 or search$3 or locat$3 or retriev$4)	US-PGPUB; USPAT	OR	ON	2019/05/24 00:38
L9	1965	L8 same L7	US-PGPUB; USPAT	OR	ON	2019/05/24 00:38
L10	85	@ad<"19991230" and L9	US-PGPUB; USPAT	OR	ON	2019/05/24 00:38
S1	15	("5959945" | "5930769" | "6032130" | "5933827" | "6072492" | "6665687" | "6587835" | "7454706" | "6456303" | "6816172" | "20010014868" | "20040019610" | "6934690" | "20020089534" | "6868525").PN.	US-PGPUB; USPAT	OR	ON	2012/06/12 10:00
S2	324	715/712-713.ccls.	US-PGPUB; USPAT	OR	ON	2012/06/12 10:05
S3	121	715/712-713.ccls. and (mobil$4 or portab$5)	US-PGPUB; USPAT	OR	ON	2012/06/12 10:06
S4	116	715/712-713.ccls. and (mobil$4 or portab$5) and (quer$3 or search$3 or locat$3 or retriev$4)	US-PGPUB; USPAT	OR	ON	2012/06/12 10:07
S5	10	"169355".ap.	US-PGPUB; USPAT	OR	ON	2012/06/12 10:07
S6	0	("2003/0120746").URPN.	USPAT	OR	ON	2012/06/12 10:08
S7	2998014	@ad<"19991230"	US-PGPUB; USPAT	OR	ON	2012/06/12 10:09
S8	171716	S7 and (mobil$4 or portab$5) and (quer$3 or search$3 or locat$3 or retriev$4)	US-PGPUB; USPAT	OR	ON	2012/06/12 10:09
S9	25034	S7 and (mobil$4 or portab$5) and (quer$3 or search$3 or locat$3 or retriev$4) and (website or webpage or internet or web$5)	US-PGPUB; USPAT	OR	ON	2012/06/12 10:10
S10	65514	"715"/$.ccls.	US-PGPUB;	OR	ON	2012/06/12 10:11

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			USPAT			
S11	953	S10 and S7 and (mobil$4 or portab$5) and (quer$3 or search$3 or locat$3 or retriev$4) and (website or webpage or internet or web$5)	US-PGPUB; USPAT	OR	ON	2012/06/12 10:11
S12	587	S10 and S7 and (mobil$4 or portab$5) and ((quer$3 or search$3 or locat$3 or retriev$4) same (website or webpage or internet or web$5))	US-PGPUB; USPAT	OR	ON	2012/06/12 10:13
S13	156	S10 and S7 and (mobil$4 or portab$5) and ((quer$3 or search$3 or locat$3 or retriev$4) same (website or webpage or internet or web$5) same (categor$4 or hierarch$6 or directory or tree or catalog$3 or guide))	US-PGPUB; USPAT	OR	ON	2012/06/12 10:14
S14	89	S10 and S7 and icon$3 and (mobil$4 or portab$5) and ((quer$3 or search$3 or locat$3 or retriev$4) same (website or webpage or internet or web$5) same (categor$4 or hierarch$6 or directory or tree or catalog$3 or guide))	US-PGPUB; USPAT	OR	ON	2012/06/12 11:07
S15	8	"912135".ap.	US-PGPUB; USPAT	OR	ON	2012/06/12 15:07
S16	3	("20110257874" | "7570178" | "20100332054").PN.	US-PGPUB; USPAT	OR	ON	2012/06/12 15:09
S17	297	340/970.ccls.	US-PGPUB; USPAT	OR	ON	2012/06/12 15:15
S18	12	340/970.ccls. and altitude and (user adj interface)	US-PGPUB; USPAT	OR	ON	2012/06/12 15:15
S19	17	("5959945" | "6072492" | "6816172" | "20010014868" | "20020089534" | "6032130" | "6628307" | "5933827" | "6587835" | "7143055" | "20040019610" | "6665687" | "7454706" | "6456303" | "6868525" | "6934690" | "5930769").PN.	US-PGPUB; USPAT	OR	ON	2016/05/31 09:29
S20	19	(US-20040019610-$ or US-20010014868-$ or US-20020089534-$).did. or (US-6665687-$ or US-5933827-$ or US-5959945-$ or US-6032130-$ or US-6587835-$ or US-6934690-$ or US-5930769-$ or US-6456303-$ or US-7454706-$ or US-6816172-$ or US-6072492-$ or US-6868525-$ or US-6516329-$ or US-6211871-$ or US-7143055-$ or US-6628307-$).did.	US-PGPUB; USPAT	OR	ON	2016/09/02 21:31
S21	11	S20 and (search near3 engine)	US-PGPUB; USPAT	OR	ON	2016/09/02 21:31
S22	2998271	@ad<"19991230"	US-PGPUB; USPAT	OR	ON	2016/09/02 21:40
S23	1090	multi$4 near3 page near3 interface	US-PGPUB; USPAT	OR	ON	2016/09/02 21:40
S24	31	@ad<"19991230" and S23	US-	OR	ON	2016/09/02

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			PGPUB; USPAT			21:40
S25	169	(hierarch$7 or tree) near3 page near3 interface	US-PGPUB; USPAT	OR	ON	2016/09/02 21:45
S26	2	@ad<"19991230" and S25	US-PGPUB; USPAT	OR	ON	2016/09/02 21:45
S27	1315	((hierarch$7 or tree) near3 page) same interface	US-PGPUB; USPAT	OR	ON	2016/09/02 21:47
S28	66	@ad<"19991230" and S27	US-PGPUB; USPAT	OR	ON	2016/09/02 21:47
S29	656	((hierarch$7 or tree) near3 page) with search$3	US-PGPUB; USPAT	OR	ON	2016/09/02 22:11
S30	38	@ad<"19991230" and S29	US-PGPUB; USPAT	OR	ON	2016/09/02 22:11
S31	1544	((hierarch$7 or tree) near3 page) with (quer$3 or search$3 or locat$3 or retriev$4)	US-PGPUB; USPAT	OR	ON	2016/09/02 22:19
S32	675327	local$4 with (website or webpage or internet or web$5 or remote$4)	US-PGPUB; USPAT	OR	ON	2016/09/02 22:20
S33	26	S31 same S32	US-PGPUB; USPAT	OR	ON	2016/09/02 22:20
S34	1	@ad<"19991230" and S33	US-PGPUB; USPAT	OR	ON	2016/09/02 22:20
S35	111717	((hierarch$7 or tree)) with (quer$3 or search$3 or locat$3 or retriev$4)	US-PGPUB; USPAT	OR	ON	2016/09/02 22:21
S36	1473	S35 same S32	US-PGPUB; USPAT	OR	ON	2016/09/02 22:21
S37	85	@ad<"19991230" and S36	US-PGPUB; USPAT	OR	ON	2016/09/02 22:21
S38	26881	G06F17/30873.cpc. or G06F17/30876.cpc. or G06F17/30994.cpc. or G06F17/3089.cpc. or G06F17/30893.cpc. or G06F17/30896.cpc. or G06F17/2247.cpc. or G06F3/04817.cpc or G06F3/0483.cpc.	US-PGPUB; USPAT	OR	ON	2016/09/02 22:24
S39	38	@ad<"19991230" and S36 and (G06F17/$.cpc. or G06F3/$.cpc.)	US-PGPUB; USPAT	OR	ON	2016/09/02 22:24
S40	13	"480701".ap.	US-PGPUB; USPAT	OR	ON	2016/09/02 23:26
S41	1	(US-20150020005-$).did.	US-PGPUB	OR	ON	2016/09/02 23:47
S42	1	S41 and rolling	US-PGPUB; USPAT	OR	ON	2016/09/02 23:47

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S43	15	rolling adj menu	US-PGPUB; USPAT	OR	ON	2016/09/02 23:48
S44	20	(US-20040019610-$ or US-20010014868-$ or US-20020089534-$).did. or (US-6665687-$ or US-5933827-$ or US-5959945-$ or US-6032130-$ or US-6587835-$ or US-6934690-$ or US-5930769-$ or US-6456303-$ or US-7454706-$ or US-6816172-$ or US-6072492-$ or US-6868525-$ or US-6516329-$ or US-6211871-$ or US-7143055-$ or US-6628307-$ or US-5875446-$).did.	US-PGPUB; USPAT	OR	ON	2016/09/03 00:26
S45	19	S44 and updat$4	US-PGPUB; USPAT	OR	ON	2016/09/03 00:26
S46	5	S44 and (cellular or mobile or cellphone)	US-PGPUB; USPAT	OR	ON	2016/09/03 00:43
S47	7	S44 and (phone)	US-PGPUB; USPAT	OR	ON	2016/09/03 00:45
S48	13	S44 and (telephone)	US-PGPUB; USPAT	OR	ON	2016/09/03 00:45
S49	5	S44 and pda	US-PGPUB; USPAT	OR	ON	2016/09/03 00:47
S50	5	S44 and (cell$6 or mobile or cellphone)	US-PGPUB; USPAT	OR	ON	2016/09/03 00:49
S51	20	(US-20040019610-$ or US-20010014868-$ or US-20020089534-$).did. or (US-6665687-$ or US-5933827-$ or US-5959945-$ or US-6032130-$ or US-6587835-$ or US-6934690-$ or US-5930769-$ or US-6456303-$ or US-7454706-$ or US-6816172-$ or US-6072492-$ or US-6868525-$ or US-6516329-$ or US-6211871-$ or US-7143055-$ or US-6628307-$ or US-5875446-$).did.	US-PGPUB; USPAT	OR	ON	2016/09/03 02:05
S52	12	S51 and click$4	US-PGPUB; USPAT	OR	ON	2016/09/03 02:05
S53	16	S51 and (load$3 or download$3)	US-PGPUB; USPAT	OR	ON	2016/09/03 02:12
S54	0	icon with distin$5 with local$4 with (link or webpage or website)	US-PGPUB; USPAT	OR	ON	2016/09/03 02:38
S55	161	icon with distin$5 with (link or webpage or website)	US-PGPUB; USPAT	OR	ON	2016/09/03 02:39
S56	16	@ad<"19991230" and S55	US-PGPUB; USPAT	OR	ON	2016/09/03 02:39
S57	1559	icon near4 (distinguish$ or different$4 or	US-	OR	ON	2016/09/03

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		distinct$4) near4 visual$4	PGPUB; USPAT			02:44
S58	91	@ad<"19991230" and S57	US-PGPUB; USPAT	OR	ON	2016/09/03 02:44
S59	26	icon near4 (distinguish$ or different$4 or distinct$4) near4 visual$4 near5 level	US-PGPUB; USPAT	OR	ON	2016/09/03 02:45
S60	2	@ad<"19991230" and S59	US-PGPUB; USPAT	OR	ON	2016/09/03 02:45
S61	13	icon near4 (distinguish$ or different$4 or distinct$4) near4 visual$4 with (hierarch$7 or tree)	US-PGPUB; USPAT	OR	ON	2016/09/03 02:46
S62	3	@ad<"19991230" and S61	US-PGPUB; USPAT	OR	ON	2016/09/03 02:46
S63	338	icon near4 (bookmark) with web$4	US-PGPUB; USPAT	OR	ON	2017/06/08 16:01
S64	9	@ad<"19991230" and S63	US-PGPUB; USPAT	OR	ON	2017/06/08 16:02
S65	59	icon near4 (document) with (web$4 adj2 link)	US-PGPUB; USPAT	OR	ON	2017/06/08 18:26
S66	5	@ad<"19991230" and S65	US-PGPUB; USPAT	OR	ON	2017/06/08 18:26
S67	70	icon near4 (document) with (web$4 adj2 (URL or link))	US-PGPUB; USPAT	OR	ON	2017/06/08 19:25
S68	7	@ad<"19991230" and S67	US-PGPUB; USPAT	OR	ON	2017/06/08 19:26
S69	49	bookmark with (document) with (web$4 adj2 (URL or link))	US-PGPUB; USPAT	OR	ON	2017/06/08 19:27
S70	2	@ad<"19991230" and S69	US-PGPUB; USPAT	OR	ON	2017/06/08 19:27
S71	52	bookmark$3 with (document) with (web$4 adj2 (URL or link))	US-PGPUB; USPAT	OR	ON	2017/06/08 19:27
S72	2	@ad<"19991230" and S71	US-PGPUB; USPAT	OR	ON	2017/06/08 19:27
S73	142	bookmark$3 same (document) same (web$4 adj2 (URL or link))	US-PGPUB; USPAT	OR	ON	2017/06/08 19:29
S74	14	@ad<"19991230" and S73	US-PGPUB; USPAT	OR	ON	2017/06/08 19:29
S75	565	bookmark$3 with (web$4 adj2 (URL or link))	US-PGPUB; USPAT	OR	ON	2017/06/08 19:36
S76	25	@ad<"19991230" and S75	US-	OR	ON	2017/06/08

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			PGPUB; USPAT			19:36
S77	2279	bookmark$3 near5 (document)	US-PGPUB; USPAT	OR	ON	2017/06/08 20:00
S78	124	@ad<"19991230" and S77	US-PGPUB; USPAT	OR	ON	2017/06/08 20:00
S79	25	(US-20040019610-$ or US-20010014868-$ or US-20020089534-$).did. or (US-6665687-$ or US-5933827-$ or US-5959945-$ or US-6032130-$ or US-6587835-$ or US-6934690-$ or US-5930769-$ or US-6456303-$ or US-7454706-$ or US-6816172-$ or US-6072492-$ or US-6868525-$ or US-6516329-$ or US-6211871-$ or US-7143055-$ or US-6628307-$ or US-5875446-$ or US-5977972-$ or US-7131069-$ or US-6100890-$ or US-6970867-$ or US-6088707-$).did.	US-PGPUB; USPAT	OR	OFF	2017/06/09 00:14
S80	7	S79 and bookmark$3	US-PGPUB; USPAT	OR	OFF	2017/06/09 00:14
S81	20	("5959945" | "6072492" | "6816172" | "20010014868" | "20020089534" | "6032130" | "6628307" | "6623529" | "5933827" | "6587835" | "7143055" | "20040019610" | "6665687" | "7454706" | "6456303" | "6868525" | "6934690" | "20020109706" | "5930769" | "5802299" | "5933827").PN.	US-PGPUB; USPAT	OR	ON	2018/09/20 20:56
S82	28	(US-20040019610-$ or US-20010014868-$ or US-20020089534-$ or US-20020109706-$).did. or (US-6665687-$ or US-5933827-$ or US-5959945-$ or US-6032130-$ or US-6587835-$ or US-6934690-$ or US-5930769-$ or US-6456303-$ or US-7454706-$ or US-6816172-$ or US-6072492-$ or US-6868525-$ or US-6516329-$ or US-6211871-$ or US-7143055-$ or US-6628307-$ or US-5875446-$ or US-5977972-$ or US-7131069-$ or US-6100890-$ or US-6970867-$ or US-6088707-$ or US-5802299-$ or US-6623529-$).did.	US-PGPUB; USPAT	OR	ON	2018/09/20 21:48
S83	23	S82 and search	US-PGPUB; USPAT	OR	ON	2018/09/20 21:48
S84	20	("5959945" | "6072492" | "6816172" | "20010014868" | "20020089534" | "6032130" | "6628307" | "6623529" | "5933827" | "6587835" | "7143055" | "20040019610" | "6665687" | "7454706" | "6456303" | "6868525" | "6934690" | "20020109706" | "5930769" | "5802299" | "5933827").PN.	US-PGPUB; USPAT	OR	ON	2018/09/28 21:27
S85	28	(US-20040019610-$ or US-20010014868-$ or US-20020089534-$ or US-20020109706-$).did. or (US-6665687-$ or US-5933827-$ or US-5959945-$ or US-6032130-$ or US-	US-PGPUB; USPAT	OR	ON	2018/09/28 21:27

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		6587835-$ or US-6934690-$ or US-5930769-$ or US-6456303-$ or US-7454706-$ or US-6816172-$ or US-6072492-$ or US-6868525-$ or US-6516329-$ or US-6211871-$ or US-7143055-$ or US-6628307-$ or US-5875446-$ or US-5977972-$ or US-7131069-$ or US-6100890-$ or US-6970867-$ or US-6088707-$ or US-5802299-$ or US-6623529-$).did.				
S86	20	S85 and (theme or categor$4)	US-PGPUB; USPAT	OR	ON	2018/09/28 21:28
S87	1	("6014137").PN.	US-PGPUB; USPAT	OR	OFF	2018/09/28 21:54
S88	1	S87 and (theme or categor$4)	US-PGPUB; USPAT	OR	ON	2018/09/28 21:54
S89	2949645	@ad<"19991012"	US-PGPUB; USPAT	OR	ON	2018/09/28 21:58
S90	29	(US-20040019610-$ or US-20010014868-$ or US-20020089534-$ or US-20020109706-$).did. or (US-6665687-$ or US-5933827-$ or US-5959945-$ or US-6032130-$ or US-6587835-$ or US-6934690-$ or US-5930769-$ or US-6456303-$ or US-7454706-$ or US-6816172-$ or US-6072492-$ or US-6868525-$ or US-6516329-$ or US-6211871-$ or US-7143055-$ or US-6628307-$ or US-5875446-$ or US-5977972-$ or US-7131069-$ or US-6100890-$ or US-6970867-$ or US-6088707-$ or US-5802299-$ or US-6623529-$ or US-6014137-$).did.	US-PGPUB; USPAT	OR	ON	2018/09/28 22:09
S91	26	S90 and (updat$3)	US-PGPUB; USPAT	OR	ON	2018/09/28 22:09
S92	19	@ad<"19991012" and S91	US-PGPUB; USPAT	OR	ON	2018/09/28 22:09
S93	15	S90 and (search adj engine)	US-PGPUB; USPAT	OR	ON	2018/09/28 23:37
S94	10	@ad<"19991012" and S93	US-PGPUB; USPAT	OR	ON	2018/09/28 23:37

EAST Search History (Interference)

< This search history is empty>

5/24/2019 12:38:36 AM
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PTO/SB/06 (09-11)
Approved for use through 1/31/2014. OMB 0651-0032
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PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875	Application or Docket Number 14/480,701	Filing Date 09/09/2014	☐ To be Mailed

ENTITY: ☐ LARGE ☑ SMALL ☐ MICRO

APPLICATION AS FILED - PART I

FOR	(Column 1) NUMBER FILED	(Column 2) NUMBER EXTRA		RATE ($)	FEE ($)
☐ BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A		N/A	
☐ SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A		N/A	
☐ EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A		N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	minus 20 =	*		x $40 =	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*		x $210 =	
☐ APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is $310 ($155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).				
☐ MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))					
* If the difference in column 1 is less than zero, enter "0" in column 2.				TOTAL	

APPLICATION AS AMENDED - PART II

		(Column 1)		(Column 2)	(Column 3)			
AMENDMENT	10/31/2019	CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA		RATE ($)	ADDITIONAL FEE ($)
	Total (37 CFR 1.16(i))	* 27	Minus	** 28	= 0		x $50 =	0
	Independent (37 CFR 1.16(h))	* 4	Minus	*** 4	= 0		x $230 =	0
	☐ Application Size Fee (37 CFR 1.16(s))							
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							
							TOTAL ADD'L FEE	0

		(Column 1)		(Column 2)	(Column 3)			
AMENDMENT		CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA		RATE ($)	ADDITIONAL FEE ($)
	Total (37 CFR 1.16(i))	*	Minus	**	=		x $0 =	
	Independent (37 CFR 1.16(h))	*	Minus	***	=		x $0 =	
	☐ Application Size Fee (37 CFR 1.16(s))							
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							
							TOTAL ADD'L FEE	

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

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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Doc code: RCEX
Doc description: Request for Continued Examination (RCE)

PTO/SB/30EFS (07-09)
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REQUEST FOR CONTINUED EXAMINATION(RCE)TRANSMITTAL
(Submitted Only via EFS-Web)

Application Number	14/480,701	Filing Date	2014-09-09	Docket Number (if applicable)	0679-1001-2	Art Unit	2141
First Named Inventor	Ferid ALLANI			Examiner Name	Sajeda Muhebbullah		

This is a Request for Continued Examination (RCE) under 37 CFR 1.114 of the above-identified application.
Request for Continued Examination (RCE) practice under 37 CFR 1.114 does not apply to any utility or plant application filed prior to June 8, 1995, or to any design application. The Instruction Sheet for this form is located at WWW.USPTO.GOV

SUBMISSION REQUIRED UNDER 37 CFR 1.114

Note: If the RCE is proper, any previously filed unentered amendments and amendments enclosed with the RCE will be entered in the order in which they were filed unless applicant instructs otherwise. If applicant does not wish to have any previously filed unentered amendment(s) entered, applicant must request non-entry of such amendment(s).

☐ Previously submitted. If a final Office action is outstanding, any amendments filed after the final Office action may be considered as a submission even if this box is not checked.

- ☐ Consider the arguments in the Appeal Brief or Reply Brief previously filed on _____
- ☐ Other _____

☒ Enclosed

- ☒ Amendment/Reply
- ☐ Information Disclosure Statement (IDS)
- ☐ Affidavit(s)/ Declaration(s)
- ☐ Other _____

MISCELLANEOUS

☐ Suspension of action on the above-identified application is requested under 37 CFR 1.103(c) for a period of months _____
(Period of suspension shall not exceed 3 months; Fee under 37 CFR 1.17(i) required)

☒ Other the RCE and extension of time fees are being paid via councel credit card simultanous with this filing

FEES

☒ **The RCE fee under 37 CFR 1.17(e) is required by 37 CFR 1.114 when the RCE is filed.**
The Director is hereby authorized to charge any underpayment of fees, or credit any overpayments, to Deposit Account No 250120

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT REQUIRED

☒ Patent Practitioner Signature

Applicant Signature

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Signature of Registered U.S. Patent Practitioner			
Signature	/Jeffrey M. Goehring/	Date (YYYY-MM-DD)	2019-10-31
Name	Jeffrey M. Goehring/	Registration Number	52948

This collection of information is required by 37 CFR 1.114. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450.

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

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

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether the Freedom of Information Act requires disclosure of these records.

2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.

3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.

4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).

5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.

6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).

7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.

8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspections or an issued patent.

9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

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MAIL STOP RCE
PATENT
0679-1001-2

IN THE U. S. PATENT AND TRADEMARK OFFICE

In re application of

Ferid ALLANI Conf. 9483

Application No. 14/480,701 Group 2141

Filed September 9, 2014 Examiner Sajeda Muhebbullah

METHOD AND DEVICE FOR ACCESSING SOURCES AND SERVICES ON THE WEB

AMENDMENT AFTER FINAL and RCE

Commissioner for Patents October 31, 2019
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

In response to the final Office Action of May 31, 2019, for which the period for response has been extended two months, and in conjunction with a Request for Continued Examination filed concurrently herewith, please amend the above-identified application as follows:

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

Remarks begin on page 12 of this paper.

AMENDMENTS TO THE CLAIMS:

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

LISTING OF CLAIMS:

1. (currently amended) Apparatus for accessing information- or service- providing Web sites, comprising a communication device connectable through a communication network to the Internet, control and processing device or devices, data storage device or devices, and a display, said storage device or devices containing a plurality of selection pages within a tree menu structure, said selection pages being beforehand locally stored in said data storage device or devices and each comprising a set of icons including at least one of a direct access icon for directly accessing remote sources of information and a selection icon for locally accessing another selection page within said tree menu structure,

wherein said plurality of selection pages includes:

- a first selection page, a second selection page and a third selection page, said first selection page comprising a selection icon for locally accessing said second selection page, said second selection page comprising a selection icon for locally accessing said third selection page, said third selection page

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comprising one or more direct access icons for directly accessing an information- or service-providing Web site, and

- at least one selection page further comprising one or more icons for directly accessing a search engine on the Web,

wherein the control and processing device or devices are programmed for:

- enabling a preliminary search locally performed within said communication device in different themes and sub themes within said plurality of selection pages, and
- emitting on the communication network, in response to selection of a direct access icon in a selection page being currently displayed, an address of an information- or service-providing Web site corresponding to said selected direct access icon, said address being locally generated during the preliminary search and selection,

wherein the apparatus is implemented in a mobile phone.

2. (previously presented) The apparatus according to claim 1, characterized in that the direct access icons comprise icons for accessing commercial sites.

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3. (previously presented) The apparatus according to claim 1, characterized in that the control and processing device or devices are arranged for receiving, by downloading from a management server, data for updating selection pages, and for processing said updating data so that new selection pages are stored in the data storage device or devices.

4. (previously presented) The apparatus according to claim 1, wherein said at least one selection page comprising two or more direct access icons comprises direct access icons corresponding to distinct sources of information or services.

5. (cancelled)

6. (previously presented) The apparatus according to claim 1, wherein a page from a Web site is displayed on said display in response to selecting a direct access icon.

7. (previously presented) The apparatus according to claim 1, wherein at least one of the selection pages includes both at least one direct access icon and at least one selection icon.

8. (previously presented) The apparatus according to claim 1, wherein said control and processing device or devices are configured to receive, from a server, data for updating

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information associated with at least one of a selection page, a direct access icon and a selection icon.

9. (previously presented) The apparatus according to claim 8, wherein said updating information is received periodically.

10. (previously presented) The apparatus according to claim 9, wherein said updating information is received on demand.

11. (previously presented) The apparatus according to claim 1, wherein the second selection page displays information corresponding to a sub-category of the first selection page.

12. (previously presented) The apparatus according to claim 1, wherein said control and processing device or devices are configured to receive information from the information- or service-providing Web site corresponding to said selected direct access icon via the communication network.

13. (previously presented) The apparatus according to claim 1, wherein the selection icons present graphic features that are distinctive from those of the direct access icons.

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14. (previously presented) The apparatus according to claim 1, wherein selection of a direct access icon in a selection page being displayed comprises clicking on said icon.

15. (previously presented) The apparatus according to claim 1, wherein said selection pages stored in said data storage device or devices are downloaded thereto.

16. (previously presented) The apparatus according to claim 1, wherein said selection pages stored in said data storage device or devices are downloaded thereto over a mobile connection.

17. (previously presented) The apparatus according to claim 1, wherein said selection pages operate as rolling menus.

18. (previously presented) The apparatus according to claim 1, wherein at least one of the selection pages is a trunk of the tree menu structure.

19. (previously presented) The apparatus according to claim 1, wherein the control and processing device or devices are configured to command a request-answer sequence characterized in that the request comprises the address of the information- or service-providing Web site, and wherein the

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request-answer sequence is preceded by a locally implemented selection of themes and sub-themes.

20. (previously presented) The apparatus according to claim 1, wherein the icons comprise logotypes, graphic marks or semi-graphic marks.

21. (previously presented) The apparatus according to claim 1, wherein the icons comprise textual elements.

22. (Currently Amended) A communication device connectable to remote sources of information or services through a communication network, the communication device comprising a display, data storage, a processor, a controller and a plurality of pages locally stored in said data storage and displayable on said display,

wherein a first one of said locally stored pages includes at least one selection icon capable of being selectively activated to display a second one of said locally stored pages on said display,

wherein said second one of said locally stored pages includes at least one direct access icon capable of being selectively activated to connect said communication device to a predetermined one of said remote sources of information or services, and at least one second selection icon capable of

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being selectively activated to display a third one of said locally stored pages on said display,

wherein at least one of said first, second and third locally stored pages further includes at least one icon for directly accessing a search engine for permitting a user to control searches on the Web,

wherein at least one of said first, second and third locally stored pages further includes at least one icon for directly accessing a portal of Web site and one icon for directly accessing a document provided by said Web site, and

wherein the communication device is a mobile phone.

23. (previously presented) The communication device according to claim 22, characterized in that said selection pages are locally stored in the data storage beforehand.

24. (previously presented) The communication device according to claim 22, wherein said selection pages stored in said data storage are organized in a tree menu structure.

25. (Currently Amended) A mobile communication device connectable to remote sources of information or services through a communication network, the communication device comprising a display, data storage, a processor, a controller and a plurality

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of pages locally stored in said data storage and displayable on said display,

wherein a first one of said locally stored pages includes at least one direct access icon capable of being selectively activated to connect said mobile communication device to a first predetermined one of said remote sources of information or services, and at least one selection icon capable of being selectively activated to display a second one of said locally stored pages on said display, wherein said second one of said locally stored pages includes at least one second direct access icon capable of being selectively activated to connect said mobile communication device to a second predetermined one of said remote sources of information or services, and at least one second selection icon capable of being selectively activated to display a third one of said locally stored pages on said display,

wherein said third one of said locally stored pages includes at least one third direct access icon capable of being selectively activated to connect said mobile communication device to a third predetermined one of said remote sources of information or services, or at least one third selection icon capable of being selectively activated to display a fourth one of said locally stored pages on said display,

wherein the mobile communication device is a mobile phone.

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26. (previously presented) The mobile communication device according to claim 25, wherein at least one of the selection pages further comprises one or more icons for directly accessing a search engine on the Web.

27. (previously presented) The mobile communication device according to claim 25, wherein selective activation of a direct access icon comprises emitting, on the communication network, an address of the first, second or third predetermined one of said remote sources.

28. (Currently Amended) A method for accessing information- or service-providing Web sites, from a mobile communication device connected through a communication network and provided with a display, comprising:

- a preliminary search for information or service, locally performed within said communication device in different themes and sub-themes within a plurality of successively displayed selection pages, said selection pages being organized in a tree menu structure and beforehand locally stored within said communication device, each said selection page comprising a set of icons, said selection pages further comprising a first selection page, a second selection page and a third

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selection page, said first selection page comprising a selection icon for locally accessing said second selection page, and said second selection page comprising a selection icon for locally accessing said third selection page, said third selection page comprising one or more direct access icons for directly accessing an information- or service-providing Web site, and

- emitting on the communication network, in response to a selection of a direct access icon in a selection page being currently displayed, an address of an information- or service-providing web site corresponding to said selected icon, said address being locally generated during said displaying and selection and for directly accessing said information- or service-providing Web site,

wherein:

- at least one of said selection pages further comprises one or more icons for directly accessing a search engine on the Web, and
- the mobile communication device is a mobile phone.

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REMARKS

Claims 1-4 and 6-28 are pending, with claims 1, 22, 25, and 28 being independent. Claim 5 has been cancelled. Claims 1, 22, 25, and 28 have been amended. No new subject matter has been added.We confirm that we want to maintain the pending application and respond to the Office Action.

Amendments to the Claims

Claim 1 and the other independent claims have been amended to incorporate claim 5, i.e. that the apparatus is implemented in a mobile phone. Claim 5 has been cancelled.

Rejection under 35 U.S.C. 103, obviousness

Claims 1-2, 4, 6-12, 14-15, and 17-24 stand rejected as obvious over Iki et al. ("Iki", US 6,816,172) in view of Logan et al. ("Logan", US 5,802,299) and in view of Cole et al. ("Cole", US 5,933,827). Schagen et al. ("Schagen", US 6,702,492) is added this combination for claim 3. Burns US 2004/0019610 is added to reject claims 5 and 16. Rush et al. US 7,131,069 is added to reject claim 13. Hsu et al. ("Hsu", US 6,970,867) is added to reject claims 22-24. Schagen et al. US 6,072,492 is added to reject claim 3. Burns US 2004/0019610 is added to reject claims 5 and 16. Rush et al. US 7,131,069 is added to reject claims 13, 25, and 27. Claims 26 and 28 are rejected over Iki, Logan, Hsu, Burns, and Cole.

As noted above, Burns US 2004/0019610 is relied upon to for the disclosure of a mobile phone to reject claim 5. However, the disclosure of a mobile phone in Burns US 2004/0019610 does not have priority over the present application.

Burns arises from several prior continuation and continuation-in-part applications, as well as two provisional applications. The earliest applications are provisional No. 60/012,341 filed February 27, 1996, followed by regular application No. 08/810,949, filed on Feb. 27, 1997, now Pat. No. 6,014,137. The next application was No. 09/478,577, filed on Jan. 6, 2000, now Pat. No. 6,460,040, followed by three applications filed on May 28, 2002, including 10/157,417.

The language relied upon in the Office Action first appeared in this family in application No. 10/383,819, which was a continuation-in-part of 10/157,417. The disclosure that "The system can include or operate with other communications devices such as personal digital assistants (PDAs) or mobile telephones." Was new matter as compared to the prior applications, and its priority date is only May 28, 2002, which is well after Applicant's priority date.

Applicant's within application has priority back to December 30, 1999, meaning that only the earliest two of the above noted applications in the Burns family has priority.

The 1996 provisional and the 1997 regular application in the Burns family do not disclose PDAs or mobile telephones.

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The disclosure of mobile phones and PDAs in Burns does not have priority back to 1996 or 1997 and was instead added in one of the CIP applications in the family in the early 2000s.

The Office cannot rely on Burns to meet the mobile phone element of former claim 5 and now incorporated into each independent claim.

According to the above noted amendments and remarks, the final Office Action does not make out a case of *prima facia* obviousness against the claims as amended.

The Commissioner is hereby authorized in this, concurrent, and future submissions to charge any additional fees(s) or underpayment of fee(s) under 37 C.F.R. §§ 1.16 and 1.17 or credit any overpayment of fee(s) to Deposit Account No. 25-0120.

Respectfully submitted,

YOUNG & THOMPSON

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Electronic Patent Application Fee Transmittal	
Application Number:	14480701
Filing Date:	09-Sep-2014
Title of Invention:	METHOD AND DEVICE FOR ACCESSING SOURCES AND SERVICES ON THE WEB
First Named Inventor/Applicant Name:	Ferid ALLANI
Filer:	Eric Jensen/Lori-Ann Donofrio
Attorney Docket Number:	0679-1001-2
Filed as Small Entity	
Filing Fees for Utility under 35 USC 111(a)	

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Extension - 2 months with $0 paid	2252	1	300	300
Miscellaneous:				
RCE- 2ND AND SUBSEQUENT REQUEST	2820	1	950	950
		Total in USD ($)		**1250**

Electronic Acknowledgement Receipt	
EFS ID:	37625827
Application Number:	14480701
International Application Number:	
Confirmation Number:	9483
Title of Invention:	METHOD AND DEVICE FOR ACCESSING SOURCES AND SERVICES ON THE WEB
First Named Inventor/Applicant Name:	Ferid ALLANI
Customer Number:	466
Filer:	Eric Jensen/Lori-Ann Donofrio
Filer Authorized By:	Eric Jensen
Attorney Docket Number:	0679-1001-2
Receipt Date:	31-OCT-2019
Filing Date:	09-SEP-2014
Time Stamp:	18:35:05
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	CARD
Payment was successfully received in RAM	$1250
RAM confirmation Number	E20190UI36500418
Deposit Account	250120
Authorized User	Lori-Ann Donofrio
The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows: 37 CFR 1.16 (National application filing, search, and examination fees) 37 CFR 1.17 (Patent application and reexamination processing fees)	

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Request for Continued Examination (RCE)	RCE.pdf	697933 1995fd0665369cbfc8d3e9e79af5be512427656f	no	3
Warnings:					
Information:					
2		AMD-RCE-2019-10-31.pdf	114764 48aa6e302243e03273cbc7daa1a558bcb0782baa	yes	14

	Multipart Description/PDF files in .zip description		
	Document Description	**Start**	**End**
	Amendment Submitted/Entered with Filing of CPA/RCE	1	1
	Claims	2	11
	Applicant Arguments/Remarks Made in an Amendment	12	14

Warnings:					
Information:					
3	Fee Worksheet (SB06)	fee-info.pdf	32482 b6686205bde8148ea22063a4816af55ed85d4b38	no	2
Warnings:					
Information:					
			Total Files Size (in bytes):	845179	

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

New Applications Under 35 U.S.C. 111

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

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

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

New International Application Filed with the USPTO as a Receiving Office

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

UNITED STATES PATENT AND TRADEMARK OFFICE

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

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
14/480,701	09/09/2014	Ferid ALLANI	0679-1001-2	9483

466 7590 12/12/2019

YOUNG & THOMPSON
209 Madison Street
Suite 500
Alexandria, VA 22314

EXAMINER	
MUHEBBULLAH, SAJEDA	
ART UNIT	PAPER NUMBER
2141	
NOTIFICATION DATE	DELIVERY MODE
12/12/2019	ELECTRONIC

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

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

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

DocketingDept@young-thompson.com
yandtpair@firsttofile.com

Office Action Summary	**Application No.** 14/480,701	**Applicant(s)** ALLANI, Ferid	
	Examiner SAJEDA MUHEBBULLAH	**Art Unit** 2141	**AIA (FITF) Status** No

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

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTHS FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☑ Responsive to communication(s) filed on 31 October 2019.

☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on _____.

2a)☐ This action is **FINAL.** 2b) ☑ This action is non-final.

3)☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on _____; the restriction requirement and election have been incorporated into this action.

4)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims*

5) ☑ Claim(s) 1-4 and 6-28 is/are pending in the application.

5a) Of the above claim(s) _____ is/are withdrawn from consideration.

6) ☐ Claim(s) _____ is/are allowed.

7) ☑ Claim(s) 1-4 and 6-28 is/are rejected.

8) ☐ Claim(s) _____ is/are objected to.

9) ☐ Claim(s) _____ are subject to restriction and/or election requirement

* If any claims have been determined allowable, you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see http://www.uspto.gov/patents/init_events/pph/index.jsp or send an inquiry to **PPHfeedback@uspto.gov.**

Application Papers

10)☐ The specification is objected to by the Examiner.

11)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

Priority under 35 U.S.C. § 119

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

Certified copies:

a)☐ All b)☐ Some** c)☐ None of the:

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

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

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

** See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☑ Notice of References Cited (PTO-892)

2) ☐ Information Disclosure Statement(s) (PTO/SB/08a and/or PTO/SB/08b) Paper No(s)/Mail Date _____.

3) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date _____.

4) ☐ Other: _____.

DETAILED ACTION

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

2. This communication is responsive to RCE/Amendment filed 10/31/2019.

3. Claims 1-4 and 6-28 are pending in this application. In the Amendment, claims 1, 22, 25 and 28 are amended and claim 5 is cancelled.

Response to Arguments

4. Applicant's arguments with respect to claims amended 10/31/2019 have been considered but are moot because the arguments do not apply to any of the references being used in the current rejection.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 1-2, 4, 6-12 and 14-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Iki et al. ("Iki", US 6,816,172) in view of Logan et al. ("Logan", US 5,802,299) in view of Cole et al. ("Cole", US 5,933,827) and further in view of Lincke et al. ("Lincke", US 2002/0109706).

As per claim 1, Iki teaches an apparatus for accessing information- or service-providing Web sites, comprising a communication device connectable through a communication network to the Internet (col.5, lines 6-40, *remote systems accessed via Internet*), control and processing device or devices (col.2, lines 57-64; col.3, lines 35-40, *system controller 140, processor 201*), data storage device or devices (col.2, lines 57-64, *controller stores data from data sources*), and a display (col.4, lines 15-19, *display device*), said storage device or devices containing a set of

icons including at least one of a direct access icon for directly accessing remote sources of information (col.6, lines 18-20; col.7, line 62-col.8, line 7; col.5, lines 48-55, *graphical image corresponding to identifiers to a remote web server*) and wherein the control and processing device or devices are programmed for: enabling a preliminary search locally performed within said communication device (col.8, line 63-col.9, line 3, *data corresponding to identifier retrieved from local storage medium*), and emitting on the communication network, in response to selection of a direct access icon in a selection page being currently displayed (col.6, lines 18-20; col.7, line 62-col.8, line 7; col.5, lines 48-55, *graphical image corresponding to identifiers to a remote web server*), an address of an information- or service-providing Web site corresponding to said selected direct access icon, said address being locally generated during the preliminary search and selection (col.6, lines 14-20; col.7, lines 2-4, *data portion includes address of information in identifier*).

However, Iki does not teach said storage device containing a plurality of selection pages within a tree menu structure, said selection pages being beforehand locally stored in said data storage device or devices, a selection icon for locally accessing another selection page within said tree menu structure, wherein said plurality of selection pages includes: a first selection page, a second selection page and a third selection page, said first selection page comprising a selection icon for locally accessing said second selection page, said second selection page comprising a selection icon for locally accessing said third selection page, said third selection page comprising one or more direct access icons for directly accessing an information- or service-providing Web site and at least one selection page further comprising one or more icons for directly accessing a search engine on the Web and enabling a search performed in different themes and sub themes within said plurality of selection pages.

Logan teaches a device for selection of pages stored locally containing selectable icons linking to additional pages and websites wherein pages may be accessed locally without having to connect to the website (Logan, Fig.1, *LINK 1, LINK2 selection icons to local pages and LINK 3/4 are direct access icons to remote pages*; col.4, line 64-col.5, line 9). It would have been obvious to one of ordinary skill in the art to include Logan's teaching with Iki's apparatus in order to save access time in retrieving data.

Furthermore, the apparatus of Iki and Logan does not teach at least one selection page further comprising one or more icons for directly accessing a search engine on the Web and enabling a search performed in different themes and sub themes within said plurality of selection pages. Cole teaches a device for displaying selection pages wherein categories are selected and another page of subcategories is displayed (Cole, col.4, line 38-41, col.5, lines 19-25) and a search engine (Cole, col.5, lines 26-59). It would have been obvious to one of ordinary skill in the art to include Cole's teaching with the apparatus of Iki and Logan in order to limit the searching to relevant data.

Additionally, the apparatus of Iki, Logan and Cole does not teach wherein the apparatus is implemented in a mobile phone. Lincke teaches an apparatus for browsing a locally stored homepage (Lincke, para.123) implemented on a mobile phone (Lincke, para.55, 78, 87, *wireless communication device*). It would have been obvious to one of ordinary skill in the art to include Lincke's teaching with the method of Iki, Logan and Cole in order to allow portability.

As per claim 2, the apparatus of Iki, Logan, Cole and Lincke teaches the apparatus according to claim 1, characterized in that the direct access icons comprise icons for accessing commercial sites (Iki, col.7, lines 57-61, *merchandise may be purchased*).

As per claim 4, the apparatus of Iki, Logan, Cole and Lincke teaches the apparatus according to claim 1, wherein said at least one selection page comprising two or more direct access icons comprises direct access icons corresponding to distinct sources of information or services (Iki, col.7, lines 34-61, *icons corresponding to videos, songs, critiques, etc*).

As per claim 6, the apparatus of Iki, Logan, Cole and Lincke teaches the apparatus according to claim 1, wherein a page from a Web site is displayed on said display in response to selecting a direct access icon (Logan, Fig.1, *LINK 1, LINK2 selection icons to local pages and LINK 3/4 are direct access icons to remote pages*; col.4, line 64-col.5, line 9).

As per claim 7, the apparatus of Iki, Logan, Cole and Lincke teaches the apparatus according to claim 1, wherein at least one of the selection pages includes both at least one direct access icon (Iki, col.6, lines 18-20, *URL*) and at least one selection icon (Iki, col.8, lines 37-51, *second interface displaying add'l identifiers;* Logan, Fig.1, *LINK 1, LINK2 selection icons to local pages and LINK 3/4 are direct access icons to remote pages*; col.4, line 64-col.5, line 9).

As per claim 8, the apparatus of Iki, Logan, Cole and Lincke teaches the apparatus according to claim 1, wherein said control and processing device or devices are configured to receive, from a server, data for updating information associated with at least one of a selection page, a direct access icon and a selection icon (Logan, col.14, lines 34-45; col.18, lines 55-64).

As per claim 9, the apparatus of Iki, Logan, Cole and Lincke teaches the apparatus according to claim 8, wherein said updating information is received periodically (Logan, col.4, lines 14-22; col.18, lines 61-64, *stored information periodically updated*).

As per claim 10, the apparatus of Iki, Logan, Cole and Lincke teaches the apparatus according to claim 9, wherein said updating information is received on demand (Logan, col.19, lines 30-col.20, line 16, *updated information received if modified*).

As per claim 11, the apparatus of Iki, Logan, Cole and Lincke teaches the apparatus according to claim 1, wherein the second selection page displays information corresponding to a sub-category of the first selection page (Iki, col.8, lines 19-51, *retrieves add'l data corresponding to selected first selection;* Cole, col.4, line 38-41, col.5, lines 19-25).

As per claim 12, the apparatus of Iki, Logan, Cole and Lincke teaches the apparatus according to claim 1, wherein said control and processing device or devices are configured to receive information from the information- or service-providing Web site corresponding to said selected direct access icon via the communication network (Iki, col.6, lines 14-20; col.7, lines 2-4, *link to a remote web server*).

As per claim 14, the apparatus of Iki, Logan, Cole and Lincke teaches the apparatus according to claim 1, wherein selection of a direct access icon in a selection page being displayed comprises clicking on said icon (Logan, col.5, lines 1-9, *LINK is graphic visually represents the linked subject matter*).

As per claim 15, the apparatus of Iki, Logan, Cole and Lincke teaches the apparatus according to claim 1, wherein said selection pages stored in said data storage device or devices are downloaded thereto (Logan, col.5, lines 20-30, *locally stored documents*).

As per claim 16, the apparatus of Iki, Logan, Cole and Lincke teaches the apparatus according to claim 1, wherein said selection pages stored in said data storage device or devices are downloaded (Logan, col.5, lines 20-30, *locally stored documents*) thereto over a mobile connection (Lincke, para.55, 78, 87, *wireless communication device*).

As per claim 17, the apparatus of Iki, Logan, Cole and Lincke teaches the apparatus according to claim 1, wherein said selection pages operate as rolling menus (Logan, Fig.1, *LINK*

1, LINK2 selection icons to local pages and LINK 3/4 are direct access icons to remote pages; col.4, line 64-col.5, line 9).

As per claim 18, the apparatus of Iki, Logan, Cole and Lincke teaches the apparatus according to claim 1, wherein at least one of the selection pages is a trunk of the tree menu structure (Logan, Fig.1, *attract page 81*; col.4, line 64-col.5, line 9).

As per claim 19, the apparatus of Iki, Logan, Cole and Lincke teaches the apparatus according to claim 1, wherein the control and processing device or devices are configured to command a request-answer sequence characterized in that the request comprises the address of the information- or service-providing Web site (Logan, Fig.1, *LINK 1, LINK2 selection icons to local pages and LINK 3/4 are direct access icons to remote pages*; col.4, line 64-col.5, line 9), and wherein the request-answer sequence is preceded by a locally implemented selection of themes and sub-themes (Cole, col.4, line 38-41, col.5, lines 19-25).

As per claim 20, the apparatus of Iki, Logan, Cole and Lincke teaches the apparatus according to claim 1, wherein the icons comprise logotypes, graphic marks or semi-graphic marks (Iki, Fig.5, col.7, lines 24-30, *graphical images;* Logan, col.5, lines 1-9, *LINK is graphic visually represents the linked subject matter*).

As per claim 21, the apparatus of Iki, Logan, Cole and Lincke teaches the apparatus according to claim 1, wherein the icons comprise textual elements (Iki, col.7, lines 24-30, *words related to identifiers*).

7. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Iki et al. ("Iki", US 6,816,172), Logan et al. ("Logan", US 5,802,299), Cole et al. ("Cole", US 5,933,827) and Lincke et al. ("Lincke", US 2002/0109706) in view of Schagen et al. ("Schagen", US 6,702,492).

As per claim 3, the apparatus of Iki, Logan, Cole and Lincke teaches the apparatus according to claim 1, characterized in that the control and processing device or devices are arranged for receiving, data for updating selection pages, and for processing said updating data so that new selection pages are stored in the data storage device or devices (Logan, col.4, lines 14-22; col.14, lines 34-45; col.18, lines 55-64, *stored information periodically updated*). However, the apparatus does not teach updating by downloading from a management server. Schagen teaches an apparatus for searching data from local and remote sources of information that are hierarchically organized wherein updating is achieved from a central server (Schagen, col.9, lines 37-42, *central station*). It would have been obvious to one of ordinary skill in the art at the time of the invention to include Schagen's teaching with the apparatus of Iki, Logan, Cole and Lincke for central management of updates (Schagen, col.3, lines 42-44).

8. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Iki et al. ("Iki", US 6,816,172), Logan et al. ("Logan", US 5,802,299), Cole et al. ("Cole", US 5,933,827) and Lincke et al. ("Lincke", US 2002/0109706) in view of Rush et al. ("Rush", US 7,131,069).

As per claim 13, the apparatus of Iki, Logan, Cole and Lincke teaches the apparatus according to claim 1, wherein icons present graphic features, however, the apparatus does not teach the selection icons to be distinctive from those of the direct access icons. Rush teaches an apparatus for organizing information wherein the apparatus distinguishes icons according to the node type (Rush, col.23, lines 4-15, *icons visually symbolize different types of objects*). It would have been obvious to one of ordinary skill in the art at the time of the invention to include Rush's teaching with the apparatus of Iki, Logan, Cole and Lincke in order to quickly distinguish the type of node (Rush, col.23, lines 4-15).

9. Claims 22-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Iki et al. ("Iki", US 6,816,172) in view of Logan et al. ("Logan", US 5,802,299) in view of Cole et al. ("Cole", US 5,933,827) in view of Hsu et al. ("Hsu", US 6,970,867) and further in view of Lincke et al. ("Lincke", US 2002/0109706).

As per claim 22, Iki teaches a communication device connectable to remote sources of information or services through a communication network (col.5, lines 6-40, *Internet*), the communication device comprising a display (col.4, lines 15-19, *display device*), data storage (col.2, lines 57-64, *controller stores data from data sources*), a processor (col.3, lines 35-40, *processor 201*), a controller (col.2, lines 57-64, *system controller 140*) and at least one direct access icon capable of being selectively activated to connect said communication device to a predetermined one of said remote sources of information or services (col.6, lines 18-20; col.7, line 62-col.8, line 7; col.5, lines 48-55, *graphical image corresponding to identifiers to a remote web server*).

However, Iki does not teach a plurality of pages locally stored in said data storage and displayable on said display, wherein a first one of said locally stored pages includes at least one selection icon capable of being selectively activated to display a second one of said locally stored pages on said display and at least one second selection icon capable of being selectively activated to display a third one of said locally stored pages on said display and, wherein at least one of said first, second and third locally stored pages further includes at least one icon for directly accessing a search engine for permitting a user to control searches on the Web, wherein at least one of said first, second and third locally stored pages further includes at least one icon

for directly accessing a portal of a Web site and one icon for directly accessing a document provided by said Web site.

Logan teaches a device for selection of pages stored locally containing selectable icons linking to additional pages and websites wherein pages may be accessed locally without having to connect to the website (Logan, Fig.1, *LINK 1, LINK2 selection icons to local pages and LINK 3/4 are direct access icons to remote pages*; col.4, line 64-col.5, line 9). It would have been obvious to one of ordinary skill in the art to include Logan's teaching with Iki's device in order to save access time in retrieving data.

Furthermore, the device of Iki and Logan does not teach at least one selection page further comprising one or more icons for directly accessing a search engine for permitting a user to control searches on the Web. Cole teaches a device for displaying selection pages wherein categories are selected and another page of subcategories is displayed (Cole, col.4, line 38-41, col.5, lines 19-25) and a search engine for searching on the Web (Cole, col.5, lines 26-59). It would have been obvious to one of ordinary skill in the art to include Cole's teaching with the device of Iki and Logan in order to limit the searching to relevant data.

Additionally, the device of Iki, Logan and Cole does not teach at least one selection page further comprising an icon for directly accessing a portal of a Web site and an icon for directly accessing a document provided by said Web site. Hsu teaches a selection bookmark page where a user may create both a link to a Webpage and a link to a document within that Webpage on the bookmark menu page (Hsu, Fig.4, *bookmark menu page 68;* col.5, lines 1-67, *link to secondary document of Webpage 64 and link to whole Webpage 63 added to menu page 68*). It would have been obvious to one of ordinary skill in the art at the time of the invention to include Hsu's

teaching with the device of Iki, Logan and Cole for quick access to areas of interest (Hsu, col.1, lines 59-63).

Furthermore, the device of Iki, Logan, Cole and Hsu does not teach wherein the communication device is a mobile phone. Lincke teaches a communication device for browsing a locally stored homepage (Lincke, para.123) that is a mobile phone (Lincke, para.55, 78, 87, *wireless communication device*). It would have been obvious to one of ordinary skill in the art to include Lincke's teaching with the method of Iki, Logan, Cole and Hsu in order to allow portability.

As per claim 23, the device of Iki, Logan, Cole, Hsu and Lincke teaches the communication device according to claim 22, characterized in that said selection pages are locally stored in the data storage beforehand (Logan, Fig.1, *documents stored locally*; col.4, line 64-col.5, line 9).

As per claim 24, the device of Iki, Logan, Cole, Hsu and Lincke teaches the communication device according to claim 22, wherein said selection pages stored in said data storage are organized in a tree menu structure (Logan, Fig.1, *LINK 1, LINK2 selection icons to local pages and LINK 3/4 are direct access icons to remote pages*; col.4, line 64-col.5, line 9).

10. Claims 25 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Iki et al. ("Iki", US 6,816,172) in view of Logan et al. ("Logan", US 5,802,299) and further in view of Lincke et al. ("Lincke", US 2002/0109706).

As per claim 25, Iki teaches a communication device connectable to remote sources of information or services through a communication network (col.5, lines 6-40, *remote systems accessed via Internet*), the communication device comprising a display (col.4, lines 15-19,

display device), data storage (col.2, lines 57-64, *controller stores data from data sources*), a processor (col.3, lines 35-40, *processor 201*), a controller (col.2, lines 57-64, *system controller 140*) and at least one direct access icon capable of being selectively activated to connect said communication device to a predetermined one of said remote sources of information or services (col.6, lines 18-20; col.7, line 62-col.8, line 7; col.5, lines 48-55, *graphical image corresponding to identifiers to a remote web server*) and at least one second direct access icon capable of being selectively activated to connect said mobile communication device to a second predetermined one of said remote sources of information or services (col.6, lines 18-20; col.7, line 62-col.8, line 7; col.5, lines 48-55, *graphical image corresponding to identifiers to a remote web server)*, and wherein said third one of said locally stored pages includes at least one third direct access icon capable of being selectively activated to connect said mobile communication device to a third predetermined one of said remote sources of information or services (col.6, lines 18-20; col.7, line 62-col.8, line 7; col.5, lines 48-55, *graphical image corresponding to identifiers to a remote web server*).

However, Iki does not teach a mobile communication device, a plurality of pages locally stored in said data storage and displayable on said display, wherein a first one of said locally stored pages includes at least one selection icon capable of being selectively activated to display a second one of said locally stored pages on said display and at least one second selection icon capable of being selectively activated to display a third one of said locally stored pages on said display and at least one third selection icon capable of being selectively activated to display a fourth one of said locally stored pages on said display.

Logan teaches a device for selection of pages stored locally containing selectable icons linking to additional pages and websites wherein pages may be accessed locally without having

to connect to the website (Logan, Fig.1, *LINK 1, LINK2 selection icons to local pages and LINK 3/4 are direct access icons to remote pages*; col.4, line 64-col.5, line 9). It would have been obvious to one of ordinary skill in the art to include Logan's teaching with Iki's device in order to save access time in retrieving data.

Furthermore, the device of Iki and Logan does not teach wherein the mobile communication device is a mobile phone. Lincke teaches a communication device for browsing a locally stored homepage (Lincke, para.123) that is a mobile phone (Lincke, para.55, 78, 87, *wireless communication device*). It would have been obvious to one of ordinary skill in the art to include Lincke's teaching with the method of Iki and Logan in order to allow portability.

As per claim 27, the device of Iki, Logan and Lincke teaches the mobile communication device according to claim 25, wherein selective activation of a direct access icon comprises emitting, on the communication network, an address of the first, second or third predetermined one of said remote sources (Iki, col.6, lines 14-20; col.7, lines 2-4, *data portion includes address of information in identifier*).

11. Claims 26 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Iki et al. ("Iki", US 6,816,172), Logan et al. ("Logan", US 5,802,299) and Lincke et al. ("Lincke", US 2002/0109706) in view of Cole et al. ("Cole", US 5,933,827).

As per claim 26, the device of Iki, Logan and Lincke teaches the mobile communication device according to claim 25, however does not teach wherein at least one of the selection pages further comprises one or more icons for directly accessing a search engine on the Web. Cole teaches a device for displaying selection pages wherein categories are selected and another page of subcategories is displayed (Cole, col.4, line 38-41, col.5, lines 19-25) and a search engine for

searching on the Web (Cole, col.5, lines 26-59). It would have been obvious to one of ordinary skill in the art to include Cole's teaching with the device of Iki, Logan and Lincke in order to limit the searching to relevant data.

Claim 28 is similar in scope to claim 26, and is therefore rejected under similar rationale.

Inquiries

Any inquiry concerning this communication or earlier communications from the examiner should be directed to SAJEDA MUHEBBULLAH whose telephone number is (571)272-4065. The examiner can normally be reached on Mon-Thur 8am-5pm.

Examiner interviews are available via telephone, in-person, and video conferencing using a USPTO supplied web-based collaboration tool. To schedule an interview, applicant is encouraged to use the USPTO Automated Interview Request (AIR) at http://www.uspto.gov/interviewpractice.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amy Ng can be reached on 571-270-1698. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would

like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/S.M./
Sajeda Muhebbullah
Examiner, Art Unit 2141

/AMY NG/
Supervisory Patent Examiner, Art Unit 2141

Notice of References Cited	Application/Control No. 14/480,701	Applicant(s)/Patent Under Reexamination ALLANI, Ferid	
	Examiner SAJEDA MUHEBBULLAH	Art Unit 2141	Page 1 of 1

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	CPC Classification	US Classification
*	A	US-20020109706-A1	08-2002	LINCKE, SCOTT D.	G06F17/3089	715/700
	B					
	C					
	D					
	E					
	F					
	G					
	H					
	I					
	J					
	K					
	L					
	M					

FOREIGN PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	CPC Classification
	N					
	O					
	P					
	Q					
	R					
	S					
	T					

NON-PATENT DOCUMENTS

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
	U	
	V	
	W	
	X	

*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

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Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
	14/480,701	ALLANI, Ferid
	Examiner	Art Unit
	SAJEDA MUHEBBULLAH	2141

CPC - Searched*		
Symbol	**Date**	**Examiner**
G06F 3/0483	12/05/2019	SM
G06F 3/04817	12/05/2019	SM
G06F 17/30873	12/05/2019	SM
G06F 17/30876	12/05/2019	SM
G06F 17/30994	12/05/2019	SM
G06F 17/3089	12/05/2019	SM
G06F 17/30893	12/05/2019	SM
G06F 17/30896	12/05/2019	SM
G06F 17/2247	12/05/2019	SM

CPC Combination Sets - Searched*		
Symbol	**Date**	**Examiner**

US Classification - Searched*			
Class	**Subclass**	**Date**	**Examiner**

* See search history printout included with this form or the SEARCH NOTES box below to determine the scope of the search.

Search Notes		
Search Notes	**Date**	**Examiner**
EAST text search included (USPAT & USPGPUB)	12/05/2019	SM

/SAJEDA MUHEBBULLAH/ Examiner, Art Unit 2141	

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Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
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	Examiner	Art Unit
	SAJEDA MUHEBBULLAH	2141

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

/SAJEDA MUHEBBULLAH/ Examiner, Art Unit 2141	

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Index of Claims	Application/Control No.	Applicant(s)/Patent Under Reexamination
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	Examiner	Art Unit
	SAJEDA MUHEBBULLAH	2141

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

CLAIMS

☐ Claims renumbered in the same order as presented by applicant ☐ CPA ☐ T.D. ☐ R.1.47

CLAIM		DATE								
Final	Original	09/01/2016	06/08/2017	09/20/2018	09/28/2018	05/20/2019	12/05/2019			
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	3	✓	✓	✓	✓	✓	✓			
	4	✓	✓	✓	✓	✓	✓			
	5	✓	✓	✓	✓	✓	-			
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	7	✓	✓	✓	✓	✓	✓			
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	27	✓	✓	✓	✓	✓	✓			
	28	✓	✓	✓	✓	✓	✓			

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EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	29	(US-20040019610-$ or US-20010014868-$ or US-20020089534-$ or US-20020109706-$).did. or (US-6665687-$ or US-5933827-$ or US-5959945-$ or US-6032130-$ or US-6587835-$ or US-6934690-$ or US-5930769-$ or US-6456303-$ or US-7454706-$ or US-6816172-$ or US-6072492-$ or US-6868525-$ or US-6516329-$ or US-6211871-$ or US-7143055-$ or US-6628307-$ or US-5875446-$ or US-5977972-$ or US-7131069-$ or US-6100890-$ or US-6970867-$ or US-6088707-$ or US-5802299-$ or US-6623529-$ or US-6014137-$).did.	US-PGPUB; USPAT	OR	ON	2019/12/09 01:00
L2	7	1 and (mobile or pda)	US-PGPUB; USPAT	OR	ON	2019/12/09 01:01
L3	3	@ad<"19991230" and 2	US-PGPUB; USPAT	OR	ON	2019/12/09 01:01
L4	14548	G06F17/30873.cpc. or G06F17/30876.cpc. or G06F17/30994.cpc. or G06F17/3089.cpc. or G06F17/30893.cpc. or G06F17/30896.cpc. or G06F17/2247.cpc. or G06F3/04817.cpc or G06F3/0483.cpc.	US-PGPUB; USPAT	OR	ON	2019/12/09 01:03
L5	1009766	local$4 with (website or webpage or internet or web$5 or remote$4)	US-PGPUB; USPAT	OR	ON	2019/12/09 01:03
L6	145760	((hierarch$7 or tree)) with (quer$3 or search$3 or locat$3 or retriev$4)	US-PGPUB; USPAT	OR	ON	2019/12/09 01:03
L7	2088	L6 same L5	US-PGPUB; USPAT	OR	ON	2019/12/09 01:03
L8	85	@ad<"19991230" and L7	US-PGPUB; USPAT	OR	ON	2019/12/09 01:03
L9	24	@ad<"19991230" and 1	US-PGPUB; USPAT	OR	ON	2019/12/09 01:04
L10	5	1 not 9	US-PGPUB; USPAT	OR	ON	2019/12/09 01:04
L11	13	1 and (wireless or mobile or pda)	US-PGPUB; USPAT	OR	ON	2019/12/09 01:07
L12	9	@ad<"19991230" and 11	US-PGPUB;	OR	ON	2019/12/09 01:07

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			USPAT			
L14	6	1 and (cellular or mobile or cellphone)	US-PGPUB; USPAT	OR	ON	2019/12/09 01:33
L15	2	@ad<"19991230" and 14	US-PGPUB; USPAT	OR	ON	2019/12/09 01:34
L16	7	1 and (cell$4 or mobile or cellphone)	US-PGPUB; USPAT	OR	ON	2019/12/09 01:34
L17	3	@ad<"19991230" and 16	US-PGPUB; USPAT	OR	ON	2019/12/09 01:34
S1	15	("5959945" | "5930769" | "6032130" | "5933827" | "6072492" | "6665687" | "6587835" | "7454706" | "6456303" | "6816172" | "20010014868" | "20040019610" | "6934690" | "20020089534" | "6868525").PN.	US-PGPUB; USPAT	OR	ON	2012/06/12 10:00
S2	324	715/712-713.ccls.	US-PGPUB; USPAT	OR	ON	2012/06/12 10:05
S3	121	715/712-713.ccls. and (mobil$4 or portab$5)	US-PGPUB; USPAT	OR	ON	2012/06/12 10:06
S4	116	715/712-713.ccls. and (mobil$4 or portab$5) and (quer$3 or search$3 or locat$3 or retriev$4)	US-PGPUB; USPAT	OR	ON	2012/06/12 10:07
S5	10	"169355".ap.	US-PGPUB; USPAT	OR	ON	2012/06/12 10:07
S6	0	("2003/0120746").URPN.	USPAT	OR	ON	2012/06/12 10:08
S7	2998014	@ad<"19991230"	US-PGPUB; USPAT	OR	ON	2012/06/12 10:09
S8	171716	S7 and (mobil$4 or portab$5) and (quer$3 or search$3 or locat$3 or retriev$4)	US-PGPUB; USPAT	OR	ON	2012/06/12 10:09
S9	25034	S7 and (mobil$4 or portab$5) and (quer$3 or search$3 or locat$3 or retriev$4) and (website or webpage or internet or web$5)	US-PGPUB; USPAT	OR	ON	2012/06/12 10:10
S10	65514	"715"/$.ccls.	US-PGPUB; USPAT	OR	ON	2012/06/12 10:11
S11	953	S10 and S7 and (mobil$4 or portab$5) and (quer$3 or search$3 or locat$3 or retriev$4) and (website or webpage or internet or web$5)	US-PGPUB; USPAT	OR	ON	2012/06/12 10:11
S12	587	S10 and S7 and (mobil$4 or portab$5) and ((quer$3 or search$3 or locat$3 or retriev$4) same (website or webpage or internet or web$5))	US-PGPUB; USPAT	OR	ON	2012/06/12 10:13
S13	156	S10 and S7 and (mobil$4 or portab$5) and ((quer$3 or search$3 or locat$3 or retriev$4) same (website or webpage or internet or web$5) same (categor$4 or hierarch$6 or directory or tree or catalog$3	US-PGPUB; USPAT	OR	ON	2012/06/12 10:14

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		or guide))				
S14	89	S10 and S7 and icon$3 and (mobil$4 or portab$5) and ((quer$3 or search$3 or locat$3 or retriev$4) same (website or webpage or internet or web$5) same (categor$4 or hierarch$6 or directory or tree or catalog$3 or guide))	US-PGPUB; USPAT	OR	ON	2012/06/12 11:07
S15	8	"912135".ap.	US-PGPUB; USPAT	OR	ON	2012/06/12 15:07
S16	3	("20110257874" | "7570178" | "20100332054").PN.	US-PGPUB; USPAT	OR	ON	2012/06/12 15:09
S17	297	340/970.ccls.	US-PGPUB; USPAT	OR	ON	2012/06/12 15:15
S18	12	340/970.ccls. and altitude and (user adj interface)	US-PGPUB; USPAT	OR	ON	2012/06/12 15:15
S19	17	("5959945" | "6072492" | "6816172" | "20010014868" | "20020089534" | "6032130" | "6628307" | "5933827" | "6587835" | "7143055" | "20040019610" | "6665687" | "7454706" | "6456303" | "6868525" | "6934690" | "5930769").PN.	US-PGPUB; USPAT	OR	ON	2016/05/31 09:29
S20	19	(US-20040019610-$ or US-20010014868-$ or US-20020089534-$).did. or (US-6665687-$ or US-5933827-$ or US-5959945-$ or US-6032130-$ or US-6587835-$ or US-6934690-$ or US-5930769-$ or US-6456303-$ or US-7454706-$ or US-6816172-$ or US-6072492-$ or US-6868525-$ or US-6516329-$ or US-6211871-$ or US-7143055-$ or US-6628307-$).did.	US-PGPUB; USPAT	OR	ON	2016/09/02 21:31
S21	11	S20 and (search near3 engine)	US-PGPUB; USPAT	OR	ON	2016/09/02 21:31
S22	2998271	@ad<"19991230"	US-PGPUB; USPAT	OR	ON	2016/09/02 21:40
S23	1090	multi$4 near3 page near3 interface	US-PGPUB; USPAT	OR	ON	2016/09/02 21:40
S24	31	@ad<"19991230" and S23	US-PGPUB; USPAT	OR	ON	2016/09/02 21:40
S25	169	(hierarch$7 or tree) near3 page near3 interface	US-PGPUB; USPAT	OR	ON	2016/09/02 21:45
S26	2	@ad<"19991230" and S25	US-PGPUB; USPAT	OR	ON	2016/09/02 21:45
S27	1315	((hierarch$7 or tree) near3 page) same interface	US-PGPUB; USPAT	OR	ON	2016/09/02 21:47
S28	66	@ad<"19991230" and S27	US-PGPUB;	OR	ON	2016/09/02 21:47

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			USPAT			
S29	656	((hierarch$7 or tree) near3 page) with search$3	US-PGPUB; USPAT	OR	ON	2016/09/02 22:11
S30	38	@ad<"19991230" and S29	US-PGPUB; USPAT	OR	ON	2016/09/02 22:11
S31	1544	((hierarch$7 or tree) near3 page) with (quer$3 or search$3 or locat$3 or retriev$4)	US-PGPUB; USPAT	OR	ON	2016/09/02 22:19
S32	675327	local$4 with (website or webpage or internet or web$5 or remote$4)	US-PGPUB; USPAT	OR	ON	2016/09/02 22:20
S33	26	S31 same S32	US-PGPUB; USPAT	OR	ON	2016/09/02 22:20
S34	1	@ad<"19991230" and S33	US-PGPUB; USPAT	OR	ON	2016/09/02 22:20
S35	111717	((hierarch$7 or tree)) with (quer$3 or search$3 or locat$3 or retriev$4)	US-PGPUB; USPAT	OR	ON	2016/09/02 22:21
S36	1473	S35 same S32	US-PGPUB; USPAT	OR	ON	2016/09/02 22:21
S37	85	@ad<"19991230" and S36	US-PGPUB; USPAT	OR	ON	2016/09/02 22:21
S38	26881	G06F17/30873.cpc. or G06F17/30876.cpc. or G06F17/30994.cpc. or G06F17/3089.cpc. or G06F17/30893.cpc. or G06F17/30896.cpc. or G06F17/2247.cpc. or G06F3/04817.cpc or G06F3/0483.cpc.	US-PGPUB; USPAT	OR	ON	2016/09/02 22:24
S39	38	@ad<"19991230" and S36 and (G06F17/$.cpc. or G06F3/$.cpc.)	US-PGPUB; USPAT	OR	ON	2016/09/02 22:24
S40	13	"480701".ap.	US-PGPUB; USPAT	OR	ON	2016/09/02 23:26
S41	1	(US-20150020005-$).did.	US-PGPUB	OR	ON	2016/09/02 23:47
S42	1	S41 and rolling	US-PGPUB; USPAT	OR	ON	2016/09/02 23:47
S43	15	rolling adj menu	US-PGPUB; USPAT	OR	ON	2016/09/02 23:48
S44	20	(US-20040019610-$ or US-20010014868-$ or US-20020089534-$).did. or (US-6665687-$ or US-5933827-$ or US-5959945-$ or US-6032130-$ or US-6587835-$ or US-6934690-$ or US-5930769-$ or US-6456303-$ or US-7454706-$ or US-6816172-$ or US-6072492-$ or US-6868525-$ or US-6516329-$ or US-6211871-$ or US-7143055-$ or US-6628307-$ or US-5875446-$).did.	US-PGPUB; USPAT	OR	ON	2016/09/03 00:26

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S45	19	S44 and updat$4	US-PGPUB; USPAT	OR	ON	2016/09/03 00:26
S46	5	S44 and (cellular or mobile or cellphone)	US-PGPUB; USPAT	OR	ON	2016/09/03 00:43
S47	7	S44 and (phone)	US-PGPUB; USPAT	OR	ON	2016/09/03 00:45
S48	13	S44 and (telephone)	US-PGPUB; USPAT	OR	ON	2016/09/03 00:45
S49	5	S44 and pda	US-PGPUB; USPAT	OR	ON	2016/09/03 00:47
S50	5	S44 and (cell$6 or mobile or cellphone)	US-PGPUB; USPAT	OR	ON	2016/09/03 00:49
S51	20	(US-20040019610-$ or US-20010014868-$ or US-20020089534-$).did. or (US-6665687-$ or US-5933827-$ or US-5959945-$ or US-6032130-$ or US-6587835-$ or US-6934690-$ or US-5930769-$ or US-6456303-$ or US-7454706-$ or US-6816172-$ or US-6072492-$ or US-6868525-$ or US-6516329-$ or US-6211871-$ or US-7143055-$ or US-6628307-$ or US-5875446-$).did.	US-PGPUB; USPAT	OR	ON	2016/09/03 02:05
S52	12	S51 and click$4	US-PGPUB; USPAT	OR	ON	2016/09/03 02:05
S53	16	S51 and (load$3 or download$3)	US-PGPUB; USPAT	OR	ON	2016/09/03 02:12
S54	0	icon with distin$5 with local$4 with (link or webpage or website)	US-PGPUB; USPAT	OR	ON	2016/09/03 02:38
S55	161	icon with distin$5 with (link or webpage or website)	US-PGPUB; USPAT	OR	ON	2016/09/03 02:39
S56	16	@ad<"19991230" and S55	US-PGPUB; USPAT	OR	ON	2016/09/03 02:39
S57	1559	icon near4 (distinguish$ or different$4 or distinct$4) near4 visual$4	US-PGPUB; USPAT	OR	ON	2016/09/03 02:44
S58	91	@ad<"19991230" and S57	US-PGPUB; USPAT	OR	ON	2016/09/03 02:44
S59	26	icon near4 (distinguish$ or different$4 or distinct$4) near4 visual$4 near5 level	US-PGPUB; USPAT	OR	ON	2016/09/03 02:45
S60	2	@ad<"19991230" and S59	US-PGPUB; USPAT	OR	ON	2016/09/03 02:45
S61	13	icon near4 (distinguish$ or different$4 or distinct$4) near4 visual$4 with (hierarch$7	US-PGPUB;	OR	ON	2016/09/03 02:46

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		or tree)	USPAT			
S62	3	@ad<"19991230" and S61	US-PGPUB; USPAT	OR	ON	2016/09/03 02:46
S63	338	icon near4 (bookmark) with web$4	US-PGPUB; USPAT	OR	ON	2017/06/08 16:01
S64	9	@ad<"19991230" and S63	US-PGPUB; USPAT	OR	ON	2017/06/08 16:02
S65	59	icon near4 (document) with (web$4 adj2 link)	US-PGPUB; USPAT	OR	ON	2017/06/08 18:26
S66	5	@ad<"19991230" and S65	US-PGPUB; USPAT	OR	ON	2017/06/08 18:26
S67	70	icon near4 (document) with (web$4 adj2 (URL or link))	US-PGPUB; USPAT	OR	ON	2017/06/08 19:25
S68	7	@ad<"19991230" and S67	US-PGPUB; USPAT	OR	ON	2017/06/08 19:26
S69	49	bookmark with (document) with (web$4 adj2 (URL or link))	US-PGPUB; USPAT	OR	ON	2017/06/08 19:27
S70	2	@ad<"19991230" and S69	US-PGPUB; USPAT	OR	ON	2017/06/08 19:27
S71	52	bookmark$3 with (document) with (web$4 adj2 (URL or link))	US-PGPUB; USPAT	OR	ON	2017/06/08 19:27
S72	2	@ad<"19991230" and S71	US-PGPUB; USPAT	OR	ON	2017/06/08 19:27
S73	142	bookmark$3 same (document) same (web$4 adj2 (URL or link))	US-PGPUB; USPAT	OR	ON	2017/06/08 19:29
S74	14	@ad<"19991230" and S73	US-PGPUB; USPAT	OR	ON	2017/06/08 19:29
S75	565	bookmark$3 with (web$4 adj2 (URL or link))	US-PGPUB; USPAT	OR	ON	2017/06/08 19:36
S76	25	@ad<"19991230" and S75	US-PGPUB; USPAT	OR	ON	2017/06/08 19:36
S77	2279	bookmark$3 near5 (document)	US-PGPUB; USPAT	OR	ON	2017/06/08 20:00
S78	124	@ad<"19991230" and S77	US-PGPUB; USPAT	OR	ON	2017/06/08 20:00
S79	25	(US-20040019610-$ or US-20010014868-$ or US-20020089534-$).did. or (US-6665687-$ or US-5933827-$ or US-5959945-$ or US-6032130-$ or US-6587835-$ or US-6934690-$ or US-	US-PGPUB; USPAT	OR	OFF	2017/06/09 00:14

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		5930769-$ or US-6456303-$ or US-7454706-$ or US-6816172-$ or US-6072492-$ or US-6868525-$ or US-6516329-$ or US-6211871-$ or US-7143055-$ or US-6628307-$ or US-5875446-$ or US-5977972-$ or US-7131069-$ or US-6100890-$ or US-6970867-$ or US-6088707-$).did.				
S80	7	S79 and bookmark$3	US-PGPUB; USPAT	OR	OFF	2017/06/09 00:14
S81	20	("5959945" | "6072492" | "6816172" | "20010014868" | "20020089534" | "6032130" | "6628307" | "6623529" | "5933827" | "6587835" | "7143055" | "20040019610" | "6665687" | "7454706" | "6456303" | "6868525" | "6934690" | "20020109706" | "5930769" | "5802299" | "5933827").PN.	US-PGPUB; USPAT	OR	ON	2018/09/20 20:56
S82	28	(US-20040019610-$ or US-20010014868-$ or US-20020089534-$ or US-20020109706-$).did. or (US-6665687-$ or US-5933827-$ or US-5959945-$ or US-6032130-$ or US-6587835-$ or US-6934690-$ or US-5930769-$ or US-6456303-$ or US-7454706-$ or US-6816172-$ or US-6072492-$ or US-6868525-$ or US-6516329-$ or US-6211871-$ or US-7143055-$ or US-6628307-$ or US-5875446-$ or US-5977972-$ or US-7131069-$ or US-6100890-$ or US-6970867-$ or US-6088707-$ or US-5802299-$ or US-6623529-$).did.	US-PGPUB; USPAT	OR	ON	2018/09/20 21:48
S83	23	S82 and search	US-PGPUB; USPAT	OR	ON	2018/09/20 21:48
S84	20	("5959945" | "6072492" | "6816172" | "20010014868" | "20020089534" | "6032130" | "6628307" | "6623529" | "5933827" | "6587835" | "7143055" | "20040019610" | "6665687" | "7454706" | "6456303" | "6868525" | "6934690" | "20020109706" | "5930769" | "5802299" | "5933827").PN.	US-PGPUB; USPAT	OR	ON	2018/09/28 21:27
S85	28	(US-20040019610-$ or US-20010014868-$ or US-20020089534-$ or US-20020109706-$).did. or (US-6665687-$ or US-5933827-$ or US-5959945-$ or US-6032130-$ or US-6587835-$ or US-6934690-$ or US-5930769-$ or US-6456303-$ or US-7454706-$ or US-6816172-$ or US-6072492-$ or US-6868525-$ or US-6516329-$ or US-6211871-$ or US-7143055-$ or US-6628307-$ or US-5875446-$ or US-5977972-$ or US-7131069-$ or US-6100890-$ or US-6970867-$ or US-6088707-$ or US-5802299-$ or US-6623529-$).did.	US-PGPUB; USPAT	OR	ON	2018/09/28 21:27
S86	20	S85 and (theme or categor$4)	US-PGPUB; USPAT	OR	ON	2018/09/28 21:28

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S87	1	("6014137").PN.	US-PGPUB; USPAT	OR	OFF	2018/09/28 21:54
S88	1	S87 and (theme or categor$4)	US-PGPUB; USPAT	OR	ON	2018/09/28 21:54
S89	2949645	@ad<"19991012"	US-PGPUB; USPAT	OR	ON	2018/09/28 21:58
S90	29	(US-20040019610-$ or US-20010014868-$ or US-20020089534-$ or US-20020109706-$).did. or (US-6665687-$ or US-5933827-$ or US-5959945-$ or US-6032130-$ or US-6587835-$ or US-6934690-$ or US-5930769-$ or US-6456303-$ or US-7454706-$ or US-6816172-$ or US-6072492-$ or US-6868525-$ or US-6516329-$ or US-6211871-$ or US-7143055-$ or US-6628307-$ or US-5875446-$ or US-5977972-$ or US-7131069-$ or US-6100890-$ or US-6970867-$ or US-6088707-$ or US-5802299-$ or US-6623529-$ or US-6014137-$).did.	US-PGPUB; USPAT	OR	ON	2018/09/28 22:09
S91	26	S90 and (updat$3)	US-PGPUB; USPAT	OR	ON	2018/09/28 22:09
S92	19	@ad<"19991012" and S91	US-PGPUB; USPAT	OR	ON	2018/09/28 22:09
S93	15	S90 and (search adj engine)	US-PGPUB; USPAT	OR	ON	2018/09/28 23:37
S94	10	@ad<"19991012" and S93	US-PGPUB; USPAT	OR	ON	2018/09/28 23:37
S95	13669	G06F17/30873.cpc. or G06F17/30876.cpc. or G06F17/30994.cpc. or G06F17/3089.cpc. or G06F17/30893.cpc. or G06F17/30896.cpc. or G06F17/2247.cpc. or G06F3/04817.cpc or G06F3/0483.cpc.	US-PGPUB; USPAT	OR	ON	2019/05/24 00:37
S96	945247	local$4 with (website or webpage or internet or web$5 or remote$4)	US-PGPUB; USPAT	OR	ON	2019/05/24 00:38
S97	139335	((hierarch$7 or tree)) with (quer$3 or search$3 or locat$3 or retriev$4)	US-PGPUB; USPAT	OR	ON	2019/05/24 00:38
S98	1965	S97 same S96	US-PGPUB; USPAT	OR	ON	2019/05/24 00:38
S99	85	@ad<"19991230" and S98	US-PGPUB; USPAT	OR	ON	2019/05/24 00:38

EAST Search History (Interference)

< This search history is empty>

12/9/2019 2:06:36 AM
H:\EAST\Workspaces\14480701.wsp

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PTO/SB/06 (09-11)
Approved for use through 1/31/2014. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
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PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875	Application or Docket Number 14/480,701	Filing Date 09/09/2014	☐ To be Mailed

ENTITY: ☐ LARGE ☑ SMALL ☐ MICRO

APPLICATION AS FILED - PART I

	(Column 1)	(Column 2)			
FOR	NUMBER FILED	NUMBER EXTRA		RATE ($)	FEE ($)
☐ BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A		N/A	
☐ SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A		N/A	
☐ EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A		N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	minus 20 =	*		x $40 =	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*		x $210 =	
☐ APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is $310 ($155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).				
☐ MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))					
* If the difference in column 1 is less than zero, enter "0" in column 2.				TOTAL	

APPLICATION AS AMENDED - PART II

		(Column 1)		(Column 2)	(Column 3)			
AMENDMENT	06/12/2020	CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA		RATE ($)	ADDITIONAL FEE ($)
	Total (37 CFR 1.16(i))	* 27	Minus	** 28	= 0		x $50 =	0
	Independent (37 CFR 1.16(h))	* 4	Minus	*** 4	= 0		x $230 =	0
	☐ Application Size Fee (37 CFR 1.16(s))							
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							
							TOTAL ADD'L FEE	0

		(Column 1)		(Column 2)	(Column 3)			
AMENDMENT		CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA		RATE ($)	ADDITIONAL FEE ($)
	Total (37 CFR 1.16(i))	*	Minus	**	=		x $0 =	
	Independent (37 CFR 1.16(h))	*	Minus	***	=		x $0 =	
	☐ Application Size Fee (37 CFR 1.16(s))							
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							
							TOTAL ADD'L FEE	

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

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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

MAIL STOP AMENDMENT
PATENT
0679-1001-2

IN THE U. S. PATENT AND TRADEMARK OFFICE

In re application of

Ferid ALLANI Conf. 9483

Application No. 14/480,701 Group 2141

Filed September 9, 2014 Examiner Sajeda Muhebbullah

METHOD AND DEVICE FOR ACCESSING SOURCES AND SERVICES ON THE WEB

AMENDMENT

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

June 12, 2020

Sir:

In response to the non-final Office Action of December 12, 2019, for which the period for response has been extended three months, and in conjunction with a STATEMENT OF DELAY DUE TO COVID-19 OUTBREAK, Form PTO/SB/449, please amend the above-identified application as follows:

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

Remarks begin on page 13 of this paper.

An **Appendix** is attached following the signature page of this paper.

Doc Code: COVID-19
Document Description: Request for extension under COVID-19

PTO/SB/449 (04-20)

STATEMENT OF DELAY DUE TO COVID-19 OUTBREAK

(Page 1 of 1)

Applicant or Patent Owner	Ferid ALLANI		
Application No. or Patent No.	14/480,701	Filing Date or Issue Date	September 9, 2014
Title of Invention	METHOD AND DEVICE FOR ACCESSING SOURCES AND SERVICES ON THE WEB		

This statement accompanies a filing or payment that was delayed due to the COVID-19 outbreak.

A practitioner, applicant, patent owner, petitioner, third-party requester, inventor, or other person associated with the filing or fee was personally affected by the COVID-19 outbreak, including, without limitation, through office closures, cash flow interruptions, inaccessibility of files or other materials, travel delays, personal or family illness, or similar circumstances, such that the outbreak materially interfered with timely filing or payment.

Signature	/Jeffrey M. Goehring/	Date	June 12, 2020
Name (Print or Type)	Jeffrey M. Goehring	Practitioner Registration Number	52,948

Note: *This form must be signed in accordance with 37 CFR 1.33. Please see 37 CFR 1.4(d) for signature requirements and certifications. Submit multiple forms if more than one signature is required and indicate below the total number of forms submitted.**

☑ *Total of 1 forms are submitted.

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Electronic Patent Application Fee Transmittal	
Application Number:	14480701
Filing Date:	09-Sep-2014
Title of Invention:	METHOD AND DEVICE FOR ACCESSING SOURCES AND SERVICES ON THE WEB
First Named Inventor/Applicant Name:	Ferid ALLANI
Filer:	Eric Jensen/Melody Douglas
Attorney Docket Number:	0679-1001-2
Filed as Small Entity	
Filing Fees for Utility under 35 USC 111(a)	

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Extension - 1 month with $0 paid	2251	1	100	100
Miscellaneous:				
		Total in USD ($)		**100**

Electronic Acknowledgement Receipt	
EFS ID:	39707013
Application Number:	14480701
International Application Number:	
Confirmation Number:	9483
Title of Invention:	METHOD AND DEVICE FOR ACCESSING SOURCES AND SERVICES ON THE WEB
First Named Inventor/Applicant Name:	Ferid ALLANI
Customer Number:	466
Filer:	Eric Jensen/Melody Douglas
Filer Authorized By:	Eric Jensen
Attorney Docket Number:	0679-1001-2
Receipt Date:	12-JUN-2020
Filing Date:	09-SEP-2014
Time Stamp:	15:30:29
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	CARD
Payment was successfully received in RAM	$100
RAM confirmation Number	E20206BF31137063
Deposit Account	250120
Authorized User	Melody Douglas
The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows: 37 CFR 1.16 (National application filing, search, and examination fees) 37 CFR 1.17 (Patent application and reexamination processing fees)	

37 CFR 1.21 (Miscellaneous fees and charges)

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		AMD.pdf	184022 2919134c3424e100dacd3e834fa27a0df312b0bc	yes	22

Multipart Description/PDF files in .zip description		
Document Description	**Start**	**End**
Non Patent Literature	18	22
Applicant Arguments/Remarks Made in an Amendment	13	17
Claims	2	12
Amendment/Req. Reconsideration-After Non-Final Reject	1	1

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2	Request for extension under COVID-19	PTO-SB-449_STMT_OF_DELAY_DUE_TO_COVID-19_OUTBREAK-.pdf	49606 6826879e662a7efaf13e9351d04ee6d993351450	no	2

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3	Fee Worksheet (SB06)	fee-info.pdf	30800 6e0298559ec6f58b7d0ac137b28f427725689a29	no	2

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Analysis of the Examiner's assertions in the pending Office Action

Features considered by the Examiner as disclosed in the cited document

Features considered by the Examiner as non disclosed in the cited document

Icons… Amendments to Claim 1

Claim 1	Iki	Logan	Cole	Lincke	Comments
Apparatus for accessing information- or service- providing Web sites, comprising a communication device connectable through a communication network to the Internet, control and processing device or devices, data storage device or devices, and a display	*col.5, lines 6-40, remote systems accessed via Internet), control and processing device or devices (col.2, lines 57-64; col.3, lines 35-40,* ***system controller*** *140,* ***processor*** *201),* ***data storage device*** *or devices (col.2, lines 57-64, controller stores data from data sources), and a* ***display*** *(col.4, lines 15-19, display device)*				
said storage device or devices containing **a plurality of selection pages within a tree menu structure**	*However, Iki does not teach said storage device containing a plurality of selection pages within a tree menu structure,*	*Device for selection of pages stored locally containing selectable icons linking to* ***additional pages*** *and websites wherein pages may be accessed locally without having to connect to*			**In Logan, the "attract" page 81 and the "Remote web" pages 91,95 in Figure 1 are not pages that are**
said selection pages being **beforehand locally stored** in said data storage device or devices	*said selection pages being beforehand locally stored in said data storage device or devices, a*				

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	selection icon for locally accessing another selection page within said tree menu structure,	*the website (Logan, Fig.l, LINK 1, LINK2 selection icons to local pages and LINK 3/4 are direct access icons to remote pages; col.4, line 64-col.5, line 9).*			**specifically designed for containing a set of icons** **These "Remote Web" pages have contents retried from previous Web browsing.** **Furthermore, the "attract" page 81 does not contain an icon for accessing a second selection page that contains an icon for accessing a third selection page that contains an icon for directly accessing a remote source of information.**
and each (selection page) **being specifically designed for containing** ~~comprising~~ a set of icons including **at least one of a direct access icon** for directly accessing remote sources of information **and a selection icon for locally accessing another selection page within said tree menu structure**,	*said storage device or devices containing a set of icons including at least one of a direct access icon for directly accessing remote sources of information (col.6, lines 18-20; col.7, line 62-col.8, line 7; col.5, lines 48-55, graphical image corresponding to identifiers to a remote web server)*				
wherein said plurality of selection pages includes **a first selection page, a second selection page and a third selection page**	*said tree menu structure, wherein said plurality of selection pages includes: a first selection page, a second selection page and a third selection page, and enabling a search performed in different themes and sub themes within said plurality of selection pages,*				
said first selection page **being specifically designed for** comprising a **selection icon** for locally accessing said second selection page,	*said first selection page comprising a selection icon for locally accessing said second selection page,*				

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said second selection page **being specifically designed for** comprising a **selection icon** for locally accessing said third selection page,	*said second selection page comprising a selection icon for locally accessing said third selection page,*				
said third selection page **being specifically designed for** comprising **one or more direct access icons** for directly accessing an information- or service- providing Web site	*said third selection page comprising one or more direct access icons for directly accessing an information- or service-providing Web site*				
at least one selection page further comprising **one or more icons for directly accessing a search engine on the Web**,	*and at least one selection page further comprising one or more icons for directly accessing a search engine on the Web*	*the apparatus of Iki and Logan does not teach at least one selection page further comprising one or more icons for directly accessing a search engine on the Web and enabling a search performed in different themes and sub themes within said plurality of selection pages*	*Cole teaches a device for displaying selection pages wherein categories are selected and another page of subcategories is displayed (Cole, col.4, line 38-41, col.5, lines 19-25)* ***and a search engine (Cole, col.5, lines 26-59).***		
wherein the control and processing device or devices are programmed for:	*the control and processing device or devices are programmed for:*				
enabling a **preliminary search locally performed within said communication device**	*enabling a* ***preliminary search*** *locally performed within said communication device (col.8, line 63-col.9, line 3, data*				

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	corresponding to identifier retrieved from local storage medium)				
in different themes and sub themes within said plurality of selection pages, and	*enabling a search performed in different themes and sub themes within said plurality of selection pages*	*the apparatus of Iki and Logan does not teach at least one selection page further comprising one or more icons for directly accessing a search engine on the Web and enabling a search performed in different themes and sub themes within said plurality of selection pages*	*Cole teaches a device for displaying selection pages wherein categories are selected and another page of subcategories is displayed (Cole, col.4, line 38-41, col.5, lines 19-25) and a search engine (Cole, col.5, lines 26-59).*		
emitting on the communication network, **in response to selection of a direct access icon in a selection page being currently displayed, an address of an information- or service-providing Web site corresponding to said selected direct access icon**,	*emitting on the communication network, in response to selection of a direct access icon in a selection page being currently displayed (col.6, lines 18-20; col.7, line 62-col.8, line 7; col.5, lines 48-55, graphical image corresponding to identifiers to a remote web server), an address of an information- or service-providing Web site corresponding to said selected direct*				

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	access icon, said address being locally generated during the preliminary				
said address being **locally generated** during the preliminary search and selection,	*said address being locally generated during the preliminary search and selection (col.6, lines 14-20; col.7, lines 2-4, data portion includes address of information in identifier).*				
wherein the apparatus is implemented **in a mobile phone**.				*Lincke teaches an apparatus for browsing a locally stored homepage (Lincke, para.123) implemented on a mobile phone (Lincke, para.55, 78, 87, wireless communication device).*	

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REMARKS

Claims 1-4 and 6-28 are pending, with claims 1, 22, 25, and 28 being independent. Claim 5 has been cancelled. Claims 1, 7, 22, 25, 26, and 28 have been amended. No new subject matter has been added.

Rejection under 35 U.S.C. 103, obviousness

Claims 1-2, 4, 6-12, 14-15, and 17-24 stand rejected as obvious over **Iki** et al. ("Iki", US 6,816,172) in view of **Logan** et al. ("Logan", US 5,802,299) and in view of **Cole** et al. ("Cole", US 5,933,827), and further in view of **Lincke** et al. ("Lincke", US 2002/0109706)

Schagen et al. ("Schagen", US 6,702,492) is added this combination for claim 3, and **Rush** et al. ("Rush", US 7,131,069) is added this combination for claim 13.

Claims 22-24 stand rejected over Iki, Logan, Cole, **Hsu** et al. ("Hsu", US 6,970,867), and Lincke.

Claims 25 and 27 stand rejected over Iki, Logan, and Lincke. Cole is added to this combination for claims 26 and 28.

The amendments to the claims narrow them to require that the selection pages have been specifically designed for containing the claimed set of icons, including selection icons and direct-access icons.

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Requiring an element to be "specifically designed" for another element narrows the claim because it requires more than the first element being merely capable of being used with the second element.

The term "configured to" is generally construed narrowly to mean "made to" and "designed to" rather than broadly to require merely "capable of". *See In re Giannelli*, 739 F.3d 1375, 1379-80 (Fed. Cir. 2014) (the phrase "configured to" requires more than "mere capability." Rather, that term is synonymous with "made to" and "designed to."). However, rather than use "configured to", in order to avoid any confusion as to the narrower scope of the claims as amended, Applicant herein directly and explicitly requires "designed to." *In re Giannelli* at 1379-80 (Fed. Cir. 2014) (reversing an obviousness rejection because (1) the claims were properly construed narrowly to mean **"designed to"** and not broadly to encompass merely "capable of", and (2) the USPTO had not explained the motivation for modifying the prior art to meet the "design to" requirement). See also MPEP 2111.04, citing to *In re Giannelli*, for the proposition that a claim can be narrowed to require that it be "designed and constructed to be used" in a specific manner (as a rowing machine in the case of *In re Giannelli*).

Logan has not been specifically designed and constructed in the required manner, so it does not cure all

deficiencies of the primary reference Iki (which lacks any tree menu structure). Logan describes only "remote web" pages 90,95 that are merely pages retrieved from Web browsing and stored in a web computer 25. Iki as modified by Logan would result on in a tree menu structure wherein not all levels of the tree included the required selection pages specifically designed for containing the claimed set of icons.

Furthermore, in Logan, the interactive system for authoring hypertext document collections does not disclose three beforehand locally-stored selection pages connected in a cascade including a first selection page containing an icon for accessing a second selection page containing an icon for accessing a third selection page containing an icon for directly accessing a remote source of information. In Figure 1, the local pages 82,83 are not disclosed as offering connections to other pages within the system or to remote pages.

Attached hereto in the Appendix is a color-coded chart of claim 1 with respect to the cited references, along with Applicant's comments.

According to the above noted amendments and remarks the combination of references applied in the Office Action does not render the claims obvious.

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The Commissioner is hereby authorized in this, concurrent, and future submissions, to charge any additional fee(s) or underpayment of fee(s) under 37 C.F.R. § 1.16 or 37 C.F.R. § 1.17 or 37 C.F.R. § 41.20 or credit any overpayment of fee(s) to Deposit Account No. 25-0120.

Respectfully submitted,

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JMG/msd

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APPENDIX:

The Appendix includes the following item(s):

X - Claims Chart Analysis of the Examiner's assertions in the pending Office Action

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AMENDMENTS TO THE CLAIMS:

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

LISTING OF CLAIMS:

1. (Currently Amended) Apparatus for accessing information- or service- providing Web sites, comprising a communication device connectable through a communication network to the Internet, control and processing device or devices, data storage device or devices, and a display, said storage device or devices containing a plurality of selection pages within a tree menu structure, said selection pages being beforehand locally stored in said data storage device or devices and each ~~comprising~~ being specifically designed for containing a set of icons including at least one of a direct access icon for directly accessing remote sources of information and a selection icon for locally accessing another selection page within said tree menu structure,

wherein said plurality of selection pages includes:

- a first selection page, a second selection page and a third selection page, said first selection page ~~comprising~~ being specifically designed for containing a selection icon for locally accessing said second selection page, said second

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selection page ~~comprising~~ being specifically designed for containing a selection icon for locally accessing said third selection page, said third selection page ~~comprising~~ being specifically designed for containing one or more direct access icons for directly accessing an information- or service- providing Web site, and

- at least one selection page ~~further comprising~~ being specifically designed for containing one or more icons for directly accessing a search engine on the Web,

wherein the control and processing device or devices are programmed for:

- enabling a preliminary search locally performed within said communication device in different themes and sub themes within said plurality of selection pages, and
- emitting on the communication network, in response to selection of a direct access icon in a selection page being currently displayed, an address of an information- or service-providing Web site corresponding to said selected direct access icon, said address being locally generated during the preliminary search and selection,

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wherein the apparatus is implemented in a mobile phone.

2. (Previously Presented) The apparatus according to claim 1, characterized in that the direct access icons comprise icons for accessing commercial sites.

3. (Previously Presented) The apparatus according to claim 1, characterized in that the control and processing device or devices are arranged for receiving, by downloading from a management server, data for updating selection pages, and for processing said updating data so that new selection pages are stored in the data storage device or devices.

4. (Previously Presented) The apparatus according to claim 1, wherein said at least one selection page comprising two or more direct access icons comprises direct access icons corresponding to distinct sources of information or services.

5. (Cancelled)

6. (Previously Presented) The apparatus according to claim 1, wherein a page from a Web site is displayed on said display in response to selecting a direct access icon.

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7. (Currently Amended) The apparatus according to claim 1, wherein at least one of the selection pages is specifically designed to include[[s]] both at least one direct access icon and at least one selection icon.

8. (Previously Presented) The apparatus according to claim 1, wherein said control and processing device or devices are configured to receive, from a server, data for updating information associated with at least one of a selection page, a direct access icon and a selection icon.

9. (Previously Presented) The apparatus according to claim 8, wherein said updating information is received periodically.

10. (Previously Presented) The apparatus according to claim 9, wherein said updating information is received on demand.

11. (Previously Presented) The apparatus according to claim 1, wherein the second selection page displays information corresponding to a sub-category of the first selection page.

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12. (Previously Presented) The apparatus according to claim 1, wherein said control and processing device or devices are configured to receive information from the information- or service-providing Web site corresponding to said selected direct access icon via the communication network.

13. (Previously Presented) The apparatus according to claim 1, wherein the selection icons present graphic features that are distinctive from those of the direct access icons.

14. (Previously Presented) The apparatus according to claim 1, wherein selection of a direct access icon in a selection page being displayed comprises clicking on said icon.

15. (Previously Presented) The apparatus according to claim 1, wherein said selection pages stored in said data storage device or devices are downloaded thereto.

16. (Previously Presented) The apparatus according to claim 1, wherein said selection pages stored in said data storage device or devices are downloaded thereto over a mobile connection.

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17. (Previously Presented) The apparatus according to claim 1, wherein said selection pages operate as rolling menus.

18. (Previously Presented) The apparatus according to claim 1, wherein at least one of the selection pages is a trunk of the tree menu structure.

19. (Previously Presented) The apparatus according to claim 1, wherein the control and processing device or devices are configured to command a request-answer sequence characterized in that the request comprises the address of the information- or service-providing Web site, and wherein the request-answer sequence is preceded by a locally implemented selection of themes and sub-themes.

20. (Previously Presented) The apparatus according to claim 1, wherein the icons comprise logotypes, graphic marks or semi-graphic marks.

21. (Previously Presented) The apparatus according to claim 1, wherein the icons comprise textual elements.

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22. (Currently Amended) A communication device connectable to remote sources of information or services through a communication network, the communication device comprising a display, data storage, a processor, a controller and a plurality of pages locally stored in said data storage and displayable on said display,

wherein a first one of said locally stored pages is specifically designed to include[[s]] at least one selection icon capable of being selectively activated to display a second one of said locally stored pages on said display,

wherein said second one of said locally stored pages is specifically designed to include[[s]] at least one direct access icon capable of being selectively activated to connect said communication device to a predetermined one of said remote sources of information or services, and at least one second selection icon capable of being selectively activated to display a third one of said locally stored pages on said display,

wherein at least one of said first, second and third locally stored pages is further specifically designed to include[[s]] at least one icon for directly accessing a search engine for permitting a user to control searches on the Web,

wherein at least one of said first, second and third locally stored pages is further specifically designed to include[[s]] at least one icon for directly accessing a

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portal of Web site and one icon for directly accessing a document provided by said Web site, and

wherein the communication device is a mobile phone.

23. (Previously Presented) The communication device according to claim 22, characterized in that said selection pages are locally stored in the data storage beforehand.

24. (Previously Presented) The communication device according to claim 22, wherein said selection pages stored in said data storage are organized in a tree menu structure.

25. (Currently Amended) A mobile communication device connectable to remote sources of information or services through a communication network, the communication device comprising a display, data storage, a processor, a controller and a plurality of pages locally stored in said data storage and displayable on said display,

wherein a first one of said locally stored pages is specifically designed to include[[s]] at least one direct access icon capable of being selectively activated to connect said mobile communication device to a first predetermined one of said remote sources of information or services, and at

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least one selection icon capable of being selectively activated to display a second one of said locally stored pages on said display, wherein said second one of said locally stored pages is specifically designed to include[[s]] at least one second direct access icon capable of being selectively activated to connect said mobile communication device to a second predetermined one of said remote sources of information or services, and at least one second selection icon capable of being selectively activated to display a third one of said locally stored pages on said display,

wherein said third one of said locally stored pages is specifically designed to include[[s]] at least one third direct access icon capable of being selectively activated to connect said mobile communication device to a third predetermined one of said remote sources of information or services, or at least one third selection icon capable of being selectively activated to display a fourth one of said locally stored pages on said display,

wherein the mobile communication device is a mobile phone.

26. (Currently Amended) The mobile communication device according to claim 25, wherein at least one of the selection pages is further specifically designed to include

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~~comprises~~ one or more icons for directly accessing a search engine on the Web.

27. (Previously Presented) The mobile communication device according to claim 25, wherein selective activation of a direct access icon comprises emitting, on the communication network, an address of the first, second or third predetermined one of said remote sources.

28. (Currently Amended) A method for accessing information- or service-providing Web sites, from a mobile communication device connected through a communication network and provided with a display, comprising:

- a preliminary search for information or service, locally performed within said communication device in different themes and sub-themes within a plurality of successively displayed selection pages, said selection pages being organized in a tree menu structure and beforehand locally stored within said communication device, each said selection page being specifically designed to include ~~comprising~~ a set of icons, said selection pages further comprising a first selection page, a second selection page and a third selection page, said first selection page being specifically designed to include ~~comprising~~ a

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selection icon for locally accessing said second selection page, and said second selection page being specifically designed to include ~~comprising~~ a selection icon for locally accessing said third selection page, said third selection page being specifically designed to include ~~comprising~~ one or more direct access icons for directly accessing an information- or service- providing Web site, and

- emitting on the communication network, in response to a selection of a direct access icon in a selection page being currently displayed, an address of an information- or service-providing web site corresponding to said selected icon, said address being locally generated during said displaying and selection and for directly accessing said information- or service-providing Web site,

wherein:

- at least one of said selection pages further being specifically designed to include ~~comprises~~ one or more icons for directly accessing a search engine on the Web, and
- the mobile communication device is a mobile phone.

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
14/480,701	09/09/2014	Ferid ALLANI	0679-1001-2	9483

TITLE OF INVENTION: METHOD AND DEVICE FOR ACCESSING SOURCES AND SERVICES ON THE WEB

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	SMALL	$500	$0.00	$0.00	$500	11/23/2020

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THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED. SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.

HOW TO REPLY TO THIS NOTICE:

I. Review the ENTITY STATUS shown above. If the ENTITY STATUS is shown as SMALL or MICRO, verify whether entitlement to that entity status still applies.

If the ENTITY STATUS is the same as shown above, pay the TOTAL FEE(S) DUE shown above.

If the ENTITY STATUS is changed from that shown above, on PART B - FEE(S) TRANSMITTAL, complete section number 5 titled "Change in Entity Status (from status indicated above)".

For purposes of this notice, small entity fees are 1/2 the amount of undiscounted fees, and micro entity fees are 1/2 the amount of small entity fees.

II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

IMPORTANT REMINDER: Maintenance fees are due in utility patents issuing on applications filed on or after Dec. 12, 1980. It is patentee's responsibility to ensure timely payment of maintenance fees when due. More information is available at www.uspto.gov/PatentMaintenanceFees.

PTOL-85 (Rev. 02/11)

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PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), by mail or fax, or via EFS-Web.

By mail, send to: Mail Stop ISSUE FEE
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

By fax, send to: (571)-273-2885

INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

466 7590 08/21/2020
NIXON & VANDERHYE, PC
901 NORTH GLEBE ROAD
11TH FLOOR
ARLINGTON, VA 22203

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

Certificate of Mailing or Transmission

I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being transmitted to the USPTO via EFS-Web or by facsimile to (571) 273-2885, on the date below.

(Typed or printed name)
(Signature)
(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
14/480,701	09/09/2014	Ferid ALLANI	0679-1001-2	9483

TITLE OF INVENTION: METHOD AND DEVICE FOR ACCESSING SOURCES AND SERVICES ON THE WEB

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	SMALL	$500	$0.00	$0.00	$500	11/23/2020

EXAMINER	ART UNIT	CLASS-SUBCLASS
MUHEBBULLAH, SAJEDA	2141	715-760000

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

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

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

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

1 _____
2 _____
3 _____

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

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document must have been previously recorded, or filed for recordation, as set forth in 37 CFR 3.11 and 37 CFR 3.81(a). Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE (B) RESIDENCE: (CITY and STATE OR COUNTRY)

Please check the appropriate assignee category or categories (will not be printed on the patent) : ❑ Individual ❑ Corporation or other private group entity ❑ Government

4a. Fees submitted: ❑Issue Fee ❑Publication Fee (if required) ❑Advance Order - # of Copies _____

4b. Method of Payment: *(Please first reapply any previously paid fee shown above)*

❑ Electronic Payment via EFS-Web ❑ Enclosed check ❑ Non-electronic payment by credit card (Attach form PTO-2038)

❑ The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment to Deposit Account No. _____

5. **Change in Entity Status** (from status indicated above)

❑ Applicant certifying micro entity status. See 37 CFR 1.29

❑ Applicant asserting small entity status. See 37 CFR 1.27

❑ Applicant changing to regular undiscounted fee status.

NOTE: Absent a valid certification of Micro Entity Status (see forms PTO/SB/15A and 15B), issue fee payment in the micro entity amount will not be accepted at the risk of application abandonment.
NOTE: If the application was previously under micro entity status, checking this box will be taken to be a notification of loss of entitlement to micro entity status.
NOTE: Checking this box will be taken to be a notification of loss of entitlement to small or micro entity status, as applicable.

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

Authorized Signature _____ Date _____

Typed or printed name _____ Registration No. _____

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UNITED STATES PATENT AND TRADEMARK OFFICE

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

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
14/480,701	09/09/2014	Ferid ALLANI	0679-1001-2	9483

466 7590 08/21/2020

NIXON & VANDERHYE, PC
901 NORTH GLEBE ROAD
11TH FLOOR
ARLINGTON, VA 22203

EXAMINER	
MUHEBBULLAH, SAJEDA	
ART UNIT	PAPER NUMBER
2141	

DATE MAILED: 08/21/2020

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b)
(Applications filed on or after May 29, 2000)

The Office has discontinued providing a Patent Term Adjustment (PTA) calculation with the Notice of Allowance.

Section 1(h)(2) of the AIA Technical Corrections Act amended 35 U.S.C. 154(b)(3)(B)(i) to eliminate the requirement that the Office provide a patent term adjustment determination with the notice of allowance. See Revisions to Patent Term Adjustment, 78 Fed. Reg. 19416, 19417 (Apr. 1, 2013). Therefore, the Office is no longer providing an initial patent term adjustment determination with the notice of allowance. The Office will continue to provide a patent term adjustment determination with the Issue Notification Letter that is mailed to applicant approximately three weeks prior to the issue date of the patent, and will include the patent term adjustment on the patent. Any request for reconsideration of the patent term adjustment determination (or reinstatement of patent term adjustment) should follow the process outlined in 37 CFR 1.705.

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

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OMB Clearance and PRA Burden Statement for PTOL-85 Part B

The Paperwork Reduction Act (PRA) of 1995 requires Federal agencies to obtain Office of Management and Budget approval before requesting most types of information from the public. When OMB approves an agency request to collect information from the public, OMB (i) provides a valid OMB Control Number and expiration date for the agency to display on the instrument that will be used to collect the information and (ii) requires the agency to inform the public about the OMB Control Number's legal significance in accordance with 5 CFR 1320.5(b).

The information collected by PTOL-85 Part B is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 30 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450. Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

Privacy Act Statement

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

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

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

Notice of Allowability	Application No. 14/480,701	Applicant(s) ALLANI, Ferid	
	Examiner SAJEDA MUHEBBULLAH	Art Unit 2141	AIA (FITF) Status No

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

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

1. ☑ This communication is responsive to Amendment filed 06/12/2020.
   ☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on _____.

2. ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on _____; the restriction requirement and election have been incorporated into this action.

3. ☑ The allowed claim(s) is/are 1-4 and 6-28 . As a result of the allowed claim(s), you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information , please see **http://www.uspto.gov/patents/init_events/pph/index.jsp** or send an inquiry to **PPHfeedback@uspto.gov.**

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

   Certified copies:

   a) ☑ All b) ☐ Some *c) ☐ None of the:

   1. ☐ Certified copies of the priority documents have been received.
   2. ☑ Certified copies of the priority documents have been received in Application No. 10/169355 .
   3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

   * Certified copies not received: _____ .

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

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

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

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

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date _____.
3. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material _____.
4. ☑ Interview Summary (PTO-413), Paper No./Mail Date. 20200810.
5. ☑ Examiner's Amendment/Comment
6. ☐ Examiner's Statement of Reasons for Allowance
7. ☐ Other _____.

/SAJEDA MUHEBBULLAH/ Examiner, Art Unit 2141	/AMY NG/ Supervisory Patent Examiner, Art Unit 2141

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EXAMINER'S AMENDMENT

Allowable Subject Matter

1. Claims 1-4 and 6-28 are allowed.

2. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

3. Authorization for this examiner's amendment was given in an interview with Jeff Goehring on August 7, 2020.

4. The application has been amended as follows:

Claim 1 is amended:

1. Apparatus for accessing information- or service-providing Web sites, comprising a communication device connectable through a communication network to the Internet, control and processing device or devices, data storage device or devices, and a display, said storage device or devices containing a plurality of selection pages within a tree menu structure, said selection pages being beforehand locally stored in said data storage device or devices and each being specifically designed for containing a set of icons including at least one of a direct access icon for directly accessing remote sources of information and a selection icon for locally accessing another selection page within said tree menu structure,

wherein said plurality of selection pages includes:

[-] a first selection page, a second selection page and a third selection page, said first selection page being specifically designed for containing a selection icon for locally accessing said second selection page, said second selection page being specifically designed for containing a selection icon for locally accessing said third selection page, said third selection page being specifically designed for containing one or more direct access icons for directly accessing an information- or service- providing Web site, and

[-] at least one selection page being specifically designed for containing one or more icons for directly accessing a search engine on the Web,

wherein the control and processing device or devices are programmed for:

[-] enabling a preliminary search locally performed within said communication device in different themes and sub themes within said plurality of selection pages, and

[-] emitting on the communication network, in response to selection of a direct access icon in a selection page being currently displayed, an address of an information- or service-providing Web site corresponding to said selected direct access icon, said address being locally generated during the preliminary search and selection,

wherein the apparatus is implemented in a mobile phone.

Claim 28 is amended:

28. A method for accessing information- or service-providing Web sites, from a mobile communication device connected through a communication network and provided with a display, comprising:

[-] a preliminary search for information or service, locally performed within said communication device in different themes and sub-themes within a plurality of successively

displayed selection pages, said selection pages being organized in a tree menu structure and beforehand locally stored within said communication device, each said selection page being specifically designed to include a set of icons, said selection pages further comprising a first selection page, a second selection page and a third selection page, said first selection page being specifically designed to include a selection icon for locally accessing said second selection page, and said second selection page being specifically designed to include a selection icon for locally accessing said third selection page, said third selection page being specifically designed to include one or more direct access icons for directly accessing an information- or service-providing Web site, and

[-] emitting on the communication network, in response to a selection of a direct access icon in a selection page being currently displayed, an address of an information- or service-providing web site corresponding to said selected icon, said address being locally generated during said displaying and selection and for directly accessing said information- or service-providing Web site,

wherein:

[-] at least one of said selection pages further being specifically designed to include one or more icons for directly accessing a search engine on the Web, and

[-] the mobile communication device is a mobile phone.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to SAJEDA MUHEBBULLAH whose telephone number is (571)272-4065. The examiner can normally be reached on Mon-Thur 8am-5pm.

Examiner interviews are available via telephone, in-person, and video conferencing using a USPTO supplied web-based collaboration tool. To schedule an interview, applicant is encouraged to use the USPTO Automated Interview Request (AIR) at http://www.uspto.gov/interviewpractice.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amy Ng can be reached on 571-270-1698. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see https://ppair-my.uspto.gov/pair/PrivatePair. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/S.M./
Sajeda Muhebbullah
Examiner, Art Unit 2141

/AMY NG/
Supervisory Patent Examiner, Art Unit 2141

Examiner-Initiated Interview Summary	Application No. 14/480,701	Applicant(s) ALLANI, Ferid		
	Examiner SAJEDA MUHEBBULLAH	Art Unit 2141	AIA (First Inventor to File) Status No	Page 1 of 1

All participants (applicant, applicants representative, PTO personnel):

1. SAJEDA MUHEBBULLAH (Examiner); Telephonic 2. Jeffrey Goehring (Attorney); Telephonic

Date of Interview: 07 August 2020

Claims Discussed: 1, 28

Amendment proposed: Examiner requested amendments to claims 1 and 28 to correct grammatical errors.

Brief Description of the main topic(s) of discussion: Examiner requested amendments to claims 1 and 28 to correct grammatical errors.

Issues Discussed:

Proposed Amendments:
Examiner requested amendments to claims 1 and 28 to correct grammatical errors removing excess '-'

/SAJEDA MUHEBBULLAH/ Examiner, Art Unit 2141	/AMY NG/ Supervisory Patent Examiner, Art Unit 2141

Applicant is reminded that a complete written statement as to the substance of the interview must be made of record in the application file. It is the applicants responsibility to provide the written statement, unless the interview was initiated by the Examiner and the Examiner has indicated that a written summary will be provided. See MPEP 713.04
Please further see:
MPEP 713.04
Title 37 Code of Federal Regulations (CFR) § 1.133 Interviews, paragraph (b)
37 CFR § 1.2 Business to be transacted in writing

Applicant recordation instructions: It is not necessary for applicant to provide a separate record of the substance of interview .

Examiner recordation instructions: Examiners must summarize the substance of any interview of record. A complete and proper recordation of the substance of an interview should include the items listed in MPEP 713.04 for complete and proper recordation including the identification of the general thrust of each argument or issue discussed, a general indication of any other pertinent matters discussed regarding patentability and the general results or outcome of the interview, to include an indication as to whether or not agreement was reached on the issues raised.

Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
	14/480,701	ALLANI, Ferid
	Examiner	Art Unit
	SAJEDA MUHEBBULLAH	2141

CPC - Searched*		
Symbol	**Date**	**Examiner**
G06F 16/954	08/10/2020	SM
G06F 16/95	08/10/2020	SM

CPC Combination Sets - Searched*		
Symbol	**Date**	**Examiner**

US Classification - Searched*			
Class	**Subclass**	**Date**	**Examiner**

* See search history printout included with this form or the SEARCH NOTES box below to determine the scope of the search.

Search Notes		
Search Notes	**Date**	**Examiner**
EAST search - CPC (G06F3/04817.cpc or G06F3/0483.cpc. or G06F16/95.cpc. or G06F16/954.cpc. or G06F16/93.cpc.) search with keywords see S138, S140, S142	08/10/2020	SM
DP/Inventor search via PALM	08/10/2020	SM

Interference Search			
US Class/CPC Symbol	**US Subclass/CPC Group**	**Date**	**Examiner**
G06F	16*93	08/10/2020	SM
G06F	16/95	08/10/2020	SM
G06F	16/954	08/10/2020	SM

/SAJEDA MUHEBBULLAH/ Examiner, Art Unit 2141	

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Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
	14/480,701	ALLANI, Ferid
	Examiner	Art Unit
	SAJEDA MUHEBBULLAH	2141

/SAJEDA MUHEBBULLAH/ Examiner, Art Unit 2141	

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Issue Classification	Application/Control No.	Applicant(s)/Patent Under Reexamination
	14/480,701	ALLANI, Ferid
	Examiner	**Art Unit**
	SAJEDA MUHEBBULLAH	2141

CPC							
Symbol						**Type**	**Version**
G06F	/	40	/	14		F	2020-01-01
G06F	/	16	/	951		I	2019-01-01
G06F	/	16	/	954		I	2019-01-01
G06F	/	16	/	95		I	2019-01-01
G06F	/	16	/	93		I	2019-01-01
G06F	/	3	/	04817		I	2013-01-01
G06F	/	3	/	0482		I	2013-01-01
G06F	/	3	/	0484		I	2013-01-01

CPC Combination Sets								
Symbol					**Type**	**Set**	**Ranking**	**Version**
	/		/					

/SAJEDA MUHEBBULLAH/ Examiner, Art Unit 2141	11 August 2020	**Total Claims Allowed:**	
(Assistant Examiner)	(Date)	27	
/AMY NG/ Supervisory Patent Examiner, Art Unit 2141	17 August 2020	O.G. Print Claim(s)	O.G. Print Figure
(Primary Examiner)	(Date)	22	2

U.S. Patent and Trademark Office — Part of Paper No.: 20200810

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Issue Classification	Application/Control No.	Applicant(s)/Patent Under Reexamination
	14/480,701	ALLANI, Ferid
	Examiner	**Art Unit**
	SAJEDA MUHEBBULLAH	2141

INTERNATIONAL CLASSIFICATION				
CLAIMED				
G06F40/14	/	40	/	14
G06F16/951	/	16	/	951
G06F16/954	/	16	/	954
G06F16/95	/	16	/	95
G06F16/93	/	16	/	93
G06F3/0481	/	3	/	0481
G06F3/0482	/	3	/	0482
G06F3/0484	/	3	/	0484

NON-CLAIMED				
	/		/	

US ORIGINAL CLASSIFICATION	
CLASS	**SUBCLASS**

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

/SAJEDA MUHEBBULLAH/ Examiner, Art Unit 2141	11 August 2020	**Total Claims Allowed:**	
(Assistant Examiner)	(Date)	27	
/AMY NG/ Supervisory Patent Examiner, Art Unit 2141	17 August 2020	O.G. Print Claim(s)	O.G. Print Figure
(Primary Examiner)	(Date)	22	2

U.S. Patent and Trademark Office — Part of Paper No.: 20200810

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Issue Classification	Application/Control No.	Applicant(s)/Patent Under Reexamination
	14/480,701	ALLANI, Ferid
	Examiner	**Art Unit**
	SAJEDA MUHEBBULLAH	2141

☐ Claims renumbered in the same order as presented by applicant ☐ CPA ☐ T.D. ☐ R.1.47

CLAIMS

Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original
1	1	9	10	18	19	27	28								
2	2	10	11	19	20										
3	3	11	12	20	21										
4	4	12	13	21	22										
	5	13	14	22	23										
5	6	14	15	23	24										
6	7	15	16	24	25										
7	8	16	17	25	26										
8	9	17	18	26	27										

/SAJEDA MUHEBBULLAH/ Examiner, Art Unit 2141	11 August 2020	**Total Claims Allowed:**	
(Assistant Examiner)	(Date)	27	
/AMY NG/ Supervisory Patent Examiner, Art Unit 2141	17 August 2020	O.G. Print Claim(s)	O.G. Print Figure
(Primary Examiner)	(Date)	22	2

U.S. Patent and Trademark Office — Part of Paper No.: 20200810

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Index of Claims	Application/Control No.	Applicant(s)/Patent Under Reexamination
	14/480,701	ALLANI, Ferid
	Examiner	**Art Unit**
	SAJEDA MUHEBBULLAH	2141

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

CLAIMS

☐ Claims renumbered in the same order as presented by applicant ☐ CPA ☐ T.D. ☐ R.1.47

CLAIM		DATE								
Final	Original	09/01/2016	06/08/2017	09/20/2018	09/28/2018	05/20/2019	12/05/2019	08/10/2020		
1	1	✓	✓	✓	✓	✓	✓	=		
2	2	✓	✓	✓	✓	✓	✓	=		
3	3	✓	✓	✓	✓	✓	✓	=		
4	4	✓	✓	✓	✓	✓	✓	=		
	5	✓	✓	✓	✓	✓	-	-		
5	6	✓	✓	✓	✓	✓	✓	=		
6	7	✓	✓	✓	✓	✓	✓	=		
7	8	✓	✓	✓	✓	✓	✓	=		
8	9	✓	✓	✓	✓	✓	✓	=		
9	10	✓	✓	✓	✓	✓	✓	=		
10	11	✓	✓	✓	✓	✓	✓	=		
11	12	✓	✓	✓	✓	✓	✓	=		
12	13	✓	✓	✓	✓	✓	✓	=		
13	14	✓	✓	✓	✓	✓	✓	=		
14	15	✓	✓	✓	✓	✓	✓	=		
15	16	✓	✓	✓	✓	✓	✓	=		
16	17	✓	✓	✓	✓	✓	✓	=		
17	18	✓	✓	✓	✓	✓	✓	=		
18	19	✓	✓	✓	✓	✓	✓	=		
19	20	✓	✓	✓	✓	✓	✓	=		
20	21	✓	✓	✓	✓	✓	✓	=		
21	22	✓	✓	✓	✓	✓	✓	=		
22	23	✓	✓	✓	✓	✓	✓	=		
23	24	✓	✓	✓	✓	✓	✓	=		
24	25	✓	✓	✓	✓	✓	✓	=		
25	26	✓	✓	✓	✓	✓	✓	=		
26	27	✓	✓	✓	✓	✓	✓	=		
27	28	✓	✓	✓	✓	✓	✓	=		

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EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	5,580	G06F3/0483.cpc.	US-PGPUB; USPAT	OR	ON	2020/08/11 00:30
L2	16,554	G06F3/04817.cpc.	US-PGPUB; USPAT	OR	ON	2020/08/11 00:30
L3	11	G06F17/30873.cpc.	US-PGPUB; USPAT	OR	ON	2020/08/11 00:30
L4	21	G06F17/30876.cpc.	US-PGPUB; USPAT	OR	ON	2020/08/11 00:30
L5	6	G06F17/30994.cpc.	US-PGPUB; USPAT	OR	ON	2020/08/11 00:31
L6	41	G06F17/3089.cpc.	US-PGPUB; USPAT	OR	ON	2020/08/11 00:31
L7	4	G06F17/30893.cpc.	US-PGPUB; USPAT	OR	ON	2020/08/11 00:31
L8	13	G06F17/30896.cpc.	US-PGPUB; USPAT	OR	ON	2020/08/11 00:31
L9	0	G06F17/2247.cpc.	US-PGPUB; USPAT	OR	ON	2020/08/11 00:31
S1	15	("5959945" | "5930769" | "6032130" | "5933827" | "6072492" | "6665687" | "6587835" | "7454706" | "6456303" | "6816172" | "20010014868" | "20040019610" | "6934690" | "20020089534" | "6868525").PN.	US-PGPUB; USPAT	OR	ON	2012/06/12 10:00
S2	324	715/712-713.ccls.	US-PGPUB; USPAT	OR	ON	2012/06/12 10:05
S3	121	715/712-713.ccls. and (mobil$4 or portab$5)	US-PGPUB; USPAT	OR	ON	2012/06/12 10:06

S4	116	715/712-713.ccls. and (mobil$4 or portab$5) and (quer$3 or search$3 or locat$3 or retriev$4)	US-PGPUB; USPAT	OR	ON	2012/06/12 10:07
S5	10	"169355".ap.	US-PGPUB; USPAT	OR	ON	2012/06/12 10:07
S6	0	("2003/0120746").URPN.	USPAT	OR	ON	2012/06/12 10:08
S7	2,998,014	@ad<"19991230"	US-PGPUB; USPAT	OR	ON	2012/06/12 10:09
S8	171,716	S7 and (mobil$4 or portab$5) and (quer$3 or search$3 or locat$3 or retriev$4)	US-PGPUB; USPAT	OR	ON	2012/06/12 10:09
S9	25,034	S7 and (mobil$4 or portab$5) and (quer$3 or search$3 or locat$3 or retriev$4) and (website or webpage or internet or web$5)	US-PGPUB; USPAT	OR	ON	2012/06/12 10:10
S10	65,514	"715"/$.ccls.	US-PGPUB; USPAT	OR	ON	2012/06/12 10:11
S11	953	S10 and S7 and (mobil$4 or portab$5) and (quer$3 or search$3 or locat$3 or retriev$4) and (website or webpage or internet or web$5)	US-PGPUB; USPAT	OR	ON	2012/06/12 10:11
S12	587	S10 and S7 and (mobil$4 or portab$5) and ((quer$3 or search$3 or locat$3 or retriev$4) same (website or webpage or internet or web$5))	US-PGPUB; USPAT	OR	ON	2012/06/12 10:13
S13	156	S10 and S7 and (mobil$4 or portab$5) and ((quer$3 or search$3 or locat$3 or retriev$4) same (website or webpage or internet or web$5) same (categor$4 or hierarch$6 or directory or tree or catalog$3 or guide))	US-PGPUB; USPAT	OR	ON	2012/06/12 10:14
S14	89	S10 and S7 and icon$3 and (mobil$4 or portab$5) and ((quer$3 or search$3 or locat$3 or retriev$4) same (website or webpage or internet or web$5) same (categor$4 or hierarch$6 or directory or tree or catalog$3 or guide))	US-PGPUB; USPAT	OR	ON	2012/06/12 11:07
S15	8	"912135".ap.	US-PGPUB; USPAT	OR	ON	2012/06/12 15:07
S16	3	("20110257874" | "7570178" | "20100332054").PN.	US-PGPUB; USPAT	OR	ON	2012/06/12 15:09

S17	297	340/970.ccls.	US-PGPUB; USPAT	OR	ON	2012/06/12 15:15
S18	12	340/970.ccls. and altitude and (user adj interface)	US-PGPUB; USPAT	OR	ON	2012/06/12 15:15
S19	17	("5959945" | "6072492" | "6816172" | "20010014868" | "20020089534" | "6032130" | "6628307" | "5933827" | "6587835" | "7143055" | "20040019610" | "6665687" | "7454706" | "6456303" | "6868525" | "6934690" | "5930769").PN.	US-PGPUB; USPAT	OR	ON	2016/05/31 09:29
S20	19	(US-20040019610-$ or US-20010014868-$ or US-20020089534-$).did. or (US-6665687-$ or US-5933827-$ or US-5959945-$ or US-6032130-$ or US-6587835-$ or US-6934690-$ or US-5930769-$ or US-6456303-$ or US-7454706-$ or US-6816172-$ or US-6072492-$ or US-6868525-$ or US-6516329-$ or US-6211871-$ or US-7143055-$ or US-6628307-$).did.	US-PGPUB; USPAT	OR	ON	2016/09/02 21:31
S21	11	S20 and (search near3 engine)	US-PGPUB; USPAT	OR	ON	2016/09/02 21:31
S22	2,998,271	@ad<"19991230"	US-PGPUB; USPAT	OR	ON	2016/09/02 21:40
S23	1,090	multi$4 near3 page near3 interface	US-PGPUB; USPAT	OR	ON	2016/09/02 21:40
S24	31	@ad<"19991230" and S23	US-PGPUB; USPAT	OR	ON	2016/09/02 21:40
S25	169	(hierarch$7 or tree) near3 page near3 interface	US-PGPUB; USPAT	OR	ON	2016/09/02 21:45
S26	2	@ad<"19991230" and S25	US-PGPUB; USPAT	OR	ON	2016/09/02 21:45
S27	1,315	((hierarch$7 or tree) near3 page) same interface	US-PGPUB; USPAT	OR	ON	2016/09/02 21:47
S28	66	@ad<"19991230" and S27	US-PGPUB; USPAT	OR	ON	2016/09/02 21:47

S29	656	((hierarch$7 or tree) near3 page) with search$3	US-PGPUB; USPAT	OR	ON	2016/09/02 22:11
S30	38	@ad<"19991230" and S29	US-PGPUB; USPAT	OR	ON	2016/09/02 22:11
S31	1,544	((hierarch$7 or tree) near3 page) with (quer$3 or search$3 or locat$3 or retriev$4)	US-PGPUB; USPAT	OR	ON	2016/09/02 22:19
S32	675,327	local$4 with (website or webpage or internet or web$5 or remote$4)	US-PGPUB; USPAT	OR	ON	2016/09/02 22:20
S33	26	S31 same S32	US-PGPUB; USPAT	OR	ON	2016/09/02 22:20
S34	1	@ad<"19991230" and S33	US-PGPUB; USPAT	OR	ON	2016/09/02 22:20
S35	111,717	((hierarch$7 or tree)) with (quer$3 or search$3 or locat$3 or retriev$4)	US-PGPUB; USPAT	OR	ON	2016/09/02 22:21
S36	1,473	S35 same S32	US-PGPUB; USPAT	OR	ON	2016/09/02 22:21
S37	85	@ad<"19991230" and S36	US-PGPUB; USPAT	OR	ON	2016/09/02 22:21
S38	26,881	G06F17/30873.cpc. or G06F17/30876.cpc. or G06F17/30994.cpc. or G06F17/3089.cpc. or G06F17/30893.cpc. or G06F17/30896.cpc. or G06F17/2247.cpc. or G06F3/04817.cpc or G06F3/0483.cpc.	US-PGPUB; USPAT	OR	ON	2016/09/02 22:24
S39	38	@ad<"19991230" and S36 and (G06F17/$.cpc. or G06F3/$.cpc.)	US-PGPUB; USPAT	OR	ON	2016/09/02 22:24
S40	13	"480701".ap.	US-PGPUB; USPAT	OR	ON	2016/09/02 23:26
S41	1	(US-20150020005-$).did.	US-PGPUB	OR	ON	2016/09/02 23:47
S42	1	S41 and rolling	US-PGPUB; USPAT	OR	ON	2016/09/02 23:47
S43	15	rolling adj menu	US-PGPUB; USPAT	OR	ON	2016/09/02 23:48

S44	20	(US-20040019610-$ or US-20010014868-$ or US-20020089534-$).did. or (US-6665687-$ or US-5933827-$ or US-5959945-$ or US-6032130-$ or US-6587835-$ or US-6934690-$ or US-5930769-$ or US-6456303-$ or US-7454706-$ or US-6816172-$ or US-6072492-$ or US-6868525-$ or US-6516329-$ or US-6211871-$ or US-7143055-$ or US-6628307-$ or US-5875446-$).did.	US-PGPUB; USPAT	OR	ON	2016/09/03 00:26
S45	19	S44 and updat$4	US-PGPUB; USPAT	OR	ON	2016/09/03 00:26
S46	5	S44 and (cellular or mobile or cellphone)	US-PGPUB; USPAT	OR	ON	2016/09/03 00:43
S47	7	S44 and (phone)	US-PGPUB; USPAT	OR	ON	2016/09/03 00:45
S48	13	S44 and (telephone)	US-PGPUB; USPAT	OR	ON	2016/09/03 00:45
S49	5	S44 and pda	US-PGPUB; USPAT	OR	ON	2016/09/03 00:47
S50	5	S44 and (cell$6 or mobile or cellphone)	US-PGPUB; USPAT	OR	ON	2016/09/03 00:49
S51	20	(US-20040019610-$ or US-20010014868-$ or US-20020089534-$).did. or (US-6665687-$ or US-5933827-$ or US-5959945-$ or US-6032130-$ or US-6587835-$ or US-6934690-$ or US-5930769-$ or US-6456303-$ or US-7454706-$ or US-6816172-$ or US-6072492-$ or US-6868525-$ or US-6516329-$ or US-6211871-$ or US-7143055-$ or US-6628307-$ or US-5875446-$).did.	US-PGPUB; USPAT	OR	ON	2016/09/03 02:05
S52	12	S51 and click$4	US-PGPUB; USPAT	OR	ON	2016/09/03 02:05
S53	16	S51 and (load$3 or download$3)	US-PGPUB; USPAT	OR	ON	2016/09/03 02:12

S54	0	icon with distin$5 with local$4 with (link or webpage or website)	US-PGPUB; USPAT	OR	ON	2016/09/03 02:38
S55	161	icon with distin$5 with (link or webpage or website)	US-PGPUB; USPAT	OR	ON	2016/09/03 02:39
S56	16	@ad<"19991230" and S55	US-PGPUB; USPAT	OR	ON	2016/09/03 02:39
S57	1,559	icon near4 (distinguish$ or different$4 or distinct$4) near4 visual$4	US-PGPUB; USPAT	OR	ON	2016/09/03 02:44
S58	91	@ad<"19991230" and S57	US-PGPUB; USPAT	OR	ON	2016/09/03 02:44
S59	26	icon near4 (distinguish$ or different$4 or distinct$4) near4 visual$4 near5 level	US-PGPUB; USPAT	OR	ON	2016/09/03 02:45
S60	2	@ad<"19991230" and S59	US-PGPUB; USPAT	OR	ON	2016/09/03 02:45
S61	13	icon near4 (distinguish$ or different$4 or distinct$4) near4 visual$4 with (hierarch$7 or tree)	US-PGPUB; USPAT	OR	ON	2016/09/03 02:46
S62	3	@ad<"19991230" and S61	US-PGPUB; USPAT	OR	ON	2016/09/03 02:46
S63	338	icon near4 (bookmark) with web$4	US-PGPUB; USPAT	OR	ON	2017/06/08 16:01
S64	9	@ad<"19991230" and S63	US-PGPUB; USPAT	OR	ON	2017/06/08 16:02
S65	59	icon near4 (document) with (web$4 adj2 link)	US-PGPUB; USPAT	OR	ON	2017/06/08 18:26
S66	5	@ad<"19991230" and S65	US-PGPUB; USPAT	OR	ON	2017/06/08 18:26
S67	70	icon near4 (document) with (web$4 adj2 (URL or link))	US-PGPUB; USPAT	OR	ON	2017/06/08 19:25
S68	7	@ad<"19991230" and S67	US-PGPUB; USPAT	OR	ON	2017/06/08 19:26

S69	49	bookmark with (document) with (web$4 adj2 (URL or link))	US-PGPUB; USPAT	OR	ON	2017/06/08 19:27
S70	2	@ad<"19991230" and S69	US-PGPUB; USPAT	OR	ON	2017/06/08 19:27
S71	52	bookmark$3 with (document) with (web$4 adj2 (URL or link))	US-PGPUB; USPAT	OR	ON	2017/06/08 19:27
S72	2	@ad<"19991230" and S71	US-PGPUB; USPAT	OR	ON	2017/06/08 19:27
S73	142	bookmark$3 same (document) same (web$4 adj2 (URL or link))	US-PGPUB; USPAT	OR	ON	2017/06/08 19:29
S74	14	@ad<"19991230" and S73	US-PGPUB; USPAT	OR	ON	2017/06/08 19:29
S75	565	bookmark$3 with (web$4 adj2 (URL or link))	US-PGPUB; USPAT	OR	ON	2017/06/08 19:36
S76	25	@ad<"19991230" and S75	US-PGPUB; USPAT	OR	ON	2017/06/08 19:36
S77	2,279	bookmark$3 near5 (document)	US-PGPUB; USPAT	OR	ON	2017/06/08 20:00
S78	124	@ad<"19991230" and S77	US-PGPUB; USPAT	OR	ON	2017/06/08 20:00
S79	25	(US-20040019610-$ or US-20010014868-$ or US-20020089534-$).did. or (US-6665687-$ or US-5933827-$ or US-5959945-$ or US-6032130-$ or US-6587835-$ or US-6934690-$ or US-5930769-$ or US-6456303-$ or US-7454706-$ or US-6816172-$ or US-6072492-$ or US-6868525-$ or US-6516329-$ or US-6211871-$ or US-7143055-$ or US-6628307-$ or US-5875446-$ or US-5977972-$ or US-7131069-$ or US-6100890-$ or US-6970867-$ or US-6088707-$).did.	US-PGPUB; USPAT	OR	OFF	2017/06/09 00:14
S80	7	S79 and bookmark$3	US-PGPUB; USPAT	OR	OFF	2017/06/09 00:14

S81	20	("5959945" | "6072492" | "6816172" | "20010014868" | "20020089534" | "6032130" | "6628307" | "6623529" | "5933827" | "6587835" | "7143055" | "20040019610" | "6665687" | "7454706" | "6456303" | "6868525" | "6934690" | "20020109706" | "5930769" | "5802299" | "5933827").PN.	US-PGPUB; USPAT	OR	ON	2018/09/20 20:56
S82	28	(US-20040019610-$ or US-20010014868-$ or US-20020089534-$ or US-20020109706-$).did. or (US-6665687-$ or US-5933827-$ or US-5959945-$ or US-6032130-$ or US-6587835-$ or US-6934690-$ or US-5930769-$ or US-6456303-$ or US-7454706-$ or US-6816172-$ or US-6072492-$ or US-6868525-$ or US-6516329-$ or US-6211871-$ or US-7143055-$ or US-6628307-$ or US-5875446-$ or US-5977972-$ or US-7131069-$ or US-6100890-$ or US-6970867-$ or US-6088707-$ or US-5802299-$ or US-6623529-$).did.	US-PGPUB; USPAT	OR	ON	2018/09/20 21:48
S83	23	S82 and search	US-PGPUB; USPAT	OR	ON	2018/09/20 21:48
S84	20	("5959945" | "6072492" | "6816172" | "20010014868" | "20020089534" | "6032130" | "6628307" | "6623529" | "5933827" | "6587835" | "7143055" | "20040019610" | "6665687" | "7454706" | "6456303" | "6868525" | "6934690" | "20020109706" | "5930769" | "5802299" | "5933827").PN.	US-PGPUB; USPAT	OR	ON	2018/09/28 21:27
S85	28	(US-20040019610-$ or US-20010014868-$ or US-20020089534-$ or US-20020109706-$).did. or (US-6665687-$ or US-5933827-$ or US-5959945-$ or US-6032130-$ or US-6587835-$ or US-6934690-$ or US-5930769-$ or US-6456303-$ or US-7454706-$ or US-6816172-$ or US-6072492-$ or US-6868525-$ or US-6516329-$ or US-6211871-$ or US-7143055-$ or US-6628307-$ or US-5875446-$ or US-5977972-$ or US-7131069-$ or US-6100890-$ or US-6970867-$ or US-6088707-$ or US-5802299-$ or US-6623529-$).did.	US-PGPUB; USPAT	OR	ON	2018/09/28 21:27

S86	20	S85 and (theme or categor$4)	US-PGPUB; USPAT	OR	ON	2018/09/28 21:28
S87	1	("6014137").PN.	US-PGPUB; USPAT	OR	OFF	2018/09/28 21:54
S88	1	S87 and (theme or categor$4)	US-PGPUB; USPAT	OR	ON	2018/09/28 21:54
S89	2,949,645	@ad<"19991012"	US-PGPUB; USPAT	OR	ON	2018/09/28 21:58
S90	29	(US-20040019610-$ or US-20010014868-$ or US-20020089534-$ or US-20020109706-$).did. or (US-6665687-$ or US-5933827-$ or US-5959945-$ or US-6032130-$ or US-6587835-$ or US-6934690-$ or US-5930769-$ or US-6456303-$ or US-7454706-$ or US-6816172-$ or US-6072492-$ or US-6868525-$ or US-6516329-$ or US-6211871-$ or US-7143055-$ or US-6628307-$ or US-5875446-$ or US-5977972-$ or US-7131069-$ or US-6100890-$ or US-6970867-$ or US-6088707-$ or US-5802299-$ or US-6623529-$ or US-6014137-$).did.	US-PGPUB; USPAT	OR	ON	2018/09/28 22:09
S91	26	S90 and (updat$3)	US-PGPUB; USPAT	OR	ON	2018/09/28 22:09
S92	19	@ad<"19991012" and S91	US-PGPUB; USPAT	OR	ON	2018/09/28 22:09
S93	15	S90 and (search adj engine)	US-PGPUB; USPAT	OR	ON	2018/09/28 23:37
S94	10	@ad<"19991012" and S93	US-PGPUB; USPAT	OR	ON	2018/09/28 23:37
S95	13,669	G06F17/30873.cpc. or G06F17/30876.cpc. or G06F17/30994.cpc. or G06F17/3089.cpc. or G06F17/30893.cpc. or G06F17/30896.cpc. or G06F17/2247.cpc. or G06F3/04817.cpc or G06F3/0483.cpc.	US-PGPUB; USPAT	OR	ON	2019/05/24 00:37
S96	945,247	local$4 with (website or webpage or internet or web$5 or remote$4)	US-PGPUB; USPAT	OR	ON	2019/05/24 00:38

S97	139,335	((hierarch$7 or tree)) with (quer$3 or search$3 or locat$3 or retriev$4)	US-PGPUB; USPAT	OR	ON	2019/05/24 00:38
S98	1,965	S97 same S96	US-PGPUB; USPAT	OR	ON	2019/05/24 00:38
S99	85	@ad<"19991230" and S98	US-PGPUB; USPAT	OR	ON	2019/05/24 00:38
S100	29	(US-20040019610-$ or US-20010014868-$ or US-20020089534-$ or US-20020109706-$).did. or (US-6665687-$ or US-5933827-$ or US-5959945-$ or US-6032130-$ or US-6587835-$ or US-6934690-$ or US-5930769-$ or US-6456303-$ or US-7454706-$ or US-6816172-$ or US-6072492-$ or US-6868525-$ or US-6516329-$ or US-6211871-$ or US-7143055-$ or US-6628307-$ or US-5875446-$ or US-5977972-$ or US-7131069-$ or US-6100890-$ or US-6970867-$ or US-6088707-$ or US-5802299-$ or US-6623529-$ or US-6014137-$).did.	US-PGPUB; USPAT	OR	ON	2019/12/09 01:00
S101	7	S100 and (mobile or pda)	US-PGPUB; USPAT	OR	ON	2019/12/09 01:01
S102	3	@ad<"19991230" and S101	US-PGPUB; USPAT	OR	ON	2019/12/09 01:01
S103	14,548	G06F17/30873.cpc. or G06F17/30876.cpc. or G06F17/30994.cpc. or G06F17/3089.cpc. or G06F17/30893.cpc. or G06F17/30896.cpc. or G06F17/2247.cpc. or G06F3/04817.cpc or G06F3/0483.cpc.	US-PGPUB; USPAT	OR	ON	2019/12/09 01:03
S104	1,009,766	local$4 with (website or webpage or internet or web$5 or remote$4)	US-PGPUB; USPAT	OR	ON	2019/12/09 01:03
S105	145,760	((hierarch$7 or tree)) with (quer$3 or search$3 or locat$3 or retriev$4)	US-PGPUB; USPAT	OR	ON	2019/12/09 01:03
S106	2,088	S105 same S104	US-PGPUB; USPAT	OR	ON	2019/12/09 01:03
S107	85	@ad<"19991230" and S106	US-PGPUB; USPAT	OR	ON	2019/12/09 01:03

S108	24	@ad<"19991230" and S100	US-PGPUB; USPAT	OR	ON	2019/12/09 01:04
S109	5	S100 not S108	US-PGPUB; USPAT	OR	ON	2019/12/09 01:04
S110	13	S100 and (wireless or mobile or pda)	US-PGPUB; USPAT	OR	ON	2019/12/09 01:07
S111	9	@ad<"19991230" and S110	US-PGPUB; USPAT	OR	ON	2019/12/09 01:07
S112	6	S100 and (cellular or mobile or cellphone)	US-PGPUB; USPAT	OR	ON	2019/12/09 01:33
S113	2	@ad<"19991230" and S112	US-PGPUB; USPAT	OR	ON	2019/12/09 01:34
S114	7	S100 and (cell$4 or mobile or cellphone)	US-PGPUB; USPAT	OR	ON	2019/12/09 01:34
S115	3	@ad<"19991230" and S114	US-PGPUB; USPAT	OR	ON	2019/12/09 01:34
S116	5,580	G06F3/0483.cpc.	US-PGPUB; USPAT	OR	ON	2020/08/09 22:00
S118	16,554	G06F3/04817.cpc.	US-PGPUB; USPAT	OR	ON	2020/08/09 22:00
S119	11	G06F17/30873.cpc.	US-PGPUB; USPAT	OR	ON	2020/08/09 22:00
S120	21	G06F17/30876.cpc.	US-PGPUB; USPAT	OR	ON	2020/08/09 22:00
S121	6	G06F17/30994.cpc.	US-PGPUB; USPAT	OR	ON	2020/08/09 22:00
S122	41	G06F17/3089.cpc.	US-PGPUB; USPAT	OR	ON	2020/08/09 22:00
S123	4	G06F17/30893.cpc.	US-PGPUB; USPAT	OR	ON	2020/08/09 22:01

S124	13	G06F17/30896.cpc.	US-PGPUB; USPAT	OR	ON	2020/08/09 22:01
S125	0	G06F17/2247.cpc.	US-PGPUB; USPAT	OR	ON	2020/08/09 22:01
S127	154,209	((hierarch$7 or tree)) with (quer$3 or search$3 or locat$3 or retriev$4)	US-PGPUB; USPAT	OR	ON	2020/08/09 22:02
S128	2,998,314	@ad<"19991230"	US-PGPUB; USPAT	OR	ON	2020/08/09 22:02
S132	4,598	G06F16/954.cpc.	US-PGPUB; USPAT	OR	ON	2020/08/10 17:35
S133	10,000	G06F16/93.cpc.	US-PGPUB; USPAT	OR	ON	2020/08/10 17:35
S134	3,406	G06F16/95.cpc.	US-PGPUB; USPAT	OR	ON	2020/08/10 17:35
S135	23,157	G06F17/30873.cpc. or G06F17/30876.cpc. or G06F17/30994.cpc. or G06F17/3089.cpc. or G06F17/30893.cpc. or G06F17/30896.cpc. or G06F17/2247.cpc. or G06F3/04817.cpc or G06F3/0483.cpc. or G06F16/95.cpc. or G06F16/954.cpc. or G06F16/93.cpc.	US-PGPUB; USPAT	OR	ON	2020/08/10 17:35
S136	154,209	((hierarch$7 or tree)) with (quer$3 or search$3 or locat$3 or retriev$4)	US-PGPUB; USPAT	OR	ON	2020/08/10 17:36
S137	2,998,314	@ad<"19991230"	US-PGPUB; USPAT	OR	ON	2020/08/10 17:36
S138	154	S135 and S136 and S137	US-PGPUB; USPAT	OR	ON	2020/08/10 17:36
S139	101,334	G06F17/30873.cpc. or G06F17/30876.cpc. or G06F17/30994.cpc. or G06F17/3089.cpc. or G06F17/30893.cpc. or G06F17/30896.cpc. or G06F17/2247.cpc. or G06F3/04817.cpc or G06F3/0483.cpc. or G06F16/95$.cpc. or G06F16/954.cpc. or G06F16/93.cpc.	US-PGPUB; USPAT	OR	ON	2020/08/10 17:37
S140	457	S139 and S136 and S137	US-PGPUB; USPAT	OR	ON	2020/08/10 17:37

S141	139,636	((quer$3 or search$3 or locat$3 or retriev$4) same (website or webpage or internet or web$5) same (categor$4 or hierarch$6 or directory or tree or catalog$3 or guide))	US-PGPUB; USPAT	OR	ON	2020/08/10 17:37
S142	724	S139 and S141 and S137	US-PGPUB; USPAT	OR	ON	2020/08/10 17:38

EAST Search History (Interference)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L10	5,580	G06F3/0483.cpc.	US-PGPUB; USPAT	OR	ON	2020/08/11 00:31
L11	16,554	G06F3/04817.cpc.	US-PGPUB; USPAT	OR	ON	2020/08/11 00:31
L12	11	G06F17/30873.cpc.	US-PGPUB; USPAT	OR	ON	2020/08/11 00:31
L13	21	G06F17/30876.cpc.	US-PGPUB; USPAT	OR	ON	2020/08/11 00:31
L14	6	G06F17/30994.cpc.	US-PGPUB; USPAT	OR	ON	2020/08/11 00:32
L15	41	G06F17/3089.cpc.	US-PGPUB; USPAT	OR	ON	2020/08/11 00:32
L16	4	G06F17/30893.cpc.	US-PGPUB; USPAT	OR	ON	2020/08/11 00:32
L17	13	G06F17/30896.cpc.	US-PGPUB; USPAT	OR	ON	2020/08/11 00:32
S130	154,209	((hierarch$7 or tree)) with (quer$3 or search$3 or locat$3 or retriev$4)	US-PGPUB; USPAT	OR	ON	2020/08/09 22:03
S131	2,998,314	@ad<"19991230"	US-PGPUB; USPAT	OR	ON	2020/08/09 22:03
S143	23,157	G06F17/30873.cpc. or G06F17/30876.cpc. or G06F17/30994.cpc. or G06F17/3089.cpc. or G06F17/30893.cpc. or	US-PGPUB; USPAT	OR	ON	2020/08/10 17:35

		G06F17/30896.cpc. or G06F17/2247.cpc. or G06F3/04817.cpc or G06F3/0483.cpc. or G06F16/95.cpc. or G06F16/954.cpc. or G06F16/93.cpc.				
S144	3,406	G06F16/95.cpc.	US-PGPUB; USPAT	OR	ON	2020/08/10 17:35
S145	10,000	G06F16/93.cpc.	US-PGPUB; USPAT	OR	ON	2020/08/10 17:35
S146	4,598	G06F16/954.cpc.	US-PGPUB; USPAT	OR	ON	2020/08/10 17:35
S147	154,209	((hierarch$7 or tree)) with (quer$3 or search$3 or locat$3 or retriev$4)	US-PGPUB; USPAT	OR	ON	2020/08/10 17:36
S148	2,998,314	@ad<"19991230"	US-PGPUB; USPAT	OR	ON	2020/08/10 17:36
S149	139,636	((quer$3 or search$3 or locat$3 or retriev$4) same (website or webpage or internet or web$5) same (categor$4 or hierarch$6 or directory or tree or catalog$3 or guide))	US-PGPUB; USPAT	OR	ON	2020/08/10 17:37

8/11/2020 12:48:59 AM
H:\EAST\Workspaces\14480701.wsp

Bibliographic Data

Application No: 14/480,701

Foreign Priority claimed: (•) Yes ( ) No

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

Verified and Acknowledged: /SAJEDA MUHEBBULLAH/ (Examiner's Signature) S.M. (Initials)

Title: METHOD AND DEVICE FOR ACCESSING SOURCES AND SERVICES ON THE WEB

FILING or 371(c) DATE	CLASS	GROUP ART UNIT	ATTORNEY DOCKET NO.
09/09/2014	715	2141	0679-1001-2
RULE			

APPLICANTS

INVENTORS

Ferid ALLANI, Kelibia, TUNISIA

CONTINUING DATA

This application is a CON of 13585065 08/14/2012ABN

13585065 is a DIV of 10169355 11/05/2002 PAT 8271877

10169355 is a 371 of PCT/FR00/03759 12/29/2000

/S.M./

FOREIGN APPLICATIONS

IF REQUIRED, FOREIGN LICENSE GRANTED**

09/15/2014

** SMALL ENTITY **

STATE OR COUNTRY

TUNISIA

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NIXON & VANDERHYE, PC
901 NORTH GLEBE ROAD
11TH FLOOR
ARLINGTON, VA 22203
UNITED STATES

FILING FEE RECEIVED

$1,330

UNITED STATES
PATENT AND TRADEMARK OFFICE

P.O. Box 1450
Alexandria, VA 22313 - 1450
www.uspto.gov

ELECTRONIC ACKNOWLEDGEMENT RECEIPT

APPLICATION #	RECEIPT DATE / TIME	ATTORNEY DOCKET #
14/480,701	09/03/2020 11:21:18 AM ET	7209-0003

Title of Invention

METHOD AND DEVICE FOR ACCESSING SOURCES AND SERVICES ON THE WEB

Application Information

APPLICATION TYPE	Utility - Nonprovisional Application under 35 USC 111(a)	PATENT #	-
CONFIRMATION #	9483	FILED BY	Beth Napear
PATENT CENTER #	60076954	FILING DATE	09/09/2014
CUSTOMER #	466	FIRST NAMED INVENTOR	Ferid ALLANI
CORRESPONDENCE ADDRESS	-	AUTHORIZED BY	ERIC JENSEN

Documents

TOTAL DOCUMENTS: 1

DOCUMENT	PAGES	DESCRIPTION	SIZE (KB)
7209-3 Request for Corrected Filing Receipt.pdf	4	Request for Corrected Filing Receipt	149 KB

Digest

DOCUMENT	MESSAGE DIGEST(SHA-512)
7209-3 Request for Corrected Filing Receipt.pdf	B66FCA9A38FA58C738AC0683944E80E6671BBDE326B1D23A634AB4D4D89BCE26C011E9462A372F3709BDEDE827E4AF7E09B6791B818BE27929B3745A353D85CC

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized

by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

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

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

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

New International Application Filed with the USPTO as a Receiving Office

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

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of	Atty. Ref.: JMG-7209-3
ALLANI	Confirmation No. 9483
Appl. No. 14/480,701	Art Unit: 2141
Filed: 12/29/2000	Examiner: Muhebbullah, Sajeda

For: METHOD AND DEVICE FOR ACCESSING SOURCES AND SERVICES ON THE WEB

* * * * * * * * * * * *

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

September 3, 2020

Sir:

REQUEST FOR CORRECTED FILING RECEIPT

Submitted herewith is an updated Application Data Sheet on which the title is amended to read METHOD AND DEVICE FOR ACCESSING INFORMATION SOURCES AND SERVICES ON THE WEB. Prompt processing of this Request and a new Filing Receipt are respectfully requested.

The Commissioner is hereby authorized to charge any deficiency, or credit any overpayment, in the fee(s) filed, or asserted to be filed, or which should have been filed herewith (or with any paper hereafter filed in this application by this firm) to Deposit Account No. 14-1140.

Respectfully submitted,

NIXON & VANDERHYE P.C.

By: /Jeffrey M. Goehring/
Jeffrey M. Goehring
Reg. No. 52,948

JMG:bjn
901 North Glebe Road, 11th Floor
Arlington, VA 22203-1808
Telephone: (703) 816-4000
Facsimile: (703) 816-4100

PTO/AIA/14 (12-13)
Approved for use through 01/31/2014. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	7209-0003
	Application Number	
Title of Invention	METHOD AND DEVICE FOR ACCESSING INFORMATION SOURCES AND SERVICES ON THE WEB	

The application data sheet is part of the provisional or nonprovisional application for which it is being submitted. The following form contains the bibliographic data arranged in a format specified by the United States Patent and Trademark Office as outlined in 37 CFR 1.76.
This document may be completed electronically and submitted to the Office in electronic format using the Electronic Filing System (EFS) or the document may be printed and included in a paper filed application.

Secrecy Order 37 CFR 5.2

☐ Portions or all of the application associated with this Application Data Sheet may fall under a Secrecy Order pursuant to 37 CFR 5.2 (Paper filers only. Applications that fall under Secrecy Order may not be filed electronically.)

Inventor Information:

Inventor 1 Remove

Legal Name

Prefix	Given Name	Middle Name	Family Name	Suffix
	Ferid		ALLANI	

Residence Information (Select One) ○ US Residency ◉ Non US Residency ○ Active US Military Service

City	Kelibia	Country of Residence [i]	TN

Mailing Address of Inventor:

Address 1	Villa Karma, El Mansourah		
Address 2			
City	Kelibia	State/Province	
Postal Code		Country [i]	TN

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

Correspondence Information:

Enter either Customer Number or complete the Correspondence Information section below.
For further information see 37 CFR 1.33(a).

☐ **An Address is being provided for the correspondence Information of this application.**

Customer Number	00466		
Email Address		Add Email	Remove Email

Application Information:

Title of the Invention	METHOD AND DEVICE FOR ACCESSING INFORMATION SOURCES AND SERVICES ON THE WEB		
Attorney Docket Number	7209-0003	Small Entity Status Claimed	☒
Application Type	Nonprovisional		
Subject Matter	Utility		
Total Number of Drawing Sheets (if any)	2	Suggested Figure for Publication (if any)	

PTO/AIA/14 (12-13)
Approved for use through 01/31/2014. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	7209-0003
	Application Number	
Title of Invention	METHOD AND DEVICE FOR ACCESSING INFORMATION SOURCES AND SERVICES ON THE WEB	

Signature:

NOTE: This form must be signed in accordance with 37 CFR 1.33. See 37 CFR 1.4 for signature requirements and certifications.					
Signature	/Jeffrey M. Goehring/			Date (YYYY-MM-DD)	2020-09-03
First Name	Jeffrey	Last Name	Goehring	Registration Number	52948
Additional Signature may be generated within this form by selecting the Add button.					

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

Privacy Act Statement

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

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

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether the Freedom of Information Act requires disclosure of these records.

2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.

3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.

4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).

5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent C o o p eration Treaty.

6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).

7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.

8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspections or an issued patent.

9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

IPR2025-00857
Apple EX1002 Page 678

UNITED STATES PATENT AND TRADEMARK OFFICE

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

APPLICATION NUMBER	FILING or 371(c) DATE	GRP ART UNIT	FIL FEE REC'D	ATTY.DOCKET.NO	TOT CLAIMS	IND CLAIMS
14/480,701	09/09/2014	2141	1330	7209-0003	28	4

CONFIRMATION NO. 9483

CORRECTED FILING RECEIPT

466
NIXON & VANDERHYE, PC
901 NORTH GLEBE ROAD
11TH FLOOR
ARLINGTON, VA 22203



Date Mailed: 09/08/2020

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

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

Inventor(s)

Ferid ALLANI, Kelibia, TUNISIA;

Applicant(s)

Ferid ALLANI, Kelibia, TUNISIA;

Power of Attorney: None

Domestic Priority data as claimed by applicant

This application is a CON of 13/585,065 08/14/2012 ABN
which is a DIV of 10/169,355 11/05/2002 PAT 8271877
which is a 371 of PCT/FR00/03759 12/29/2000

Foreign Applications for which priority is claimed (You may be eligible to benefit from the **Patent Prosecution Highway** program at the USPTO. Please see http://www.uspto.gov for more information.) - None.
Foreign application information must be provided in an Application Data Sheet in order to constitute a claim to foreign priority. See 37 CFR 1.55 and 1.76.

Permission to Access Application via Priority Document Exchange: Yes

Permission to Access Search Results: No

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

IPR2025-00857
Apple EX1002 Page 679

If Required, Foreign Filing License Granted: 09/15/2014
The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is **US 14/480,701**
Projected Publication Date: Not Applicable
Non-Publication Request: No
Early Publication Request: No
**** SMALL ENTITY ****
Title

METHOD AND DEVICE FOR ACCESSING INFORMATION SOURCES AND SERVICES ON THE WEB

Preliminary Class

715

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

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

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

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

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

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Apple EX1002 Page 680

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Title 37, Code of Federal Regulations, 5.11 & 5.15

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NOT GRANTED

No license under 35 U.S.C. 184 has been granted at this time, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" DOES NOT appear on this form. Applicant may still petition for a license under 37 CFR 5.12, if a license is desired before the expiration of 6 months from the filing date of the application. If 6 months has lapsed from the filing date of this application and the licensee has not received any indication of a secrecy order under 35 U.S.C. 181, the licensee may foreign file the application pursuant to 37 CFR 5.15(b).

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
14/480,701	09/09/2014	Ferid ALLANI	7209-0003	9483

466 7590 10/08/2020
NIXON & VANDERHYE, PC
901 NORTH GLEBE ROAD
11TH FLOOR
ARLINGTON, VA 22203

EXAMINER	
MUHEBBULLAH, SAJEDA	

ART UNIT	PAPER NUMBER
2141	

NOTIFICATION DATE	DELIVERY MODE
10/08/2020	ELECTRONIC

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

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

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

yandtpair@firsttofile.com
ptomail@nixonvan.com
pair_nixon@firsttofile.com

PTOL-90A (Rev. 04/07)

UNITED STATES PATENT AND TRADEMARK OFFICE

Commissioner for Patents
United States Patent and Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450
www.uspto.gov

Application No. : 14480701
Applicant : Allani
Filing Date : 09/09/2014
Date Mailed : 10/08/2020

NOTICE TO FILE CORRECTED APPLICATION PAPERS

Notice of Allowance Mailed

This application has been accorded an Allowance Date and is being prepared for issuance. The application, however, is incomplete for the reasons below.

Applicant is given two (2) months from the mail date of this Notice within which to respond. This time period for reply is extendable under 37 CFR 1.136(a) for only TWO additional MONTHS.

The informalities requiring correction are indicated in the attachment(s). If the informality pertains to the abstract, specification (including claims) or drawings, the informality must be corrected with an amendment in compliance with 37 CFR 1.121 (or, if the application is a reissue application, 37 CFR 1.173). Such an amendment may be filed after payment of the issue fee if limited to correction of informalities noted herein. See Waiver of 37 CFR 1.312 for Documents Required by the Office of Patent Publication, 1280 Off. Gaz. Patent Office 918 (March 23, 2004). In addition, if the informality is not corrected until after payment of the issue fee, for purposes of 35 U.S.C. 154(b)(1)(iv), "all outstanding requirements" will be considered to have been satisfied when the informality has been corrected. A failure to respond within the above-identified time period will result in the application being ABANDONED.

See attachment(s).

A copy of this notice MUST be returned with the reply. Please address response to "Mail Stop Issue Fee, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450".

/Chris Harmon/
Publication Branch
Office of Data Management
(571) 272-4200

Application No. 14480701 **Drawings filed: 09/09/2014**

IDENTIFICATION OF DRAWING DEFICIENCIES

- [ ] There is a hole or the image thereof within the illustration. FIG(s)
- [ ] The illustration is penetrated or traversed by a solid or broken line that is not intended to be part of the drawing, such as a dark line caused by a flaw in the copying process. FIG(s)
- [ ] An ink stamp or the image thereof obscures part of the illustration. FIG(s)
- [ ] The drawing is marred by black smudges, obliterations, or fax/copier marks (for example, speckles or dots in a substantial portion of the drawing). FIG(s)
- [ ] Figure numbers are duplicated or missing. FIG(s)
- [ ] Drawing sheet or figure is missing. FIG(s)
- [ ] Numbers, letters, or reference characters in the drawing have been crossed out or are illegibly handwritten. FIG(s)
- [ ] The character of the lines, numbers, and letters is poor. FIG(s)
- [ ] The drawing's background shows that the original drawing was made on graph paper or other paper with a pattern or decoration. FIG(s)
- [ ] The FIG. number label is placed in a location that causes the drawing to be read upside down. FIG(s)
- [X] Data, a reference number, or part of the drawing is truncated or missing, or a lead line has no reference number. FIG(s) 1
- [ ] The drawing and/or the FIG. label contain(s) foreign language. FIG(s)
- [ ] This utility application contains a photograph of a view that is capable of being illustrated as a line drawing. FIG(s)
- [ ] A petition under 37 CFR 1.84(a)(2) to accept color drawings has been granted, but the brief description of the drawings in the specification does not contain (or has not been amended to contain) the paragraph required by 37 CFR 1.84(a)(2)(iii).
- [ ] This reissue application contains added and/or amended drawings that are not labeled as “New” or “Amended” or “Canceled” as required by 37 CFR 1.173(b)(3). FIG(s)
- [ ] This Design reissue application contains a drawing that is labeled as “Canceled” but is not surrounded by brackets, or a drawing that is surrounded by brackets but is not labeled as “Canceled.” See 37 CFR 1.173(b)(3). FIG(s)
- [ ] OTHER:
- [ ] COMMENTS:

Mail Stop ISSUE FEE
PATENT
7209-0003

IN THE U.S. PATENT AND TRADEMARK OFFICE

In re application of	Allowed August 21, 2020
Ferid ALLANI	Conf. 9483
Application No. 14/480,701	Group 2141
Filed September 9, 2014	Examiner Sajeda MUHEBBULLAH

METHOD AND DEVICE FOR ACCESSING INFORMATION SOURCES AND SERVICES ON THE WEB

RESPONSE TO NOTICE TO FILE CORRECTED APPLICATION PAPERS – Notice of Allowance Mailed

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

October 13, 2020

Sir:

In response to the Notice to File Corrected Application Papers – Notice of Allowance Mailed, dated October 8, 2020, we enclose herewith two (2) sheets of replacement formal drawings. In Figure 1, the lead lines without reference numbers have been deleted. No new matter has been added.

The Commissioner is hereby authorized in this, concurrent, and future submissions to charge any additional

fees(s) or underpayment of fee(s) under 37 C.F.R. §§ 1.16 and 1.17 or 37 C.F.R. § 41.20 credit any overpayment of fee(s) to Deposit Account No. 14-1140.

Respectfully submitted,

NIXON & VANDERHYE P.C.

By: /Jeffrey M. Goehring/
Jeffrey M. Goehring
Reg. No. 52,948

JMG:alg
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Arlington, VA 22203-1808
Telephone: (703) 816 4000
Facsimile: (703) 816 4100

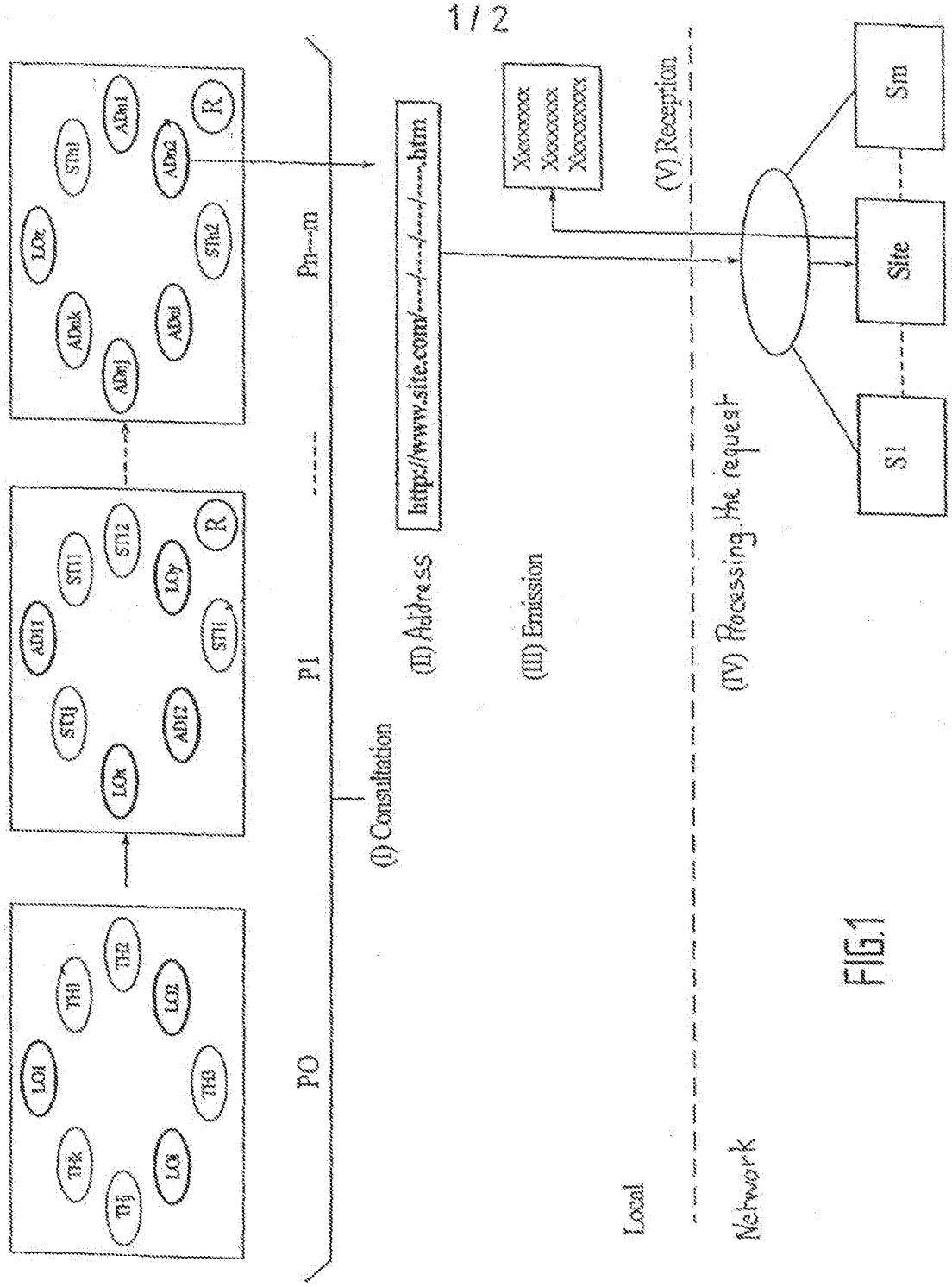

P0
P1
Pn--m
(I) Consultation
(II) Address
http://www.site.com/---/---/---/---.htm
(III) Emission
Xxxxxxx
Xxxxxxx
Xxxxxxx
(V) Reception
(IV) Processing the request
Local
Network
Site
S1
Sm

FIG1

2/2

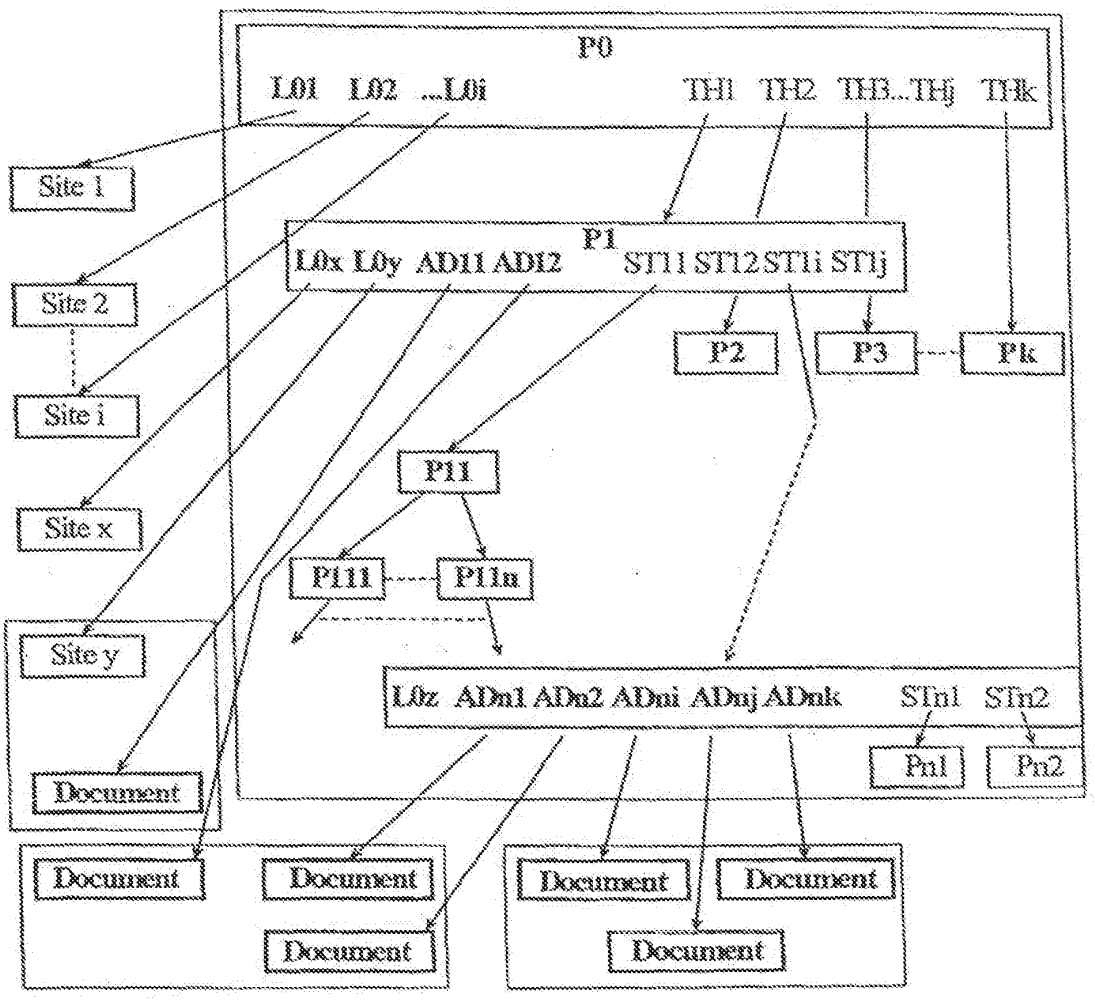

P0
L01 L02 ...L0i
TH1 TH2 TH3...THj THk
Site 1
Site 2
Site i
Site x
Site y
P1
L0x L0y AD11 AD12 ST11 ST12 ST1i ST1j
P2
P3
Pk
P11
P111
P11n
L0z ADn1 ADn2 ADni ADnj ADnk SIn1 SIn2
Pn1
Pn2
Document
Document
Document
Document
Document
Document
Document

FIG.2

Electronic Acknowledgement Receipt	
EFS ID:	40824946
Application Number:	14480701
International Application Number:	
Confirmation Number:	9483
Title of Invention:	METHOD AND DEVICE FOR ACCESSING INFORMATION SOURCES AND SERVICES ON THE WEB
First Named Inventor/Applicant Name:	Ferid ALLANI
Customer Number:	466
Filer:	Eric Jensen/Amanda Goode
Filer Authorized By:	Eric Jensen
Attorney Docket Number:	7209-0003
Receipt Date:	13-OCT-2020
Filing Date:	09-SEP-2014
Time Stamp:	11:01:12
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Post Allowance Communication - Incoming	7209-0003_RESP_TO_NCAP_AFTER_ALLOWANCE.pdf	60199 9e6b20864eb4718b03abbc7035c5e03a30c452c6	no	2
Warnings:					

Information:					
2	Drawings-other than black and white line drawings	7209-0003_REPL_DWGS.pdf	375747 04c1bb4c1bfcdc2cb3d6a8fbe765a6bea5754ab0	no	2
Warnings:					
Information:					
			Total Files Size (in bytes):	435946	

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

New Applications Under 35 U.S.C. 111

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

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

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

New International Application Filed with the USPTO as a Receiving Office

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

DocCode – SCORE

SCORE Placeholder Sheet for IFW Content

Application Number: 14480701 Document Date: 10/13/2020

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

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

- Drawing

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Form Revision Date: March 1, 2019

Doc code: RCEX
Doc description: Request for Continued Examination (RCE)

PTO/SB/30EFS (02-18)
Approved for use through 11/30/2020. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

REQUEST FOR CONTINUED EXAMINATION(RCE)TRANSMITTAL
(Submitted Only via EFS-Web)

Application Number	14480701	Filing Date	2014-09-09	Docket Number (if applicable)	7209-0003	Art Unit	2141
First Named Inventor	Ferid ALLANI			Examiner Name	MUHEBBULLAH, SAJEDA		

This is a Request for Continued Examination (RCE) under 37 CFR 1.114 of the above-identified application.
Request for Continued Examination (RCE) practice under 37 CFR 1.114 does not apply to any utility or plant application filed prior to June 8, 1995, or to any design application. The Instruction Sheet for this form is located at WWW.USPTO.GOV

SUBMISSION REQUIRED UNDER 37 CFR 1.114

Note: If the RCE is proper, any previously filed unentered amendments and amendments enclosed with the RCE will be entered in the order in which they were filed unless applicant instructs otherwise. If applicant does not wish to have any previously filed unentered amendment(s) entered, applicant must request non-entry of such amendment(s).

☐ Previously submitted. If a final Office action is outstanding, any amendments filed after the final Office action may be considered as a submission even if this box is not checked.

- ☐ Consider the arguments in the Appeal Brief or Reply Brief previously filed on _____
- ☐ Other _____

☒ Enclosed

- ☐ Amendment/Reply
- ☒ Information Disclosure Statement (IDS)
- ☐ Affidavit(s)/ Declaration(s)
- ☐ Other _____

MISCELLANEOUS

☐ Suspension of action on the above-identified application is requested under 37 CFR 1.103(c) for a period of months _____
(Period of suspension shall not exceed 3 months; Fee under 37 CFR 1.17(i) required)

☐ Other _____

FEES

☐ **The RCE fee under 37 CFR 1.17(e) is required by 37 CFR 1.114 when the RCE is filed.**
The Director is hereby authorized to charge any underpayment of fees, or credit any overpayments, to Deposit Account No _____

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT REQUIRED

☒ Patent Practitioner Signature

Applicant Signature

PTO/SB/30EFS (02-18)
Approved for use through 11/30/2020. OMB 0651-0031
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Signature of Registered U.S. Patent Practitioner			
Signature	/Eric Jensen/	Date (YYYY-MM-DD)	2020-11-02
Name	Eric Jensen	Registration Number	37855

This collection of information is required by 37 CFR 1.114. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450.

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

Privacy Act Statement

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

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

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether the Freedom of Information Act requires disclosure of these records.

2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.

3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.

4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).

5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.

6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).

7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.

8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspections or an issued patent.

9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

IPR2025-00857
Apple EX1002 Page 694

Espacenet

Bibliographic data: JPH10149372 (A) — 1998-06-02

INFORMATION DISPLAY DEVICE

Inventor(s): TABUCHI YOSHIRO; TABUCHI KUMIKO ± (TABUCHI YOSHIRO, ; TABUCHI KUMIKO)

Applicant(s): JIN CORP KK ± (JIN CORP:KK)

Classification: **- international:** ***G06F12/00; G06F13/00; G06F17/30;*** (IPC1-7): G06F12/00; G06F17/30

- cooperative:

Application number: JP19970253055 19970918

Priority number(s): JP19970253055 19970918 ; JP19960248424 19960919

Abstract of JPH10149372 (A)

PROBLEM TO BE SOLVED: To provide a shortcut for the execution of internet surfing and to improve user's operability by retrieving/displaying information locally prepared by the use of a browser function for hypertext mark-up language(HTML) and specifying required web information from the local information so as to refer to the web information as it is through an internet. SOLUTION: A browser area is divided into plural frames 11 to 14. The web information of internet addresses is hierarchically constituted like tree structure and arranged from large sorts up to fine sorts so that the final information itself is arranged on the position of a tip leave. The hierarchical structure is regulated by an HTL link. When a page e.g. to be linked in a prescribed frame, e.g. 11 or 13, is specified by click or the like, the linked page is displayed on the same frame or another frame.

IPR2025-00857
Apple EX1002 Page 695

(19)日本国特許庁（ＪＰ）　(12) 公開特許公報（A）　(11)特許出願公開番号

特開平10－149372

(43)公開日　平成10年(1998)６月２日

(51)Int.Cl.[6]		識別記号		FI		
Ｇ０６Ｆ	17/30		Ｃ０６Ｆ	15/40	３１０Ｆ
	12/00	５４７		12/00	５４７Ｈ
				15/419	３２０

審査請求　未請求　請求項の数６　ＯＬ　（全 ７ 頁）

(21)出願番号　特願平9－253055

(22)出願日　平成９年(1997)９月18日

(31)優先権主張番号　特願平8－248424

(32)優先日　平８(1996)９月19日

(33)優先権主張国　日本（ＪＰ）

(71)出願人　59613/254
株式会社　ジン　コーポレーション
東京都港区六本木４－12－11

(72)発明者　田淵　義朗
東京都港区六本木４－12－11　株式会社ジンコーポレーション内

(72)発明者　田淵　久美子
東京都港区六本木４－12－11　株式会社ジンコーポレーション内

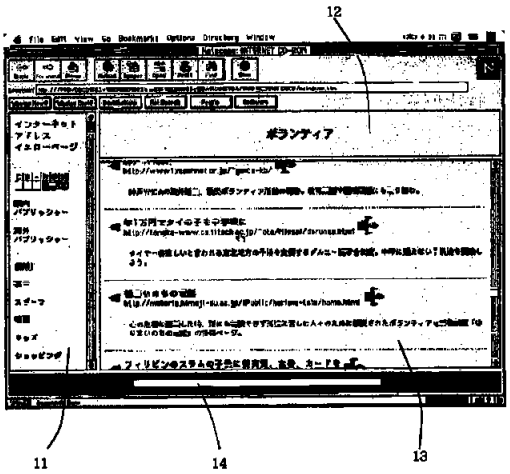
(74)代理人　弁理士　澤田　俊夫

(54)【発明の名称】　情報表示装置

(57)【要約】

【課題】　ＨＴＭＬ用のブラウザの機能を用いてローカルに準備した情報を検索表示できるようにし、しかも、ローカルな情報から所望のウェブ情報を特定し、そのまま、そのウェブ情報をインターネットを介して閲覧できるようにし、インターネットサーフィンを行う上でのショートカットを提供してユーザの使い勝手を向上させる。

【解決手段】　ブラウザの領域は複数のフレーム１１～１４に分割されている。インターネットアドレスのウェブ情報は木構造状に階層的に構成され大きな分類から細かな分類に整理され、最終的な情報自体が末端の葉の部分に位置するようになっている。階層的な構造はＨＴＭＬのリンクによって規定されている。所定のフレーム例えば１１または１３においてリンク先をクリック等で指定すると同一のフレームまたは他のフレームにおいてリンク先のページが表示されるようになっている。



IPR2025-00857
Apple EX1002 Page 696

【特許請求の範囲】
【請求項１】　複数の閲覧対象ＨＴＭＬ文書が配置されたネットワークと通信する通信手段と、
上記複数の閲覧対象ＨＴＭＬ文書を分類する複数のクラスを第１のフレームに表示し、指定されたクラスに属する閲覧対象ＨＴＭＬ文書の情報を第２のフレームに表示するための閲覧案内用ＨＴＭＬ文書を記録する記録媒体と、
上記記録媒体から上記閲覧案内用ＨＴＭＬ文書を読み出して上記複数のクラスを上記第１のフレームに表示し、上記特定されたクラスに属する閲覧対象ＨＴＭＬ文書の情報を上記第２のフレームに表示する手段と、
上記第２のフレームにおいて指定された閲覧対象ＨＴＭＬ文書の情報にリンクされた上記ネットワーク上のアドレスから、対応する閲覧対象ＨＴＭＬ文書を上記通信手段を介して受け取る手段と、
受け取った上記閲覧対象ＨＴＭＬ文書を上記第２のフレームに表示する手段とを有することを特徴とする情報表示装置。
【請求項２】　上記記録媒体を着脱式の記録媒体とした請求項１記載の情報表示装置。
【請求項３】　上記閲覧対象ＨＴＭＬ文書は、通信手段の通話・非通話状態を表示する手段を有する請求項１または２記載の情報表示装置。
【請求項４】　ネットワーク上の配置された複数の閲覧対象ＨＴＭＬ文書を分類する複数のクラスを第１のフレームに表示し、特定されたクラスに属する閲覧対象ＨＴＭＬ文書の情報を第２のフレームに表示し、かつ上記閲覧対象ＨＴＭＬ文書の情報の特定に基づいて、対応する閲覧対象ＨＴＭＬのＵＲＬ情報を指定するための閲覧案内用ＨＴＭＬ文書を記録した記録媒体。
【請求項５】　記録媒体読取装置に着脱可能に装着される請求項４記載の記録媒体。
【請求項６】　第１のフレーム領域に複数のクラスを表示する手段と、
１のクラスを選択する手段と、
選択された１のクラスに対する操作に応じて第２のフレーム領域に上記選択されたクラスに属するＨＴＭＬ文書に関する情報を表示する手段と、
１つのＨＴＭＬ文書の情報を選択する手段と、
選択された上記ＨＴＭＬ文書の情報から、対応するＨＴＭＬ文書のネットワーク上のアドレスを特定する手段と、
上記アドレスから、対応するＨＴＭＬ文書を取り出して上記第２のフレーム領域に表示する手段と、
上記第２のフレーム領域に上記ＨＴＭＬ文書が表示されているときに上記第１フレームにおいて上記クラスの１つが選択されると、選択されたクラスに属する情報実体を上記ＨＴＭＬ文書に代えて表示する手段とを有することを特徴とする情報表示装置。

【発明の詳細な説明】
【０００１】
【発明の属する技術分野】この発明は情報表示装置に関し、とくにローカルな記憶装置に蓄えられたＨＴＭＬ（ハイパーテキストマークアップ言語）文書を表示し、しかもこのＨＴＭＬ文書の情報を利用してインターネット、イントラネット等のネットワークに存在する情報をアクセスすることもできる情報表示装置に関する。
【０００２】
【従来の技術】インターネット上のWWW（ワールドワイドウェブ）ページ等ＨＴＭＬ文書を利用する場合通信媒体の制約から情報の取得に時間がかかり、大変不便であった。インターネットにアクセスし、情報検索サーバを利用し、その後、検索したウェブ情報（ホームページ）を閲覧しに行くということを行うと、かなり時間がかかり、コスト及び使い勝手の上で問題があった。
【０００３】
【発明が解決しようとする課題】この発明は以上の事情等を考慮してなされたものであり、ＨＴＭＬ用のブラウザの機能を用いてローカルに準備した情報を検索表示できるようにし、しかも、ローカルな情報から所望のウェブ情報を特定し、そのまま、そのウェブ情報をインターネットを介して閲覧できるようにし、インターネットサーフィンを行う上でのショートカットを提供してユーザの使い勝手を向上させるようにすることを目的としている。
【０００４】
【課題を解決するための手段】この発明では、以上の目的を達成するために、ＨＴＭＬの文書を表示する情報表示装置に、第１のフレーム領域に複数のクラスを表示する手段と、１のクラスを選択する手段と、選択された１のクラスに対する操作に応じて第２のフレーム領域に上記選択されたクラスに属するＨＴＭＬ文書に関する情報を表示する手段と、１つのＨＴＭＬ文書の情報を選択する手段と、選択された上記ＨＴＭＬ文書の情報から、対応するＨＴＭＬ文書のネットワーク上のアドレスを特定する手段と、上記アドレスから、対応するＨＴＭＬ文書を取り出して上記第２のフレーム領域に表示する手段と、上記第２のフレーム領域に上記ＨＴＭＬ文書が表示されているときに上記第１フレームにおいて上記クラスの１つが選択されると、選択されたクラスに属する情報実体を上記ＨＴＭＬ文書に代えて表示する手段とを設けるようにしている。なお、ＨＴＭＬ文書は、ＳＧＬＭ文書であればよく、拡張マークアップ言語（ＸＭＬ）でもよい。
【０００５】
【発明の実施の形態】以下、この発明の実施例について図面を参照して説明する。
【０００６】図１はこの実施例が適用されるシステム構成を示すもので、図１において、パーソナルコンピュー

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タ１にオペレーティング・システム２、通信インターフェース３、ブラウザ４がインストールされている。ブラウザはネットスケープナビゲータ（米国ネットスケープコミュニケーション社の商標）やインターネットエクスプローラ（米国マイクロソフト社の商標）等のWWWのブラウザである。パーソナルコンピュータはＣＤ－ＲＯＭ駆動装置５等の記録装置を具備し、例えばこのＣＤ－ＲＯＭ記録媒体６にＨＴＭＬのファイルが記憶されている。ブラウザは記録媒体のＨＴＭＬのファイルをモニタの画面に表示する。

【０００７】図２～図４はインターネットアドレスのウェブ情報の紹介を表示する例を示すものであり、図２～図４において、ブラウザの領域は複数のフレーム１１～１４に分割されている。インターネットアドレスのウェブ情報は木構造状に階層的に構成され大きな分類から細かな分類に整理され、最終的な情報自体が末端の葉の部分に位置するようになっている。階層的な構造はＨＴＭＬのリンクによって規定されている。所定のフレーム例えば１１または１３においてリンク先をクリック等で指定すると同一のフレームまたは他のフレームにおいてリンク先のページが表示されるようになっている。

【０００８】例えば、図2のフレーム１１はウェブ情報のジャンル等を表示しており、特定のジャンル例えばボランティア（福祉）の項目をクリック処理するとフレーム１３にボランティアのジャンルに属するウェブ情報のリストのページが表示される。このリストにはウェブ情報についての詳細が記述されている。そしてされにフレーム１３においてウェブ情報の１つをクリック処理すると対応するインターネット上のアドレスＵＲＬ（ユニフォームリソースロケータ）が特定される。そしてこれに応じてダイアルアップ接続でインターネットへの接続が行われ、対応するウェブ情報が取り出される。この情報はフレーム１２ａにウェブ情報のリストに変わって表示される。

【０００９】この後、図４において新たにジャンルを変更する。すなわちフレーム１１において他のジャンルのキッズを選択したとする。そうすると、リンク先のページすなわちキッズに関するウェブ情報のリストがフレーム１３に表示される。そして先の場合と同様に所定のウェブ情報を選択してインターネット上のそのウェブ情報をフレーム１２ａに表示させることができる。

【００１０】以上の表示は、フレームセットを用いて行うことができる。また、リンク先へ飛ぶためには、選択領域（クリック領域）にアンカータグでマークアップを行い、リンク情報を記述する。リンク情報は、各ジャンルに属する項目（ジャンル例えばボランティアに属するウェブのリスト）を記述するページのＵＲＬや、その項目により指定されるインターネット上のＵＲＬである。リンク情報にはターゲット・フレーム（すなわちリンク先の情報が表示されるフレーム）としてフレーム１２ａを指定する情報も含まれる。これにより、ジャンルに属する項目のリスト（図２）や、インターネット上のウェブ情報（図３）をフレーム１２ａに選択的に表示できる。たとえば、フレームセットの記述はつぎのようなものである。

【表１】<FRAMESET COL=150,*>
<FRAME SRC="../../left.htm" SCROLING="AUTO" NORESIZE>
<FRAME SRC="fun.htm" NAME="url" SCROLLING="AUTO" NORESIZE
</FRAMESET>

また、アンカータグによるマークアップはつぎのようなものである。

【表２】<TABLE><TR>
<TD><IMG SRC="../../pic/fly1.gif" BORDER=0></TD>
<TD><A AREF="http:/www.dirus.com/TOMY/index.htm" TARGET="url"
...

ここで、“ｕｒｌ”はフレーム１２ｃである。

【００１１】なお、ウェブ情報を指定してダイアルアップされたあとに、インターネット上の情報の閲覧を終了しＣＤ－ＲＯＭの情報のみを閲覧しているときには、ブラウザのメニューバー等を用いて回線を接続するようにしてもよい。またインターネットへのアクセスが終了する都度自動的に回線を切断するようにしてもよい。

【００１２】また図４および図５に示すようにフレーム１４には４つのボタンが表示され、任意の１つをクリックすると対応するバックグラウンドミュージックがなるようになっている。これはショックウェーブ（商標）等の音楽・画像ソフトウェアを用いてボタンに対応づけられている音楽ファイルに応じてバックグラウンドミュージックを生成することにより実現される。このフレーム１４は情報の表示に無関係に表示されるので例えばウェブ情報を見ているときでもＣＤ－ＲＯＭ媒体の情報を見ているときでもミュージックを生成できる。

【００１３】つぎにＣＤ－ＲＯＭの情報を表示する例を示す。このＣＤ－ＲＯＭの情報も階層的に構成されている。図６および図７において、ブラウザの画面はフレーム２１～２３に分割されている。図６においてフレーム２１にはひらがな列が表示される。なおこれに先立ってジャンル、キーワード、対応機種、発行元、タイトルを項目とするメニューから、この例ではタイトルが選択されている。他の項目を選んだときも同様な処理となる。フレーム２１において「と」を選択すると右のフレーム２２には「と」で始まるタイトルが表示される。そしてそのうちの１つを選択すると、例えば「トップ・エマージェンシー２」を選択すると、それについての情報がフレーム２４に表示されるようになる。なおフレーム２３は先のインターネット上のウェブ情報の表示の例と同様にバックグラウンドミュージックを生成するためのもの

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である。

【００１４】つぎに、この発明の他の実施例について説明する。この実施例では、電話の通話・非通話がブラウザ４の画面領域において表示されるようになっている。この実施例においては、ダイヤルアップＩＰ接続でインターネット（インターネットサービスプロバイダのアクセスポイント）に接続するユーザが、ＣＤ－ＲＯＭにアクセスしているのか、あるいは、実際にインターネットに接続され、課金されているのかを容易に知ることができる。この実施例では、ＣＤ－ＲＯＭによりナビゲーションを利用できるとともに、ＣＤ－ＲＯＭのＨＴＭＬファイルをアクセスしているだけのときに、不必要に通話を継続するの回避できる。

【００１５】図８は、この実施例の構成を示すものであり、図９および図１０は通話・非通話の表示状態を示すものである。図８において、通話・非通話を表示するブロックは、通話状態監視部３０、アイコン画像記憶部３１、ファイル名変更部３２、リロードコマンド生成部３３等を含んで構成されている。通話状態監視部３０は通話部（モデム）の制御信号を監視して通話開始、通話終了を検出するものである。アイコン画像記憶部３１は、図９に示す非通話用のアイコン３１ａの画像ファイルＯＦＦ．ＧＩＦと、図１０に示す通話用のアイコン３１ｂの画像ファイルＯＮ．ＧＩＦとを記憶している。そして、両画像ファイルの一方がＴＥＬ．ＧＩＦにファイル名を一時的に変更されている。図９（図１０）のアイコン３１ａ（３１ｂ）領域は、例えばフレームで定義され、このフレームのソース画像ファイルがＴＥＬ．ＧＩＦに指定されている。したがって、ＴＥＬ．ＧＩＦに暫定的にファイル名変更された画像ファイルがブラウザに表示されることになる。

【００１６】通話の非通話状態では、当初、ＯＦＦ．ＧＩＦのファイル名がＴＥＬ．ＧＩＦに変更されており、ＯＦＦ．ＧＩＦの画像ファイルがフレームに送られ、図９の電話の非通話状態がブラウザ４の表示領域に表示されている。このとき、通話の開始が通話状態監視部３０により検出されると、通話検出信号がファイル名変更部３２およびリロードコマンド生成部３３に送られる。ファイル名変更部３２はこれに応じて、ＯＦＦ．ＧＩＦのファイル名をＴＥＬ．ＧＩＦから元のＯＦＦ．ＧＩＦに戻し、ＯＮ．ＧＩＦの画像ファイルの名前をＴＥＬ．ＧＩＦに変更する。こののち、リロードコマンドがリロードコマンド生成部３３から出力され、フレームを含むブラウザ領域に再度ＨＴＭＬ文書及びソースファイルが送られる。このとき、ＴＥＬ．ＧＩＦのファイルは通話状態を示すＯＮ．ＧＩＦの画像ファイルであるので、ブラウザの表示は図１０に示すようになり、通話状態であることがユーザに表示される。この結果、ユーザは課金状態であることを知り、不注意により課金状態が続くことを回避できる。

【００１７】逆に、通話状態から、非通話状態に変わったときも同様な動作が行われ、図９に示す表示が行われる。なお、図８の破線に示すように通話制御部３４を設け通話を自動的に開始、終了するようにしてもよい。すなわち、ブラウザ（フレーム、図２の例ではフレーム１２ａ）に表示するＨＴＭＬ文書のＵＲＬがネットワーク上のものか、ローカルの記憶装置のもの（キャッシュを含んでもよい）かにより、通話の開始・終了（認証も自動化する）を制御するようにしてもよい。この場合、ローカルのＵＲＬに対してＨＴＴＰ（ハイパーテキストトランスファープロトコル）のデータ転送要求（ＧＥＴ、ＰＯＳＴ）を行った後、所定時間経過してもネットワーク上のＵＲＬに対してデータ転送要求が発行されないときに、通話の終了を行うようにし、時間のかかるダイヤルアップ手順を頻繁に行わないようにしてもよい。

【００１７】なお、ＣＤ－ＲＯＭ等の記録媒体に含まれるＨＴＭＬ文書に電話の通話・非通話を検出・表示するＪＡＶＡアプレットを含ませて、電話の通話・非通話をユーザに知らせるようにしてもよく、要するに、電話の通話・非通話を検出・表示する手段をＣＤ－ＲＯＭのＨＴＭＬ文書の表示に反映させることができればよい。

【００１８】

【発明の効果】以上説明したように、この発明によれば、ＨＴＭＬ文書のリンクを用いて階層的に情報を表示しているので所望の情報を容易に求めることができる。しかもブラウザの表示領域を複数のフレームとし補完的に情報を表示するので切り替えが容易になる。また求めた情報からインターネットへ直接アクセスするようにすればインターネットサーフィンのショートカットを提供することになり、コスト削減および使い勝手の向上をもたらす。

【図面の簡単な説明】

【図１】　この発明が適用されるシステム構成を示す図である。

【図２】　この発明の実施例を説明する図（モニター画面表示例）である。

【図３】　この発明の実施例を説明する図（モニター画面表示例）である。

【図４】　この発明の実施例を説明する図（モニター画面表示例）である。

【図５】　この発明の実施例を説明する図（モニター画面表示例）である。

【図６】　この発明の実施例を説明する図（モニター画面表示例）である。

【図７】　この発明の実施例を説明する図（モニター画面表示例）である。

【図８】　この発明の他の実施例の構成を説明する図である。

【図９】　図８の実施例を説明する図（モニター画面表示例）である。

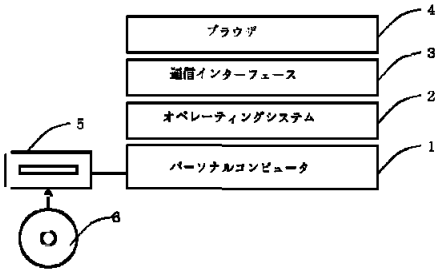
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【図10】　図8の実施例を説明する図（モニター画面表示例）である。

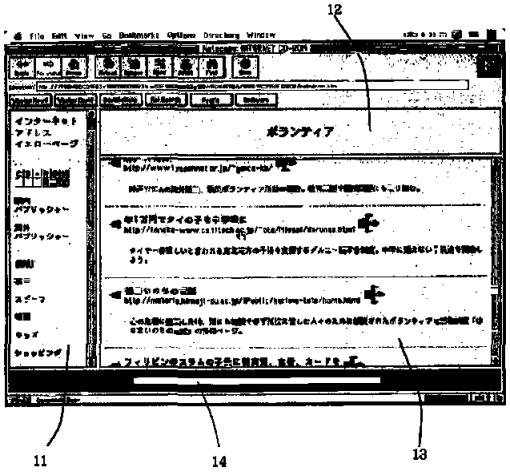
【符号の説明】

1　パーソナルコンピュータ
2　オペレーティング・システム
3　通信インターフェース
4　ブラウザ
5CD－ROM駆動装置
6CD－ROM媒体
11、12、12a、13、14、21、22、23、24　フレーム

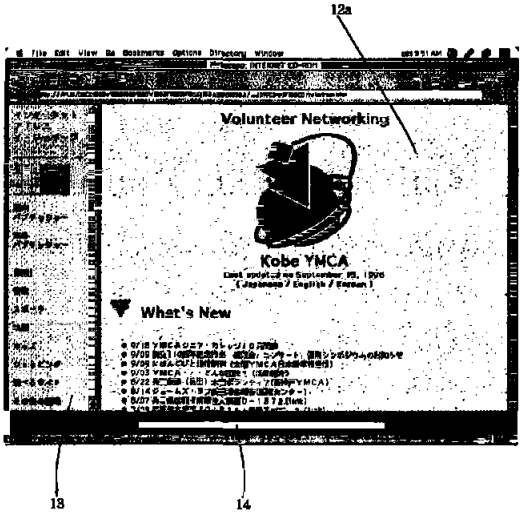
【図1】



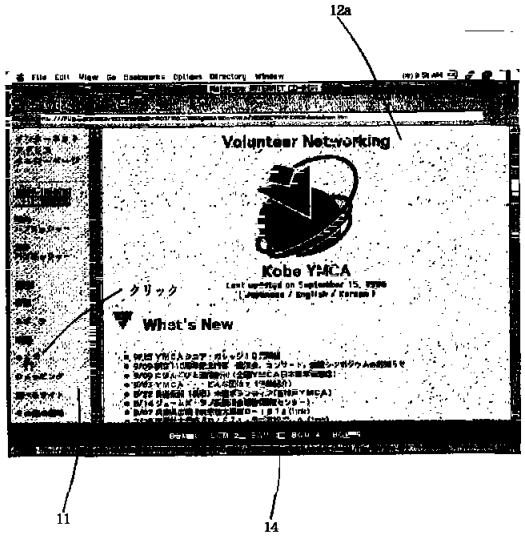
【図2】



【図3】

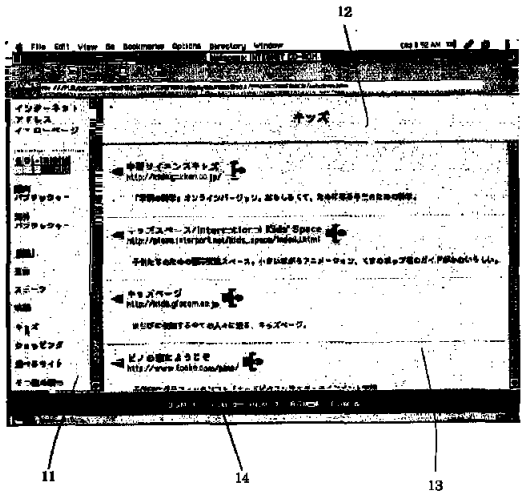


【図4】

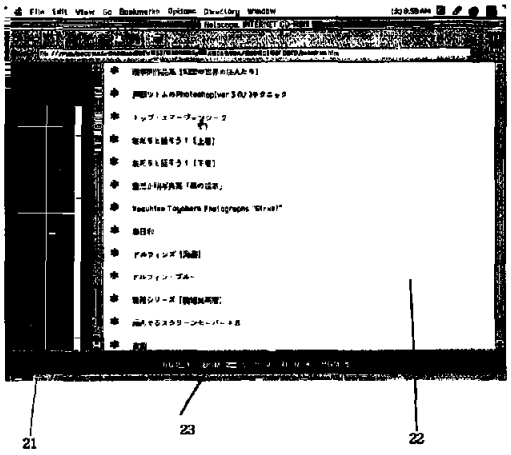


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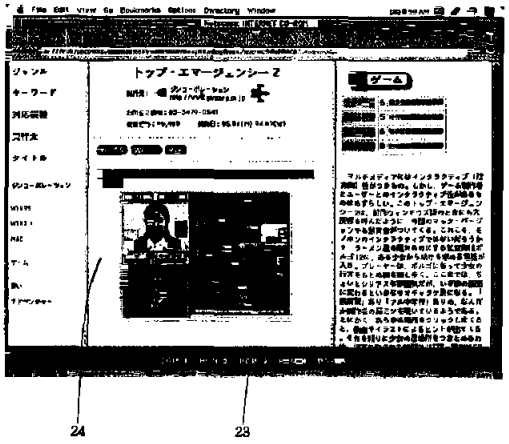
【図5】



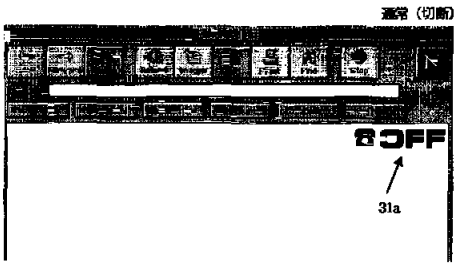
【図6】



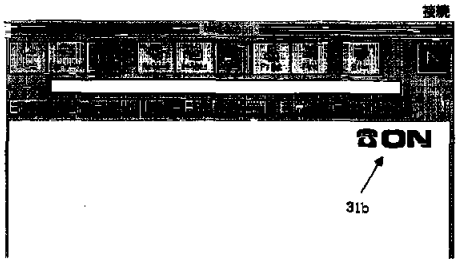
【図7】



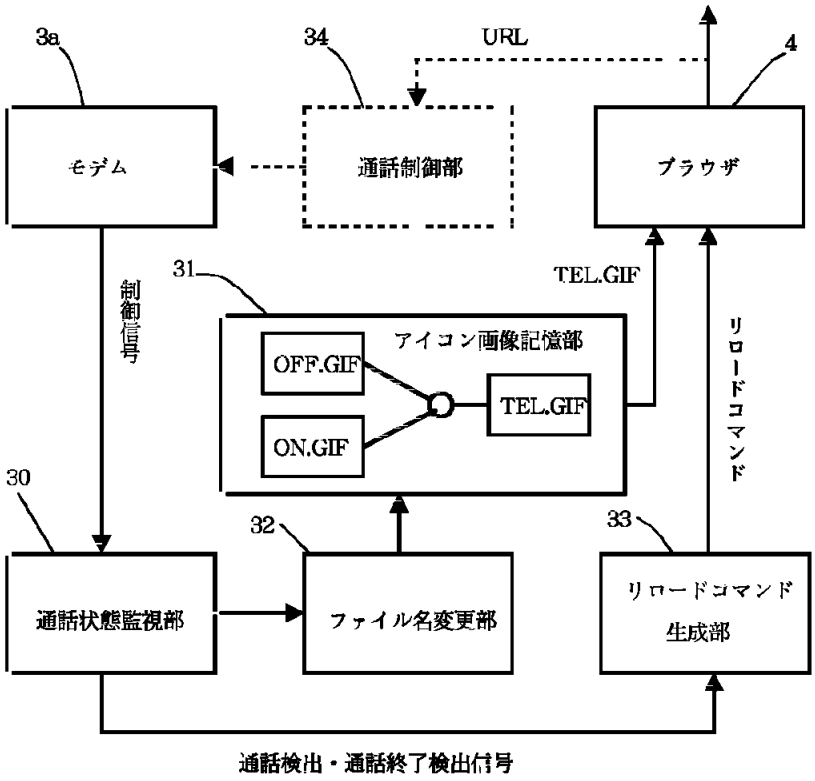
【図9】



【図10】



【図８】


3a
34
URL
4
モデム
通話制御部
ブラウザ
制御信号
31
TEL.GIF
アイコン画像記憶部
OFF.GIF
ON.GIF
TEL.GIF
リロードコマンド
30
32
33
通話状態監視部
ファイル名変更部
リロードコマンド
生成部
通話検出・通話終了検出信号

Espacenet

Bibliographic data: JPH10254889 (A) — 1998-09-25

INFORMATION RETRIEVAL DEVICE

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Applicant(s): MITSUBISHI ELECTRIC CORP ± (MITSUBISHI ELECTRIC CORP)

Classification: **- international:** ***G06F12/00; G06F17/30; G06F3/00; G06F3/048; G06F3/14;*** (IPC1-7): G06F12/00; G06F17/30; G06F3/14

- cooperative:

Application number: JP19970055270 19970310

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Abstract of JPH10254889 (A)

PROBLEM TO BE SOLVED: To speedily retrieve required information in accordance with the knowledge quantity and the target of a user by storing a menu having menu items which are made into hierarchies in a menu storage device as one file. SOLUTION: A retrieval execution part 2 stores all menu names in a retrieval intermediate file 3 by obtaining all the menu item names where a menu item ID is registered as '0' from a menu structure file 5. A menu ID, the menu item ID, the menu item name, a next menu item ID in the same hierarchy and the head menu item ID of a lower hierarchy are stored in the menu structure file 5 as one record. The menu items of the same name existing in the plural menus are managed by using the menu ID and the menu item ID. Information can independently be made to correspond. Even if the same menu item is selected, information conformed with the object of the user is retrieved by the used menu.

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3/14	３４０		3/14	３４０Ｂ
12/00	５４５		12/00	５４５Ｚ
			15/40	３１０Ｆ
			15/403	３４０Ａ

審査請求　未請求　請求項の数９　ＯＬ　（全 19 頁）

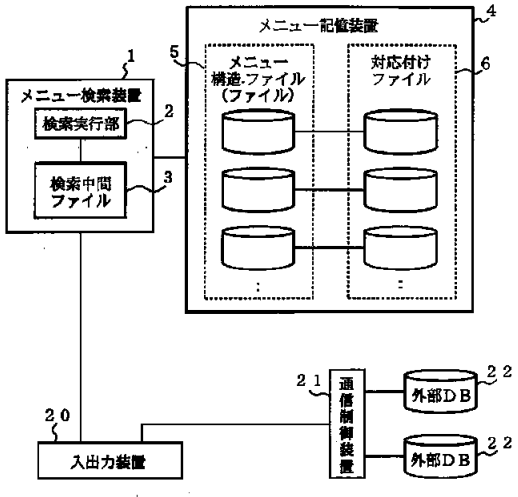
(21)出願番号　特願平9－55270

(22)出願日　平成９年(1997)３月10日

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(54)【発明の名称】　情報検索装置

(57)【要約】
【課題】　従来の情報検索装置はメニューがシステムに１つに固定されており、ユーザの目的や用途あるいはユーザの知識量によらず同じメニュー項目が表示され、ユーザによっては検索し難く、またユーザが本当に必要としている情報を検索するといった高度な検索ができないという課題があった。
【解決手段】　メニューの下位階層のメニュー項目を全て１個のファイル中に収納し、同一の下位階層のメニュー項目を含む複数のメニューを同時に表示して、選択の便を図っている。



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【特許請求の範囲】
【請求項１】　少なくともメニュー項目を収納するファイルを記憶したメニュー記憶装置と、該メニュー記憶装置に記憶された前記ファイル中のメニュー項目を呼び出して該メニュー項目に対応付けられた情報を検索するメニュー検索装置とを備えた情報検索装置において、
前記メニュー記憶装置が、階層化されたメニュー項目を有するメニュー毎に１ファイルとして記憶していることを特徴とする情報検索装置。
【請求項２】　メニュー検索装置が、少なくともメニュー記憶装置に記憶された各メニューのメニュー名を同一画面上に表示する表示手段を有することを特徴とするとする請求項１記載の情報検索装置。
【請求項３】　メニュー検索装置が、ユーザが選択したあるメニュー中のメニュー項目と同名のメニュー項目が他のメニュー中に存在する場合に、該同名のメニュー項目の属するメニュー名とそのメニュー内における該同名のメニュー項目の存在位置を表示する表示手段と、該同名のメニュー項目を接点として前記他のメニューに移動する移動手段とを更に備えたことを特徴とする請求項２記載の情報検索装置。
【請求項４】　メニュー記憶手段が各メニュー項目に対応付けする情報に関連する条件を前記各メニュー項目毎に保持すると共に、検索対象となる全情報を前記保持している条件をキーワードとしてフィルタリングするフィルタリング手段と、該フィルタリング手段の取得した情報を対応付けする対応付け手段とを更に設けたことを特徴とする請求項１または請求項２記載の情報検索装置。
【請求項５】　情報を対応付けするメニュー項目と最上位のメニュー項目との間に存在するメニュー項目名を取得することにより対応付けする情報をフィルタリングするための文字列集合を生成する文字列生成手段と、該文字列生成手段の生成した文字列集合の中で他の文字列に包含されている文字列を除いた文字列集合で検索対象となる全情報をフィルタリングするフィルタリング手段と、該フィルタリング手段によるフィルタリングの結果得られた情報をメニュー項目に対応付ける対応付け手段とを備えたことを特徴とする請求項１または請求項２記載の情報検索装置。
【請求項６】　対応付けする情報をフィルタリングするための文字列集合を生成する文字列生成手段と、該文字列生成手段で生成した前記文字列集合で検索対象の情報をフィルタリングするフィルタリング手段と、該フィルタリング手段のフィルタリングの結果が０件になる場合に、前記文字列集合の中で最も上位階層のメニュー項目名を除いた文字列集合を再生成し、フィルタリングした結果が０件でなくなるまで繰り返す再生成手段とを備えたことを特徴とする請求項１または請求項２記載の情報検索装置。
【請求項７】　情報が一度対応付けされたメニュー項目に対して、再び該メニュー項目の保持する文字列集合で検索対象となる全情報をフィルタリングするフィルタリング手段と、該フィルタリング手段によりフィルタリングした結果得られた情報で自動的に情報の対応付けを更新する更新手段とを備えたことを特徴とする請求項１または請求項２記載の情報検索装置。
【請求項８】　情報が一度対応付けされたメニュー項目に対して、インデクスの対応付けを更新する際に、前回対応付けを更新してから追加あるいは内容が更新された情報に対してのみ前記メニュー項目の保持している文字列集合でフィルタリングするフィルタリング手段と、該フィルタリング手段のフィルタリングの結果変化がある部分のみ前記情報の対応付けを更新する更新手段とを備えたことを特徴とする請求項１または請求項２記載の情報検索装置。
【請求項９】　メニュー検索で検索された情報に対して、さらにユーザが文字列を入力してフィルタリングするフィルタリング手段と、ユーザの入力回数が所定の頻度を超えた文字列を用いて新しいメニュー項目を作成するメニュー項目作成手段とを更に備えたことを特徴とする請求項１記載の情報検索装置。
【発明の詳細な説明】
【０００１】
【発明の属する技術分野】この発明は、情報検索装置に係り、特にシステムの提示するメニューを選択する事により対話的に情報を検索する情報検索装置に関するものである。
【０００２】
【従来の技術】従来の対話的情報検索装置について、コンピュータ・ネットワークの一つであるインターネット上の分散データベースシステムであるワールド・ワイド・ウエブ（Ｗｏｒｌｄ　Ｗｉｄｅ　Ｗｅｂ（以下、WWWと略記する））を例にとって説明する。WWWは、ハイパーテキストというソフトウエアを用いた全世界的なネットワーク空間を構成するデータベース（以下、ＤＢと略記する）システムであり、インターネット上でWWW中に公開されている情報は、ネットワークを構成しているコンピュータから見ると外部ＤＢ上の情報と考える事ができる。この外部ＤＢ上の情報は、例えば“ｈｔｔｐ：／／ｗｗｗ．ａａａ．ｃｏ．ｊｐ／ｉｎｄｅｘ．ｈｔｍｌ”のような形式をしたユニフォーム・リソース・ロケータ（Ｕｎｉｆｏｒｍ　Ｒｅｓｏｕｒｃｅ　Ｌｏｃａｔｏｒ（以下、URLと略記する））と呼ばれる固有のアドレスによって管理されており、このURLをインデクスとして使用することができる。
【０００３】図３３は、インターネットで用いられている従来の情報検索装置に用いられるデータ構成を概念的に示す図である。図において、３０はコンピュータの表示画面上に階層毎に同時に表示されるデータ選択項目の集合であり、個々の選択項目をメニュー項目と呼ぶ。図

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３３の従来例では、例えば「症状」や「手術」がメニュー項目である。この従来の情報検索装置においては、情報を検索する際には、情報検索装置が保持しているメニューの最上位の階層のメニュー項目から表示し、ユーザの選択したメニュー項目の下位階層のメニュー項目を表示することを順次対話的に繰り返すことにより、選択されたメニュー項目に分類されているインデクスを表示していた。

【０００４】また、検索対象となる情報をメニュー項目に分類するためには、情報の内容を確認して、予め作成してあるメニュー項目の中で最も関連が深いメニュー項目に情報のインデクスを分類していた。

【０００５】さらに、従来の情報検索装置によりWWW上で階層化されたメニューを構築するには、ハイパー・テキスト・マークアップ・ランゲッジ（Ｈｙｐｅｒ　Ｔｅｘｔ　Ｍａｒｋｕｐ　Ｌａｎｇｕａｇｅ（以下、ＨＴＭＬと略記する））と呼ばれる一種の記述言語を利用して、図３４に示すように、各メニュー項目毎にＨＴＭＬで記述したメニュー項目のデータを収納したＨＴＭＬファイルを作成し、図３５に示すように、このようなＨＴＭＬファイル中で下位階層のメニュー項目のＨＴＭＬファイル名あるいはその下位階層のＨＴＭＬファイルに分類されたホームページのＵＲＬにアクセスするリンクを設けて、図３６に示すように、各階層のメニュー項目を表示していた。

【０００６】

【発明が解決しようとする課題】従来の情報検索装置は以上のように構成されているので、メニューがシステムに１つに固定されており、ユーザの目的や用途あるいはユーザの知識量によらず同じメニュー項目が表示され、ユーザによっては検索し難く、またユーザが本当に必要としている情報を検索するといった高度な検索ができないという課題があった。

【０００７】また、検索を容易にするために、１個の情報を複数の選択経路で検索することができるようにした文書作成装置が特開平４－３２８６７２号公報に開示されているが、そのようにメニューを作成するためには、個々の情報の内容を確認し、分類するメニュー項目を複数選択する必要があり、対象となる情報及びメニューの項目が増加するにつれてその作業量が増大するという課題があった。

【０００８】さらに、上述した従来の情報検索装置では、メニューを作成するときに、ある情報の内容が更新されあるいは削除されているということが判明した場合に、再びその情報内容を確認して分類するメニュー項目を変更したり、あるいは分類したメニュー項目から削除しなければならず、情報が更新されたことをメニューに迅速に反映させることが困難であるという課題もあった。

【０００９】さらに、上記のように従来の情報検索装置をWWW上で実現するためには、全ての階層の全てのメニュー項目毎にＨＴＭＬで記述したＨＴＭＬファイルを作成する必要があり、メニューが大きくなるにつれてその作業量が増大するという課題もあった。

【００１０】さらに、メニューの構造を変更する場合には上位のメニュー項目に対応するＨＴＭＬファイルも変更する必要があり、メンテナンスが困難であるという課題もあった。

【００１１】この発明は上記のような課題を解決するためになされたもので、ユーザの知識量や目的に応じて必要とする情報をすばやく検索することができる情報検索装置を得ることを目的とする。

【００１２】また、この発明は、メニュー項目の更新を効率よく行うことができる情報検索装置を得ることを目的とする。

【００１３】さらに、この発明は、メニューを自動的に細分化できる情報検索装置を得ることを目的とする。

【００１４】

【課題を解決するための手段】請求項１記載の発明に係る情報検索装置は、メニュー記憶装置が、階層化されたメニュー項目を有するメニュー毎に１ファイルとして記憶しているものである。

【００１５】請求項２記載の発明に係る情報検索装置は、メニュー検索装置を少なくともメニュー記憶装置に記憶された各メニューのメニュー名を同一画面上に表示する表示手段を有するようにしたものである。

【００１６】請求項３記載の発明に係る情報検索装置は、メニュー検索装置が、ユーザが選択したあるメニュー中のメニュー項目と同名のメニュー項目が他のメニュー中に存在する場合に、同名のメニュー項目の属するメニュー名とそのメニュー内における同名のメニュー項目の存在位置を表示する表示手段と、同名のメニュー項目を接点として他のメニューに移動する移動手段とを更に備えたものである。

【００１７】請求項４記載の発明に係る情報検索装置は、メニュー記憶手段が各メニュー項目に対応付けする情報に関連する条件を各メニュー項目毎に保持すると共に、検索対象となる全情報を保持している条件をキーワードとしてフィルタリングするフィルタリング手段と、このフィルタリング手段の取得した情報を対応付けする対応付け手段とを更に設けたものである。

【００１８】請求項５記載の発明に係る情報検索装置は、情報を対応付けするメニュー項目と最上位のメニュー項目との間に存在するメニュー項目名を取得することにより対応付けする情報をフィルタリングするための文字列集合を生成する文字列生成手段と、この文字列生成手段で生成した文字列集合の中で他の文字列に包含されている文字列を除いた文字列集合で検索対象となる全情報をフィルタリングするフィルタリング手段と、このフィルタリング手段によるフィルタリングの結果得られた

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情報をメニュー項目に対応付ける対応付け手段とを備えたものである。

【００１９】請求項６記載の発明に係る情報検索装置は、対応付けする情報をフィルタリングするための文字列集合を生成する文字列生成手段と、この文字列生成手段で生成した文字列集合で検索対象の情報をフィルタリングするフィルタリング手段と、このフィルタリング手段のフィルタリングの結果が０件になる場合に、文字列集合の中で最も上位階層のメニュー項目名を除いた文字列集合を再生成し、フィルタリングした結果が０件でなくなるまで繰り返す再生成手段とを備えたものである。

【００２０】請求項７記載の発明に係る情報検索装置は、情報が一度対応付けされたメニュー項目に対して、再びメニュー項目の保持する文字列集合で検索対象となる全情報をフィルタリングするフィルタリング手段と、このフィルタリング手段によりフィルタリングした結果得られた情報で自動的に情報の対応付けを更新する更新手段とを備えたものである。

【００２１】請求項８記載の発明に係る情報検索装置は、情報が一度対応付けされたメニュー項目に対して、インデクスの対応付けを更新する際に、前回対応付けを更新してから追加あるいは内容が更新された情報に対してのみメニュー項目の保持している文字列集合でフィルタリングするフィルタリング手段と、このフィルタリング手段のフィルタリングの結果変化がある部分のみ前記情報の対応付けを更新する更新手段とを備えたものである。

【００２２】請求項９記載の発明に係る情報検索装置は、メニュー検索で検索された情報に対して、さらにユーザが文字列を入力してフィルタリングするフィルタリング手段と、ユーザの入力回数が所定の頻度を超えた文字列を用いて新しいメニュー項目を作成するメニュー項目作成手段とを更に備えたものである。

【００２３】

【発明の実施の形態】以下、この発明の実施の一形態を説明する。

実施の形態１．図１は本発明の実施の形態１の情報検索装置の構成を示すブロック図である。図において、１はメニュー項目を検索するメニュー検索装置でコンピュータが用いられている。２はメニュー検索装置１における検索実行部で、検索実行部２はＣＰＵ，ワーキングメモリとしてのＲＡＭ等を備え、ソフトウエアによる制御に従って検索動作を実行する。３はメニュー検索装置１においてメニューパス及びメニュー項目名を保持する検索中間ファイルで磁気ディスクによって実現される。ここで、メニューパスとは、上位の階層のメニュー項目から下位の階層のメニュー項目に移動するときに各階層において選択されたメニュー項目を示す選択経路のことである。４はメニューを記憶するメニュー記憶装置、５はメニュー記憶装置４においてメニューの構造を保持するメニュー構造ファイル（ファイル）、６はメニュー記憶装置４において各メニュー項目に対応付けられている情報のＵＲＬ（インデクス）を保持する対応付けファイルで、メニュー構造ファイル５及び対応付けファイル６は磁気ディスクによって実現される。２０はキーボード，マウス，ディスプレイ装置等から成る入出力装置、２１は外部ＤＢ２２と通信するためのモデム等の通信制御装置である。２２は情報を保管している外部ＤＢである。

【００２４】メニュー検索装置１とメニュー記憶装置４及び入出力装置２０とは相互にコードにより接続され、入出力装置２０及び通信制御装置２１間もコードにより相互に接続されている。通信制御装置２１と外部ＤＢ２２とは通信回線により接続されている。また、メニュー検索装置１の内部において、検索実行部２と検索中間ファイル３とはコードにより接続され、メニュー記憶装置４の内部において、メニュー構造ファイル５と対応付けファイル６とはコードにより接続されている。

【００２５】図２はメニュー構造ファイル５に格納されるデータの具体例を示す表図であり、図３は図２に示したメニュー構造ファイルの内容を階層的に表したメニューツリーを示す図である。

【００２６】図２の表において、「メニューＩＤ」とはメニュー毎に付けられたメニュー識別番号であり、「メニュー項目ＩＤ」とは各メニュー内のメニュー項目毎に付けられたメニュー項目の識別番号である。「メニュー項目名」は各メニュー項目ＩＤにより識別されるメニュー項目の名称であり、「次メニュー項目ＩＤ」は、メニュー項目ＩＤで表されるメニュー項目と同一の階層にあり、当該メニュー項目ＩＤで表されるメニュー項目の下に表示されるメニュー項目の識別番号である。「下位先頭メニュー項目ＩＤ」は当該メニュー項目ＩＤで表されるメニュー項目の１階層下の階層の先頭に表示されるメニュー項目を表すメニュー項目ＩＤである。

【００２７】メニュー構造ファイル５には、メニューＩＤ，メニュー項目ＩＤ，メニュー項目名，同一階層内の次メニュー項目ＩＤ，下位階層の先頭メニュー項目ＩＤが１レコードとして格納される。すなわち、同一メニュー中の全ての下位階層のメニュー項目は同一ファイル中に格納される。メニュー項目ＩＤが０のメニュー項目名にはメニュー名を当て、次メニュー項目ＩＤ，下位階層の先頭メニュー項目ＩＤが存在しない場合にはそれぞれのメニュー項目ＩＤ欄に０を格納する。

【００２８】図３のメニューツリーにおいて、３１はメニュー名、３０は入出力装置２０の表示画面上に階層毎に同時に表示されるメニュー項目の集合を示す。図２，図３の例では、医療メニューというメニュー名３１は、第１の下位階層のメニュー項目３０が「症状」と「手術」とからなり、第２の下位階層のメニュー項目３０は「心臓病」と「癌」とからなる。また、「癌」というメニュー項目の下位階層のメニュー項目３０は「胃癌」，

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「肺癌」，「肝臓癌」のメニュー項目から成る。

【００２９】図４は対応付けファイル６に格納されるデータ内容の具体例を示す表図である。対応付けファイル６には、メニューＩＤ，メニュー項目ＩＤ及びメニュー項目ＩＤに対応付けられているＵＲＬが格納される。

【００３０】メニュー記憶装置４ではメニュー構造ファイル５と対応付けファイル６をメニュー毎に別々に持つことによりメニュー項目をメニューＩＤとメニュー項目ＩＤとを用いて管理でき、図５のメニューツリーに示すように、同じメニュー項目名でもメニューに適した情報を対応付けすることができる。すなわち、図５に示すように、検索者が医療メニューというメニュー名３１を選択すると、そのメニューツリーでは、第１の下位階層のメニュー項目３０として「症状」と「手術」が表示され、検索者が「症状」のメニュー項目を選択すると、次の下位階層のメニュー項目３０として「心臓病」と「癌」が表示される。さらに、検索者が、「癌」のメニュー項目を選択すると、その下位階層のメニュー項目３０として「胃癌」と「肝臓癌」が表示される。そして、これらの「胃癌」及び「肝臓癌」のメニュー項目には、医療に関し特に症状を知りたい検索者のために有用な情報を含むＵＲＬが対応付けられている。一方「医薬品メニュー」のメニューツリー中の「肝臓癌」のメニュー項目には、「肝臓癌」に対する治療薬ないし予防薬を知りたい検索者にとって有用な情報を含むＵＲＬが対応付けられている。かくして、同じ「肝臓癌」というメニュー項目に対して、検索者の目的と知識に応じた情報を含むＵＲＬを迅速に検索することが可能となる。

【００３１】次に図６のフローチャートを用いて検索実行部２の動作を説明する。以下の各過程で取得されるメニューパス，メニュー項目名等のデータは検索中間ファイル３に格納され必要に応じて利用される。また、検索中間ファイル３から検索実行部２によって必要に応じて読み出され、検索実行部２のＲＡＭ中に保存され、更にそのＲＡＭ中から再度検索中間ファイル３に書き込まれて更新される。

【００３２】まず、ステップＳＴ１で、検索実行部２は、メニュー構造ファイル５からメニュー項目ＩＤが０として登録されている全てのメニュー項目名を取得する事により全てのメニュー名を検索中間ファイル３中に格納する。

【００３３】次に、検索実行部２は、ステップＳＴ１で取得したメニュー名を表示するためのＨＴＭＬを作成する（ステップＳＴ２）。なお、以下単にＨＴＭＬと表記したときには、ＨＴＭＬ言語を用いて作成されるデータの集合のことを意味するものとする。

【００３４】図７はステップＳＴ２で作成したＨＴＭＬの具体例を示す図である。図７中の「ｋｅｎｓａｋｕ」はメニュー検索処理を実行するプログラムであり、メニューＩＤを引数として、メニュー検索処理を実行するメニュー検索処理モジュールに渡している。図７のＨＴＭＬは入出力装置２０のディスプレイ装置上には図８のように表示される。

【００３５】ステップＳＴ３では、検索実行部２は、ユーザが入出力装置２０のキーボード，マウス等を用いて選択したメニューのメニューＩＤを取得し、そのメニューのメニュー項目ＩＤが０のメニュー項目が選択されたものとして次のステップＳＴ４を実行する。

【００３６】ステップＳＴ４では、検索実行部２のＣＰＵは、メニューＩＤとメニュー項目ＩＤとを受け取り、選択されたメニューのメニュー構造ファイル５の選択されたメニュー項目のレコードから下位階層の先頭メニュー項目ＩＤを取得する。

【００３７】次に、ステップＳＴ５では、ステップＳＴ４で取得した下位階層の先頭メニュー項目ＩＤが０であるか否か判断し、０であればステップＳＴ８に移行する。

【００３８】０でなければ、ステップＳＴ６で、下位階層の先頭メニュー項目ＩＤのレコードからメニュー項目名と次メニュー項目ＩＤを取得する。

【００３９】次に、ステップＳＴ７で、ステップＳＴ６で取得した次メニュー項目ＩＤが０であるか否か判断し、０でなければステップＳＴ６で取得した次メニュー項目ＩＤで再びステップＳＴ６の処理を行い、ステップＳＴ７で次メニューＩＤが０と判断されるまで繰り返す。すなわち、このステップＳＴ５ないしステップＳＴ７の工程で、ステップＳＴ４で取得したメニュー項目と同階層の全てのメニュー項目を取得する。

【００４０】ステップＳＴ８では、ステップＳＴ３又はステップＳＴ１０で選択されたメニュー項目に対応付けられているＵＲＬを対応付けファイル６から取得する。

【００４１】次に、ステップＳＴ９で、検索実行部２は、ステップＳＴ２と同様にして、選択されたメニュー項目のメニューパス，下位のメニュー項目名若しくはＵＲＬ，又は下位のメニュー項目名及びＵＲＬを検索中間ファイル３から取得し、その内容を表示するＨＴＭＬを作成する。

【００４２】図９は下位のメニュー項目名と対応付けられているＵＲＬを表示するＨＴＭＬの具体例を示す図であり、下位メニューの場合にはメニュー項目ＩＤを引数として渡している。図１０は図９の表示画面を示す図である。

【００４３】続いて、ステップＳＴ１０でユーザによりさらに下位のメニュー項目が選択されたならばステップＳＴ４から同じ処理を繰り返す。

【００４４】図６のフローチャートに示す処理を実行することにより、最初に全てのメニューを表示し（ステップＳＴ２）、選択されたメニュー（ステップＳＴ３）の最上位のメニュー項目から表示し、選択されたメニュー項目（ステップＳＴ１０）の下位に存在する全てのメニ

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ュー項目と対応付けられているＵＲＬとを表示する（ステップＳＴ９）ことを繰り返すことにより目的の情報のＵＲＬを検索できる。表示されたＵＲＬの中からＵＲＬを選択することにより、インターネットあるいはイントラネット等のネットワーク上に存在する外部ＤＢ２２上の実体の情報を表示させることができる。

【００４５】以上のように、この実施の形態１によれば、複数のメニューに存在する同名のメニュー項目をメニューＩＤとメニュー項目ＩＤとを使用して管理し、それぞれ独立して情報を対応付けすることができるため、同じメニュー項目を選択した場合でも使用したメニューにより、ユーザの目的に合った情報を検索することが可能となるという効果が得られる。

【００４６】実施の形態２．図１１はこの発明の実施の形態２の情報検索装置の構成を示すブロック図である。図において、図１に示した実施の形態１の構成要素と同一の構成要素には同一の番号を付し、その説明を省略する。

【００４７】図１１において、１ａはその検索実行部２ａが実施の形態１の検索実行部２と異なる動作を行うメニュー検索装置であり、４ａはそのメニュー構造ファイル（ファイル）５ａが実施の形態１のメニュー構造ファイル５と異なる内容のメニューデータを記憶するメニュー記憶装置である。

【００４８】図１２はメニュー構造ファイル５ａの内容の具体例を示す図であり、図３のメニューの構造を示している。これは実施の形態１のメニュー構造ファイル５に上位メニュー項目ＩＤと同名メニュー項目ＩＤを追加したものである。図１２において、上位メニュー項目ＩＤとは、その行のメニュー項目の１階層上位の階層のメニュー項目のメニュー項目ＩＤである。同名メニュー項目とは、同一メニューあるいは他のメニュー内に存在する同名のメニュー項目を示しており、同名のメニュー項目が属しているメニューＩＤとそのメニュー項目ＩＤを用いて「メニューＩＤ」－「メニュー項目ＩＤ」という形式で格納されている。同名メニュー項目ＩＤは複数格納することができる。

【００４９】次に図１３及び図１４に示すのフローチャートを用いて検索実行部２ａの動作を説明する。図１４のフローチャートは図１３のステップＳＴ１１の動作を詳細に示したものである。なお、図１３において、図６の実施の形態１の検索実行部２の動作と同一のステップには同一の番号を付し、その説明を省略する。図１３のフローチャートが図６のフローチャートと異なる点は、ステップＳＴ１１，ステップＳＴ９ａのみである。

【００５０】ステップＳＴ１１では、検索実行部２ａは、ステップＳＴ３で選択したメニュー項目の同名メニュー項目を取得するが、その動作は図１４を用いて説明する。

【００５１】図１４において、検索実行部２ａは、ステップＳＴ１２でメニュー構造ファイル５ａから同名メニュー項目ＩＤの取得動作を行う。

【００５２】次に、ステップＳＴ１３で、ステップＳＴ１２で取得した同名メニュー項目ＩＤに対応する同名メニュー項目がメニュー構造ファイル５ａ中に存在するか否か判断し、存在すればステップＳＴ１４でステップＳＴ１２で取得した同名メニュー項目ＩＤの属するメニューのメニュー構造ファイル５ａのメニュー項目ＩＤのレコードからメニュー項目名と上位メニュー項目ＩＤを取得する。

【００５３】次にステップＳＴ１５で、ステップＳＴ１４で取得した上位メニュー項目ＩＤが０かどうか判断し、０でなければ再びステップＳＴ１４を実行して上位メニュー項目ＩＤが０になるまで繰り返す。ステップＳＴ１４の実行を繰り返して上位メニュー項目ＩＤが０になったならばステップＳＴ１６でそれまで獲得したメニュー項目名を検索中間ファイル３から取得し、逆順に連結してステップＳＴ１２で取得した同名メニュー項目のメニューパスを作成する。

【００５４】以上のステップＳＴ１４からステップＳＴ１６の処理をステップＳＴ１３で同名メニュー項目がなくなったと判断するまで繰り返す。

【００５５】このようにしてステップＳＴ１１で同名メニュー項目ＩＤ及び上位メニュー項目ＩＤ，選択されたメニュー項目のＵＲＬを取得した後、ステップＳＴ４ないしステップＳＴ８でメニュー項目名，次メニュー項目ＩＤ，下位先頭メニュー項目ＩＤを取得する。

【００５６】続いて、ステップＳＴ９ａでは下位メニュー項目及び対応付けられているＵＲＬに加えて、存在する場合には同名メニュー項目のメニューパス及びメニュー項目名を検索中間ファイル３から取得し、これらを表示するＨＴＭＬを作成する。

【００５７】図１５は同名メニュー項目が１つ存在する場合における、入出力装置２０のディスプレイの表示画面の具体例を示す図である。図１５は医療メニュー内のメニューパスが「症状＞癌」である「癌」の下位メニュー項目及び薬品メニュー内のメニューパスが「医薬品＞癌」である「癌」を表示している。図１５において「薬品メニュー」の欄の「医薬品＞癌」を選択すると、図１６に示すように、薬品メニューの「癌」の下位メニュー項目及び医療メニューの「癌」を表示することができる。

【００５８】以上のように、この実施の形態２によれば、メニュー検索の過程で選択したメニュー項目と同名のメニュー項目が他に存在する場合にはそのメニューパスも表示し、そのメニュー項目を選択して複数のメニュー間を移動しながら検索できるので、検索者の目的とする情報を検索するのに最も適したメニューを選択して検索することが容易にできるという効果が得られる。

【００５９】実施の形態３．図１７は本発明の実施の形

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態３の情報検索装置の構成を示すブロック図である。図１７において、図１に示した実施の形態１と同一の構成要素には同一の番号を付し、その説明を省略する。図１７の実施の形態３が図１の実施の形態１と異なる点は、メニュー構造ファイル（ファイル）５ｂがメニュー構造ファイル５と異なる形式のデータを収納し、図１の実施の形態１の構成要素の他に、ＤＢ情報収集装置２３，フィルタリング装置（フィルタリング手段）２４，ＤＢ情報記憶装置７，対応付け装置（対応付け手段）８を新たな構成要素として付け加えたものである。ＤＢ情報収集装置２３，フィルタリング装置２４，対応付け装置８はコンピュータ上で動作するソフトウェア、ＤＢ情報記憶装置７は磁気ディスク等の記憶媒体によって実現される。

【００６０】ＤＢ情報収集装置２３は周知のものであり、予め指定されたＵＲＬからそのＵＲＬのホームページに結合されたリンクをたどること等によって指定された外部ＤＢの情報を収集するものである。フィルタリング装置２４は同じく周知のものであり、全文検索エンジン等を使用して、ＤＢ情報記憶装置７に格納されている情報の中から与えられた文字列（情報に関連する条件）を含む情報を取り出す。

【００６１】図１８はＤＢ情報記憶装置７の保持するデータ内容の具体例を示す図である。ＤＢ情報記憶装置７にはＤＢ情報収集装置２３の収集した情報のＵＲＬとそのテキストを格納する。

【００６２】メニュー構造ファイル５ｂに格納されるデータファイルは、メニュー構造ファイル５ａに格納されるデータファイルに情報をフィルタリングするための文字列を加えたものである。図１９はメニュー構造ファイル５ｂに格納されるデータファイルの内容の具体例を示す図であり、図３に示した医療メニューの構造を示している。フィルタリング文字列は複数格納することができる。

【００６３】次に、フィルタリング装置２４の動作について説明する。フィルタリング装置２４は周知のものであり、１個あるいは複数の文字列を受け取り、ＤＢ情報記憶装置７に格納されている情報の中で、受け取った文字列を全て含むテキストを選び出し、そのＵＲＬをＤＢ情報記憶装置７に戻す。

【００６４】次に、対応付け装置８の動作について説明する。対応付け装置８はメニュー構造ファイル５ｂからフィルタリング文字列を取得し、そのフィルタリング文字列をフィルタリング装置２４に与え、その結果フィルタリング装置２４によりフィルタリングされた情報のＵＲＬを取得する。次に、フィルタリング文字列を取得したメニュー項目の属するメニューの対応付けファイル６にメニュー項目ＩＤとフィルタリングされた情報のＵＲＬを格納する。全てのメニューのメニュー構造ファイル５ｂの保持しているメニュー項目に対して順に上記の処理を実行することにより、全てのメニュー項目に対して情報のインデクスの対応付けを行う。

【００６５】以上のように、この実施の形態３によれば、予めメニュー項目にフィルタリング文字列を指定しておくことにより、外部ＤＢ２２上に存在する情報を関連するメニュー項目に自動的に対応付けすることが可能であり、また、メニュー項目に適した情報を対応付けすることが可能となる。

【００６６】実施の形態４．図２０は本発明の実施の形態４の情報検索装置の構成を示すブロック図である。図２０において、図１７の実施の形態３の構成要素と同一の構成要素には同一の番号を付し、その説明を省略する。図２０の実施の形態４が実施の形態３と異なる点は、メニューツリーを表示するためのメニューツリー表示装置９，メニュー項目を作成するためのメニュー項目作成装置（メニュー項目作成手段）１０，フィルタリング文字列を生成するためのフィルタリング文字列生成装置（文字列生成手段）１１を新たに付け加えた点である。

【００６７】次に動作について説明する。始めに、メニューツリー表示装置９は図６のフローチャートのステップＳＴ１，ステップＳＴ２に示した動作と同様に動作して全てのメニュー名を表示するＨＴＭＬを作成する。図６のステップＳＴ３と同様の動作によりメニューが選択されると、選択されたメニューのメニュー構造ファイル５ｂの最上位のメニュー項目から始めて全てのメニュー項目に対してメニュー項目名，次メニュー項目ＩＤ，下位の先頭メニュー項目ＩＤの取得を繰り返して、メニューツリー全体を表示するＨＴＭＬを作成する。

【００６８】図２１はこのようにして作成されたメニューツリー全体を表示するＨＴＭＬの具体例を示す図である。図２１中の「ｓａｋｕｓｅｉ」はメニュー項目作成装置１０においてメニュー項目を作成するプログラムであり、新しく下位にメニュー項目を作成するメニュー項目のメニュー項目ＩＤを引数として渡している。

【００６９】図２２は図２１のＨＴＭＬによって表示される表示画面を示す図である。メニュー項目作成装置１０はメニューツリーの全体表示画面で下位にメニュー項目を作成するメニュー項目が選択されると、メニュー項目名の入力を要求し、メニュー項目名が入力されるとメニュー構造ファイル５ｂに新しいレコードを追加し、メニュー項目ＩＤを割り当てる。それに伴って、作成したメニュー項目の上位メニュー項目のレコードの下位先頭メニュー項目ＩＤあるいは同階層のメニュー項目の次メニュー項目ＩＤを変更する。初めて下位のメニュー項目を作成した場合には上位メニュー項目の下位メニュー項目ＩＤを作成したメニュー項目ＩＤに変更し、２番め以降は下位階層の一番最後のメニュー項目の次メニュー項目ＩＤを作成したメニュー項目ＩＤに変更する。例えば、図３の「癌」の下位に「食道癌」という新しいメニ

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ュー項目を作成した場合には図２３のメニュー項目ＩＤ８の欄のように、「食道癌」についてメニュー構造ファイル５ｂに新しいレコードを追加して、同時に、メニュー項目ＩＤ６の欄のように、「肝臓癌」のレコードの次メニュー項目ＩＤを食道癌のメニュー項目ＩＤ８に変更する。

【００７０】次に、フィルタリング文字列生成装置１１が、フィルタリング文字列を生成するメニュー項目に対して、図１４のフローチャートのステップＳＴ１４，ステップＳＴ１５の処理を行うことにより、上位メニュー項目ＩＤをたどって最上位のメニュー項目までのメニュー項目名を取得する。すなわち、メニューパスに現れる全てのメニュー項目名の集合を生成する。

【００７１】次に、生成されたメニュー項目名の文字列を比較することにより、一方の文字列が他の文字列を包含している場合には包含される文字列を文字列の集合から削除する。このことを図２４を用いて説明する。メニュー項目名の集合が｛症状，癌，食道癌｝であるとき、「癌」という文字列は「食道癌」という文字列に包含されている。逆に、図２４に示すように「食道癌」でフィルタリングされる情報は「癌」でフィルタリングされる情報に包含されている。したがって｛症状，癌，食道癌｝でフィルタリングされる情報は｛症状，食道癌｝でフィルタリングされる情報と同一であるため、「癌」という文字列を文字列の集合から削除する。このようにして生成された文字列の集合をフィルタリング文字列集合としてメニュー構造ファイル５ｂに格納する。

【００７２】次に、対応付け装置８がメニュー構造ファイル５ｂからフィルタリング文字列を取得し、フィルタリング装置２４を使用して「症状」と「食道癌」を含む情報をフィルタリングし、フィルタリングされた情報のＵＲＬとメニュー項目ＩＤを対応付けファイル６に格納する。

【００７３】以上のように、この実施の形態４によれば、作成するメニュー項目の位置を指定してメニュー項目名を入力することにより、情報をフィルタリングする文字列集合をメニューパスから自動的に生成して情報の対応付けを自動的に行うことにより、メニューの作成が容易にでき、メニュー項目の属するメニューの特徴を反映させた情報を対応付けすることが可能になるという効果が得られる。また、フィルタリング文字列の中で他の文字列に包含されている文字列を除くことにより、効率良くフィルタリングすることが可能になるという効果が得られる。

【００７４】実施の形態５．図２５は本発明の実施の形態５の情報検索装置の構成を示すブロック図である。図２５において、図２０の実施の形態４の構成要素と同一の構成要素には同一の番号を付し、その説明を省略する。図２５の実施の形態５が実施の形態４と異なる点は、対応付け装置（再生成手段）８ａが実施の形態４の対応付け装置８と異なる動作をする点のみである。

【００７５】以下、対応付け装置８ａの動作について図２６に示すフローチャートを用いて説明する。対応付け装置８ａは、始めにステップＳＴ１７でメニュー構造ファイル５ｂからフィルタリング文字列集合を取得し、ステップＳＴ１８でフィルタリング装置２４を使用してフィルタリングを行う。

【００７６】次にステップＳＴ１９でフィルタリングされた情報のＵＲＬが存在しないか（０件であるか）どうか判断し、０件でない（存在する）場合にはステップＳＴ２２を実行する。ステップＳＴ１９で０件の場合（存在しない場合）にはステップＳＴ２０でフィルタリングした文字列がそのメニュー項目名１つであるか判断し、１つの文字列でフィルタリングした場合にはステップＳＴ２２を実行し、複数の文字列でフィルタリングした場合にはステップＳＴ２１でその中で最上位のメニュー項目名を削除した文字列集合を生成してステップＳＴ１８で再びフィルタリングを行い、ステップＳＴ１９でフィルタリングされたＵＲＬが０件でなくなるか、あるいはステップＳＴ２０でフィルタリング文字列が１つになるまで繰り返す。

【００７７】ステップＳＴ２２ではフィルタリングされた情報のＵＲＬとメニュー項目ＩＤを対応付けファイル６に格納する。

【００７８】以上のように、この実施の形態５によれば、対応付けられる情報が０件の場合にはフィルタリング文字列集合の中で最上位のメニュー項目名から削除していくことにより、メニュー上位に存在するメニュー項目名のような検索する情報に含まれなくてもよいような抽象的な文字列を削除することができ、不要な文字列により対応付けが０件になることを防ぐことができるという効果が得られる。

【００７９】実施の形態６．図２７は本発明の実施の形態６の情報検索装置の構成を示すブロック図である。図２７は図２５の実施の形態５の対応付け装置８ａを対応付け装置（更新手段）８ｂに、ＤＢ情報収集装置２３をＤＢ情報収集装置（更新手段）２３ａに置き換え、必要な部分のみ示したものである。

【００８０】ＤＢ情報収集装置２３ａは、実施の形態３～５のＤＢ情報収集装置２３の収集するデータに加えて、予め指定された間隔で再び同じＵＲＬからリングをたどることにより、外部ＤＢ２２上に新たに作成された情報を収集してＤＢ情報記憶装置７に格納し、前回収集したときから内容が更新された情報を収集してＤＢ情報記憶装置７の内容を更新し、外部ＤＢ２２上から削除された情報をＤＢ情報記憶装置７から削除する。

【００８１】対応付け装置８ｂは、実施の形態３～５の対応付け装置８ａの動作に加えて予め指定された間隔で図２６のフローチャートに示す処理を全てのメニューの全てのメニュー項目に対して実行して対応付けファイル

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６を更新するようにしたものである。

【００８２】以上のように、この実施の形態６によれば、一度対応付けしたメニュー項目に対して自動的に対応付けを更新することにより、外部ＤＢ２２上の情報の更新に対応してメニュー項目への情報の対応付けを更新することが可能となるという効果が得られる。また、より多くのメニュー項目名を含む情報で対応付けを更新することにより、よりメニューの特徴を反映した情報を対応付けることが可能となるという効果も得られる。

【００８３】実施の形態７．図２８は本発明の実施の形態７の情報検索装置の構成を示すブロック図である。図２８は図２７に示した実施の形態６のＤＢ情報記憶装置７をＤＢ情報記憶装置７ａに、対応付け装置８ｂを対応付け装置８ｃに、ＤＢ情報収集装置２３ａをＤＢ情報収集装置２３ｂに、フィルタリング装置２４をフィルタリング装置（フィルタリング手段）２４ａに置き換えたものであり、他の構成要素は実施の形態６の構成要素と同じである。したがって、以下、ＤＢ情報記憶装置７ａ及び対応付け装置８ｃ，ＤＢ情報収集装置２３ｂ，フィルタリング装置２４ａについて説明を加える。

【００８４】ＤＢ情報記憶装置７ａの記憶内容は、ＤＢ情報記憶装置７の記憶内容に更新フラグを追加したものである。図２９はＤＢ情報記憶装置７ａの保持する内容の具体例を示す図である。更新フラグとしては、前回情報の対応付けを更新してから新たに追加された情報は１、内容が更新された情報は２、削除された情報は３、更新されていない情報は０を用いる。

【００８５】ＤＢ情報収集装置２３ｂは一定間隔で情報を再収集し、追加・更新された情報をＤＢ情報記憶装置７ａに格納するとともに更新フラグをセットする。削除された情報については更新フラグを３に設定する。

【００８６】フィルタリング装置２４ａはＤＢ情報記憶装置７ａの保持する情報のうち、更新フラグが１あるいは２である情報をフィルタリングの対象とする。

【００８７】次に、対応付け装置８ｃの動作を図３０に示すフローチャートを用いて説明する。始めにステップＳＴ２３でＤＢ情報記憶装置７ａから更新フラグが３のＵＲＬを取り出し、全てのメニューの対応付けファイル６中に格納されている中からそのＵＲＬを削除する。

【００８８】次にステップＳＴ２４でＤＢ情報記憶装置７ａ中の更新フラグが３のＵＲＬ及びテキストを削除する。

【００８９】次にステップＳＴ２５でメニュー構造ファイル５ｂから情報の対応付けを更新するメニュー項目のメニュー項目ＩＤとフィルタリング文字列を取得し、ステップＳＴ２６でフィルタリングする。

【００９０】ステップＳＴ２７ではステップＳＴ２６でフィルタリングされた情報の中でＤＢ情報記憶装置７ａの更新フラグが１のＵＲＬとメニュー項目ＩＤを対応付けファイル６に格納する。

【００９１】次にステップＳＴ２８で、ＤＢ情報記憶装置７ａの更新フラグが２でステップＳＴ２６でフィルタリングされなかったＵＲＬが対応付けファイル６の該当するメニュー項目ＩＤに対応付けされている場合にはそのＵＲＬを削除する。

【００９２】ステップＳＴ２９では全てのメニュー項目に対して対応付けが更新されたかどうか判断し、未更新のメニュー項目がある場合にはステップＳＴ２５から再び処理を繰り返す。全てのメニュー項目の対応付けが更新されたならばステップＳＴ３０でＤＢ情報記憶装置７ａの更新フラグを全て０に設定する。

【００９３】以上のように、この実施の形態７によれば、フィルタリングの対象となる情報は新しく追加あるいは内容が更新された情報のみであり、対応付けファイル６へのＵＲＬの追加及び削除も変化のあったＵＲＬのみであることから、対応付け更新処理を効率よく行うことができるという効果が得られる。

【００９４】実施の形態８．図３１は本発明の実施の形態８の情報検索装置の構成を示すブロック図である。図３１において、図２５に示した実施の形態５の構成要素と同一の構成要素には同一の番号を付し、その説明を省略する。実施の形態８は、実施の形態５におけるメニュー検索装置１内部の検索実行部２を検索実行部２ｂにし、さらに、メニュー検索装置１ｂにユーザ使用文字列ファイル１２を加えたものである。

【００９５】図３２はユーザ使用文字列ファイル１２の内容の具体例を示している。ユーザ使用文字列ファイル１２はメニュー毎に別々に管理し、メニュー項目ＩＤとそのメニュー項目に対してユーザが使用した文字列とその使用回数が格納される。

【００９６】次にメニュー検索装置１ｂの動作について説明する。メニュー検索装置１ｂはメニュー検索装置１ａに加えて、メニュー検索により検索された情報をさらにユーザが指定した文字列でフィルタリングする手段を設けたものである。メニュー検索の結果、あるメニュー項目に対応付けられているＵＲＬを表示し、そこでユーザが文字列を入力すると、対応付けられている情報のＵＲＬとユーザが入力した文字列をフィルタリング装置２４に渡してフィルタリングした結果得られた情報のＵＲＬを再び表示する。その際に使用した文字列をユーザ使用文字列ファイル１２に格納する。すでに格納されている文字列の場合はユーザ使用文字列ファイル１２に格納されている使用回数を１増加させる。ユーザ使用文字列ファイル１２に格納されている使用回数が予め指定された回数を超えたならば、メニュー項目作成装置１０を起動し、そのメニュー項目の下にユーザが使用した文字列で新しいメニュー項目を作成し、実施の形態５と同様にしてフィルタリング文字列を生成し、インデクスの対応付けを行う。メニュー項目が作成された文字列はユーザ使用文字列ファイル１２から削除する。

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【００９７】以上のように、この実施の形態８によれば、ユーザがよく使用する文字列で新たに下位のメニュー項目が作成されることにより、対応付けられているＵＲＬが多すぎる場合に自動的にメニュー項目を作成することが可能であり、ユーザが使用した文字列を使用することにより、検索に適したメニュー項目が作成されるという効果が得られる。

【００９８】

【発明の効果】以上のように、請求項１記載の発明によれば、メニュー記憶装置を階層化されたメニュー項目を有するメニュー毎に１ファイルとして記憶するように構成したので、目的とするメニュー項目毎に最適なメニューを選択することができる効果がある。

【００９９】請求項２記載の発明によれば、メニュー検索装置を少なくともメニュー記憶装置に記憶された各メニューのメニュー名を同一画面上に表示する表示手段を有するように構成したので、ユーザが必要とするメニューを迅速に選択することができる効果がある。

【０１００】請求項３記載の発明によれば、メニュー検索装置をユーザが選択したあるメニュー中のメニュー項目と同名のメニュー項目が他のメニュー中に存在する場合に、同名のメニュー項目の属するメニュー名とそのメニュー内における同名のメニュー項目の存在位置を表示する表示手段と、同名のメニュー項目を接点として他のメニューに移動する移動手段とを備えるように構成したので、ユーザが必要としている情報を検索するのに最も適したメニューを選択して検索できる効果がある。

【０１０１】請求項４記載の発明によれば、メニュー記憶手段が各メニュー項目に対応付けられた情報に関連する条件を各メニュー項目毎に保持すると共に、検索対象となる全情報を保持している条件をキーワードとしてフィルタリングするフィルタリング手段と、このフィルタリング手段の取得した情報を対応付けする対応付け手段とを更に設けるように構成したので、メニュー項目に対する情報の対応付けを自動化することができる効果がある。

【０１０２】請求項５記載の発明によれば、情報を対応付けするメニュー項目と最上位のメニュー項目との間に存在するメニュー項目名を取得することにより対応付けする情報をフィルタリングするための文字列集合を生成し、生成した文字列集合の中で他の文字列に包含されている文字列を除いた文字列集合で検索対象となる全情報をフィルタリングし、その結果得られた情報をメニュー項目に対応付けるように構成したので、メニューの特徴を反映した情報を効率的に対応付けることができる効果がある。

【０１０３】請求項６記載の発明によれば、対応付けする情報をフィルタリングするための文字列集合を生成し、生成した文字列集合で検索対象の情報をフィルタリングして、その結果が０件になる場合に、文字列集合の中で最も上位階層のメニュー項目名を除いた文字列集合を再生成し、フィルタリングした結果が０件でなくなるまで繰り返すように構成したので、検索する情報に含まれる必要の無いようなメニューの上位階層に存在する抽象的な文字列のために対応付けられる情報が０件になることを防ぐことができる効果がある。

【０１０４】請求項７記載の発明によれば、情報が一度対応付けされたメニュー項目に対して、再びメニュー項目の保持する文字列集合で検索対象となる全情報をフィルタリングし、より多くの文字列を含む情報で自動的に情報の対応付けを更新するように構成したので、情報の更新をメニューに反映させると共に、よりメニューの特徴を反映した情報で対応付けを更新することができる効果がある。

【０１０５】請求項８記載の発明によれば、情報が一度対応付けされたメニュー項目に対して、インデクスの対応付けを更新する際に、前回対応付けを更新してから追加あるいは内容が更新された情報に対してのみメニュー項目の保持している文字列集合でフィルタリングし、このフィルタリングの結果変化がある部分のみ情報の対応付けを更新するように構成したので、効率よく対応付けの更新をすることができる効果がある。

【０１０６】請求項９記載の発明によれば、メニュー検索で検索された情報に対して、さらにユーザが文字列を入力してフィルタリングするフィルタリング手段と、ユーザの入力回数が所定の頻度を超えた文字列を用いて新しいメニュー項目を作成するメニュー項目作成手段とを更に備えるように構成したので、メニューを自動的に細分化することができる効果がある。

【図面の簡単な説明】

【図１】　この発明の実施の形態１の情報検索装置の構成を示すブロック図である。

【図２】　実施の形態１におけるメニュー構造ファイルに格納されるデータの具体例を示す図である。

【図３】　実施の形態１におけるメニューの概念を示す図である。

【図４】　実施の形態１における対応付けファイルに格納されるデータの具体例を示す図である。

【図５】　実施の形態１における複数のメニューの概念を示す図である。

【図６】　実施の形態１における検索実行部の動作を示すフローチャートである。

【図７】　実施の形態１における検索実行部が生成するＨＴＭＬの具体例を示す図である。

【図８】　実施の形態１におけるメニュー選択画面の具体例を示す図である。

【図９】　実施の形態１における検索実行部が生成する他のＨＴＭＬの具体例を示す図である。

【図１０】　実施の形態１におけるメニュー検索画面の具体例を示す図である。

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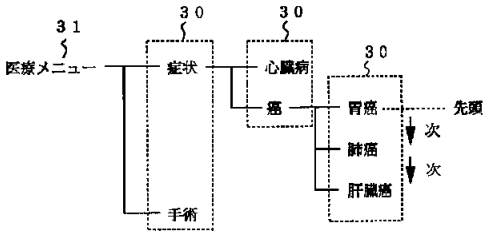
【図11】　この発明の実施の形態2の情報検索装置の構成を示すブロック図である。
【図12】　実施の形態2におけるメニュー構造ファイルに格納されるデータの具体例の内容を示す図である。
【図13】　実施の形態2における検索実行部の動作を示すフローチャートである。
【図14】　実施の形態2における検索実行部の動作の一部を示すフローチャートである。
【図15】　実施の形態2におけるメニュー検索画面の具体例を示す図である。
【図16】　実施の形態2におけるメニュー検索画面の他の具体例を示す図である。
【図17】　この発明の実施の形態3の情報検索装置の構成を示すブロック図である。
【図18】　実施の形態3におけるＤＢ情報記憶装置に格納されるデータの具体例を示す図である。
【図19】　実施の形態3におけるメニュー構造ファイルに格納されるデータの具体例を示す図である。
【図20】　この発明の実施の形態4の情報検索装置の構成を示すブロック図である。
【図21】　実施の形態4におけるメニューツリー表示装置が作成するＨＴＭＬの具体例を示す図である。
【図22】　実施の形態4におけるメニューツリー表示画面の具体例を示す図である。
【図23】　実施の形態4におけるメニュー構造ファイルに格納されるデータの具体例を示す図である。
【図24】　実施の形態4におけるフィルタリング文字列生成装置の動作の具体例を模式的に示す図である。
【図25】　この発明の実施の形態5の情報検索装置の構成を示すブロック図である。
【図26】　実施の形態5における対応付け装置の動作を示すフローチャートである。
【図27】　この発明の実施の形態6の情報検索装置の構成を示すブロック図である。
【図28】　この発明の実施の形態7の情報検索装置の構成を示すブロック図である。
【図29】　実施の形態7におけるＤＢ情報記憶装置に格納されるデータの具体例を示す図である。
【図30】　実施の形態7における対応付け装置の動作を示すフローチャートである。
【図31】　この発明の実施の形態8の情報検索装置の構成を示すブロック図である。
【図32】　実施の形態8におけるユーザ使用文字列ファイルに格納されるデータの具体例を示す図である。
【図33】　従来技術におけるメニューの概念を示す図である。
【図34】　従来技術におけるメニューを記述するＨＴＭＬの具体例を示す図である。
【図35】　従来技術におけるＨＴＭＬファイルのリンク状態を示す図である。
【図36】　従来技術におけるメニュー検索画面の具体例を示す図である。
【符号の説明】
１，１ａ，１ｂ　メニュー検索装置、４，４ａ，４ｂ　メニュー記憶装置、５，５ａ，５ｂ　メニュー構造ファイル（ファイル）、８　対応付け装置（対応付け手段）、８ａ　対応付け装置（再生成手段）、８ｂ　対応付け装置（更新手段）、１０　メニュー項目作成装置（メニュー項目作成手段）、１１　フィルタリング文字列生成装置（文字列生成手段）、２３，２３ｂ　ＤＢ情報収集装置、２３ａ　ＤＢ情報収集装置（更新手段）、２４，２４ａ　フィルタリング装置（フィルタリング手段）。

【図2】

メニューＩＤ：1

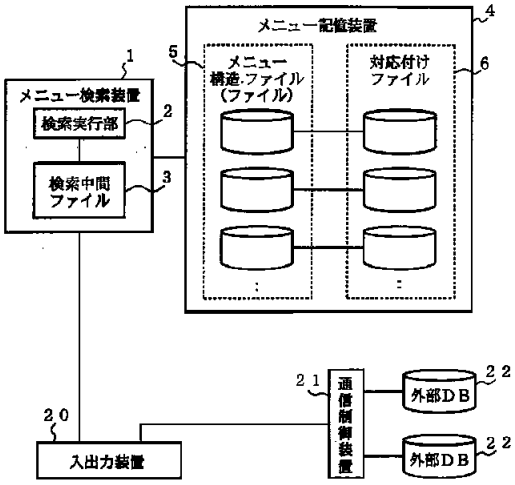
メニュー項目ＩＤ	メニュー項目名	次メニュー項目ＩＤ	下位先頭メニュー項目ＩＤ
0	医療メニュー	0	1
1	症状	7	2
2	心臓病	3	0
3	癌	0	4
4	胃癌	5	0
5	肺癌	6	0
6	肝臓癌	0	0
7	手術	0	0

【図3】



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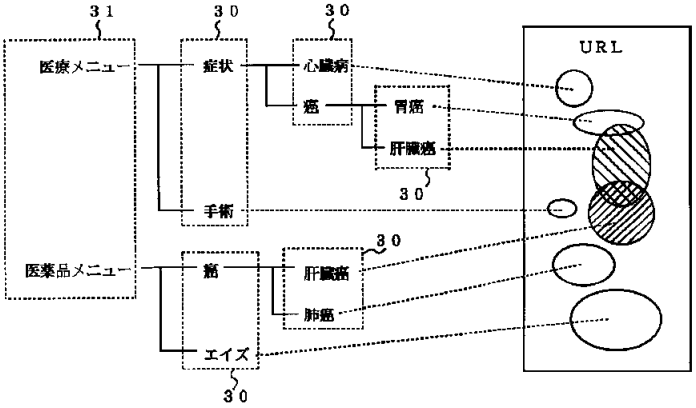
【図1】



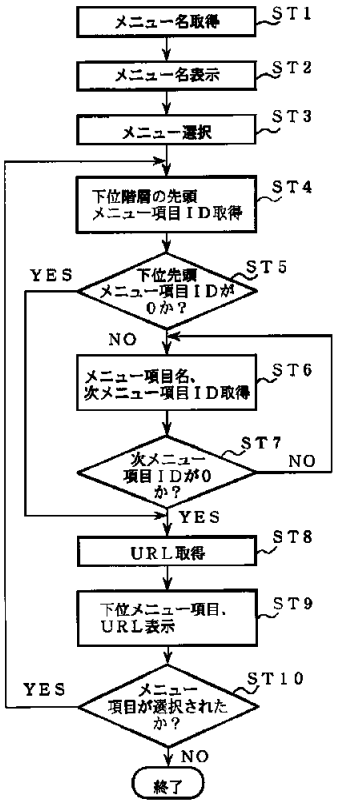
【図4】

メニューID：1	
メニュー項目ID	URL
4	http://www.aaa.co.jp/index.html
	http://www.bbb.co.jp/hukusayou.html
	http://www.ccc.co.jp/iyakuhin/igan.html
5	http://www.bbb.co.jp/hukusayou.html
	http://www.ddd.co.jp/index.html
：	：

【図5】



【図6】



【図7】

```
<HTML>
<TITLE>メニュー検索</TITLE>
<BODY>
メニューを選択して下さい。<P>
<BR>
<A HREF="kensaku?menuid=1">・医療メニュー</A>
<A HREF="kensaku?menuid=2">・看護医学メニュー</A>
<A HREF="kensaku?menuid=3">・薬品メニュー</A>
</BODY>
</HTML>
```

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【図8】

メニュー検索

メニューを選択して下さい。

・医療メニュー
・看護医学メニュー
・薬品メニュー

【図9】

```
<HTML>
<TITLE>メニュー検索</TITLE>
<BODY>
医療メニュー ： 症状 ＞ 薬 ＞ 癌 <P>
<BR>
<A HREF="kensaku?menuid=1&kaisouid=4">
・胃癌</A>
<A HREF="kensaku?menuid=1&kaisouid=5">
・肺癌</A>
<A HREF="kensaku?menuid=1&kaisouid=6">
・肝臓癌</A>
<A HREF="http://www.aaa.co.jp/gan/gan.html">
・http://www.aaa.co.jp/gan/gan.html</A>
<A HREF="http://www.aaa.co.jp/hukusayou.html">
・http://www.aaa.co.jp/hukusayou.html</A>
</BODY>
</HTML>
```

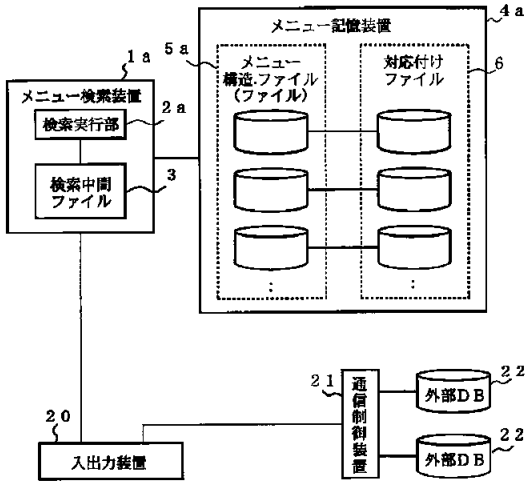
【図10】

メニュー検索

医療メニュー：症状 ＞ 薬 ＞ 癌

・胃癌
・肺癌
・肝臓癌
・http://www.aaa.co.jp/gan/gan.html
・http://www.bbb.ac.jp/hukusayou.html

【図11】



【図12】

メニューID：1

メニュー項目ID	メニュー項目名	上位メニュー項目ID	次メニュー項目ID	下位先頭メニュー項目ID	同名メニュー項目ID
0	医療メニュー	－	0	1	－
1	症状	0	7	2	－
2	心臓病	1	3	0	－
3	癌	1	0	4	3－8
4	胃癌	3	5	0	－
5	肺癌	3	6	0	－
6	肝臓癌	3	0	0	5－14
7	手術	0	0	0	－

【図15】

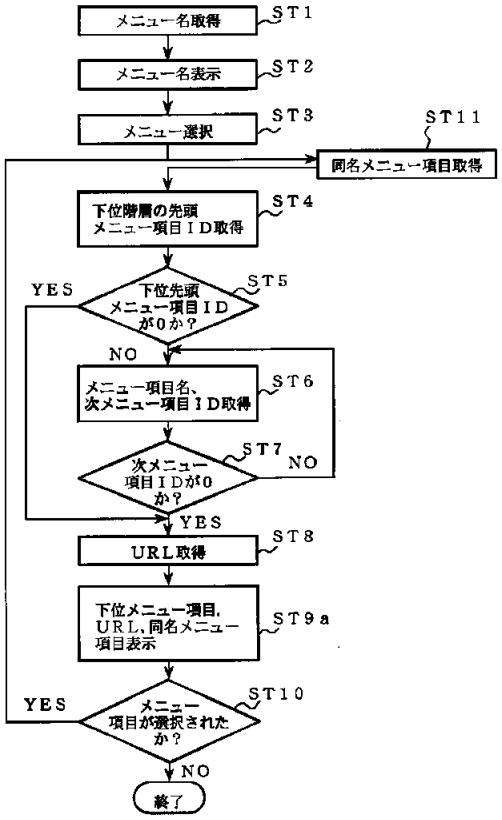
医療メニュー：

症状 ＞ 癌

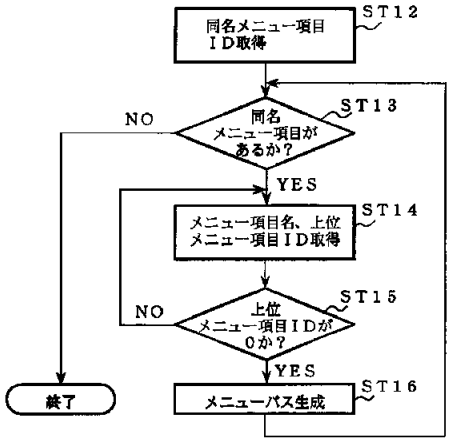
・薬品メニュー：
医薬品 ＞ 癌
・胃癌
・肺癌

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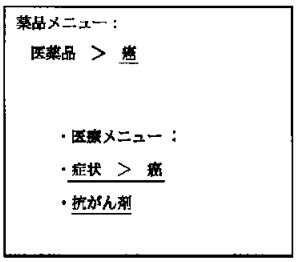
【図13】



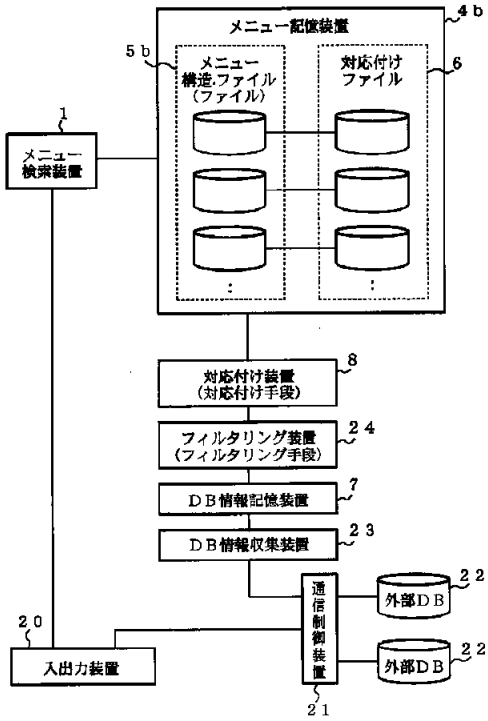
【図14】



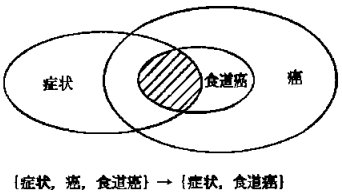
【図16】



【図17】



【図24】



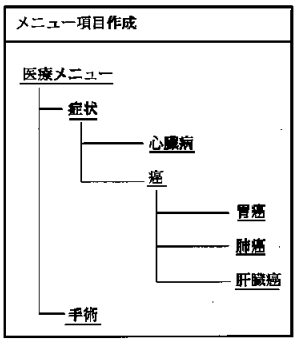
{症状，癌，食道癌} → {症状，食道癌}

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【図18】

URL	テキスト
http://www.aaa.co.jp/index.html	現在の病院経営の実態に関する調査結果によると・・・
http://www.bbb.co.jp/abc/fukusayou.html	現在認可されている癌の治療薬とその副作用について・・・
・ ・ ・	・ ・ ・

【図22】

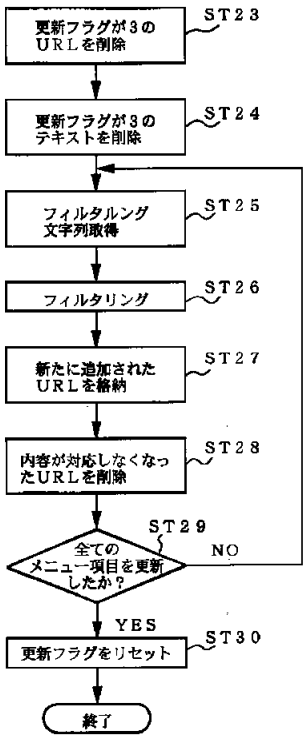


【図19】

メニューID：1

メニュー項目ID	メニュー項目名	上位メニュー項目ID	次メニュー項目ID	下位先頭メニュー項目ID	同名メニュー項目ID	フィルタリング文字列
0	医療メニュー	－	0	1	－	－
1	症状	0	7	2	－	症状
2	心臓病	1	3	0	－	症状，心臓病
3	癌	1	0	4	3－8	症状，癌
4	胃癌	3	5	0	－	症状，胃癌
5	肺癌	3	6	0	－	症状，肺癌
6	肝臓癌	3	0	0	5－14	症状，肝臓癌
7	手術	0	0	0	－	手術

【図30】



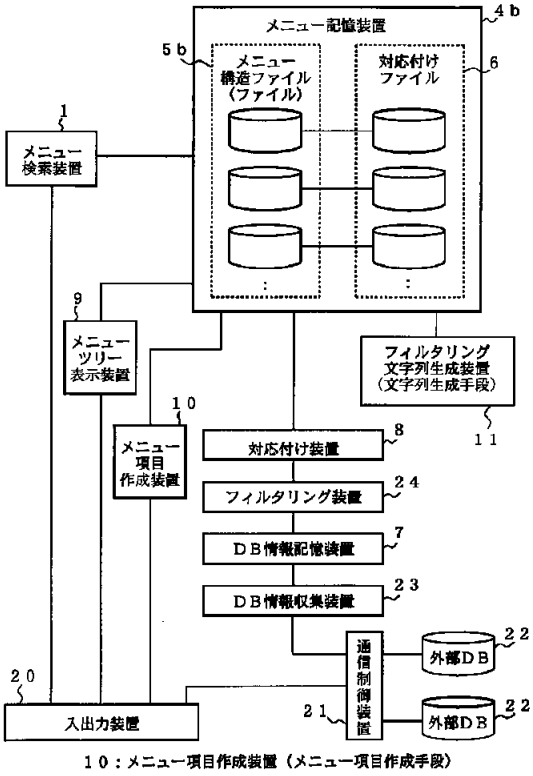
【図21】

```
<HTML>
<TITLE>メニュー項目作成</TITLE>
<BODY>
医療メニュー<P>
  ├<A HREF="sakusei?kaisound=1>症状</A>
  │  ├ <A HREF="sakusei?kaisouid=2>心臓病</A>
  │  └ <A HREF="sakusei?kaisouid=3>癌</A>
  │     ├ <A HREF="sakusei?kaisouid=4>胃癌</A>
  │     ├ <A HREF="sakusei?kaisouid=5>肺癌</A>
  │     └ <A HREF="sakusei?kaisouid=6>肝臓癌</A>
  └<A HREF="sakusei?kaisouid=7>症状</A>

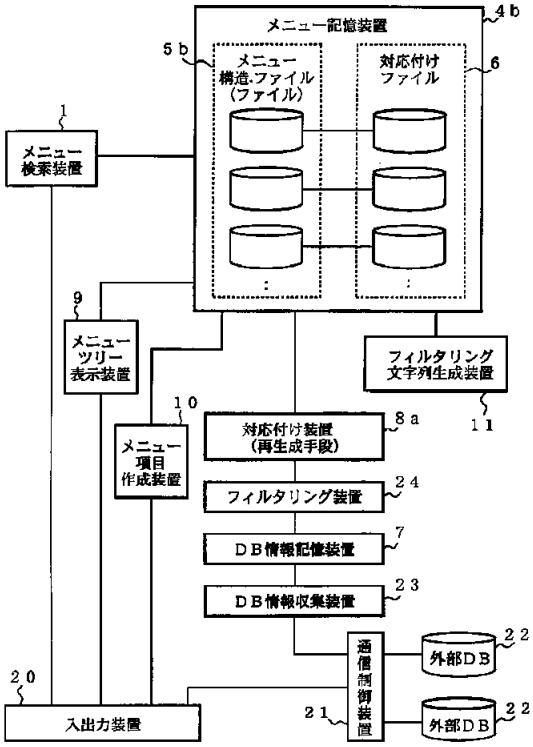
</BODY>
</HTML>
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【図20】



【図25】

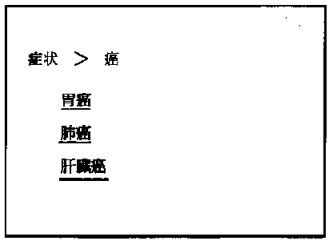


【図23】

メニューID：1

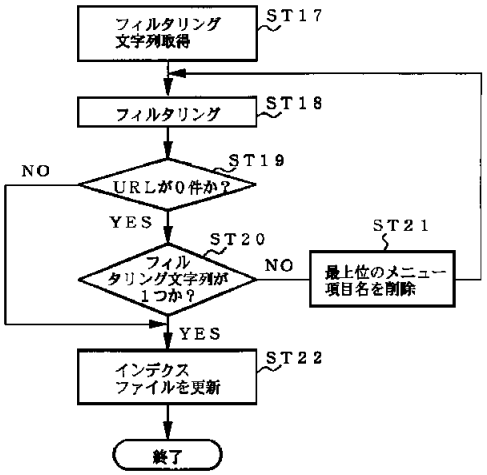
メニュー項目ID	メニュー項目名	上位メニュー項目ID	次メニュー項目ID	下位先頭メニュー項目ID	同名メニュー項目ID	フィルタリング文字列
0	医療メニュー	－	0	1	－	－
1	症状	0	7	2	－	症状
2	心臓病	1	3	0	－	症状，心臓病
3	癌	1	0	4	3－8	症状，癌
4	胃癌	3	5	0	－	症状，胃癌
5	肺癌	3	6	0	－	症状，肺癌
6	肝臓癌	3	8	0	5－14	症状，肝臓癌
7	手術	0	0	0	－	手術
8	食道癌	3	0	0	2－10	

【図36】

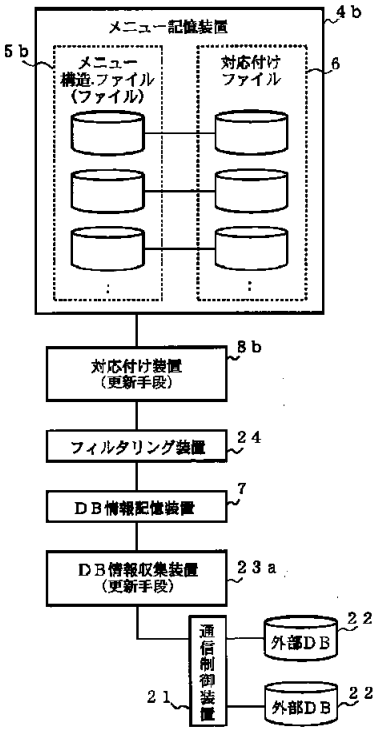


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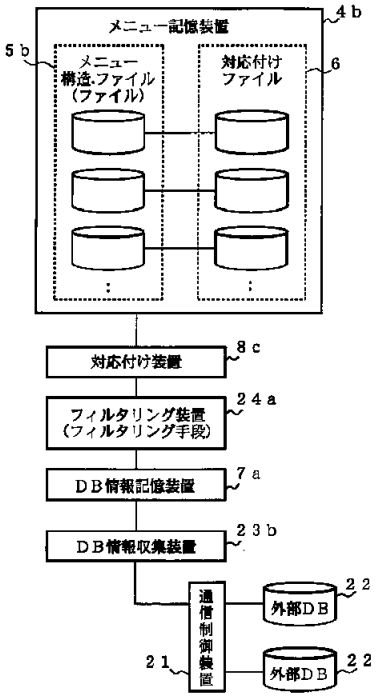
【図26】



【図27】



【図28】



【図32】

メニューID：1		
メニュー項目ID	ユーザ使用文字列	使用回数
6	効果	40
	副作用	24
	服用	3
18	潜伏期	13
	症状	10
：	：	：

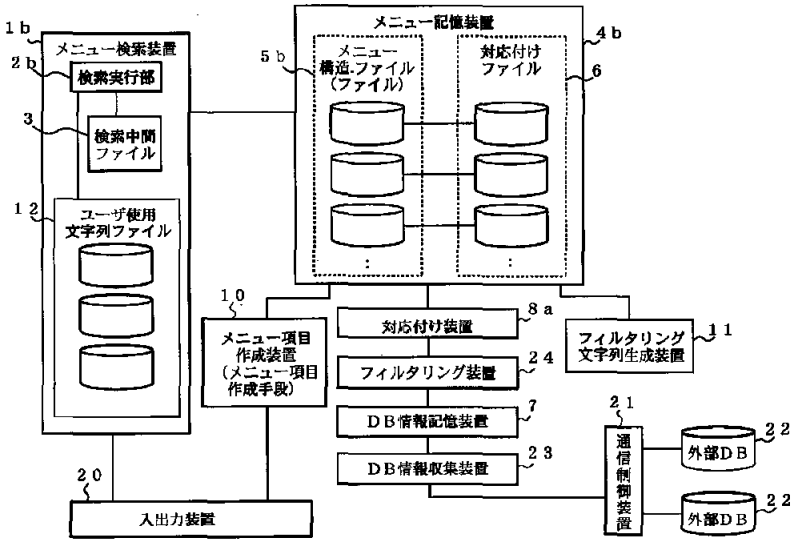
【図34】

```
<HTML>
<TITLE>メニュー検索</TITLE>
<BODY>
症状 > 癌<P>
<BR>
<A HREF="gan/igan.html>胃癌</A><P>
<A HREF="gan/haigan.html>肺癌</A><P>
<A HREF="gan/kanzougan.html>肝臓癌</A><P>
</HTML>
```

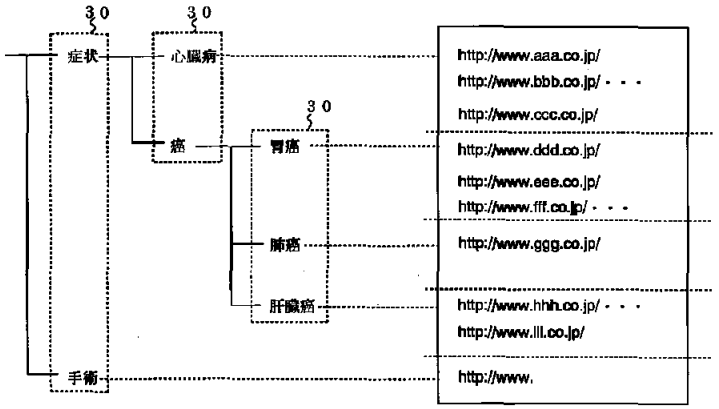
【図29】

URL	テキスト	更新フラグ
http://www.aaa.co.jp/index.html	現在の病院経営の実態に関する調査結果によると・・・	3
http://www.bbb.co.jp/abc/fukusayou.html	現在認可されている癌の治療薬とその副作用について・・・	1
http://www.ccc.ac.jp/xyz/medicine.html	薬の服用方法・・・	0
http://www.ddd.co.jp/kango.html	手術後の看護について・・・	2
・ ・ ・	・ ・ ・	・ ・ ・

【図31】

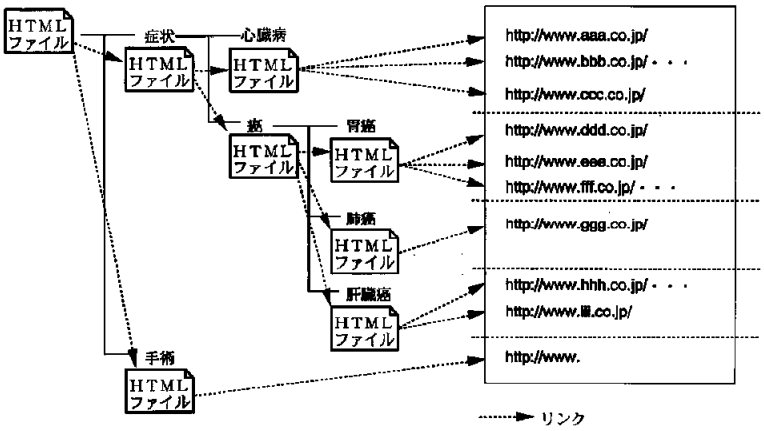


【図33】



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【図35】


HTML ファイル
症状
心臓病
癌
胃癌
肺癌
肝臓癌
手術
http://www.aaa.co.jp/
http://www.bbb.co.jp/・・・
http://www.ccc.co.jp/
http://www.ddd.co.jp/
http://www.eee.co.jp/
http://www.fff.co.jp/・・・
http://www.ggg.co.jp/
http://www.hhh.co.jp/・・・
http://www.iii.co.jp/
http://www.
リンク

Doc code: IDS
Doc description: Information Disclosure Statement (IDS) Filed

PTO/SB/08a (02-18)
Approved for use through 11/30/2020. OMB 0651-0031
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INFORMATION DISCLOSURE STATEMENT BY APPLICANT (**Not for submission under 37 CFR 1.99)**		
	Application Number	14480701
	Filing Date	2014-09-09
	First Named Inventor	Ferid ALLANI
	Art Unit	2141
	Examiner Name	MUHEBBULLAH, SAJEDA
	Attorney Docket Number	7209-0003

U.S.PATENTS Remove

Examiner Initial*	Cite No	Patent Number	Kind Code[1]	Issue Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1	5801702	A	1998-09-01	Dolan et al.	
	2	5870769	A	1999-02-09	Freund	
	3	5953720	A	1999-09-14	Mithal et al.	
	4	5963964	A	1999-10-05	Nielsen	

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	Application Number	14480701
	Filing Date	2014-09-09
	First Named Inventor	Ferid ALLANI
	Art Unit	2141
	Examiner Name	MUHEBBULLAH, SAJEDA
	Attorney Docket Number	7209-0003

	1	H11-212998	JP	A	1999-08-06	FUJI XEROX CO LTD	English abstract provided	
	2	H11-68823	JP	A	1999-03-09	SONY CORP	English abstract provided	
	3	H10-149372	JP	A	1998-06-02	JIN CORP KK	English abstract provided	
	4	H11-272454	JP	A	1999-10-08	IBM	English abstract provided	
	5	H11-205711	JP	A	1999-07-30	SANYO ELECTRIC CO LTD	English abstract provided	
	6	H10-245889	JP	A	1998-09-25	MITSUBISHI ELECTRIC CORP	English abstract provided	
	7	99/17229	WO	A1	1999-04-08	FUJITSU LIMITED	English abstract provided	

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Examiner Initials*	Cite No	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, pages(s), volume-issue number(s), publisher, city and/or country where published.	T5
	1	MOHAN, R. et al., "Adapting Multimedia Internet Content for Universal Access," IEEE TRANSACTIONS ON MULTIMEDIA, VOL. 1, NO. 1, MARCH 1999	

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT (**Not for submission under 37 CFR 1.99)**		
	Application Number	14480701
	Filing Date	2014-09-09
	First Named Inventor	Ferid ALLANI
	Art Unit	2141
	Examiner Name	MUHEBBULLAH, SAJEDA
	Attorney Docket Number	7209-0003

EXAMINER SIGNATURE			
Examiner Signature		Date Considered	

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

[1] See Kind Codes of USPTO Patent Documents at www.USPTO.GOV or MPEP 901.04. [2] Enter office that issued the document, by the two-letter code (WIPO Standard ST.3). [3] For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. [4] Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. [5] Applicant is to place a check mark here if English language translation is attached.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (**Not for submission under 37 CFR 1.99)**		
	Application Number	14480701
	Filing Date	2014-09-09
	First Named Inventor	Ferid ALLANI
	Art Unit	2141
	Examiner Name	MUHEBBULLAH, SAJEDA
	Attorney Docket Number	7209-0003

CERTIFICATION STATEMENT

Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):

That each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(1).

OR

☐ That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(2).

See attached certification statement.

The fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

☒ A certification statement is not submitted herewith.

SIGNATURE

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature	/Eric Jensen/	Date (YYYY-MM-DD)	2020-11-02
Name/Print	Eric Jensen	Registration Number	37855

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4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).

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6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).

7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.

8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspections or an issued patent.

9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

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国際事務局

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(51) 国際特許分類6 **G06F 17/30, 3/00**	**A1**	(11) 国際公開番号	**WO99/17229**
		(43) 国際公開日	1999年4月8日(08.04.99)

(21) 国際出願番号 PCT/JP98/04343

(22) 国際出願日 1998年9月28日(28.09.98)

(30) 優先権データ
特願平9/264478 1997年9月29日(29.09.97) JP

(71) 出願人
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株式会社 富士通 東北システムエンジニアリング内
Miyagi, (JP)
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〒102-0084 東京都千代田区二番町8番地20 二番町ビル3F
Tokyo, (JP)

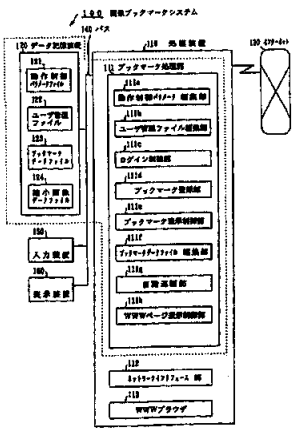
(81) 指定国 AU, CA, CN, IL, JP, KR, PL, SG, 欧州特許(DE, ES, FR, GB).

添付公開書類
国際調査報告書
補正書

(54)Title: **IMAGE DISPLAY BOOKMARK SYSTEM**

(54)発明の名称 画像表示ブックマークシステム

100 ... Image bookmark system
110 ... Processor
111 ... Bookmark processing unit
111a ... Operation control parameter editing unit
111b ... User management file editing unit
111c ... Log-in control unit
111d ... Bookmark registering unit
111e ... Bookmark display control unit
111f ... Book mark data file editing unit
111g ... Automatic patrol unit
111h ... WWW page display control unit
112 ... Network interface unit
113 ... WWW browser
120 ... Data storage device
121 ... Operation control parameter file
122 ... User management file
123 ... Bookmark data file
124 ... Reduced image data file
130 ... Internet
140 ... Bus
150 ... Input device
160 ... Display



(57) Abstract

An image display bookmark system in which a bookmark is displayed as a reduced image of the page corresponding thereto and which can restrict the management of bookmarks for every user. The image display bookmark system (100) consists of a bookmark processing unit (111) in a processor (110) and a data storage device (120). The bookmark processing unit (111) registers the reduced images of the corresponding pages of a WWW browser (113). By selecting a registered reduced image, the corresponding page is displayed on the GUI screen of the WWW browser (113). Further, a system manager can set a right to register, change or delete bookmarks of every user. Moreover, the pages corresponding to the registered images are autopiloted by an automatic patrol unit (111g) to update the reduced images, titles or URLs and the bookmarks are kept up-to-dated with the latest information.

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(57)要約

ブックマークを、それに対応するページの縮小画像で表示すると共に、ユーザ毎にブックマークの管理を制限できる画像表示ブックマークシステムを提供する。画像表示ブックマークシステム（１００）は、処理装置（１１０）内のブックマーク処理部（１１１）及びデータ記憶装置（１２０）からなる。処理装置（１１０）内のブックマーク処理部（１１１）は、ブックマークに対応するページの縮小画像をWWWブラウザ（１１３）のユーザ毎に登録し、前記登録された縮小画像を選択することにより前記ページが前記WWWブラウザ（１１３）のＧＵＩ画面に表示される。更にシステム管理者によって、前記ユーザ毎に前記ブックマークの登録、変更又は削除権限を設定可能である。また、自動巡回部（１１１ｇ）により前記登録された画像に対応するページを自動的に巡回し、ページの縮小画像、タイトル、またはＵＲＬを更新してブックマークを最新の情報に維持する。

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BY	ベラルーシ	HU	ハンガリー	MR	モーリタニア	UG	ウガンダ
CA	カナダ	ID	インドネシア	MW	マラウイ	US	米国
CF	中央アフリカ	IE	アイルランド	MX	メキシコ	UZ	ウズベキスタン
CG	コンゴー	IL	イスラエル	NE	ニジェール	VN	ヴィェトナム
CH	スイス	IN	インド	NL	オランダ	YU	ユーゴースラビア
CI	コートジボアール	IS	アイスランド	NO	ノールウェー	ZA	南アフリカ共和国
CM	カメルーン	IT	イタリア	NZ	ニュー・ジーランド	ZW	ジンバブエ
CN	中国	JP	日本	PL	ポーランド		
CU	キューバ	KE	ケニア	PT	ポルトガル		
CY	キプロス	KG	キルギスタン	RO	ルーマニア		
CZ	チェッコ	KP	北朝鮮	RU	ロシア		
DE	ドイツ	KR	韓国	SD	スーダン		
DK	デンマーク	KZ	カザフスタン	SE	スウェーデン		
EE	エストニア	LC	セントルシア				

明 細 書

画像表示ブックマークシステム

技術分野

本発明は、インターネット上で提供されるWWW（ワールドワイドウエブ）を参照するWWWブラウザシステムに関し、より詳しくは、WWWブラウザにおいて、より視覚的、かつ効率的にWWWのページを選択できるように、WWWのページ毎にそのページの縮小イメージをブックマークとして登録可能な画像表示ブックマークシステムに関する。

背景技術

近年、インターネット上で提供されるWWWのページを参照し、または作成することが流行しており、これらに関するツールや書籍等が多く販売されている。WWWとは、ワールドワイドウエブ（Ｗｏｒｌｄ Ｗｉｄｅ Ｗｅｂ）の略であり、インターネットを使用した全世界規模の情報網をいう。WWWのページとは、Ｗｅｂドキュメントを構成する情報の単位であり、前記WWW上に設置された任意のWWWサーバ内に記憶された、ＣＡＬＳ（Ｃｏｎｔｉｎｕｏｕｓ Ａｃｑｕｉｓｉｔｉｏｎ ａｎｄ Ｌｉｆｅｃｙｃｌｅ Ｓｕｐｐｏｒｔ）で使う書式定義規約ＳＧＭＬ（Ｓｔａｎｄａｒｄ Ｇｅｎｅｒａｌｉｚｅｄ Ｍａｒｋｕｐ Ｌａｎｇｕａｇｅ）に基づく書式の一種であるＨＴＭＬ（ハイパーテキスト・マークアップ・ランゲージ）と呼ばれる言語で作成されたＨＴＭＬ文書および関連するイメージデータ等から成る。WWWブラウザは、このページをＷｅｂサイトからＨＴＴＰ（ハイパー・テキスト・トランスミッション・プロトコル）と呼ばれるプロトコルで受信し、WWWブラウザが起動

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されているコンピュータの表示装置の画面上に表示させる。前記ページは、前記ＨＴＭＬで用意されている予約語を使用することによって、ａｓｃｉｉ等の文字データからなるテキスト情報、グラフィックデータからなるイメージ情報、オーディオ情報、および動画情報などを、WWWブラウザのユーザに提供することができる。これによってWWWブラウザのユーザは、家庭にいながらにして、全世界のページを参照または聴取することができる一方で、自分が作成したページを全世界に向けて発信することができる。

本明細書において、前記WWWブラウザによってページを「表示」するという表現を用いた場合、そのページに含まれるテキスト情報、およびイメージ情報の他に、オーディオ情報および動画情報等、いわゆるマルチメディア情報の出力も含むものとする。

前記「ページ」を表示させるためのＨＴＭＬ文書、イメージデータ等のデータは通常、前記WWW上に設置されているWWWサーバ内に、WWWサーバの各ユーザ毎に記憶されており、前記ユーザには個人、政府、企業、およびその他団体等が含まれる。前記各ユーザは、前記ＨＴＭＬ文書の指定によって、ページを階層的に構成することができ、各ユーザにおける最上位の階層のページを、特に「ホームページ」という。例えば、各ユーザは、その「ホームページ」に、いくつかの他のページへのリンク（入り口）を設けることができ、そのリンク先のページは更に、いくつかの他のページへのリンクを有することができる。このリンクは通常「ハイパーリンク」と呼ばれ、前記WWWブラウザによって表示されたページ上に、そのリンク先のページを示すシンボル（例えば、そのページのアドレスやそのページの内容を間接的に表すイメージ等）として表示される。

WWWブラウザのユーザは、そのシンボルをマウスでクリックするなどして、そのリンク先のページに表示を切り替える（リンク先へジャンプする）こと

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ができる。また、こうしたリンク先としては、下位の階層のページだけでなく、上位の階層のページや他のＷｅｂサイトの任意のページも指定することができる。前記ＨＴＭＬ文書におけるページの指定には、ＵＲＬ（Ｕｎｉｆｏｒｍ Ｒｅｓｏｕｒｃｅ Ｌｏｃａｔｏｒ）と呼ばれる、インターネット上でそれぞれのページを識別するためのアドレスが使用され、例えば「ｈｔｔｐ：／／ｗｗｗ．ｘｘｘ．ｃｏ．ｊｐ／Ｓａｍｐｌｅｓ／Ｓａｍｐｌｅ．ｈｔｍｌ」といったフォーマットで表される。

WWWブラウザのユーザは、前記WWWブラウザによって表示されているページ上に表示されている他のページを示すシンボルをクリックすることによって、所望のページへ表示を切り替え、その切り替えられたページに表示された他のページを示すシンボルをクリックすることによって、更に他のページへ表示を切り替え、以降次々とページの表示を切り替えていくことができる。この時、WWWブラウザは、クリックされた前記シンボルにアンカーと呼ばれるＨＴＭＬコード（タグ）によって対応付けされた対象ページのＵＲＬを、現在表示されているＨＴＭＬ文書から取得する。その後、WWWブラウザは、そのＵＲＬが示すアドレスに対応するWWWサーバにインターネット経由でアクセスし、前記WWWサーバに格納されているＷｅｂサイトから対象のデータ（この場合は対象ページのＨＴＭＬ文書とその表示に必要な他のデータ）をＨＴＴＰ等により、前記WWWブラウザが実行されているコンピュータのメモリまたは記憶装置にインターネット経由でダウンロードする。

次に、WWWブラウザは、これらのデータのダウンロードが終了するのを待って、またはダウンロードと共に前記データを前記コンピュータの表示装置上にページとして表示する。

現在、ネットスケープ社のネットスケープ・ナビゲータ、マイクロソフト社のインターネット・エクスプローラ等のWWWブラウザが提供され、広く使用

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されているが、これらのWWWブラウザはもちろん前述の機能を備えている。

前述したような、ページを次々と切り替えていく方法でページを参照する、いわゆる「ネットサーフィン」のような参照方法の他に、表示したいページのＵＲＬが予め分かっている場合に、WWWブラウザのＧＵＩ（Ｇｒａｐｈｉｃａｌ　Ｕｓｅｒ　Ｉｎｔｅｒｆａｃｅ）画面上の場所指定エリアに直接ＵＲＬをタイプする方法がある。しかし、株価情報やニュースを表示するページなどを、毎日参照する必要のあるユーザもいる。このように、ある決まったページを毎回参照する必要がある場合には、毎回数十文字におよぶ前述したＵＲＬをタイプするのは不便であり、非効率でもある。そこで、こうしたページを容易に表示させるために、前記WWWブラウザは「ブックマーク機能」と呼ばれる機能を一般的に備えている。

「ブックマーク機能」とは、インターネットのWWWブラウザで、気に入ったサイトや頻繁にアクセスするページを登録しておく機能であり、表示させたいページのＵＲＬを予めブックマークデータの１情報として登録しておき、「ブックマークの表示」で、ブックマークとして登録されているページを一覧表示してから該当するページをマウスのクリック操作などで選択することによって、わずらわしいＵＲＬのタイプをすることなく、またタイプミスによる時間の浪費を生じさせることなく所望のページを表示させることができるというものである。

図１には代表的なブックマーク表示画面１０が示されている。同図に示すように、ブックマークは階層的に管理することができ、ブックマーク１２の集合を１つのフォルダ１１に収めて管理することができる。これによってユーザは、ブックマーク１２をカテゴリで分類して整理することができ、多くのブックマーク１２がある場合にも効率的に所望のブックマーク１２にアクセスできる。例えば、図１のブックマーク表示画面１０を参照すると、「Ｌｏｏｋｕｐ」

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というフォルダ１１の中に、「Ｐｅｏｐｌｅ」と「ＹｅｌｌｏｗＰａｇｅｓ」というブックマーク１２がブックマークとして登録されており、これらのブックマーク１２は、前記フォルダ１１「Ｌｏｏｋｕｐ」をマウスなどでクリックすることによって同図のように一覧的に表示される。

前述の「Ｐｅｏｐｌｅ」や「Ｙｅｌｌｏｗ　Ｐａｇｅｓ」といった、ブックマーク１２を識別するためのタイトルは、通常そのブックマーク１２に対応するページを作成した者が設定した、そのページのタイトルがそのまま用いられる。WWWブラウザのユーザは、図１のブックマーク表示画面１０で「Ｐｅｏｐｌｅ」などのブックマーク１２を示す行（オブジェクト）をマウスでダブルクリックしたり、こうしたブックマーク表示画面１０以外の、ブックマーク１２を簡易表示するポップアップウインドウ（不図示）で所望のブックマーク１２を示す行をクリックすることなどによって、容易に所望のページを選択し、表示させることができる。

ブックマーク１２の追加は、通常、最初にＵＲＬをWWWブラウザの場所指定エリアにタイプして所望のページを表示させたとき、または前述したネットサーフィン等で所望のページを見つけたときなどに、WWWブラウザにそのページを表示させた状態で、マウスのクリックなどの操作で「ブックマークの追加」を指示することによって行われる。この時、そのページのＵＲＬやタイトルが自動的にブックマーク１２として登録され、そのページのタイトルはそのページに対応する登録されたブックマーク１２のタイトルとして使用される。また、図１７のブックマーク表示画面１０で、ブックマーク１２を新規に追加する操作において、ＵＲＬやタイトル等をタイプすることによって所望のフォルダ１１の中に新たなブックマーク１２を追加することもできる。

図１のブックマーク表示画面１０に表示されたブックマーク１２は、ページのＵＲＬ、そのページのタイトル、WWWブラウザのユーザのコメント等の情

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報を含んでおり、それぞれの情報は、例えば、図１のブックマーク表示画面１０で、対象のブックマーク１２のプロパティをマウスにより選択すること等によって表示されるブックマーク編集画面（不図示）上で編集することができる。更に、マウス等の操作によって、ブックマーク１２自体の削除、移動（他のフォルダへの移動を含む）が、図１のブックマーク表示画面１０上で可能である。

上述したように、従来のブラウザが有するブックマーク機能では、ページに関する長い文字数のＵＲＬを毎回入力することなく、予め登録してある複数のブックマークのうち所望のページのブックマークをマウス等で選択することによって、そのページをWWWブラウザに表示させることができる。

しかし、従来のブックマークを識別するためのタイトル（即ちページのタイトル）は、通常そのページを作成した者が指定したものであって、長い文字列からなるタイトルや分かりづらい表現のタイトルが多い。また、ページのＵＲＬも前述のように、長い文字列からなるものが多く、容易にブックマーク（更にはその指定によって表示されるページ）を識別するという用途には向いていない。例えば、従来のブックマーク表示画面に表示されているブックマークのタイトルはページのタイトルがそのまま付けられているが、非常に小さな文字で表示されており、また英語で表記されているものも多く、老人や子どもが簡単にページを識別できるようにはなっていない。

また、従来のWWWブラウザのブックマーク機能は、WWWブラウザのユーザすべてが、すべてのブックマークに関する登録（追加）、削除、および修正を行うことができ、ユーザ毎にブックマークに対する前記操作を制限することができない。こうしたブックマーク機能を有する従来のWWWブラウザでは、例えば、教育現場などにWWWブラウザを導入した場合、ブックマークの登録および修正を教師のみが行うようにすることができず、さらに、教育面で望ま

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しくないページを生徒が自由にブックマークに登録したり、既登録ページをこうしたページへ修正したりすることを禁止することができない。

また更に、従来のWWWブラウザは、仮に、前述の課題に対処するためにブックマーク機能を改良して、特定の者だけがブックマークの登録および修正を行えるようにしても、それ以外の者は、WWWブラウザのＧＵＩ画面上の場所指定エリアに、ページのＵＲＬを直接入力すれば、結局どんなページにもアクセスできてしまうという問題点をも含んでいる。

また更に、従来のWWWブラウザのブックマーク機能は、既にブックマークに登録されているページに対応する実際のＵＲＬやタイトルが変更になっても、それらの変更に伴って、前記ブックマークに登録されているページのＵＲＬやタイトルを自動的に変更することはできない。近年、インターネット上ではプロバイダやWWWサーバの統廃合が盛んであり、これに伴ってページのＵＲＬやタイトルの変更も盛んに行われている。こうした状況において、前記従来のブックマーク機能はページの実際のＵＲＬやタイトルの変更を、ブックマークに登録されているページのＵＲＬやタイトルに自動的に反映させないので、ブックマークに登録されているページのＵＲＬやタイトルなどの情報はすぐに陳腐化してしまう。特にページのＵＲＬが変更になった場合は、WWWのユーザがその変更後のＵＲＬを前記ブックマーク編集画面で修正するか、または変更後のＵＲＬのページにアクセスして再度ブックマークの登録操作を行わない限り、ＵＲＬが変更になったページへ的確にアクセスすることができない。また、ページのタイトルが変更になった場合は、ページのアクセスに影響するものではないが、ブックマークに登録されたタイトルと、実際にアクセスしたページのタイトルが異なるものになり、実態にそぐわない。

本発明は、前記課題を解決するために、あるページをブックマークとして登録する際、そのブックマークデータとして、該ページの縮小画像を登録する機

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能、ブックマークリストの一覧表示の際には、ブックマークとして登録されている全てのページについて、その縮小画像を、登録されているブックマークを選択するためのアイコンとして一覧表示させる機能、WWWブラウザの各ユーザに対し、ブックマークに関する登録（追加）、削除、および修正を個別に制限し、かつページのアドレスの直接入力を禁じる機能、前記ブックマークとして登録されたページを自動巡回し、該ページの画像、ＵＲＬまたはタイトルの最新情報を取得する機能、および該最新の情報を該ページのブックマークデータに反映させる機能を提供することを目的とする。

発明の開示

上記目的を達成するため、本発明に係る画像表示ブックマークシステムの実施形態のひとつにおいては、ネットワーク上のアドレス情報と、そのアドレス情報に基づいて取得されるページデータの画像情報と、を登録するブックマーク登録部と、ブックマーク登録部により登録された画像情報を表示させるブックマーク表示制御部と、を有するように構成する。この構成によれば、アドレス情報をページデータの画像に関連付けたブックマークとして登録することができる。また、その登録した前記ページデータの画像をブックマークの一覧表示として表示させることができる。

また、この画像表示ブックマークシステムにおいて、ブックマーク表示制御部により表示させた画像情報を指定すると、その画像情報に対応するアドレス情報に基づくページデータの取得をブラウザに指示するページ取得指示部を更に有するように構成してもよく、また、ブックマーク表示制御部により表示させた画像情報を指定すると、その画像情報に対応するアドレス情報に基づいて取得されるページデータを表示させるページ表示制御部を更に有するように構成してもよい。この構成によれば、ページデータの画像に関連付けて表示させ

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たブックマークの一覧表示からの選択によって、選択されたブックマークに対応するページデータを表示させることができる。

更に、前述した画像表示ブックマークシステムにおいて、ブックマーク登録部は、アドレス情報と画像情報とをユーザ毎に登録し、ブックマーク表示制御部は、指定されたユーザについての画像情報を、ブックマーク登録部に登録されているユーザについての情報に基づいて表示させる、ように構成してもよい。この構成によれば、ブックマーク情報をユーザ毎に管理することができる。

また、前述した画像表示ブックマークシステムにおいて、ブックマーク登録部により登録された画像情報とアドレス情報とを編集するブックマーク編集部を更に有するように構成してもよい。この構成によれば、ブックマーク情報の内容を編集することができる。

なお、この画像表示ブックマークシステムにおいて、ブックマーク登録部により登録された画像情報とアドレス情報との編集に関する権限をユーザ毎に定義するユーザ権限定義部と、そのユーザ権限定義部により定義された権限に基づいて、ブックマーク編集部による画像情報とアドレス情報との編集をユーザ毎に制限する制御部と、を更に有するように構成してもよい。この構成によれば、ユーザ毎にブックマーク情報の編集操作の権限が定義され、ユーザによって、ブックマークとして既に登録されたページデータの画像の表示しかすることができないようにすることができる。

また、前述した画像表示ブックマークシステムにおいて、ブックマーク登録部は、ページデータのタイトル情報を更に登録し、ブックマーク表示制御部は、ブックマーク登録部により登録された画像情報とタイトル情報とを表示させる、ように構成してもよい。この構成によれば、ページデータのタイトル情報を、ブックマークとして表示させたページデータの画像に関連付けて表示させることができる。

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また、本発明に係る画像表示ブックマークシステムの他の実施形態のひとつにおいては、ネットワーク上のアドレス情報と、該アドレス情報に基づいて取得されるページデータの画像情報と、を登録するブックマーク登録部と、ブックマーク登録部により登録されたアドレス情報に基づいてページデータを所定時間毎に取得し、そのページデータの内容と、そのページデータを前回に取得したときの内容と、の比較により得られる、そのページデータの内容の更新の有無を示す更新情報を登録する自動巡回部と、ブックマーク登録部により登録された画像情報と、自動巡回部により登録された更新情報と、を表示させるブックマーク表示制御部と、を有するように構成する。この構成によれば、アドレス情報を、ページデータの画像に関連付けたブックマークとして登録し、そのブックマークの一覧表示として表示させることができることに加え、そのページデータの内容が更新されれば自動的にその更新情報を表示させることができる。

また、この画像表示ブックマークシステムにおいて、ブックマーク表示制御部は、自動巡回部により登録された更新情報がページデータの内容に更新のあったことを示している場合には、そのページデータの画像情報を表示させるように構成してもよい。この構成によれば、ブックマークに含まれるアドレス情報で示されるページに自動的にアクセスして表示させることができる。

更に、前述した画像表示ブックマークシステムにおいて、更新情報は、ページデータを表示させたときの表示内容、ページデータに対応するアドレス情報、ページデータのタイトル情報のうちの少なくとも1つが更新されたことを示す情報でよい。この場合、ブックマーク表示制御部によって、これらの更新情報を表示させることができる。

また、前述した画像表示ブックマークシステムにおいて、自動巡回部は、ブックマーク登録部により登録されたアドレス情報に基づいて取得されるページ

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データが、そのページデータに対応するアドレス情報の変更に関する情報を有している場合には、その変更に関する情報に基づいて取得されるページデータを取得するように構成してもよい。この構成により、ページデータをアクセスした際にそのページのアドレスが変更になっていても、変更後のアドレスをアクセスし、最新のページデータを表示させることができる。

更に、前述した画像表示ブックマークシステムにおいて、ブックマーク表示制御部により表示させるページデータの画像情報は、ブラウザがそのページデータを取得したときに表示する画像の縮小画像を含んでもよい。このようにすれば、ブラウザにより表示されるページデータの画像の縮小画像をブックマークとして表示させることができる。

また、ネットワーク上のアドレス情報と、そのアドレス情報に基づいて取得されるページデータの画像情報と、を登録させるブックマーク登録手順と、ブックマーク登録手順で登録させた画像情報を表示させるブックマーク表示制御手順と、ブックマーク表示制御手順で表示させた画像情報を指定すると、その画像情報に対応するアドレス情報に基づくページデータの取得をブラウザに指示するページ取得指示手順と、をコンピュータに実行させるプログラムを記録したコンピュータ読み取り可能な記録媒体も、本発明に関するものである。この記憶媒体に記録したプログラムをコンピュータに読み出させて実行させることにより、アドレス情報のページデータの画像に関連付けたブックマークとしての登録と、その登録した前記ページデータの画像のブックマークの一覧表示としての表示と、その表示させたブックマークの一覧表示からの選択に対応するページデータの表示と、をコンピュータに行なわせることができる。

更に、ネットワーク上のアドレス情報と、そのアドレス情報に基づいて取得されるページデータの画像情報と、を登録させるブックマーク登録手順と、ブックマーク登録手順で登録させた画像情報を表示させるブックマーク表示制御

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手順と、ブックマーク表示制御手順で表示させた画像情報を指定すると、その画像情報に対応するアドレス情報に基づいて取得されるページデータを表示させるページ表示制御手順と、をコンピュータに実行させるプログラムを記録したコンピュータ読み取り可能な記録媒体も、本発明に関するものである。この記憶媒体に記録したプログラムをコンピュータに読み出させて実行させることによっても、アドレス情報のページデータの画像に関連付けたブックマークとしての登録と、その登録した前記ページデータの画像のブックマークの一覧表示としての表示と、その表示させたブックマークの一覧表示からの選択に対応するページデータの表示と、をコンピュータに行なわせることができる。

また、本発明に係る他の実施形態のひとつであるWWWブラウザで使用するブックマーク情報を管理することができるブックマークシステムにおいては、少なくとも、前記WWWブラウザにより表示されたページの画像情報および前記ページのアドレス情報を含むブックマーク情報を作成する作成手段と、該作成手段により作成された該ブックマーク情報を記憶手段に登録するブックマーク登録手段と、記憶手段に記憶された前記WWWブラウザにより表示されたページの画像情報を含む前記ブックマーク情報を読み出す読み出し手段と、該読み出し手段により読み出された前記ブックマーク情報に含まれる前記画像情報を基に、該ページを識別するための画像を画面に表示させるブックマーク表示制御手段とを有するように構成される。これによって、ブックマークを、前記WWWブラウザに表示された前記ページの前記画像に関連付けて登録することができる。また、ブックマークを、前記WWWブラウザに表示された前記ページの前記画像に関連付けて前記画面に表示することができる。

また、本発明に係る他の実施形態のひとつである画像表示ブックマークシステムは、画面上で、前記ブックマーク情報に含まれる前記WWWブラウザにより表示されたページの画像情報に基づいて表示された画像が選択された場合に

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、記憶手段から、前記画像情報に関する情報が含まれる前記ブックマーク情報を読み出す読み出し手段と、該読み出し手段により読み出された前記ブックマーク情報に登録された前記ページのアドレス情報を基に、前記ページの画像を取得する取得手段と、該取得手段によって取得された該ページの画像を画面に表示させるWWWページ表示制御手段とを有するように構成される。これによって、前記ページの前記画像に関連付けて表示されたブックマークを選択することによって、前記ブックマークに対応する前記ページを前記画面に表示させることができる。

また、本発明に係る他の実施形態のひとつである画像表示ブックマークシステムは、WWWブラウザで使用するブックマーク情報を管理することができるブックマークシステムにおいて、記憶手段に記憶されたブックマーク情報が、少なくとも、前記WWWブラウザにより表示されたページの画像情報および該ページのアドレス情報を含み、前記ブックマーク情報の内容を編集するブックマーク編集手段を有する、ように構成される。これによって、前記ブックマーク情報の内容を編集することができる。

また、本発明に係る他の実施形態のひとつである画像表示ブックマークシステムは、少なくとも、前記WWWブラウザにより表示されたページの画像情報、該ページのアドレス情報、および前記ページのタイトル情報を含むブックマーク情報を記憶手段に登録するブックマーク登録手段と、前記記憶手段に記憶された前記ブックマーク情報を読み出し、少なくとも、前記ブックマーク情報に含まれる、前記WWWブラウザにより表示されたページの画像情報を基に、該ページを識別するための画像を表示させるブックマーク表示制御手段とを有するように構成される。これによって、前記WWWブラウザに表示されたページの画像に関する画像情報および前記ページのタイトル情報を含むブックマーク情報を登録することができる。

また、本発明に係る他の実施形態のひとつである画像表示ブックマークシステムは、少なくとも、前記WWWブラウザにより表示されたページの画像情報および、前記ページに関するタイトル情報、前記ページのアドレス情報または前記ページの内容が、前回のアクセス以降に変更されているかどうかを示す更新情報を含むブックマーク情報を記憶手段に登録するブックマーク登録手段と、前記記憶手段に記憶された前記ブックマーク情報を読み出し、前記ブックマーク情報に含まれる、前記WWWブラウザにより表示されたページの画像情報を基にして作成された該ページを識別するための画像と、前記更新情報に基づく情報を一緒に画面に表示させるブックマーク表示制御手段とを有するように構成される。これによって、前記WWWブラウザに表示されたページの画像に関する画像情報と共に、前記更新情報を画面に表示させることができる。

また、本発明に係る他の実施形態のひとつである画像表示ブックマークシステムは、所定の時間情報に基づいて、記憶手段に記憶されている各ブックマーク情報に含まれるページのアドレス情報によって指定されたアドレスのページに自動的にアクセスし、該ページに関する変更情報を取得するアクセス手段と、該アクセス手段によって前記ページの変更情報が取得された場合、該変更情報に基づいて、前記アドレス情報を含むブックマーク情報に含まれる当該情報を更新し、該更新後の前記ブックマーク情報を前記記憶手段に登録する登録手段とを有するように構成される。これによって、前記ブックマークに含まれるアドレスのページに自動的にアクセスし、前記ブックマーク情報を最新の情報に更新することができる。

また、少なくとも、前記WWWブラウザにより表示されたページの画像情報および前記ページのアドレス情報を含むブックマーク情報を記憶手段に登録するブックマーク登録ステップと、前記ブックマーク情報に含まれる、前記ページの画像情報を基に、該ページを識別するための画像を表示手段の画面上に表

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示させるブックマーク表示制御ステップと、前記画面上で、選択手段により前記ページの画像が選択された場合に、前記記憶手段から前記画像情報に関する情報が含まれる前記ブックマーク情報を読み出し、前記読み出された前記ブックマーク情報に登録されたページのアドレス情報によって指定されたアドレスのページの画像を取得し、前記取得された該ページの画像を画面に表示させるWWWページ表示制御ステップとを有する画像表示ブックマーク表示・選択方法も、本発明に係る方法である。これによって、ブックマークを、前記WWWブラウザに表示された前記ページの前記画像に関連付けて登録することができ、前記ブックマークを、前記WWWブラウザに表示された前記ページの前記画像に関連付けて前記画面に表示することができ、更に、前記ページの前記画像に関連付けて表示されたブックマークを選択することによって、前記ブックマークに対応する前記ページを前記画面に表示させることができる。

更に、WWWブラウザで使用するブックマーク情報を管理することができるブックマークシステムを実現するプログラムを記録した記録媒体であって、少なくとも、前記WWWブラウザにより、表示手段の画面上に表示されたページの画像情報および前記ページのアドレス情報を含むブックマーク情報を、記憶手段に登録するブックマーク登録ステップと、前記記憶手段から、前記ブックマーク情報に含まれる、前記ページの画像情報を読み出し、該画像情報を基に、該ページを識別するための画像を前記表示手段の画面上に表示させるブックマーク表示制御ステップと、前記画面上で、前記ページの画像が選択された場合に、前記記憶手段から、前記ページに対応する前記ブックマーク情報を読み出し、前記読み出された前記ブックマーク情報に登録されたページのアドレス情報によって指定されたアドレスのページの画像を取得し、前記取得された該ページの画像を、前記表示手段の画面上に表示させるWWWページ表示制御ステップを有する、画像表示ブックマーク情報管理方法を実現するプログラムを

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記録した記録媒体も、本発明に係るもののひとつである。これによって、ブックマークを、前記WWWブラウザに表示された前記ページの前記画像に関連付けて登録することができ、前記ブックマークを、前記WWWブラウザに表示された前記ページの前記画像に関連付けて前記画面に表示することができ、更に、前記ページの前記画像に関連付けて表示されたブックマークを選択することによって、前記ブックマークに対応する前記ページを前記画面に表示させることができる。

図面の簡単な説明

図１は、従来のブックマーク表示画面を示す図である。

図２は、本発明の一実施形態の画像表示ブックマークシステムのブロック図である。

図３Ａは、前記画像表示ブックマークシステムの第一の実施例のブックマーク表示画面を示す図である。

図３Ｂは、前記画像表示ブックマークシステムの第一の実施例のメニュー構成を示す図である。

図４は、動作制御パラメータ指定画面を示す図である。

図５は、前記画像表示ブックマークシステムのブックマーク表示画面において、ユーザＩＤ指定画面を示す図である。

図６Ａは、属性変更画面を示す図である。

図６Ｂは、画像サイズ変更画面を示す図である。

図７は、前記画像表示ブックマークシステムのブックマーク表示画面において、システム管理者のパスワード指定画面を示す図である。

図８は、前記画像表示ブックマークシステムのブックマーク表示画面において、一般ユーザのユーザＩＤ指定画面およびパスワード指定画面を示す図であ

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る。

図９は、ブックマークの登録の処理フローを示す図である。

図１０は、キャプチャ画像の縮小方法を例示する図である。

図１１は、初めてブックマーク表示画面を表示させる処理フローを示す図である。

図１２は、一般ユーザＩＤのブックマーク表示画面を表示させる処理フローの図である。

図１３は、ブックマークデータファイル編集画面を示す図である。

図１４は、ブックマークを選択してからページを表示させるまでの処理フローを示す図である。

図１５Ａは、動作制御パラメータを示す図である。

図１５Ｂは、ユーザ管理ファイルを示す図である。

図１５Ｃは、ブックマークデータファイルを示す図である。

図１５Ｄは、縮小画像データファイルを示す図である。

図１６Ａは、前記画像表示ブックマークシステムの第二の実施例のブックマーク表示画面を示す図である。

図１６Ｂは、前記画像表示ブックマークシステムの第二の実施例のタイトル・更新情報表示部を示す図である。

図１７は、前記画像表示ブックマークシステムを実行するコンピュータの構成を示す図である。

発明を実施するための最良の形態

以下に、本発明の実施の形態の例について、図面を参照して説明する。尚、各図において、同一または類似のものには同一の参照番号または、記号を付与して説明する。

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図２は、本発明の一実施形態の画像表示ブックマークシステム１００のシステム構成を示すブロック図である。画像表示ブックマークシステム１００は、処理装置１１０内のブックマーク処理部１１１およびデータ記憶装置１２０から構成される。前記処理部１１０は通常、パーソナルコンピュータまたはＵＮＩＸワークステーション等のＣＰＵであり、前記データ記憶部１２０は通常、前記パーソナルコンピュータまたはＵＮＩＸワークステーション等のハードディスク装置またはその他の記憶装置である。前記処理装置１１０と前記データ記憶装置１２０は、不図示のインタフェース回路を介してバス１４０に接続され、前記処理装置１１０は、前記バス１４０を介して前記データ記憶装置１２０内のデータを参照または更新することができる。

前記処理装置１１０はまた、前記処理装置１１０内の一機能である、ネットワークインタフェース部（通信制御部）１１２によって、インターネット１３０に接続される。前記接続は、公衆回線を経由したダイアルアップ接続、専用線を使用した専用線接続、その他任意の接続形態でよい。更に前記処理装置１１０は、前記バス１４０を介して入力装置１５０および表示装置１６０に接続される。前記入力装置１５０は典型的にはキーボードやマウスのような入力装置であり、前記処理装置１１０で実行されるプログラムに対して起動やその他の指示を行ったり、入力データを入力したりする。前記表示装置１５０は、通常ＣＲＴディスプレイのような表示装置であり、前記処理装置１１０で実行されるプログラムによって、指示および入力データが入力される入力画面や、処理結果が出力される出力画面が表示される。

前記処理装置１１０は、前記ブックマーク処理部１１１、前記ネットワークインタフェース部１１２、およびWWWブラウザ１１３を含んでおり、前記ブックマーク処理部１１１は、動作制御パラメータ編集部１１１ａ、ユーザ管理ファイル編集部１１１ｂ、ログイン制御部１１１ｃ、ブックマーク登録部１１

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１ｄ、ブックマーク表示制御部１１１ｅ、ブックマークデータファイル編集部１１１ｆ、自動巡回部１１１ｇおよびWWWページ表示制御部１１１ｈの各機能ブロックを含んでいる。前記ブックマーク処理部１１１は、前記WWWブラウザ１１３の一機能として組み込まれたり、またインライン・プラグインソフトとして提供されるなどして、前記WWWブラウザ１１３のブックマーク関連の機能を拡張するものである。

また、前記データ記憶装置１２０は、動作制御パラメータファイル１２１、ユーザ管理ファイル１２２、ブックマークデータファイル１２３、および縮小画像データファイル１２４の各ファイルを含んでいる。

前記動作制御パラメータ編集部１１１ａは、画像表示ブックマークシステム１００を動作させる上で必要な各種制御パラメータを設定し、または変更する機能を有し、これらの設定内容は前記動作制御パラメータファイル１２１内に保持される。前記ユーザ管理ファイル編集部１１１ｂは、ユーザ毎に必要な設定を行う機能を有し、これらの設定の内容は、前記ユーザ管理ファイル１２２内にユーザ毎に個別に保持される。前記ログイン制御部１１１ｃは、管理者および一般ユーザの画像表示ブックマークシステム１００へのログインを管理する。前記ブックマーク登録部１１１ｄは、WWWブラウザ１１３のユーザがブックマークの登録を指示した際に、前記WWWブラウザ１１３に表示されているページに関する情報を、前記ブックマークデータファイル１２３内に記憶させる。前記ブックマーク表示制御部１１１ｅは、前記動作制御パラメータファイル１２１、および前記ユーザ管理ファイル１２２の設定内容に従い、登録されたブックマークをブックマーク表示画面内に画像（アイコン）により表示させる。前記ブックマークデータファイル編集部１１１ｆは、各ユーザ毎に作成される前記ブックマークデータファイル１２３の内容の一部を編集する機能を有する。前記自動巡回部１１１ｇは、前記ユーザ管理ファイル１２２内に予め

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設定されている自動巡回指定時間情報に基づいて、前記ブックマークデータファイル１２３内の、各登録済みのブックマークについて、それぞれに対応するページに、例えば所定の時刻または所定の時間間隔毎にアクセスし、そのブックマークを最新の情報に自動的に更新する。前記WWWページ表示制御部１１１hは、WWWブラウザ１１３のユーザのブックマーク（アイコン）の指定に従い、前記ブックマークデータファイル１２３内の該指定されたブックマークに登録されているＵＲＬにインターネット１３０を経由してアクセスして、該ブックマークに登録されているページのＨＴＭＬ文書を取得し、該ＨＴＭＬ文書をWWWブラウザ１１３に渡し、前記WWWブラウザ１１３に該ページの画像を前記表示装置１６０に表示させる。尚、WWWページ表示制御部１１１hは、ブックマークから取得したＵＲＬをWWWブラウザ１１３に渡して、WWWブラウザ１１３に上述したアクセス処理および表示制御処理の一連の処理を依頼するようにしてもよい。

次に、上記構成の画像表示ブックマークシステム１００の動作を、図３Ａ～図１６Ｂを参照して説明する。

図３Ａには、画像表示ブックマークシステム１００のブックマーク表示画面２００の一実施例が示されている。画像表示ブックマークシステム１００は、登録された各ブックマークが画像により一覧表示されるブックマーク表示画面２００を表示できるようになっている。前記ブックマーク表示画面２００は、WWWブラウザ１００から、ブックマークの編集画面を表示させる従来の操作、またはブックマークをポップアップウインドウで簡易表示させる従来の操作（例えば、ネットスケープ・ナビゲータではブックマークボタン、インターネット・エクスプローラではお気に入りボタンの押下）等を行うことによって表示される。

なお、本願発明の画像表示ブックマークシステムをブラウザとは別個のプロ

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グラムで提供する場合には、ＷｉｎｄｏｗｓシステムのＡＰＩ（Ａｐｐｌｉｃａｔｉｏｎ　Ｐｒｏｇｒａｍｍｉｎｇ　Ｉｎｔｅｒｆａｃｅ）を利用し、WWWブラウザのタイトルに該当するウィンドウ識別子の取得、WWWブラウザウィンドウに対する入力メッセージの監視、及び、ブックマークの起動の通知の検出を行なって上記のようにブックマーク表示画面を表示させるようにする。

また、画像表示ブックマークシステムは、上記のように、WWWブラウザのブックマークの起動に従って起動する他に、WWWブラウザとは別個に起動してブックマーク登録画面を表示させておき、WWWブラウザにブックマーク登録したいＵＲＬ、及び、該当するページデータが表示されている状態で、別個に起動された画像表示ブックマークシステムのブックマーク登録画面上でその登録を指示してもよい。

前記ブックマーク表示画面２００は、メニュー部２３０、フォルダ表示部２１０、および画像表示部２２０で構成される。前記メニュー部２３０の「ファイル（Ｆ）」の部分をマウス（不図示）のクリック等の操作によって選択すると、このブックマーク表示画面２００上で実行可能な操作の一覧がプルダウンメニュー２４０として表示される。このプルダウンメニュー２４０の詳細は図３Ｂを参照しながら後述する。

また、前記メニュー部２３０の「ヘルプ（Ｈ）」の部分をマウスのクリック等で選択することによって、前記ブックマーク表示画面２００の操作に関するヘルプ情報を所定の形式で表示させることができる。前記フォルダ表示部２１０には、登録されている複数のブックマークを格納するいくつかのフォルダが表示され、通常各フォルダ毎に、あるカテゴリに属するブックマークが格納される。画像表示部２２０には、前記フォルダ表示部２１０で（マウスのクリックなどにより）選択されているフォルダ内にあるブックマークに対応したページのイメージを縮小した画像が表示されている。この例では、「Ｄｅｆａｕｌ

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ｔ」というフォルダ内に５つのブックマークがあり、それらに対応する各ページのイメージを縮小した画像（アイコン）２２１が５つ表示されている。「Ｄｅｆａｕｌｔ」というフォルダはこの５つのブックマークの他に、更に「サーチ」と「パソコンショップ」という名前の２つのフォルダ２１１を含んでおり、前記フォルダ表示部２１０でこれらのフォルダ２１１を選択すれば、前記画像表示部２２０には、指定されたフォルダに属する全てのブックマークに対応するページのイメージ画像の縮小画像２２１が表示される。

前記画像表示部２２０において前記画像２２１をマウスでクリックするなどして選択すると、その画像２２１に対応するブックマークに登録されたＵＲＬのＷｅｂサイトにインターネット１３０経由でアクセスが行われ、WWWブラウザ１００のＧＵＩ画面上の従来のページを表示する部分、即ちページ表示部（不図示）に、前記選択した前記画像２２１に対応したページが表示される。また、前記画像２２１は、ブックマーク表示制御部１１１ｅにより、最初は所定の規則で決定される位置に表示されるが、各画像２２１の表示位置を、マウスのドラッグ操作等で自由に変更することができる。

図３Ｂは、図３Ａのメニュー部２３０の「ファイル（Ｆ）」を選択した場合にプルダウンメニューとして展開される、前記ブックマーク表示画面２００の操作メニュー２４０を示している。ユーザは、「ログイン（Ｉ）」２４１～「アプリケーションの終了」２４６までのいずれかの項目をマウスにより選択することによって、それらの各項目に対応した操作を実行させることができる。

「ログイン（Ｉ）」２４１を選択すると、一般ユーザのログイン画面が表示され、前記ログイン制御部１１１ｃによって、該ログイン画面を介して入力される一般ユーザのユーザＩＤとパスワードがチェックされる（図８参照、その詳細は後述）。「ログアウト（Ｏ）」２４２を選択すると、新たなログインを可能とさせるために現在の一般ユーザのログインを終了させる。「パスワード変

更（P）」２４３を選択すると、前記一般ユーザのログインを行ったユーザのパスワードを変更するための画面（不図示）が表示され、その画面でパスワードを登録または変更することができる。

一般ユーザは自分のパスワードのみを登録または変更できるが、システム管理者が全ユーザのパスワードを管理できるように、システム管理者が全ユーザのパスワードを登録または変更できるよう構成することもできる。「システム設定（C）」２４４を選択すると、更に「ユーザ管理（U）」および「ＵＲＬ制限（A）」の各項目からなるサブメニュー（図５の４００）が表示され、更にこのサブメニュー内の項目を選択していくことによって、前記ユーザ管理ファイル１２２内の各項目に関する登録または変更を行うための画面が表示される（詳細は後述）。

「管理者（A）」２４５を選択すると、更に「ログイン（I）」と「ログアウト（O）」の各項目からなるサブメニュー（図７の６００）が表示され、ここで「ログイン（I）」を選択すると、システム管理者のパスワードを入力する画面が表示される。このパスワードは、前記ログイン制御部１１１ｃによって一般ユーザのログインの場合と同様にチェックされる。入力したパスワードが正しいと判定されると、後述するように、例えば、後述するユーザに対するＵＲＬアクセス制限を設定できるといった特別な権限が与えられる。前記サブメニュー６００で「ログアウト（O）」を選択すると、また新たなログインを可能とさせるために、現在のログインが終了される（詳細は後述）。「アプリケーションの終了（X）」２４６を選択すると、前記ブックマーク表示画面２００を表示させる前記ブックマーク表示制御部１１１ｅの処理が終了され、前記ブックマーク表示画面２００の表示が終了する。しかし、WWWブラウザ１００の前記ページ表示部の表示はそのまま実行され、ページの表示が続けられる。

図４は、動作制御パラメータ編集画面３００を示す図である。動作制御パラ

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メータ編集画面３００は、ユーザＩＤモード指定エリア３１０、ＵＲＬアクセス制限指定エリア３２０、デフォルトユーザＩＤ指定エリア３３０、ＯＫボタン３４０、およびキャンセルボタン３５０で構成され、前記ユーザＩＤモード指定エリア３１０およびＵＲＬアクセス制限指定エリア３２０はチェックボックス形式で表示される。動作制御パラメータ編集画面３００は、詳細に示されていないが、前記WWWブラウザ１００の前記ページ表示部または前記ブックマーク表示画面２００内の任意のメニュー内の項目またはボタン等の選択で、前記動作制御パラメータ編集部１１１ａが起動された結果、ポップアップウインドウで表示され、前記動作制御パラメータファイル１２１内にユーザＩＤモード、ＵＲＬアクセス制限、およびデフォルトユーザＩＤの各制御パラメータを設定するための入力領域が、それぞれ対応する指定エリア３１０、３２０、および３３０に表示される。

ここで、図１５Ａに示すように、前記動作制御パラメータファイル１２１内において、ユーザＩＤモードとＵＲＬアクセス制限の各制御パラメータは、ＹｅｓまたはＮｏといった文字形式またはそれらを示す値で記憶されるが、前記ユーザＩＤモード指定エリア３１０およびＵＲＬアクセス制限指定エリア３２０はチェックボックス形式の表示に際しては、例えば、Ｙｅｓはチェック有りに、Ｎｏはチェック無しに変換される。次に、前記動作制御パラメータ編集部１１１ａは、前記ＯＫボタン３４０がマウス等で選択（押下）されると、前記動作制御パラメータ編集画面３００を介して入力される内容を受信して、その内容に基づき、前記動作制御パラメータファイル１２１の内容を更新し、前記動作制御パラメータ編集画面３００を閉じる。このとき、前記チェックボックス３１０、３２０に対する入力チェック情報に関する変換は、前記変換とは逆に実施される。前記動作制御パラメータ編集部１１１ａは、前記キャンセルボタン３５０が選択されると、前記動作制御パラメータ編集画面３００に対する

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入力内容で前記動作制御パラメータファイル１２１の内容を更新することなく、前記動作制御パラメータ編集画面３００を閉じる。

ユーザＩＤモードがＹｅｓの場合、ブックマーク管理がユーザＩＤ毎に行われ、図１５Ｂのユーザ管理ファイル１２２に記憶される個々のユーザ名に対してブックマークが管理される。例えば図１５Ｃに示すブックマークデータファイル１２３では、ユーザＩＤ「ｄｅｆａｕｌｔ」と「ｋｅｎｔａ」の各ブックマークデータが別々に管理されている。ユーザＩＤモードがＮｏの場合、ユーザＩＤ毎のブックマーク管理は行われず、デフォルトユーザＩＤが唯一有効なユーザＩＤとなる。ＵＲＬアクセス制限がＮｏの場合、ユーザは前記WWWブラウザ１００のＧＵＩ画面上の場所指定エリア等で自由にＵＲＬを指定することができ、どんなページにもアクセスできる。ＵＲＬアクセス制限がＹｅｓの場合、前記WWWブラウザ１００のＧＵＩ画面上の場所指定エリア等でのＵＲＬの指定が抑止され、ユーザは予めブックマークに登録されたページにしかアクセスできない。

更に、図１５Ａの前記動作制御パラメータファイル１２１内のデフォルトピクセルには、前記ブックマーク表示画面２００の前記画像表示部２２０内に表示される画像２２１のデフォルトのサイズが指定され、ここでは、この値を変更することができない。一方各ユーザは、後述する図６Ｂの画像サイズ変更画面５１０で、個別に画像２２１のサイズを設定することができる。また、ここでは前記画像２２１のサイズの指定にピクセルを使用しているが、サイズを表すその他の単位を用いてもよい。

また、前記動作制御パラメータファイル１２１は、便宜上、図１５Ａにおいて、あたかも１ファイルを構成するかのように示されているが、実際には、それぞれのパラメータがそれぞれ異なるファイル内にあってもよい。

図５は、図３Ａと同様の前記ブックマーク表示画面２００を示しており、前

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記ブックマーク表示画面２００は、前記メニュー部２３０、前記フォルダ表示部２１０、画像表示部２２０、および複数の画像２２１を含んでいる。前記ユーザ管理ファイル編集部１１１ｂは、図５に示された前記ブックマーク表示画面２００において、プルダウンメニュー２４０からシステム設定（Ｃ）が選択され、更にその選択の結果表示されたサブメニュー４００からユーザ管理（Ｕ）が選択され、また更にその選択の結果表示されたサブメニュー４１０から新規ユーザ（Ｎ）が選択された場合に、図５のポップアップウインドウで示された新規ユーザＩＤ指定画面４２０を表示する。前記新規ユーザＩＤ指定画面４２０は、ユーザＩＤ入力エリア４２１、ＯＫボタン４２２、およびキャンセルボタン４２３から構成される。前記ユーザ管理ファイル編集部１１１ｂは、ＯＫボタン４２２が選択されると、いくつかのチェックを経て、ユーザＩＤ入力エリア４２１に入力されたユーザＩＤをユーザ名とするレコードを前記ユーザ管理ファイル１２２に追加し、前記新規ユーザＩＤ指定画面４２０を閉じる。この追加操作は、ＷＷＷブラウザ１００のユーザ全員が可能であるよう設定しても、また前記システム管理者のみが可能であるよう設定しても良い。また、前記ユーザ管理ファイル１２２にレコードが追加される際には、前記ユーザ名の他の項目（例えば、登録フラグ、画像のサイズ等）に自動的に所定のデフォルト値が設定される。また、前記ユーザ管理ファイル編集部１１１ｂは、キャンセルボタン４２３が選択されると、前記ユーザ管理ファイル１２２に新たなレコードを追加することなく、前記新規ユーザＩＤ指定画面４２０を閉じる。

前記サブメニュー４１０からユーザ削除（Ｄ）が選択された場合、前記ユーザ管理ファイル編集部１１１ｂは、ユーザＩＤを指定するエリアを含むユーザＩＤ指定画面（不図示）を表示する。削除対象のユーザＩＤが前記エリアに入力され、ＯＫボタンが選択されると、前記ユーザ管理ファイル１２２内の前記入力されたユーザＩＤをユーザ名とするレコードを削除し、必要であれば、前

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記ブックマークデータファイル１２３内の前記入力されたユーザＩＤに関連する全てのレコードを削除し、前記ユーザＩＤ指定画面を閉じる。こうした削除操作は、前記システム管理者のみが可能であるよう設定されていることが望ましい。また、最終的な確認の意味で、前記ユーザＩＤ画面の次に、その削除対象のユーザＩＤのパスワードを入力させるパスワード指定画面などを表示させることも可能である。

前記ユーザ管理ファイル編集部１１１ｂは、前記ユーザＩＤ指定画面においてキャンセルボタンが選択された場合、前記ユーザ管理ファイル１２２内のレコードおよび前記ブックマークデータファイル１２３内のレコードを削除することなく、前記ユーザＩＤ指定画面を閉じる。

図６Ａは、属性変更画面５００を示しており、属性変更画面５００は、ユーザＩＤ表示エリア５０１、ブックマーク登録可能指定エリア５０２、ブックマーク変更可能指定エリア５０３、ブックマーク削除可能指定エリア５０４、ＯＫボタン５０５、およびキャンセルボタン５０６から構成され、ブックマーク登録可能指定エリア５０２、ブックマーク変更可能指定エリア５０３、およびブックマーク削除可能指定エリア５０４は、チェックボックス形式で表示される。

前記ユーザ管理ファイル編集部１１１ｂは、図５に示された前記ブックマーク表示画面２００において、プルダウンメニュー２４０からシステム設定（Ｃ）が選択され、更にその選択の結果表示されたサブメニュー４００からＵＲＬ制限（Ａ）が選択された場合に、現在ログインしているユーザがシステム管理者であれば、図４のポップアップウインドウで示された前記新規ユーザＩＤ指定画面４２０と同様の画面（不図示）を表示する。前記ユーザ管理ファイル編集部１１１ｂはここで、ユーザ、即ちシステム管理者がＵＲＬのアクセス制限を指定しようとするユーザＩＤ（前記動作制御パラメータファイル１２１内の

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ユーザＩＤモードがＮｏの場合は、前記動作制御パラメータファイル１２１内のデフォルトユーザＩＤ）を指定し、ＯＫボタンを選択すると、図６Ａのポップアップウインドウで示された前記属性変更画面５００を表示する。この画面５００を用いて、指定したユーザのＵＲＬのアクセス制限（即ちブックマークの登録、変更、および削除に関する権限）を設定する。

これら制限の設定は、ここではシステム管理者にのみ許されるようになっているが、他の基準を設けてシステム管理者以外がこれらの設定を行えるようにしても良い。現在ログインしているユーザがシステム管理者でなければ、初めからこうしたメニュー選択ができないようになっているか、前記メニューの選択時にエラーメッセージが表示されるか、またはその他の適当な応答が返され、実質的に前記属性変更画面５００の使用が抑止される。前記ユーザ管理ファイル編集部１１１ｂは、前記属性変更画面５００を最初に表示した際、ユーザＩＤ表示エリア５０１に、前記新規ユーザＩＤ指定画面４２０と同様の画面で指定したユーザのＩＤを表示し、ブックマーク登録可能指定エリア５０２、ブックマーク変更可能指定エリア５０３、およびブックマーク削除可能指定エリア５０４にそれぞれ、前記ユーザ管理ファイル１２２内の前記ユーザＩＤに対応する登録フラグ、変更フラグ、および削除フラグの内容を表示する。前記登録フラグ、変更フラグ、および削除フラグは、ＹｅｓまたはＮｏの値を持つので、前記属性変更画面５００のブックマーク登録可能指定エリア５０２、ブックマーク変更可能指定エリア５０３、およびブックマーク削除可能指定エリア５０４のチェックボックス形式の表示に合わせて、Ｙｅｓであればチェック有りに、Ｎｏであればチェック無しに変換した上で表示を行う。

前記ユーザ管理ファイル編集部１１１ｂは、ＯＫボタン５０５が選択されると、いくつかのチェックを経て、ユーザＩＤ表示エリア５０１に表示されたユーザＩＤをユーザ名とする前記ユーザ管理ファイル１２２内のレコードの登録

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フラグ、変更フラグ、および削除フラグを、それぞれブックマーク登録可能指定エリア５０２、ブックマーク変更可能指定エリア５０３、およびブックマーク削除可能指定エリア５０４に入力された値に更新し、前記属性変更画面５００を閉じる。この際、前述した変換とは逆に、チェックボックス５０２～５０４に対するチェックの有無から、ＹｅｓまたはＮｏの値への変換が行われる。また、前記ユーザ管理ファイル編集部１１１ｂは、キャンセルボタン５０６が選択されると、前記ユーザ管理ファイル１２２内のいかなるレコードも更新することなく、前記属性変更画面５００を閉じる。

前記動作制御パラメータファイル１２１のＵＲＬアクセス制限がＮｏのとき、各ユーザ毎の前記ユーザ管理ファイル１２２内のレコードの登録フラグ、変更フラグ、および削除フラグが有効になる。登録フラグがＹｅｓの場合、ユーザは所望のページをブックマークとして登録することができ、Ｎｏの場合はその登録が禁止される。変更フラグおよび削除フラグも同様に、Ｙｅｓの場合はブックマークの変更、削除が可能で、Ｎｏの場合は禁止される。

図６Ｂは、画像サイズ変更画面５１０を示しており、この画面５１０はユーザＩＤ表示エリア５１１、サイズ（縦）指定エリア５１２、サイズ（横）指定エリア５１３、ＯＫボタン５１４、およびキャンセルボタン５１５から構成される。前記ユーザ管理ファイル編集部１１１ｂは、図５に示された前記ブックマーク表示画面２００において、プルダウンメニュー２４０からシステム設定（Ｃ）が選択され、更にその選択の結果表示されたサブメニュー４００からユーザ管理（Ｕ）が選択され、また更にその選択の結果表示されたサブメニュー４１０からユーザ属性（Ａ）が選択された場合に、図６Ｂのポップアップウインドウで示された画像サイズ変更画面５１０を表示する。前記ユーザ管理ファイル編集部１１１ｂは、ＯＫボタン５１４が選択されると、いくつかのチェックを経て、サイズ（縦）指定エリア５１２およびサイズ（横）指定エリア５１

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３内に入力された値を、前記ユーザ管理ファイル１２２内の、前記ユーザＩＤ表示エリア５１１に表示されたユーザＩＤをユーザ名とするレコードに登録する。即ち、該レコードの画像のサイズのｘおよびｙの値を、それぞれ、サイズ（縦）指定エリア５１２およびサイズ（横）指定エリア５１３内に入力された値に更新し、前記画像サイズ変更画面５１０を閉じる。この更新操作は、ＷＷＷブラウザ１００のユーザ全員が可能であるよう設定しても、また前記システム管理者のみが可能であるよう設定しても良い。また、前記ユーザ管理ファイル編集部１１１ｂは、キャンセルボタン５１５が選択されると、前記ユーザ管理ファイル１２２内のいかなるレコードも更新することなく、前記画像サイズ変更画面５１０を閉じる。

図７は、図３Ａと同様の前記ブックマーク表示画面２００を示しており、前記メニュー部２３０、前記フォルダ表示部２１０、画像表示部２２０、および複数の画像２２１を含んでいる。前記ログイン制御部１１１ｃは、図７に示された前記ブックマーク表示画面２００において、プルダウンメニュー２４０から管理者（Ａ）が選択され、更にその選択の結果表示されたサブメニュー６００からログイン（Ｉ）が選択された場合に、図７のポップアップウインドウで示されたパスワード指定画面６１０を表示する。前記パスワード指定画面６１０は、パスワード入力エリア６１１、ＯＫボタン６１２、およびキャンセルボタン６１３から構成される。前記ログイン制御部１１１ｃは、ＯＫボタン６１２が選択されると、入力された管理者のパスワードをチェックする。前記管理者のパスワードのチェックは、予め所定の領域に記憶されている前記管理者のパスワードと前記入力されたパスワードとの比較をすることによって行われる。前記ログイン制御部１１１ｃは、両者のパスワードが一致すれば、前記パスワード指定画面６１０を閉じ、管理者としてのログインが完了する。前記ログイン制御部１１１ｃは、両者のパスワードが一致しない場合、所定のエラーメ

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ッセージを出力する。

また、前記ログイン制御部１１１ｃは、図７に示された前記ブックマーク表示画面２００において、プルダウンメニュー２４０から管理者（Ａ）が選択され、更にその選択の結果表示されたサブメニュー６００からログアウト（Ｏ）が選択された場合、前述のようにログインされたシステム管理者のログアウトを完了させ、新たなログインが可能となるような状態にする。

図８は、図３Ａと同様の前記ブックマーク表示画面２００を示しており、前記メニュー部２３０、前記フォルダ表示部２１０、画像表示部２２０、および複数の画像２２１を含んでいる。前記ログイン制御部１１１ｃは、図８に示された前記ブックマーク表示画面２００において、プルダウンメニュー２４０からログイン（Ｉ）が選択された場合に、図８の第１のポップアップウインドウで示されたユーザＩＤ指定画面７００を表示する。前記ユーザＩＤ指定画面７００は、ユーザＩＤ入力エリア７０１、ＯＫボタン７０２、およびキャンセルボタン７０３から構成される。前記ログイン制御部１１１ｃは、ＯＫボタン７０２が選択されると、図７に示す第２のポップアップウインドウのパスワード指定画面７１０を表示する。

一方、前記ログイン制御部１１１ｃは、キャンセルボタン７０３が選択された場合は、前記ユーザＩＤ指定画面７００を閉じ、ログインは行われない。前記パスワード指定画面７１０は、パスワード入力エリア７１１、ＯＫボタン７１２、およびキャンセルボタン７１３から構成される。ここで、前記ログイン制御部１１１ｃは、ＯＫボタン７１２が選択されると、前記ユーザＩＤ指定画面７００で入力されたユーザＩＤに対応するユーザ名のレコードが前記ユーザ管理ファイル１２２内に存在し、かつ、前記レコードに記憶されたパスワードが前記パスワード指定画面７１０で入力されたパスワードと一致するかどうかを判定する。前記ログイン制御部１１１ｃは、前記判定の条件を満たさない場

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合、ここで所定のエラーメッセージを表示し、前記パスワード指定画面７１０のパスワード入力エリア７１１に再入力を促すかまたは、前記ユーザＩＤ指定画面７００と前記パスワード指定画面７１０を閉じる。前記ログイン制御部１１１ｃは、キャンセルボタン７１３が選択された場合は、前記判定を行うことなく前記ユーザＩＤ指定画面７００と前記パスワード指定画面７１０を閉じ、ログインは行われない。前記ログイン制御部１１１ｃは、前記判定条件を満たす場合、そのパスワードを入力したユーザを一般ユーザとして前記画像表示ブックマークシステムにログインさせる。前記ログインが許可されたユーザは、以後、前記ユーザ管理ファイル１２２内に設定されている、そのユーザのブックマークの登録、変更、および削除の権限に従って、前記画像表示ブックマークシステム１００を利用することができる。

図９は、ブックマークの登録の処理フローを示している。最初に、WWWブラウザ１００のユーザによってブックマークの登録が指示される（ステップＳ１０）。このブックマークの登録指示は、例えば、WWWブラウザ１００のページ表示部に所望のページを表示しているときに、従来の方法によってWWWブラウザのＧＵＩ画面上でブックマークの登録を指示するものである。このとき、ブックマーク登録部１１１ｄが起動され、ブックマーク登録部１１１ｄは、前記WWWブラウザ１００のＧＵＩ画面上の前記ページ表示部に表示されているアクティブ画面のイメージデータをメモリなどの記憶装置にキャプチャ（保存）する（ステップＳ１１）。なお、本願発明の画像表示ブックマークシステムをブラウザとは別個のプログラムで提供する場合には、ブックマーク登録部は、ＷｉｎｄｏｗｓシステムのＡＰＩ（Ａｐｐｌｉｃａｔｉｏｎ　Ｐｒｏｇｒａｍｍｉｎｇ　Ｉｎｔｅｒｆａｃｅ）を利用し、WWWブラウザのタイトルから取得したウィンドウ識別子の指定と、WWWブラウザ上のＵＲＬの表示部から登録指定されたＵＲＬデータの取得を行なうと共に、ページデータの表示

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部から該当するページデータの画像をキャプチャする。このキャプチャは、ここではページのデータ全てではなく、前記WWWブラウザ１００の前記ページ表示部に表示されたアクティブ画面のデータのみがキャプチャされる。なお、アクティブ画面とは、一般に、マルチウィンドウ環境で、キー入力やマウス操作等が受け付けられるウィンドウを意味する。また、前記ブックマーク登録部１１１ｄは必要に応じて、前記アクティブ画面を含むページの全体または任意の部分をキャプチャすることもでき、この場合、WWWブラウザ１００によって表示されていない部分もキャプチャされうる。また通常は、表示画像と同じ品質（解像度およびカラー（例えば２５６色カラー、８ビットグレースケール、または１ビットモノクロ））でキャプチャされるが、記憶資源やＣＰＵ能力の関係で、前記画像の品質を低下させることもできる。次に、ブックマーク登録部１１１ｄは、前記キャプチャした画像を、前記ユーザ管理ファイル１２２内の、現在ログインしているユーザＩＤに対応するユーザ名を有するレコードに指定されている画像のサイズ（ｘ、ｙ）に縮小する（ステップＳ１２）。前記キャプチャ画像の縮小は、例えば図１０に示すように行われる。図１０の斜線の領域（２）は、ページの本来のサイズを示しており、前記WWWブラウザ１００のＧＵＩ画面上の前記ページ表示部に表示される領域が（１）で示されている。前記WWWブラウザ１００のＧＵＩ画面上の前記ページ表示部のサイズは変更可能であるが、ここでは便宜上、横３００ピクセル、縦１５０ピクセルからなる領域（１）として示すことにする。ステップＳ１１でキャプチャされる画像は、前記領域（１）に表示されたページの画像であり、この例のように、本来のページの一部であることもあるし、ページ全体であることもある。

ステップＳ１２で取得した画像のサイズ（ｘ、ｙ）が（１００、１００）、即ち横１００ピクセル、縦１００ピクセルであった場合、前記領域（１）が図１０の領域（３）に縮小される。この縮小は、縦を１５０ピクセルから１００

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ピクセルに、横を３００ピクセルから１００ピクセルに変換するものであり、結果的に縦方向に２／３、横方向に１／３縮小される。横方向に１／３縮小する場合には、３つのピクセルを１つのピクセルで表す必要があり、このとき、例えば横に並んだ３つのピクセルのカラーの平均値を取ったり、代表の１ピクセルを選択するといった従来の方法で、前記３つのピクセルを１つのピクセルに変換することによって縮小が行われる。

次に、ブックマーク登録部１１１ｄは、前記ページの縮小されたキャプチャ画像のファイル名、タイトル、およびＵＲＬをそれぞれ、現在ログインしている前記ユーザ用の前記ブックマークデータファイル１２３の新規追加レコードの画像ファイル名、タイトル、およびＵＲＬの各フィールドに格納し、前記縮小されたキャプチャ画面のイメージデータを前記縮小画像データファイル１２４に格納する（ステップＳ１３）。また、自動巡回部１１１ｇが、後述するように、ページが更新されたかどうかを判定する場合は、このブックマークの登録時点で、そのページの内容の最新の更新日時を取得し、その更新日時を前記ブックマークデータファイル１２３等に初期値として記憶しておく必要がある。次に、今度はブックマーク表示制御部１１１ｅが、前記ページの縮小されたキャプチャ画像を前記ブックマーク表示画面２００の前記画像表示部２２０に表示させる（ステップＳ１４）。

その後、前記ブックマーク登録部１１１ｄは、それぞれの縮小されたキャプチャ画像が表示された座標を、前記ブックマークデータファイル１２３の当該レコード内の「画像を表示する座標値」フィールドに記憶させる。この「画像を表示する座標値」フィールドの内容はその後、ＷＷＷブラウザ１００の一般ユーザやシステム管理者が前記表示された画像２２１をマウスでドラッグ操作をすることなどによって前記画像２２１の表示位置を変更した場合にその表示位置に応じてブックマーク登録部１１１ｄにより自動的に変更されるが、この

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例では、WWWブラウザ１００の一般ユーザやシステム管理者がこの「画像を表示する座標値」フィールドの内容を直接入力して変更することはできないようになっている。図１１は、WWWブラウザ１００のＧＵＩ画面上の前記ページ表示部から、ブックマーク編集画面２００を表示させるために、初めて前記ブックマーク表示制御部１１１ｅが起動された場合（即ちデフォルトのユーザで起動された場合）の処理フローを示す。最初にブックマーク表示画面２００を表示させるよう指示する。ここで前記ブックマーク表示制御部１１１ｅが起動され（ステップＳ２０）、前記ブックマーク表示制御部１１１ｅは、前記動作制御パラメータファイル１２１内に設定された各制御パラメータの値を読み込む（ステップＳ２１）。次に、前記ブックマーク表示制御部１１１ｅは前記ユーザ管理ファイル１２２から、前記動作制御パラメータファイル１２１から読み取ったデフォルトユーザＩＤと同じユーザ名のレコードを検索する（ステップＳ２２）。

続いて、前記デフォルトユーザＩＤと同じユーザ名のレコードが前記ユーザ管理ファイル１２２内に存在するかどうかを判定し（ステップＳ２３）、存在しなければ（ステップＳ２３、Ｎｏ）、前記ブックマーク表示制御部１１１ｅは処理を終了する。一方、存在した場合（ステップＳ２３、Ｙｅｓ）、前記ブックマーク表示制御部１１１ｅは、前記デフォルトユーザＩＤ用の前記ブックマークデータファイル１２３の全レコードから画像ファイル名を読み込み（ステップＳ２４）、次に前記画像ファイル名を有する画像ファイルを前記縮小画像データファイル１２４から読み込み、該画像ファイルを、所定の規則に従って、前記ブックマーク表示画面２００の画像表示部２２０内に全て表示し（ステップＳ２５）、処理を終了する。このとき、前記ブックマーク表示制御部１１１ｅは、前記ブックマーク登録部１１１ｄを介して、それぞれの画像について、それらが表示された座標を、前記ブックマークデータファイル１２３の対

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応するレコード内の「画像を表示する座標値」フィールドに登録する。

図１２は、一般ユーザがユーザＩＤを入力した後、そのユーザＩＤのブックマークを表示する処理フローを示す。図８のユーザＩＤ指定画面７００にユーザＩＤを入力し、ＯＫボタン７０２を選択すると、前記ログイン制御部１１１ｃが起動される（ステップＳ３０）。次に、前記ログイン制御部１１１ｃがパスワード指定画面７１０を表示させ、その画面のパスワード入力エリア７１１にユーザからパスワードが入力される（ステップＳ３１）。前記ログイン制御部１１１ｃは、このパスワードを前記ユーザ管理ファイル１２２の前記入力されたユーザＩＤ（ユーザ名）を有するレコードのパスワードと比較し（ステップＳ３２）、ユーザＩＤとパスワードが共に正しくなければ処理を終了する（ステップＳ３２、ＮＧ）。

一方、ユーザＩＤとパスワードが共に正しければ（ステップＳ３２、ＯＫ）、今度は前記ブックマーク表示制御部１１１ｅが、前記ユーザ管理ファイル１２２の前記ユーザ名を有するレコードから登録フラグ、変更フラグ、削除フラグ、および画像のサイズ等のプロファイル情報を読み込む（ステップＳ３３）。次に、前記ブックマーク表示制御部１１１ｅが、前記ユーザＩＤ用の前記ブックマークデータファイル１２３の全レコードから画像ファイル名を読み込み、次に前記画像ファイル名を有する画像ファイルを前記縮小画像データファイル１２４から読み込み（ステップＳ３４）、現在表示されているブックマーク画面２００のフォルダ表示部２１０および画像表示部２２０の表示をクリアする（ステップＳ３５）。その後、ステップＳ３４で読み込んだ全ての縮小画像データファイル１２４の内容（画像２２１）をブックマークデータとして所定の規則に従って、前記ブックマーク表示画面２００の画像表示部２２０内に表示させ（ステップＳ３６）、処理を終了する。このとき、前記ブックマーク表示制御部１１１ｅは、前記ブックマーク登録部１１１ｄを介して、それぞれの

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画像２２１について、それらが表示された座標を、前記ブックマークデータファイル１２３の対応するレコード内の「画像を表示する座標値」フィールドに記憶させる。

図１３は、ブックマークデータファイルの編集画面８００を示している。前記ブックマークデータファイル編集画面８００は、前記ブックマーク編集画面２００の画像表示部２２０に表示された画像２２１のプロパティ（タイトル、ＵＲＬ、コメント）を前記ブックマークデータファイル１２３の当該レコードから読み出すことによって前記ブックマークデータファイル編集部１１１ｆによって表示される。前記ブックマークデータファイル編集画面８００は、タイトル入力エリア８０１、ＵＲＬ入力エリア８０２、コメント入力エリア８０３、ＯＫボタン８０４、およびキャンセルボタン８０５からなる。前記ＯＫボタン８０４が選択されると、前記ブックマークデータファイル編集部１１１ｆが、前記タイトル入力エリア８０１、前記ＵＲＬ入力エリア８０２、および前記コメント入力エリア８０３の入力内容で、それぞれ、前記ブックマークデータファイル１２３内の前記画像２２１に対応するブックマークのデータが記録されたレコードのタイトル、ＵＲＬ、およびコメントの各フィールドを更新する。前記タイトルおよび前記コメントは、ユーザの便宜のため自由に変更することが許されるが、前記ＵＲＬは、変更によって実際にアクセスするページが異なったり、見つからなくなったりするので、注意が必要である。キャンセルボタン８０５が選択されると、前記ブックマークデータファイル編集部１１１ｆは、前記ブックマークデータファイル１２３の更新をすることなく終了する。

図１４は、ユーザが所望のページを表示させるために、ブックマーク表示画面２００の画像表示部２２０から前記ページに対応する画像２２１をクリックして、ＷＷＷブラウザ１００のＧＵＩ画面上の前記ページ表示部にそのページを表示させるまでの処理フローを示す。図１４は、ＷＷＷページ表示制御部１

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１１ｈの処理フローを示すものであるが、２つのセクション（１）、（２）に分かれており、（１）が本実施形態のWWWページ表示制御部１１１ｈが有する機能であり、（２）がWWWブラウザ１１３が有する機能である。最初に前記ブックマーク表示画面２００の画像表示部２２０に示された画像２２１の１つをマウスによりクリックすると（ステップＳ４０）、WWWページ表示制御部１１１ｈが、前記画像２２１の表示座標値を基にして、ブックマークデータファイル１２３の前記画像２２１に対応するレコードから、ＵＲＬを読み込む（ステップＳ４１）。次に、WWWページ表示制御部１１１ｈは前記取得したＵＲＬをWWWブラウザ１１３に送信（通知）する（ステップＳ４２）。前記WWWブラウザ１１３は、前記ＵＲＬを受信すると（ステップＳ４３）、前記ＵＲＬの示すWWWサーバにインターネット１３０を介してアクセスして、該WWWサーバから該ＵＲＬの示すページを受信し（ステップＳ４４）、前記WWWブラウザ１００のＧＵＩ画面上のページ表示部に、従来と同様の方法により該ページを表示させ（ステップＳ４５）、処理を終了する。

なお、本願発明の画像表示ブックマークシステムをブラウザとは別個のプログラムで提供する場合には、WWWページ表示制御部が、WWWブラウザに指定されたブックマークに該当するＵＲＬを通知してブラウザ上で表示させるようにする。この制御を行なう場合、例えば、Ｗｉｎｄｏｗｓシステムであれば、ＤＤＥ（Ｄｙｎａｍｉｃ　Ｄａｔａ　Ｅｘｃｈａｎｇｅ）のようなアプリケーション間通信の機能を利用することができる。

ＤＤＥは、プロセス間通信であり、共用メモリを使用してアプリケーション間でデータを交換する。送信側のアプリケーションソフトウェアは、１回限りのデータ転送を行なう場合や、新しいデータが利用可能になったときに受信側のアプリケーションソフトウェアに更新内容を送る場合のリアルタイムデータ交換にＤＤＥを使用することができる。このＤＤＥは、通常、ユーザが係わる

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ことなく、アプリケーション間で自動的に実行される。

WWWブラウザは、他のアプリケーションとのＤＤＥデータ交換方法について取り決めがあり、WWWブラウザとデータ交換するアプリケーションは、この取り決めに従ってWWWブラウザにデータを通知する。つまり、ブックマーク一覧から指定された画像に対応するＵＲＬをWWWブラウザに通知して表示させたい場合には、ＵＲＬやブラウザのウィンドウＩＤ等を、WWWブラウザ表示制御部が取り決めに従って通知することにより、WWWブラウザが指定されたＵＲＬを開き、対応するページの内容が表示される。また、WWWブラウザ表示制御部が指定されたＵＲＬに従ってＨＴＭＬ文書を取得した場合でも、同様に、取り決めに従って、ＵＲＬやブラウザのウィンドウＩＤ等をWWWブラウザに通知することにより、WWWブラウザでページの内容が表示される。

ところで、図１４では、従来の機能と区別しやすくするために、２つのセクションに分けて処理フローを示しているが、この分割セクションに従ってプログラムやプロセスが実際に分割されているとは限らない。従って、ステップＳ４２とステップＳ４３におけるＵＲＬの送受信も、実際には必要が無い可能性がある。

自動巡回部１１１ｇは、ユーザ毎に前記ユーザ管理ファイル１２２内に格納されている前回巡回日時から、同ファイル１２２内に格納されている自動巡回（分）だけ経過した時に、その時点で前記ユーザに関して登録されている全てのブックマーク（即ち、前記ユーザ用のブックマークデータファイル１２３に格納されているブックマークデータ）に対応するページ全てを、インターネット１３０を介して自動的に次から次に巡回し、前記ブックマークデータの前記縮小された画像およびタイトルを最新のものに更新する。前記自動巡回部１１１ｇによる前記縮小された画像の更新は、ブックマーク登録部１１１ｄと同様、前記ページの画像のキャプチャを行い、その後そのキャプチャ画像を縮小し

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、その縮小された画像を、そのユーザの前記ブックマークデータファイル１２３内の当該レコードに登録された画像ファイル名で前記縮小画像データファイル１２４内に記憶することにより行われる。前記ユーザ管理ファイル１２２内の前記自動巡回（分）の値の設定・編集は、ここでは示していないが、ユーザが所定の編集画面によって、ユーザ毎に行うことができる。また、前記ユーザ管理ファイル１２２内の前記巡回日時は、前記自動巡回部１１１ｇが自動巡回する毎に、前記自動巡回部１１１ｇによって自動的に更新される。通常、前記自動巡回部１１１ｇは、前記自動巡回（分）が経過した時点で、前記自動巡回部１１１ｇが実行されるコンピュータに電源が投入されており、かつ前記ＷＷＷブラウザ１１３がそのコンピュータ上で起動されている条件でのみ実行されるが、前記条件以外であったために前記自動巡回（分）が経過した時点で実行されなかった自動巡回部１１１ｇは、次に前記条件が満たされた時点で実行することもできる。

また、こうしたページの自動巡回が行われる際に、ページのアドレス（ＵＲＬ）が変更になっていることが多く、そのために、実際のページの画面の代わりにエラーメッセージを示す画面（例えば、アドレスの変更によるページの検索不能（Ｎｏｔ　Ｆｏｕｎｄ）を示す画面）をキャプチャしてしまうことがある。しかし、本実施形態の自動巡回部１１１ｇは、こうした状況において、Ｗｅｂサイト側で所定の非表示タグを有するＨＴＭＬファイルを、変更前のアドレス（ＵＲＬ）に用意しておけば、そのタグ情報を参照することによって、アドレス（ＵＲＬ）の変更されたページを、その巡回においてアクセスすることができる。前記ＨＴＭＬファイルは、例えば「＜ＲＥＬＯＣＡＴＥ　ＤＡＴＥ＝“１９９７／０９／０８　１２：０１：００”　ＲＥＵＲＬ＝“ｈｔｔｐ：／／ｗｗｗ．ｘｘｘ．ｎｅ．ｊｐ／”　ＴＹＰＥ＝“ＨＩＤＤＥＮ”＞」といった内容のものである。ここで、「ＴＹＰＥ＝“ＨＩＤＤＥＮ”」は、このタグ

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全体をブラウザ上に表示しないことを指定する既知のＨＴＭＬの指定である。「ＤＡＴＥ」にはＵＲＬが変更になった日時、「ＲＥＵＲＬ」には変更後のＵＲＬを指定しておくものとする。前記自動巡回部１１１ｇは、自動巡回の際にこの「＜ＲＥＬＯＣＡＴＥ ...」のタグを受け取ると、「ＲＥＵＲＬ」で指定されたアドレス（ＵＲＬ）にアクセスを行い、そのアドレスのページのタイトル、ＵＲＬ、および縮小された画像を取得し、前述したように、前記ブックマークデータファイル１２３の当該レコードと前記ページの縮小画像データファイル１２４を最新の内容に更新する。後述する更新情報を表示しようとする場合は、前記「ＤＡＴＥ」に指定された変更日時を更新日時とし、更新があったことを示すフラグ「１」を更新フラグとして前記ブックマークデータファイル１２３等に記憶する（図１５Ｃのブックマークデータファイル１２３の例では、前記更新日時および前記更新フラグに対応する項目は示されていない）。

また、アドレス（ＵＲＬ）の変更はないが、ページの内容を変更した場合に、そのページの管理者等が前記「＜ＲＥＬＯＣＡＴＥ ...」のタグと同様の非表示タグにより、一定の規則に従って最新の更新日時を指定すれば、前記自動巡回部１１１ｇは、そのページの前記最新の更新日時を取得することができ、後述する更新情報を表示しようとする場合は、前記最新の更新日時を前記ブックマークデータファイル１２３等に記憶し、更に、前記ブックマークデータファイル１２３等に今まで記憶されていた、以前の更新日時と前記最新の更新日時が異なるかどうか、即ちそのページが前回の巡回時以降に更新されているかどうかを示すフラグ（例えば、フラグ「１」の場合は更新有り、フラグ「０」の場合は更新無し）を更新フラグとして前記ブックマークデータファイル１２３等に記憶する。尚、前記ブックマーク登録部１１１ｄは、ブックマーク登録時に、そのページの前記最新の更新日時を取得し、その更新日時を前記ブックマークデータファイル１２３等に記憶しておく必要がある。

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この自動巡回部１１１ｇの処理によって、ユーザは、前記ユーザ管理ファイル１２２に定義した自動巡回（分）の間隔毎に、最新のページに関する画像をキャプチャし、縮小することができ、結果的に前記ブックマーク表示制御部１１１ｅによって、前記最新の縮小画像２２１を前記ブックマーク表示画面２００の画像表示部２２０内に表示することができる。

図１５Ａは、前記動作制御パラメータファイル１２１の構成を示しており、動作制御パラメータファイル１２１には、ユーザＩＤモード、ＵＲＬアクセス制限、デフォルトユーザＩＤ、およびデフォルトピクセルの各動作制御パラメータが格納される。前記各パラメータの内容は前述の通りである。

図１５Ｂは、前記ユーザ管理ファイル１２２の構成を示しており、前記ユーザ管理ファイル１２２は、各ユーザ毎にレコードを有し、前記レコードは、「ユーザ名」、「パスワード」、「登録フラグ」、「変更フラグ」、「削除フラグ」、「自動巡回（分）」、「前回巡回日時」、および「画像のサイズ」の各フィールドから成っている。前記各フィールドの内容は前述の通りである。

図１５Ｃは、各ユーザ毎に作成される前記ブックマークデータファイル１２３の構成を示しており、前記ブックマークデータファイル１２３は、ブックマークとして登録された各ページ毎にレコードを有し、またそのレコードは「タイトル」、「ＵＲＬ」、「画像ファイル名」、「コメント」、および「画像を表示する座標値」の各フィールドから成っている。前記各フィールドの内容は前述の通りである。

また、前記ブックマーク表示画面２００のフォルダ表示部２１０には、フォルダ２１１が階層的に示されるが、これらの階層構造に関する情報は、例えば、前記ブックマークデータファイル１２３自体を、ユーザ毎に、これらの階層構造で記憶することによって保持されうる。

図１５Ｄは、データ記憶装置１２０での前記ブックマークデータファイル１

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２３内の各「画像ファイル名」を有する前記縮小画像データファイル１２４の格納形態を示している。画像ファイル名には例として「ｘｘｘ１．ｂｍｐ」、「ｘｘｘ２．ｂｍｐ」といったＢＭＰファイル形式が示されているが、前記ブックマーク表示画面２００で表示可能なあらゆる画像ファイル形式が可能であり、この例に制限されるものではない。

図１６Ａには、本発明の第２の実施形態の画像表示ブックマークシステムによって表示される第二の実施例のブックマーク表示画面２００Ａが示されている。図１６Ａに示すブックマーク表示画面２００Ａは、画像表示部２２０Ａ内の画像２２１毎に、タイトル・更新情報表示部９００が付加された以外は、図３Ａに示すブックマーク表示画面２００と同じである。前記タイトル・更新情報表示部９００には、図１６Ｂによって詳細に示すように、画像２２１、即ちページのタイトルを表示するタイトル表示部９１０と、更新情報を示す更新情報表示部９２０から構成される。前記タイトル表示部９１０に示されたページのタイトルは、前記ブックマーク表示制御部１１１ｅが前記ブックマークデータファイル１２３内の各レコードのタイトルというフィールドに格納されたページのタイトルを表示することによって表示される。図１６Ｂの例では、「Ｙｅｌｌｏｗ　Ｐａｇｅｓ」というタイトルが表示されている。前記ページのタイトルは、前述のように、前記ブックマーク登録部１１１ｄによって、最初に前記ブックマークデータファイル１２３の各レコードのタイトルというフィールドに格納される。また、その後そのタイトルに変更があれば、前記自動巡回部１１１ｇによって、前記フィールドが更新される。前記タイトル表示部９１０にページのタイトルを表示することによって、前記画像２２１によって容易にブックマークを識別できる利点に加えて、前記タイトル表示部９１０に表示されるタイトルによってもブックマークを識別し、確認することができる。更に前記タイトルは、前記自動巡回部１１１ｇにおいて、エラー（ＷＷＷサーバ

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のビジー状態によるタイムオーバや、ページのアドレス（ＵＲＬ）の変更によるページの検索不能（Ｎｏｔ　Ｆｏｕｎｄ））等の原因で、ページの実際の画像ではなく、これらのエラーメッセージを示す画面等が得られた場合に、ページを識別する助けとなる。

また、前記自動巡回部１１１ｇは巡回の際に、前述のように、前回の巡回時からページの内容またはアドレスが更新されているかどうかを示す更新フラグを、前記ブックマークデータファイル１２３等に保存する。この更新フラグに基づいて、前記ブックマーク表示制御部１１１ｅは、図１６Ｂに示すように、前記ブックマーク表示画面２００Ａの画像表示部２２０Ａ内の各ページに対応する画像２２１の下部右側（更新情報表示部９２０）に、例えば「ＵＰＤＡＴＥ」という文字を表示する。前記自動巡回部１１１ｇは、前記ページの内容またはアドレスの更新が前回の巡回から行われていないと判定した場合は、前記ブックマークデータファイル１２３等に保持された前記更新フラグをクリアし、その後前記ブックマーク表示制御部１１１ｅが、前記ブックマーク表示画面２００を表示する際に、前記更新フラグを参照して、前記更新情報表示部９２０の表示内容をクリアする。これによってユーザは、どのページが前回の巡回時から、アドレス（ＵＲＬ）または内容が更新されているのかを容易に知ることができる。

ここで説明される画面遷移、画面構成およびファイル構造については、本発明を説明するための一例として開示したに過ぎず、当業者は他の多くの画面遷移、画面構成およびファイル構造を考えることができる。

また、操作の説明に関しては、マイクロソフト社のＷｉｎｄｏｗｓ９５の操作に基づいて行っているが、本発明は、こうした個別のＯＳ（オペレーティング・システム）に制限されるものではなく、アップル社のＭａｃＯＳ、サンマイクロシステムズ社のＳｏｌａｒｉｓ，ＳｕｎＯＳなどのその他のＯＳを含む

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任意の動作環境（プラットフォーム）で実行され得る。

また更に、前記説明をインターネット１３０経由のページのアクセスのみについて説明してきたが、イントラネットやエクストラネットを始めとする様々なシステム構成において、ローカルディスクにあるＨＴＭＬファイルや、ＬＡＮ、ＭＡＮ、またはＷＡＮ等を経由して接続されたリモートサーバ上のＨＴＭＬファイルを表示する際にも、本発明の画像表示ブックマークシステムを利用可能である。

また、ＨＴＭＬファイルに限定されることなく、ＶＲＭＬ（Ｖｉｒｔｕａｌ Ｒｅａｌｉｔｙ Ｍｏｄｅｌｉｎｇ Ｌａｎｇｕａｇｅ）やＸＭＬ（ｅＸｔｅｎｓｉｂｌｅ Ｍａｒｋｕｐ Ｌａｎｇｕａｇｅ）で記述されたファイルにも利用可能である。

更に、「自動巡回（分）」、「前回巡回日時」、および「画像のサイズ」の各データを、ユーザ管理ファイル１２２でなく、ブックマークデータファイル１２３の各ブックマーク毎に個別に設定するようにしてもよい。

また、ブックマークの表示に、ＷＷＷブラウザに表示されたページの縮小画像ではなく、ユーザが指定した部分の画像（クリッピング画像）を使用するようにしてもよい。また更に、システムが前記ページの画像から特徴部分を自動的に抽出して、その抽出された画像を表示するようにしてもよいし、ページの縮小画像の代わりにページ全体の画像（オリジナル画像）を保存しておき、ブックマークリストの一覧表示の際、システムが、登録されたブックマークの個数に応じて、自動的にオリジナル画像の縮小率を決定し、該縮小率に応じてページの縮小画像を表示するようにしてもよい。こうした画像表示に関する各機能を、メニュー項目として表示し、ユーザが、該メニューから所望の表示方法を選択できるようにしてもよい。

図１７は、上述した画像表示ブックマークシステム１００を実施するコンピ

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ュータ１０００のハードウエア構成の一例を示している。該コンピュータ１０００は、それぞれバス１００８に接続されたＣＰＵ１００１、記憶部１００２、メモリ部１００３、表示部１００４、入力部１００５、印刷部１００６、およびネットワーク・インタフェース部１００７からなる。ＣＰＵ１００１は、図２の処理装置１１０に該当し、従来のWWWブラウザ１１３の実行に加えて、本実施形態のブックマーク表示画面２００、２００Ａを表示するための様々なデータ送受信処理や入力部１００５から入力されたデータに応答した様々な処理を行う。記憶部１００２は図２の前記データ記憶装置１２０に該当し、ＣＰＵ１００１によって実行されるネットワーインターフェース部１１２、WWWブラウザ１１３、本実施形態の画像表示ブックマークシステム１００のブックマーク処理部１１１の各機能を実現するプログラム、および前記動作制御パラメータファイル１２１、前記ユーザ管理ファイル１２２、前記ブックマークデータファイル１２３、および前記縮小画像データファイル１２４の各ファイルを格納し、メモリ部１００３には、ブックマーク処理部１１１、前記WWWブラウザ１１３、ＯＳ（不図示）、およびこれらが使用するデータが、必要に応じてロードされる。表示部１００４は図２の前記表示装置１６０に該当し、WWWブラウザ１１３のＧＵＩ画面上のページ表示部、ブックマーク表示画面２００、２００Ａ等を表示するＣＲＴディスプレイ等の表示装置である。入力部１００５は図２の入力装置１５０に該当し、ユーザがブックマーク表示画面２００、２００Ａ上で指示や入力を行うためのキーボード、マウス等から成る入力装置である。印刷部１００６は、ユーザの指示に従って、記憶部１００２等に格納されているデータや前記表示部１００４に表示されている前記ブックマーク表示画面２００などを印刷する、レーザプリンタ等の印刷装置である。ネットワーク・インタフェース部１００７は図２の前記ネットワークインタフェース部１１２がWWWサーバとの間でデータを送受信するために使用するイ

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ンタフェース装置であり、インターネット１３０への接続を可能とし、Ｗｅｂサイトのページのデータ等を送受信するための通信インタフェース装置である。バス１００８は図２の前記バス１４０に該当し、前記各構成要素１００１～１００７間でデータ、指令等の送受信を行うための共通伝送経路である。

産業上の利用可能性

以上、詳細に説明したように、本発明によれば、ブックマーク情報としてブックマークとして登録するページの縮小された画像を登録することができ、さらに、その縮小画像をブックマークを識別するためのシンボルとして一覧表示するので、長い文字列からなり、非常に小さい文字や英語による表記を含み、または分かりづらい表現を含むタイトルを識別してブックマークの選択を行う必要が無く、誰でもが簡単にページを識別し、アクセスできる。

また、WWWブラウザのユーザ毎に、すべてのブックマークに関する登録（追加）、削除、および修正を制限することができ、さらに一般ユーザがページのアドレス（ＵＲＬ）を直接入力して、任意のページにアクセスすることも禁じることができる。また更に、ブックマークとして登録されたページを自動巡回し、該ページについて、常に最新の画像、ＵＲＬまたはタイトルを取得することができ、ブックマークを常に最新の情報に保つことができる。

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請 求 の 範 囲

1．ネットワーク上のアドレス情報と、該アドレス情報に基づいて取得されるページデータの画像情報と、を登録するブックマーク登録手段と、

前記ブックマーク登録手段により登録された画像情報を表示させるブックマーク表示制御手段と、

を有することを特徴とする画像表示ブックマークシステム。

2．前記ブックマーク表示制御手段により表示させた画像情報を指定すると、該画像情報に対応するアドレス情報に基づくページデータの取得をブラウザに指示するページ取得指示手段を更に有することを特徴とする請求の範囲第1項記載の画像表示ブックマークシステム。

3．前記ブックマーク表示制御手段により表示させた画像情報を指定すると、該画像情報に対応するアドレス情報に基づいて取得されるページデータを表示させるページ表示制御手段を更に有することを特徴とする請求の範囲第1項記載の画像表示ブックマークシステム。

4．前記ブックマーク登録手段は、前記アドレス情報と前記画像情報とをユーザ毎に登録し、

前記ブックマーク表示制御手段は、指定されたユーザについての前記画像情報を、前記ブックマーク登録手段に登録されている該ユーザについての情報に基づいて表示させる、

ことを特徴とする請求の範囲第1項記載の画像表示ブックマークシステム。

5．前記ブックマーク登録手段により登録された画像情報とアドレス情報とを編集するブックマーク編集手段を更に有することを特徴とする請求の範囲第1項記載の画像表示ブックマークシステム。

6．前記ブックマーク登録手段により登録された画像情報とアドレス情報との

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編集に関する権限をユーザ毎に定義するユーザ権限定義手段と、

前記ユーザ権限定義手段により定義された権限に基づいて、前記ブックマーク編集手段による前記画像情報と前記アドレス情報との編集をユーザ毎に制限する制御手段と、

を更に有することを特徴とする請求の範囲第５項記載の画像表示ブックマークシステム。

７．前記ブックマーク登録手段は、前記ページデータのタイトル情報を更に登録し、

前記ブックマーク表示制御手段は、前記ブックマーク登録手段により登録された画像情報とタイトル情報とを表示させる、

ことを特徴とする請求の範囲第１項記載の画像表示ブックマークシステム。

８．ネットワーク上のアドレス情報と、該アドレス情報に基づいて取得されるページデータの画像情報と、を登録するブックマーク登録手段と、

前記ブックマーク登録手段により登録されたアドレス情報に基づいてページデータを所定時間毎に取得し、該ページデータの内容と、該ページデータを前回に取得したときの内容と、の比較により得られる、該ページデータの内容の更新の有無を示す更新情報を登録する自動巡回手段と、

前記ブックマーク登録手段により登録された画像情報と、前記自動巡回手段により登録された更新情報と、を表示させるブックマーク表示制御手段と、

を有することを特徴とする画像表示ブックマークシステム。

９．前記ブックマーク表示制御手段は、前記自動巡回手段により登録された更新情報が前記ページデータの内容に更新のあったことを示している場合には、該ページデータの画像情報を表示させることを特徴とする請求の範囲第８項記載の画像表示ブックマークシステム。

１０．前記更新情報は、前記ページデータを表示させたときの表示内容、該ペ

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ージデータに対応するアドレス情報、該ページデータのタイトル情報のうちの少なくとも１つが更新されたことを示す情報であることを特徴とする請求の範囲第８項記載の画像表示ブックマークシステム。

１１．前記自動巡回手段は、前記ブックマーク登録手段により登録されたアドレス情報に基づいて取得されるページデータが、該ページデータに対応するアドレス情報の変更に関する情報を有している場合には、該変更に関する情報に基づいて取得されるページデータを取得することを特徴とする請求の範囲第８項記載の画像表示ブックマークシステム。

１２．前記ブックマーク表示制御手段により表示させるページデータの画像情報は、ブラウザが該ページデータを取得したときに表示する画像の縮小画像を含むことを特徴とする請求の範囲第１項乃至第１１項記載の画像表示ブックマークシステム。

１３．ネットワーク上のアドレス情報と、該アドレス情報に基づいて取得されるページデータの画像情報と、を登録させるブックマーク登録手順と、

前記ブックマーク登録手順で登録させた画像情報を表示させるブックマーク表示制御手順と、

前記ブックマーク表示制御手順で表示させた画像情報を指定すると、該画像情報に対応するアドレス情報に基づくページデータの取得をブラウザに指示するページ取得指示手順と、

をコンピュータに実行させるプログラムを記録したコンピュータ読み取り可能な記録媒体。

１４．ネットワーク上のアドレス情報と、該アドレス情報に基づいて取得されるページデータの画像情報と、を登録させるブックマーク登録手順と、

前記ブックマーク登録手順で登録させた画像情報を表示させるブックマーク表示制御手順と、

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前記ブックマーク表示制御手順で表示させた画像情報を指定すると、該画像情報に対応するアドレス情報に基づいて取得されるページデータを表示させるページ表示制御手順と、

をコンピュータに実行させるプログラムを記録したコンピュータ読み取り可能な記録媒体。

１５．WWWブラウザで使用するブックマーク情報を管理することができるブックマークシステムにおいて、

少なくとも、前記WWWブラウザにより表示されたページの画像情報および前記ページのアドレス情報を含むブックマーク情報を作成する作成手段と、

該作成手段により作成された該ブックマーク情報を記憶手段に登録するブックマーク登録手段と、

記憶手段に記憶された前記WWWブラウザにより表示されたページの画像情報を含む前記ブックマーク情報を読み出す読み出し手段と、

該読み出し手段により読み出された前記ブックマーク情報に含まれる前記画像情報を基に、該ページを識別するための画像を画面に表示させるブックマーク表示制御手段と、

を有することを特徴とする画像表示ブックマークシステム。

１６．WWWブラウザで使用するブックマーク情報を管理することができるブックマークシステムにおいて、

画面上で、前記ブックマーク情報に含まれる前記WWWブラウザにより表示されたページの画像情報に基づいて表示された画像が選択された場合に、記憶手段から、前記画像情報に関する情報が含まれる前記ブックマーク情報を読み出す読み出し手段と、

該読み出し手段により読み出された前記ブックマーク情報に登録された前記ページのアドレス情報を基に、前記ページの画像を取得する取得手段と、

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該取得手段によって取得された該ページの画像を画面に表示させるWWWページ表示制御手段と、

を有することを特徴とする画像表示ブックマークシステム。

１７．WWWブラウザで使用するブックマーク情報を管理することができるブックマークシステムにおいて、

記憶手段に記憶されたブックマーク情報が、少なくとも、前記WWWブラウザにより表示されたページの画像情報および該ページのアドレス情報を含み、

前記ブックマーク情報の内容を編集するブックマーク編集手段を有する、

ことを特徴とする画像表示ブックマークシステム。

１８．WWWブラウザで使用するブックマーク情報を管理することができるブックマークシステムにおいて、

少なくとも、前記WWWブラウザにより表示されたページの画像情報、該ページのアドレス情報、および前記ページのタイトル情報を含むブックマーク情報を記憶手段に登録するブックマーク登録手段と、

前記記憶手段に記憶された前記ブックマーク情報を読み出し、少なくとも、前記ブックマーク情報に含まれる、前記WWWブラウザにより表示されたページの画像情報を基に、該ページを識別するための画像を表示させるブックマーク表示制御手段と、

を有することを特徴とする画像表示ブックマークシステム。

１９．WWWブラウザで使用するブックマーク情報を管理することができるブックマークシステムにおいて、

少なくとも、前記WWWブラウザにより表示されたページの画像情報および、前記ページに関するタイトル情報、前記ページのアドレス情報または前記ページの内容が、前回のアクセス以降に変更されているかどうかを示す更新情報を含むブックマーク情報を記憶手段に登録するブックマーク登録手段と、

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前記記憶手段に記憶された前記ブックマーク情報を読み出し、前記ブックマーク情報に含まれる、前記WWWブラウザにより表示されたページの画像情報を基にして作成された該ページを識別するための画像と、前記更新情報に基づく情報を一緒に画面に表示させるブックマーク表示制御手段と、

を有することを特徴とする画像表示ブックマークシステム。

２０．WWWブラウザで使用するブックマーク情報を管理することができるブックマークシステムにおいて、

所定の時間情報に基づいて、記憶手段に記憶されている各ブックマーク情報に含まれるページのアドレス情報によって指定されたアドレスのページに自動的にアクセスし、該ページに関する変更情報を取得するアクセス手段と、

該アクセス手段によって前記ページの変更情報が取得された場合、該変更情報に基づいて、前記アドレス情報を含むブックマーク情報に含まれる当該情報を更新し、該更新後の前記ブックマーク情報を前記記憶手段に登録する登録手段と、

を有することを特徴とする画像表示ブックマークシステム。

２１．WWWブラウザで使用するブックマーク情報の表示・選択方法において、

少なくとも、前記WWWブラウザにより表示されたページの画像情報および前記ページのアドレス情報を含むブックマーク情報を記憶手段に登録するブックマーク登録ステップと、

前記ブックマーク情報に含まれる、前記ページの画像情報を基に、該ページを識別するための画像を表示手段の画面上に表示させるブックマーク表示制御ステップと、

前記画面上で、選択手段により前記ページの画像が選択された場合に、前記記憶手段から前記画像情報に関する情報が含まれる前記ブックマーク情報を読

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み出し、前記読み出された前記ブックマーク情報に登録されたページのアドレス情報によって指定されたアドレスのページの画像を取得し、前記取得された該ページの画像を画面に表示させるWWWページ表示制御ステップと、

を有することを特徴とする画像表示ブックマーク情報の表示・選択方法。

２２．WWWブラウザで使用するブックマーク情報を管理することができるブックマークシステムを実現するプログラムを記録した記録媒体であって、

少なくとも、前記WWWブラウザにより、表示手段の画面上に表示されたページの画像情報および前記ページのアドレス情報を含むブックマーク情報を、記憶手段に登録するブックマーク登録ステップと、

前記記憶手段から、前記ブックマーク情報に含まれる、前記ページの画像情報を読み出し、該画像情報を基に、該ページを識別するための画像を前記表示手段の画面上に表示させるブックマーク表示制御ステップと、

前記画面上で、前記ページの画像が選択された場合に、前記記憶手段から、前記ページに対応する前記ブックマーク情報を読み出し、前記読み出された前記ブックマーク情報に登録されたページのアドレス情報によって指定されたアドレスのページの画像を取得し、前記取得された該ページの画像を、前記表示手段の画面上に表示させるWWWページ表示制御ステップを、

コンピュータに実行させるプログラムを記録した該コンピュータが読み取り可能な記録媒体。

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補正書の請求の範囲

［１９９９年1月１９日（１９．０１．９９）国際事務局受理：出願当初の請求の範囲１，３，１３及び１４は補正された；出願当初の請求の範囲２は取り下げられた；他の請求の範囲は変更なし。（７頁）］

１．ネットワーク上のアドレス情報と、該アドレス情報に基づいて取得されるページデータの画像情報と、を登録するブックマーク登録手段と、

前記ブックマーク登録手段により登録された画像情報を一覧表示させるブックマーク表示制御手段と、

前記ブックマーク表示制御手段により一覧表示させた画像情報から１つの画像情報を指定すると、該画像情報に対応するアドレス情報に基づくページデータの取得をブラウザに指示するページ取得指示手段と、

を有することを特徴とする画像表示ブックマークシステム。

３．ネットワーク上のアドレス情報と、該アドレス情報に基づいて取得されるページデータの画像情報と、を登録するブックマーク登録手段と、

前記ブックマーク登録手段により登録された画像情報を一覧表示させるブックマーク表示制御手段と、

前記ブックマーク表示制御手段により一覧表示させた画像情報から１つの画像情報を指定すると、該画像情報に対応するアドレス情報に基づいて取得されるページデータを表示させるページ表示制御手段と、

を有することを特徴とする画像表示ブックマークシステム。

４．前記ブックマーク登録手段は、前記アドレス情報と前記画像情報とをユーザ毎に登録し、

前記ブックマーク表示制御手段は、指定されたユーザについての前記画像情報を、前記ブックマーク登録手段に登録されている該ユーザについての情報に基づいて表示させる、

ことを特徴とする請求の範囲第１項記載の画像表示ブックマークシステム。

５．前記ブックマーク登録手段により登録された画像情報とアドレス情報とを

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編集するブックマーク編集手段を更に有することを特徴とする請求の範囲第1項記載の画像表示ブックマークシステム。

6．前記ブックマーク登録手段により登録された画像情報とアドレス情報との編集に関する権限をユーザ毎に定義するユーザ権限定義手段と、

前記ユーザ権限定義手段により定義された権限に基づいて、前記ブックマーク編集手段による前記画像情報と前記アドレス情報との編集をユーザ毎に制限する制御手段と、

を更に有することを特徴とする請求の範囲第5項記載の画像表示ブックマークシステム。

7．前記ブックマーク登録手段は、前記ページデータのタイトル情報を更に登録し、

前記ブックマーク表示制御手段は、前記ブックマーク登録手段により登録された画像情報とタイトル情報とを表示させる、

ことを特徴とする請求の範囲第1項記載の画像表示ブックマークシステム。

8．ネットワーク上のアドレス情報と、該アドレス情報に基づいて取得されるページデータの画像情報と、を登録するブックマーク登録手段と、

前記ブックマーク登録手段により登録されたアドレス情報に基づいてページデータを所定時間毎に取得し、該ページデータの内容と、該ページデータを前回に取得したときの内容と、の比較により得られる、該ページデータの内容の更新の有無を示す更新情報を登録する自動巡回手段と、

前記ブックマーク登録手段により登録された画像情報と、前記自動巡回手段により登録された更新情報と、を表示させるブックマーク表示制御手段と、

を有することを特徴とする画像表示ブックマークシステム。

9．前記ブックマーク表示制御手段は、前記自動巡回手段により登録された更新情報が前記ページデータの内容に更新のあったことを示している場合には、

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該ページデータの画像情報を表示させることを特徴とする請求の範囲第８項記載の画像表示ブックマークシステム。

１０．前記更新情報は、前記ページデータを表示させたときの表示内容、該ページデータに対応するアドレス情報、該ページデータのタイトル情報のうちの少なくとも１つが更新されたことを示す情報であることを特徴とする請求の範囲第８項記載の画像表示ブックマークシステム。

１１．前記自動巡回手段は、前記ブックマーク登録手段により登録されたアドレス情報に基づいて取得されるページデータが、該ページデータに対応するアドレス情報の変更に関する情報を有している場合には、該変更に関する情報に基づいて取得されるページデータを取得することを特徴とする請求の範囲第８項記載の画像表示ブックマークシステム。

１２．前記ブックマーク表示制御手段により表示させるページデータの画像情報は、ブラウザが該ページデータを取得したときに表示する画像の縮小画像を含むことを特徴とする請求の範囲第１項乃至第１１項記載の画像表示ブックマークシステム。

１３．ネットワーク上のアドレス情報と、該アドレス情報に基づいて取得されるページデータの画像情報と、を登録させるブックマーク登録手順と、

前記ブックマーク登録手順で登録させた画像情報を一覧表示させるブックマーク表示制御手順と、

前記ブックマーク表示制御手順で一覧表示させた画像情報から１つの画像情報を指定すると、該画像情報に対応するアドレス情報に基づくページデータの取得をブラウザに指示するページ取得指示手順と、

をコンピュータに実行させるプログラムを記録したコンピュータ読み取り可能な記録媒体。

１４．ネットワーク上のアドレス情報と、該アドレス情報に基づいて取得され

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るページデータの画像情報と、を登録させるブックマーク登録手順と、

前記ブックマーク登録手順で登録させた画像情報を一覧表示させるブックマーク表示制御手順と、

前記ブックマーク表示制御手順で一覧表示させた画像情報から１つの画像情報を指定すると、該画像情報に対応するアドレス情報に基づいて取得されるページデータを表示させるページ表示制御手順と、

をコンピュータに実行させるプログラムを記録したコンピュータ読み取り可能な記録媒体。

１５．WWWブラウザで使用するブックマーク情報を管理することができるブックマークシステムにおいて、

少なくとも、前記WWWブラウザにより表示されたページの画像情報および前記ページのアドレス情報を含むブックマーク情報を作成する作成手段と、

該作成手段により作成された該ブックマーク情報を記憶手段に登録するブックマーク登録手段と、

記憶手段に記憶された前記WWWブラウザにより表示されたページの画像情報を含む前記ブックマーク情報を読み出す読み出し手段と、

該読み出し手段により読み出された前記ブックマーク情報に含まれる前記画像情報を基に、該ページを識別するための画像を画面に表示させるブックマーク表示制御手段と、

を有することを特徴とする画像表示ブックマークシステム。

１６．WWWブラウザで使用するブックマーク情報を管理することができるブックマークシステムにおいて、

画面上で、前記ブックマーク情報に含まれる前記WWWブラウザにより表示されたページの画像情報に基づいて表示された画像が選択された場合に、記憶手段から、前記画像情報に関する情報が含まれる前記ブックマーク情報を読み

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出す読み出し手段と、

該読み出し手段により読み出された前記ブックマーク情報に登録された前記ページのアドレス情報を基に、前記ページの画像を取得する取得手段と、

該取得手段によって取得された該ページの画像を画面に表示させるWWWページ表示制御手段と、

を有することを特徴とする画像表示ブックマークシステム。

１７．WWWブラウザで使用するブックマーク情報を管理することができるブックマークシステムにおいて、

記憶手段に記憶されたブックマーク情報が、少なくとも、前記WWWブラウザにより表示されたページの画像情報および該ページのアドレス情報を含み、

前記ブックマーク情報の内容を編集するブックマーク編集手段を有する、

ことを特徴とする画像表示ブックマークシステム。

１８．WWWブラウザで使用するブックマーク情報を管理することができるブックマークシステムにおいて、

少なくとも、前記WWWブラウザにより表示されたページの画像情報、該ページのアドレス情報、および前記ページのタイトル情報を含むブックマーク情報を記憶手段に登録するブックマーク登録手段と、

前記記憶手段に記憶された前記ブックマーク情報を読み出し、少なくとも、前記ブックマーク情報に含まれる、前記WWWブラウザにより表示されたページの画像情報を基に、該ページを識別するための画像を表示させるブックマーク表示制御手段と、

を有することを特徴とする画像表示ブックマークシステム。

１９．WWWブラウザで使用するブックマーク情報を管理することができるブックマークシステムにおいて、

少なくとも、前記WWWブラウザにより表示されたページの画像情報および

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、前記ページに関するタイトル情報、前記ページのアドレス情報または前記ページの内容が、前回のアクセス以降に変更されているかどうかを示す更新情報を含むブックマーク情報を記憶手段に登録するブックマーク登録手段と、

前記記憶手段に記憶された前記ブックマーク情報を読み出し、前記ブックマーク情報に含まれる、前記WWWブラウザにより表示されたページの画像情報を基にして作成された該ページを識別するための画像と、前記更新情報に基づく情報を一緒に画面に表示させるブックマーク表示制御手段と、

を有することを特徴とする画像表示ブックマークシステム。

２０．WWWブラウザで使用するブックマーク情報を管理することができるブックマークシステムにおいて、

所定の時間情報に基づいて、記憶手段に記憶されている各ブックマーク情報に含まれるページのアドレス情報によって指定されたアドレスのページに自動的にアクセスし、該ページに関する変更情報を取得するアクセス手段と、

該アクセス手段によって前記ページの変更情報が取得された場合、該変更情報に基づいて、前記アドレス情報を含むブックマーク情報に含まれる当該情報を更新し、該更新後の前記ブックマーク情報を前記記憶手段に登録する登録手段と、

を有することを特徴とする画像表示ブックマークシステム。

２１．WWWブラウザで使用するブックマーク情報の表示・選択方法において、

少なくとも、前記WWWブラウザにより表示されたページの画像情報および前記ページのアドレス情報を含むブックマーク情報を記憶手段に登録するブックマーク登録ステップと、

前記ブックマーク情報に含まれる、前記ページの画像情報を基に、該ページを識別するための画像を表示手段の画面上に表示させるブックマーク表示制御

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ステップと、

前記画面上で、選択手段により前記ページの画像が選択された場合に、前記記憶手段から前記画像情報に関する情報が含まれる前記ブックマーク情報を読み出し、前記読み出された前記ブックマーク情報に登録されたページのアドレス情報によって指定されたアドレスのページの画像を取得し、前記取得された該ページの画像を画面に表示させるWWWページ表示制御ステップと、

を有することを特徴とする画像表示ブックマーク情報の表示・選択方法。

２２．WWWブラウザで使用するブックマーク情報を管理することができるブックマークシステムを実現するプログラムを記録した記録媒体であって、

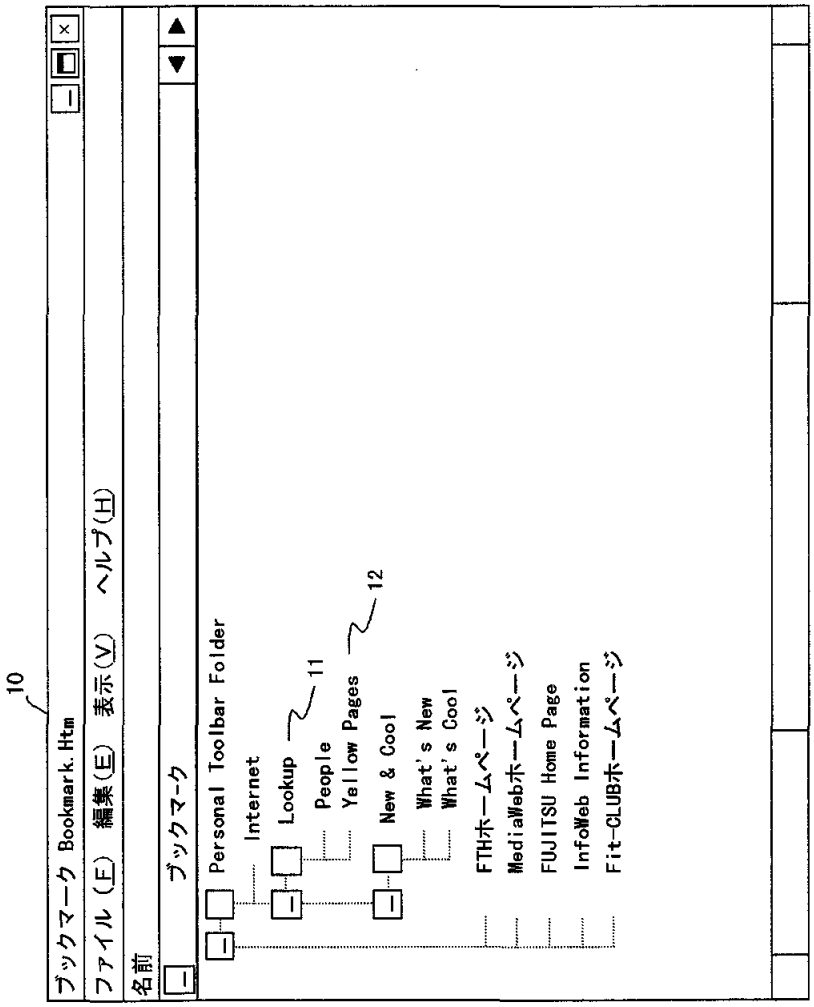
少なくとも、前記WWWブラウザにより、表示手段の画面上に表示されたページの画像情報および前記ページのアドレス情報を含むブックマーク情報を、記憶手段に登録するブックマーク登録ステップと、

前記記憶手段から、前記ブックマーク情報に含まれる、前記ページの画像情報を読み出し、該画像情報を基に、該ページを識別するための画像を前記表示手段の画面上に表示させるブックマーク表示制御ステップと、

前記画面上で、前記ページの画像が選択された場合に、前記記憶手段から、前記ページに対応する前記ブックマーク情報を読み出し、前記読み出された前記ブックマーク情報に登録されたページのアドレス情報によって指定されたアドレスのページの画像を取得し、前記取得された該ページの画像を、前記表示手段の画面上に表示させるWWWページ表示制御ステップを、

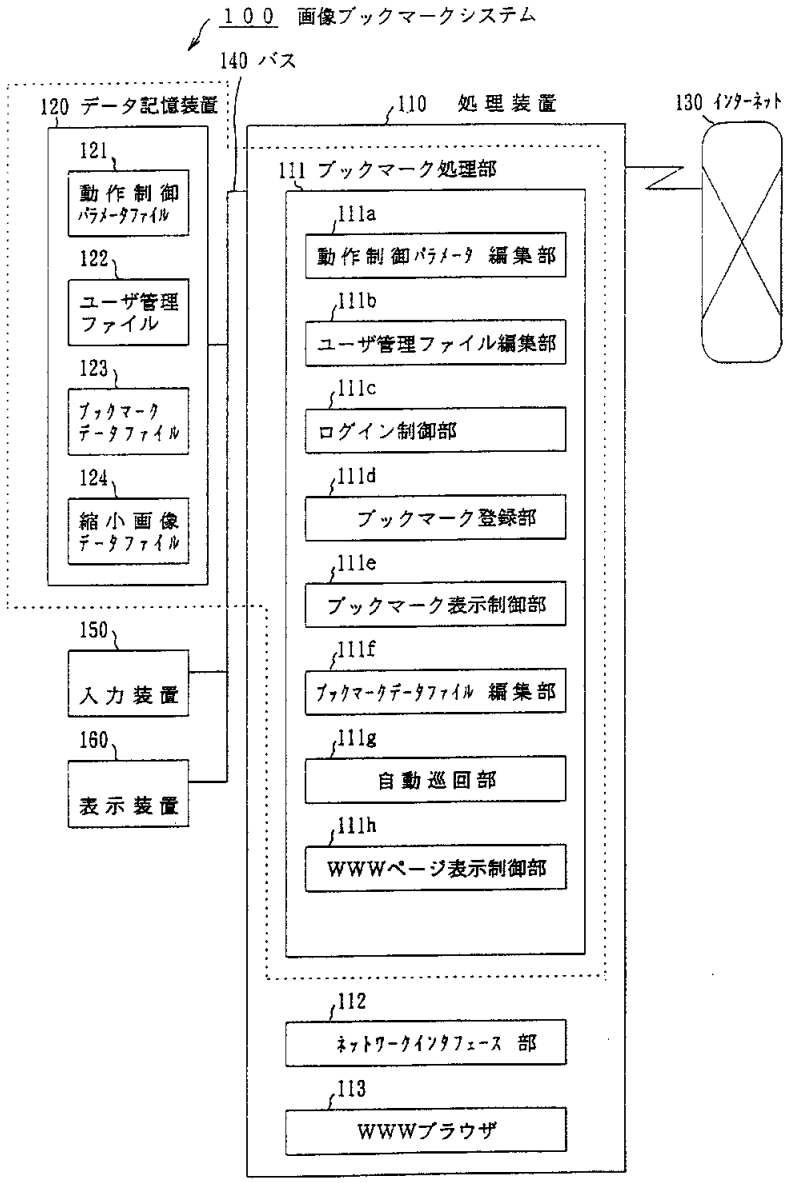
コンピュータに実行させるプログラムを記録した該コンピュータが読み取り可能な記録媒体。

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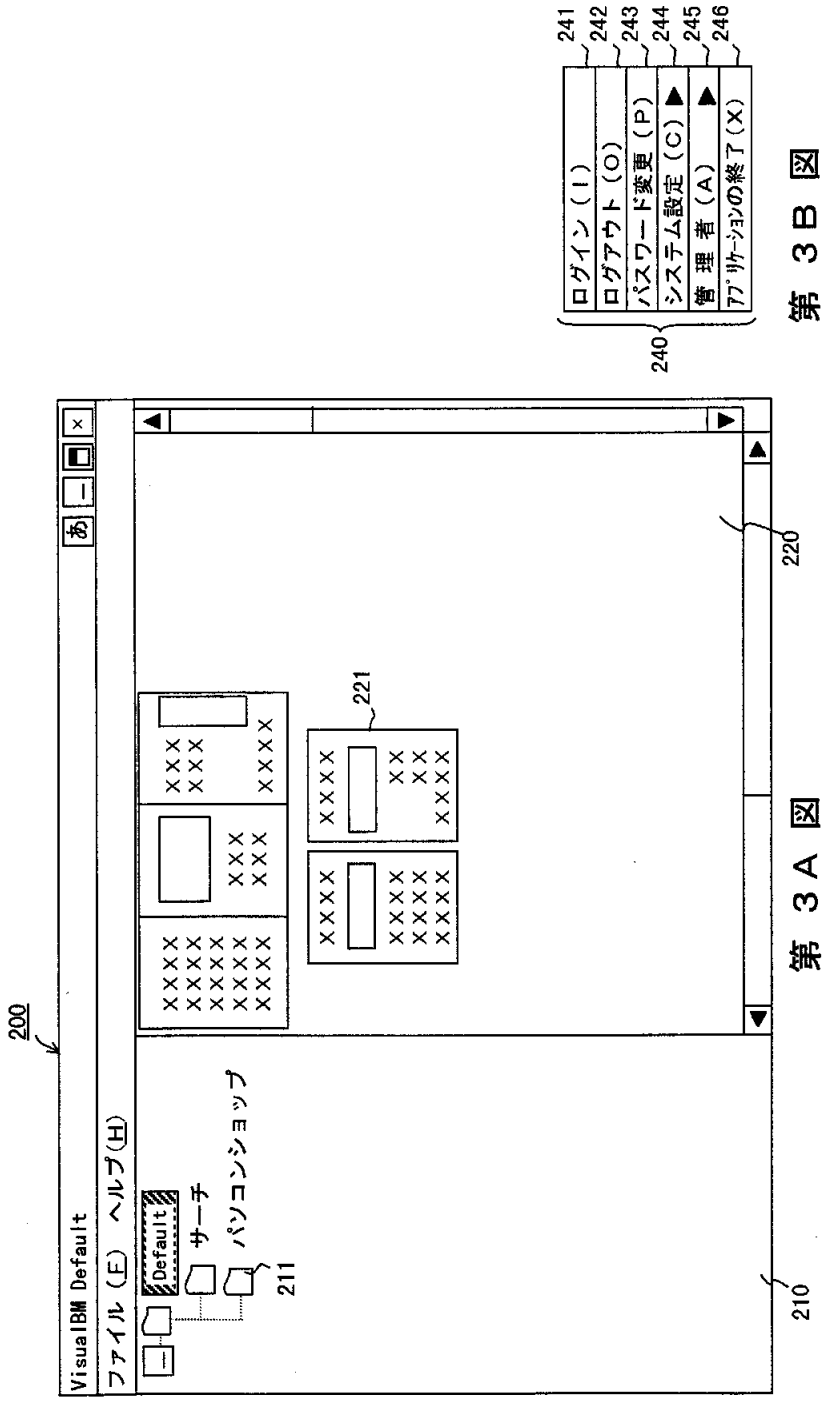


第 1 図

差替え用紙（規則26）


100 画像ブックマークシステム
140 バス
120 データ記憶装置
121
動作制御パラメータファイル
122
ユーザ管理ファイル
123
ブックマークデータファイル
124
縮小画像データファイル
150
入力装置
160
表示装置
110 処理装置
111 ブックマーク処理部
111a
動作制御パラメータ編集部
111b
ユーザ管理ファイル編集部
111c
ログイン制御部
111d
ブックマーク登録部
111e
ブックマーク表示制御部
111f
ブックマークデータファイル編集部
111g
自動巡回部
111h
WWWページ表示制御部
112
ネットワークインタフェース部
113
WWWブラウザ
130 インターネット

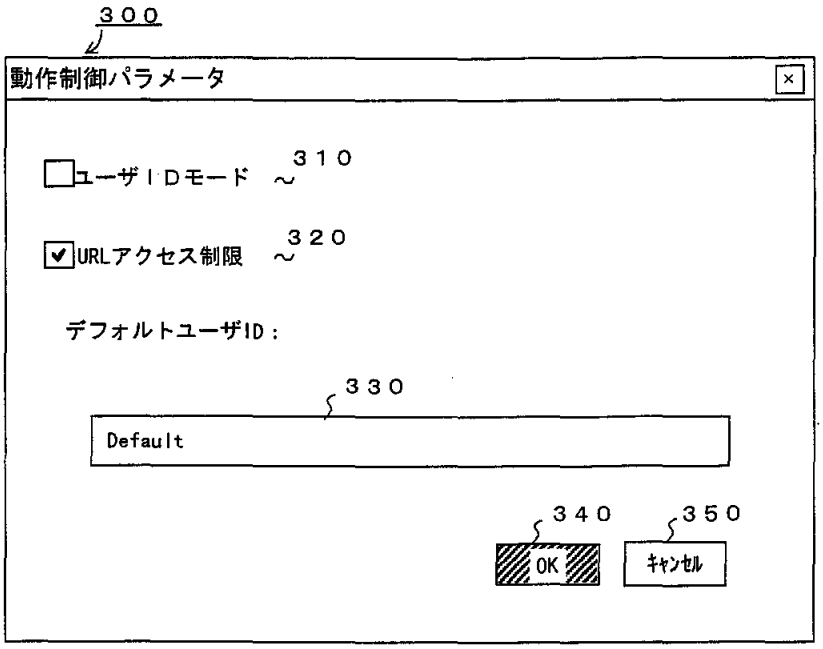
第 2 図



第 3A 図

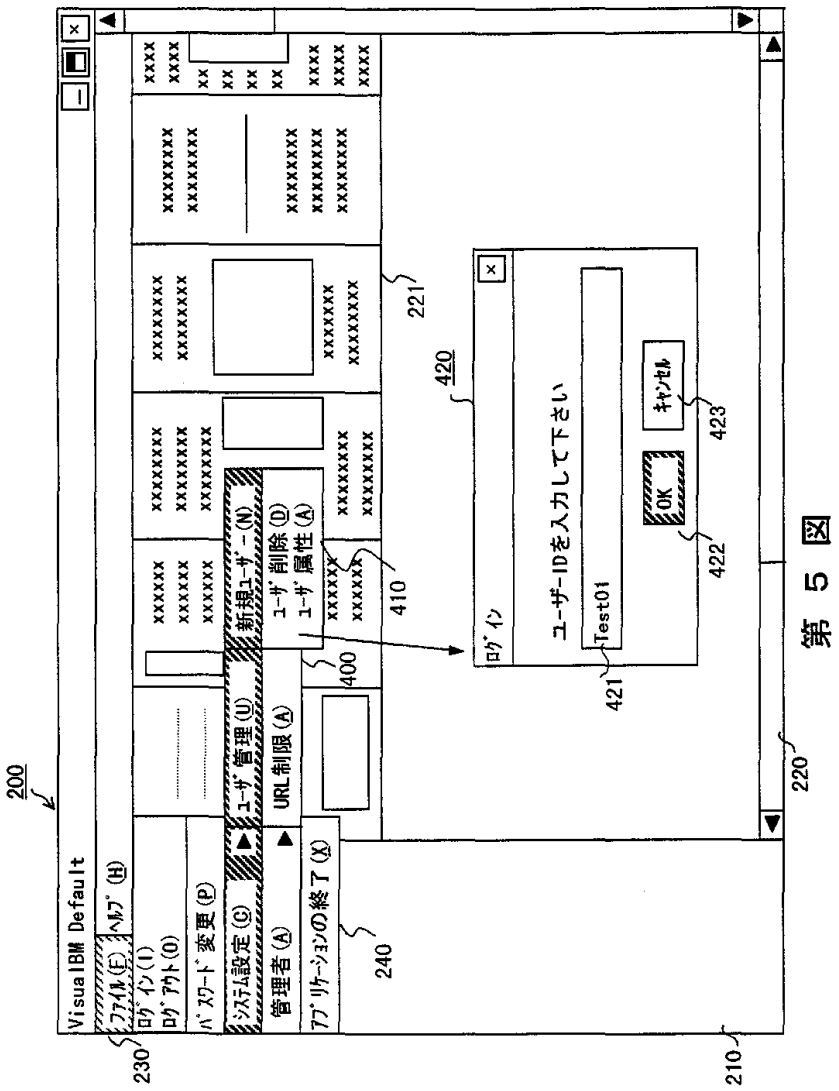
第 3B 図

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第 4 図

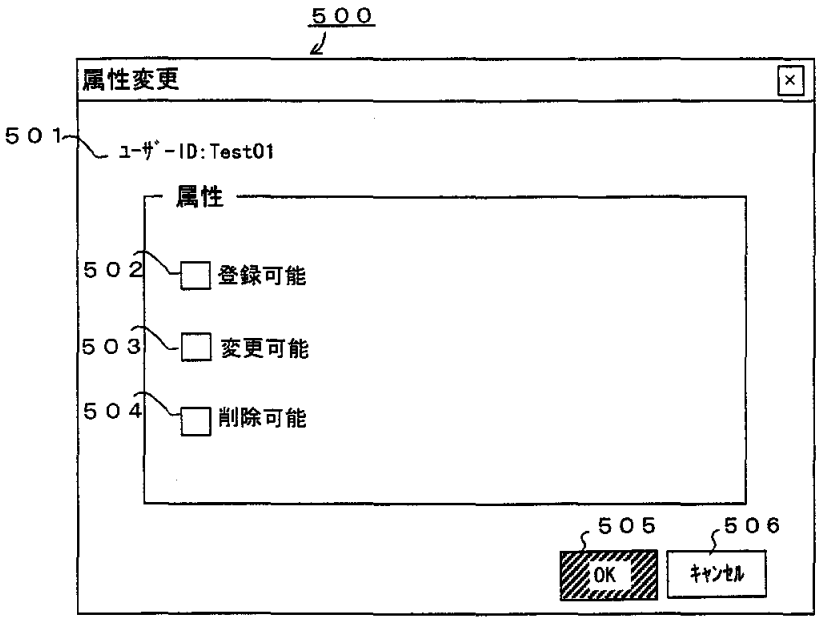
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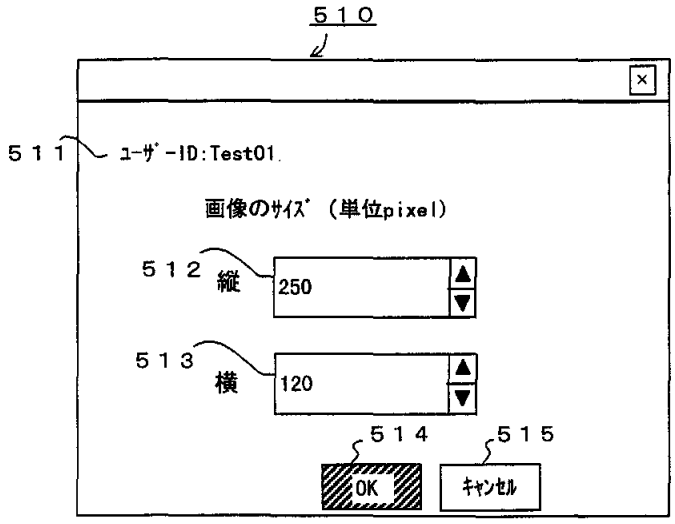
第 5 図

差替え用紙（規則26）

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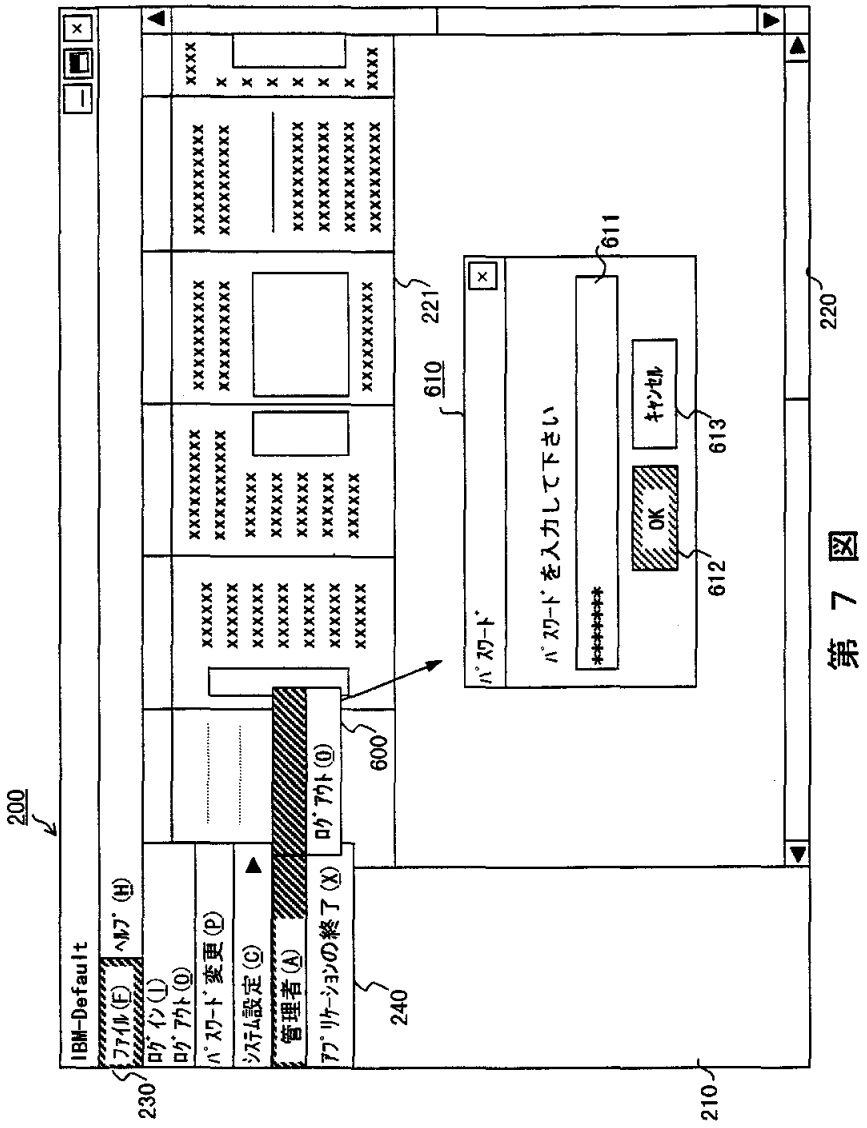


第 6A 図



第 6B 図

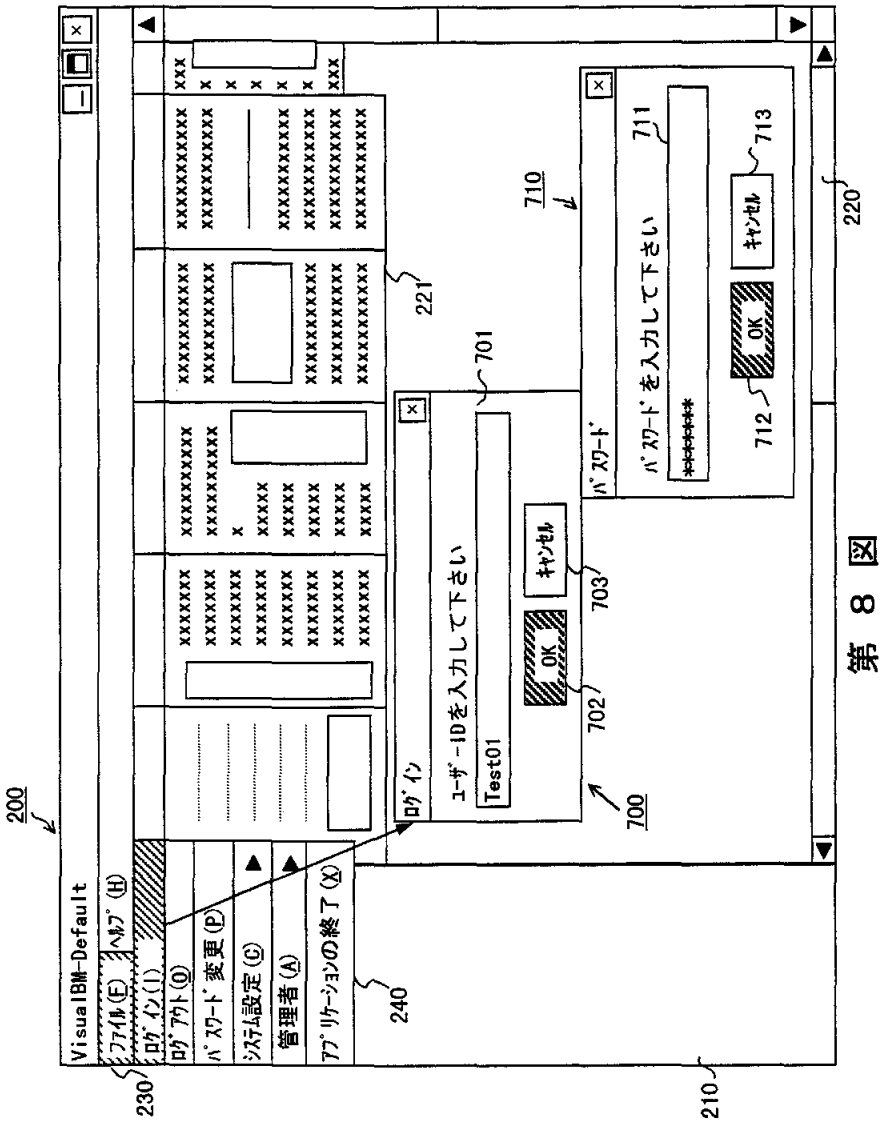
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第 7 図

差替え用紙（規則26）

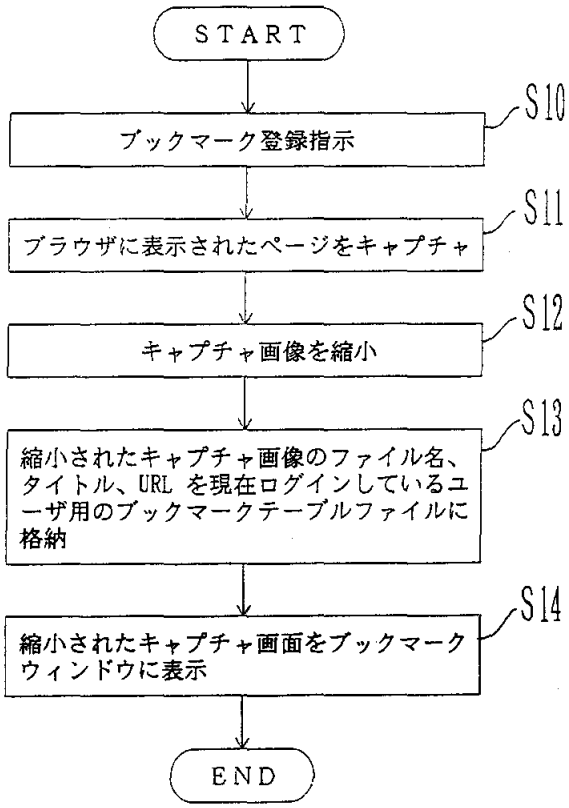
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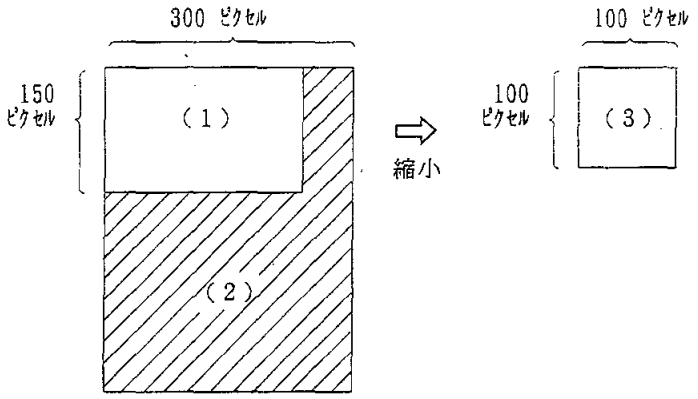
第 8 図

差替え用紙（規則26）

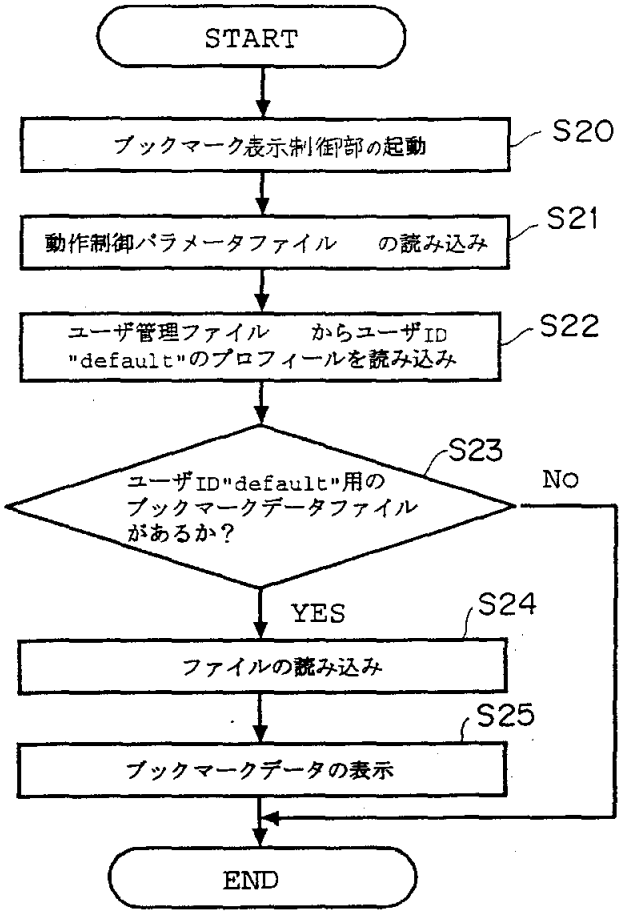
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START
ブックマーク登録指示
S10
ブラウザに表示されたページをキャプチャ
S11
キャプチャ画像を縮小
S12
縮小されたキャプチャ画像のファイル名、タイトル、URL を現在ログインしているユーザ用のブックマークテーブルファイルに格納
S13
縮小されたキャプチャ画面をブックマークウィンドウに表示
S14
END

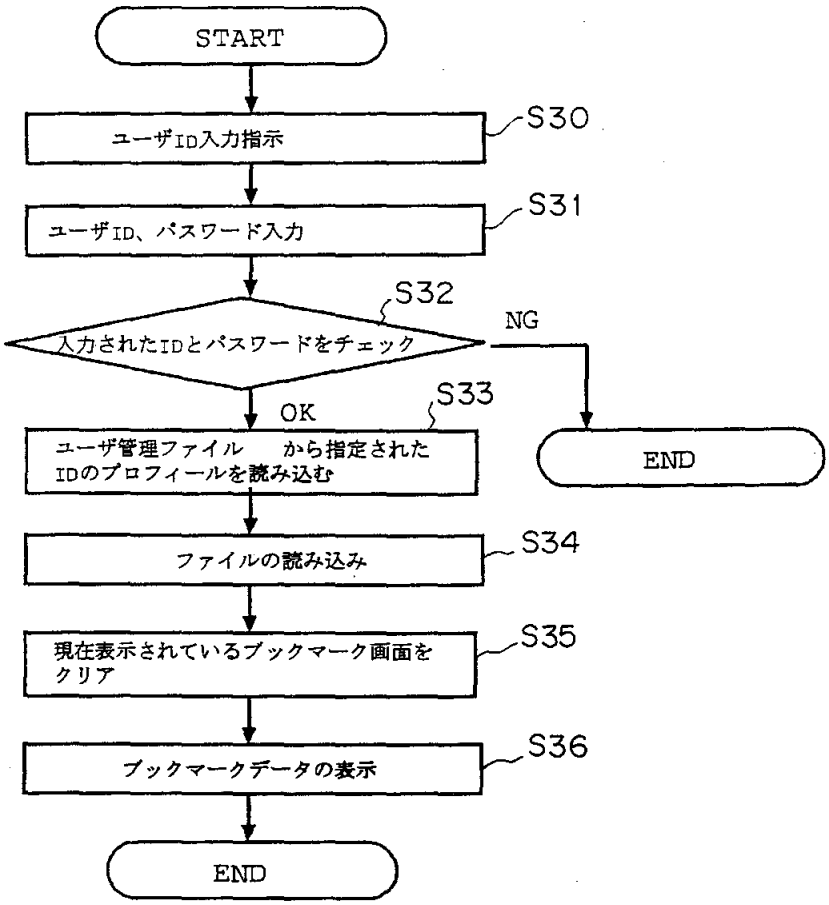
第 9 図



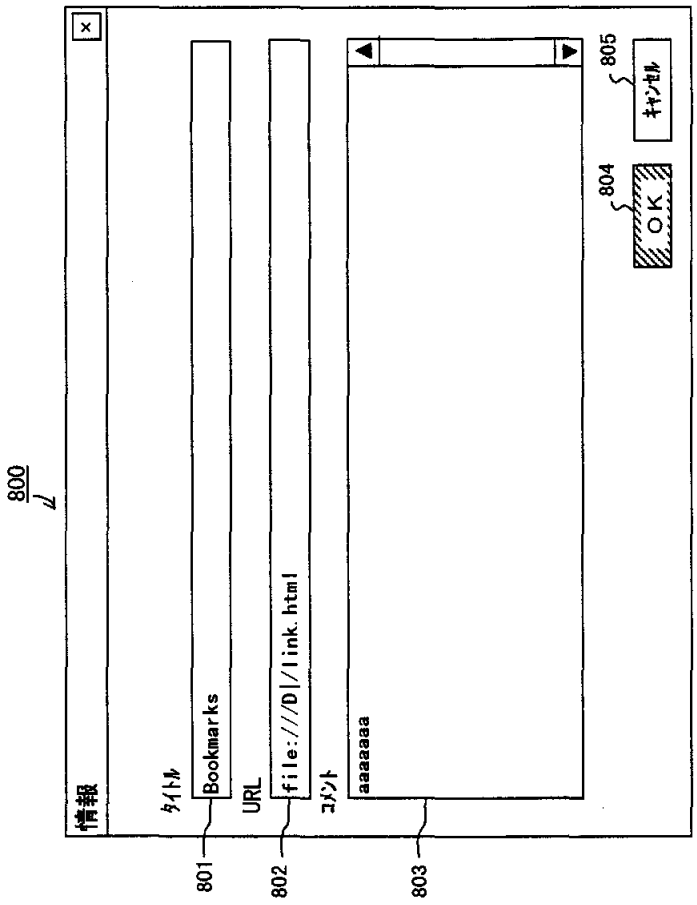
第10図


START
ブックマーク表示制御部の起動
S20
動作制御パラメータファイル の読み込み
S21
ユーザ管理ファイル からユーザID "default"のプロフィールを読み込み
S22
ユーザID"default"用の ブックマークデータファイル があるか？
S23
No
YES
S24
ファイルの読み込み
S25
ブックマークデータの表示
END

第 11 図

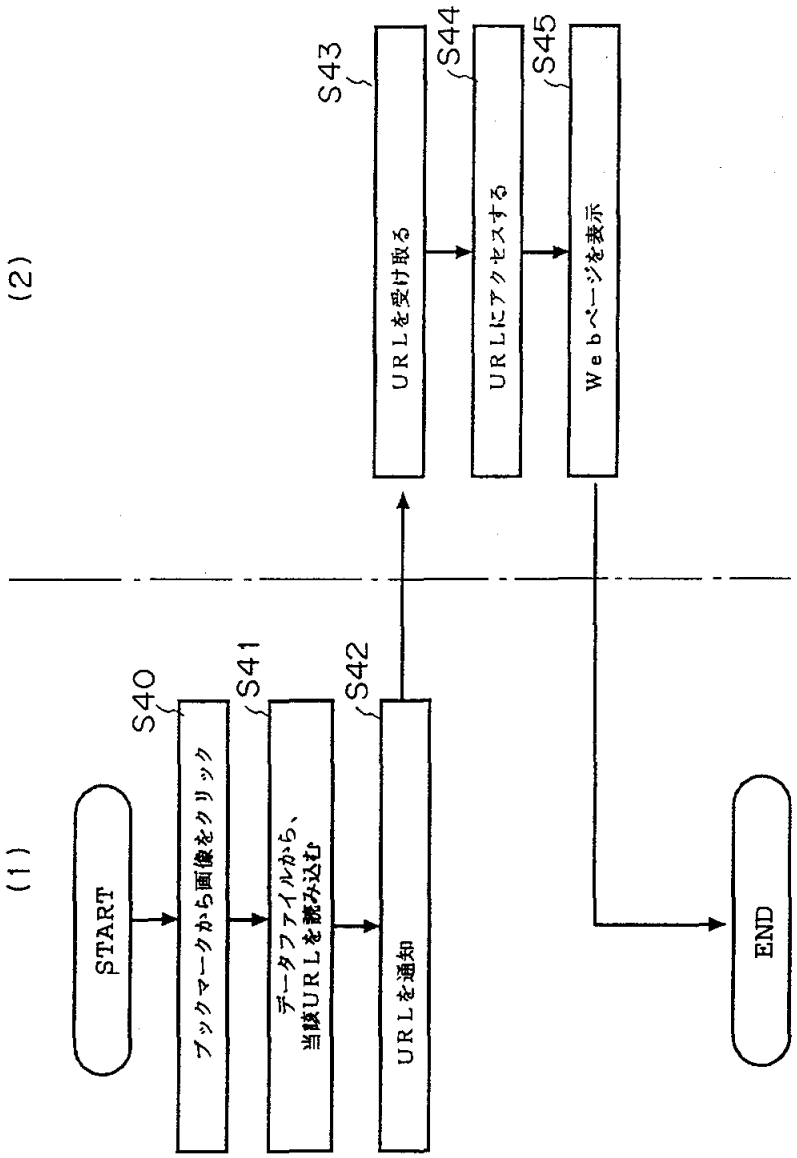

START
ユーザID入力指示
S30
ユーザID、パスワード入力
S31
S32
入力されたIDとパスワードをチェック
NG
OK
S33
ユーザ管理ファイル から指定された IDのプロフィールを読み込む
END
ファイルの読み込み
S34
現在表示されているブックマーク画面を クリア
S35
ブックマークデータの表示
S36
END

第 12 図



第１３図

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(1)
(2)
START
S40
ブックマークから画像をクリック
S41
データファイルから、
当該URLを読み込む
S42
URLを通知
S43
URLを受け取る
S44
URLにアクセスする
S45
Webページを表示
END

第14図

第15A図

121 動作制御パラメータ

項目	値
ユーザIDモード	No
URLアクセス制限	Yes
デフォルトユーザID	default
デフォルトトピクセル	x(250), y(300)

第15B図

122 ユーザ管理ファイル

ユーザ名	パスワード	登録フラグ	変更フラグ	削除フラグ	自動巡回(分)	前回巡回日時	画像のサイズ
default	なし	Yes	No	No	0	970810:123100	x(20), y(30)
kenta	yyyyy	No	No	No	1440	970811:111200	x(25), y(35)
yuai	ddddddd	Yes	No	No	720	970801:091221	x(40), y(30)
:	:	:	:	:	:	:	:

123 ブックマークデータファイル

ユーザID default用：

タイトル	URL	画像ファイル名	コメント	画像を表示する座標値
xxx HOME Page	http://www.xxx.co.jp	xxx1.bap	hogehoge...	x(10,10) y(20,25)
:	:	:	:	:

ユーザID Kenta用：

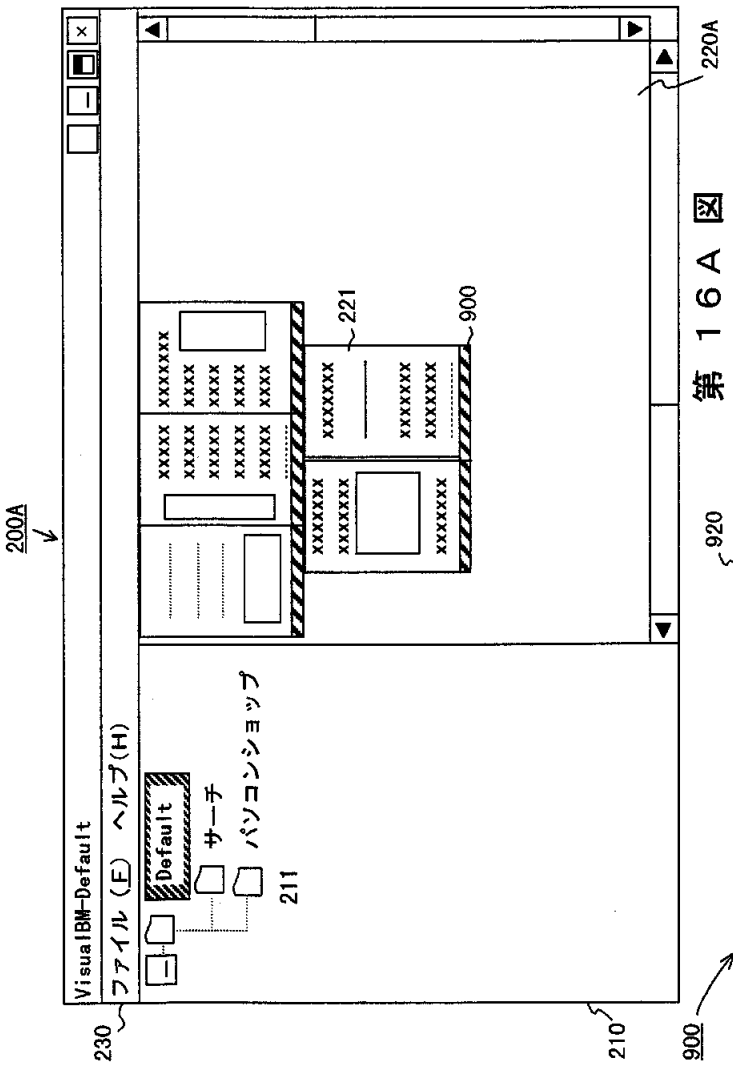
タイトル	URL	画像ファイル名	コメント	画像を表示する座標値
xxx HOME Page	http://www.xxx.co.jp	xxx1.bap	hogehoge...	x(10,10) y(20,25)
:	:	:	:	:

第15C図

第15D図

124 縮小画像データファイル

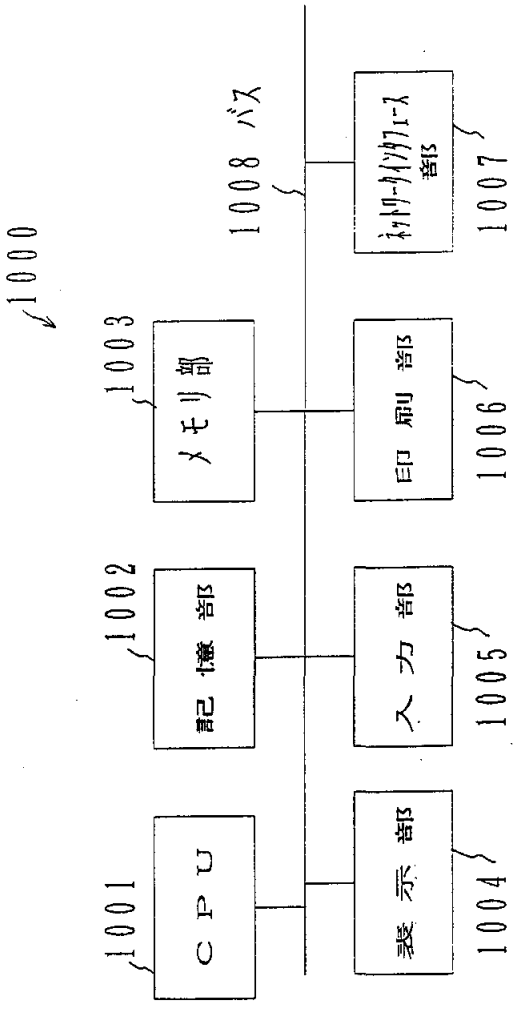
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第16A図

第16B図

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1000
1001
CPU
1002
記憶部
1003
メモリ部
1004
表示部
1005
入力部
1006
印刷部
1007
外部インターフェース部
1008 バス

第17図

INTERNATIONAL SEARCH REPORT

International application No.
PCT/JP98/04343

A. CLASSIFICATION OF SUBJECT MATTER
Int.Cl[6] G06F17/30, F06F3/00

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)
Int.Cl[6] G06F17/30, F06F3/00

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
Jitsuyo Shinan Koho 1926-1996 Kokai Jitsuyo Shinan Koho 1971-1998
Jitsuyo Shinan Toroku Koho 1996-1998 Toroku Jitsuyo Shinan Koho 1994-1998

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.
X	"Super Kid 95 Internet Pack (in Japanese)", The Windows (01. 02. 97), Softbank Corp.,Vol. 7, No. 2, pp58-59	1-3, 12-16, 18, 21,22
Y		4-11, 17, 19-20
Y	"Collecting Information While You are Sleeping. Web Programmed Recording Autopiloting Tool (in Japanese)", Oh!PC (01. 07. 97), Softbank Corp.,Vol.16, No. 3, pp217-221	8-11, 19-20
Y	"Ultrasimple Bookmark Straightening Method (in Japanese)", The BASIC (01. 04. 97), Gijutsu Hyoron Co., Ltd., No. 166, pp46-51	5, 7, 17
Y	JP, 05-233712, A (Ricoh Co., Ltd.), 10 September, 1993 (10. 09. 93), Claim 1 (Family : none)	4,6

[X] Further documents are listed in the continuation of Box C. [ ] See patent family annex.

* Special categories of cited documents:
"A" document defining the general state of the art which is not considered to be of particular relevance
"E" earlier document but published on or after the international filing date
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
"O" document referring to an oral disclosure, use, exhibition or other means
"P" document published prior to the international filing date but later than the priority date claimed
"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
12 October, 1998 (12. 10. 98)	27 October, 1998 (27. 10. 98)
Name and mailing address of the ISA/ Japanese Patent Office	Authorized officer
Facsimile No.	Telephone No.

Form PCT/ISA/210 (second sheet) (July 1992)

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INTERNATIONAL SEARCH REPORT

International application No.
PCT/JP98/04343

C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	JP, 63-263530, A (Hitachi, Ltd.), 31 October, 1998 (31. 10. 98) (Family : none)	4,6
Y	JP, 01-291367, A (Matsushita Electric Industrial Co., Ltd.), 22 November, 1989 (22. 11. 89) (Family : none)	4,6
Y	JP, 08-006956, A (Ricoh Co., Ltd.), 12 January, 1996 (12. 01. 96) (Family : none)	4,6
A	JP, 03-041559, A (Fujitsu Ltd.), 22 February, 1991 (22. 02. 91) (Family : none)	1-22

Form PCT/ISA/210 (continuation of second sheet) (July 1992)

国際調査報告

国際出願番号　PCT／JP98／04343

A.　発明の属する分野の分類（国際特許分類（IPC））

Int. Cl[6]　G06F　17／30, G06F3／00

B.　調査を行った分野

調査を行った最小限資料（国際特許分類（IPC））

Int. Cl[6]　G06F　17／30，G06F3／00

最小限資料以外の資料で調査を行った分野に含まれるもの

日本国実用新案公報	1926－1996年
日本国公開実用新案公報	1971－1998年
日本国実用新案登録公報	1996－1998年
日本国登録実用新案公報	1994－1998年

国際調査で使用した電子データベース（データベースの名称、調査に使用した用語）

C.　関連すると認められる文献

引用文献のカテゴリー＊	引用文献名　及び一部の箇所が関連するときは、その関連する箇所の表示	関連する請求の範囲の番号
X	”SUPER Kid95 インターネットパック”，The Windows(01.02.97)，ソフトバンク株式会社, vol.7, no.2, pp58-59	1-3, 12-16, 18, 21, 22
Y		4-11, 17, 19-20

☒ C欄の続きにも文献が列挙されている。　☐ パテントファミリーに関する別紙を参照。

＊　引用文献のカテゴリー

「A」特に関連のある文献ではなく、一般的技術水準を示すもの

「E」先行文献ではあるが、国際出願日以後に公表されたもの

「L」優先権主張に疑義を提起する文献又は他の文献の発行日若しくは他の特別な理由を確立するために引用する文献（理由を付す）

「O」口頭による開示、使用、展示等に言及する文献

「P」国際出願日前で、かつ優先権の主張の基礎となる出願の日の後に公表された文献

「T」国際出願日又は優先日後に公表された文献であって出願と矛盾するものではなく、発明の原理又は理論の理解のために引用するもの

「X」特に関連のある文献であって、当該文献のみで発明の新規性又は進歩性がないと考えられるもの

「Y」特に関連のある文献であって、当該文献と他の1以上の文献との、当業者にとって自明である組合せによって進歩性がないと考えられるもの

「&」同一パテントファミリー文献

国際調査を完了した日 12．10．98	国際調査報告の発送日 27.10.98
国際調査機関の名称及びあて先 日本国特許庁（ISA／JP） 郵便番号100－8915 東京都千代田区霞が関三丁目4番3号	特許庁審査官（権限のある職員） 平井　誠　印　5L　9071 電話番号　03－3581－1101　内線　3561

様式PCT／ISA／210（第2ページ）（1992年7月）

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Ｃ（続き）．　関連すると認められる文献

引用文献のカテゴリー＊	引用文献名　及び一部の箇所が関連するときは、その関連する箇所の表示	関連する請求の範囲の番号
Y	”寝てる間に情報収集　ｗｅｂの留守録自動巡回ツール”，Ｏｈ！ＰＣ(01.07.97)，ソフトバンク株式会社，vol.16,no.3,pp217-221	8-11,19-20
Y	”Ｂｏｏｋｍａｒｋ超整理法”，Ｔｈｅ　ＢＡＳＩＣ(01.04.97)，株式会社技術評論社,第１６６号,pp46-51	5,7,17
Y	JP,05-233712,A（株式会社リコー），10.9月.1993(10.09.93),請求項１（ファミリーなし）	4,6
Y	JP,63-263530,A（株式会社日立製作所），31.10月,1988(31.10.88)（ファミリーなし）	4,6
Y	JP,01-291367,A（松下電器産業株式会社），22.11月,1989（22.11.89）（ファミリーなし）	4,6
Y	JP,08-006956,A（株式会社リコー），12.1月,1996（12.01.96）（ファミリーなし）	4,6
A	JP,03-041559,A（富士通株式会社），22.2月.1991（22.02.91）（ファミリーなし）	1-22

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Espacenet

Bibliographic data: JPH11205711 (A) — 1999-07-30

INFORMATION DISPLAY DEVICE

Inventor(s): SUZUKAWA YOSHINOBU ± (SUZUKAWA YOSHINOBU)

Applicant(s): SANYO ELECTRIC CO ± (SANYO ELECTRIC CO LTD)

Classification: **- international:** ***G09G5/00; G09G5/14; H04N5/445; H04N5/45; H04N5/66;*** (IPC1-7): G09G5/00; G09G5/14; H04N5/445; H04N5/45; H04N5/66

- cooperative:

Application number: JP19980005181 19980113

Priority number(s): JP19980005181 19980113

Abstract of JPH11205711 (A)

PROBLEM TO BE SOLVED: To display a television program and an image of a computer network on half screens by storing and displaying a 2nd video signal at the time of accessing another URL of a uniform resource locator(URL). SOLUTION: A television program is shown on the left half of a display screen, an internet image is shown on the right half of it. When a CPU starts to access another URL on the Internet image by controlling a remote controller 20a, an output from a switching part 14 is witched to a TV video 1/2 image processing part 18 and an output from a switching part 51 is switched to an input from a composite video signal encoder circuit 50. A composite video signal is processed and the part 18 stores the video signal in a frame memory and gives it to a video left and right synthesizing part 19. There, a video signal from the part 18 is given to an RGB matrix 15 and is outputted to a CRT 17 and an image of the internet is shown on the left half of the display screen.

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(19)日本国特許庁（ＪＰ）　(12)公開特許公報（Ａ）　(11)特許出願公開番号

特開平11－205711

(43)公開日　平成11年(1999)７月30日

(51)Int.Cl.[6]		識別記号	FI		
Ｈ０４Ｎ	5/45		Ｈ０４Ｎ	5/45	
Ｇ０９Ｇ	5/00	５１０	Ｇ０９Ｇ	5/00	５１０Ｘ
					５１０Ｓ
		５３０			５３０Ｍ
	5/14			5/14	Ｚ

審査請求　未請求　請求項の数３　ＯＬ　（全 11 頁）　最終頁に続く

(21)出願番号　特願平10－5181

(22)出願日　平成10年(1998)１月13日

(71)出願人　000001889
三洋電機株式会社
大阪府守口市京阪本通２丁目５番５号

(72)発明者　鈴川　義信
大阪府守口市京阪本通２丁目５番５号　三洋電機株式会社内

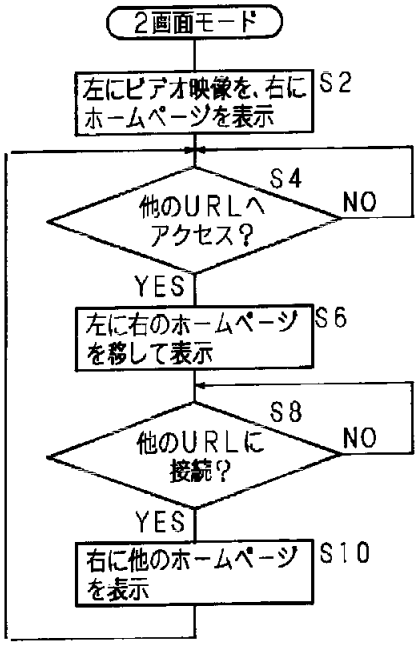
(74)代理人　弁理士　河野　登夫

(54)【発明の名称】　情報表示装置

(57)【要約】

【課題】　テレビジョン番組とコンピュータネットワークの画面とを半画面宛表示できると共に、コンピュータネットワークの所望の情報源と接続する間に、その直前に表示していたコンピュータネットワークの画面を見ながら待つことができる情報表示装置の提供。

【解決手段】　ビデオ信号中の第１の映像信号と、コンピュータネットワークのＵＲＬへアクセスし、そのＵＲＬから取り込み変換した第２の映像信号とをそれぞれ画面の水平方向に圧縮し横並びに合成して画面に表示する（Ｓ２）情報表示装置。横並びに合成して画面に表示している場合に（Ｓ２）、コンピュータネットワークの前記データのＵＲＬの他のＵＲＬへアクセスし始めたとき（Ｓ４）、第２の映像信号を記憶する記憶手段と、この記憶手段が記憶した第２の映像信号を画面に表示する表示手段（Ｓ６）とを備えている。



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【特許請求の範囲】
【請求項１】　ビデオ信号中の第１の映像信号を画面に表示し、また、コンピュータネットワークのＵＲＬへアクセスし、該ＵＲＬからデータを取り込み第２の映像信号に変換して画面に表示し、また、第１及び第２の映像信号をそれぞれ画面の水平方向に圧縮し横並びに合成して画面に表示する情報表示装置において、
前記横並びに合成して画面に表示している場合に、コンピュータネットワークの前記ＵＲＬの他のＵＲＬへアクセスし始めたとき、第２の映像信号を記憶する記憶手段と、該記憶手段が記憶した第２の映像信号を画面に表示する表示手段とを備えることを特徴とする情報表示装置。
【請求項２】　前記表示手段は、第１の映像信号に代えて第２の映像信号を画面に表示する請求項１記載の情報表示装置。
【請求項３】　前記他のＵＲＬのデータを取り込み第３の映像信号に変換し、第２及び第３の映像信号を横並びに合成して画面に表示している場合に、コンピュータネットワークの前記他のＵＲＬの他のＵＲＬへアクセスし始めたとき、前記記憶手段は第３の映像信号を記憶し、前記表示手段は、第２の映像信号に代えて第３の映像信号を画面に表示する請求項２記載の情報表示装置。
【発明の詳細な説明】
【０００１】
【発明の属する技術分野】本発明は、ビデオ信号中の映像信号を画面に表示し、また、インターネット又はイントラネット等のコンピュータネットワークからデータを取り込み映像信号に変換して画面に表示し、また、両映像信号をそれぞれ画面の水平方向に圧縮し横並びに合成して画面に表示する情報表示装置に関するものである。
【０００２】
【従来の技術】インターネットは、世界的な規模で多数のコンピュータが接続されたネットワークであり、それぞれのコンピュータには読み出すことができる様々な情報が蓄えられている。この情報には、電子メール、各種プログラム及びホームページ等があり、双方向で通信することができる。ホームページは、１つの情報の表紙及び目次に当たるものであり、ホームページ上の絵（アイコン）及び単語を選択することにより、必要な情報を検索していくことができる。
【０００３】図１０は、それぞれのコンピュータとインターネットとの接続例を説明するための説明図である。この接続例では、パーソナルコンピュータ７は、モデム８又はターミナルアダプタを介して電話回線２に接続され、この電話回線２により、接続サービス会社であるプロバイダのモデム３又はターミナルアダプタに接続される。モデム３は、プロバイダのコンピュータであるサーバー４に接続されている。
【０００４】サーバー４は、インターネット６に２４時間接続されており、中継経路を設定するためのルーター５を介してインターネット６に接続されている。パーソナルコンピュータ７からは、必要なときに電話をかけて、プロバイダのサーバー４経由でインターネット６に接続する（ダイヤルアップ接続）。近時、このインターネット６にパーソナルコンピュータ７の代わりに接続し、その画面にインターネットの様々な情報を表示できると共に、ビデオ信号中の映像信号を画面に表示できる情報表示装置が提案されている。
【０００５】この情報表示装置とインターネットとの接続は、例えば図１に示すようになっている。この接続例では、リモートコントロール装置２０ａにより遠隔操作される情報表示装置１が、電話回線２に接続される。情報表示装置１には、モデムが内蔵されている。電話回線２は、接続サービス会社であるプロバイダのモデム３又はターミナルアダプタに接続され、モデム３は、プロバイダのコンピュータであるサーバー４に接続されている。
【０００６】サーバー４は、インターネット６に２４時間接続されており、中継経路を設定するためのルーター５を介してインターネット６に接続されている。情報表示装置１からは、リモートコントロール装置２０ａが操作されると、自動的に電話の呼出し動作が行われ、プロバイダのサーバー４経由でインターネット６に接続する（ダイヤルアップ接続）。
【０００７】
【発明が解決しようとする課題】本出願人は、テレビジョン番組とインターネットの画面とを、図６に示すように、それぞれ半画面宛同時に表示でき、インターネットの回線が混んでおり、所望の情報源と接続するのに時間がかかるときでも、テレビジョン番組を見ながら待つことができる情報表示装置であるインターネットテレビジョンを、特願平８－２０６２２２号特許願により提案している。しかし、所望のＵＲＬ（UniformResource Locator）と接続するのを待つ間、必ずしもテレビジョン番組を見なければならないこともない。
【０００８】本発明は、上述したような事情に鑑みてなされたものであり、テレビジョン番組とコンピュータネットワークの画面とを半画面宛表示できると共に、コンピュータネットワークの所望の情報源と接続するのに時間がかかるときでも、その直前に表示していたコンピュータネットワークの画面を見ながら待つことができる情報表示装置を提供することを目的とする。
【０００９】
【課題を解決するための手段】第１発明に係る情報表示装置は、ビデオ信号中の第１の映像信号を画面に表示し、また、コンピュータネットワークのＵＲＬへアクセスし、該ＵＲＬからデータを取り込み第２の映像信号に変換して画面に表示し、また、第１及び第２の映像信号をそれぞれ画面の水平方向に圧縮し横並びに合成して画

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面に表示する情報表示装置において、前記横並びに合成して画面に表示している場合に、コンピュータネットワークの前記データのＵＲＬの他のＵＲＬへアクセスし始めたとき、第２の映像信号を記憶する記憶手段と、該記憶手段が記憶した第２の映像信号を画面に表示する表示手段とを備えることを特徴とする。

【００１０】この情報表示装置では、ビデオ信号中の第１の映像信号とコンピュータネットワークのＵＲＬからの第２の映像信号とをそれぞれ画面の水平方向に圧縮し横並びに合成している場合に、コンピュータネットワークの第２の映像信号のＵＲＬの他のＵＲＬへアクセスし始めたとき、記憶手段が第２の映像信号を記憶し、表示手段が、その記憶した第２の映像信号を画面に表示する。これにより、コンピュータネットワークの所望の情報源と接続するのに時間がかかるときでも、その直前に表示していたコンピュータネットワークの画面を見ながら待つことができる。

【００１１】第２発明に係る情報表示装置は、前記表示手段は、第１の映像信号に代えて第２の映像信号を画面に表示することを特徴とする。

【００１２】この情報表示装置では、表示手段は、第１の映像信号に代えて第２の映像信号を画面に表示するので、コンピュータネットワークの所望の情報源と接続するのに時間がかかるときでも、その直前に表示していたコンピュータネットワークの画面を見ながら待つことができると共に、所望の情報源と接続され、その画面が表示された後でも、その直前に表示していたコンピュータネットワークの画面を参照することができる。

【００１３】第３発明に係る情報表示装置は、前記他のＵＲＬのデータを取り込み第３の映像信号に変換し、第２及び第３の映像信号を横並びに合成して画面に表示している場合に、コンピュータネットワークの前記他のＵＲＬの他のＵＲＬへアクセスし始めたとき、前記記憶手段は第３の映像信号を記憶し、前記表示手段は、第２の映像信号に代えて第３の映像信号を画面に表示することを特徴とする。

【００１４】この情報表示装置では、コンピュータネットワークの他のＵＲＬのデータを取り込み第３の映像信号に変換し、第２及び第３の映像信号を横並びに合成して画面に表示している場合に、コンピュータネットワークの前記他のＵＲＬの他のＵＲＬへアクセスし始めたとき、記憶手段は第３の映像信号を記憶し、表示手段は、第２の映像信号に代えて第３の映像信号を画面に表示する。これにより、コンピュータネットワークの所望の情報源と接続するのに時間がかかるときでも、その直前に表示していたコンピュータネットワークの画面を見ながら待つことができると共に、所望の情報源と接続され、その画面が表示された後でも、その直前に表示していたコンピュータネットワークの画面を参照することができる。

【００１５】

【発明の実施の形態】以下に、本発明を、その実施の形態を示す図面に基づき説明する。図１は、本発明に係る情報表示装置とインターネットとの接続例を説明するための説明図である。この接続例では、リモートコントロール装置２０ａにより遠隔操作される情報表示装置１ａが、電話回線２に接続される。情報表示装置１ａには、モデムが内蔵されている。電話回線２は、接続サービス会社であるプロバイダのモデム３又はターミナルアダプタに接続され、モデム３は、プロバイダのコンピュータであるサーバー４に接続されている。

【００１６】サーバー４は、インターネット６に２４時間接続されており、中継経路を設定するためのルーター５を介してインターネット６に接続されている。情報表示装置１ａからは、リモートコントロール装置２０ａが操作されると、自動的に電話の呼出し動作が行われ、プロバイダのサーバー４経由でインターネット６に接続する（ダイヤルアップ接続）。

【００１７】図２は、本発明に係る情報表示装置の実施の形態の要部構成を示すブロック図である（音声関係は省略）。この情報表示装置１ａは、アンテナ１０ａにより受信されたテレビジョン電波がチューナ１０で選局され、選局されたテレビジョン電波は、映像中間周波・検波回路１１によりビデオ信号が検波される。検波されたビデオ信号は、切替部５１を介して、ビデオクロマ処理部１２に与えられ、ビデオクロマ処理部１２では輝度信号Ｙ及び色差信号Ｂ－Ｙ，Ｒ－Ｙが抽出される。

【００１８】抽出された輝度信号Ｙ及び色差信号Ｂ－Ｙ，Ｒ－Ｙは、ビデオ信号処理部１３により赤、緑及び青の各色信号Ｒ，Ｇ，Ｂに変換される。この各色信号Ｒ，Ｇ，Ｂは、切替部１４を介して、ＲＧＢマトリクス１５に与えられ、各色毎にＣＲＴ１７に出力される。映像中間周波・検波回路１１により検波されたビデオ信号は、また、切替部５１を介して、同期分離偏向処理部１６にも与えられ、垂直同期信号及び水平同期信号が抽出される。抽出された垂直同期信号及び水平同期信号は、ＣＲＴ１７に与えられ、画面走査の同期信号として使用される。

【００１９】ビデオ信号処理部１３により変換された各色信号Ｒ，Ｇ，Ｂは、また、切替部１４を介して、ＴＶ映像１／２画面処理部１８に与えられる。ＴＶ映像１／２画面処理部１８は、走査線毎の映像信号を記憶するラインメモリを有し、同期分離偏向処理部１６から与えられた水平同期信号の逓倍周波数である４ｆｓｃ（ｆｓｃ＝色副搬送波の周波数）の書込みクロックを作成しこれにより映像信号を書込む。映像信号を読出すときは、書込みクロックの２倍の周波数８ｆｓｃの読出しクロックを作成し、これにより読出して映像左右合成部１９に与える。

【００２０】一方、通信回線２４に接続されたインター

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ネット処理部２２は、通信回線２４経由で与えられたデータから映像信号の赤、緑及び青の各色信号Ｒ，Ｇ，Ｂを抽出し、この各色信号Ｒ，Ｇ，Ｂは、切替部２３を介して、ＲＧＢマトリクス１５に与えられ、各色毎にＣＲＴ１７に出力される。インターネット処理部２２は、インターネットの画面のみを表示する場合は、独自に垂直同期信号及び水平同期信号を作成し、この垂直同期信号及び水平同期信号は、ＣＲＴ１７に与えられ、画面走査の同期信号として使用される。

【００２１】インターネット処理部２２は、選局ＣＰＵ２０からの指示がある場合は、ＤＭＡにより映像信号を書込む。この場合、ＴＶ映像１／２画面処理部１８から与えられた水平同期信号の逓倍周波数である８ｆｓｃの書込みクロックにより映像信号を書込み、８ｆｓｃの周波数の読出しクロックにより読出し、切替部２３を介して映像左右合成部１９に与える。インターネット処理部２２により出力された各色信号Ｒ，Ｇ，Ｂは、また、切替部２３を介して、映像左右合成部１９に与えられる。映像左右合成部１９は、ＴＶ映像１／２画面処理部１８及びインターネット処理部２２からそれぞれ与えられた映像信号を水平方向へ合成し、この合成した映像信号は、ＲＧＢマトリクス１５に与えられ、各色毎にＣＲＴ１７に出力される。

【００２２】インターネット処理部２２により出力された各色信号Ｒ，Ｇ，Ｂは、また、切替部２３を介して、コンポジットビデオ信号エンコーダ回路５０に与えられる。テレビジョン番組及びインターネットの画面を同時に表示するモードの場合に、リモートコントロール装置２０ａが操作され、インターネット処理部２２が処理し画面に表示しているホームページの他のＵＲＬ（Uniform Resource Locator）へアクセスし始めたとき、コンポジットビデオ信号エンコーダ回路５０は、そのインターネット処理部２２が処理し画面に表示しているホームページの映像信号（各色信号Ｒ，Ｇ，Ｂ）をコンポジットビデオ信号に変換する。

【００２３】コンポジットビデオ信号エンコーダ回路５０がコンポジットビデオ信号に変換した映像信号は、切替部５１を介して出力され、ビデオクロマ処理部１２、ビデオ信号処理部１３及び同期分離偏向処理部１６により、上述したビデオ信号と同様に処理され、切替部１４を介して、ＴＶ映像１／２画面処理部１８に与えられる。ＴＶ映像１／２画面処理部１８は、与えられた映像信号を、内蔵するフレームメモリに記憶し、上述したビデオ信号の場合と同様の操作により、映像左右合成部１９に与える。

【００２４】選局ＣＰＵ２０は、リモートコントロール装置２０ａからの光信号、電波信号等の指示に従って、チューナ１０に選局指示信号を出力すると共に、インターネット処理部２２との信号の授受を行い、情報表示装置１ａを操作制御する。選局ＣＰＵ２０は、また、インターネットの画面をフル表示画面に表示するモードと、テレビジョン番組及びインターネットの画面を同時に表示するモードとの切替信号を出力する。また、必要に応じて、オンスクリーンディスプレイ制御部２１にも指示信号を出力して、オンスクリーンディスプレイ制御部２１から映像信号をＲＧＢマトリクス１５に与えさせる。

【００２５】図3は、インターネット処理部２２の構成を示すブロック図である。このインターネット処理部２２は、通信回線２４に接続されたモデム４１がＣＰＵ３８に接続され、ＣＰＵ３８は、バス４０を介して、ＲＡＭ３７、ＲＯＭ３９及びゲートアレー３６と接続されている。ＲＡＭ３７は、フレームメモリを備えてモデム４１経由で得たデータの映像信号その他を記憶し、ＲＯＭ３９は、インターネット処理部２２の処理プログラム及びこの情報表示装置１ａ独自の画面の映像信号等を記憶している。

【００２６】同期信号作成部２５は、クロック発生器２６から出力されるクロックを基に、インターネット処理部２２独自の垂直同期信号及び水平同期信号を作成し、ゲートアレー３６に与える。クロック発生器２６は８ｆｓｃのクロックを作成しゲートアレー３６に与える。

【００２７】ゲートアレー３６は、ラインメモリであるビデオＦＩＦＯ２９と、ＴＶ映像１／２画面処理部１８又は同期信号作成部２５から垂直同期信号及び水平同期信号を与えられ、ＴＶ映像１／２画面処理部１８又はクロック発生器２６からクロックを与えられて、ビデオＦＩＦＯ２９の書込み制御を行う書込み制御部２７と、ＴＶ映像１／２画面処理部１８又は同期信号作成部２５から垂直同期信号及び水平同期信号を与えられ、ＴＶ映像１／２画面処理部１８又はクロック発生器２６から読出しクロックを与えられて、ビデオＦＩＦＯ２９の読出し制御を行う読出し制御部２８とを有している。

【００２８】ゲートアレー３６は、また、選局ＣＰＵ２０との信号の授受を行うＩ／Ｏポート１（３１）と、Ｉ／Ｏポート１（３１）からの信号及び垂直同期信号をＣＰＵ３８の割込み信号として出力する割込み制御部３０と、電話番号、ＩＤ、パスワード及び通信履歴等を記憶するＥＥＰＲＯＭ３３と信号の授受を行うＩ／Ｏポート２（３２）とを有している。

【００２９】１画面表示のときには、同期信号作成部２５は、次に表示すべきフィールドがＯｄｄ又はＥｖｅｎの何れであるかを出力する。２画面表示のときには、読出し制御部２８は、与えられた垂直同期信号及び水平同期信号の関係から、次に表示すべきフィールドがＯｄｄ又はＥｖｅｎの何れであるかを判定し、その判定結果を垂直同期信号の割込みタイミングで、割込み制御部３０によってＣＰＵ３８に与える。ビデオＦＩＦＯ２９から読出された各色信号Ｒ，Ｇ，Ｂは、それぞれカラーパレット３５により、精細に色付けされて、切替部２３へ出力される。

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【００３０】以下に、このような構成の情報表示装置１ａの動作を説明する。情報表示装置１ａは、選局ＣＰＵ２０により、通常のテレビジョンとして作動するモードが指定された場合、アンテナ１０ａにより受信されたテレビジョン電波が、選局ＣＰＵ２０からの指示により、チューナ１０で選局される。選局されたテレビジョン電波は、映像中間周波・検波回路１１によりビデオ信号が検波され、検波されたビデオ信号からは、ビデオクロマ処理部１２により輝度信号Ｙ及び色差信号Ｂ－Ｙ，Ｒ－Ｙが抽出される。

【００３１】抽出された輝度信号Ｙ及び色差信号Ｂ－Ｙ，Ｒ－Ｙは、ビデオ信号処理部１３により赤、緑及び青の各色信号Ｒ，Ｇ，Ｂに変換される。この各色信号Ｒ，Ｇ，Ｂは、切替部１４を介して、ＲＧＢマトリクス１５に与えられ、各色毎にＣＲＴ１７に出力される。映像中間周波・検波回路１１により検波されたビデオ信号からは、同期分離偏向処理部１６により垂直同期信号及び水平同期信号が抽出される。抽出された垂直同期信号及び水平同期信号は、ＣＲＴ１７に与えられ、各色信号Ｒ，Ｇ，Ｂを画面走査する時の同期信号として使用される。

【００３２】情報表示装置１ａは、選局ＣＰＵ２０により、インターネットテレビジョンとして作動するモードが指定された場合、ＣＰＵ３８が割込み制御部３０により割込みを掛けられる。ＣＰＵ３８は、割込みを掛けられると、ＲＯＭ３９から初期画面の１画面分の映像信号を読出して受け取り、ＲＡＭ３７にセットする。また、クロック発生器２６はクロックを出力し、書込み制御部２７及び読出し制御部２８に与える。

【００３３】このとき、選局ＣＰＵ２０は、切替信号を出力し、切替部１４からの出力を停止させ、ＲＧＢマトリクス１５への入力を切替部２３とオンスクリーンディスプレイ制御部２１とからのみに切替る。また、ＣＰＵ３８は、クロック発生器２６からクロックを出力させ、同期信号作成部２５が出力した垂直同期信号及び水平同期信号と共に、書込み制御部２７及び読出し制御部２８に入力させる。

【００３４】割込み制御部３０は、読出し制御部２８から水平同期信号を与えられる都度、ＣＰＵ３８内のＤＭＡコントローラを作動させ、ＤＭＡによりＲＡＭ３７から１走査線分の映像信号の各色信号Ｒ，Ｇ，Ｂを読出させ、ビデオＦＩＦＯ２９に与える。ビデオＦＩＦＯ２９では、この各色信号Ｒ，Ｇ，Ｂを、書込み制御部２７が作るタイミングによりそれぞれ書込み、読出し制御部２８が４ｆｓｃの読出しクロックによりそれぞれ読出し、読出された各色信号Ｒ，Ｇ，Ｂは、切替部２３を介して、ＲＧＢマトリクス１５に与えられ、各色毎にＣＲＴ１７に出力される。

【００３５】同期信号作成部２５は、１画面表示のとき、垂直同期信号及び水平同期信号をＣＲＴ１７に与え、これらは、各色信号Ｒ，Ｇ，Ｂを画面走査する時の同期信号として使用される。このとき、ＤＭＡコントローラは、ＣＲＴ１７の表示画面への表示が始まる１ライン前から、ＤＭＡにより映像信号の各色信号Ｒ，Ｇ，Ｂを読出させる。そして、ＣＲＴ１７の表示画面に表示されない無効表示領域の期間（水平帰線期間）中に、ビデオＦＩＦＯ２９への書込みを終了し、ＣＲＴ１７の表示画面に表示される有効表示領域の期間中は、読出し制御部２８がビデオＦＩＦＯ２９からの読出しを行う。

【００３６】また、読出し制御部２８は、垂直同期信号の割込みタイミングで、次に表示すべきフィールドがＯｄｄ又はＥｖｅｎの何れであるかの判定結果を、割込み制御部３０経由でＣＰＵ３８内のＤＭＡコントローラに与える。ＤＭＡコントローラは、この結果に従って、読出す映像信号のＲＡＭ３７内のアドレスをセットする。

【００３７】上述した動作の結果、ＣＲＴ１７の表示画面には、図４に示すような初期画面が表示される。操作者が、この初期画面の「お店情報」「旅行・観光」「ニュース」「学習」「娯楽」「地域と企業情報」「オリジナル」「検索」「電子メール」の各絵（アイコン）の中から、リモートコントロール装置２０ａを操作して、例えば、「旅行・観光」の絵を選択し決定すると、インターネット処理部２２は、初期画面のときと同様にして、図５に示すような「旅行・観光」の選択画面を表示する。以下、同様にして、選択画面において選択され決定される都度、ツリー状に選択肢に連なった同様の下位選択画面が表示される。

【００３８】リモートコントロール装置２０ａは、初期画面（図４）の下部に表示された絵４２のように、上面の右端に選択釦（４３）、左端に決定釦（４４）、中央部に各種の操作釦（４５）を備えている。選択釦は、「指さし手」のポインター又はカーソル等の位置を８方向へ自在に移動させることが可能であり、決定釦が操作されたときのポインター又はカーソル等と重なる絵（釦形の絵も含む）又は文字列で表示される項目が選択決定される。

【００３９】選択画面において選択決定され検索が進むと、検索された項目に関連したホームページのＵＲＬが、ＲＯＭ３９及びＥＥＰＲＯＭ３３から読出され表示画面に表示される。操作者が、リモートコントロール装置２０ａを操作して、このＵＲＬの中から選択決定すると、ＣＰＵ３８が、ＥＥＰＲＯＭ３３からプロバイダーのサーバー４の電話番号を読出し、電話の呼出し動作を行い、プロバイダのサーバー４とインターネット処理部２２とが接続される。プロバイダのサーバー４と接続されると、選択決定されたＵＲＬが呼出され接続される。

【００４０】接続されたＵＲＬのホームページのデータが通信回線２４及びモデム４１経由で送られて来ると、ＣＰＵ３８は、このデータを映像信号に変換しＲＡＭ３７にセットする。ＲＡＭ３７にセットされた映像信号

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は、初期画面の場合と同様にして、表示画面に表示される。登録されていないＵＲＬを呼出す場合は、インターネットの画面が表示されるとき、必要に応じて、表示画面の上端部に表示されるブラウザのメニュー画面の「ＵＲＬ入力」を選択決定して、そのＵＲＬを入力する。

【００４１】ここで、例えば、初期画面（図４）が表示されているときに、選局ＣＰＵ２０により、通常のテレビジョン番組とインターネットの画面とを同時に表示するモードが指定された時、情報表示装置１ａでは、ＣＰＵ３８が割込み制御部３０により割込みを掛けられる。このとき、選局ＣＰＵ２０は、切替信号を出力し、切替部１４からの出力及び切替部２３からの出力をそれぞれＴＶ映像１／２画面処理部１８へ切替える。

【００４２】情報表示装置１ａは、ビデオ信号処理部１３により赤、緑及び青の各色信号Ｒ，Ｇ，Ｂに変換された各色信号Ｒ，Ｇ，Ｂを、切替部１４を介して、ＴＶ映像１／２画面処理部１８に与える。ＴＶ映像１／２画面処理部１８は、同期分離偏向処理部１６から与えられた水平同期信号の逓倍周波数である４ｆｓｃの書込みクロックを作成しこれにより映像信号の各色信号Ｒ，Ｇ，Ｂをそれぞれ書込む。映像信号の各色信号Ｒ，Ｇ，Ｂを読出すときは、書込みクロックの２倍の周波数８ｆｓｃの読出しクロックを作成しこれにより、各色信号Ｒ，Ｇ，Ｂを走査線の開始端からそれぞれ読出して、映像左右合成部１９に与える。

【００４３】一方、インターネット処理部２２は、通常のテレビジョン番組とインターネットの画面とを同時に表示するモードが指定され、ＣＰＵ３８が、割込みを掛けられると、ＲＯＭ３９から初期画面の１画面分の映像信号を読出して受取り、ＲＡＭ３７へセットし、また、クロック発生器２６を停止させる。そして、インターネット処理部２２は、ＴＶ映像１／２画面処理部１８から垂直同期信号、水平同期信号及び８ｆｓｃのクロックを与えられる。次いで、ＲＡＭ３７内の映像信号を記憶する領域に、初期画面の１画面分の映像信号をセットする。

【００４４】割込み制御部３０は、読出し制御部２８から水平同期信号を与えられる都度、ＣＰＵ３８内のＤＭＡコントローラを作動させる。ＤＭＡコントローラは、ＤＭＡによりＲＡＭ３７内の映像信号を記憶する領域から１走査線分の映像信号の各色信号Ｒ，Ｇ，Ｂを読出させ、ビデオＦＩＦＯ２９に与える。ビデオＦＩＦＯ２９では、この各色信号Ｒ，Ｇ，Ｂを、書込み制御部２７が作るタイミングによりそれぞれ書込み、読出し制御部２８が８ｆｓｃの読出しクロックにより、映像信号を走査線の中間点のタイミングから読出して、それぞれ読出し、読出された各色信号Ｒ，Ｇ，Ｂは、切替部２３を介して、映像左右合成部１９に与えられる。

【００４５】映像左右合成部１９は、ＴＶ映像１／２画面処理部１８及びインターネット処理部２２からそれぞれ与えられた映像信号を水平方向へ合成し、この合成した映像信号は、ＲＧＢマトリクス１５に与えられ、各色毎にＣＲＴ１７に出力される。これにより、図６に示すように、表示画面の左半分に通常のテレビジョン番組が、右半分にインターネットの画面がそれぞれ表示される。これは、インターネットの初期画面に限らず、インターネットのどのような画面のときでも同様である。

【００４６】割込み制御部３０は、読出し制御部２８から垂直同期信号及び水平同期信号が与えられないときは、テレビジョン番組がオフされたと判断し、割込みによりＣＰＵ３８へこのことを通知する。ＣＰＵ３８はこの通知により、クロック発生器２６を作動させて、８ｆｓｃの書込みクロックと、８ｆｓｃの読出しクロックと、同期信号作成部２５からの垂直同期信号及び水平同期信号とを書込み制御部２７及び読出し制御部２８に入力させ、引き続き、表示画面の右半分にインターネットの画面を表示させる。その他の情報表示装置１ａの動作は、前述した通常のテレビジョンとして作動するモード及びインターネットの画面をフル表示画面に表示するモードの場合と同様であるので、説明を省略する。

【００４７】図7は、通常のテレビジョン番組とインターネットの画面とを同時に表示するモードの場合の情報表示装置１ａの動作を示すフローチャートである。図８（ａ）に示すように、表示画面の左半分に通常のテレビジョン番組が、右半分にインターネットの画面がそれぞれ表示されている場合に（Ｓ２）、リモートコントロール装置２０ａが操作され、ＣＰＵ３８が、表示画面の右半分に表示されているインターネットの画面（例えば「インターネットのメニュー画面」）の他のＵＲＬ（例えば「お店情報」のホームページ）へアクセスし始めたとき（Ｓ４）、ＣＰＵ３８は、切替信号を出力し、切替部１４からの出力をＴＶ映像１／２画面処理部１８へ切替え、切替部５１からの出力をコンポジットビデオ信号エンコーダ回路５０からの入力に切替える。

【００４８】コンポジットビデオ信号エンコーダ回路５０は、インターネット処理部２２が処理し画面に表示しているインターネットの映像信号（各色信号Ｒ，Ｇ，Ｂ）をコンポジットビデオ信号に変換し、切替部５１に入力する。切替部５１から出力されたコンポジットビデオ信号は、ビデオクロマ処理部１２、ビデオ信号処理部１３及び同期分離偏向処理部１６により、上述したビデオ信号と同様に処理され、ＴＶ映像１／２画面処理部１８に与えられる。ＴＶ映像１／２画面処理部１８は、与えられた映像信号を、内蔵するフレームメモリに記憶し、上述したビデオ信号の場合と同様の操作により、映像左右合成部１９に与える。

【００４９】映像左右合成部１９は、ＴＶ映像１／２画面処理部１８から与えられた映像信号をＲＧＢマトリクス１５に与え、各色毎にＣＲＴ１７に出力させる。これにより、表示画面の右半分に表示されていたインターネ

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ットの画面（「インターネットのメニュー画面」）が、図８（ｂ）に示すように、表示画面の左半分に表示されるようになる（Ｓ６）。但し、このとき、表示画面の右半分には、上述した他のＵＲＬへ接続され（Ｓ８）、その映像信号（「お店情報」のホームページ）が表示されるようになる迄（Ｓ１０）、何も表示されない。

【００５０】図８（ｂ）に示すように、表示画面の左半分及び右半分にインターネットの画面がそれぞれ表示されている場合に（Ｓ１０）、リモートコントロール装置２０ａが操作され、ＣＰＵ３８が、表示画面の右半分に表示されているインターネットの画面の他のＵＲＬ（例えば「本」のお店情報のホームページ）へアクセスし始めたとき（Ｓ４）、上述した動作と同様の動作により、表示画面の右半分に表示されていたインターネットの画面（「お店情報」のホームページ）が、図９（ａ）に示すように、表示画面の左半分に表示されるようになる（Ｓ６）。但し、このとき、表示画面の右半分には、上述した他のＵＲＬへ接続され（Ｓ８）、その映像信号（「○○書店」のホームページ）が表示されるようになる迄（Ｓ１０）、何も表示されない。

【００５１】図９（ａ）に示すように、表示画面の左半分及び右半分にインターネットの画面がそれぞれ表示されている場合に（Ｓ１０）、リモートコントロール装置２０ａが操作され、ＣＰＵ３８が、表示画面の右半分に表示されているインターネットの画面の他のＵＲＬ（例えば「○○書店」のホームページ上の項目）へアクセスしたとき（Ｓ４）、上述した動作と同様の動作により、表示画面の右半分に表示されていたインターネットの画面（「○○書店」のホームページ）が、図９（ｂ）に示すように、表示画面の左半分に表示されるようになる（Ｓ６）。このときは、同じホームページ内であるので、既に接続されており（Ｓ８）、即座に、上述した項目にリンクした画面が表示される（Ｓ１０）。

【００５２】

【発明の効果】第１発明に係る情報表示装置によれば、コンピュータネットワークの所望の情報源と接続するのに時間がかかるときでも、その直前に表示していたコンピュータネットワークの画面を見ながら待つことができる。

【００５３】第２，３発明に係る情報表示装置によれば、コンピュータネットワークの所望の情報源と接続するのに時間がかかるときでも、その直前に表示していたコンピュータネットワークの画面を見ながら待つことができると共に、所望の情報源と接続され、その画面が表示された後でも、その直前に表示していたコンピュータネットワークの画面を参照することができる。

【図面の簡単な説明】

【図１】本発明に係る情報表示装置とインターネットとの接続例を説明するための説明図である。

【図２】本発明に係る情報表示装置の実施の形態の構成を示すブロック図である。

【図３】インターネット処理部の構成を示すブロック図である。

【図４】初期画面を説明するための説明図である。

【図５】「旅行・観光」の選択画面を説明するための説明図である。

【図６】本発明に係る情報表示装置の動作を説明する為の説明図である。

【図７】本発明に係る情報表示装置の動作を示すフローチャートである。

【図８】本発明に係る情報表示装置の動作を説明する為の説明図である。

【図９】本発明に係る情報表示装置の動作を説明する為の説明図である。

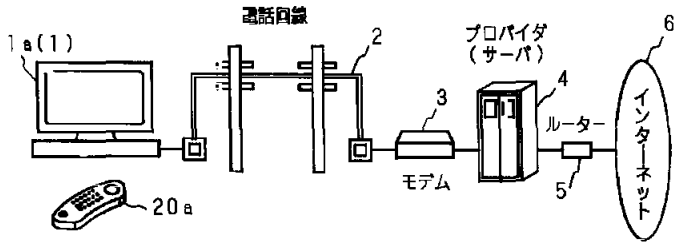
【図１０】コンピュータとインターネットとの接続例を説明するための説明図である。

【符号の説明】

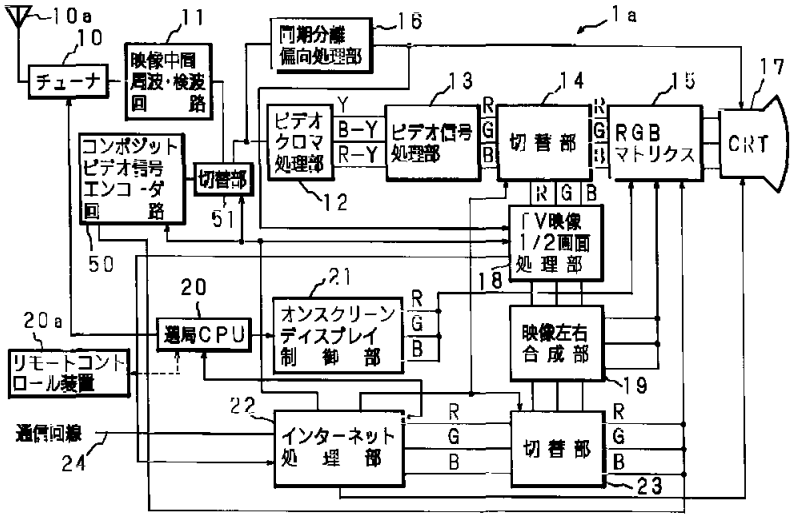
１ａ　情報表示装置
１４，２３，５１　切替部
１５　ＲＧＢマトリクス
１７　ＣＲＴ（画面、表示画面）
１８　ＴＶ映像１／２画面処理部
１９　映像左右合成部
２０　選局ＣＰＵ
２０ａ　リモートコントロール装置
２２　インターネット処理部
２４　通信回線（電話回線）
２５　同期信号作成部
２７　書込み制御部
２８　読出し制御部
２９　ビデオＦＩＦＯ
３０　割込み制御部
３７　ＲＡＭ
３８　ＣＰＵ
４１　モデム
５０　コンポジットビデオ信号エンコーダ回路

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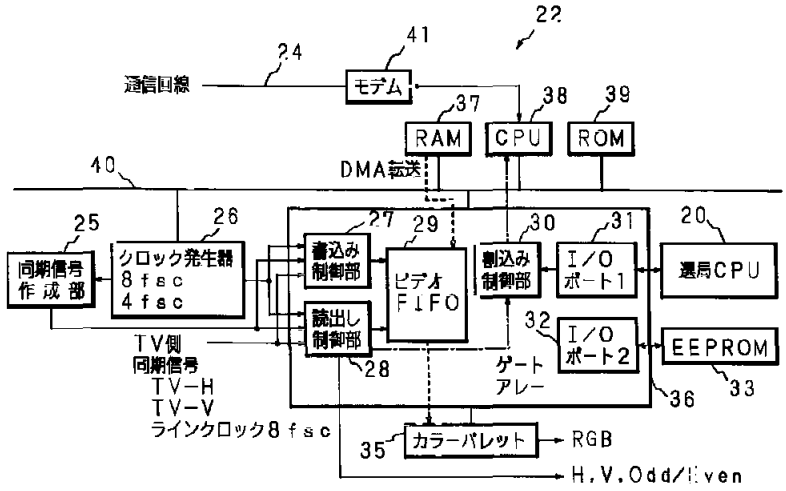
【図1】


電話回線
1a(1)
2
プロバイダ
（サーバ）
6
3
4
ルーター
インターネット
モデム
5
20a

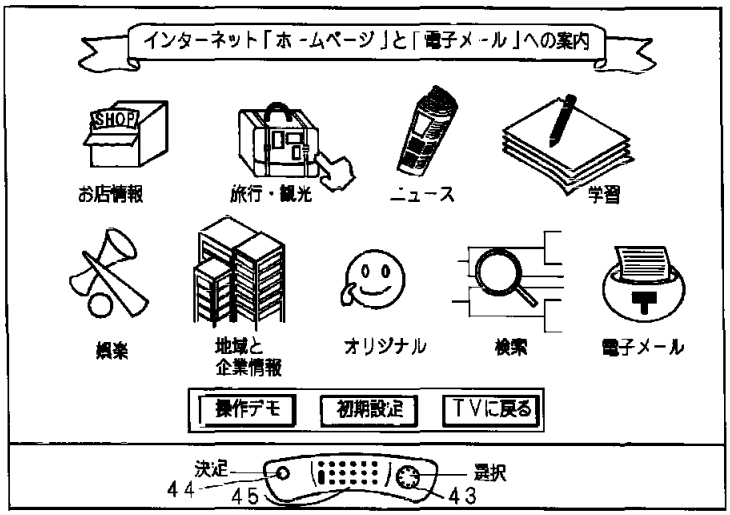
【図2】


10a
10
チューナ
11
映像中間周波・検波回路
同期分離偏向処理部
16
1a
13
14
15
17
ビデオクロマ処理部
Y
B−Y
R−Y
ビデオ信号処理部
R
G
B
切替部
RGBマトリクス
CRT
12
コンポジットビデオ信号エンコーダ回路
切替部
51
50
TV映像1/2画面処理部
18
20
21
20a
選局CPU
オンスクリーンディスプレイ制御部
映像左右合成部
19
リモートコントロール装置
22
通信回線
24
インターネット処理部
切替部
23

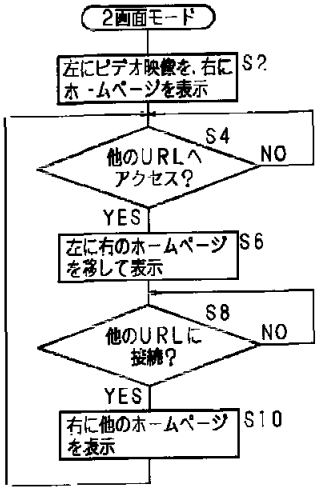
【図3】


22
41
24
通信回線
モデム
37
38
39
RAM
CPU
ROM
DMA転送
40
25
26
27
29
30
31
20
同期信号作成部
クロック発生器
8fsc
4fsc
書込み制御部
ビデオFIFO
割込み制御部
I/Oポート1
選局CPU
読出し制御部
32
I/Oポート2
EEPROM
TV側同期信号
TV−H
TV−V
ラインクロック8fsc
28
ゲートアレー
36
33
35
カラーパレット
RGB
H,V,Odd/Even

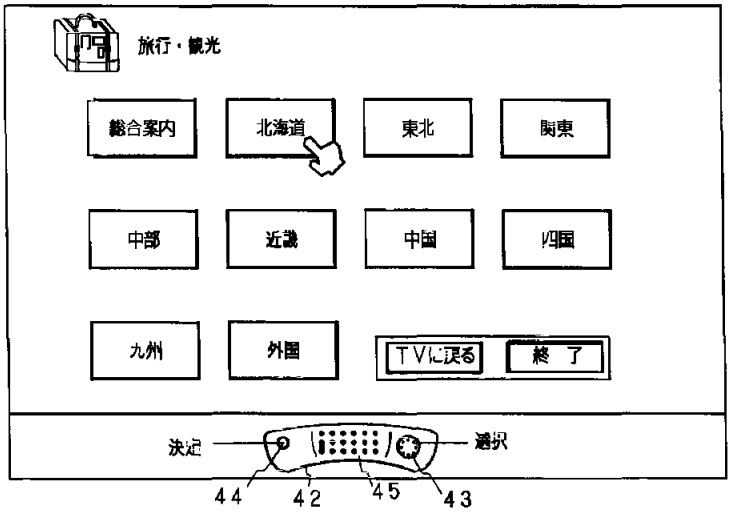
【図4】



【図7】

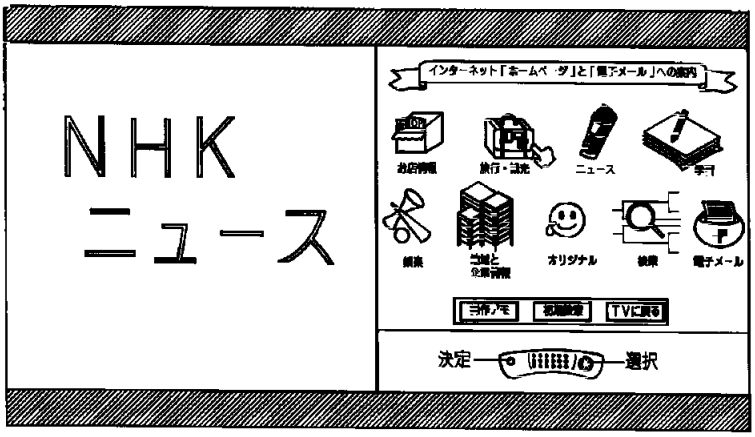


【図5】

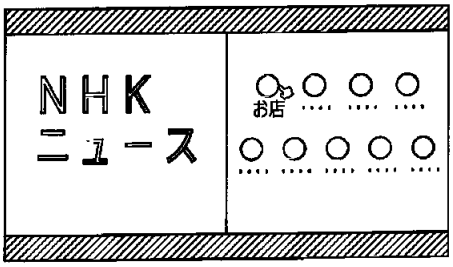


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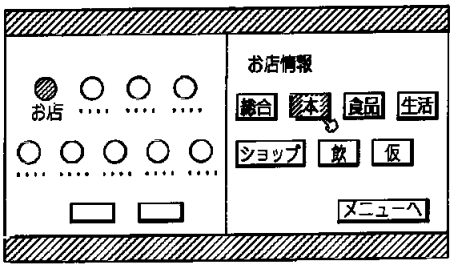
【図６】


NHK
ニュース
インターネット「ホームページ」と「電子メール」への案内
お店情報
旅行・観光
ニュース
予行
オリジナル
検索
電子メール
TVに戻る
決定
選択

【図８】

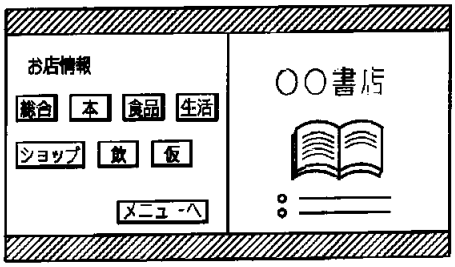

NHK
ニュース
お店

（ａ）

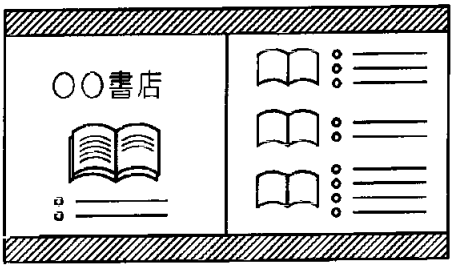

お店
お店情報
総合
本
食品
生活
ショップ
飲
仮
メニューへ

（ｂ）

【図９】

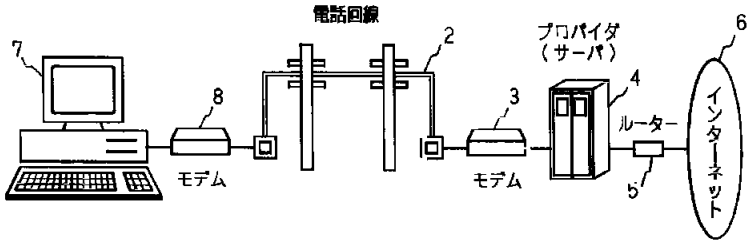

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仮
メニューへ
○○書店

（ａ）


○○書店

（ｂ）

【図１０】



フロントページの続き

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	5/66			5/66	Ｄ

Espacenet

Bibliographic data: JPH1168823 (A) — 1999-03-09

INFORMATION COMMUNICATION SYSTEM, INFORMATION COMMUNICATION TERMINAL, SERVER DEVICE, ICON SELECTING DEVICE AND INFORMATION COMMUNICATION METHOD

Inventor(s): OSAWA SHOICHI; UKITA YOSHIAKI ± (OSAWA SHOICHI, ; UKITA YOSHIAKI)

Applicant(s): SONY CORP ± (SONY CORP)

Classification: **- international:** ***G06F13/00; G06F3/0481; G06F3/14; H04L12/54; H04L12/58; H04M11/00; H04N1/00; H04N1/32; H04W4/12; H04W88/18;*** (IPC1-7): G06F13/00; G06F3/14; H04L12/54; H04L12/58; H04M11/00; H04N1/00; H04N1/32; H04Q7/38

- cooperative:

Application number: JP19970216429 19970811

Priority number(s): JP19970216429 19970811

Abstract of JPH1168823 (A)

PROBLEM TO BE SOLVED: To provide the information communication system in which a data communication service is used at a low cost. SOLUTION: In the case that a communication channel is set between a membership terminal 1 and a common server device 2, the common server device 2 sends a home page including service selection icons corresponding to information services served by the common server device 2. The service selection icon included in the home page has a display part of contents of the information service and a display part relating to a server of the information service and the server of the information service uses the icon as an advertisement medium. The cost imposed on the user of the membership terminal 1 is reduced when the user uses the information service by collecting the utility charge of the service selection icon from the server of the information service using the service selection icon.

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(19)日本国特許庁（ＪＰ）　(12) **公開特許公報（Ａ）**　(11)特許出願公開番号

特開平11－68823

(43)公開日　平成11年(1999)３月９日

(51)Int.Cl.[6]		識別記号	FI		
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	12/58		Ｇ０６Ｆ	3/14	３７０Ａ
Ｇ０６Ｆ	3/14	３７０		13/00	３５４Ａ
	13/00	３５４	Ｈ０４Ｍ	11/00	３０２
Ｈ０４Ｑ	7/38		Ｈ０４Ｎ	1/00	１０７Ａ

審査請求　未請求　請求項の数16　ＯＬ　（全 21 頁）　最終頁に続く

(21)出願番号　特願平9－216429

(22)出願日　平成９年(1997)８月11日

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東京都品川区北品川６丁目７番35号

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東京都品川区北品川６丁目７番35号　ソニー株式会社内

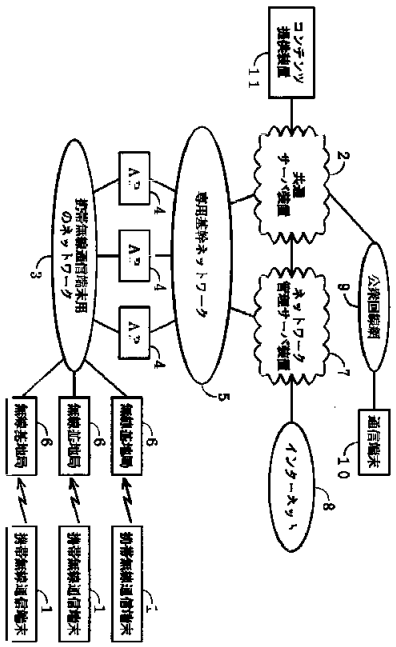
(74)代理人　弁理士　佐藤　正美

(54)【発明の名称】　情報通信システム、情報通信端末、サーバ装置、サービス選択用アイコンおよび情報通信方法

(57)【要約】

【課題】　低廉な料金でデータ通信サービスを利用することができるようにする情報通信システムを提供する。

【解決手段】　会員端末１と共通サーバ装置２との間で通信路が接続されると、共通サーバ装置２は、会員端末１に対して、共通サーバ装置２が提供可能な情報提供サービスのそれぞれに対応するサービス選択用アイコンを含むホームページを送信する。ホームページに含まれるサービス選択用アイコンは、情報提供サービスの内容の表示部分と、この情報提供サービスの提供者に関する表示部分とを一体的に備え、情報提供サービスの提供者にとっては、広告媒体として利用することができるものである。このサービス選択用アイコンを用いる情報提供サービスの提供者からサービス選択用アイコンの使用料を徴収するなどして、情報提供サービスを利用する場合に会員端末１の使用者が負担するコストを軽減する。



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【特許請求の範囲】
【請求項１】ネットワークを通じて接続されるサーバ装置と情報通信端末とからなり、
前記サーバ装置は、
前記情報通信端末からのサービス提供要求を受けて、要求された提供サービスを実行するサービス実行手段を備え、
前記情報通信端末は、
前記サーバ装置が提供可能な１～複数の提供サービスのそれぞれのサービス内容の表示部分と、当該提供サービスの提供者に関する表示部分とを一体的に備え、ポインティングデバイスによって選択指示が可能なサービス選択用アイコンを含む、前記１～複数の前記提供サービスの選択画面を表示する表示手段と、
前記表示手段に表示された前記選択画面に含まれる前記サービス選択用アイコンの使用者による選択操作に基づいて、前記サービス提供要求を前記サーバ装置に送出するサービス提供要求送出手段とを備えることを特徴とする情報通信システム。
【請求項２】前記サーバ装置は、
前記情報通信端末からの接続要求により、この情報通信端末との間で通信路を生成する通信路生成手段と、
前記１～複数の前記提供サービスのそれぞれの前記サービス選択用アイコンを含む選択画面情報を、前記情報通信端末に前記通信路を通じて提供する選択画面情報提供手段と、
を備え、
前記情報通信端末は、
使用者の接続要求操作を受けて、前記サーバ装置に対して前記接続要求を送出して、前記サーバ装置との間で通信路を生成するための接続要求送出手段を備え、
前記表示手段は、前記通信路を通じて提供される前記サーバ装置からの前記選択画面情報に応じて、前記選択画面を表示することを特徴とする請求項１に記載の情報通信システム。
【請求項３】前記サーバ装置が提供可能な前記１～複数の前記提供サービスの中には、情報提供サービスが含まれており、
前記情報通信端末は、前記サーバ装置から送信されてくる前記サービス提供要求に応じた提供情報を取得して、再生する再生手段を備えることを特徴とする請求項１または請求項２に記載の情報通信システム。
【請求項４】前記サーバ装置は、
ネットワークまたは専用線を通じて、情報を提供する１～複数の情報提供装置に接続されており、
提供可能な前記情報提供サービスの中には、前記情報提供装置が当該サーバ装置を介して提供可能とされる情報提供サービスが含まれており、
前記情報通信端末からの前記サービス提供要求が、前記情報提供装置が当該サーバ装置を介して提供可能とされる情報提供サービスを要求するものであるときに、要求された情報提供サービスに応じた提供情報を前記ネットワークまたは専用線を通じて前記情報提供装置から取得して、前記情報通信端末に送信する手段を備えることを特徴とする請求項３に記載の情報通信システム。
【請求項５】前記情報通信端末と前記サーバ装置とが接続される前記ネットワークは、携帯型の電話端末用のネットワークを含み、前記情報通信端末は、前記携帯型の電話端末用の無線基地局を通じて通信するための無線通信手段を備えることを特徴とする請求項１、請求項２、請求項３または請求項４に記載の情報通信システム。
【請求項６】サーバ装置とネットワークを通じて接続され、前記サーバ装置より提供サービスを受ける情報通信端末であって、
前記サーバ装置が提供可能な１～複数の提供サービスのそれぞれのサービス内容の表示部分と、当該提供サービスの提供者に関する表示部分とを一体的に備え、ポインティングデバイスで選択されるサービス選択用アイコンを含む、前記１～複数の前記提供サービスの選択画面情報を表示する表示手段と、
前記表示手段に表示された前記選択画面情報に含まれる前記サービス選択用アイコンの使用者による選択操作に基づいて、サービス提供要求を前記サーバ装置に送出するサービス提供要求送出手段とを備えることを特徴とする情報通信端末。
【請求項７】使用者の接続要求操作を受けて、前記サーバ装置に対して前記接続要求を送出して、前記サーバ装置との間で通信路を生成するための接続要求送出手段を備え、
前記表示手段は、前記通信路を通じて提供される前記サーバ装置からの前記選択画面情報に基づいて、前記選択画面を表示することを特徴とする請求項６に記載の情報通信端末。
【請求項８】前記サーバ装置が提供可能な前記１～てさ複数の提供サービスの中には、情報提供サービスが含まれており、
前記サーバ装置から前記通信路を通じて送信されてくる前記サービス提供要求に応じた提供情報を取得して、再生する再生手段を備えることを特徴とする請求項６または請求項７に記載の情報通信端末。
【請求項９】前記ネットワークは、携帯型の電話端末用のネットワークを含み、
前記携帯型の電話端末用の無線基地局を通じて通信するための無線通信手段を備えることを特徴とする請求項６、請求項７または請求項８に記載の情報通信端末。
【請求項１０】情報通信端末とネットワークを通じて接続され、前記情報通信端末に対して提供サービスを提供するサーバ装置であって、
前記情報通信端末からの接続要求により、この情報通信端末との間で通信路を生成する通信路生成手段と、

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提供可能な１～複数の提供サービスのそれぞれのサービス内容の表示部分と、前記提供サービスの提供者に関する表示部分とを一体的に備え、ポインティングデバイスで選択されるサービス選択用アイコンを含む、前記１～複数の前記提供サービスの選択画面情報を前記情報通信端末に提供する選択画面情報提供手段と、
前記情報通信端末からのサービス提供要求を受けて、要求された提供サービスを実行する提供サービス実行手段とを備えることを特徴とするサーバ装置。
【請求項１１】前記情報通信端末からの接続要求により、この情報通信端末との間で通信路を生成する通信路生成手段を備え、
前記選択画面情報提供手段は、前記通信路生成手段により生成された前記通信路を通じて、
前記１～複数の前記提供サービスの選択画面情報を前記情報通信端末に提供することを特徴とする請求項１０に記載のサーバ装置。
【請求項１２】ネットワークまたは専用線を通じて、情報を提供する１～複数の情報提供装置に接続されており、
提供可能な前記提供サービスの中には、前記情報提供装置が当該サーバ装置を介して提供可能とされる情報提供サービスが含まれており、
前記情報通信端末からの前記サービス提供要求が、前記情報提供装置が当該サーバ装置を介して提供可能とされる情報提供サービスを要求するものであるときに、要求された情報提供サービスに応じた提供情報を前記ネットワークまたは専用線を通じて前記情報提供装置から取得して、前記情報通信端末に前記通信路を通じて送信する手段を備えることを特徴とする請求項１０または請求項１１に記載のサーバ装置。
【請求項１３】ポインティングデバイスで選択されて実行される提供サービスの内容の表示部分と、前記サービスの提供者の表示部分とを一体的に備えるサービス選択用アイコン。
【請求項１４】サーバ装置と情報通信端末とがネットワークを通じて接続され、前記サーバ装置は、前記情報通信端末からのサービス提供要求に応じて、提供サービスを実行するようにする方法であって、
前記サーバ装置は、
前記情報通信端末からのサービス提供要求を受けて、要求された提供サービスを実行するサービス実行工程を備え、
前記情報通信端末は、
前記サーバ装置が提供可能な１～複数の提供サービスのそれぞれのサービス内容の表示部分と、当該提供サービスの提供者に関する表示部分とを一体的に備え、ポインティングデバイスによって選択指示が可能なサービス選択用アイコンを含む、前記１～複数の前記提供サービスの選択画面を表示する表示工程と、
前記表示手段に表示された前記選択画面に含まれる前記サービス選択用アイコンの使用者による選択操作に基づいて、前記サービス提供要求を前記サーバ装置に送出するサービス提供要求送出工程とを備えることを特徴とする情報通信方法。
【請求項１５】前記サーバ装置は、
前記情報通信端末からの接続要求により、この情報通信端末との間で通信路を生成する通信路生成工程と、
前記１～複数の前記提供サービスのそれぞれの前記サービス選択用アイコンを含む選択画面情報を、前記情報通信端末に前記通信路を通じて提供する選択画面情報提供工程と、
を備え、
前記情報通信端末は、
使用者の接続要求操作を受けて、前記サーバ装置に対して前記接続要求を送出して、前記サーバ装置との間で通信路を生成するための接続要求送出工程を備え、
前記表示工程においては、前記通信路を通じて提供される前記サーバ装置からの前記選択画面情報を取得して、前記選択画面を表示するようにすることを特徴とする請求項１４に記載の情報通信方法。
【請求項１６】前記サーバ装置が提供可能な前記１～複数の提供サービスの中には、情報提供サービスが含まれ、
前記情報通信端末は、前記サーバ装置から前記通信路を通じて送信されてくる前記サービス提供要求に応じた提供情報を取得して、再生する再生工程を備えることを特徴とする請求項１４または請求項１５に記載の情報通信方法。
【発明の詳細な説明】
【０００１】
【発明の属する技術分野】この発明は、例えば、ガイド情報や地図情報などの情報を使用者の要求に応じて表示するなどの情報提供サービスを、使用者に提供する情報通信システム、このシステムに使用する情報通信端末、サーバ装置、サービス選択用アイコンおよび情報通信方法に関する。
【０００２】
【従来の技術】最近、ＰＨＳ端末などの携帯無線通信端末の普及と、これら携帯無線通信端末を用いたデータ通信の伝送速度の高速化により、音声通信だけでなく、例えばテキストデータや画像データなどの種々のデータを無線通信するようにする無線データ通信サービスが注目されている。
【０００３】例えば、ＰＨＳ端末を使用する例では、伝送速度が３２ｋビット／秒でのデータ通信が可能となり、アナログ電話回線でモデムを使用した場合の伝送速度の２８．８ｋビット／秒または３３．６ｋビット／秒と同程度の伝送速度となり、電子メールのやり取りや、ファクシミリ通信などが、携帯無線通信端末により屋外

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から行える環境が整ってきている。

【０００４】

【発明が解決しようとする課題】ところで、無線通信回線を使用したファクシミリ通信や電子メール通信などのデータ通信を行う場合に、その使用料が、電話ケーブルを通じた一般公衆回線に比べて高額になるという問題がある。

【０００５】そこで、例えばインターネット上のサービスプロバイダー（ＩＳＰ）経由で、そのサービスプロバイダーによる電子メールサービスやファクシミリ送信サービスを利用することが考えられる、この方法によれば、ＩＳＰまでの回線使用料で済むので、通信コストが低廉になる。

【０００６】しかし、この場合でも、ＩＳＰとの契約料や電子メールサービスやファクシミリサービスなどのサービス提供料の負担が問題になり、より低廉な料金でデータ通信サービスの利用ができることが期待される。

【０００７】この発明は、以上の点にかんがみ、低廉な料金でデータ通信サービスを利用することができるようにする情報通信システム、この通信システムに使用する情報通信端末、サーバ装置およびサービス選択用アイコンを提供することを目的とする。

【０００８】

【課題を解決するための手段】上記課題を解決するため、請求項１の発明の情報通信システムは、ネットワークを通じて接続されるサーバ装置と情報通信端末とからなり、前記サーバ装置は、前記情報通信端末からのサービス提供要求を受けて、要求された提供サービスを実行するサービス実行手段を備え、前記情報通信端末は、前記サーバ装置が提供可能な１～複数の提供サービスのそれぞれのサービス内容の表示部分と、当該提供サービスの提供者に関する表示部分とを一体的に備え、ポインティングデバイスによって選択指示が可能なサービス選択用アイコンを含む、前記１～複数の前記提供サービスの選択画面を表示する表示手段と、前記表示手段に表示された前記選択画面に含まれる前記サービス選択用アイコンの使用者による選択操作に基づいて、前記サービス提供要求を前記サーバ装置に送出するサービス提供要求送出手段とを備えることを特徴とする。

【０００９】この請求項１の発明の情報通信システムによれば、サーバ装置が情報通信端末に対して提供可能な提供サービスのそれぞれに対応するサービス選択用アイコンを含む選択画面が情報通信端末の表示手段に表示される。このサービス選択用アイコンは、提供サービスのサービス内容の表示部分と、この提供サービスの提供者に関する表示部分とを一体的に備えるものである。

【００１０】そして、前述のように、選択画面は、サーバ装置が提供可能な１～複数の提供サービスのそれぞれに対応するサービス選択用アイコンを含むものであり、サーバ装置が提供可能な提供サービスの一覧リストとしての機能を有するようにされたものである。

【００１１】そして、情報通信端末の使用者によりポインティングデバイスが用いられて、情報通信端末の表示手段に表示されたサービス選択用アイコンが選択されると、選択されたサービス選択用アイコンに応じたサービス提供要求がサービス提供要求送出手段よりサーバ装置に対して送出される。そして、このサービス提供要求に応じた提供サービスがサーバ装置のサービス実行手段により実行される。

【００１２】また、請求項２の発明の情報通信システムは、請求項１に記載の情報通信システムであって、前記サーバ装置は、前記情報通信端末からの接続要求により、この情報通信端末との間で通信路を生成する通信路生成手段と、前記１～複数の前記提供サービスのそれぞれの前記サービス選択用アイコンを含む選択画面情報を、前記情報通信端末に前記通信路を通じて提供する選択画面情報提供手段とを備え、前記情報通信端末は、使用者の接続要求操作を受けて、前記サーバ装置に対して前記接続要求を送出して、前記サーバ装置との間で通信路を生成するための接続要求送出手段を備え、前記表示手段は、前記通信路を通じて提供される前記サーバ装置からの前記選択画面情報に応じて、前記選択画面を表示することを特徴とする。

【００１３】この請求項２の発明の情報通信システムによれば、情報通信端末からの接続要求に応じて、サーバ装置の通信路生成手段により生成された通信路を通じて、サーバ装置より、サーバ装置が情報通信端末に対して提供可能な提供サービスのそれぞれに対応するサービス選択用アイコンを含む選択画面情報が情報通信端末に提供される。

【００１４】そして、サーバ装置からの選択画面情報に応じて、選択画面が情報通信端末の表示手段に表示され、ポインティングデバイスを介して情報通信端末の使用者によるサービス選択用アイコンの選択入力ができるようにされる。

【００１５】上述の請求項１または請求項２の情報通信システムによれば、サービス選択用アイコンには、提供サービスのサービス内容の表示部分と提供サービスの提供者に関する表示部分とが一体的に設けられため、このサービス選択用アイコン自体が、提供サービスの提供者を宣伝する広告媒体としての機能を有するようにされている。

【００１６】このため、提供サービスの提供者が、サービス選択用アイコンを広告媒体として用いるようにする代償として、提供サービスの提供者がその提供サービスを無償で提供するようにしたり、あるいは、サーバ装置の所有会社に対して、いわゆる広告料を支払うようにすることにより、当該提供サービスの提供者が、当該提供サービスを提供するためにかかるコストを負担するようにする。

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【００１７】これにより、情報通信端末の使用者は、その提供サービスについては無償で提供を受けることができたり、あるいは、サーバ装置の使用料が安くなるなど、提供サービスを低廉な料金で受けることができる。

【００１８】また、情報通信端末の使用者は、当該情報通信端末の表示手段に表示されるサーバ装置からの選択画面情報に含まれるサービス選択用アイコンを選択するという簡単な操作で、サーバ装置が提供可能な提供サービスのうちの目的とする提供サービスを行うようにすることができる。

【００１９】また、請求項３の発明の情報通信システムは、請求項１または請求項２に記載の情報通信システムであって、前記サーバ装置が提供可能な前記１～複数の前記提供サービスの中には、情報提供サービスが含まれており、前記情報通信端末は、前記サーバ装置から送信されてくる前記サービス提供要求に応じた提供情報を取得して、再生する再生手段を備えることを特徴とする。

【００２０】この請求項３の発明の情報通信システムによれば、サーバ装置が提供可能な提供サービスの中には、例えば、ニュースや地図情報などを提供する情報提供サービスが含まれており、サーバ装置は、情報通信端末からのサービス提供要求に応じて、要求された情報を提供することができるようにされる。

【００２１】サーバ装置が、例えば、ニュースの提供サービスを行うことができる場合には、情報提供サービスの内容を示す例えば「ニュース」という文字情報の表示部分と、ニュースの提供者に関する情報として、当該提供者を示す例えば「○○新聞社」という文字情報の表示部分を一体的に備えるサービス選択用アイコンを含む選択画面情報が前記情報再生端末に提供される。

【００２２】情報通信端末においては、サーバ装置からの選択画面情報に応じた選択画面が表示手段に表示され、情報提供サービスをサーバ装置に対して要求することができるようにされる。

【００２３】そして、情報通信端末からサーバ装置に対して、情報提供サービスの提供を要求するサービス提供要求が提供されたときには、サーバ装置は、そのサービス提供要求に応じた提供情報を要求元の情報通信端末に送信してくるので、情報通信端末の再生手段は、これを再生して情報通信端末の使用者に提供する。

【００２４】情報通信端末からサーバ装置に対して、情報提供サービスを要求する場合には、前述のように、情報提供サービスの提供者に関する表示部分を備えたサービス選択用アイコンが用いられる。

【００２５】このため、情報提供サービスの提供者が、サービス選択用アイコンを自己を宣伝するための広告媒体として用いるようにする代償として、提供情報を無償で提供するようにしたり、あるいは、サーバ装置の所有会社に対して、広告料を支払うなどするようにすることによって、情報提供サービスにかかるコストを当該情報提供サービスの提供者が負担するようにする。これにより、情報通信端末の使用者は、自己が必要とする情報を安価に取得することができるようにされる。

【００２６】また、請求項４の発明の情報通信システムは、請求項３に記載の情報通信システムであって、前記サーバ装置は、ネットワークまたは専用線を通じて、情報を提供する１～複数の情報提供装置に接続されており、提供可能な前記情報提供サービスの中には、前記情報提供装置が当該サーバ装置を介して提供可能とされる情報提供サービスが含まれており、前記情報通信端末からの前記サービス提供要求が、前記情報提供装置が当該サーバ装置を介して提供可能とされる情報提供サービスを要求するものであるときに、要求された情報提供サービスに応じた提供情報を前記ネットワークまたは専用線を通じて前記情報提供装置から取得して、前記情報通信端末に送信する手段を備えることを特徴とする。

【００２７】この請求項４の発明の情報通信システムにおいては、サーバ装置は、例えばインターネットなどのネットワークを通じて、情報を提供する１～複数の情報提供装置に接続されている。そして、サーバ装置が提供することができる情報提供サービスの中には、情報提供装置がサーバ装置を介して提供可能な情報提供サービスも含まれる。

【００２８】したがって、サーバ装置の選択画面情報提供手段により、サーバ装置自体が提供することができる情報提供サービスに対応するサービス選択用アイコンと、情報提供装置がサーバ装置を介して提供可能な情報提供サービスに対応するサービス選択用アイコンとの両方を含む選択画面情報が情報通信端末に提供される。

【００２９】そして、サーバ装置は、情報提供装置がサーバ装置を介して提供可能な情報提供サービスを要求するサービス提供要求がサーバ装置に送信されてきたときには、このサービス提供要求に応じた提供情報が、サーバ装置により情報提供装置から取得されて、要求元の情報通信端末に提供される。

【００３０】このように、請求項４の発明によれば、情報通信端末の使用者は、サーバ装置と契約するだけで、このサーバ装置に接続されている情報提供装置が提供可能な提供サービスを受けることができるので、より多くの情報を安価に取得することができるようにされる。

【００３１】また、請求項５の発明の情報通信システムは、請求項１、請求項２、請求項３または請求項４に記載の情報通信システムであって、前記情報通信端末と前記サーバ装置とが接続される前記ネットワークは、携帯型の電話端末用のネットワークを含み、前記情報通信端末は、前記携帯型の電話端末用の無線基地局を通じて通信するための無線通信手段を備えることを特徴とする。

【００３２】この請求項５の発明の情報通信システムによれば、無線通信機能を備える携帯端末により情報通信端末が構成される。したがって、情報通信端末の使用者

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は、外出先など、任意の場所から、必要に応じた提供サービスの提供を受けることができる。

【００３３】

【発明の実施の形態】以下、この発明による情報通信システム、情報通信方法、情報通信端末およびサーバ装置並びにサービス選択用アイコンの実施の形態を、図を参照しながら説明する。

【００３４】この実施の形態においては、１個の共通サーバ装置に対して、このサーバ装置と契約関係にある複数個の情報通信端末がネットワークを通じて接続されて情報通信システムが構成される。

【００３５】そして、この実施の形態の場合、情報通信端末は、携帯無線通信端末の構成とされ、共通サーバ装置からの情報提供サービスなどの提供サービスを受ける機能を備えるほか、ＰＨＳ（パーソナル・ハンディホン・システム）の電話機能およびファクシミリ、電子メールのデータ通信機能をも備える構成とされる。そして、ファクシミリや電子メールに際して、各携帯無線通信端末から希望する相手方への情報送信および自分宛ての情報の受信は、個々の携帯無線通信端末と前記サーバ装置とが協働することにより、行われるように構成されている。

【００３６】［ネットワークシステムの説明］図１は、この発明の実施の形態が適用された通信ネットワークシステムの概念構成を説明するための図であり、この図１において、１は共通サーバ装置と契約関係がある携帯無線通信端末、２は共通サーバ装置である。複数個の携帯無線通信端末１と、共通の共通サーバ装置２とは、携帯無線通信端末用のネットワーク３と、このネットワーク３に対して、１～複数個のアクセスポイント４を通じて接続される専用基幹ネットワーク５を通じて接続される。

【００３７】携帯無線通信端末用ネットワーク３には、共通サーバ装置２と契約関係にない他の携帯無線通信端末も接続されるが、後述するような共通サーバ装置２からの情報提供サービスを受けることができる携帯無線通信端末は、予め、この共通サーバ装置２と契約関係が結ばれた携帯無線通信端末１のみである。共通サーバ装置２との契約関係がない携帯無線通信端末との混同を避けるため、以下の説明においては、共通サーバ装置２と契約関係にある携帯無線通信端末を会員端末と呼ぶことにする。

【００３８】複数個の会員端末１および他の同種の携帯無線通信端末のそれぞれは、例えば電波の届く範囲を考慮した所定のエリア単位に設けられる無線基地局６に対して無線接続される。無線基地局６同志の間の接続など、携帯無線通信端末用のネットワーク３では、例えば光ケーブルが用いられる。

【００３９】専用基幹ネットワーク５に対しては、このネットワーク５を管理するネットワーク管理サーバ装置７が接続される。このネットワーク管理サーバ装置７は、共通サーバ装置２と会員端末１との間の、いわゆるルーティングを管理する。したがって、ネットワーク管理サーバ装置７でのルーティング管理上から見たときには、共通サーバ装置２は、専用基幹ネットワーク５に接続される端末装置の一つとして位置づけることができる。なお、この場合、このネットワーク管理サーバ装置７は、インターネット８に対しても接続される。

【００４０】そして、この実施の形態においては、ネットワーク管理サーバ装置７は、共通サーバ装置２に対して直接的にも接続され、会員端末１からの共通サーバ装置２へのアクセス履歴などを、ネットワーク管理サーバ装置７から共通サーバ装置２に送るように構成されている。すなわち、この実施の形態では、会員端末１の課金ログ収集などの会員総合管理は、共通サーバ装置２が行うように構成している。

【００４１】つまり、この実施の形態の場合、会員端末１は、共通サーバ装置２と契約関係があるのであって、ネットワーク管理サーバ装置７と契約関係にあるのではない。そして、共通サーバ装置２は、会員端末１のネットワーク接続上の管理をネットワーク管理サーバ装置７に委託するものであって、共通サーバ装置２とネットワーク管理サーバ装置７との間にも契約関係がある。したがって、共通サーバ装置２は、他の専用基幹ネットワークおよびそのネットワーク管理サーバ装置とも、前述の専用基幹ネットワーク５およびそのネットワーク管理サーバ装置７と全く同様の関係を持って接続されることが可能である。

【００４２】この実施の形態の場合、共通サーバ装置２から見たときには、個々の会員端末１に対しては、特定の専用基幹ネットワークを割り当てて、各会員端末１からの共通サーバ装置２へのアクセスは、必ず、その会員端末用に割り当てた専用基幹ネットワークを通るように管理するのであるが、会員端末１から見た場合には、共通サーバ装置２とネットワーク管理サーバ装置７との間の契約関係は全く無関係であるので、会員端末１は、単に共通サーバ装置２だけにアクセスして共通サーバ装置２だけにより管理されているようになる。

【００４３】このようなネットワーク管理構成によれば、例えば、共通サーバ装置２に個々のネットワーク管理サーバ装置７が備えるサービス機能をすべて持たせるようにすることにより、会員端末１の使用者は、各個のネットワーク管理サーバ装置７が備える種々のサービスを受けるために、個々のネットワーク管理サーバ装置７に対して契約するのではなく、共通サーバ装置２と契約関係を生じさせるだけで、この共通サーバ装置２が持つ種々のサービスを受けられるようになり、非常に便利である。

【００４４】そして、共通サーバ装置２は、公衆回線網９に接続され、後述するように、会員端末１が、この公

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衆回線網９に接続されるファクシミリ端末やパーソナルコンピュータなどの通信端末１０との間で通信データの送受を行うことができるようにするための機能を備えている。

【００４５】さらに、この実施の形態においては、共通サーバ装置２は、会員端末１に対して、情報提供サービスを行うために、提供情報のデータベースの一部となる記憶部を備える。また、共通サーバ装置２は、コンテンツ提供装置１１と接続されており、このコンテンツ提供装置１１から、会員への提供情報のデータベースの一部となる情報を取得して、会員端末１に提供するようにする。

【００４６】コンテンツ提供装置１１は、それぞれ固有の提供情報を有する提供会社が備えるもので、共通サーバ装置２を有するサービス会社との契約により、共通サーバ装置２を通じて会員端末１に、その情報を提供するものである。図１では、コンテンツ提供装置１１は、１個だけ示したが、複数個のコンテンツ提供装置１１が共通サーバ装置２に接続される場合も勿論ある。

【００４７】また、共通サーバ装置２とコンテンツ提供装置１１との接続態様は、専用線を通じて接続される場合と、インターネットなどのネットワークを通じて接続される場合とがある。

【００４８】この実施の形態の場合、これら専用線やネットワークを通じて共通サーバ装置２に接続されるコンテンツ提供装置１１からの情報は、共通サーバ装置２が、会員端末１から、そのサービス提供要求があったときに、前記コンテンツ提供装置１１にアクセスして取得し、要求してきた会員端末１に提供するようにする。

【００４９】コンテンツ提供装置１１からの情報を、随時、取得して、共通サーバ装置２の内蔵メモリ部に格納して、その内蔵メモリ部の記憶内容を最新にしておくことも考えられるが、コンテンツ提供装置１１が多数になり、提供情報が多量になると共通サーバ装置２のメモリ部を大規模にしなければならなくなるという問題がある。

【００５０】これに対して、この実施の形態のように、会員端末１からの要求があったときに、その要求のあった情報のみをコンテンツ提供装置１１から共通サーバ装置２が取得して会員端末１に提供するようにすれば、共通サーバ装置２のメモリ部の規模は大規模にならない。また、コンテンツ提供装置１１が備える情報が常時更新されていれば、共通サーバ装置２は、単に、コンテンツ提供装置１１から情報を取得するだけで、常に最新の情報を会員端末１に提供することができる。

【００５１】そして、この実施の形態では、共通サーバ装置２が、１～複数個のコンテンツ提供装置１１に接続されていて、これらのコンテンツ提供装置１１からの情報を集中的に集めて、会員端末１に提供する構成であるので、会員端末１では、それぞれのコンテンツ提供装置１１に対して契約したりする必要はなく、また、複数個のコンテンツ提供装置１１からの情報の形式などに関係なく、共通サーバ装置２から必要な情報を受け取ることができる。

【００５２】なお、固有の提供情報を有する提供会社によるコンテンツの共通サーバ装置２への提供方法としては、上述のように専用線やネットワークを通じて接続して共通サーバ装置２に提供するのではなく、コンテンツ提供会社がＣＤ－ＲＯＭなどの記録媒体を共通サーバ装置２に提供して、共通サーバ装置２の記憶部に記憶させておくようにする態様もある。

【００５３】このように、この実施の形態の共通サーバ装置２は、自己が備える記憶部に記憶されている提供情報と、外部のコンテンツ提供装置１１からの提供情報との両方を、会員端末１からの要求に応じて提供することができるものである。

【００５４】そして、この実施の形態において、情報提供サービスは、共通サーバ装置２の記憶部に記憶されている提供情報や、コンテンツ提供装置が有している提供情報をそのまま提供することはもちろん、会員端末１を介しての使用者からの要求に応じて、提供する情報を並べ換えたり、編集したり、あるいは、要求に応じた情報のみを抽出するなど、提供情報を加工して提供することをも含むものである。

【００５５】このような、提供情報の加工などは、共通サーバ装置２において行うようにすることもできるし、コンテンツ提供装置１１において行って、その結果を共通サーバ装置２が取得し提供するようにすることもできる。

【００５６】この実施の形態においては、携帯無線通信端末１の使用者と、共通サーバ装置２の所有会社との契約が行われると、前述したように、携帯無線通信端末１は会員端末１となる。例えば、会員端末１を使用者が購入することが、共通サーバ装置２に対する契約関係の発生とするようにすることができる。

【００５７】すなわち、携帯無線通信端末を会員端末１として使用者が購入するときに、その会員端末１には、前述したように、各端末ごとの特定の専用基幹ネットワークを通じた共通サーバ装置２のアドレス情報が予め与えられ、不揮発性メモリに格納される。また、この不揮発性メモリには、会員端末であることを示す識別情報（会員情報）も格納される。ただし、この共通サーバ装置２のアドレス情報や会員情報の会員端末１への書き込み登録は、会員端末１の購入時に、端末販売員や購入者が行ってもよいが、予め、会員端末１に登録しておくとよい。その場合には、アドレスを入力する操作が全く不要となるので、使用者には共通サーバ装置を意識させずに、会員端末１を利用させるようにすることができる。

【００５８】そして、後述もするように、会員端末１で、共通サーバ装置２の情報提供サービスを受けると

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き、また、会員端末１で、ファクシミリ通信や電子メール通信の処理が開始されるとき、それに先立ち、前記の予め記憶されているアドレス情報および会員情報を用いて、会員端末１は、自動的に共通サーバ装置２に接続する処理を実行するものである。

【００５９】この実施の形態においては、会員端末１は、携帯性に優れ、何時、どこからでも、共通サーバ装置２にアクセスするだけで、種々の情報提供サービスの提供を受けることができる。

【００６０】また、会員端末１は、この実施の形態では、そのファクシミリ通信や電子メール通信の機能およびその関連機能を、共通サーバ装置２と協働することにより、実現する。すなわち、会員端末１は、これら通信のための大容量のメモリを有しない。その代わりに、共通サーバ装置２が、各会員端末１の受信データ用のメモリあるいはメモリエリアを備える。また、会員端末１は、必要最小限の処理のためのアプリケーション（マイクロコンピュータのソフトウエア）、例えば表示アプリケーションのためのアプリケーションを除き、種々の機能を実現するためのアプリケーションを、共通サーバ装置２に委ねるようにしている。すなわち、会員端末１において、使用者が、目的とする機能を得るための要求に相当する、例えばキー操作を行うと、その要求が共通サーバ装置２に送られ、共通サーバ装置２で当該機能のアプリケーションが実行される。そして、そのアプリケーションでの処理結果が、会員端末１に送られてくる。

【００６１】以上が、この発明の実施の形態の構成の概要であるが、より具体的な構成について以下に説明する。

【００６２】図２は、上述した図１の通信ネットワークシステムの概念構成を、より具体化したものである。この場合、会員端末１は、ＰＨＳ電話端末と、データ通信機能を備えるＰＤＡ（パーソナル・デジタル・アシスタンツ）との複合機の構成を有し、ＰＨＳ電話機能のほかに、後述するように、ファクシミリ通信機能、電子メール通信機能を備えると共に、共通サーバ装置２からの情報提供サービスを受ける機能を備えている。

【００６３】無線基地局６が接続される携帯無線通信端末用のネットワーク３は、この例では、ＰＨＳ／ＩＳＤＮ網３ｎである。したがって、会員端末１は、無線基地局６－ＰＨＳ／ＩＳＤＮ網３ｎ－無線基地局６を通じて、他の会員端末１または会員以外のＰＨＳ端末と電話通信ができると共に、無線基地局６－ＰＨＳ／ＩＳＤＮ網３ｎを通じて一般加入電話端末と電話通信ができる。

【００６４】専用基幹ネットワーク５は、この例では、ＩＳＰ（インターネット・サービス・プロバイダー）が管理するネットワークとされる。すなわち、５Ｎは、そのＩＳＰバックボーン、つまり、ＬＡＮなどのネットワークであり、このＩＳＰバックボーン５ＮとＰＨＳ／ＩＳＤＮ網３ｎとは、ＰＨＳ用の３２ｋビット／秒の伝送速度の業界標準方式であるＰＩＡＦＳ（ＰＨＳ Ｉｎｔｅｒｎｅｔ Ａｃｃｅｓｓ Ｆｏｒｕｍ Ｓｔａｎｄａｒｄ）用のアクセスポイント４Ｐを通じて接続されている。

【００６５】また、５ＮはこのＩＳＰ用のルータであり、これを介して、ＩＳＰバックボーン５Ｎと、ネットワーク管理サーバ装置７に対応するＩＳＰサーバ装置７Ｉと、共通サーバ装置２とが接続される。

【００６６】ＩＳＰサーバ装置７Ｉは、共通サーバ装置２側の委託により、前述したように、会員端末１からのアクセスがあったときに、その認証をとる。すなわち、ＩＳＰサーバ装置７Ｉには、このＩＳＰサーバ装置７Ｉを経由して共通サーバ装置２にアクセスする会員端末１の会員情報（識別情報）、例えばメールアドレスなどが予め登録されており、ＩＳＰサーバ装置７Ｉは、当該ＩＳＰバックボーン５Ｎに接続された端末に対するアクセスがあったときに、そのアクセスをしてきた端末が、当該ＩＳＰバックボーン５Ｎを通じて共通サーバ装置２に接続すべき会員端末１であるか否かの認証を行い、会員端末１であれば、そのアクセスをルータ５Ｒを通じて共通サーバ装置２に着信させる。

【００６７】そして、ＩＳＰサーバ装置７Ｉは、当該会員端末１のアクセスの履歴（ログ）を共通サーバ装置２に送る。共通サーバ装置２は、１～複数のＩＳＰサーバ装置７Ｉからの複数個の会員端末のそれぞれのアクセスの履歴の情報を受け取って、それぞれの会員端末への課金などを総合的に管理する。

【００６８】コンテンツ提供装置１１は、この例では、インターネット８を通じて共通サーバ装置２に接続され、共通サーバ装置２が必要なときに、このコンテンツ提供装置１１から提供すべき情報をインターネット８を通じて取得して、会員端末１に提供するようにする。なお、前述もしたように、コンテンツ提供装置１１は、インターネット８を通じてではなく、専用線を通じて共通サーバ装置２と接続するようにすることもできる。また、ＩＳＰサーバ装置７ＩもコンテンツＩ提供装置となることもできる。

【００６９】［共通サーバ装置２の構成］図３は、共通サーバ装置２の一実施の形態の構成を示すブロック図である。この図３に示すように、共通サーバ装置２は、マスターサーバ２１と、メールサーバ２２と、ファクシミリサーバ２３と、着信通知サーバ２４と、ＨＴＴＰ（Ｈｙｐｅｒ Ｔｅｘｔ Ｔｒａｎｓｆｅｒ Ｐｒｏｔｏｃｏｌ）Ｄサーバ２５と、コンテンツサーバ２６と、コンテンツ用Ｐｒｏｘｙサーバ２７とが、ＬＡＮ（ローカルエリアネットワーク）により接続されて構成されている。また、このＬＡＮはインターネット８とも接続されている。

【００７０】マスターサーバ２１は、会員データの管理、コンテンツオプション等の申し込み、解約処理やネ

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ットワーク全体の管理メンテナンスを行う。マスターサーバ２１は、会員データ（ユーザ情報）などを記憶するメモリ２１Ｍを備える。

【００７１】メールサーバ２２は、主としてメールサービスの管理・運用を行うものであり、ＰＯＰ（Ｐｏｓｔ　Ｏｆｆｉｃｅ　Ｐｒｏｔｏｃｏｌ）またはＩＭＡＰ（Ｉｎｔｅｒｎｅｔ　Ｍｅｓｓａｇｅ　Ａｃｃｅｓｓ　Ｐｒｏｔｏｃｏｌ）サーバ機能を実装しており、会員端末１とのインターフェース処理を行う。そして、メールサーバ２２は、会員端末用のメールボックスと呼ばれるメモリ２２Ｍを備える。メールボックス２２Ｍは、各会員端末１のそれぞれ毎に区分けされたメモリエリアを備え、各会員端末宛ての電子メールの受信データを、各会員端末毎に蓄える。

【００７２】なお、この実施の形態では、後述するように、ある会員端末から他の会員端末宛てに送信された、イメージデータ（画像データ）を含まないテキストデータ形式のファクシミリデータも、このメールボックス２２Ｍの前記他の会員端末用のメモリエリアに、電子メールデータとして蓄えられる。

【００７３】ファクシミリサーバ２３は、ファクシミリ通信機能のアプリケーションを実行する。会員端末１とのインターフェース用にメールサーバ機能を実装し、また、Ｇ３ファクシミリ用のＰＳＴＮ（公衆交換電話網）通信回線機能も実装し、ＩＳＤＮ網９に接続されている。また、ファクシミリデータとしての画像データを記憶するファクシミリボックス（以下ＦＡＸボックスという）と呼ばれるメモリ２３Ｍを備える。ＦＡＸボックス２３Ｍも、各会員端末毎に区分けされたメモリエリアを備え、各会員端末宛ての、イメージデータを含むファクシミリ受信データを各会員端末１毎に蓄える。

【００７４】着信通知サーバ２４は、電子メールやファクシミリの着信が会員端末宛てにあった場合に、ＩＳＤＮ回線（ＩＳＤＮ網９）を通じて、その着信を各会員端末１に通知するためのものである。

【００７５】ＨＴＴＰＤサーバ２５は、会員端末１とのインターフェースを制御する。会員端末１が、この共通サーバ装置２に接続されている場合のすべての処理は、このサーバ２５を経由して各機能サーバに接続される。

【００７６】コンテンツサーバ２６は、共通サーバ装置２が提供するコンテンツ情報処理用のサーバである。このサーバ２６は、提供するコンテンツ情報用として、２つの情報格納用メモリ２６Ａ，２６Ｂを備える。その一つのメモリ２６Ａは、予めこのサーバ２６内に提供する情報を保持するためのものである。もう一つのメモリ２６Ｂは、この共通サーバ装置２内には、提供する情報を保持せず、利用時に、図２の実施の形態では、インターネット８経由でコンテンツ提供装置１１から取得したデータを一時的に格納するためのものである。

【００７７】コンテンツ用Ｐｒｏｘｙサーバ２７は、コンテンツデータを、インターネット８を経由して、外部のコンテンツ提供装置１１から取得するために使用される。Ｐｒｏｘｙサーバ２７は、図示しないファイアウォールと共に機能させることによって、外部からの不正なアクセスを防御しながら、ファイアウォールの内側から自由に外部にアクセスできる環境を作っている。

【００７８】以上のように、共通サーバ装置２は、会員端末１に提供する情報として、メモリ２６Ａに格納保持しているものと、共通サーバ装置２の外部のコンテンツ提供装置１１から取得するものとの両者を、用意しているものである。そして、会員端末１から要求された情報が、メモリ２６Ａに保存されているものであるときには、メモリ２６Ａからそれを読み出して、会員端末１に提供し、メモリ２６Ａに保存されていない情報であったときには、インターネット８経由でコンテンツ提供装置１１から取得して会員端末１に提供する。この情報提供サービスの処理については後で詳述する。

【００７９】［会員端末１について］次に、会員端末１について説明する。図４は、会員端末１の外観の一例であり、また、図５は、この会員端末１の内部回路構成の一例である。前述もしたように、この例の会員端末１は、ＰＨＳ電話機能と、ファクシミリ通信および電子メール通信、情報提供サービスを受けるデータ通信機能を備える複合端末の構成を有するものである。

【００８０】この実施の形態の会員端末１は、図４（Ａ）および図４（Ｂ）に示すように、端末本体１００に対して開閉可能の蓋１０１を備え、この蓋１０１を閉じた図４（Ａ）の状態では、ＰＨＳ電話端末として動作する電話モードになり、蓋１０１を開いた図４（Ｂ）の状態では、ファクシミリ通信機能と、電子メール通信機能と、情報提供サービス受信機能とを得ることができるデータ通信モードになる。このモード切り換えのために、図示しないが、蓋１０１の開閉を検知するセンサが設けられている。

【００８１】このセンサとしては、例えば蓋１０１の内側に突起を設けると共に、これと対応する本体１００側の位置に押圧スイッチを設け、蓋１０１の前記突起により、機械的に本体１００側の押圧スイッチを押圧する機械的なセンサを用いる。

【００８２】また、蓋１０１と本体１００との一方に、磁石を設け、他方に感磁性素子からなるスイッチを設ける構成のセンサスイッチを用いるようにしてもよい。

【００８３】蓋１０１の表側には、図４（Ａ）に示すように、電話用（ダイヤル用）のテンキー１０２が設けられている。１０３は、ＰＨＳ用のアンテナである。

【００８４】そして、会員端末１は、図４（Ｂ）に示すように、蓋１０１を開けた状態のときに現れる本体１００側の面に、大型のＬＣＤ（液晶ディスプレイ）１０５を備え、このＬＣＤ１０５の表示面に、通信文、機能一覧メニュー、提供情報一覧リスト、受信ファクシミリリ

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ストや受信電子メールリストなどを表示することができる。メニューやリストが一画面で表示できないときには、画面をスクロールしたり、次ページに切り換えることで全部が表示できるようにされている。

【００８５】蓋１０１を閉じた図４（Ａ）の状態では、例えば透明プラスチック板などからなるＬＣＤ窓１０４を通じてＬＣＤ１０５の表示面が臨めるようにされる。この場合、蓋１０１を閉じた状態では、ＬＣＤ表示窓１０４から臨める部分だけに表示が行われるように、ＬＣＤ１０５が表示制御されている。

【００８６】この実施の形態の会員端末１においては、ＬＣＤ１０５の表面には透明のタッチパネル１０６が貼付されており、蓋１０１の裏側に、図４（Ｂ）のように取り外し自在に取り付けられているペン１０７によるタッチ操作や、手書き文字入力を受け付ける機能を備えるようにしている。

【００８７】また、蓋１０１の裏側には、メニューキーＫ１、オンライン接続キーＫ２、機能キーＫ３、…などの複数個のキー釦１０８が、ダイレクトキーとして設けられている。さらに、ＬＣＤ１０５の右横には、回動キーと押しボタンキーとの２つの機能を合わせ持つジョグダイヤルキー１０９が設けられる。このジョグダイヤルキー１０９を回動キーとして回動操作したときには、例えばメニューなどにおける項目選択動作が行え、また、押しボタンキーとして押下操作したときには、選択された項目の決定入力を意味するものとして扱われる。

【００８８】次に、図５の会員端末１の回路ブロックについて説明する。この例の会員端末１は、大きく分けて、通信機能部１１０と、制御部１２０とからなる。

【００８９】通信機能部１１０は、アンテナ１１１と、ＲＦ処理部１１２と、送受信データ処理部１１３と、マイクロホンアンプ１１４と、スピーカアンプ１１５と、マイクロホン１００ＭＣと、スピーカ１００ＳＰとからなる。

【００９０】制御部１２０は、マイクロコンピュータにより構成されており、ＣＰＵで構成されるシステムコントロール部１２１と、ＲＯＭ１２２と、ＤＲＡＭ１２３と、書き換え可能な不揮発性メモリとしてのフラッシュメモリ１２４とを備えている。

【００９１】システムコントロール部１２１には、蓋１０１の開閉に応じてオン・オフするスイッチＳＷが接続されており、このスイッチＳＷのオン・オフにより、蓋１０１が開状態か、閉状態かをシステムコントロール部１２１は検知し、蓋１０１が閉状態のときには、当該会員端末１をＰＨＳ電話用端末として制御する。また、蓋１０１が開状態のときには、当該会員端末１を情報通信端末や、ファクシミリ通信用端末あるいはメール通信用端末として制御する。

【００９２】システムコントロール部１２１には、また、テンキー１０２のキースイッチ群や、蓋１０１の裏側に設けられたキー釦１０８のスイッチ群の状態を示す情報が入力されるようにされており、システムコントロール部１２１は、使用者によりキー操作がなされたとき、それがテンキー１０２やキー釦１０８のいずれかであるかを検知し、その検知したキーに応じた処理を実行するようにする。

【００９３】また、システムコントロール部１２１には、ＬＣＤドライバ１２５が接続され、後述するＲＯＭ１２２のプログラムおよび表示データを用いてＬＣＤ１０５に、共通サーバ装置２から提供された情報を表示したり、その他の表示画像を表示するようにする。

【００９４】また、システムコントロール部１２１には、使用者への、電話の着信通知や、ファクシミリおよびメールの着信通知などのためのブザー１２７やＬＥＤ（発光ダイオード）１２６が接続されている。

【００９５】ＲＯＭ１２２には、共通サーバ装置２との接続のためのシーケンスを制御するプログラムや、ＰＨＳ電話通信のための制御プログラム、情報提供サービスを受けるための制御プログラム、ファクシミリ送信のための制御プログラム、メール送信のための制御プログラム、ファクシミリデータやメールデータを受信するための制御プログラムなどの会員端末１での通信のために最低限必要な通信アプリケーションプログラムと、ＬＣＤ１０５を表示制御するプログラムやメニューなどの表示データ、その他が記憶されている。

【００９６】ＤＲＡＭ１２３は、後述するように、共通サーバ装置２から取得した受信データを一時的に蓄えたり、その他、ワークエリアとして使用するメモリを領域を備えるものである。

【００９７】フラッシュメモリ１２４には、前述したように、共通サーバ装置２に対してＩＳＰサーバ装置７Ｉを通じて会員端末１から自動接続するためのネットワーク上のアドレス情報が予め格納されている。また、このフラッシュメモリ１２４には、当該会員端末１が共通サーバ装置２と契約関係のある端末であって、ファクシミリ通信サービスや電子メールサービス、また、情報提供サービスを共通サーバ装置２から受けることができる端末であることを示すと共に、各会員端末を識別するための識別情報（会員情報）も記憶されている。

【００９８】この会員情報は、前述もしたように、共通サーバ装置２のメインサーバ２１にも記憶されて共通サーバ装置２においても管理されている。また、ＩＳＰサーバ装置７Ｉも、この会員情報によりアクセスしてきたのが会員であるか否かの認証を行うものである。

【００９９】さらに、フラッシュメモリ１２４には、ＤＲＡＭ１２３に一時的に蓄えた受信データの内の、特に保存しておきたいデータを格納する領域を備えている。

【０１００】以上のような構成を備える会員端末１の動作を、関連する共通サーバ装置の動作も含めて、以下に説明する。

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【０１０１】まず、ＰＨＳ電話モードについて説明する。蓋１０１を閉じた状態で、テンキー１０２を用いて、相手方の電話番号をダイヤル入力すると、発呼がなされる。また、蓋１０１を閉じた状態で、ＰＨＳ電話端末としての当該会員端末１に電話の着信があると、それがブザー１２７により使用者に知らされ、使用者が応答すると、その電話着信を受けることができ、通話状態になる。

【０１０２】なお、蓋１０１を開いた状態で電話着信があったときには、本体１００側に設けられている図示しない通話キーを押すことにより、いつでも通話が可能である。ただし、通話は、蓋１０１を閉じた状態で行うようにする。

【０１０３】そして、会員端末1は、このＰＨＳ電話通話時には、システムコントロール部１２１からの制御を送受信データ処理部１１３が受けながら、送話信号を送信し、また、受話信号を受信する。

【０１０４】すなわち、マイクロホン１００ＭＣからの音声信号がアンプ１１４を介して送受信データ処理部１１３に供給されて送信データに変換され、ＲＦ処理部１１２を通じ、アンテナ１１１を通じて無線基地局６に対して送信されると共に、無線基地局６よりの相手側からの通話音声のデータがアンテナ１１１で受信され、その受信データが送受信データ処理部１１３で処理されて、相手の通話音声信号が復元され、それがアンプ１１５を通じてスピーカ１００ＳＰに供給されて放音される。

【０１０５】次に、データ通信モードについて説明する。この通信モードにおいては、ファクシミリ機能、電子メール機能、ＷＷＷブラウザ機能、メモ機能などを会員端末１では、実現できるように構成されている。これらの機能の一覧メニューは、キー釦１０８の内のメニューキーを操作することにより、ＬＣＤ１０５の画面上に表示される。そして、使用者が、このＬＣＤ１０５の画面に表示される機能一覧メニューから、ジョグダイヤルキー１０９の回動操作および押下操作により希望する機能を選択して、決定することにより、会員端末１は、その機能を実行するモードの状態になる。

【０１０６】この実施の形態の会員端末１において、ファクシミリデータの送信および受信をする場合、また、電子メールの送信および受信をする場合は、すべて共通サーバ装置２を介して処理される。

【０１０７】そして、会員端末１と共通サーバ装置２との間でのデータのやり取りにおいては、ファクシミリ通信方式としての既定の通信方式に関係なく、すべてネットワーク３およびネットワーク５に適合する通信方式によって行うようにする。すなわち、この実施の形態の場合には、ファクシミリデータと電子メールデータとは、インターネットで電子メールを転送するのに用いられる標準的な手順であるＳＭＴＰ（Ｓｉｍｐｌｅ　Ｍａｉｌ　Ｔｒａｎｓｆｅｒ　Ｐｒｏｔｏｃｏｌ）を用い、また、ＷＷＷブラウザ機能における共通サーバ装置２からの提供情報は、ＨＴＴＰ（Ｈｙｐｅｒ　Ｔｅｘｔ　Ｔｒａｎｓｆｅｒ　Ｐｒｏｔｏｃｏｌ）を用い、ＰＨＳ網を利用したＰＩＡＦＳ方式により、会員端末１と共通サーバ装置２との間で送信データおよび受信データをやり取りする。

【０１０８】この場合、会員端末１においては、送信データは、ＤＲＡＭ１２３に一時格納され、送信実行によりシステムコントロール部１２１により読み出されて、前述の通信プロトコルおよびデータ形式で、送受信データ処理部１１３、ＲＦ処理部１１２、アンテナ１１１を順次介して無線送信される。

【０１０９】また、共通サーバ装置２からの受信データは、アンテナ１１１で受信され、ＲＦ処理部１１２、送受信データ処理部１１３を通じて、システムコントロール部１２１によりＤＲＡＭ１２３に一時格納される。そして、システムコントロール部１２１の制御により、ＬＣＤドライバ１２５を通じてＬＣＤ１０５に表示データとして送られ、受信データによる表示内容が表示される。

【０１１０】メモ機能には、ペン１０７とタッチパネル１０６とを用いて入力を行う「手書きメモ」と、ＬＣＤ１０５の画面にキーボードを表示して、その表示キーボードを利用して文書を作成する「タイプメモ」とがある。そして、手書きメモとタイプメモのいずれの場合も、作成したイメージまたは文書をファクシミリデータとして送信できるように構成されている。

【０１１１】すなわち、手書きメモまたはタイプメモのいずれのモードの場合においても、ＬＣＤ１０５の画面上には、「ＦＡＸ送信（ファクシミリ送信）」のアイコンを含むメニューバーが表示され、この「ＦＡＸ送信」のアイコンが例えばペンで選択されると、送信すべき相手方端末の電話番号や、ファクシミリタイトルなどの入力モード画面になる。そして、相手方端末の電話番号やタイトルの入力後、このモードのときに表示されている「送信」のアイコンを選択すると、手書きメモあるいはタイプメモで作成されたイメージまたは文書がファクシミリデータとして送信される。

【０１１２】ただし、前述したように、この場合にファクシミリデータは電子メールデータとして共通サーバ装置２に送信されるので、イメージデータおよび文書データはファクシミリ通信のビットマップデータではなく、イメージデータは例えばＧＩＦ（Ｇｒａｆｉｃｓ　Ｉｎｔｅｒｃｈａｎｇｅ　Ｆｏｒｍａｔ）形式とされ、また、文書データは、テキストデータ形式とされる。

【０１１３】そして、宛先が会員以外のときには、共通サーバ装置２が、受け取ったデータを、ビットマップデータに変換して、当該会員以外の端末にファクシミリ送信する処理を実行する。宛先が会員端末１であるときには、共通サーバ装置２は、受け取ったデータを、メール

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ボックス２２ＭあるいはＦＡＸボックス２３Ｍに格納し、各会員端末１に対しては、着信通知サーバ２４を通じて当該会員端末１宛ての着信があったことを通知する。この着信通知は、ファクシミリデータ受信の場合だけでなく、電子メールのデータ受信のときにも行われる。

【０１１４】ファクシミリ機能が選択されたときに、キー釦１０８のうちのオンライン接続キーＫ２が押されると、その会員端末１は、共通サーバ装置２と接続するための処理を自動的に行う。すなわち、フラッシュメモリ１２４のアドレスデータにより共通サーバ装置２と接続する要求を会員端末１は送出する。すると、ネットワーク管理サーバであるＩＳＰサーバ７Ｉが当該アクセスしてきた端末が会員端末であるかどうかの認証を行い、会員端末であれば、共通サーバ装置２に接続する処理を行う。

【０１１５】共通サーバ装置２は、接続された会員端末を認識し、当該会員端末宛てに受信したファクシミリ受信データの一覧リストを作成し、当該会員端末１に送る。したがって、この例では、オンライン接続キーＫ２は、受信データ一覧リストの要求キーの役割も有する。

【０１１６】会員端末１は、共通サーバ装置２からの、この一覧リストのデータを受信してＤＲＡＭ１２３に一時格納し、その一覧リストをＬＣＤ１０５の画面に表示する。使用者は、ジョグダイヤルキー１０９やペン１０７を用いて、この一覧リストから希望するファクシミリ受信データを選択することができる。希望するファクシミリ受信データの選択がなされ、「取り込み」のアイコンが選択されると、会員端末１は、当該受信データの取得の要求を、共通サーバ装置２に送信する。

【０１１７】この要求を受けると、共通サーバ装置２は、要求されたファクシミリ受信データを抽出して、電子メールのＳＭＴＰにより会員端末１に送る。会員端末１は、受け取ったデータをＤＲＡＭ１２３に一時格納し、表示データに変換し、ＬＣＤ１０５の画面に表示する。したがって、使用者は、自分が必要なファクシミリデータを選んで、ＬＣＤ１０５の画面で見ることができる。

【０１１８】また、電子メール機能が選択されたときに、キー釦１０８のうちのオンライン接続キーＫ２が押されたときも、ファクシミリ機能が選択されていた場合と同様にして、その会員端末１は、共通サーバ装置２と接続するための処理を自動的に行う。そして、共通サーバ装置２では、電子メールの受信データの一覧リストを作成し、当該会員端末１に送る。

【０１１９】会員端末１は、この一覧リストのデータを受信し、その一覧リストをＬＣＤ１０５の画面に表示する。そして、使用者は、ジョグダイヤルキー１０９やペン１０７を用いて、この一覧リストから希望する電子メールの受信データを選択することができる。希望する電子メールの受信データの選択がなされ、「取り込み」のアイコンが選択されると、会員端末１は、当該受信データの取得の要求を、共通サーバ装置２に送信する。

【０１２０】これを受けて、共通サーバ装置２は、要求された電子メールの受信データを抽出して、ＳＭＴＰにより会員端末１に送る。会員端末１は、受け取ったデータをＤＲＡＭ１２３に一時格納し、表示データに変換し、ＬＣＤ１０５の画面に表示する。したがって、使用者は、自分が必要と思われる電子メールを選んで、ＬＣＤ１０５の画面で見ることができる。

【０１２１】［ＷＷＷブラウザ機能により実現される提供サービスを受ける場合の動作］そして、この実施の形態の会員端末１は、ＷＷＷブラウザ機能を用いることにより、共通サーバ装置２が提供する、あるいは、共通サーバ装置２を介して提供される各種の提供サービスを利用することが可能にされる。以下においては、説明を簡単にするため、共通サーバ装置２が提供可能な情報提供サービスを利用する場合を例にして、会員端末１、共通サーバ装置２などの動作について説明する。

【０１２２】この実施の形態において、ＬＣＤ１０５の表示画面に表示された機能一覧メニューから、ＷＷＷブラウザ機能が選択されているときは、会員端末１は共通サーバ装置２からの提供情報を取得して再生することができる情報再生端末として動作することができるようにされる。このとき、共通サーバ装置２と会員端末１との間のデータのやり取りは、ＨＴＴＰ（Ｈｙｐｅｒ　Ｔｅｘｔ　Ｔｒａｎｓｆｅｒ　Ｐｒｏｔｏｃｏｌ）が用いられ、ＰＨＳ網を利用したＰＩＡＦＳ方式により行われる。共通サーバ装置２から提供される情報のデータ形式は、ＨＴＭＬ（Ｈｙｐｅｒ　Ｔｅｘｔ　Ｍａｋｅｕｐ　Ｌａｎｇｕａｇｅ）である。

【０１２３】そして、この実施の形態においては、後述もするように、会員端末１からの接続要求に応じて、共通サーバ装置２と会員端末１との間で通信路が接続されると、共通サーバ装置２は、通信路が接続された会員端末１に対して、図６に示すように、共通サーバ装置２が提供することができる情報提供サービスのそれぞれに対応するサービス選択用アイコン３０１～３０４を含む、いわゆるホームページを送信する。つまり、このホームページが、サーバ装置２が提供可能な情報提供サービスを選択するための選択画面を形成するための選択画面情報として、会員端末１に提供される。

【０１２４】会員端末１は、共通サーバ装置２からのホームページを受信して、ＬＣＤ１０５に表示し、表示されたホームページに含まれるサービス選択用アイコン３０１～３０４から、この会員端末１の使用者が目的とする情報提供サービスに対応するサービス選択用アイコンの選択入力を受付けて、選択された情報提供サービスの実行を共通サーバ装置２に要求する。これによって、会員端末１の使用者は、共通サーバ装置２から目的とする

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情報提供サービスを受けることができるようにされている。

【０１２５】この実施の形態においては、図６に示すように、サービス選択用アイコン３０１～３０４は、情報提供サービスのサービス内容を示す表示部分３０１ａ～３０４ａと、当該情報提供サービスの提供者に関する表示部分３０１ｂ～３０４ｂとを一体的に備えたものである。この実施の形態において、情報提供サービスの提供者は、共通サーバ装置２のメモリ２６Ａに記憶されている提供情報の提供者や、外部のコンテンツ提供装置１１の所有者などを含む、コンテンツ提供者などである。

【０１２６】そして、この実施の形態において、当該情報提供サービスの提供者に関する表示部分には、当該情報提供サービスの提供者を示す情報を表示するようにされている。すなわち、この実施の形態において、サービス選択用アイコン３０１は、○○新聞社が提供するニュースの提供サービスの実行を要求する場合に用いられ、サービス選択用アイコン３０２は、△△地図出版社が提供する地図情報の提供サービスの実行を要求する場合に用いられる。また、サービス選択用アイコン３０３は、□□書店が提供する辞書情報の検索サービスの実行を要求する場合に用いられ、サービス選択用アイコン３０４は、××旅行会社が提供する鉄道などの交通機関の時刻表情報の提供サービスの実行を要求する場合に用いられる。

【０１２７】このように、この実施の形態において、サービス選択用アイコン３０１～３０４は、情報提供サービスの提供者に関する表示部分３０１ｂ～３０４ｂを備えており、サービス選択用アイコン自体が、情報提供サービスの提供者を宣伝するための広告媒体としての機能を有している。

【０１２８】また、この実施の形態においては、図６に示したように、複数のサービス選択用アイコンからなるサービス選択用アイコン群は、共通サーバ装置２が提供することができる情報提供サービスの一覧リストとしての機能を有している。

【０１２９】以下に、図６に示したサービス選択用アイコンが表示されるホームページが用いられて行われる、ＷＷＷブラウザ機能における情報提供サービスの利用手順を、図７および図８の流れ図を参照しながら、共通サーバ装置２および情報提供装置１１の動作も加味して説明する。

【０１３０】すなわち、ＬＣＤ１０５の表示画面に表示された機能一覧メニューからＷＷＷブラウザ機能が選択されているときに、キー釦１０８のうちのオンライン接続キーＫ２が押されると（手順Ｓ１）、上述のファクシミリ機能や電子メール機能の場合と同様にして、その会員端末１は、共通サーバ装置２と接続するための処理を自動的に行う（手順Ｓ２）。すなわち、フラッシュメモリ１２４に記憶されいる自己の会員端末１の識別情報と、ＩＳＰサーバ装置７Ｉを通じた共通サーバ装置２への接続のためのアドレスデータとを用いて、共通サーバ装置２と接続する要求を会員端末１は送出する。

【０１３１】この接続要求に対して、ネットワーク管理サーバであるＩＳＰサーバ７Ｉが当該アクセスしてきた端末が会員端末であるかどうかの認証を、接続要求に含まれる会員端末であるか否かの識別情報を用いて行い（手順Ｓ３）、会員端末であれば、共通サーバ装置２に接続する処理を行う（手順Ｓ４）。

【０１３２】すると、共通サーバ装置２は、会員端末１からの接続要求を受け取り、接続された会員端末がいずれの会員端末であるかを認識し（手順Ｓ５）、図６を用いて前述したように、会員端末１に提供可能な情報提供サービスのそれぞれに対応するサービス選択用アイコン３０１～３０４を、いわゆるホームページ（選択画面情報）に含めて、当該会員端末１に送る（手順Ｓ６）。

【０１３３】前述したように、サービス選択用アイコン群は、共通サーバ装置２が提供可能な情報提供サービスの一覧リストとしての機能を有しており、このため、この例において、オンライン接続キーＫ２は、提供可能な情報提供サービスの一覧リストの要求キーの役割も有する。

【０１３４】会員端末１では、図６に示したようにサービス選択用アイコン３０１～３０４を含むホームページをＬＣＤ１０５の画面に表示する（手順Ｓ７）。すると、使用者は、表示されたサービス選択用アイコン３０１～３０４から、自分が提供を受けたい情報提供サービスに対応するサービス選択用アイコンを選択する操作をする。図６の例では、サービス選択用アイコン３０１～３０４が表示されるので、要求する情報提供サービスのサービス選択用アイコンをペン１０７で指示するなどの操作をする（手順Ｓ８）。この操作を受けて、会員端末１は、当該指示された情報提供サービスのサービス提供要求を共通サーバ装置２に対して送出する（手順Ｓ９）。

【０１３５】共通サーバ装置２は、この会員端末１からのサービス提供要求を受けて、要求されている情報提供サービスが何であるかを解析する（手順Ｓ１０）。この解析の結果、要求により提供する情報が内部メモリ２６Ａに記憶されている情報であるか否かを判別し（手順Ｓ１１）、提供要求情報がメモリ２６Ａに記憶されている情報であれば、当該メモリ２６Ａから、要求されている情報を読み出して、要求してきた会員端末１に送信する（手順Ｓ１２）。また、提供要求情報がメモリ２６Ａに記憶されていない情報であれば、共通サーバ装置２は、当該情報の提供を行う情報提供装置１１にアクセスして、前記提供要求情報を取得して、要求してきた会員端末１に送信する（手順Ｓ１３）。

【０１３６】次に、会員端末１は、手順Ｓ１２または手順Ｓ１３で共通サーバ装置２から送出された情報を受信

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し、表示情報に展開してＬＣＤ１０５の表示画面に表示し、使用者に提示する（手順Ｓ１４）。

【０１３７】以上のようにして、会員端末１の使用者は、図６に示したように会員端末１のＬＣＤ１０５に表示される、共通サーバ装置２が提供可能な情報提供サービスのそれぞれに対応するサービス選択用アイコン群の中から、目的とする情報提供サービスのサービス選択用アイコンを選択するという簡単な操作により、希望する情報提供サービスの提供を受けることができる。これにより、会員端末１の使用者は、自分が必要とする情報を共通サーバ装置２より取得して、ＬＣＤ１０５で見ることができる。

【０１３８】この場合、サービス選択用アイコンは、そのアイコンによって、実行が要求される情報提供サービスの提供者に関する表示部分を含んでおり、前述にもしたように、情報提供サービスの提供者にとっては、サービス選択用アイコンは、自己を宣伝するための広告媒体としての機能を有している。

【０１３９】このため、情報提供サービスの提供者の名称などの情報提供サービスの提供者に関する情報をサービス選択用アイコンに含めて表示する代償として、共通サーバ装置２の所有会社は、情報提供サービスの提供者からサービス選択用アイコンの使用料（広告料）を徴収することによって、会員端末１の使用者の共通サーバ装置２の使用料などを安価にすることが可能となる。これにより、会員端末１の使用者は、より安価に情報提供サービスを利用し、必要な情報を取得することが可能となる。

【０１４０】また、情報提供サービスの提供者の名称などの情報提供サービスの提供者に関する情報をサービス選択用アイコンに含めて表示する代償として、情報提供サービスの提供者が、無償あるいは安価に情報提供サービスを提供することによっても、会員端末１の使用者は、より安価に情報提供サービスを利用し、必要な情報を取得することが可能となる。

【０１４１】また、共通サーバ装置２は、外部の情報提供装置としてのコンテンツ提供装置１１が提供する情報提供サービスについても、共通サーバ装置２を介して提供することができるようにされており、このコンテンツ提供装置１１が提供する情報提供サービスについても、提供可能な情報提供サービスとしてサービス選択用アイコン形成し、会員端末１に送信する。

【０１４２】そして、会員端末１で、そのコンテンツ提供装置１１の情報提供サービスのサービス提供要求があったときに、共通サーバ装置２がコンテンツ提供装置１１から、その情報提供サービスに応じた情報を取得して会員端末１に提供するようにするので、会員端末１では、より多くの情報提供サービスを低廉な料金で利用することができる。

【０１４３】この場合、会員端末１は、あたかも共通サーバ装置２によりすべての情報提供サービスが行われるように、共通サーバ装置２に対してのみ、サービス提供要求をすればよいので、サービス提供要求操作が非常に簡単である。

【０１４４】また、この実施の形態においては、携帯無線通信端末から情報提供要求を送出して、その表示画面で提供された情報を見ることができるので、必要な情報を必要なときに取得して利用することができる。

【０１４５】［情報提供サービス以外の提供サービスを受ける場合について］また、ＷＷＷブラウザ機能により実現される提供サービスは、情報提供サービスに限るものではなく、例えば、ホテルの予約サービス、コンサートや演劇などのチケットの予約システム、通信販売サービスなど各種のサービスを提供することが可能である。

【０１４６】このような各種の提供サービスについても、前述した情報提供サービスの場合と同様に、提供サービスのサービス内容を示す表示部分と、その提供サービスの提供者に関する表示部分とを一体的に備えるサービス選択用アイコンを含む選択画面情報を会員端末１に提供し、会員端末１のＬＣＤ１０５に表示されるサービス選択用アイコンを含む選択画面を介して、提供サービスの実行を行うようにすることができる。

【０１４７】この場合にも、サービス選択用アイコンに提供サービスの提供者を表示するようにすることにより、当該提供者が共通サーバ装置２の所有会社に対して広告料を支払うようにしたり、当該提供者が無償あるいは低廉な料金で当該提供サービスを提供するようにすることにより、各種の提供サービスをも低廉な料金で利用することができる。

【０１４８】また、前述したように、この実施の形態の会員端末１はデータ通信モード時においては、ＷＷＷブラウザ機能のほか、ファクシミリ機能、電子メール機能などを選択することができる。そこで、これらの各機能を選択するようにする場合に、提供サービスのサービス内容の表示部分と、この提供サービスの提供者に関する表示部分とを一体的に備えるサービス選択用アイコンを含む一覧メニューを会員端末１のＬＣＤ１０５に表示し、選択入力を受け付けるようにすることもできる。

【０１４９】この場合には、ファクシミリ機能、電子メール機能により実現されるファクシミリ通信サービス、電子メール通信サービスを提供するためにかかる費用の全部あるいは一部を負担するいわゆるスポンサーを募集し、サービス選択用アイコンにスポンサー名を含めて表示するようにする。

【０１５０】例えば、ファクシミリ通信サービスの場合には、サービス内容を示す「ＦＡＸ」という文字情報と、当該サービスの提供者を示す「○○株式会社」という文字情報とを含むサービス選択用アイコンなどからなる機能一覧メニューとしての機能を有する選択画面を表示するようにする。

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【０１５１】このようにすることによって、ファクシミリ通信サービスや電子メール通信サービスについても、会員端末１の使用者は低廉な料金で利用することができる。また、この場合には、例えば、共通サーバ装置２と会員端末１とが通信処理を行うごとに、サービス選択用アイコンを含む最新の選択画面を会員端末１に提供しておくことにより、会員端末１をデータ通信モードにしたときに、機能一覧メニューとしての選択画面をＬＣＤ１０５に表示し、選択入力を行えるようにすることができる。

【０１５２】これにより、例えば、正確な提供サービスの提供者が変わった場合であっても、少なくとも、次回の通信処理時においては、正確な提供サービスの提供者の表示部分を有するサービス選択用アイコンを表示するようにすることができる。

【０１５３】また、提供サービス、あるいは、情報提供サービスのサービス内容およびサービスの提供者が変わらない場合には、サービス選択用アイコン、あるいは、選択画面情報自体を常時会員端末１のＲＯＭ１２２などに記憶させておくようにすることもできる。

【０１５４】なお、以上の実施の形態では、携帯無線通信端末は、ＰＨＳ電話の機能を備える場合として説明したが、電話機能としては、携帯電話であってもよい。その場合には、ネットワークは携帯電話用のネットワークが使用されることになる。

【０１５５】また、この発明の情報通信端末は、携帯無線通信端末に限らず、有線電話回線を通じた携帯型のパーソナルコンピュータや、その他の通信端末であってもよい。

【０１５６】また、提供情報は、画像情報に限らず、音声情報であってもよいし、また、画像情報と音声情報との両方であってもよい。また、サービス選択用アイコンは、図６に示したように、文字と図形からなるものに限るものではない。例えば、絵、記号、マーク、図形、文字あるいはこれらの組み合わせによって、サービス選択用アイコンを形成することができる。

【０１５７】また、提供サービスの提供者に関する情報は、提供者名に限るものではなく、例えば、当該提供者が扱う商品の商品名、あるいは、企業や商品のロゴマークなど、当該提供者に関する情報を表示するようにすればよい。

【０１５８】また、この実施の形態において、サービス選択用アイコンは、提供サービスのサービス内容の表示部分と、当該提供サービスの提供者に関する表示部分との両方が明確に分けられている場合を例にして説明したが、これに限るものではない。例えば、「○○鉄道時刻表」、「△△デパート営業案内」、「××新聞ニュース」などように、提供サービスの内容と、その提供サービスの提供者とを表示領域を分けることなく表示するようにしてもよい。

【０１５９】また、サービス選択用アイコンとして、提供サービスの提供者の企業名や当該提供者が扱う商品の商品名、あるいは、企業や商品のロゴマークなどを用いるようにしてもよい。このようにした場合にも、おおよその提供サービスの内容と、その提供サービスの提供者とを会員端末１の使用者に知らせることができる。すなわち、サービス選択用アイコンは、提供サービスの内容と、その提供サービスの提供者に関する情報とを一体的に表示するようにするものであればよい。

【０１６０】また、上述の実施の形態では、共通サーバ装置２は、提供情報を格納するメモリ２６Ａを備えていたが、このメモリ２６Ａはなくてもよい。

【０１６１】

【発明の効果】以上説明したように、請求項１または請求項２の発明によれば、提供サービスの提供者が、サービス選択用アイコンを広告媒体として用いるようにする代償として、当該提供者がその提供サービスを無償で提供するようにしたり、あるいは、サーバ装置の所有会社に対して、いわゆる広告料を支払うようにすることにより、情報通信端末の使用者は、その提供サービスについては無償で提供を受けることができたり、あるいは、サーバ装置の使用料が安くなるなど、提供サービスを低廉な料金で受けることができる。

【０１６２】また、情報通信端末の使用者は、当該情報通信端末の表示手段に表示されるサーバ装置からの選択画面情報に含まれるサービス選択用アイコンを選択するという簡単な操作で、サーバ装置が提供可能な提供サービスのうちの目的とする提供サービスを受けることができる。

【０１６３】また、請求項３の発明によれば、情報提供サービスの提供者の表示部分を含み、広告媒体としての機能を有するサービス選択用アイコンを用いるようにすることにより、請求項１または請求項２の発明と同じように、情報通信端末の使用者は、低廉な料金で情報を取得することができる。

【０１６４】また、請求項４の発明によれば、情報通信端末の使用者は、サーバ装置と契約するだけで、このサーバ装置に接続されている情報提供装置が提供可能な情報の提供を受けることができる。すなわち、情報通信端末の使用者は、より多くの情報を低廉な料金で取得することができる。

【０１６５】また、請求項５の発明によれば、無線通信機能を備える携帯端末により情報通信端末が構成されるので、情報通信端末の使用者は、外出先など、任意の場所から、任意のときに、必要に応じた情報の提供を受けることができる。

【図面の簡単な説明】

【図１】この発明による情報通信システムが適用されるネットワーク構成の全体の概要を示す図である。

【図２】図１の具体的なネットワーク構成例を示す図で

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ある。

【図3】この発明によるサーバ装置の一実施の形態を示すブロック図である。

【図4】この発明による情報通信端末の一実施の形態の外観を示す図である。

【図5】この発明による情報通信端末の一実施の形態のブロック図である。

【図6】この発明による情報通信システムの情報通信端末に表示されるサービス選択用アイコンの表示例を示す図である。

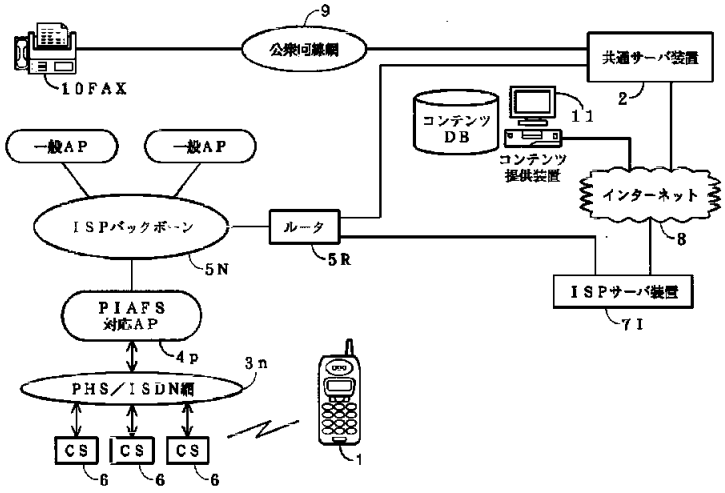
【図7】この発明による情報通信システムの一実施の形態における手順を示すフローチャートの一部である。

【図8】この発明による情報通信システムの一実施の形態における手順を示すフローチャートの一部である。

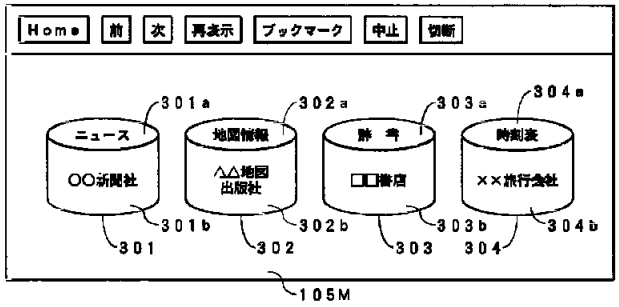
【符号の説明】

1…携帯無線通信端末（会員端末）、2…共通サーバ装置、3…携帯無線通信端末用ネットワーク、4…アクセスポイント、5…専用基幹ネットワーク、6…無線基地局、7…ネットワーク管理サーバ装置、21…マスターサーバ、22…メールサーバ、23…ファクシミリサーバ、24…着信通知サーバ、100…携帯無線通信端末本体、101…蓋、102…テンキー、103…アンテナ、105…LCD，106…タッチパネル、108…キー釦、121…システムコントロール部、122…ROM、123…DRAM、301～304…サービス選択用アイコン、301a～304a…情報提供サービスの内容の表示部分、301b～304b…情報提供サービスの提供者の表示部分

【図2】

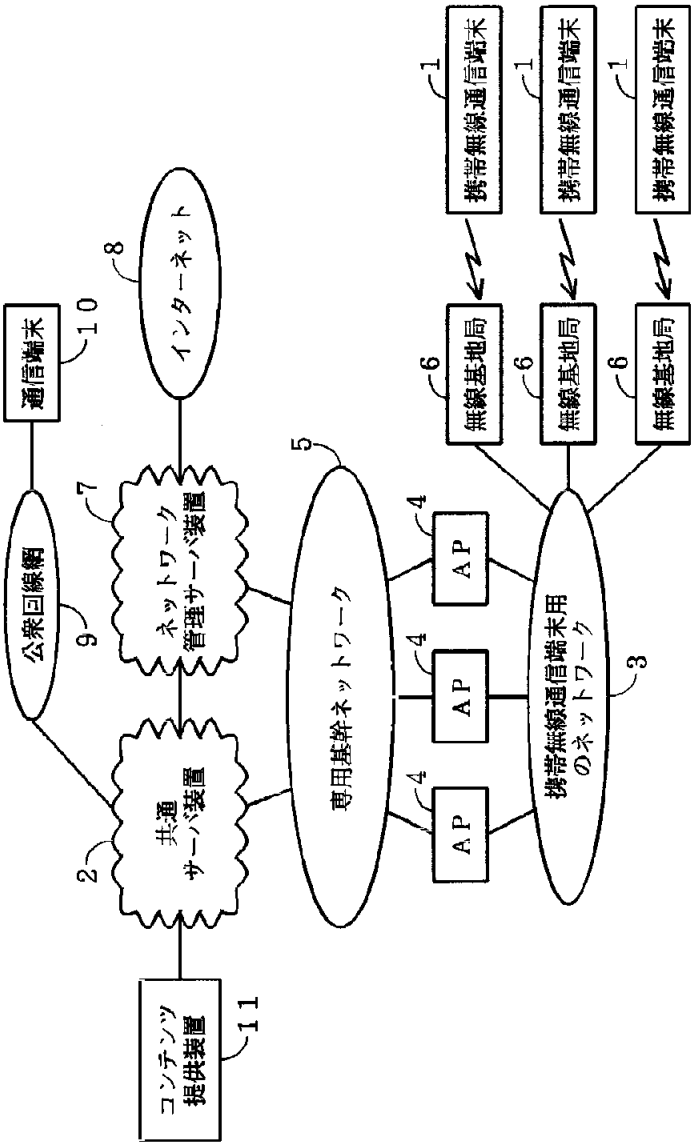


【図6】

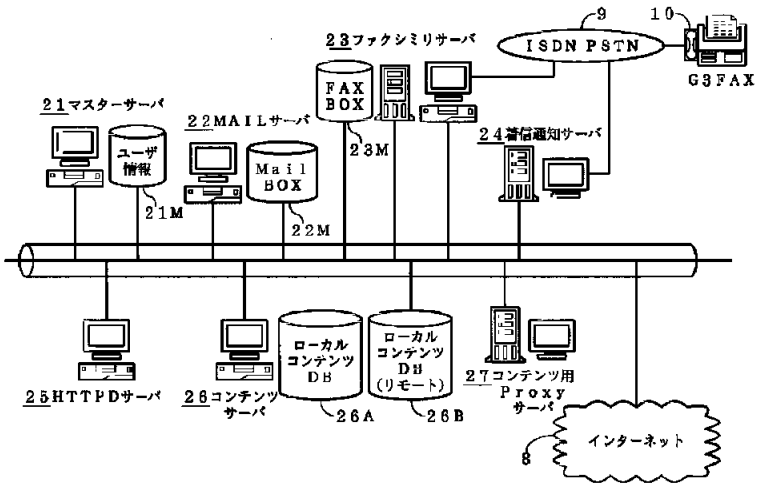


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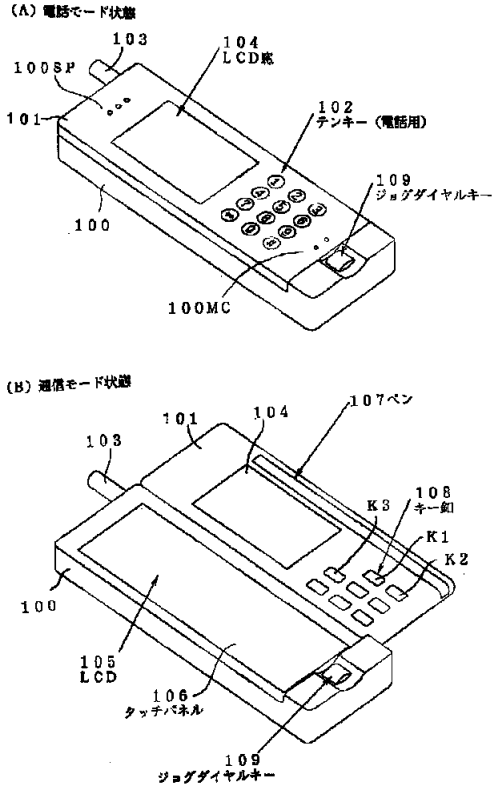
【図1】


携帯無線通信端末
携帯無線通信端末
携帯無線通信端末
1
1
1
無線基地局
無線基地局
無線基地局
6
6
6
AP
AP
AP
4
4
4
携帯無線通信端末用
のネットワーク
3
専用基幹ネットワーク
5
インターネット
8
ネットワーク
管理サーバ装置
7
公衆回線網
9
通信端末
10
共通
サーバ装置
2
コンテンツ
提供装置
11

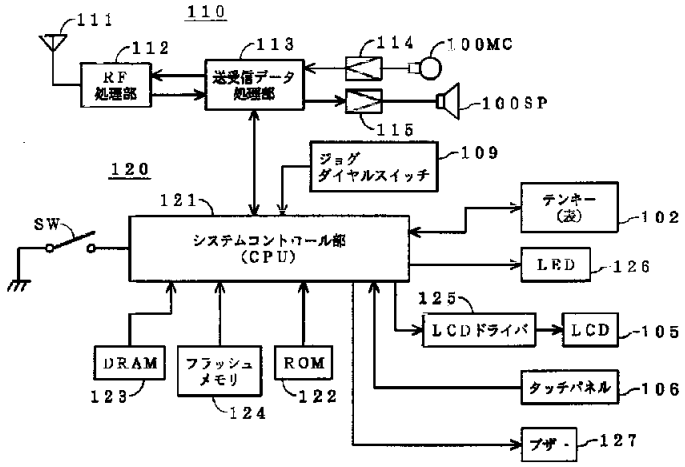
【図3】


9
10
23ファクシミリサーバ
ISDN PSTN
G3FAX
FAX BOX
21マスターサーバ
22MAILサーバ
24着信通知サーバ
ユーザ情報
21M
Mail BOX
23M
22M
ローカルコンテンツDB
ローカルコンテンツDB（リモート）
25HTTPDサーバ
26コンテンツサーバ
26A
26B
27コンテンツ用Proxyサーバ
8
インターネット

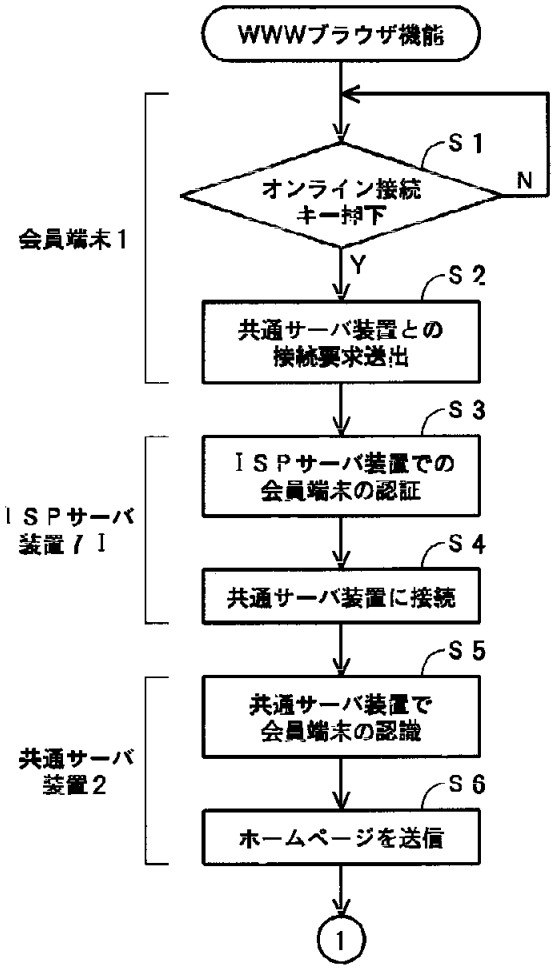
【図4】


(A) 電話モード状態
103
104 LCD底
100SP
101
102 テンキー（電話用）
109 ジョグダイヤルキー
100
100MC
(B) 通信モード状態
101
104
107ペン
103
108 キー釦
K3
K1
K2
100
105 LCD
106 タッチパネル
109 ジョグダイヤルキー

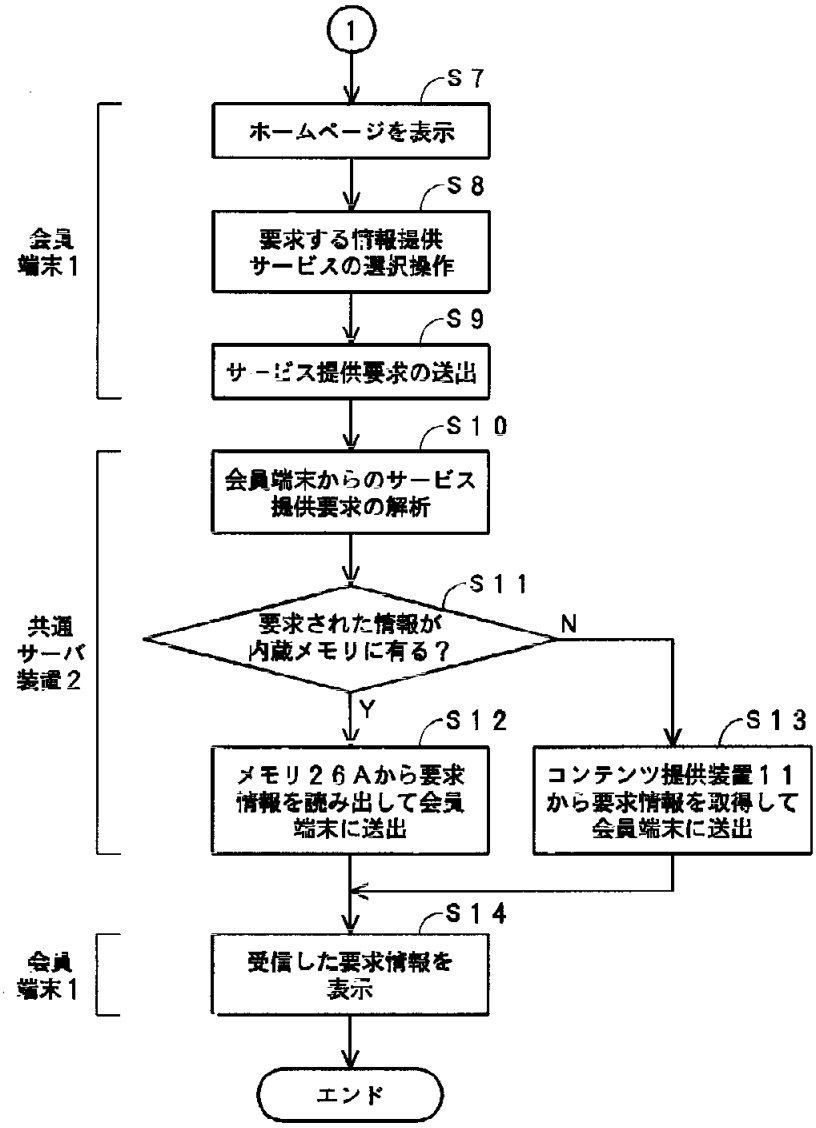
【図5】


111
110
112
113
114
100MC
RF
処理部
送受信データ
処理部
100SP
115
109
ジョグ
ダイヤルスイッチ
120
121
SW
システムコントロール部
(CPU)
テンキー
(表)
102
LED
126
125
LCDドライバ
LCD
105
DRAM
123
フラッシュ
メモリ
124
ROM
122
タッチパネル
106
ブザー
127

【図７】


WWWブラウザ機能
S１
オンライン接続
キー押下
N
Y
S２
共通サーバ装置との
接続要求送出
S３
ＩＳＰサーバ装置での
会員端末の認証
S４
共通サーバ装置に接続
S５
共通サーバ装置で
会員端末の認識
S６
ホームページを送信
①
会員端末１
ＩＳＰサーバ
装置１Ｉ
共通サーバ
装置２

【図8】



フロントページの続き

(51)Int.Cl.[6]		識別記号	FI		
H04M	11/00	302	H04N	1/32	Z
H04N	1/00	107	H04B	7/26	109M
	1/32				

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ELECTRONIC PAYMENT RECEIPT

APPLICATION #	RECEIPT DATE / TIME	ATTORNEY DOCKET #
14/480,701	11/02/2020 08:45:10 PM ET	7209-0003

Title of Invention

METHOD AND DEVICE FOR ACCESSING INFORMATION SOURCES AND SERVICES ON THE WEB

Application Information

APPLICATION TYPE	Utility - Nonprovisional Application under 35 USC 111(a)	PATENT #	-
CONFIRMATION #	9483	FILED BY	Ryan Carter
PATENT CENTER #	60102682	AUTHORIZED BY	ERIC JENSEN
CUSTOMER #	466	FILING DATE	09/09/2014
CORRESPONDENCE ADDRESS	-	FIRST NAMED INVENTOR	Ferid ALLANI

Payment Information

PAYMENT METHOD	PAYMENT TRANSACTION ID	PAYMENT AUTHORIZED BY
CARD / 4019	E2020A2K46290088	Ryan Carter

FEE CODE	DESCRIPTION	ITEM PRICE($)	QUANTITY	ITEM TOTAL($)
2820	REQUEST FOR CONTINUED EXAMINATION (RCE)- 2ND AND SUBSEQUENT REQUEST (SEE 37 CFR 1.114)	1000.00	1	1000.00
			TOTAL AMOUNT:	$1,000.00

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New Applications Under 35 U.S.C. 111

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

Receipt will establish the filing date of the application

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

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

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

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ELECTRONIC ACKNOWLEDGEMENT RECEIPT

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14/480,701	**11/02/2020 08:45:10 PM ET**	**7209-0003**

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CORRESPONDENCE ADDRESS	-	AUTHORIZED BY	ERIC JENSEN

Documents

TOTAL DOCUMENTS: 10

DOCUMENT	PAGES	DESCRIPTION	SIZE (KB)
7209-0003 JPH10-254889A.pdf	20	Foreign Reference	1928 KB
7209-0003 JPH11-68823A.pdf	22	Foreign Reference	2396 KB
7209-0003 JPH11-205711A.pdf	12	Foreign Reference	1143 KB
7209-0003 JPH11-212998A.pdf	11	Foreign Reference	1018 KB
7209-0003 JPH11-272454A.pdf	21	Foreign Reference	2429 KB

7209-0003 NPL_MOHAN.pdf	11	Non Patent Literature	1248 KB
7209-0003 RCE.pdf	3	Request for Continued Examination (RCE)	1318 KB
7209-0003 WO99-17229A1.pdf	84	Foreign Reference	10625 KB
7209-0003 IDS.pdf	5	Information Disclosure Statement (IDS) Form (SB08)	1011 KB
7209-0003 JPH10-149372A.pdf	8	Foreign Reference	764 KB

Digest

DOCUMENT	MESSAGE DIGEST(SHA-512)
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Espacenet

Bibliographic data: JPH11212998 (A) — 1999-08-06

DATA DISPLAY DEVICE AND RECORD MEDIUM

Inventor(s): SHIRAISHI KEIKO; SONODA TAKASHI; YAMADA TOSHIYA ± (SHIRAISHI KEIKO, ; SONODA TAKASHI, ; YAMADA TOSHIYA)

Applicant(s): FUJI XEROX CO LTD ± (FUJI XEROX CO LTD)

Classification: **- international:** ***G06F12/00; G06F13/00; G06F17/30; G06F3/00; G06F3/048;*** (IPC1-7): G06F12/00; G06F17/30; G06F3/00

- cooperative:

Application number: JP19980016754 19980129

Priority number(s): JP19980016754 19980129

Abstract of JPH11212998 (A)

PROBLEM TO BE SOLVED: To provide a data display device which can reach a target web page without taking time and trouble at the time of revisiting the web page which is visited in the past. SOLUTION: A picture data generation means 1b generates picture data corresponding to hyper text data from the display screen of a hyper text. A picture data storage means 1c stores generated picture data. An index information holding means 1d holds index information of hyper text data by associating it with generated picture data. A picture data display means 1e displays stored picture data. A hyper text data display means 1f displays hyper text data corresponding to index information which is held by associating it with picture data when picture data is designated.

IPR2025-00857
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(19)日本国特許庁（ＪＰ）　(12) **公開特許公報（Ａ）**　(11)特許出願公開番号

特開平11－212998

(43)公開日　平成11年(1999)８月６日

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Ｇ０６Ｆ	17/30		Ｃ０６Ｆ	15/419	３２０
	3/00	６５４		3/00	６５４Ｂ
		６５７			６５７Ａ
	12/00	５４６		12/00	５４６Ｋ
				15/40	３６０Ｆ

審査請求　未請求　請求項の数３　ＯＬ　（全 10 頁）

(21)出願番号　特願平10－16754

(22)出願日　平成10年(1998)１月29日

(71)出願人　000005496
富士ゼロックス株式会社
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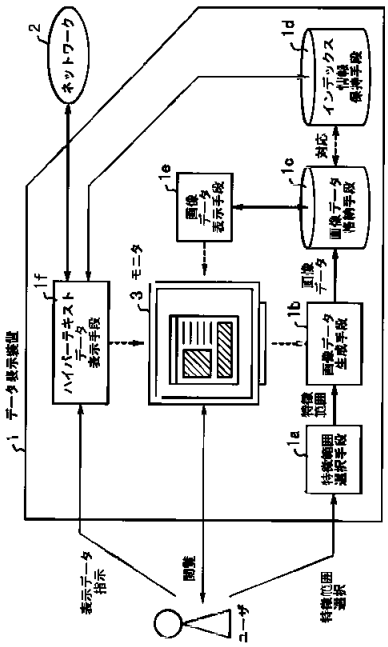
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(54)【発明の名称】　データ表示装置及び記録媒体

(57)【要約】

【課題】　過去に訪問したＷｅｂページを再訪問したい場合に、時間や手間をかけずに目的のＷｅｂページに到達することのできるデータ表示装置を提供すること

【解決手段】　画像データ生成手段１ｂはハイパーテキストの表示画面から、そのハイパーテキストデータに対応する画像データを生成する。画像データ格納手段１ｃは、生成された画像データを格納する。インデックス情報保持手段１ｄは、ハイパーテキストデータのインデックス情報を、生成された画像データと関連付けて保持する。画像データ表示手段１ｅは、格納されている画像データを表示する。ハイパーテキストデータ表示手段１ｆは、画像データを指定された場合には、その画像データと関連付けて保持されているインデックス情報に対応するハイパーテキストデータを表示する。



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【特許請求の範囲】
【請求項１】　固有のインデックス情報を持つハイパーテキストデータを表示するデータ表示装置において、
前記ハイパーテキストデータの表示画面から、前記ハイパーテキストデータに対応する画像データを生成する画像データ生成手段と、
前記画像データを格納する画像データ格納手段と、
前記ハイパーテキストデータのインデックス情報を、前記画像データと関連付けて保持するインデックス情報保持手段と、
前記画像データ格納手段に格納されている前記画像データを表示する画像データ表示手段と、
表示データとして、インデックス情報を入力された場合には、前記インデックス情報に対応するハイパーテキストデータを、前記画像データ表示手段にて表示された前記画像データを指定された場合には、前記インデックス情報保持手段にて前記画像データと関連付けて保持されているインデックス情報に対応するハイパーテキストデータを、表示するハイパーテキストデータ表示手段と、
を有することを特徴とするデータ表示装置。
【請求項２】　前記ハイパーテキストデータの表示画面から、前記ハイパーテキストデータの特徴を示す特徴範囲を選択する特徴範囲選択手段を有しており、前記画像データ生成手段は、前記特徴範囲から前記ハイパーテキストデータに対応する画像データを生成することを特徴とする請求項１記載のデータ表示装置。
【請求項３】　固有のインデックス情報を持つハイパーテキストデータを表示するデータ表示プログラムを記録した記録媒体において、コンピュータを、
前記ハイパーテキストデータの表示画面から、前記ハイパーテキストデータに対応する画像データを生成する画像データ生成手段、
前記画像データを格納する画像データ格納手段、
前記ハイパーテキストデータのインデックス情報を、前記画像データと関連付けて保持するインデックス情報保持手段、
前記画像データ格納手段に格納されている前記画像データを表示する画像データ表示手段、
表示データとして、インデックス情報を入力された場合には、前記インデックス情報に対応するハイパーテキストデータを、前記画像データ表示手段にて表示された前記画像データを指定された場合には、前記インデックス情報保持手段にて前記画像データと関連付けて保持されているインデックス情報に対応するハイパーテキストデータを、表示するハイパーテキストデータ表示手段、
として動作させることを特徴とするデータ表示プログラムを記録したコンピュータ読み取り可能な記録媒体。
【発明の詳細な説明】
【０００１】
【発明の属する技術分野】本発明はデータ表示装置に関し、特に固有のインデックス情報を持つハイパーテキストデータを表示するデータ表示装置に関する。
【０００２】
【従来の技術】全世界を結ぶ巨大なコンピュータネットワークであるインターネットが、近年、急速に普及している。インターネットには様々なサービスがあるが、中でも動画や音声の入ったマルチメディア画面を世界中から受信することができるWWW(World Wide Web)には人気がある。
【０００３】固有のインデックス情報を持ち、ハイパーテキストで構成されたWWW上のデータを閲覧するには、ブラウザと呼ばれるクライアントソフトを利用する。代表的なブラウザとしては、ＮｅｔＳｃａｐｅ　Ｎａｖｉｇａｔｅｒ(Netscape Communications社の商標登録)やＩｎｔｅｒｎｅｔ　Ｅｘｐｒｏｌｅｒ(Microsoft社の商標登録)、Ｈｏｔｊａｖａ(Sun Microsystems 社の商標登録)等が挙げられる。ユーザはブラウザの所定の欄に、見たいWWWを特定するインデックス情報であるＵＲＬ(Uniform Resource Locator)を記述すればよい。また、画面内に他のＷｅｂページへのリンクを示すアンカーが存在している場合には、そのアンカーをマウス等のポインティングデバイスで選択することによって、該当するＷｅｂページを訪問することができる。
【０００４】ところで、インターネット上には大量のデータが存在するが、ユーザが必要とするのはその一部である。そこで、従来、ブラウザには、閲覧しているＷｅｂページを再訪問する時のために、ブックマークとかロケーション等と呼ばれる機能が付与されている。これは過去に訪問したＷｅｂページのＵＲＬをテキストベースで登録保持しておくもので、該当するページのタイトルを識別子として保持する。過去に訪問したＷｅｂページを再訪問したい場合、ユーザはこの機能を利用して必要なＵＲＬを得ることができる。
【０００５】しかし、ブックマークに大量のＵＲＬが登録してある場合、ユーザは再訪問するＷｅｂページのタイトルを正確に記憶しておかなければならない。そして、タイトルを正確に記憶していない場合には、一旦関連するＷｅｂページを訪問して、そこから目的のＷｅｂページとリンクされたアンカーを探さなければならず、不必要な時間や手間がかかってしまっている。
【０００６】このような問題を解決するために、特開平８－２６３５２５号広報では次データの参照に使われたインデックス情報を記憶し表示する装置を提供している。
【０００７】
【発明が解決しようとする課題】しかし、このような装置で次データの参照に使われるインデックス情報は、断片的なキーワード等であることが多く、ユーザにはどれが目的のＷｅｂページであるか判断できない。また、インデックス情報として画像データを記憶している場合に

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も、その画像データが該当するＷｅｂページの内容を適切に表しているとは限らない。

【０００８】さらに、訪問済のデータへのアンカーの色が変化するデータ表示装置でも、訪問済のデータであるか否かの判断はできるが、どのようなデータであったのかを思い出す手掛かりが少ない。そのため、そのアンカーが目的のＷｅｂページであるか否かを判断するには、実際に再度の訪問をしてみなければならない。

【０００９】このように、従来のブラウザには、過去に訪問したＷｅｂページを再訪問したい場合に、目的のＷｅｂページに到達するまでに相当な時間及び手間がかかってしまうという問題点がある。

【００１０】本発明はこのような点に鑑みてなされたものであり、過去に訪問したＷｅｂページを再訪問したい場合に、時間や手間をかけずに目的のＷｅｂページに到達することのできるデータ表示装置を提供することを目的とする。

【００１１】また、本発明の別の目的は、コンピュータを、過去に訪問したＷｅｂページを再訪問したい場合に、時間や手間をかけずに目的のＷｅｂページに到達することができるように動作させることのできるデータ表示プログラムを記録した記憶媒体を提供することである。

【００１２】

【課題を解決するための手段】本発明では上記課題を解決するために、固有のインデックス情報を持つハイパーテキストデータを表示するデータ表示装置において、ハイパーテキストデータの表示画面から、ハイパーテキストデータに対応する画像データを生成する画像データ生成手段と、画像データを格納する画像データ格納手段と、ハイパーテキストデータのインデックス情報を、画像データと関連付けて保持するインデックス情報保持手段と、画像データ格納手段に格納されている画像データを表示する画像データ表示手段と、表示データとして、インデックス情報を入力された場合には、インデックス情報に対応するハイパーテキストデータを、画像データ表示手段にて表示された画像データを指定された場合には、インデックス情報保持手段にて画像データと関連付けて保持されているインデックス情報に対応するハイパーテキストデータを、表示するハイパーテキストデータ表示手段と、を有することを特徴とするデータ表示装置が提供される。

【００１３】このようなデータ表示装置で固有のインデックス情報を持つハイパーテキストデータを表示する場合、画像データ生成手段はハイパーテキストの表示画面から、そのハイパーテキストデータに対応する画像データを生成する。また、画像データ格納手段は、生成された画像データを格納する。インデックス情報保持手段は、ハイパーテキストデータのインデックス情報を、生成された画像データと関連付けて保持する。画像データ表示手段は、画像データ格納手段に格納されている画像データを表示する。そしてハイパーテキストデータ表示手段は、表示データとしてインデックス情報を入力された場合には、そのインデックス情報に対応するハイパーテキストを表示する。また、表示データとして画像データ表示手段にて表示された画像データを指定された場合には、インデックス情報保持手段にてその画像データと関連付けて保持されているインデックス情報に対応するハイパーテキストデータを、表示する。

【００１４】このように、本発明のデータ表示装置では、ハイパーテキストの表示画面からそのハイパーテキストデータに対応する画像データを生成、表示し、次の表示データとして指定することができるので、過去に訪問したＷｅｂページを再訪問したい場合に、時間や手間をかけずに目的のＷｅｂページに到達することができる。

【００１５】また、本発明では上記課題を解決するために、固有のインデックス情報を持つハイパーテキストデータを表示するデータ表示プログラムを記録した記憶媒体において、コンピュータを、ハイパーテキストデータの表示画面から、ハイパーテキストデータに対応する画像データを生成する画像データ生成手段、画像データを格納する画像データ格納手段、ハイパーテキストデータのインデックス情報を、画像データと関連付けて保持するインデックス情報保持手段、画像データ格納手段に格納されている画像データを表示する画像データ表示手段、表示データとして、インデックス情報を入力された場合には、インデックス情報に対応するハイパーテキストデータを、画像データ表示手段にて表示された画像データを指定された場合には、インデックス情報保持手段にて画像データと関連付けて保持されているインデックス情報に対応するハイパーテキストデータを、表示するハイパーテキストデータ表示手段、として動作させることを特徴とするデータ表示プログラムを記録した記憶媒体が提供される。

【００１６】このようなデータ表示プログラムを記録した記憶媒体では、コンピュータを、ハイパーテキストデータの表示画面から、そのハイパーテキストデータに対応する画像データを生成する画像データ生成手段として動作させる。また、コンピュータを、画像データを格納する画像データ格納手段として動作させる。さらに、コンピュータを、ハイパーテキストデータのインデックス情報を、画像データと関連付けて保持するインデックス情報保持手段として動作させる。また、コンピュータを、画像データ格納手段に格納されている画像データを表示する画像データ表示手段として動作させる。そして、コンピュータを、表示データとして、インデックス情報を入力された場合には、インデックス情報に対応するハイパーテキストデータを、画像データ表示手段にて表示された画像データを指定された場合には、インデッ

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クス情報保持手段にて画像データと関連付けて保持されているインデックス情報に対応するハイパーテキストデータを、表示するハイパーテキストデータ表示手段として動作させる。

【００１７】このように、本発明のデータ表示プログラムを記録した記憶媒体は、コンピュータを、ハイパーテキストの表示画面からそのハイパーテキストデータに対応する画像データを生成、表示するように動作させ、次の表示データとして指定することができるように動作させるので、コンピュータを、過去に訪問したＷｅｂページを再訪問したい場合に、時間や手間をかけずに目的のＷｅｂページに到達することができるように動作させることができる。

【００１８】

【発明の実施の形態】以下、本発明の実施の形態を図面を参照して説明する。図１は、本発明のデータ表示装置の原理構成を示すブロック図である。

【００１９】データ表示装置１は、ネットワーク２及びモニタ３と接続されている。そして、ユーザの指示に応じて、ネットワーク２上の、固有のインデックス情報を持つハイパーテキストデータを、モニタ３に表示する。

【００２０】ここで、データ表示装置１は、特徴範囲選択手段１ａと、画像データ生成手段１ｂと、画像データ格納手段１ｃと、インデックス情報保持手段１ｄと、画像データ表示手段１ｅと、ハイパーテキストデータ表示手段１ｆと、を有している。

【００２１】特徴範囲選択手段１ａは、モニタ３に表示されたハイパーテキストデータの表示画面から、そのハイパーテキストデータの特徴を示す特徴範囲を選択する。なお、この特徴範囲の選択は、ユーザからの入力に従う。

【００２２】また、画像データ生成手段１ｂは、特徴範囲選択手段１ａにて選択された特徴範囲から、モニタ３に表示されているハイパーテキストデータに対応する画像データを生成する。

【００２３】画像データ格納手段１ｃは、画像データ生成手段１ｂにて生成された画像データを格納する。インデックス情報保持手段１ｄは、この時点でモニタ３に表示されているハイパーテキストデータのインデックス情報を、画像データ格納手段１ｃに格納した画像データと関連付けて保持する。画像データ表示手段１ｅは、モニタ３に、この時点で画像データ格納手段１ｃに格納されている画像データを表示する。

【００２４】そして、ハイパーテキストデータ表示手段１ｆは、ユーザからの表示データの指示を受け付ける。表示データとして、インデックス情報を入力された場合には、ネットワーク２とアクセスして、入力されたインデックス情報に対応するハイパーテキストデータを取得し、モニタ３に表示する。また、表示データとして、画像データ表示手段１ｅによってモニタ３に表示されている画像データを指定された場合には、まず、インデックス情報保持手段１ｄにて、その画像データと関連付けて保持されているインデックス情報を検索する。そして、ネットワーク２とアクセスして、検索したインデックス情報に対応するハイパーテキストデータを取得し、モニタ３に表示する。

【００２５】ここで、図１に示したデータ表示装置１による、表示中のハイパーテキストデータに対応する画像データ保存の手順を、フローチャートを示して説明する。図２は、図１に示したデータ表示装置１による、表示中のハイパーテキストデータに対応する画像データの保存の手順を示すフローチャートである。以下、ステップ番号に沿って説明を行う。

［Ｓ１］データ表示装置１は、ユーザから、モニタ３に表示中のハイパーテキストデータに対する画像データを保存する必要があるか否かの判断を受け付ける。画像データを保存する必要がある場合はステップＳ２に進む。保存する必要がない場合は、このフローチャートの処理を終了する。

［Ｓ２］データ表示装置１の特徴範囲選択手段１ａは、ユーザから、モニタ３に表示中のハイパーテキストデータの特徴範囲の選択がなされるか否かを判断する。ユーザが特徴範囲を選択する場合はステップＳ３へ、ユーザが特徴範囲を選択しない場合はステップＳ５へ進む。

［Ｓ３］データ表示装置１の特徴範囲選択手段１ａは、ユーザからの特徴範囲選択を受け付ける。ここで、ユーザはマウス等のポインティングデバイスを利用して、ハイパーテキストデータの特徴的な部分を選択すればよい。選択範囲の大きさは自由である。

［Ｓ４］データ表示装置１の画像データ生成手段１ｂは、モニタ３に表示中のハイパーテキストデータから、選択された特徴範囲の画像を取得する。

［Ｓ５］データ表示装置１の画像データ生成手段１ｂは、モニタ３に表示中のハイパーテキストデータの全体画像を取得する。

［Ｓ６］データ表示装置１の画像データ生成手段１ｂは、取得した画像から、画像データとしてアイコンを生成する。このアイコン生成には様々な方法が利用できる。ここでは、ビットマップデータをＧＩＦ形式に変換し、３．５ｃｍ×５ｃｍで等倍表示できる７２ｄｐｉの画像データとする方法を利用する。

［Ｓ７］データ表示装置１の画像データ格納手段１ｃは、画像データ生成手段１ｂで生成されたアイコンにファイル名を付け、画像データとして格納する。

［Ｓ８］データ表示装置１のインデックス情報保持手段１ｄは、ステップＳ１～Ｓ７で生成した新しいアイコンに関する情報を、保持している情報テーブルに格納する。

【００２６】ここで、データ表示装置１のインデックス情報保持手段１ｄの保持する情報テーブルに関し、例を

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示して説明する。図３は、図１に示したインデックス情報保持手段１ｄの保持する情報テーブルの例を示す図である。

【００２７】ここではインデックス情報保持手段１ｄがインデックス情報を保持する際、４項目からなる情報テーブル１０を使用するものとする。情報テーブル１０には、図１の画像データ生成手段１ｂで生成、画像データ格納手段１ｃに格納したアイコンの画像ファイル名と登録日、そのアイコンに対応するインデックス情報、即ちＵＲＬと、そのハイパーテキストデータのタイトルを格納する。

【００２８】ユーザは、情報テーブル１０の登録内容を任意に変更することができる。また、登録日やタイトル等、任意のデータに基づいてソートしてもよい。次に、このようにして生成、格納している画像データを利用して、ユーザが過去に訪問したＷｅｂページを再訪問する方法について説明する。

【００２９】図４は、本発明のデータ表示装置１を利用した表示画面の第１の例である。表示画面２０には、ユーザが新規に訪問したいＷｅｂページのＵＲＬを入力するＵＲＬ入力欄２１が用意されている。また、図１に示した画像データ表示手段１ｅにより、表示画面２０には、過去に訪問したＷｅｂページのタイトルとそのタイトルに対応するアイコンとが表示される。ここでは図３に示した情報テーブル１０に基づいて、タイトル２２ａとアイコン２２ｂ、タイトル２３ａとアイコン２３ｂ、タイトル２４ａとアイコン２４ｂが表示されている。

【００３０】ここでユーザが新規にＷｅｂページを訪問したい場合には、ＵＲＬ入力欄２１に、訪問したいＷｅｂページのＵＲＬを入力すればよい。入力されたＵＲＬに応じて図１に示したハイパーテキストデータ表示手段１ｆがネットワーク２とアクセスし、該当するＷｅｂページのデータを取得する。

【００３１】また、ユーザが過去に訪問したＷｅｂページを再訪問したい場合には、表示されているタイトル名もしくはアイコンを選択すればよい。この場合、選択されたタイトル名もしくはアイコンに応じて、図１に示したハイパーテキストデータ表示手段１ｆが、インデックス情報保持手段１ｄに保持された情報テーブルを検索し、該当するＵＲＬを抽出する。そしてハイパーテキストデータ表示手段１ｆは、抽出したＵＲＬに応じてネットワーク２とアクセスし、該当するＷｅｂページのデータを取得する。

【００３２】このように、本発明のデータ表示装置では、ハイパーテキストの表示画面からそのハイパーテキストデータに対応する画像データ（アイコン）を生成、表示する。そして、ユーザはアイコンを選択することによって、過去に訪問したＷｅｂページを次の表示データとして指定することができる。

【００３３】従って本発明のデータ表示装置では、過去に訪問したＷｅｂページを再訪問したい場合に、時間や手間をかけずに目的のＷｅｂページに到達することができる。

【００３４】なお、本発明のデータ表示装置１を利用した表示画面は、図４の例に限らない。図５は、本発明のデータ表示装置１を利用した表示画面の第２の例である。

【００３５】表示画面３０には、ユーザが新規に訪問したいＷｅｂページのＵＲＬを入力するＵＲＬ入力欄３１及び訪問中のＷｅｂページを表示するメイン表示欄３２が用意されている。また、図１に示した画像データ表示手段１ｅにより、表示画面３０には、過去に訪問したＷｅｂページに対応するアイコン３３ａ，３３ｂ，３３ｃが表示される。

【００３６】ユーザが新規にＷｅｂページを訪問したい場合には、ＵＲＬ入力欄３１に、訪問したいＷｅｂページのＵＲＬを入力すればよい。入力されたＵＲＬに応じて図１に示したハイパーテキストデータ表示手段１ｆがネットワーク２とアクセスして該当するＷｅｂページのデータを取得し、メイン表示欄３２に表示する。

【００３７】また、この例では、過去に訪問したＷｅｂページから逐次アイコンを生成し、表示画面３０の内側の履歴領域に表示している。ここで、この表示画面３０に、訪問したＷｅｂページから生成したアイコンを、履歴領域に表示していく手順について説明する。

【００３８】図６は、図５に示した表示画面に、訪問したＷｅｂページから生成したアイコンを、履歴領域に表示する手順を示したフローチャートである。以下、ステップ番号に沿って説明する。

［Ｓ１１］データ表示装置１のハイパーテキストデータ表示手段１ｆは、メイン表示欄３２へのＷｅｂページのデータ転送が終了したか否かを判断する。データ転送が終了していればステップＳ１２へ進む。データ転送が終了していなければ終了するまで待機する。

［Ｓ１２］データ表示装置１では、この時点でメイン表示欄３２に表示しているＷｅｂページが、過去に閲覧済のものであるか否か判断する。過去に閲覧済のものであればステップＳ１９へ、過去に閲覧済のものでなければステップＳ１３へ、進む。

［Ｓ１３］データ表示装置１では、ステップＳ１１における今回のデータ転送が正常に終了したか否かを判断する。正常に終了していればステップＳ１４へ進む。正常に終了していなければこのフローチャートの処理を終了する。

［Ｓ１４］データ表示装置１のインデックス情報保持手段１ｄは、この時点でメイン表示欄３２に表示しているＷｅｂページに対応するインデックス情報、すなわちＵＲＬと終了状態データ（正常終了）を保持する。

［Ｓ１５］データ表示装置１の画像データ生成手段１ｂでは、メイン表示欄３２に表示されている領域全体の画

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像を取得する。
［Ｓ１６］データ表示装置１の画像データ生成手段１ｂでは、ステップＳ１５で取得した画像から、画像データ（アイコン）を生成する。
［Ｓ１７］データ表示装置１の画像データ格納手段１ｃは、ステップＳ１６で生成したアイコンを、画像データとして格納する。
［Ｓ１８］データ表示装置１の画像データ表示手段１ｅは、ステップＳ１６で生成したアイコンを追加することによって、履歴領域を更新する。
［Ｓ１９］データ表示装置１では、過去に閲覧した際、データ転送が正常に終了したか否かを判断する。正常に終了していればこのフローチャートの処理を終了する。正常に終了していなければ、ステップＳ２０へ進む。
［Ｓ２０］データ表示装置１では、ステップＳ１１における今回のデータ転送が正常に終了したか否かを判断する。正常に終了していれば、ステップＳ２１へ進む。正常に終了していなければ、このフローチャートの処理を終了する。
［Ｓ２１］データ表示装置１のインデックス情報保持手段１ｄは、この時点でメイン表示欄３２に表示しているＷｅｂページに対応するインデックス情報の終了状態データを、「正常終了」に更新し、Ｓ１５へ進む。
【００３９】このように、第２の表示画面では、履歴領域に過去に訪問したＷｅｂページの画像をアイコン化して配置してある。従って、ユーザが過去に訪問したＷｅｂページを再訪問したい場合には、履歴領域に表示されているアイコンを選択すればよい。この場合、選択されたアイコンに応じて、図１に示したハイパーテキストデータ表示手段１ｆが、インデックス情報保持手段１ｄに保持された情報テーブルを検索し、該当するＵＲＬを抽出する。そしてハイパーテキストデータ表示手段１ｆは、抽出したＵＲＬに応じてネットワーク２とアクセスし、該当するＷｅｂページのデータを取得する。
【００４０】従って本発明のデータ表示装置では、過去に訪問したＷｅｂページを再訪問したい場合に、時間や手間をかけずに目的のＷｅｂページに到達することができる。
【００４１】また、図7は、本発明のデータ表示装置１を利用した表示画面の第３の例である。表示画面４０には、ユーザが新規に訪問したいＷｅｂページのＵＲＬを入力するＵＲＬ入力欄４１及び訪問中のＷｅｂページを表示するメイン表示欄４２が用意されている。訪問中のＷｅｂページにアンカーが用意してある場合、ポインタ４３でアンカーをクリックすることによって、該当するＷｅｂページにアクセスすることができる。
【００４２】ここで、本発明の表示画面の第３の例では、過去に訪問したアンカーには下線が引かれる。そして、ポインタ４３が下線の引かれたアンカーを指した状態でクリックされた場合、メイン表示欄４２の外に、該当するＷｅｂページのアイコン４４が表示される。なお、ポインタ４３が別の位置に移動した場合、アイコン４４は閉じられる。
【００４３】ユーザが新規にＷｅｂページを訪問したい場合には、ＵＲＬ入力欄４１に、訪問したいＷｅｂページのＵＲＬを入力すればよい。入力されたＵＲＬに応じて図１に示したハイパーテキストデータ表示手段１ｆがネットワーク２とアクセスして該当するＷｅｂページのデータを取得し、メイン表示欄４２に表示する。
【００４４】また、ユーザが過去に訪問したＷｅｂページを再訪問したい場合には、ポインタ４３で下線の引いてあるアンカーを選択して２回クリックすればよい。この場合、データ表示装置１のハイパーテキストデータ表示手段１ｆが、選択されたアンカーに応じてネットワーク２とアクセスし、該当するＷｅｂページのデータを取得する。
【００４５】このように、本発明のデータ表示装置では、ハイパーテキストの表示画面からそのハイパーテキストデータに対応する画像データ（アイコン）を生成、表示する。そして、ユーザはアイコンを選択することによって、過去に訪問したＷｅｂページを次の表示データとして指定することができる。
【００４６】従って本発明のデータ表示装置では、過去に訪問したＷｅｂページを再訪問したい場合に、時間や手間をかけずに目的のＷｅｂページに到達することができる。
【００４７】なお、上記の説明では、アンカーを１回クリックすることでアイコンを表示するとしたが、対応するＷｅｂページが階層構造になっている場合等に、アンカーを１回クリックすることで下位のＷｅｂページのアイコンを表示するようにしてもよい。
【００４８】
【発明の効果】以上説明したように、本発明のデータ表示装置は、ハイパーテキストの表示画面からそのハイパーテキストデータに対応する画像データを生成、表示し、次の表示データとして指定する構成としたので、過去に訪問したＷｅｂページを再訪問したい場合に、時間や手間をかけずに目的のＷｅｂページに到達することができる。
【００４９】また、本発明のデータ表示プログラムを記録した記憶媒体は、コンピュータを、ハイパーテキストの表示画面からそのハイパーテキストデータに対応する画像データを生成、表示するように動作させ、次の表示データとして指定することができるように動作させる構成としたので、コンピュータを、過去に訪問したＷｅｂページを再訪問したい場合に、時間や手間をかけずに目的のＷｅｂページに到達することができるように動作させることができる。
【図面の簡単な説明】
【図１】　本発明のデータ表示装置の原理構成を示すブ

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ロック図である。

【図２】　図１に示したデータ表示装置による、表示中のハイパーテキストデータに対応する画像データの保存の手順を示すフローチャートである。

【図３】　図１に示したインデックス情報保持手段の保持する情報テーブルの例を示す図である。

【図４】　本発明のデータ表示装置を利用した表示画面の第１の例である。

【図５】　本発明のデータ表示装置を利用した表示画面の第２の例である。

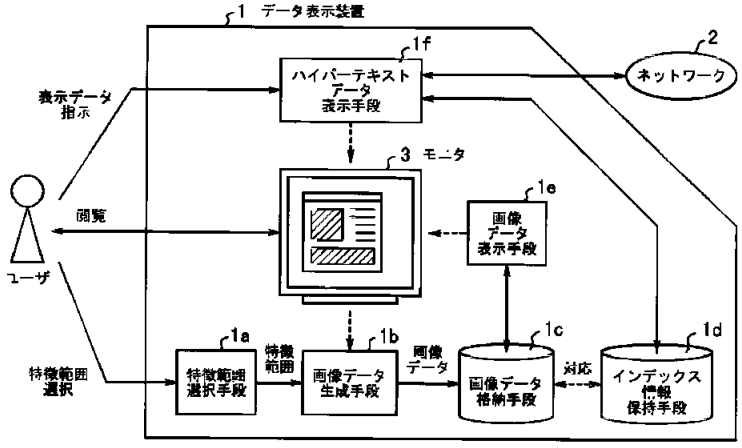
【図６】　図５に示した表示画面に、訪問したＷｅｂページから生成したアイコンを、履歴領域に表示する手順を示したフローチャートである。

【図７】　本発明のデータ表示装置１を利用した表示画面の第３の例である。

【符号の説明】

１　データ表示装置
１ａ　特徴範囲選択手段
１ｂ　画像データ生成手段
１ｃ　画像データ格納手段
１ｄ　インデックス情報保持手段
１ｅ　画像データ表示手段
１ｆ　ハイパーテキストデータ表示手段
２　ネットワーク
３　モニタ

【図１】



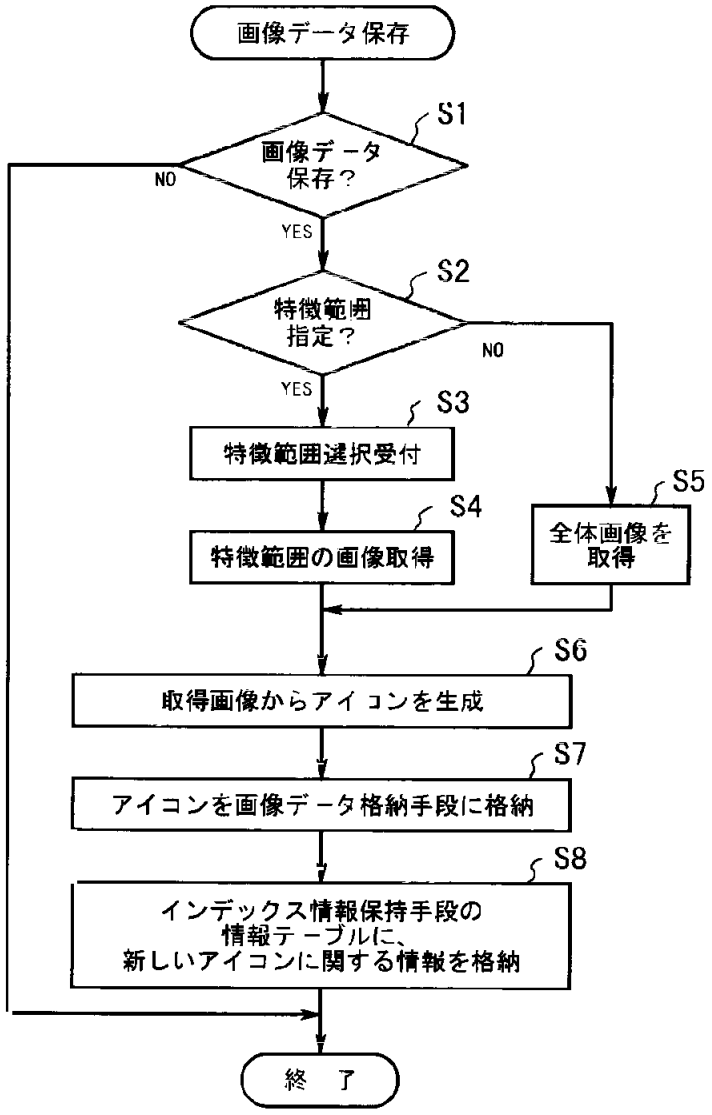
【図３】

10 情報テーブル

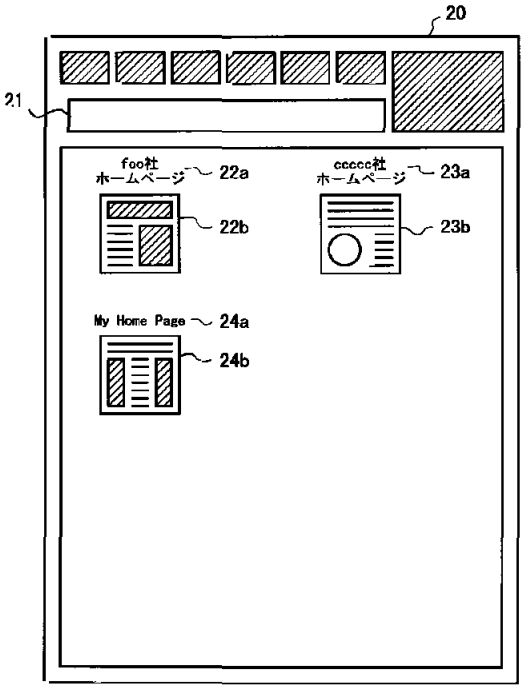
URL	タイトル	画像ファイル名	登録日
http://www.foo.co.jp /baa/index.ftm	foo社 ホームページ	icom1.gif	1997.1.1 12:07:28
http://www.cccco.co.jp /index.html	cccco社 ホームページ	icom2.gif	1996.4.1 14:51:03
file://home/html/ index.html	My Home Page	/home/html/icom3.gif	1997.3.14 22:23:20

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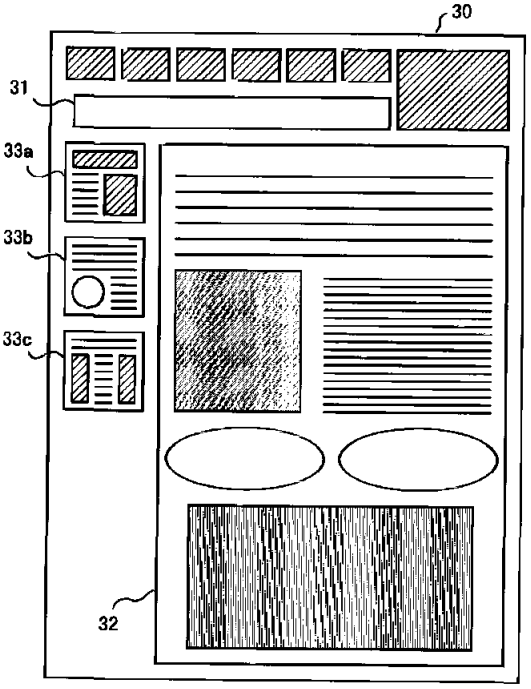
【図２】


画像データ保存
S1
画像データ保存？
NO
YES
S2
特徴範囲指定？
NO
YES
S3
特徴範囲選択受付
S4
特徴範囲の画像取得
S5
全体画像を取得
S6
取得画像からアイコンを生成
S7
アイコンを画像データ格納手段に格納
S8
インデックス情報保持手段の情報テーブルに、新しいアイコンに関する情報を格納
終　了

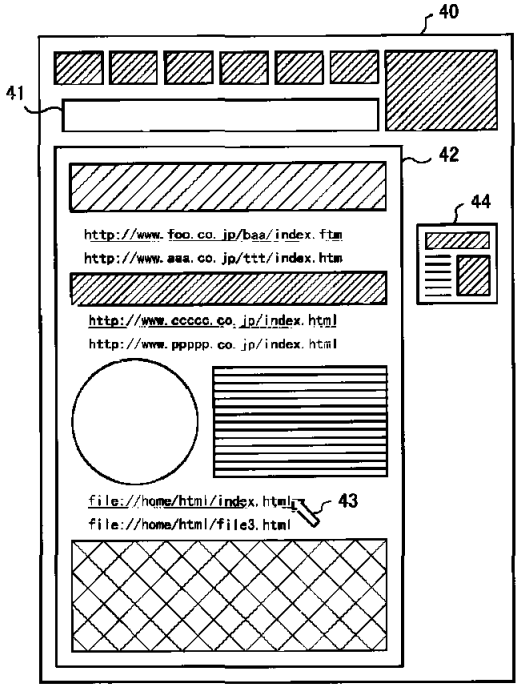
【図４】


20
21
foo社
ホームページ
22a
22b
ccccc社
ホームページ
23a
23b
My Home Page
24a
24b

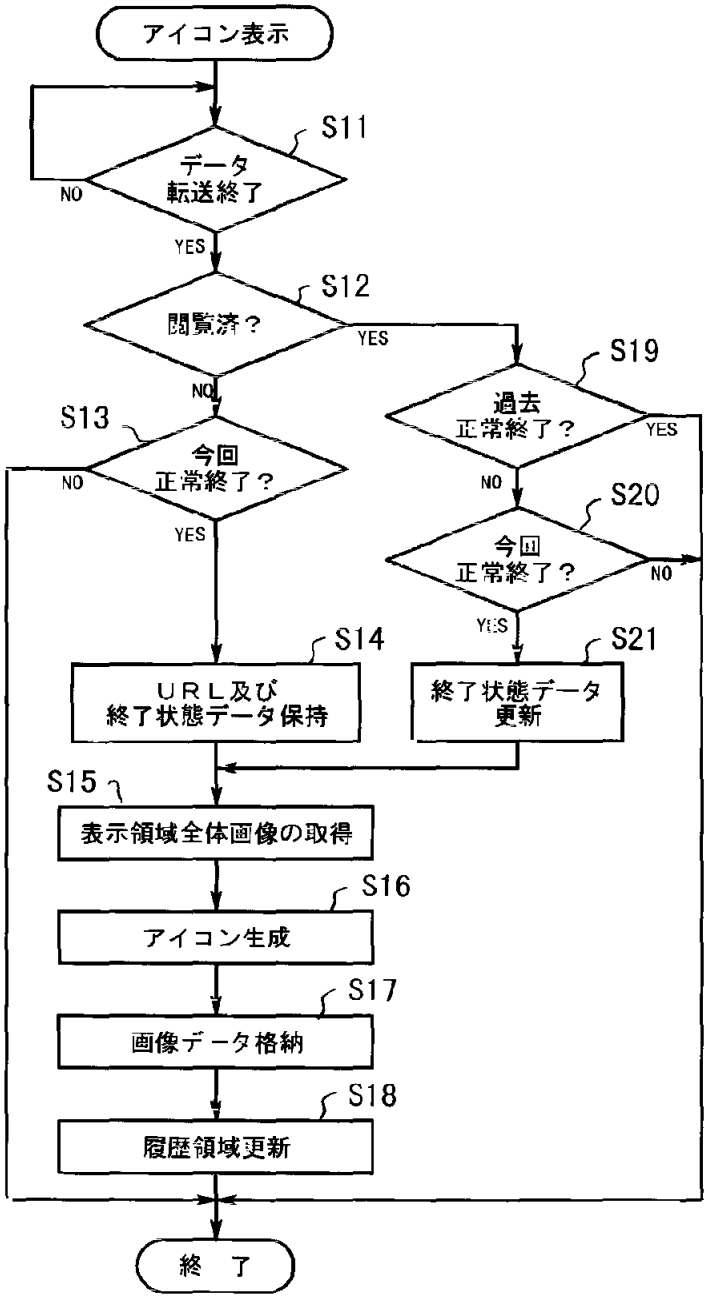
【図５】


30
31
33a
33b
33c
32

【図７】


40
41
42
44
http://www.foo.co.jp/baa/index.ftm
http://www.aaa.co.jp/ttt/index.htm
http://www.ccccc.co.jp/index.html
http://www.ppppp.co.jp/index.html
file://home/html/index.html
43
file://home/html/file3.html

【図6】


アイコン表示
S11
データ
転送終了
NO
YES
S12
閲覧済？
YES
NO
S19
過去
正常終了？
YES
NO
S13
今回
正常終了？
NO
YES
S20
今回
正常終了？
NO
YES
S14
URL及び
終了状態データ保持
S21
終了状態データ
更新
S15
表示領域全体画像の取得
S16
アイコン生成
S17
画像データ格納
S18
履歴領域更新
終　了

Espacenet

Bibliographic data: JPH11272454 (A) — 1999-10-08

DEVICE FOR DISTRIBUTING SOFTWARE THROUGH COMPUTER NETWORK

Inventor(s): DONOHUE SEAMUS ± (DONOHUE SEAMUS)

Applicant(s): IBM ± (INTERNATL BUSINESS MACH CORP <IBM>)

Classification: - international: ***G06F11/28; G06F13/00; G06F9/06; G06F9/445; H04L29/06; H04L29/08;*** (IPC1-7): G06F9/06
- cooperative: **G06F8/65 (EP); H04L29/06 (EP); H04L67/34 (EP);** H04L63/126 (EP); H04L69/329 (EP)

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Abstract of JPH11272454 (A)

PROBLEM TO BE SOLVED: To considerably reduce cost and labor on a software distributor by software-updating a computer program through the use of a retrieved software resource. SOLUTION: When an up data component 20 is executed, a product identifier and a product version release number, which are obtained at the time of introduction, are supplied to a search engine 90 as search arguments. Then, search on update which can be used for a specified software product is started. The update component 20 accesses to a list 60 by using URL and down-loads a file containing the part of the list 60 of update on the specified product, which can be used, is down-loaded. Then, comparison is executed between the identifier and the release number of the software product which is introduced at present and update which is listed in a retrieved file and which can be used. The comparison decides a possible growing path from a present version to an update version.

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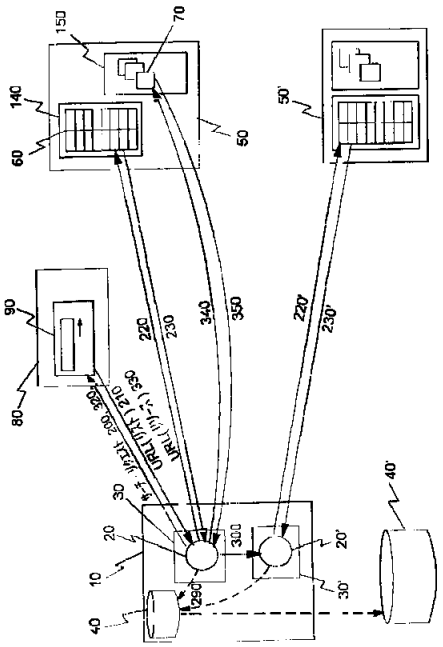
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(54)【発明の名称】　コンピュータ・ネットワークを通してソフトウエア更新を配布する装置

(57)【要約】

【課題】コンピュータ・プログラムの更新を自動化するための方法及び機構を提供する。

【解決手段】通常、コンピュータ・プログラムは、ユーザが自分のコンピュータ・システム上に導入するために記録媒体を通して配布される。プログラムに関する補修、追加、及び新バージョンが行われる度に、ユーザがその更新を導入することを可能にするために、新しいＣＤ又はディスケットがユーザに配布される必要がある。最近では、或るソフトウエアはネットワークを介してダウンロード可能になったが、ユーザが更新情報を得てそれらを導入する労力、及びソフトウエア・ベンダが更新情報を分配するための労力は望ましくないままである。本発明は、コンピュータ・プログラムと関連付けられたアップデータ・エージェントを提供する。



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【特許請求の範囲】
【請求項１】コンピュータ・ネットワーク内で接続されたコンピュータ・システム上に導入された１つ又は複数のコンピュータ・プログラムを更新する場合に使用するためのアップデータ・コンポーネントにして、
１つ又は複数の必要なソフトウエア・リソースを検索するために、前記１つ又は複数の必要なソフトウエア・リソースが設けられた前記ネットワーク内の１つ又は複数の識別可能なロケーションへのアクセスを開始するための手段と、
１つ又は複数の検索されたソフトウエア・リソースを使用して前記導入されたコンピュータ・プログラムの１つにソフトウエア更新を施すための手段と、
を含むアップデータ・コンポーネント。
【請求項２】使用可能な関連の更新リソースを識別するために、前記１つ又は複数の識別可能なロケーションから得られるソフトウエア更新リソースと前記コンピュータ・システム上に導入された１つ又は複数のコンピュータ・プログラムとの比較を行い、前記使用可能な関連の更新リソースと前記コンピュータ・システムにおいて記憶された事前定義の更新基準とを比較するための手段と、
ソフトウエア・リソースを自動的にダウンロードし、前記事前定義の更新基準を満たすソフトウエア更新を施すための手段と、
を含む請求項１に記載のアップデータ・コンポーネント。
【請求項３】前記事前定義の更新基準は適用可能なソフトウエア製品ユーザ・ライセンスによる許容し得る更新の範囲の定義を含む請求項２に記載のアップデータ・コンポーネント。
【請求項４】前記ソフトウエア更新を施すための手段は前記事前定義の更新基準に従って及び更新のためにダウンロードされたソフトウエア・リソースの一部である導入のためのコンピュータ読み取り可能な命令に従って、使用可能な関連のソフトウエア・リソースを導入するための手段を含む請求項２又は請求項３に記載のアップデータ・コンポーネント。
【請求項５】１つ又は複数のロケーションを識別するための情報が前記アップデータ・コンポーネントによって保持され、コンピュータ・プログラム製品の製品識別子を含み、
前記アップデータ・識別子は前記製品識別子をサーチ・エンジンに供給するように適応し、
前記製品識別子は前記サーチ・エンジンがネットワーク・ロケーションを識別するために使用するためのサーチ・パラメータとして働く、
請求項１乃至請求項４の何れかに記載のアップデータ・コンポーネント。
【請求項６】前記アップデータ・コンポーネントは、使用可能なソフトウエア更新リソースのリストが保持されているネットワーク・ロケーションを前記サーチ・エンジンが識別することに応答して前記リスト及び前記リソースの前提ソフトウエア製品をダウンロードし、
前記リスト及び前提ソフトウエア製品と前記コンピュータ・システム上に導入されたコンピュータ・プログラムとを比較し、
前記前提ソフトウエア製品に対する更新が必要である場合に前記前提ソフトウエア製品に対する更新をリクエストするように適応する請求項５に記載のアップデータ・コンポーネント。
【請求項７】前記アップデータ・コンポーネントはコンピュータ・システム上に前記アップデータ・コンポーネントを導入するための機械読み取り可能な導入命令を有し、
前記導入命令は前記アップデータ・コンポーネントが他のアップデータ・コンポーネントによって識別可能及び接触可能であるように他のアップデータ・コンポーネントによってアクセスし得るリポジトリによって前記アップデータ・コンポーネントを登録するための命令を含む、
請求項１乃至請求項６の何れかに記載のアップデータ・コンポーネント。
【請求項８】前記アップデータ・コンポーネントは、現在のアップデータ・コンポーネントがそれのコンピュータ・プログラムを更新することを相補的なコンピュータ・プログラムがリクエストする時に介するＡＰＩを含み、
前記現在のアップデータ・コンポーネントは更新リクエストに応答してそれのコンピュータ・プログラムを更新するために更新方法を呼び出すように適応し、
前記現在のアップデータ・コンポーネントは、それのコンピュータ・プログラムが前提コンピュータ・プログラムの更新を必要とする時、システム発生されたリクエストをそれのコンピュータ・プログラムの前記前提コンピュータ・プログラムのアップデータ・コンポーネントに送るように適応する請求項６又は請求項７に記載のアップデータ・コンポーネント。
【請求項９】前記更新を施すための手段は存在する導入済みのソフトウエアを修正する訂正及び機能拡張ソフトウエアを導入し、
導入されたソフトウエアを置換する導入済みのソフトウエアのアップグレードしたバージョンを導入するように適応する請求項１乃至請求項８の何れかに記載のアップデータ・コンポーネント。
【請求項１０】コンピュータ読み取り可能な記録媒体上に記録されたコンピュータ・プログラム・コードを含み、
前記コンピュータ・プログラム・コードは前記コンピュータ・プログラム・コードを更新するための請求項１乃

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至請求項９の何れかに記載された統合アップデータ・コンポーネントを含むコンピュータ・プログラム製品。
【請求項１１】コンピュータ読み取り可能な記録媒体上のレコーダルのためのコンピュータ・プログラム・コードを含み、
前記コンピュータ・プログラム・コードは前記コンピュータ・プログラム・コードを更新するための請求項１乃至請求項９の何れかに従って統合アップデータ・コンポーネントを含むコンピュータ・プログラム製品。
【請求項１２】コンピュータ・ネットワーク内で接続されたコンピュータ・システム上に導入されたコンピュータ・プログラムを自動的に更新するための方法にして、
前記コンピュータ・プログラムを更新する場合に使用するためのアップデータ・コンポーネントを前記コンピュータ・システムに配布するステップと、
前記コンピュータ・プログラムを現在のバージョンから更新済みのバージョンに形成するためのダウンロード可能なソフトウエア・リソースを第１ネットワーク・ロケーションに提供するステップと、
前記コンピュータ・システムにおいて実行される時、前記アップデータ・コンポーネントが遂行するように適応するステップであって、
（ａ）前記アップデータ・コンポーネントによって保持された情報から識別可能であり、又は前記アップデータ・コンポーネントによってアクセス可能であって、前記ソフトウエア・リソースが配置される前記第１ネットワーク・ロケーションへのアクセスを開始するステップと、
（ｂ）前記ソフトウエア・リソースを前記コンピュータ・システム上にダウンロードするステップと、
（ｃ）ダウンロードされたソフトウエア・リソースを使用して前記コンピュータ・プログラムを前記現在のバージョンから前記更新済みのバージョンに更新するステップと、
を含む方法。
【請求項１３】前記アップデータ・コンポーネントにおける情報から識別可能な第２ネットワーク・ロケーションに前記コンピュータ・プログラムにとって使用可能な更新のコンピュータ読み取り可能なリストを設けるステップを含み、
前記アップデータ・コンポーネントによって、前記第１ネットワーク・ロケーションをアクセスする前に遂行されるように適応するステップにして、
前記リストを検索するために前記第２ネットワーク・ロケーションへのアクセスを開始するステップと、
使用可能な関連の更新リソースを識別するために、前記リストを読み取り、リストされた使用可能な更新と前記第１コンピュータ・システム上の前記コンピュータ・プログラムとの比較を行うステップと、
前記使用可能な関連の更新リソースと前記アップデータ・コンポーネントにおける事前定義された更新基準とを比較し、前記更新基準を満たす更新のための使用可能な関連の更新リソースを識別するステップと、
を含む請求項１２に記載の方法。
【発明の詳細な説明】
【０００１】
【発明の属する技術分野】本発明は、コンピュータ・ネットワークを介してソフトウエアを配布すること及びコンピュータ・ネットワークを介してソフトウエア機能強化、訂正、又は新バージョンの情報をアクセスするための機構に関するものである。コンピュータの「ネットワーク」は、相互に情報を交換することができる任意の数のコンピュータであってもよく、或いは任意の構成で配列され、任意の接続方法を使用するものでよい。
【０００２】
【従来の技術】通常、ソフトウエアは、ディスケット又はコンパクト・ディスクのような記録媒体上に記録されたプログラムの形式で配布されている。顧客は、記録媒体及びその媒体上に記録されたソフトウエアを使用するライセンスを買い、しかる後、その記録媒体から自分のコンピュータ上にそのソフトウエアを導入する。事前記録された記録媒体の製造及び配布は高価なものであり、このコストは顧客に課せられるであろう。又、顧客がソフトウエアを注文又は購入すべく努力することは望ましいことではない。
【０００３】ほとんどのソフトウエアは、そのソフトウエアがユーザに送達された後、バグを訂正するために及び新たな特徴的機能を追加するために頻繁に更新されるので、その配布コストが特に問題である。或るタイプのソフトウエア製品は毎年何回も更新される。ソフトウエアがアップグレードされ又は訂正される度にすべての登録メンバに新しいディスケット又はＣＤを送るコストは禁止的に高価であり、しかも、多くの顧客は自分のソフトウエアが最新のものであって最高パフォーマンスのバージョンであること、及びエラーのないものであることを望んでいるけれども、すべての顧客があらゆる更新を受けることを望んでいるわけではない。例えば、ベンダは顧客が使うことを望んでいるものよりも多くのものを更新に対して課することがあり、或いは、新しいバージョンは顧客が買うことを望んでいない他の前提ソフトウエア製品のアップグレードを要求することがあり、或いは、新しいバージョンに移行することは或る期間の間顧客のシステムを不能にするデータのマイグレーションを必要とすることがある。
【０００４】従って、ソフトウエア・ベンダは、自分のソフトウエアの新しいバージョンの可用性を公表し、最新のアップグレードされたバージョンを購入すべきかどうかの決定を顧客に委ねる傾向がある。しかし、或るソフトウエア製品に関しては、ソフトウエア・ベンダが、自分のソフトウエア製品に対するアップグレードされた

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バージョン又は少なくともエラー訂正及び機能強化コード（「パッチ」として知られている）を先行学習を目的に送り出すことが適している。特定の企業のポリシがどのようなものであろうと、これらの種々なタイプのソフトウエア更新のリリースにはかなりのコストと労力が伴う。

【０００５】益々、ソフトウエア流通業者は、自分のソフトウエアに対する更新の可用性を公表するための機構として、更に或るソフトウエアを配布ための機構としてインターネットを使用しようとしている。インターネットは、単一のオーナ又はコントローラを持たない大型及び小型の公衆及び私設ネットワークを含むコンピュータ・ネットワークのネットワークであり、そこでは、インターネット・プロトコル・ソフトウエアを走らせる如何なる接続されたコンピュータもセキュリティ・コントロールを受け、インターネットに接続された他の任意のコンピュータと情報を交換することができる。相互に接続することに同意したネットワークのこの複合集合体は単一の伝送媒体に依存するのではない（例えば、双方向通信は衛星回線、光ファイバ中継回線、電話回線、ケーブル・テレビ線、及びローカル無線回線を介して生じ得る）。

【０００６】ワールド・ワイド・ウェブ・インターネット・サービス（以下では、「ウェブ」と呼ぶ）は、極めて多数のネットワーク・アクセス可能な情報へのアクセスを提供し、インターネット接続されたコンピュータ相互間の低コスト通信を提供し得る広域情報検索機能である。インターネット・アクセスを有するソフトウエア・ベンダの顧客が製品の入手可能な最新バージョンをリストを手操作でチェックし、しかる後、それらの製品をオンラインで注文することが知られている。これは、ソフトウエアを注文する場合に伴う書類事務作業の量を減少させる（しかも、これは他の製品に同様に適用可能である）。或る企業は自分のソフトウエアがサーバ・コンピュータにおけるウェブ・サイトから顧客自身のコンピュータに直接にダウンロードされることも可能にしている（しかし、このダウンロード機能は、セキュリティ上の理由で及びパッチを適用することが前提ソフトウエアに対する如何なる変更も又は如何なるデータ・マイグレーションも必要としない傾向があるため、バグ修復パッチ、低コスト・プログラム、及びプログラムのデモ・コピー又は評価コピーに限定されることが多い）。

【０００７】ワールド・ワイド・ウェブに関する情報は、Andrew Ford 氏による「ウェブをスピンする（Spinning the Web）」と題した文献（ロンドンの International Thomson Publishing 社により１９９５年発行）、及び John December 及び NeilRandall 氏による「解放されたワールド・ワイド・ウェブ（The World Wide Web Unleashed）」と題した文献（インディアナポリスの SAMS Publishing 社より１９９４年発行）において見ることができる。WWWの使用は、それと融通性、携帯性、及び使用の容易性との結合のため、対話式マルチメディア・プレゼンテーション機能と結合されて爆発的な速度で成長しつつある。WWWは、インターネットに接続され且つ適正なソフトウエア及びハードウエア構成を有する任意のコンピュータが、インターネット上のどこかで利用可能にされた任意のドキュメントを検索することを可能にする。

【０００８】ソフトウエアの注文及び配布のためのインターネットのこのような使用の増加はソフトウエア・ベンダのためのコストを節約したが、多くのソフトウエア製品に関して、ベンダは、自分のウェブ・ページを適切な時間にすべての顧客がアクセスするということに完全に依存することはできず、従って、付加的な更新機構が望ましい。

【０００９】製造コスト及び配布媒体と関連した配布コストの問題の他に、顧客がソフトウエア製品の最良の及び最新のバージョン及びリリースを有するかどうかを知るために、及び更新を得てそれらの更新を施すために、一般には、顧客はかなりの先行学習的を目的に努力を行う必要があるという問題が存在する。この努力は、インターネットの接続が得られる時には少なくなるけれども、ウェブ・サイトの先行学習を目的にしたチェックを必要とすることさえも多くのユーザにとって望ましいことではない。これは、それがチェックを行うための注意点を設定すること、ソフトウエア提供者のウェブ・サイトを見つけてアクセスすること、最新のソフトウエア・バージョン及びパッチがリストされているウェブ・ページにナビゲートするすること、及び関連製品の更新が得られるかどうかを決定するために及びそれが注文されるべきかどうかを決定するために、導入済みのソフトウエアとこのリスト内のバージョン及びリリース番号とを比較することを伴うためである。更新を注文することとそれが使用のために利用可能になることとの間に望ましくない遅延が存在することがあり、しかも、たとえその更新が直ちにダウンロードされ得るものであっても、ソフトウエア製品のアップグレードされたバージョンに移行するというタスクは困難であることがある。これらのステップは、アプリケーション、コントロール・パネル、拡張子、ユーティリティ、及びシステム上にインストールされたシステム・ソフトウエア・プログラム毎に繰り返されなければならない場合、更新は非常に冗長となり、時間浪費的なものになる。従って、手操作の更新は十分に又は規則的に遂行されない傾向がある。

【００１０】ソフトウエア・ベンダは、自分のソフトウエアのどのバージョンが各顧客によって使用されようとしているかを知らないと云う関連の問題がある。たとえ、それらのソフトウエアの最新のバージョンがすべての登録された顧客に精力的に（ＣＤを送出することによって又はサーバ制御のオンライン配布によって）配布さ

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れたとしても、顧客が更新の正しい導入の面倒を見るという保証は依然としてない。これはソフトウエア開発者の或る自由を取り去る。なぜならば、ソフトウエア開発者は、一般に、自分のソフトウエアの前のバージョンと逆互換性を維持しなければならないか、或いはアップグレードしないユーザに対して別の譲歩を行わなければならないためである。

【００１１】クライアント／サーバ・コンピューティング環境では、サーバ側におけるシステム・アドミニストレータが自分の判断でソフトウエア製品の新しいバージョンをクライアント・システムにおけるエンド・ユーザに課することが知られている。しかし、これはアドミニストレータがクライアントのシステムを更新するためのアクセス制御を有する場合に可能であったにすぎない。これは、アップグレードが課せられることを望まないユーザを考慮するものではない。

【００１２】更なる関連の問題として、ソフトウエア製品は、それが働くことを可能にするために他のソフトウエア製品を必要とすることが多いということがある。例えば、アプリケーション・プログラムは、一般に、特定のオペレーティング・システム対して書かれる。１つの製品の特定のバージョンは他の製品の特定のバージョンを必要とすることが多いので、他の製品をアップグレードすることなく第１の製品をアップグレードすることは、その結果として第１の製品が働かなくなることがある。

【００１３】「インサイダ更新２.０（Insider Updates 2.0）」は、インサイダ・ソフトウエア社（Insider Software Corporation）から商業的に入手可能なソフトウエア・アップデータ・ユーティリティである。それは、ユーザによってトリガされる時、ユーザのアップル・マッキントッシュ・コンピュータにおける導入済みソフトウエアのインベントリを作成し、これと利用可能なソフトウエア更新パッチ（しかし、アップグレードされた製品バージョンではない）のデータベースとを比較し、関連の更新をダウンロードする。「インサイダ更新」は関連の更新を見つけるための責任をユーザからデータベースの保守側に移すが、更新パッチへのアクセスは個々のデータベースへの接続に限定され、更新を見つけるためにインターネット及びオンライン・サービスをスキャンするタスク及び利用可能な更新のデータベースを維持するタスクはかなりの先行学習を目的に努力することを必要とする。「インサイダ更新」は更新を導入せず、或いはユーザのソフトウエアを如何なる方法でも修正しない。「インサイダ更新」は非同期化された前提ソフトウエア製品の問題を処理しない。

【００１４】導入されたソフトウエアを決定するためにコンピュータ・システムの選択されたボリュームをスキャンし、アップル・マッキントッシュに対するソフトウエア・タイトルのデータベースに接続するが更新をダウンロードしない同様の製品は、シンメトリ・ソフトウエア社（Symmetry Software Corporation）の「バージョン・マスタ１.５（Version Master 1.5）」である。

【００１５】別の更新方法がシャーマン社（Shaman Corporation）からの「シャーマン更新サーバ１.１.６（Shaman Update Server 1.1.6）」によって提供される。それは、ユーザがＰｏｗｅｒＭａｃファイル・サーバ上に導入するＣＤ－ＲＯＭ（毎月更新され、配布される）と、インベントリ登録され、更新されるべき各マッキントッシュ・コンピュータのためのクライアント・ソフトウエアと、現在の更新のライブラリを記憶するＦＴＰサイトをアクセスするための手段とより成る。「シャーマン更新サーバ」は、ネットワーク結合されたコンピュータのインベントリを作成し、ソフトウエアの最新バージョンを各コンピュータにダウンロード及び配布する。ネットワーク・アドミニストレータはこのインベントリ及び更新プロセスを中心的に制御する。ＣＤ－ＲＯＭの配布は前述の費用の問題を有する。

【００１６】

【発明が解決しようとする課題】本発明の第１の局面によれば、コンピュータ・ネットワーク内で接続されたコンピュータ・システム上に導入された１つ又は複数のコンピュータ・プログラムを更新する場合に使用するためのアップデータ・コンポーネントが提供される。そのアップデータ・コンポーネントは、１つ又は複数の必要なソフトウエア・リソースが置かれているそのネットワーク内の１つ又は複数のロケーションを識別するための情報、前記１つ又は複数の必要なソフトウエア・リソースを検索するために前記１つ又は複数のロケーションへのアクセスを開始するための手段、及び前記１つ又は複数の検索されたソフトウエア・リソースを使用して前記導入されたコンピュータ・プログラムの１つにソフトウエア更新を施すための手段を含む。

【００１７】本発明によるアップデータ・コンポーネントは、関連するソフトウエア製品のアップグレード及びその製品におけるバグの修復を、更新基準に関する初期の同意後、ユーザによる如何なる対話も必要とすることなく自動的に制御することが望ましい。更新基準は、製品のライセンシング条件と関連付けることが可能である。これは、エラーがユーザの観点から自動的に訂正される場合、適切な更新ポリシを選んだユーザがいつも最も最新の利用可能なソフトウエアを持つことができることを保証する。ユーザは、アップデータ・コンポーネントがこれを処理するので、ソフトウエア更新が生じる場所、それらを得る方法、又はそれらを導入する方法を知る必要がない。ソフトウエア・ベンダは、エラーを訂正するために特別のＣＤ又はディスケットを出荷する必要がなくなるし、更なる特徴を与える必要もなくなる。ベンダは、顧客が新しい製品の特徴を早く及び努力することなく受けるように、漸次的増加を基準にして容易にコ

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ードをリリースすることができる。

【００１８】本発明の望ましい実施例によるアップデータ・コンポーネントはローカル・コンピュータ・システムにおける利用可能なソフトウエア更新と導入済みソフトウエアとの間の比較を行い、どれが導入されたソフトウエアと関連しているかを識別し、利用可能な関連の更新とローカル・コンピュータ・システム上に保持された更新基準（これらの更新基準は現在のシステム又はシステム・ユーザに対して事前定義される）とを比較し、しかる後、その事前定義された基準を満足するソフトウエア更新を自動的にダウンロードし、その更新を施す。

【００１９】このように、ソフトウエア更新を自動的に施すことは、事前定義された更新基準と、更新を必要とするプログラム・コードと共にダウンロードされる導入のための命令との両方に従って、利用可能なソフトウエア・パッチ及び／又はアップグレードされたバージョンを導入することを伴う。ダウンロードされた命令を動的に実行するという特徴は、アップデータ・コンポーネントにより処理可能な更新のタイプに関連して融通性を与える。それは、単一の汎用アップデータ・コンポーネントを多くの種々のソフトウエア製品と共に使用することを可能にするためにも使用可能である。別の方法として、或るソフトウエア更新のための導入命令を、アップデータ・コンポーネント内で事前符号化してもよい。その「ソフトウエア・リソース」は、一般に、プログラム・コード、機械読み取り可能な導入命令、及びアドレス情報のような任意の必要なデータ変更の組合せである。

【００２０】ネットワーク・ロケーションを識別する場合に使用するための情報は明示的ネットワーク・ロケーション情報であってよく、或いは、それはソフトウエア・ベンダ名又はそのロケーションを識別するためのサーチ・パラメータとして使用可能な他の任意の情報であってもよい。望ましい実施例では、その情報は、その製品に更新を施すためのソフトウエア・リソースを記憶された関連のネットワーク・ロケーションを識別するためのサーチを開始するために、アップデータ・コンポーネントによってサーチ・エンジンに供給される製品識別子である。このサーチは、アップデータ・コンポーネントによって呼び出される通常のインターネット（又は他のネットワーク）サーチ・エンジンによって遂行可能である。サーチ・エンジンがネットワーク・ロケーションの識別情報を戻す時、アップデータ・コンポーネントは利用可能な関連の更新のリストをこのロケーションから検索し、ローカル的に保持されたソフトウエア製品バージョン及び事前定義された更新基準に関してそのリストをチェックし、それらの基準が満たされる場合、更新リソースを検索してローカル・コンピュータ・システム上に与える。

【００２１】本発明の望ましい実施例によれば、ソフトウエア更新を形成すべきソフトウエア・リソースに対して、標準化されたネーミングの常套手段が使用され、しかもアップデータ・コンポーネントは、ネットワーク・オペレーティング・システムのファイル・システムにおいてこれらのリソースに関してサーチすることができる。これは、ネットワーク可用性問題を緩和するためにソフトウエア・リソースが複数のロケーションに記憶されることを可能にし、開発者及び配布者がそれらのエラー修復パッチ及びソフトウエア製品のアップグレードされたバージョンを提供することを容易にする。例えば、開発者は、それらのＬＡＮにおける既知のファイル名を使用した公衆ネットワーク・ディスク・ドライブを介して、又は既知のキー・ワードを使用するためにサーチ可能な公開されたユニフォーム・リソース・ロケータ（ＵＲＬ）を介して得られる新しいソフトウエア更新を作ることができる。

【００２２】アップデータ・コンポーネントは、それらが更新するために働く製品の不可欠な部分であることが望ましい。従って、アップデータ・コンポーネントは、ソフトウエア製品の初期バージョンと共にソフトウエア・ユーザに配布される。しかる後、アップデータ・コンポーネントは、プリセット基準（更新に関する相次ぐサーチの相互間の期間のような、及び特定のユーザがすべての更新を受けることを選択したか、或いは、例えば、パッチの更新を受けるが置換製品バージョンを受けないというような或る更新だけを受けることを選択したか）に従ってソフトウエア更新を自動的に得て、それを施す。

【００２３】アップデータ・コンポーネントの更新機能は更新そのものを含むことが望ましい。実に、アップデータ・コンポーネントが、それの関連のソフトウエア製品を更新するためのソフトウエア・リソースを求めてそれがサーチする前に、それ自身に対する更新を得るために適正なネットワーク・ロケーションをいつもアクセスするように、更新基準はセット可能である。

【００２４】本発明によるアップデータ・コンポーネントは、前提製品が利用可能であるかどうかをチェックするための手段を含むことが望ましく、しかも、現在の製品に対する更新パスを選択するプロセスの部分として、必要なバージョンに同期化されることが望ましい。望ましい実施例では、それらの可用性をチェックすること以外に、アップデータ・コンポーネントは、これが同意済みの更新ポリシである場合、前提ソフトウエア製品と関連したアップデータ・コンポーネントにそれらのソフトウエアに対する更新を開始するように命令することができる。各ソフトウエア製品のアップデータ・コンポーネントが前提製品に対する更新をトリガすることができる場合、更新は、ユーザがその更新に関与することなく又はその更新を知ることを必要とすることなく、導入されたソフトウエア製品のセットを通して波及することができる。この機能は、更新が行われる時に非同期ソフトウ

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エア・バージョンの問題を扱わない従来のアップデータ・エージェントに比べて大きな利点であり、エンド・ユーザのためのタスクを遂行するために配布オブジェクト相互間のコラボレーションに関してソフトウエア業界における増加する動向を支援する。

【００２５】アップデータ・コンポーネントは、暗号アルゴリズムを使用して、ダウンロードされたソフトウエアの真偽を検査するための機構を含むことも望ましいことである。これは、専用の、パスワード保護された、及び別の方法で保護されたソフトウエア・リソース・リポジトリ・サイトを必要ないものにする。ソフトウエア・リソースは、それらが正しく名前を付けられ、ネットワーク・サーチ・エンジンに通知される限り、ネットワーク上のどこにあってもよい。

【００２６】従って、本発明は、ソフトウエア更新を得るための及びその更新を施すためのエージェント及び方法を提供する。この方法は、ソフトウエア更新を配布及び追跡するソフトウエア・ディストリビュータに関するコスト及び労力を大幅に減らし、導入されたソフトウエアに更新を施すシステム・アドミニストレータ及びエンド・ユーザに関する労力を大幅に減らす。

【００２７】

【課題を解決するための手段】図１に示されるように、アップデータ・コンポーネント２０が、通常のネットワーク接続されたコンピュータ・システム１０のシステム・メモリに、関連のコンピュータ・プログラム３０と共に導入される。そのアップデータ・コンポーネントは、ローカル・コンピュータ・システムのユーザが導入するために、記憶媒体（ディスケット又はＣＤ）によってユーザに配布されてもよく、或いは他のコンピュータ・システムから明示的にダウンロードされてもよい。本発明の望ましい実施例では、アップデータ・コンポーネントは、それらが保守することを意図された（又は、それとは別に、同じ機構を介して及びそれらが関連したプログラムと同時に配布される）コンピュータ・プログラム内に統合される。アップデータ・コンポーネントは、ユーザがそれを取得し又は活性化するために如何なる特別のアクションを取ることも必要ないように、その関連のプログラムの導入手順の一部として導入される。各アップデータ・コンポーネントの導入は、そのアップデータ・コンポーネントがオペレーティング・システムと共にそれ自身を登録することを含み（更に一般的には、アップデータ・コンポーネントは、中心的な又は分散したリポジトリ４０を登録し）、従って、少なくともローカル・システムにおけるアップデータ・コンポーネントは、レジスタ・エントリにおけるアドレス情報及び／又はそれらの製品識別子によって識別可能であり、制御可能である。

【００２８】本発明の望ましい実施例の特徴は、各アップデータ・コンポーネントが、他のソフトウエア製品を管理する他のアップデータ・コンポーネントを見つけることができ、他のアップデータ・コンポーネントによって見つけられ、しかも他のアップデータ・コンポーネントとコミュニケートすることができるということである。この機能は、一方のアップデータ・コンポーネントが他方のアップデータ・コンポーネントを、前者が後述のようにそれ自身の更新を実行する前に特定のレベルに更新するために必要とする時使用される。これは、アップデータ・コンポーネントがオペレーティング・システム又は他のリポジトリ４０内に登録することによって可能にされる。

【００２９】望ましい実施例では、各登録エントリは２つの項目、即ち、アップデータ・パス及びアップデータ・ネットワーク・アドレスを含む。そのパスは、アップデータ・コンポーネントが、ブート・アップ・プロセス中、オペレーティング・システムによって立ち上げられるように、アップデータ・コンポーネント・バイナリ・ファイルのロケーションである。これは、アップデータ・コンポーネントがいつもアクティブであり、作業を遂行するか又は他のアップデータ・コンポーネントからそれに発生されたリクエストを処理する準備ができていることを保証する。ネットワーク・アドレスは、ネットワークにおける他のコンピュータ・システム上のコンポーネントによって、ネットワーク上のそれを見つけるために及びそれとコミュニケートするために使用されるアドレスである。

【００３０】ＵＮＩＸ（商標）オペレーティング・システム及びＴＣＰ／ＩＰプロトコル・スイートを使用するそのような登録の例は、アップデータ・コンポーネントに対する次のようなネーミング規約

SoftwareVendorName+_product_name+_updater

を使用する。

【００３１】パス登録は、パス・エントリを記憶するためにＵＮＩＸ/ｅｔｃ/ｉｎｉｔｔａｂファイルに入れられる。例えば、ＩＢＭ社のＤＢ２（商標）データベース製品に対するアップデータ・コンポーネントが導入される時、それは次のようなフォーム、即ち、

ibm_db2pe_updater:2:respawn:/usr/abin/db2_updater_binary

という /ｅｔｃ/ｉｎｉｔｔａｂファイルにエントリを加えるであろう。

【００３２】コンピュータ・システムがリブートする度に、それはこのファイルを読み取り、ＤＢ２アップデータ・コンポーネントを立ち上げるであろう。アップデータ・エントリにおける「ｒｅｓｐａｗｎ」キーワードは、アップデータ・コンポーネント・プロセスが一般的なシステム・オペレーション中に何らかの理由で障害を起こした場合、それはオペレーティング・システムによって自動的に再始動されることを保証する。この方法は、すべての導入されたアプリケーションに対するすべ

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てのアップデータ・コンポーネントがいつもアクティブであることを保証するであろう。

【００３３】ネットワーク・ロケーション登録は、ＵＮＩＸ/ｅｔｃ/ｓｅｒｖｉｃｅファイルに入れられる。例えば、ＤＢ２アップデータ・コンポーネントが導入される時、それは次のようなフォーム、即ち、

ibm_db2pe_updater　5000/tcp　#net location of DB2 updater component

という /ｅｔｃ/ｓｅｒｖｉｃｅｓ ファイルにエントリを加えるであろう。

【００３４】別のアップデータ・コンポーネントがＤＢ２アップデータ・コンポーネントとコミュニケートすることを望む時、それは、ＤＢ２アップデータ・コンポーネント名 ibm_db2pe_updater に関してこのファイルをサーチすることによってそれを見つけるであろう（実際には、ＵＮＩＸコール getservbyname() によって間接的に行われる。その名前は標準的なネーミング規約に従って発呼者によって形成される）。それが見つかる時、それはＤＢ２アップデータがポート番号５０００における接続に関して聴取していることを知り、ＴＣＰプロトコルを使用するであろう。これは、問題のアップデータ・コンポーネントがＤＢ２アップデータ・コンポーネントへのリンクを確立して会話（これについては後述する）を開始することを可能にする。

【００３５】アップデータ・コンポーネントが他の遠隔の機械における他のアップデータ・コンポーネントを見つけてそれと通話するためには、上記情報は、両方の機械からアクセス可能であり且つそれを必要とするすべてのアップデータ・コンポーネントにとって利用可能なリポジトリ４０'（望ましくは、ウェブ・ページ又はパン-ネットワーク・ファイルのようなそのネットワークにおける何処からもアクセス可能な中央データベース又は分散データベース）を持つことによって拡張されなければならないであろう。エントリは、updater_name machine_ip_address（又は、ＤＮＡエントリ）、ポート番号、プロトコルという形式のものであろう。

【００３６】例えば、或る機構の製造部門は、分散ソフトウエア製品が相互に協同する３つのコンピュータ・システムを有することがある。それらのシステムはａ、ｂ、及びｃと呼ばれる。ウェブ・ページ又はファイル manufacturing_collaborators.html における代表的なエントリは次のようになるであろう。

```
ibm_catia_updater    a.manufacturing.com    5000 tcp
ibm_db2pe_updater    b.manufacturing.com    5100 tcp
ibm_cics_updater     c.manufacturing.com    4780 tcp
```

【００３７】次に、アップデータ・コンポーネントは、ＩＰアドレスを作成するためのＤＮＡ名と、遠隔のアップデータ・コンポーネントがそのアドレスにおいて聴取しようとしているポート番号とを使用して他の任意のアップデータ・コンポーネントを接続し、それと通話することができる。

【００３８】従って、導入時のアップデータ登録のステップは次のようになる。

（１）/ｅｔｃ/ｉｎｉｔｔａｂ　ファイルにおけるエントリを作成する（アップデータ・プロセス・コード・ロケーションを登録する）

（２）/ｅｔｃ/ｓｅｒｖｉｃｅ　ファイルにおけるエントリを作成する（アップデータ・プロセス・ローカル・アドレスを登録する）

（３）中央データベース・ファイルにおけるエントリを作成する（アップデータ・プロセス・パン-ネットワーク・アドレスを登録する）

【００３９】導入プロセスはアップデータ・コンポーネントにウェブ・プロキシ・サーバのローカルＩＰアドレスを供給することも伴うことがある。多くの代替の登録実施方法が可能であることは当業者には明らかであろう。

【００４０】アップデータ・コンポーネントは、それらが関連するソフトウエア製品に対する識別子及びバージョン番号のためのデータ・フィールドを含む。アップデータ・コンポーネントは、ヌル値にセットされたこれらのフィールドと共に顧客に配布可能であり、従って、導入手順は、アップデータ・コンポーネントが、識別子、現在のプログラム・バージョン、及びリリース番号を得るためにそれのソフトウエア製品に質問するという初期ステップを含む。別の方法として、ソフトウエア・ベンダは、アップデータ・コンポーネント内に関連の製品ＩＤ及びバージョン番号を事前コード化することも可能である。

【００４１】図１のシステム１０は、複数の遠隔サーバ・システム５０、５０'を含むコンピュータのネットワーク１００において接続されたものが示される。ローカル・システム１０上に導入されたプログラムに更新を施すためのソフトウエア・リソースが遠隔サーバ・システム５０、５０'から得られる。各サーバ・システムは、そのサーバから得られるソフトウエア製品の最新バージョンのリスト６０及びそのソフトウエア製品に対するパッチを記憶装置内に含む。各ベンダは、アップデータ・コンポーネントによって読み取り可能なフォーマットで製品リリース・ヒストリを含むソフトウエア更新のリスト６０（その例が図２に示される）のようなウェブ・サイトを利用するものと仮定し、しかも所与のレベルから新しいレベルへのリリース（ソフトウエア製品リリースから新しいレベルへのこの遷移は以下では「成長パス」と呼ばれる）を形成するために必要なソフトウエア・リソース７０を利用するものと仮定する。ソフトウエア更新リスト６０におけるエントリは、各ソフトウエア製品

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バージョン１１０に対して、その更新を施すために必要なソフトウエア・リソースの識別情報１２０及びそれの前提ソフトウエア製品及びそれらのバージョン番号の識別情報１３０を含む。或る場合には、必要なリソースはソフトウエア及び関連の導入命令の完全な置換バージョンである。別の場合では、リソースは、（例えば、エラー訂正のために）既存のプログラムを修正するためのパッチ・コード及びパッチの導入命令を含む。

【００４２】現在の例に関して、ネットワーク１００はインターネットであると仮定することにするが、本発明は任意のコンピュータ・ネットワークにおいて実施可能である。ネットワーク１００にはサーバ・システム８０が示され、そのサーバ・システムには、ネットワーク上の更新ソース・ロケーションを見つける場合に使用するためのサーチ・エンジン９０が導入される。これは、ローカル・システム１０から離れて設置されるように示されているが、必ずしもその必要はない。図面では、各アップデータ・コンポーネント２０は単一のプログラム３０と関連付けて示され、しかも、すべての導入されたソフトウエア製品がそれらを管理する関連のアップデータ・コンポーネントを有することは本発明のこの実施例の１つの特徴であるが、後述するように、これらの特徴のうちのどれも本発明にとって本質的なことではない。

【００４３】次に、図３、図４及び図５を参照して、アップデータ・コンポーネントのオペレーションを説明することにする。導入されたアップデータ・コンポーネントが実行される時、それの第１アクションは、導入時に得られた製品識別子及び製品バージョン・リリース番号をサーチ引数として１つ又は複数のサーチ・エンジン９０に供給し、特定のソフトウエア製品に対して利用可能な更新に関するサーチを開始することである（ステップ２００）。ソフトウエア・ベンダは、製品識別子及びリリース番号１１０によって参照される利用可能な製品更新のリスト６０をそれらベンダのウェブ・サイトを介して供給するものと仮定すると、そのサーチは、更新情報が得られる関連のウェブ・サイト１４０を識別するであろう。サーチ・エンジンを始動しようとする初期の試みが不成功である場合、アップデータ・コンポーネントは異なるサーチ・エンジン（第１のサーチ・エンジンに対して異なる地理的ロケーションにあってもよい）を始動するように試みるであろうが、別の方法として、事前設定された期間を待ち、しかる後、再試行してもよい。更新情報に対する関連のウェブ・サイト１４０を識別するＵＲＬはサーチの結果としてアップデータ・コンポーネントに戻される（ステップ２１０）。

【００４４】アップデータ・コンポーネントはそのＵＲＬを使用してリスト６０をアクセスし（ステップ２２０）、特定の製品に関連する利用可能な更新のリスト６０の部分を含むファイル１６０をダウンロードする（ステップ２３０）。しかる後、アップデータ・コンポーネントは、図４及び図５に示されるステップ２４０－２８０を遂行する。各ファイル１６０は、ディジタル的にサインされたメッセージ・ダイジェスト（例えば、ＭＤ５）を含む。次に、検索されたファイル１６０が、ディジタル・シグニチャ・チェック・アルゴリズム（米国特許第５，２３１，６６８号に開示されたアルゴリズムのような）を使用して分析される（ステップ２４０）。これは、ファイル１６０が特定のソフトウエア製品に対する正しいソフトウエア更新リストを表すこと、及びそのファイルがサイン以後修正されていないことを確認するためには重要である。更に、ディジタル・シグニチャのチェックは、これらが正しいもの以外に複数のウェブ・ページＵＲＬを含み得るので、サーチの結果を汎す有用な方法である（サーチは、ソフトウエア・ベンダによって発行されなかったページを含む、名前を付けられた製品バージョンに対する参照符合を持った他のページを見つけることがある）。ファイルをダウンロードし、それを検証しようとする試みが成功しなかった場合、アップデータ・コンポーネントはそのサーチにおいて見つかった次のＵＲＬに進む。

【００４５】次に、アップデータ・コンポーネントは、ローカル・コンピュータ・システムにおいて、現在導入されているソフトウエア製品の識別子及びリリース番号と検索されたファイル１６０におけるリストされた利用可能な更新との間で比較を行う（ステップ２５０）。この比較は、現在のバージョンから更新バージョンへの可能な成長パスを決定するが、これらの可能な成長パスは、その後、事前定義された更新基準と比較され（ステップ２６０）、更新基準を満たさない如何なる可能な成長パスも廃棄される。従って、アップデータ・コンポーネントは、現在のソフトウエア製品から利用可能な新しいバージョンに移行することが可能であるかどうか、及び現在同意されているライセンス条件の下でパッチを現在のバージョンに適用することが可能であるかどうかを決定する。

【００４６】例えば、ソフトウエア製品のライセンスは、その製品に関する将来の如何なるバージョンへの移行及び利用可能な如何なるパッチの適用を可能にし、又は指定されたバージョンへの移行だけを可能にすることがあり、或いは、現在のバージョンにおけるエラーを修正又は訂正する利用可能なパッチの適用を許容するだけであることもある。現在のライセンスの制限のために利用し得ない可能な更新パスは、現在導入されているバージョンのソフトウエア・アセット・マネージャ（エンド・ユーザ又はＩＴ調達マネージャでもよい）に送られたシステム発生のメッセージとして通知され（ステップ２７０）、現在のライセンスが十分なものであるかどうかに関してそれらが判断することを可能にする。

【００４７】起こり得る更新に関するライセンス制限の他に、アップデータ・コンポーネントの更新基準又は成

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長ポリシは、サイクル期間（例えば、１週間又は１ヶ月間）と、複数の可能な成長パスのうちのどれを選択すべきか（ライセンスによって許容される最新のバージョンをいつも選択するようにするか、又は最新のパッチをいつも選択し且つ新しいバージョンの利用可能性を通知するだけであるようにするか、或いは、前提ソフトウエアが既にローカル・システムにおいて得られる場合には新しいバージョンを選択するだけであるようにするか）を決定するための基準とを含む。成長基準は、アップデータ・コンポーネントによってダウンロードされる新しいバージョンにいつアップグレードすべきかというような制御情報も含むことがある。新しいソフトウエア製品バージョンに移行する時にデータ・マイグレーションが要求される場合、これが業務時間外で、或いは毎月又は毎年単一のスケジュールされた時間においてのみ行われることが必須であることがあり、これはアップデータ・コンポーネントによって制御可能である。

【００４８】成長ポリシの定義は、現製品との同期を維持する必要がある時には前提ソフトウエア製品の更新がリクエストされるべきであるということを決定するパラメータを含むこともある。これについては、更に詳しく後述することにする。アップデータ・コンポーネントによって設定及び適用される基準には大きな融通性があることは当業者には明らかであろう。

【００４９】次に、アップデータ・コンポーネントは、更新基準を使用して可能な成長パスのセットから特定の成長パス（即ち、アップグレードするために利用可能なバージョン）を決定する（ステップ２８０）。例えば、アップデータ・コンポーネントは、更新基準によって許容される利用可能な更新のうちの最高の可能なバージョン又はリリース番号を、それが更新ポリシである場合、選択してもよい。

【００５０】アップデータ・コンポーネントは、必要なソフトウエア・リソースが既にローカル・コンピュータ・システムにおいて利用可能であるかどうかをチェックするためにオペレーティング・システムのファイル・システムのスキャンを遂行する（ステップ２９０）（図３、図４及び図５参照）。その必要なリソースは、現在のアプリケーション・ソフトウエアを新しいレベルにもたらすために必要なソフトウエア更新加工物であり、前提ソフトウエアを必要なレベルに更新することを必要とするソフトウエア更新である。前提導入済み製品と関連した各アップデータ・コンポーネントは、（ａ）それが導入されること、及び（ｂ）それが、必要な前提レベルにあるか或いはそれよりも高いレベルにあること、を保証するために接触される（ステップ３００）。すべての必要なリソースがローカルで又は他の機械において得られ且つ確認された場合、アップデータ・コンポーネントは、更新されたソフトウエア・バージョンを形成するステップ３１０（図５参照）に進む。それが確認されない場合、アップデータ・コンポーネントは必要なリソースを得なければならない。

【００５１】図３、図４及び図５に示されるように、更新されたバージョンを形成するための必要なソフトウエア・リソースがローカル・システムにおいて見つからなかった場合、アップデータ・コンポーネントは、その必要なリソースを見つけるために１つ又は複数のサーチ・エンジンに更なるリクエストを供給する（ステップ３２０）。サーチ・エンジンは１つ又は複数のＵＲＬを返送し（ステップ３３０）、アップデータ・コンポーネントはこれらを使用してソフトウエア・リソースを検索してローカル・コンピュータ・システムの記憶装置に入れる（ステップ３４０、３５０）。この段階では、アップデータ・コンポーネント又はユーザは、新しいバージョンにどのような訂正又は機能強化が含まれるかということに関する知識を全く持つ必要がない。ユーザがすべての更新の内容を調べるという労力を免れるように、更新基準は、どのタイプの更新が必要であるかを決定する。実際には、ユーザが更新の影響を決定することができることが望ましく、従って、更新のためのソフトウエア・リソースは、ユーザ又はアドミニストレータが読むことができるこれらの影響に関する記述を含む。

【００５２】例えば、更新されるべきソフトウエア製品はワード・プロセッサ・アプリケーション・プログラムであってもよい。販売されたワード・プロセッサが或るフォントを脱落していたり或いはシソーラスを含まなかったりした場合、その後、これらのフィーチャを加えるためのパッチが利用可能にされることがある。アップデータ・コンポーネントは、更新基準次第でこれらをそのワード・プロセッサに加える機能を有する。

【００５３】本発明の別の実施例では、更新リストに関する初期サーチに続く必要なソフトウエア・リソースに関するサーチは不必要である（或いは、前提ソフトウエア製品及びパッチ又は現製品に対する新しいバージョンがある場合に必要であるだけである。下記参照）。これは、現製品によって直接に必要とされる更新ソフトウエア・リソースが必要なリソースのリストと関連して記憶されるためである。即ち、そのリストは、そのリストからの成長パスの選択が必要な更新のネットワーク・ロケーションに対するポインタ（場合によっては、更に、前提ソフトウエア製品のロケーションに対するポインタ）の選択を伴うように、その必要なリソースのネットワーク・ロケーションに対するポインタを含む。

【００５４】ディジタル・シグニチャ・チェックによる第２の検証が、今度は、ダウンロードされたリソースに関して遂行される（ステップ３６０）（図５参照）。ダウンロードされたリソースの正当性を検証した後（ステップ３６０）、アップデータ・コンポーネントは、更新ポリシに従ってターゲット環境における導入を自動的に行う（ステップ３１０）。実際には、これは、管理パス

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ワードのようなユーザからの情報又はデータベース使用パラメータ値を必要とすることがあるが、本発明の望ましい実施例では、ダウンロードされたコードの導入は、ユーザが何らかの導入情報を余所から知る又は余所から得ることをそれが必要としないという意味で、及び、アップデータ・コンポーネントが自動的に更新を施すことを事前定義の更新基準が可能にする場合、一般に、ユーザが実行時に如何なる判断も行わなくてよいことをそれが可能にするという意味で自動的である。

【００５５】シェルにおいてエンコードされた機械読み取り可能な導入命令を（例えば、Ｓｃｒｉｐｔ、又はＰＥＲＬのような解釈言語、又はマイクロソフト社のＷｉｎｄｏｗｓ（商標）オペレーティング・システム上のアプリケーションの場合の setup.exe のような実行可能なものとして）含むことはよく知られている。本発明によるアップデータ・コンポーネントは、機械読み取り可能な命令を関連のソフトウエア・リソースと共にダウンロードし（ステップ３５０）、それらを自動的に実行するであろう（ステップ３１０）。従って、アップデータ・コンポーネントは導入命令を自動的に処理し、従来方法では必要とされた人からの入力を回避する。Ｓｃｒｉｐｔは、アップデータ・コンポーネントの第１バージョンを導入した第１の導入者から集められた情報（例えば、ユーザ名及びアプリケーション・アドミニストレータのパスワードのような情報、及び導入ディレクトリ等）を再使用するように適応可能である。

【００５６】本発明の望ましい実施例による更新の方法は、ソフトウエア・ベンダが、形成する必要のあるソフトウエア・リソースを１つの製品レベルから他の製品レベルに編成することを必要とする。例えば、バージョン１．１．１からバージョン１．１．４への移動は、一般には、施されるべき一連のパッチ、及び機械処理可能な導入命令にうまくエンコード可能である場合の必要な導入順序を含むであろう。そこで、ユーザは、修復及び機能強化を施す順序をユーザが制御することを必要とする方法では固有である努力及び人的エラーの危険を免れる。従って、１つの製品レベルから別の製品レベルに如何に移行すべきかという問題は、顧客に代わってソフトウエア・ベンダによって処理され、アップデータ・コンポーネントは、ベンダによってサポートされるレベル（即ち、特定の既存の製品レベルに対してソフトウエア・ベンダにより発行された成長パス）までしか移ることができない。

【００５７】アップデータ・コンポーネントはレポートを発生し（ステップ３８０）、ログ・レポートに書き込み（ステップ３９０）、しかる後、所定の更新サイクル期間（反復期間パラメータは、アップデータ・コンポーネント導入された時に形成される）の満了時に再び活性化される（ステップ４１０）まで実行を終了する（ステップ４００）（望ましい実施例では、アップデータがスリープ又はアイドル状態に進む）。

【００５８】Ａ１．アップデータ・コンポーネントの構造

アップデータ・コンポーネントの構造は、データ、そのデータを操作するための方法、及び他のアップデータ・コンポーネントがそれと接触及びコミュニケートすることを可能にする汎用アプリケーション・プログラミング・インターフェースより成る。次に、この構造を詳しく説明することにする。

【００５９】アップデータ・コンポーネント・データ：

アップデータ・コンポーネントはつぎのような永続的データを含む：

Product_ID：　このアップデータ・コンポーネントによって管理されるソフトウエア製品の識別子。

Current_Installed_Version：　導入されたソフトウエアに対するバージョン識別子（例えば、バージョン３．１．０）。

Current_License：　現在のソフトウエア・ライセンスによってユーザがアップグレードし得るソフトウエア製品バージョンに対応するバージョン識別子（例えば、４．０．ｚ）。別の方法として、これは、機械読み取り可能なライセンス条件をアクセスする時に使用するためのライセンス識別子（例えば、ＬＩＣＩ）であってもよい。

Installation_Environment：　属性名／属性値の対のリスト。これは、アップデータ・コンポーネントが初めて使用された時、ユーザによって入れられた値を記憶するためにアップデータ・コンポーネントによって使用される。例えば、アップデータ導入ユーザＩＤ及びパスワード、或いは、ルート・パスワード、導入ディレクトリ、ウェブ・プロキシ・サーバ・アドレス、サーチ・エンジンＵＲＬ、ログ・ファイル名、ソフトウエア・アセット・マネージャ電子メール・アドレス等。このデータは、その後の自動更新が必要とされる時に再使用されるであろう。

成長ポリシ・パラメータ：

ａ．Growth_Cycle：　アップデータ・コンポーネントが毎日、毎週、又は毎月それのソフトウエア製品を更新しようと試みなければならないかどうかを決定するデータ。

ｂ．Growth_Type：　更新がバグ修復及び機能強化（即ち、パッチ）のみに制限されるか、或いは、各成長サイクルにおける最新のリリースへのアップグレードを必要とするかを決定するデータ。

ｃ．Force_Growth：　（イエス／ノー）アップグレードするように他のソフトウエア・リソースを強制すべきかどうかを、それがこのソフトウエアのアップグレードのための前提である場合に決定するパラメータ。（或る実施方法は、アップグレードするように他のソフトウエアを強制することによって、この単純なイエス／ノーより

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ももっと融通性のある制御を提供するであろう）。
Last_Growth_Time：　アップデータ・コンポーネントが最後に実行された時の日付及び時間。
【００６０】アップデータ・コンポーネントは次のような非永続的データも含む：
Possible_Growth_Paths：　利用可能なアップグレード・パスを表す一時データ（例えば、バージョン番号３．１．ｄ、３．２．ｅ、４．０．ａ）。
【００６１】Ａ２．私的アップデータ機能：アップデータ・コンポーネント・ロジックは次のような方法を含む：
Discover_Possible_Growth_Paths()：
インターネット（又は、他のネットワーク）におけるこのソフトウエアのための Growth_Path 情報に関するサーチ。このサーチ方法は、標準的なサーチ・エンジン・サーバを介してサーチを開始する。戻された情報は更に新しいバージョン及び関連の前提製品情報である。次に、Growth_Path 情報は成長ポリシパラメータに従って減少する。Growth_Path リストにおけるすべてのメンバに対して、前提製品の適正なバージョンがローカル・コンピュータ及び／又はリモート・コンピュータにおいて得られるかどうかに関するチェックが行われる。これらの前提製品を管理するアップデータ・コンポーネントはアクセスされ、これがポリシである場合、成長することを強制される。すべての事前製品が正しいレベルでローカルに存在する場合、又はネットワーク上で遠く離れて得られ、しかも、「強制成長」ポリシと共に存在する場合、ソフトウエア製品のより新しいバージョンに対するｉ識別子が Possible_Growth_Paths リストに加えられる。
Decide_Growth_Path()：
成長ポリシを解釈し、単一の成長パスを選択する。本発明の或る実施方法は、例えば、他のプログラムへの更新を強制すべきかどうかというような考察事項が存在する場合、ユーザ対話がそのパスを選択することを伴うであろう。
Get_Resources(Parameter: Chosen_Growth_Path)：
Chosen_Growth_Path（例えば、３．２．０）を与えられた場合、必要なリソース（パラメータ Product_ID、Current_Installed_Version、Chosen_Growth_Path）に関してサーチし、すべてのリソースをローカル・コンピュータにダウンロードする。これは、新しいバージョン及び機械処理可能な導入命令を必要とするソフトウエアを含むであろう。
Install_Resources()：
必要なファイルを正しいロケーションに導入すること、或いは、それらのファイルをコンパイルすること、及びソフトウエアを収容するために既存のシステムの構成を修正することを含み、すべてのアクションをファイルにログする（及び「アンインストール」方法がすべてのアクションをやり直すことを可能にする）導入命令を処理する。
Grow()：
方法を開始する：
Discover_Possible_Growth_Paths()
可能な成長パスが存在しない場合、アップデータ・コンポーネントはアイドル状態になるさもなければ、
Decide_Growth_Path()
Get_Resources(Parameter: Chosen_Growth_Path)
Install_Resources().
Grow()は、すべての完了したアクションをログに書き込み、アップデータ・コンポーネントの実行を終了する。アップデータ・コンポーネントは、新しい更新要件に関して再びチェックすべき時間まで、又はそうするように他のアップデータ・コンポーネントによって指示されるまでアイドル状態になる。
【００６２】Ａ３．汎用アップデータ・コンポーネントＡＰＩ
アップデータ・コンポーネントは下記のような汎用ＡＰＩを含む。これらの機能は、リモート・プロシージャ・コール、メッセージ指向ミドルウエア，ＯＲＢ（オブジェクト・リクエスト・ブローカ）等のような既存のネットワーク通信ソフトウエアを使用して呼び出し可能であろう。
Get_Release()：
この機能は他のアップデータ・コンポーネントによって呼び出され、そしてこのアップデータ・コンポーネントによって管理される製品のリリース・レベルを戻す。
Update(new_level)：
他のアップデータ・コンポーネントがこの機能を呼び出し、このアップデータ・コンポーネントによって管理される製品を、new_level パラメータ値によって表された新しいレベルに移す。これは私的機能 Grow() を呼び出す。
Receive_Event(event details)：
アップデータ・コンポーネントがアップグレードするようにリクエストを受ける時、それは、それがいつ更新を完了したかを呼出のアップデータ・コンポーネントに知らせなければならない。他のアップデータ・コンポーネントに代わって更新を遂行するアップデータ・コンポーネントは、その更新の成功を伝えるためにリクエストしたアップデータ・コンポーネントのこの機能を呼び出すであろう。イベント詳細は「製品ＩＤ、新リリース・レベル、ｏｋ」又は「製品ＩＤ、新リリース・レベル、失敗」のようなストリングであってもよい。
【００６３】更新の強制を可能にすること（又は、更新の強制が更新ポリシの一部でない場合、ソフトウエア・アセット・マネージャに通知を送ること）による非同期化された前提製品の潜在的問題点の自動処理は、従来技術の更新方法よりも優れている重要な利点である。

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【００６４】初期サーチに応答してアップデータ・コンポーネントに戻された更新リスト・ファイル１６０は前提ソフトウエアの識別子１３０を含むので、その情報は、前提ソフトウエアがローカルで入手可能に又はリモートで入手可能かを、アップデータ・コンポーネント登録データベース４０、４０'の前述の検査（ステップ２９０）がチェックすることを可能にする。それがローカルで設置された又はリモートで設置されたアップデータ・コンポーネントをすべて見つける場合、前提ソフトウエアが得られることは確かであり、次に、すべての前提が正しいレベルにあることを確実にするために各ソフトウエア製品に対する各アップデータ・コンポーネントと接触することが必要である。前提ソフトウエア３０'に対する必要な製品識別子を有するが、必要なバージョン番号を持たないアップデータ・コンポーネント２０'がローカルで又はリモートで見つかった場合、及び更新の強制が更新ポリシである場合、第１コンピュータ・プログラムのアップデータ・コンポーネント２０はこの前提アップデータ・コンポーネント２０'と接触し（ステップ３００）、それがそれの関連の前提ソフトウエア製品３０'の更新を試みることをリクエストする。このアップデータ・コンポーネント２０'は、必要な場合には、それの前提ソフトウエアの他のアップデータ・コンポーネントにそれらのバージョンを更新するようにリクエストする。

【００６５】或る段階において、関連のアップデータ・コンポーネントがローカルで又はリモートで見つからない場合、関連製品を更に成長させるためには、新しい製品に対する要件を知らせるためにアセット・マネージャに送られる。新しいレベルに成長させるためのアップデータ・リクエストの連鎖時の或る段階で、１つのアップデータ・コンポーネントが必要なレベルに移ることができなかった場合、この失敗はそれが呼び出したアップデータ・コンポーネントに報告され、そのアップデータ・コンポーネントはそのコンポーネント更新オペレーションの失敗等を、トランザクション全体を開始させたアップデータ・コンポーネントにプロンプト指示する。

【００６６】従って、それらの更新基準によって定義されたそれらの自動的な行為の他に、アップデータ・コンポーネントは他のアップデータ・コンポーネントからのリクエストのように外部刺激に反応することができる。

【００６７】Ｂ．更新同期化の例

次に、２つの製品の間の更新同期化の実施方法の例を説明することにする。この例は、すべての製品が存在し、互換性のあるリリース・レベルにあるように、一方のアップデータ・コンポーネントが前提ソフトウエアを同期化するように他方のアップデータ・コンポーネントとコミュニケートする方法を示す。

【００６８】ＣＯＲＢＡ（共通オブジェクト・リクエスト・ブローカ・アーキテクチャ）ＯＲＢ（オブジェクト・リクエスト・ブローカ）は２つのアップデータ・コンポーネントの間のロケーション及びコミュニケーションのために使用される。上記汎用ＡＰＩを使用すると、或るアップデータ・コンポーネントがネットワーク上の他のアップデータ・コンポーネントと会話することができるように、ＣＯＲＢＡプログラミングの技術に詳しい人がコミュニケーション・コードを開発することは簡単なことである。この例では、アップデータ・コンポーネント登録データベース４０は、各導入されたアップデータ・コンポーネントに対して「updater_component_name.iop」と呼ばれるファイルを含む、ネットワークを介して得られるディレクトリ又はフォルダである（なお、ｉｏｐは、インターオペラブル・オブジェクト・リファレンスを表す）。

【００６９】このファイルは、例えば、ＣＯＲＢＡ機能、即ち、

CORBA::Object::_string_to_object() in C++

を使用してファイルを読み取る任意のアップデータ・コンポーネントによってそのアップデータ・コンポーネントに対する基準に変換され得る一連のバイトを含む。

【００７０】更に、この基準は、対応するアップデータ・コンポーネントに対する独特のアドレスをそれが表すので、ネットワーク上のどこにあるアップデータ・コンポーネントに対しても基準になり得る。アップデータ・コンポーネントＡがアップデータ・コンポーネントＢに対する基準を作った時、アップデータ・コンポーネントＡは、例えば、C++ mapping A->Get_Release() を使用することによって汎用ＡＰＩ関数を呼び出すことができる。それは、その後、アップデータ・コンポーネントＡによって管理されるソフトウエアのリリース・レベルの値を戻すであろう。

【００７１】この例では、２つの製品、即ち、それぞれ異なる機械M及びNにおけるＩＢＭ社のＤＢ２製品及び「照会ビルダ」と呼ばれる照会ツールを考察することにする。（機械M及びNは同じ機械であってもよい；この例は単に、それらが別個であってもよいことを示す）。両方の製品とも、簡単に概説したように、ＣＯＲＢＡＯＲＢアーキテクチャを使用するアップデータ・コンポーネントを有する。ＯＲＢコミュニケーション・デーモンは参加システムM及びNにおいてアクティブである。

【００７２】ステップ１．　登録フェーズ：ＤＢ２アップデータ・コンポーネントは、オペレーティング・システムがシステムMにおいて始動し、ネットワーク・ファイル・システム・フォルダ又はディレクトリにおける ibm_db2_updater.iop と呼ばれるファイル（そのファイルに関するその後のサーチを助けるために使用される或るネーミング標準による）を直ちに作成する。このディレクトリは必ずしもM又はNではない任意の機械においてホストにされる。そのファイルは、アップデータ・コンポーネントに対する基準を作るために使用可能な一連

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のバイトを含む。

【００７３】［擬似コード］

```
Filehandle=open("/network/filesystem/directory","ibm_db2_updater.iop");
ReferenceBytes=CORBA::Object::_object_to_string();
Write(FileHandle, ReferenceBytes);
close(Filehandle);
```

【００７４】QueryBuilder アップデータ・コンポーネントが始動してそれの登録を同じディレクトリ又はフォルダに書き込み、この場合には、再び、ファイル ibm_querybuilder.iop を呼び出す。

【００７５】この段階では、両方のアップデータ・コンポーネントがアクティブであり、それらの存在及びロケーションをネットワーク・ディレクトリに登録している。

【００７６】ステップ２．QueryBuilder はバージョン１からバージョン２に成長しようとするが、前提はＤＢ２バージョン２．１又はそれ以上である。下記のアクション・シーケンスが生じるであろう。QueryBuilder はＱＢとして表され、ＤＢ２はＤＢ２として表される。

【００７７】ＱＢ：ネットワーク・ディレクトリにおいてファイル ibm_db2_updater.iop（標準に従って作られたファイル名）に関してサーチする。それはファイルを見つけ、それを読み取り、それを使用可能な基準に変換する。

【００７８】

［擬似コード］

```
if (dbref =
CORBA::Object::_string_to_object(readfile(ibm_db2_updater.iop)))
    then SUCCESS: 我々はアップデータに接続された
    else
            FAIL: 前提ソフトウエアはコラボレート・システムのセットには存在しない。ソフトウエア・アセット・マネージャに電子メールを送り、状況を通知する。
            新バージョンに成長する試みを中止する。
    endif
```

【００７９】ステップ３．この段階で、我々はネットワーク化されたコンピュータのセットにおけるどこかにＤＢ２が存在することを知る。今や、我々は、それが正しいレベルにあるかどうかを知る必要がある。我々は、ＱＢアップデータ内から上記の汎用ＡＰＩ機能 Get_Release() を実行することによってこれは簡単に行う。従って、ＱＢアップデータは、それに関して何かを行うように、即ち、それがどのようなリリースであるかを知らせるようにＤＢ２アップデータにリクエストするクライアントである。

【００８０】［擬似コード］

```
db2_release = dbref->Get_Release();
```

【００８１】例えば、これは値「２．０」を戻す。

【００８２】ステップ４

クライアント側：ＱＢアップデータ・コンポーネントは、これが十分ではないことを知っており、それはバージョン２．１を必要とする。それはそれの Force_Growth パラメータを調べる。そのパラメータにおいて、例えば、「イエス」は、前提ソフトウエアを、それがそれ自身の更新プロシージャを遂行する前に必要なレベルまで成長させなければならないことを意味する。従って、ＱＢアップデータは、新しいリリースまで成長するようにＤＢ２アップデータに通知し、しかる後、前提ソフトウエアが新しいリリースに成長するまで、又がそうすることに失敗するまで待つ。

【００８３】

［擬似コード］

```
dbref->Update("2.1", QBref); // QBref はＱＢアップ
                    // データに対する既製の基準である。ＤＢ
                    // ２アップデータがそれ自身を更新する試
                    // みを終了した時、それが直ぐに成功又は
                    // 失敗というその結果を送ることができる
                    // ように、ＤＢ２アップデータに送られる
EVENT= null
While (EVENT equals null)
      {何もしない;}
if (EVENT equals "SUCCESS")
      then  このプロセッサ・コンポーネント（即、Query
            Builder）によって管理されるソフトウエアを
```

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成長させようとする
else
失敗をログに書き込む;
成長させようとしない;
スリープに進み、その後トライする;
endif.

【００８４】サーバ側：ＤＢ２アップデータ・コンポーネントは成長するというリクエストを受ける。それは成長するように試みる。

【００８５】それは結果を呼出クライアントに報告する

［擬似コード］

```
DB2 attempts to grow.
if Growth Successful then
   QBRef->Receive_Event("SUCCESS"); // 機能 Receive_
         // Event の実施はＱＢアップデータ・コンポ
         // ーネントにおける EVENT と呼ばれる変数を
         // ＡＰＩコールにおいて送られたパラメータ
         // の値、即ち、ＩＦステートメントのこのセ
         // クション内にある場合には "SUCCESS" に単
         // にセットすることに注意して欲しい。
else
   QBREF->Receive_Event("FAILURE");
end if
```

【００８６】（それは機能呼出において呼出元に対する基準を受けるので、呼出クライアントと接触する方法を知っている）。

【００８７】前述のように、事前定義された更新基準は、利用可能な更新セットのうちのどれが適用されるべきか、及びどれが無視されるべきかを決定することができる。更新基準は、ソフトウエア更新が利用可能であるとして識別されるがこの更新の適用が更新ポリシにはなく或いは不可能である時、エンド・ユーザ又はシステム・アドミニストレータに通知を送るためのアップデータ・コンポーネントへの命令を含むことができる。前に示された例の１つは、更新ポリシが前提ソフトウエア製品のアップグレード又はデータのマイグレーションを必要とすることがあり（例えば、ソフトウエア製品がデータベース製品である場合）、一方、それが何らかのエラー訂正パッチを導入することを意図したポリシであり得るので、その更新ポリシがソフトウエア製品の完全置換バージョンを導入することではないということである。一方の製品をアップグレードすることが他方の前提相補製品のアップグレードを必要とする場合、更新の自動導入よりもむしろ通知が実施可能である。

【００８８】更新ポリシは、アップデータがユーザ又はアドミニストレータからの入力をリクエストする環境を定義することによって、更新プロセスの自動化の程度も決定することができる。

【００８９】次に、特定の例のアップデータ・コンポーネントの実行を、更に詳細に説明することにする。このアップデータ・コンポーネントの機能は、「テスト」と呼ばれる導入済みの製品を、すべてのリリースされたパッチを有する全体的に最新の状態に維持することであって、テストの置換バージョンを導入することではない。先ず、アップデータ・コンポーネントが次のようなデータ・インスタンス化によって構成される。

【００９０】

製品ＩＤ：　テスト
現導入済みバージョン：　１．０．ａ
現ライセンス：　ＬＩＣ１
導入環境：　"USERID:TestOwner, USERPASSWORD:easy"
"INSTALLPATH: /usr/bin/testapp/"
成長サイクル：　週
成長タイプ：　パッチ、最新、自動的
強制成長：　なし
最終成長時：　０８／１０／９７　月曜日

アップデータは毎週、例えば、各月曜日の夜の午前３時に実行される（タイミングを決定するのはシステム・アドミニストレータである）。

【００９１】以下には、この例のアップデータ・コンポ

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ーネントに対する可能な実行トレースが示される。

【００９２】実行トレースの例

ステップ１．　成長サイクルが開始する：

>>>> START : Discover_possible_Growth_Paths()

* フレーズ（"IBM Test 1.0.a Growth Paths"）を使用してリモート・サーチ・エンジン（例えば、インターネット・サーチ・エンジン）におけるサーチを実行する。サーチは、ベンダが製品に対する現在の成長パスを概説することによって公表されたＵＲＬを戻す。

* ＵＲＬをダウンロードする：ファイル内容は：

"1.0.b,none; 2.0, other_required product_product_id 1.0.c;"

* ハッシュ・アルゴリズム及びディジタル・シグニチャを使用してＵＲＬファイルを認証する。真正でない場合、他のＵＲＬ適合基準に関するサーチに戻る。

* growth_path_list を形成する : growth_path list = "1.0.c,none;2.0,other_required_product_id 1.0.c;"

* すべてを除去するが、パッチ・レベルは Growth_path リスト（即ち、第１バージョン及び１．０にマッチした第２リリース番号を有するものだけ）から増加する（Growth_Policy による）。

* growth_path list = "1.0.b,none;"

* リストにおける全メンバに対して、前提が存在することを保証する。この例では、リストのすべてのメンバがこの基準に普通に合致する。

* 候補の growth_paths を Possible_Growth_Paths list = 1.0.b に入れる。

<<<< END : Discover_possible_Growth_Paths()

【００９３】ステップ２．　次に、アップデータ・コンポーネントは成長パスを介して以下の過程をたどる：

>>>> START Decide_Growth_Path()

* 成長ポリシは、最新のパッチされた改訂に我々が成長しなければならないことを指令する。（この例では、最新の改訂は普通であること、即ち、それは１．０．ｂであることを決定する）

* chosen_growth_path = 1.0.b

<<<< END : Decide_Growth_Path()

【００９４】ステップ３．　次に、アップデータ・コンポーネントは、現在のソフトウエア・レベルを新しいソフトウエア・レベルに修正するための必要なリソースを得る。

>>>> Get_Resources()

* フレーズ（"IBM Test REVISION 1.0.a to 1.0.b RESOURCES"）を使用してリモート・サーチ・エンジン（例えば、インターネット・サーチ・エンジン）においてサーチを実行する。

* サーチはＵＲＬ、例えば、次のものを戻す。

ftp://ftp.vendor-site/pub/test/resources/1.0.a-b"

* アップデータはＵＲＬによって指示されたファイルをダウンロードし、それが真偽を検査する機密保持エリアに入れる。

* アップデータは真偽を（例えば、ＲＳＡアルゴリズムに基づくディジタル・シグニチャ、又は他の方法を使用して）検査する。

ファイルが真正でない場合、サーチに戻る（下記の注意１参照）

* アップデータはリソースをアンパックして一時ディレクトリにする（下記の注意２参照）。これらのリソースは機械処理可能な導入命令（例えば、ＵＮＩＸシェル・スクリプト又はＭＶＳ　ＲＥＸＸのようなスクリプト言語で書かれた命令）及び実際にはソフトウエア・フィックスを含むファイル（バイナリ・コンパイル又は要求コンパイル）を含む。

<<<< END : Get_Resources()

【００９５】上記のタスクに関する注意

注意１ － 時間を節約するために、アップデータは「シグニチャ」と呼ばれ、ＵＲＬを含む標準ファイルを、ＵＲＬのダウンロードの前に捜す。

ftp://ftp.vendor-site/pub/test/resources/1.0.a-b

及びその内容のリスト。

これはハッシュされ、サインされる。このシグニチャを使用して、アップデータ・コンポーネントは、（或る範囲までの）ＵＲＬの真偽を、それのダウンロードの前に迅速に確立し、最後のダウンロードされたリソースが一時ディレクトリにアンパックされた後にそれらのリソースを確認するためにその情報、即ち、ファイル・リストを使用することができる。最後のＵＲＬがダウンロードされる時、それは再び真偽をチェックされる（誰かが真正なＵＲＬロケーションに贋造物を配置しないように保護するために）。

注意２ － アンパッキングの部分は、アップデータ・コンポーネントが導入スクリプトを調べ、必要な場合には、それの導入環境データの内容に基づいてそれらを修正することである。例えば、導入命令がシェル・スクリプトでコード化される場合、それは INSTALLPATH のすべてのインスタンスをトークン "/usr/bin/testapp/" でもって置換するであろう。再び、属性のネーミング規約が、導入命令におけるトークン代用の方法であるので標準化される。これは、全体的に自動的導入を可能にする。

【００９６】ステップ４　次に、アップデータ・コンポーネントは実際のソフトウエア・アップグレードを実施する。

>>>> START Install_Resources()

* 導入命令を実行する。

* 次のような値を更新する：

Current_Installed_Version = 1.0.b

Last_Growth_Time = Date+Time

* アップグレードが効果を現す前に、導入と、オペレーティング・システムのリブート又はアプリケーションの

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再始動が必要であるかどうかとを知らせる電子メールをソフトウエア・アセット・マネージャに送る。
<<<< END Install_Resources()
【００９７】これはこの現成長サイクルの終了である。シードは現時点で Last_Growth_Time 値を更新し、しかる後、終了する。このサイクルのために費やされる時間は、現在導入されているバージョンに対するアップグレード・パスがないことをアップデータ・コンポーネントが知っている場合の数秒から、現在のものからの全体的に新しいリリースがダウンロードされて新しい前提ソフトウエアと共に導入されることになる場合の数時間までのどれかになり得るであろう。
【００９８】詳細に説明した上記実施例に対する代替は異なる各ソフトウエア製品に対して独立のアップデータ・コンポーネントを必要とせず、各製品と共にダウンロードされる製品特有のプラグ・イン・オブジェクト及び命令と共にシステム上に導入される単一の汎用アップデータ・コンポーネントを使用する。これらのオブジェクトは、汎用コードと相互協調して上記製品特有のアップデータ・コンポーネントの同じ機能を提供する。システム上に導入されたすべてのアプリケーション・プログラムではなく或るアプリケーション・プログラム及び他のソフトウエア製品が関連のアップデータ・コンポーネントを有するというようなシステムにおいて本発明が実施可能であること及び本発明の技術的範囲内で上記実施例に対する別の変更が可能であることは当業者には明らかであろう。
【００９９】まとめとして、本発明の構成に関して以下の事項を開示する。
【０１００】（１）コンピュータ・ネットワーク内で接続されたコンピュータ・システム上に導入された１つ又は複数のコンピュータ・プログラムを更新する場合に使用するためのアップデータ・コンポーネントにして、１つ又は複数の必要なソフトウエア・リソースを検索するために、前記１つ又は複数の必要なソフトウエア・リソースが設けられた前記ネットワーク内の１つ又は複数の識別可能なロケーションへのアクセスを開始するための手段と、１つ又は複数の検索されたソフトウエア・リソースを使用して前記導入されたコンピュータ・プログラムの１つにソフトウエア更新を施すための手段と、を含むアップデータ・コンポーネント。
（２）使用可能な関連の更新リソースを識別するために、前記１つ又は複数の識別可能なロケーションから得られるソフトウエア更新リソースと前記コンピュータ・システム上に導入された１つ又は複数のコンピュータ・プログラムとの比較を行い、前記使用可能な関連の更新リソースと前記コンピュータ・システムにおいて記憶された事前定義の更新基準とを比較するための手段と、ソフトウエア・リソースを自動的にダウンロードし、前記事前定義の更新基準を満たすソフトウエア更新を施すための手段と、を含む上記（１）に記載のアップデータ・コンポーネント。
（３）前記事前定義の更新基準は適用可能なソフトウエア製品ユーザ・ライセンスによる許容し得る更新の範囲の定義を含む上記（２）に記載のアップデータ・コンポーネント。
（４）前記ソフトウエア更新を施すための手段は前記事前定義の更新基準に従って及び更新のためにダウンロードされたソフトウエア・リソースの一部である導入のためのコンピュータ読み取り可能な命令に従って、使用可能な関連のソフトウエア・リソースを導入するための手段を含む上記（２）又は上記（３）に記載のアップデータ・コンポーネント。
（５）１つ又は複数のロケーションを識別するための情報が前記アップデータ・コンポーネントによって保持され、コンピュータ・プログラム製品の製品識別子を含み、前記アップデータ・識別子は前記製品識別子をサーチ・エンジンに供給するように適応し、前記製品識別子は前記サーチ・エンジンがネットワーク・ロケーションを識別するために使用するためのサーチ・パラメータとして働く、上記（１）乃至上記（４）の何れかに記載のアップデータ・コンポーネント。
（６）前記アップデータ・コンポーネントは、使用可能なソフトウエア更新リソースのリストが保持されているネットワーク・ロケーションを前記サーチ・エンジンが識別することに応答して前記リスト及び前記リソースの前提ソフトウエア製品をダウンロードし、前記リスト及び前提ソフトウエア製品と前記コンピュータ・システム上に導入されたコンピュータ・プログラムとを比較し、前記前提ソフトウエア製品に対する更新が必要である場合に前記前提ソフトウエア製品に対する更新をリクエストするように適応する上記（５）に記載のアップデータ・コンポーネント。
（７）前記アップデータ・コンポーネントはコンピュータ・システム上に前記アップデータ・コンポーネントを導入するための機械読み取り可能な導入命令を有し、前記導入命令は前記アップデータ・コンポーネントが他のアップデータ・コンポーネントによって識別可能及び接触可能であるように他のアップデータ・コンポーネントによってアクセスし得るリポジトリによって前記アップデータ・コンポーネントを登録するための命令を含む、上記（１）乃至上記（６）の何れかに記載のアップデータ・コンポーネント。
（８）前記アップデータ・コンポーネントは、現在のアップデータ・コンポーネントがそれのコンピュータ・プログラムを更新することを相補的なコンピュータ・プログラムがリクエストする時に介するＡＰＩを含み、前記現在のアップデータ・コンポーネントは更新リクエストに応答してそれのコンピュータ・プログラムを更新するために更新方法を呼び出すように適応し、前記現在のア

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ップデータ・コンポーネントは、それのコンピュータ・プログラムが前提コンピュータ・プログラムの更新を必要とする時、システム発生されたリクエストをそれのコンピュータ・プログラムの前記前提コンピュータ・プログラムのアップデータ・コンポーネントに送るように適応する上記（６）又は上記（７）に記載のアップデータ・コンポーネント。

（９）前記更新を施すための手段は存在する導入済みのソフトウエアを修正する訂正及び機能拡張ソフトウエアを導入し、導入されたソフトウエアを置換する導入済みのソフトウエアのアップグレードしたバージョンを導入するように適応する上記（１）乃至上記（８）の何れかに記載のアップデータ・コンポーネント。

（１０）コンピュータ読み取り可能な記録媒体上に記録されたコンピュータ・プログラム・コードを含み、前記コンピュータ・プログラム・コードは前記コンピュータ・プログラム・コードを更新するための上記（１乃至上記（９の何れか）に記載された統合アップデータ・コンポーネントを含むコンピュータ・プログラム製品。

（１１）コンピュータ読み取り可能な記録媒体上のレコーダルのためのコンピュータ・プログラム・コードを含み、前記コンピュータ・プログラム・コードは前記コンピュータ・プログラム・コードを更新するための上記（１）乃至上記（９）の何れかに従って統合アップデータ・コンポーネントを含むコンピュータ・プログラム製品。

（１２）コンピュータ・ネットワーク内で接続されたコンピュータ・システム上に導入されたコンピュータ・プログラムを自動的に更新するための方法にして、前記コンピュータ・プログラムを更新する場合に使用するためのアップデータ・コンポーネントを前記コンピュータ・システムに配布するステップと、前記コンピュータ・プログラムを現在のバージョンから更新済みのバージョンに形成するためのダウンロード可能なソフトウエア・リソースを第１ネットワーク・ロケーションに提供するステップと、前記コンピュータ・システムにおいて実行される時、前記アップデータ・コンポーネントが遂行するように適応するステップであって、（ａ）前記アップデータ・コンポーネントによって保持された情報から識別可能であり、又は前記アップデータ・コンポーネントによってアクセス可能であって、前記ソフトウエア・リソースが配置される前記第１ネットワーク・ロケーションへのアクセスを開始するステップと、（ｂ）前記ソフトウエア・リソースを前記コンピュータ・システム上にダウンロードするステップと、（ｃ）ダウンロードされたソフトウエア・リソースを使用して前記コンピュータ・プログラムを前記現在のバージョンから前記更新済みのバージョンに更新するステップと、を含む方法。

（１３）前記アップデータ・コンポーネントにおける情報から識別可能な第２ネットワーク・ロケーションに前記コンピュータ・プログラムにとって使用可能な更新のコンピュータ読み取り可能なリストを設けるステップを含み、前記アップデータ・コンポーネントによって、前記第１ネットワーク・ロケーションをアクセスする前に遂行されるように適応するステップにして、前記リストを検索するために前記第２ネットワーク・ロケーションへのアクセスを開始するステップと、使用可能な関連の更新リソースを識別するために、前記リストを読み取り、リストされた使用可能な更新と前記第１コンピュータ・システム上の前記コンピュータ・プログラムとの比較を行うステップと、前記使用可能な関連の更新リソースと前記アップデータ・コンポーネントにおける事前定義された更新基準とを比較し、前記更新基準を満たす更新のための使用可能な関連の更新リソースを識別するステップと、を含む上記（１２）に記載の方法。

【図面の簡単な説明】

【図１】導入されたアップデータ・コンポーネントを有するローカル・コンピュータ・システム、使用可能な更新のリスト及び更新を施すためのソフトウエア・リソースを記憶するサーバ・コンピュータ、及びサーバを見つけるためのサーチ・エンジンを含むコンピュータ・ネットワークの概略図である。

【図２】ソフトウエア・バージョン、及び或るバージョンから別のバージョンを形成するためのリソース及び前提のソフトウエア・ベンダのリストの一例である。

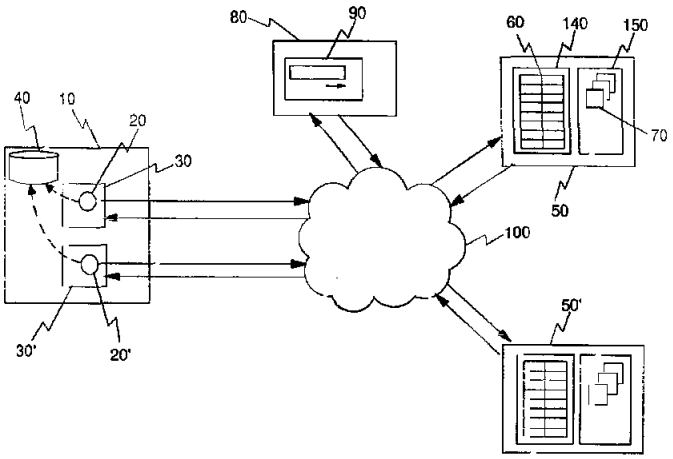
【図３】本発明の実施例に従ってアップデータ・コンポーネントの動作シーケンスを表す。

【図４】アップデータ・コンポーネントのオペレーションのシーケンスの一部分を更に示す。

【図５】アップデータ・コンポーネントのオペレーションのシーケンスの他の部分を更に示す。

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【図１】

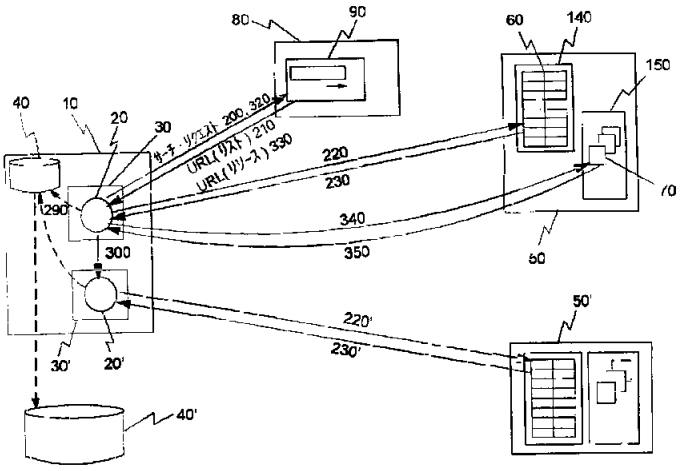


【図２】

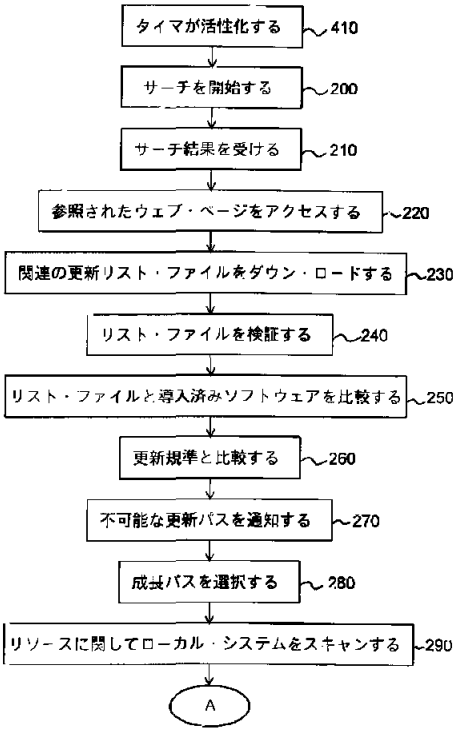
製品セット	更新リソース	前　提
ソフト製品１　v1.0.0	－	ｵﾍﾟﾚｰﾃｨﾝｸﾞ・ｼｽﾃﾑ T3　v2.0
ソフト製品１　v1.0.1	ソフト製品１に対するパッチ１	ｵﾍﾟﾚｰﾃｨﾝｸﾞ・ｼｽﾃﾑ T3　v2.0
ソフト製品１　v2.0.0	ソフト製品１に対するパッチ２	ｵﾍﾟﾚｰﾃｨﾝｸﾞ・ｼｽﾃﾑ T3　v2.0
ソフト製品１　v3.0.0	ソフト製品１　v3.0.0（置換）	ｵﾍﾟﾚｰﾃｨﾝｸﾞ・ｼｽﾃﾑ T3　v2.0
ソフトゲーム１　v1.0	－－	ｵﾍﾟﾚｰﾃｨﾝｸﾞ・ｼｽﾃﾑ T3　v2.0
ソフトゲーム２　v2.0	ソフトゲーム２に対するパッチ１	ｵﾍﾟﾚｰﾃｨﾝｸﾞ・ｼｽﾃﾑ T3　v3.0
ソフトゲーム３　v3.0	ソフトゲーム２に対するパッチ２	ｵﾍﾟﾚｰﾃｨﾝｸﾞ・ｼｽﾃﾑ T3　v3.0

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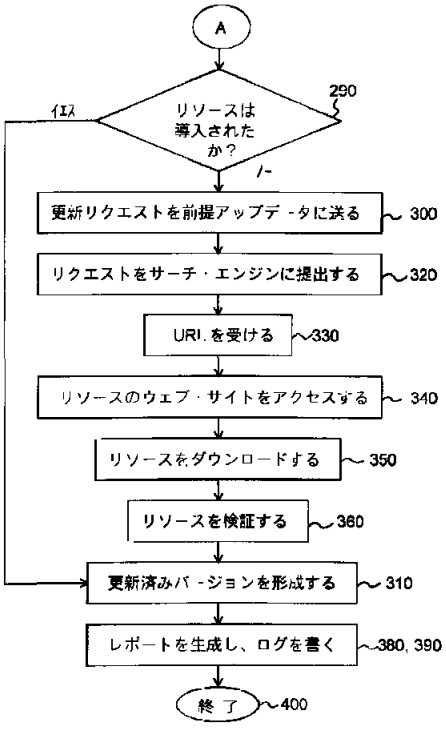
【図３】


80
90
60
140
150
40
10
20
30
サーチ・リクエスト 200, 320
URL(リスト) 210
URL(リソース) 330
220
230
70
290
340
350
300
50
60
220'
230'
50'
30'
20'
40'

【図４】


タイマが活性化する
410
サーチを開始する
200
サーチ結果を受ける
210
参照されたウェブ・ページをアクセスする
220
関連の更新リスト・ファイルをダウン・ロードする
230
リスト・ファイルを検証する
240
リスト・ファイルと導入済みソフトウェアを比較する
250
更新規準と比較する
260
不可能な更新パスを通知する
270
成長パスを選択する
280
リソースに関してローカル・システムをスキャンする
290
A

【図５】


A
リソースは導入されたか？
290
イエス
ノー
更新リクエストを前提アップデータに送る
300
リクエストをサーチ・エンジンに提出する
320
URLを受ける
330
リソースのウェブ・サイトをアクセスする
340
リソースをダウンロードする
350
リソースを検証する
360
更新済みバージョンを形成する
310
レポートを生成し、ログを書く
380, 390
終了
400

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UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
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APPLICATION NUMBER	FILING or 371(c) DATE	GRP ART UNIT	FIL FEE REC'D	ATTY.DOCKET.NO	TOT CLAIMS	IND CLAIMS
14/480,701	09/09/2014	2141	1330	7209-0003	28	4

CONFIRMATION NO. 9483

CORRECTED FILING RECEIPT

466
NIXON & VANDERHYE, PC
901 NORTH GLEBE ROAD
11TH FLOOR
ARLINGTON, VA 22203

OC000000121412804

Date Mailed: 11/18/2020

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

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

Inventor(s)

Ferid ALLANI, Kelibia, TUNISIA;

Applicant(s)

Ferid ALLANI, Kelibia, TUNISIA;

Power of Attorney: The patent practitioners associated with Customer Number 00466

Domestic Priority data as claimed by applicant

This application is a CON of 13/585,065 08/14/2012 ABN
which is a DIV of 10/169,355 11/05/2002 PAT 8271877
which is a 371 of PCT/FR00/03759 12/29/2000

Foreign Applications for which priority is claimed (You may be eligible to benefit from the **Patent Prosecution Highway** program at the USPTO. Please see http://www.uspto.gov for more information.) - None.
Foreign application information must be provided in an Application Data Sheet in order to constitute a claim to foreign priority. See 37 CFR 1.55 and 1.76.

Permission to Access Application via Priority Document Exchange: Yes

Permission to Access Search Results: No

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

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If Required, Foreign Filing License Granted: 09/15/2014
The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is **US 14/480,701**
Projected Publication Date: Not Applicable
Non-Publication Request: No
Early Publication Request: No
**** SMALL ENTITY ****
Title

METHOD AND DEVICE FOR ACCESSING INFORMATION SOURCES AND SERVICES ON THE WEB

Preliminary Class

715

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

PROTECTING YOUR INVENTION OUTSIDE THE UNITED STATES

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

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

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

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

For information on preventing theft of your intellectual property (patents, trademarks and copyrights), you may wish to consult the U.S. Government website, http://www.stopfakes.gov. Part of a Department of Commerce initiative, this website includes self-help "toolkits" giving innovators guidance on how to protect intellectual property in specific countries such as China, Korea and Mexico. For questions regarding patent enforcement issues, applicants may call the U.S. Government hotline at 1-866-999-HALT (1-866-999-4258).

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LICENSE FOR FOREIGN FILING UNDER

Title 35, United States Code, Section 184

Title 37, Code of Federal Regulations, 5.11 & 5.15

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NOTICE OF ALLOWANCE AND FEE(S) DUE

466 7590 01/13/2021

NIXON & VANDERHYE, PC
901 NORTH GLEBE ROAD
11TH FLOOR
ARLINGTON, VA 22203

EXAMINER	
MUHEBBULLAH, SAJEDA	
ART UNIT	PAPER NUMBER
2177	

DATE MAILED: 01/13/2021

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
14/480,701	09/09/2014	Ferid ALLANI	7209-0003	9483

TITLE OF INVENTION: METHOD AND DEVICE FOR ACCESSING INFORMATION SOURCES AND SERVICES ON THE WEB

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	SMALL	$600	$0.00	$0.00	$600	04/13/2021

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED. THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED. SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.

HOW TO REPLY TO THIS NOTICE:

I. Review the ENTITY STATUS shown above. If the ENTITY STATUS is shown as SMALL or MICRO, verify whether entitlement to that entity status still applies.

If the ENTITY STATUS is the same as shown above, pay the TOTAL FEE(S) DUE shown above.

If the ENTITY STATUS is changed from that shown above, on PART B - FEE(S) TRANSMITTAL, complete section number 5 titled "Change in Entity Status (from status indicated above)".

For purposes of this notice, small entity fees are 1/2 the amount of undiscounted fees, and micro entity fees are 1/2 the amount of small entity fees.

II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

IMPORTANT REMINDER: Maintenance fees are due in utility patents issuing on applications filed on or after Dec. 12, 1980. It is patentee's responsibility to ensure timely payment of maintenance fees when due. More information is available at www.uspto.gov/PatentMaintenanceFees.

PTOL-85 (Rev. 02/11)

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PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), by mail or fax, or via EFS-Web.

By mail, send to: Mail Stop ISSUE FEE
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

By fax, send to: (571)-273-2885

INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

466 7590 01/13/2021
NIXON & VANDERHYE, PC
901 NORTH GLEBE ROAD
11TH FLOOR
ARLINGTON, VA 22203

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

Certificate of Mailing or Transmission

I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being transmitted to the USPTO via EFS-Web or by facsimile to (571) 273-2885, on the date below.

(Typed or printed name)
(Signature)
(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
14/480,701	09/09/2014	Ferid ALLANI	7209-0003	9483

TITLE OF INVENTION: METHOD AND DEVICE FOR ACCESSING INFORMATION SOURCES AND SERVICES ON THE WEB

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	SMALL	$600	$0.00	$0.00	$600	04/13/2021

EXAMINER	ART UNIT	CLASS-SUBCLASS
MUHEBBULLAH, SAJEDA	2177	715-760000

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

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

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

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

1 _____
2 _____
3 _____

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

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document must have been previously recorded, or filed for recordation, as set forth in 37 CFR 3.11 and 37 CFR 3.81(a). Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE (B) RESIDENCE: (CITY and STATE OR COUNTRY)

Please check the appropriate assignee category or categories (will not be printed on the patent) : ❑ Individual ❑ Corporation or other private group entity ❑ Government

4a. Fees submitted: ❑Issue Fee ❑Publication Fee (if required) ❑Advance Order - # of Copies _____

4b. Method of Payment: *(Please first reapply any previously paid fee shown above)*

❑ Electronic Payment via EFS-Web ❑ Enclosed check ❑ Non-electronic payment by credit card (Attach form PTO-2038)

❑ The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment to Deposit Account No. _____

5. **Change in Entity Status** (from status indicated above)

❑ Applicant certifying micro entity status. See 37 CFR 1.29

❑ Applicant asserting small entity status. See 37 CFR 1.27

❑ Applicant changing to regular undiscounted fee status.

NOTE: Absent a valid certification of Micro Entity Status (see forms PTO/SB/15A and 15B), issue fee payment in the micro entity amount will not be accepted at the risk of application abandonment.
NOTE: If the application was previously under micro entity status, checking this box will be taken to be a notification of loss of entitlement to micro entity status.
NOTE: Checking this box will be taken to be a notification of loss of entitlement to small or micro entity status, as applicable.

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

Authorized Signature _____ Date _____

Typed or printed name _____ Registration No. _____

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Apple EX1002 Page 887

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
14/480,701	09/09/2014	Ferid ALLANI	7209-0003	9483

466 7590 01/13/2021

NIXON & VANDERHYE, PC
901 NORTH GLEBE ROAD
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ARLINGTON, VA 22203

EXAMINER	
MUHEBBULLAH, SAJEDA	
ART UNIT	PAPER NUMBER
2177	

DATE MAILED: 01/13/2021

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b)
(Applications filed on or after May 29, 2000)

The Office has discontinued providing a Patent Term Adjustment (PTA) calculation with the Notice of Allowance.

Section 1(h)(2) of the AIA Technical Corrections Act amended 35 U.S.C. 154(b)(3)(B)(i) to eliminate the requirement that the Office provide a patent term adjustment determination with the notice of allowance. See Revisions to Patent Term Adjustment, 78 Fed. Reg. 19416, 19417 (Apr. 1, 2013). Therefore, the Office is no longer providing an initial patent term adjustment determination with the notice of allowance. The Office will continue to provide a patent term adjustment determination with the Issue Notification Letter that is mailed to applicant approximately three weeks prior to the issue date of the patent, and will include the patent term adjustment on the patent. Any request for reconsideration of the patent term adjustment determination (or reinstatement of patent term adjustment) should follow the process outlined in 37 CFR 1.705.

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

PTOL-85 (Rev. 02/11)

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OMB Clearance and PRA Burden Statement for PTOL-85 Part B

The Paperwork Reduction Act (PRA) of 1995 requires Federal agencies to obtain Office of Management and Budget approval before requesting most types of information from the public. When OMB approves an agency request to collect information from the public, OMB (i) provides a valid OMB Control Number and expiration date for the agency to display on the instrument that will be used to collect the information and (ii) requires the agency to inform the public about the OMB Control Number's legal significance in accordance with 5 CFR 1320.5(b).

The information collected by PTOL-85 Part B is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 30 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450. Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

Privacy Act Statement

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

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

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

Notice of Allowability	Application No. 14/480,701	Applicant(s) ALLANI, Ferid	
	Examiner SAJEDA MUHEBBULLAH	Art Unit 2177	AIA (FITF) Status No

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

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

1. ☑ This communication is responsive to Amendment filed 06/12/2020 and RCE filed 11/02/2020.
   ☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on _____.

2. ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on _____; the restriction requirement and election have been incorporated into this action.

3. ☑ The allowed claim(s) is/are 1-4 and 6-28 . As a result of the allowed claim(s), you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information , please see **http://www.uspto.gov/patents/init_events/pph/index.jsp** or send an inquiry to **PPHfeedback@uspto.gov.**

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

   Certified copies:

   a) ☑ All b) ☐ Some *c) ☐ None of the:

   1. ☐ Certified copies of the priority documents have been received.
   2. ☑ Certified copies of the priority documents have been received in Application No. 10/169355 .
   3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

   * Certified copies not received: _____ .

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

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

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

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

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☑ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date 11/02/2020.
3. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material _____.
4. ☑ Interview Summary (PTO-413), Paper No./Mail Date. 20200810.
5. ☑ Examiner's Amendment/Comment
6. ☐ Examiner's Statement of Reasons for Allowance
7. ☐ Other _____.

/SAJEDA MUHEBBULLAH/
Examiner, Art Unit 2177

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EXAMINER'S AMENDMENT

Allowable Subject Matter

1. Claims 1-4 and 6-28 are allowed.

2. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

3. Authorization for this examiner's amendment was given in an interview with Jeff Goehring on August 7, 2020.

4. The application has been amended as follows:

Claim 1 is amended:

1. Apparatus for accessing information- or service-providing Web sites, comprising a communication device connectable through a communication network to the Internet, control and processing device or devices, data storage device or devices, and a display, said storage device or devices containing a plurality of selection pages within a tree menu structure, said selection pages being beforehand locally stored in said data storage device or devices and each being specifically designed for containing a set of icons including at least one of a direct access icon for directly accessing remote sources of information and a selection icon for locally accessing another selection page within said tree menu structure,

wherein said plurality of selection pages includes:

[-] a first selection page, a second selection page and a third selection page, said first selection page being specifically designed for containing a selection icon for locally accessing said second selection page, said second selection page being specifically designed for containing a selection icon for locally accessing said third selection page, said third selection page being specifically designed for containing one or more direct access icons for directly accessing an information- or service- providing Web site, and

[-] at least one selection page being specifically designed for containing one or more icons for directly accessing a search engine on the Web,

wherein the control and processing device or devices are programmed for:

[-] enabling a preliminary search locally performed within said communication device in different themes and sub themes within said plurality of selection pages, and

[-] emitting on the communication network, in response to selection of a direct access icon in a selection page being currently displayed, an address of an information- or service-providing Web site corresponding to said selected direct access icon, said address being locally generated during the preliminary search and selection,

wherein the apparatus is implemented in a mobile phone.

Claim 28 is amended:

28. A method for accessing information- or service-providing Web sites, from a mobile communication device connected through a communication network and provided with a display, comprising:

[-] a preliminary search for information or service, locally performed within said communication device in different themes and sub-themes within a plurality of successively

displayed selection pages, said selection pages being organized in a tree menu structure and beforehand locally stored within said communication device, each said selection page being specifically designed to include a set of icons, said selection pages further comprising a first selection page, a second selection page and a third selection page, said first selection page being specifically designed to include a selection icon for locally accessing said second selection page, and said second selection page being specifically designed to include a selection icon for locally accessing said third selection page, said third selection page being specifically designed to include one or more direct access icons for directly accessing an information- or service-providing Web site, and

[-] emitting on the communication network, in response to a selection of a direct access icon in a selection page being currently displayed, an address of an information- or service-providing web site corresponding to said selected icon, said address being locally generated during said displaying and selection and for directly accessing said information- or service-providing Web site,

wherein:

[-] at least one of said selection pages further being specifically designed to include one or more icons for directly accessing a search engine on the Web, and

[-] the mobile communication device is a mobile phone.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to SAJEDA MUHEBBULLAH whose telephone number is (571)272-4065. The examiner can normally be reached on Mon-Thur 8am-5pm.

Examiner interviews are available via telephone, in-person, and video conferencing using a USPTO supplied web-based collaboration tool. To schedule an interview, applicant is encouraged to use the USPTO Automated Interview Request (AIR) at http://www.uspto.gov/interviewpractice.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cesar B. Paula can be reached on 571-272-4128. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see https://ppair-my.uspto.gov/pair/PrivatePair. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/S.M./
Sajeda Muhebbullah
Examiner, Art Unit 2141

/CESAR B PAULA/
Supervisory Patent Examiner, Art Unit 2177

Examiner-Initiated Interview Summary	Application No. 14/480,701	Applicant(s) ALLANI, Ferid		
	Examiner SAJEDA MUHEBBULLAH	Art Unit 2177	AIA (First Inventor to File) Status No	Page 1 of 1

All participants (applicant, applicants representative, PTO personnel):

1. SAJEDA MUHEBBULLAH (Examiner); Telephonic 2. Jeffrey Goehring (Attorney); Telephonic

Date of Interview: 07 August 2020

Claims Discussed: 1, 28

Amendment proposed: Examiner requested amendments to claims 1 and 28 to correct grammatical errors.

Brief Description of the main topic(s) of discussion: Examiner requested amendments to claims 1 and 28 to correct grammatical errors.

Issues Discussed:

Proposed Amendments:
Examiner requested amendments to claims 1 and 28 to correct grammatical errors removing excess '-'

/SAJEDA MUHEBBULLAH/ Examiner, Art Unit 2177	

Applicant is reminded that a complete written statement as to the substance of the interview must be made of record in the application file. It is the applicants responsibility to provide the written statement, unless the interview was initiated by the Examiner and the Examiner has indicated that a written summary will be provided. See MPEP 713.04
Please further see:
MPEP 713.04
Title 37 Code of Federal Regulations (CFR) § 1.133 Interviews, paragraph (b)
37 CFR § 1.2 Business to be transacted in writing

Applicant recordation instructions: It is not necessary for applicant to provide a separate record of the substance of interview .

Examiner recordation instructions: Examiners must summarize the substance of any interview of record. A complete and proper recordation of the substance of an interview should include the items listed in MPEP 713.04 for complete and proper recordation including the identification of the general thrust of each argument or issue discussed, a general indication of any other pertinent matters discussed regarding patentability and the general results or outcome of the interview, to include an indication as to whether or not agreement was reached on the issues raised.

Index of Claims	Application/Control No.	Applicant(s)/Patent Under Reexamination
	14/480,701	ALLANI, Ferid
	Examiner	**Art Unit**
	SAJEDA MUHEBBULLAH	2177

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

CLAIMS

☐ Claims renumbered in the same order as presented by applicant ☐ CPA ☐ T.D. ☐ R.1.47

CLAIM		DATE								
Final	Original	09/01/2016	06/08/2017	09/20/2018	09/28/2018	05/20/2019	12/05/2019	08/10/2020	12/30/2020	
1	1	✓	✓	✓	✓	✓	✓	=	=	
2	2	✓	✓	✓	✓	✓	✓	=	=	
3	3	✓	✓	✓	✓	✓	✓	=	=	
4	4	✓	✓	✓	✓	✓	✓	=	=	
	5	✓	✓	✓	✓	✓	-	-	-	
5	6	✓	✓	✓	✓	✓	✓	=	=	
6	7	✓	✓	✓	✓	✓	✓	=	=	
7	8	✓	✓	✓	✓	✓	✓	=	=	
8	9	✓	✓	✓	✓	✓	✓	=	=	
9	10	✓	✓	✓	✓	✓	✓	=	=	
10	11	✓	✓	✓	✓	✓	✓	=	=	
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12	13	✓	✓	✓	✓	✓	✓	=	=	
13	14	✓	✓	✓	✓	✓	✓	=	=	
14	15	✓	✓	✓	✓	✓	✓	=	=	
15	16	✓	✓	✓	✓	✓	✓	=	=	
16	17	✓	✓	✓	✓	✓	✓	=	=	
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23	24	✓	✓	✓	✓	✓	✓	=	=	
24	25	✓	✓	✓	✓	✓	✓	=	=	
25	26	✓	✓	✓	✓	✓	✓	=	=	
26	27	✓	✓	✓	✓	✓	✓	=	=	
27	28	✓	✓	✓	✓	✓	✓	=	=	

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Issue Classification	Application/Control No.	Applicant(s)/Patent Under Reexamination
	14/480,701	ALLANI, Ferid
	Examiner	**Art Unit**
	SAJEDA MUHEBBULLAH	2177

CPC							
Symbol						**Type**	**Version**
G06F	/	40	/	14		F	2020-01-01
G06F	/	16	/	951		I	2019-01-01
G06F	/	16	/	954		I	2019-01-01
G06F	/	16	/	95		I	2019-01-01
G06F	/	16	/	93		I	2019-01-01
G06F	/	3	/	04817		I	2013-01-01
G06F	/	3	/	0482		I	2013-01-01
G06F	/	3	/	0484		I	2013-01-01

CPC Combination Sets								
Symbol					**Type**	**Set**	**Ranking**	**Version**
	/		/					

/SAJEDA MUHEBBULLAH/ Examiner, Art Unit 2141 (Assistant Examiner)	30 December 2020 (Date)	**Total Claims Allowed:** 27	
(Primary Examiner)	(Date)	O.G. Print Claim(s) 22	O.G. Print Figure 2

U.S. Patent and Trademark Office — Part of Paper No.: 20201230

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Apple EX1002 Page 898

Issue Classification	Application/Control No.	Applicant(s)/Patent Under Reexamination
	14/480,701	ALLANI, Ferid
	Examiner	**Art Unit**
	SAJEDA MUHEBBULLAH	2177

INTERNATIONAL CLASSIFICATION				
CLAIMED				
G06F40/14	/	40	/	14
G06F16/951	/	16	/	951
G06F16/954	/	16	/	954
G06F16/95	/	16	/	95
G06F16/93	/	16	/	93
G06F3/0481	/	3	/	0481
G06F3/0482	/	3	/	0482
G06F3/0484	/	3	/	0484

NON-CLAIMED				
	/		/	

US ORIGINAL CLASSIFICATION	
CLASS	**SUBCLASS**

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

/SAJEDA MUHEBBULLAH/ Examiner, Art Unit 2141 (Assistant Examiner)	30 December 2020 (Date)	**Total Claims Allowed:** 27	
(Primary Examiner)	(Date)	O.G. Print Claim(s) 22	O.G. Print Figure 2

U.S. Patent and Trademark Office — Part of Paper No.: 20201230

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Issue Classification	Application/Control No.	Applicant(s)/Patent Under Reexamination
	14/480,701	ALLANI, Ferid
	Examiner	**Art Unit**
	SAJEDA MUHEBBULLAH	2177

☐ Claims renumbered in the same order as presented by applicant ☐ CPA ☐ T.D. ☐ R.1.47

CLAIMS

Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original
1	1	9	10	18	19	27	28								
2	2	10	11	19	20										
3	3	11	12	20	21										
4	4	12	13	21	22										
	5	13	14	22	23										
5	6	14	15	23	24										
6	7	15	16	24	25										
7	8	16	17	25	26										
8	9	17	18	26	27										

/SAJEDA MUHEBBULLAH/ Examiner, Art Unit 2141 (Assistant Examiner)	30 December 2020 (Date)	**Total Claims Allowed:** 27	
(Primary Examiner)	(Date)	O.G. Print Claim(s) 22	O.G. Print Figure 2

U.S. Patent and Trademark Office Part of Paper No.: 20201230

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Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
	14/480,701	ALLANI, Ferid
	Examiner	Art Unit
	SAJEDA MUHEBBULLAH	2177

CPC - Searched*		
Symbol	**Date**	**Examiner**
G06F 16/954	12/30/2020	SM
G06F 16/95	12/30/2020	SM

CPC Combination Sets - Searched*		
Symbol	**Date**	**Examiner**

US Classification - Searched*			
Class	**Subclass**	**Date**	**Examiner**

* See search history printout included with this form or the SEARCH NOTES box below to determine the scope of the search.

Search Notes		
Search Notes	**Date**	**Examiner**
EAST search - CPC (G06F3/04817.cpc or G06F3/0483.cpc. or G06F16/95.cpc. or G06F16/954.cpc. or G06F16/93.cpc.) search with keywords see S138, S140, S142, L13	12/30/2020	SM
DP/Inventor search via PALM	12/30/2020	SM
NPL search (IP.com) see search notes	12/30/2020	SM

/SAJEDA MUHEBBULLAH/ Examiner, Art Unit 2141	

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Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
	14/480,701	ALLANI, Ferid
	Examiner	Art Unit
	SAJEDA MUHEBBULLAH	2177

Interference Search			
US Class/CPC Symbol	**US Subclass/CPC Group**	**Date**	**Examiner**
G06F	16/93	12/30/2020	SM
G06F	16/95	12/30/2020	SM
G06F	16/954	12/30/2020	SM

/SAJEDA MUHEBBULLAH/ Examiner, Art Unit 2141	

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Bibliographic Data

Application No: 14/480,701

Foreign Priority claimed: (•) Yes ( ) No

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

Verified and Acknowledged: /SAJEDA MUHEBBULLAH/ (Examiner's Signature) S.M. (Initials)

Title: METHOD AND DEVICE FOR ACCESSING INFORMATION SOURCES AND SERVICES ON THE WEB

FILING or 371(c) DATE	CLASS	GROUP ART UNIT	ATTORNEY DOCKET NO.
09/09/2014	715	2177	7209-0003
RULE			

APPLICANTS

INVENTORS

Ferid ALLANI, Kelibia, TUNISIA

CONTINUING DATA

This application is a CON of 13585065 08/14/2012ABN

13585065 is a DIV of 10169355 11/05/2002 PAT 8271877 /S.M./

10169355 is a 371 of PCT/FR00/03759 12/29/2000

FOREIGN APPLICATIONS

IF REQUIRED, FOREIGN LICENSE GRANTED**

09/15/2014

** SMALL ENTITY **

STATE OR COUNTRY

TUNISIA

ADDRESS

NIXON & VANDERHYE, PC
901 NORTH GLEBE ROAD
11TH FLOOR
ARLINGTON, VA 22203
UNITED STATES

FILING FEE RECEIVED

$1,330

Doc code: IDS
Doc description: Information Disclosure Statement (IDS) Filed

PTO/SB/08a (02-18)
Approved for use through 11/30/2020. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT
(Not for submission under 37 CFR 1.99)

Application Number	14480701
Filing Date	2014-09-09
First Named Inventor	Ferid ALLANI
Art Unit	2141
Examiner Name	MUHEBBULLAH, SAJEDA
Attorney Docket Number	7209-0003

U.S.PATENTS Remove

Examiner Initial*	Cite No	Patent Number	Kind Code[1]	Issue Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1	5801702	A	1998-09-01	Dolan et al.	
	2	5870769	A	1999-02-09	Freund	
	3	5953720	A	1999-09-14	Mithal et al.	
	4	5963964	A	1999-10-05	Nielsen	

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Examiner Initial*	Cite No	Publication Number	Kind Code[1]	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1					

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Examiner Initial*	Cite No	Foreign Document Number[3]	Country Code[2]	Kind Code[4]	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear	T[5]

EFS Web 2.1.18

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /S.M./

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	14480701
	Filing Date	2014-09-09
	First Named Inventor	Ferid ALLANI
	Art Unit	2141
	Examiner Name	MUHEBBULLAH, SAJEDA
	Attorney Docket Number	7209-0003

	1	H11-212998	JP	A	1999-08-06	FUJI XEROX CO LTD	English abstract provided	
	2	H11-68823	JP	A	1999-03-09	SONY CORP	English abstract provided	
	3	H10-149372	JP	A	1998-06-02	JIN CORP KK	English abstract provided	
	4	H11-272454	JP	A	1999-10-08	IBM	English abstract provided	
	5	H11-205711	JP	A	1999-07-30	SANYO ELECTRIC CO LTD	English abstract provided	
	6	H10-245889	JP	A	1998-09-25	MITSUBISHI ELECTRIC CORP	English abstract provided	
	7	99/17229	WO	A1	1999-04-08	FUJITSU LIMITED	English abstract provided	

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Examiner Initials*	Cite No	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, pages(s), volume-issue number(s), publisher, city and/or country where published.	T5
	1	MOHAN, R. et al., "Adapting Multimedia Internet Content for Universal Access," IEEE TRANSACTIONS ON MULTIMEDIA, VOL. 1, NO. 1, MARCH 1999	

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Apple EX1002 Page 905

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	14480701
	Filing Date	2014-09-09
	First Named Inventor	Ferid ALLANI
	Art Unit	2141
	Examiner Name	MUHEBBULLAH, SAJEDA
	Attorney Docket Number	7209-0003

EXAMINER SIGNATURE			
Examiner Signature	/SAJEDA MUHEBBULLAH/	Date Considered	12/28/2020

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

[1] See Kind Codes of USPTO Patent Documents at www.USPTO.GOV or MPEP 901.04. [2] Enter office that issued the document, by the two-letter code (WIPO Standard ST.3). [3] For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. [4] Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. [5] Applicant is to place a check mark here if English language translation is attached.

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /S.M./

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	14480701
	Filing Date	2014-09-09
	First Named Inventor	Ferid ALLANI
	Art Unit	2141
	Examiner Name	MUHEBBULLAH, SAJEDA
	Attorney Docket Number	7209-0003

CERTIFICATION STATEMENT

Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):

That each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(1).

OR

☐ That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(2).

See attached certification statement.

The fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

☒ A certification statement is not submitted herewith.

SIGNATURE

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature	/Eric Jensen/	Date (YYYY-MM-DD)	2020-11-02
Name/Print	Eric Jensen	Registration Number	37855

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 1 hour to complete, including gathering, preparing and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether the Freedom of Information Act requires disclosure of these record s.

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5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.

6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).

7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.

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Main Concept Text
==========
((quer*3 or search*3 or locat*3 or retriev*4) same (website or webpage or internet or web*5) same (categor*4 or hierarch*6 or directory or tree or catalog*3 or guide))

(No Concept Modifiers)
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Filters (2)
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Publication Date: To 1999-12-30

Classic Syntax limited to: (cell*6 or mobile or pda or cellphone)

Options
==========
De-dup: None
Cut-off: None
Sort: Relevance

Content: Non-Patent Literature (25)
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IEEE Xplore Publications: IEEE Periodicals
IEEE Xplore Publications: IEEE Conferences
IEEE Xplore Publications: IEEE Standards
IEEE Xplore Publications: IEEE Early Access
IEEE Xplore Publications: IET Periodicals
IEEE Xplore Publications: IET Conferences
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Other Literature: IBM Redbooks
Other Literature: PubMed Central

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EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L3	6,487	G06F16/95.cpc.	US-PGPUB; USPAT; FPRS; EPO; JPO	OR	ON	2020/12/30 19:56
L4	18,393	G06F16/93.cpc.	US-PGPUB; USPAT; FPRS; EPO; JPO	OR	ON	2020/12/30 19:57
L5	9,155	G06F16/954.cpc.	US-PGPUB; USPAT; FPRS; EPO; JPO	OR	ON	2020/12/30 19:57
L6	13,434	G06F3/0483.cpc.	US-PGPUB; USPAT; FPRS; EPO; JPO	OR	ON	2020/12/30 19:57
L8	38,032	G06F3/04817.cpc.	US-PGPUB; USPAT; FPRS; EPO; JPO	OR	ON	2020/12/30 19:57
L9	81,321	3 or 4 or 5 or 6 or 8	US-PGPUB; USPAT; FPRS; EPO; JPO	OR	ON	2020/12/30 19:58
L10	160,972	((quer$3 or search$3 or locat$3 or retriev$4) same (website or webpage or internet or web$5) same (categor$4 or hierarch$6 or directory or tree or catalog$3 or guide))	US-PGPUB; USPAT; FPRS; EPO; JPO	OR	ON	2020/12/30 19:58

L12	5,996	9 and 10	US-PGPUB; USPAT; FPRS; EPO; JPO	OR	ON	2020/12/30 19:59
L13	147	@ad<"19991230" and 12	US-PGPUB; USPAT; FPRS; EPO; JPO	OR	ON	2020/12/30 19:59
S1	15	("5959945" | "5930769" | "6032130" | "5933827" | "6072492" | "6665687" | "6587835" | "7454706" | "6456303" | "6816172" | "20010014868" | "20040019610" | "6934690" | "20020089534" | "6868525").PN.	US-PGPUB; USPAT	OR	ON	2012/06/12 10:00
S2	324	715/712-713.ccls.	US-PGPUB; USPAT	OR	ON	2012/06/12 10:05
S3	121	715/712-713.ccls. and (mobil$4 or portab$5)	US-PGPUB; USPAT	OR	ON	2012/06/12 10:06
S4	116	715/712-713.ccls. and (mobil$4 or portab$5) and (quer$3 or search$3 or locat$3 or retriev$4)	US-PGPUB; USPAT	OR	ON	2012/06/12 10:07
S5	10	"169355".ap.	US-PGPUB; USPAT	OR	ON	2012/06/12 10:07
S6	0	("2003/0120746").URPN.	USPAT	OR	ON	2012/06/12 10:08
S7	2,998,014	@ad<"19991230"	US-PGPUB; USPAT	OR	ON	2012/06/12 10:09
S8	171,716	S7 and (mobil$4 or portab$5) and (quer$3 or search$3 or locat$3 or retriev$4)	US-PGPUB; USPAT	OR	ON	2012/06/12 10:09
S9	25,034	S7 and (mobil$4 or portab$5) and (quer$3 or search$3 or locat$3 or retriev$4) and (website or webpage or internet or web$5)	US-PGPUB; USPAT	OR	ON	2012/06/12 10:10
S10	65,514	"715"/$.ccls.	US-PGPUB; USPAT	OR	ON	2012/06/12 10:11

S11	953	S10 and S7 and (mobil$4 or portab$5) and (quer$3 or search$3 or locat$3 or retriev$4) and (website or webpage or internet or web$5)	US-PGPUB; USPAT	OR	ON	2012/06/12 10:11
S12	587	S10 and S7 and (mobil$4 or portab$5) and ((quer$3 or search$3 or locat$3 or retriev$4) same (website or webpage or internet or web$5))	US-PGPUB; USPAT	OR	ON	2012/06/12 10:13
S13	156	S10 and S7 and (mobil$4 or portab$5) and ((quer$3 or search$3 or locat$3 or retriev$4) same (website or webpage or internet or web$5) same (categor$4 or hierarch$6 or directory or tree or catalog$3 or guide))	US-PGPUB; USPAT	OR	ON	2012/06/12 10:14
S14	89	S10 and S7 and icon$3 and (mobil$4 or portab$5) and ((quer$3 or search$3 or locat$3 or retriev$4) same (website or webpage or internet or web$5) same (categor$4 or hierarch$6 or directory or tree or catalog$3 or guide))	US-PGPUB; USPAT	OR	ON	2012/06/12 11:07
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S17	297	340/970.ccls.	US-PGPUB; USPAT	OR	ON	2012/06/12 15:15
S18	12	340/970.ccls. and altitude and (user adj interface)	US-PGPUB; USPAT	OR	ON	2012/06/12 15:15
S19	17	("5959945" | "6072492" | "6816172" | "20010014868" | "20020089534" | "6032130" | "6628307" | "5933827" | "6587835" | "7143055" | "20040019610" | "6665687" | "7454706" | "6456303" | "6868525" | "6934690" | "5930769").PN.	US-PGPUB; USPAT	OR	ON	2016/05/31 09:29
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S21	11	S20 and (search near3 engine)	US-PGPUB; USPAT	OR	ON	2016/09/02 21:31
S22	2,998,271	@ad<"19991230"	US-PGPUB; USPAT	OR	ON	2016/09/02 21:40
S23	1,090	multi$4 near3 page near3 interface	US-PGPUB; USPAT	OR	ON	2016/09/02 21:40
S24	31	@ad<"19991230" and S23	US-PGPUB; USPAT	OR	ON	2016/09/02 21:40
S25	169	(hierarch$7 or tree) near3 page near3 interface	US-PGPUB; USPAT	OR	ON	2016/09/02 21:45
S26	2	@ad<"19991230" and S25	US-PGPUB; USPAT	OR	ON	2016/09/02 21:45
S27	1,315	((hierarch$7 or tree) near3 page) same interface	US-PGPUB; USPAT	OR	ON	2016/09/02 21:47
S28	66	@ad<"19991230" and S27	US-PGPUB; USPAT	OR	ON	2016/09/02 21:47
S29	656	((hierarch$7 or tree) near3 page) with search$3	US-PGPUB; USPAT	OR	ON	2016/09/02 22:11
S30	38	@ad<"19991230" and S29	US-PGPUB; USPAT	OR	ON	2016/09/02 22:11
S31	1,544	((hierarch$7 or tree) near3 page) with (quer$3 or search$3 or locat$3 or retriev$4)	US-PGPUB; USPAT	OR	ON	2016/09/02 22:19
S32	675,327	local$4 with (website or webpage or internet or web$5 or remote$4)	US-PGPUB; USPAT	OR	ON	2016/09/02 22:20
S33	26	S31 same S32	US-PGPUB; USPAT	OR	ON	2016/09/02 22:20
S34	1	@ad<"19991230" and S33	US-PGPUB; USPAT	OR	ON	2016/09/02 22:20
S35	111,717	((hierarch$7 or tree)) with (quer$3 or search$3 or locat$3 or retriev$4)	US-PGPUB; USPAT	OR	ON	2016/09/02 22:21

S36	1,473	S35 same S32	US-PGPUB; USPAT	OR	ON	2016/09/02 22:21
S37	85	@ad<"19991230" and S36	US-PGPUB; USPAT	OR	ON	2016/09/02 22:21
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S39	38	@ad<"19991230" and S36 and (G06F17/$.cpc. or G06F3/$.cpc.)	US-PGPUB; USPAT	OR	ON	2016/09/02 22:24
S40	13	"480701".ap.	US-PGPUB; USPAT	OR	ON	2016/09/02 23:26
S41	1	(US-20150020005-$).did.	US-PGPUB	OR	ON	2016/09/02 23:47
S42	1	S41 and rolling	US-PGPUB; USPAT	OR	ON	2016/09/02 23:47
S43	15	rolling adj menu	US-PGPUB; USPAT	OR	ON	2016/09/02 23:48
S44	20	(US-20040019610-$ or US-20010014868-$ or US-20020089534-$).did. or (US-6665687-$ or US-5933827-$ or US-5959945-$ or US-6032130-$ or US-6587835-$ or US-6934690-$ or US-5930769-$ or US-6456303-$ or US-7454706-$ or US-6816172-$ or US-6072492-$ or US-6868525-$ or US-6516329-$ or US-6211871-$ or US-7143055-$ or US-6628307-$ or US-5875446-$).did.	US-PGPUB; USPAT	OR	ON	2016/09/03 00:26
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S46	5	S44 and (cellular or mobile or cellphone)	US-PGPUB; USPAT	OR	ON	2016/09/03 00:43
S47	7	S44 and (phone)	US-PGPUB; USPAT	OR	ON	2016/09/03 00:45

S48	13	S44 and (telephone)	US-PGPUB; USPAT	OR	ON	2016/09/03 00:45
S49	5	S44 and pda	US-PGPUB; USPAT	OR	ON	2016/09/03 00:47
S50	5	S44 and (cell$6 or mobile or cellphone)	US-PGPUB; USPAT	OR	ON	2016/09/03 00:49
S51	20	(US-20040019610-$ or US-20010014868-$ or US-20020089534-$).did. or (US-6665687-$ or US-5933827-$ or US-5959945-$ or US-6032130-$ or US-6587835-$ or US-6934690-$ or US-5930769-$ or US-6456303-$ or US-7454706-$ or US-6816172-$ or US-6072492-$ or US-6868525-$ or US-6516329-$ or US-6211871-$ or US-7143055-$ or US-6628307-$ or US-5875446-$).did.	US-PGPUB; USPAT	OR	ON	2016/09/03 02:05
S52	12	S51 and click$4	US-PGPUB; USPAT	OR	ON	2016/09/03 02:05
S53	16	S51 and (load$3 or download$3)	US-PGPUB; USPAT	OR	ON	2016/09/03 02:12
S54	0	icon with distin$5 with local$4 with (link or webpage or website)	US-PGPUB; USPAT	OR	ON	2016/09/03 02:38
S55	161	icon with distin$5 with (link or webpage or website)	US-PGPUB; USPAT	OR	ON	2016/09/03 02:39
S56	16	@ad<"19991230" and S55	US-PGPUB; USPAT	OR	ON	2016/09/03 02:39
S57	1,559	icon near4 (distinguish$ or different$4 or distinct$4) near4 visual$4	US-PGPUB; USPAT	OR	ON	2016/09/03 02:44
S58	91	@ad<"19991230" and S57	US-PGPUB; USPAT	OR	ON	2016/09/03 02:44
S59	26	icon near4 (distinguish$ or different$4 or distinct$4) near4 visual$4 near5 level	US-PGPUB; USPAT	OR	ON	2016/09/03 02:45
S60	2	@ad<"19991230" and S59	US-PGPUB; USPAT	OR	ON	2016/09/03 02:45

S61	13	icon near4 (distinguish$ or different$4 or distinct$4) near4 visual$4 with (hierarch$7 or tree)	US-PGPUB; USPAT	OR	ON	2016/09/03 02:46
S62	3	@ad<"19991230" and S61	US-PGPUB; USPAT	OR	ON	2016/09/03 02:46
S63	338	icon near4 (bookmark) with web$4	US-PGPUB; USPAT	OR	ON	2017/06/08 16:01
S64	9	@ad<"19991230" and S63	US-PGPUB; USPAT	OR	ON	2017/06/08 16:02
S65	59	icon near4 (document) with (web$4 adj2 link)	US-PGPUB; USPAT	OR	ON	2017/06/08 18:26
S66	5	@ad<"19991230" and S65	US-PGPUB; USPAT	OR	ON	2017/06/08 18:26
S67	70	icon near4 (document) with (web$4 adj2 (URL or link))	US-PGPUB; USPAT	OR	ON	2017/06/08 19:25
S68	7	@ad<"19991230" and S67	US-PGPUB; USPAT	OR	ON	2017/06/08 19:26
S69	49	bookmark with (document) with (web$4 adj2 (URL or link))	US-PGPUB; USPAT	OR	ON	2017/06/08 19:27
S70	2	@ad<"19991230" and S69	US-PGPUB; USPAT	OR	ON	2017/06/08 19:27
S71	52	bookmark$3 with (document) with (web$4 adj2 (URL or link))	US-PGPUB; USPAT	OR	ON	2017/06/08 19:27
S72	2	@ad<"19991230" and S71	US-PGPUB; USPAT	OR	ON	2017/06/08 19:27
S73	142	bookmark$3 same (document) same (web$4 adj2 (URL or link))	US-PGPUB; USPAT	OR	ON	2017/06/08 19:29
S74	14	@ad<"19991230" and S73	US-PGPUB; USPAT	OR	ON	2017/06/08 19:29
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S76	25	@ad<"19991230" and S75	US-PGPUB; USPAT	OR	ON	2017/06/08 19:36
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S78	124	@ad<"19991230" and S77	US-PGPUB; USPAT	OR	ON	2017/06/08 20:00
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S80	7	S79 and bookmark$3	US-PGPUB; USPAT	OR	OFF	2017/06/09 00:14
S81	20	("5959945" | "6072492" | "6816172" | "20010014868" | "20020089534" | "6032130" | "6628307" | "6623529" | "5933827" | "6587835" | "7143055" | "20040019610" | "6665687" | "7454706" | "6456303" | "6868525" | "6934690" | "20020109706" | "5930769" | "5802299" | "5933827").PN.	US-PGPUB; USPAT	OR	ON	2018/09/20 20:56
S82	28	(US-20040019610-$ or US-20010014868-$ or US-20020089534-$ or US-20020109706-$).did. or (US-6665687-$ or US-5933827-$ or US-5959945-$ or US-6032130-$ or US-6587835-$ or US-6934690-$ or US-5930769-$ or US-6456303-$ or US-7454706-$ or US-6816172-$ or US-6072492-$ or US-6868525-$ or US-6516329-$ or US-6211871-$ or US-7143055-$ or US-6628307-$ or US-5875446-$ or US-5977972-$ or US-7131069-$ or US-6100890-$ or US-6970867-$ or US-6088707-$ or US-5802299-$ or US-6623529-$).did.	US-PGPUB; USPAT	OR	ON	2018/09/20 21:48

S83	23	S82 and search	US-PGPUB; USPAT	OR	ON	2018/09/20 21:48
S84	20	("5959945" | "6072492" | "6816172" | "20010014868" | "20020089534" | "6032130" | "6628307" | "6623529" | "5933827" | "6587835" | "7143055" | "20040019610" | "6665687" | "7454706" | "6456303" | "6868525" | "6934690" | "20020109706" | "5930769" | "5802299" | "5933827").PN.	US-PGPUB; USPAT	OR	ON	2018/09/28 21:27
S85	28	(US-20040019610-$ or US-20010014868-$ or US-20020089534-$ or US-20020109706-$).did. or (US-6665687-$ or US-5933827-$ or US-5959945-$ or US-6032130-$ or US-6587835-$ or US-6934690-$ or US-5930769-$ or US-6456303-$ or US-7454706-$ or US-6816172-$ or US-6072492-$ or US-6868525-$ or US-6516329-$ or US-6211871-$ or US-7143055-$ or US-6628307-$ or US-5875446-$ or US-5977972-$ or US-7131069-$ or US-6100890-$ or US-6970867-$ or US-6088707-$ or US-5802299-$ or US-6623529-$).did.	US-PGPUB; USPAT	OR	ON	2018/09/28 21:27
S86	20	S85 and (theme or categor$4)	US-PGPUB; USPAT	OR	ON	2018/09/28 21:28
S87	1	("6014137").PN.	US-PGPUB; USPAT	OR	OFF	2018/09/28 21:54
S88	1	S87 and (theme or categor$4)	US-PGPUB; USPAT	OR	ON	2018/09/28 21:54
S89	2,949,645	@ad<"19991012"	US-PGPUB; USPAT	OR	ON	2018/09/28 21:58
S90	29	(US-20040019610-$ or US-20010014868-$ or US-20020089534-$ or US-20020109706-$).did. or (US-6665687-$ or US-5933827-$ or US-5959945-$ or US-6032130-$ or US-6587835-$ or US-6934690-$ or US-5930769-$ or US-6456303-$ or US-7454706-$ or US-6816172-$ or US-6072492-$ or US-6868525-$ or US-6516329-$ or US-6211871-$ or US-7143055-$ or US-6628307-$ or US-5875446-$ or US-5977972-$ or US-7131069-$ or US-	US-PGPUB; USPAT	OR	ON	2018/09/28 22:09

		6100890-$ or US-6970867-$ or US-6088707-$ or US-5802299-$ or US-6623529-$ or US-6014137-$).did.				
S91	26	S90 and (updat$3)	US-PGPUB; USPAT	OR	ON	2018/09/28 22:09
S92	19	@ad<"19991012" and S91	US-PGPUB; USPAT	OR	ON	2018/09/28 22:09
S93	15	S90 and (search adj engine)	US-PGPUB; USPAT	OR	ON	2018/09/28 23:37
S94	10	@ad<"19991012" and S93	US-PGPUB; USPAT	OR	ON	2018/09/28 23:37
S95	13,669	G06F17/30873.cpc. or G06F17/30876.cpc. or G06F17/30994.cpc. or G06F17/3089.cpc. or G06F17/30893.cpc. or G06F17/30896.cpc. or G06F17/2247.cpc. or G06F3/04817.cpc or G06F3/0483.cpc.	US-PGPUB; USPAT	OR	ON	2019/05/24 00:37
S96	945,247	local$4 with (website or webpage or internet or web$5 or remote$4)	US-PGPUB; USPAT	OR	ON	2019/05/24 00:38
S97	139,335	((hierarch$7 or tree)) with (quer$3 or search$3 or locat$3 or retriev$4)	US-PGPUB; USPAT	OR	ON	2019/05/24 00:38
S98	1,965	S97 same S96	US-PGPUB; USPAT	OR	ON	2019/05/24 00:38
S99	85	@ad<"19991230" and S98	US-PGPUB; USPAT	OR	ON	2019/05/24 00:38
S100	29	(US-20040019610-$ or US-20010014868-$ or US-20020089534-$ or US-20020109706-$).did. or (US-6665687-$ or US-5933827-$ or US-5959945-$ or US-6032130-$ or US-6587835-$ or US-6934690-$ or US-5930769-$ or US-6456303-$ or US-7454706-$ or US-6816172-$ or US-6072492-$ or US-6868525-$ or US-6516329-$ or US-6211871-$ or US-7143055-$ or US-6628307-$ or US-5875446-$ or US-5977972-$ or US-7131069-$ or US-6100890-$ or US-6970867-$ or US-6088707-$ or US-5802299-$ or US-6623529-$ or US-6014137-$).did.	US-PGPUB; USPAT	OR	ON	2019/12/09 01:00

S101	7	S100 and (mobile or pda)	US-PGPUB; USPAT	OR	ON	2019/12/09 01:01
S102	3	@ad<"19991230" and S101	US-PGPUB; USPAT	OR	ON	2019/12/09 01:01
S103	14,548	G06F17/30873.cpc. or G06F17/30876.cpc. or G06F17/30994.cpc. or G06F17/3089.cpc. or G06F17/30893.cpc. or G06F17/30896.cpc. or G06F17/2247.cpc. or G06F3/04817.cpc or G06F3/0483.cpc.	US-PGPUB; USPAT	OR	ON	2019/12/09 01:03
S104	1,009,766	local$4 with (website or webpage or internet or web$5 or remote$4)	US-PGPUB; USPAT	OR	ON	2019/12/09 01:03
S105	145,760	((hierarch$7 or tree)) with (quer$3 or search$3 or locat$3 or retriev$4)	US-PGPUB; USPAT	OR	ON	2019/12/09 01:03
S106	2,088	S105 same S104	US-PGPUB; USPAT	OR	ON	2019/12/09 01:03
S107	85	@ad<"19991230" and S106	US-PGPUB; USPAT	OR	ON	2019/12/09 01:03
S108	24	@ad<"19991230" and S100	US-PGPUB; USPAT	OR	ON	2019/12/09 01:04
S109	5	S100 not S108	US-PGPUB; USPAT	OR	ON	2019/12/09 01:04
S110	13	S100 and (wireless or mobile or pda)	US-PGPUB; USPAT	OR	ON	2019/12/09 01:07
S111	9	@ad<"19991230" and S110	US-PGPUB; USPAT	OR	ON	2019/12/09 01:07
S112	6	S100 and (cellular or mobile or cellphone)	US-PGPUB; USPAT	OR	ON	2019/12/09 01:33
S113	2	@ad<"19991230" and S112	US-PGPUB; USPAT	OR	ON	2019/12/09 01:34
S114	7	S100 and (cell$4 or mobile or cellphone)	US-PGPUB; USPAT	OR	ON	2019/12/09 01:34

S115	3	@ad<"19991230" and S114	US-PGPUB; USPAT	OR	ON	2019/12/09 01:34
S116	5,580	G06F3/0483.cpc.	US-PGPUB; USPAT	OR	ON	2020/08/09 22:00
S118	16,554	G06F3/04817.cpc.	US-PGPUB; USPAT	OR	ON	2020/08/09 22:00
S119	11	G06F17/30873.cpc.	US-PGPUB; USPAT	OR	ON	2020/08/09 22:00
S120	21	G06F17/30876.cpc.	US-PGPUB; USPAT	OR	ON	2020/08/09 22:00
S121	6	G06F17/30994.cpc.	US-PGPUB; USPAT	OR	ON	2020/08/09 22:00
S122	41	G06F17/3089.cpc.	US-PGPUB; USPAT	OR	ON	2020/08/09 22:00
S123	4	G06F17/30893.cpc.	US-PGPUB; USPAT	OR	ON	2020/08/09 22:01
S124	13	G06F17/30896.cpc.	US-PGPUB; USPAT	OR	ON	2020/08/09 22:01
S125	0	G06F17/2247.cpc.	US-PGPUB; USPAT	OR	ON	2020/08/09 22:01
S127	154,209	((hierarch$7 or tree)) with (quer$3 or search$3 or locat$3 or retriev$4)	US-PGPUB; USPAT	OR	ON	2020/08/09 22:02
S128	2,998,314	@ad<"19991230"	US-PGPUB; USPAT	OR	ON	2020/08/09 22:02
S132	4,598	G06F16/954.cpc.	US-PGPUB; USPAT	OR	ON	2020/08/10 17:35
S133	10,000	G06F16/93.cpc.	US-PGPUB; USPAT	OR	ON	2020/08/10 17:35
S134	3,406	G06F16/95.cpc.	US-PGPUB; USPAT	OR	ON	2020/08/10 17:35

S135	23,157	G06F17/30873.cpc. or G06F17/30876.cpc. or G06F17/30994.cpc. or G06F17/3089.cpc. or G06F17/30893.cpc. or G06F17/30896.cpc. or G06F17/2247.cpc. or G06F3/04817.cpc or G06F3/0483.cpc. or G06F16/95.cpc. or G06F16/954.cpc. or G06F16/93.cpc.	US-PGPUB; USPAT	OR	ON	2020/08/10 17:35
S136	154,209	((hierarch$7 or tree)) with (quer$3 or search$3 or locat$3 or retriev$4)	US-PGPUB; USPAT	OR	ON	2020/08/10 17:36
S137	2,998,314	@ad<"19991230"	US-PGPUB; USPAT	OR	ON	2020/08/10 17:36
S138	154	S135 and S136 and S137	US-PGPUB; USPAT	OR	ON	2020/08/10 17:36
S139	101,334	G06F17/30873.cpc. or G06F17/30876.cpc. or G06F17/30994.cpc. or G06F17/3089.cpc. or G06F17/30893.cpc. or G06F17/30896.cpc. or G06F17/2247.cpc. or G06F3/04817.cpc or G06F3/0483.cpc. or G06F16/95$.cpc. or G06F16/954.cpc. or G06F16/93.cpc.	US-PGPUB; USPAT	OR	ON	2020/08/10 17:37
S140	457	S139 and S136 and S137	US-PGPUB; USPAT	OR	ON	2020/08/10 17:37
S141	139,636	((quer$3 or search$3 or locat$3 or retriev$4) same (website or webpage or internet or web$5) same (categor$4 or hierarch$6 or directory or tree or catalog$3 or guide))	US-PGPUB; USPAT	OR	ON	2020/08/10 17:37
S142	724	S139 and S141 and S137	US-PGPUB; USPAT	OR	ON	2020/08/10 17:38
S150	5,580	G06F3/0483.cpc.	US-PGPUB; USPAT	OR	ON	2020/08/11 00:30
S151	16,554	G06F3/04817.cpc.	US-PGPUB; USPAT	OR	ON	2020/08/11 00:30
S152	11	G06F17/30873.cpc.	US-PGPUB; USPAT	OR	ON	2020/08/11 00:30
S153	21	G06F17/30876.cpc.	US-PGPUB; USPAT	OR	ON	2020/08/11 00:30

S154	6	G06F17/30994.cpc.	US-PGPUB; USPAT	OR	ON	2020/08/11 00:31
S155	41	G06F17/3089.cpc.	US-PGPUB; USPAT	OR	ON	2020/08/11 00:31
S156	4	G06F17/30893.cpc.	US-PGPUB; USPAT	OR	ON	2020/08/11 00:31
S157	13	G06F17/30896.cpc.	US-PGPUB; USPAT	OR	ON	2020/08/11 00:31
S158	0	G06F17/2247.cpc.	US-PGPUB; USPAT	OR	ON	2020/08/11 00:31

EAST Search History (Interference)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L2	4,708	G06F16/954.cpc.	US-PGPUB; USPAT	OR	ON	2020/12/30 19:56
L14	3,500	G06F16/95.cpc.	US-PGPUB; USPAT	OR	ON	2020/12/30 20:04
L15	17,455	G06F3/04817.cpc.	US-PGPUB; USPAT	OR	ON	2020/12/30 20:04
L16	5,865	G06F3/0483.cpc.	US-PGPUB; USPAT	OR	ON	2020/12/30 20:04
L17	10,439	G06F16/93.cpc.	US-PGPUB; USPAT	OR	ON	2020/12/30 20:05
L18	143,641	((quer$3 or search$3 or locat$3 or retriev$4) same (website or webpage or internet or web$5) same (categor$4 or hierarch$6 or directory or tree or catalog$3 or guide))	US-PGPUB; USPAT	OR	ON	2020/12/30 20:05
L19	40,003	2 or 14 or 15 or 16 or 17	US-PGPUB; USPAT	OR	ON	2020/12/30 20:05
L20	5,706	18 and 19	US-PGPUB; USPAT	OR	ON	2020/12/30 20:05

L21	132	@ad<"19991230" and 20	US-PGPUB; USPAT	OR	ON	2020/12/30 20:06
S130	154,209	((hierarch$7 or tree)) with (quer$3 or search$3 or locat$3 or retriev$4)	US-PGPUB; USPAT	OR	ON	2020/08/09 22:03
S131	2,998,314	@ad<"19991230"	US-PGPUB; USPAT	OR	ON	2020/08/09 22:03
S143	23,157	G06F17/30873.cpc. or G06F17/30876.cpc. or G06F17/30994.cpc. or G06F17/3089.cpc. or G06F17/30893.cpc. or G06F17/30896.cpc. or G06F17/2247.cpc. or G06F3/04817.cpc or G06F3/0483.cpc. or G06F16/95.cpc. or G06F16/954.cpc. or G06F16/93.cpc.	US-PGPUB; USPAT	OR	ON	2020/08/10 17:35
S144	3,406	G06F16/95.cpc.	US-PGPUB; USPAT	OR	ON	2020/08/10 17:35
S145	10,000	G06F16/93.cpc.	US-PGPUB; USPAT	OR	ON	2020/08/10 17:35
S146	4,598	G06F16/954.cpc.	US-PGPUB; USPAT	OR	ON	2020/08/10 17:35
S147	154,209	((hierarch$7 or tree)) with (quer$3 or search$3 or locat$3 or retriev$4)	US-PGPUB; USPAT	OR	ON	2020/08/10 17:36
S148	2,998,314	@ad<"19991230"	US-PGPUB; USPAT	OR	ON	2020/08/10 17:36
S149	139,636	((quer$3 or search$3 or locat$3 or retriev$4) same (website or webpage or internet or web$5) same (categor$4 or hierarch$6 or directory or tree or catalog$3 or guide))	US-PGPUB; USPAT	OR	ON	2020/08/10 17:37
S159	5,580	G06F3/0483.cpc.	US-PGPUB; USPAT	OR	ON	2020/08/11 00:31
S160	16,554	G06F3/04817.cpc.	US-PGPUB; USPAT	OR	ON	2020/08/11 00:31
S161	11	G06F17/30873.cpc.	US-PGPUB; USPAT	OR	ON	2020/08/11 00:31

S162	21	G06F17/30876.cpc.	US-PGPUB; USPAT	OR	ON	2020/08/11 00:31
S163	6	G06F17/30994.cpc.	US-PGPUB; USPAT	OR	ON	2020/08/11 00:32
S164	41	G06F17/3089.cpc.	US-PGPUB; USPAT	OR	ON	2020/08/11 00:32
S165	4	G06F17/30893.cpc.	US-PGPUB; USPAT	OR	ON	2020/08/11 00:32
S166	13	G06F17/30896.cpc.	US-PGPUB; USPAT	OR	ON	2020/08/11 00:32

12/30/2020 8:09:48 PM
H:\EAST\Workspaces\14480701.wsp

PTO/AIA/14 (12-13)
Approved for use through 01/31/2014. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
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CORRECTED Application Data Sheet 37 CFR 1.76	Attorney Docket Number	7209-0003
	Application Number	14/480,701
Title of Invention	METHOD AND DEVICE FOR ACCESSING INFORMATION SOURCES AND SERVICES ON THE WEB	

The application data sheet is part of the provisional or nonprovisional application for which it is being submitted. The following form contains the bibliographic data arranged in a format specified by the United States Patent and Trademark Office as outlined in 37 CFR 1.76.
This document may be completed electronically and submitted to the Office in electronic format using the Electronic Filing System (EFS) or the document may be printed and included in a paper filed application.

Secrecy Order 37 CFR 5.2

☐ Portions or all of the application associated with this Application Data Sheet may fall under a Secrecy Order pursuant to 37 CFR 5.2 (Paper filers only. Applications that fall under Secrecy Order may not be filed electronically.)

Inventor Information:

Inventor 1 Remove

Legal Name

Prefix	Given Name	Middle Name	Family Name	Suffix
	Ferid		ALLANI	

Residence Information (Select One) ○ US Residency ◉ Non US Residency ○ Active US Military Service

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City	~~Kelibia~~ Luxembourg	State/Province	
Postal Code	L-1611	Country i	~~TN~~ LU

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

Correspondence Information:

Enter either Customer Number or complete the Correspondence Information section below.
For further information see 37 CFR 1.33(a).

☐ **An Address is being provided for the correspondence Information of this application.**

Customer Number	00466		
Email Address		Add Email	Remove Email

Application Information:

Title of the Invention	METHOD AND DEVICE FOR ACCESSING INFORMATION SOURCES AND SERVICES ON THE WEB		
Attorney Docket Number	7209-0003	Small Entity Status Claimed	☒
Application Type	Nonprovisional		
Subject Matter	Utility		
Total Number of Drawing Sheets (if any)	2	Suggested Figure for Publication (if any)	

PTO/AIA/14 (12-13)
Approved for use through 01/31/2014. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
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Application Data Sheet 37 CFR 1.76	Attorney Docket Number	7209-0003
	Application Number	
Title of Invention	METHOD AND DEVICE FOR ACCESSING INFORMATION SOURCES AND SERVICES ON THE WEB	

Signature:

NOTE: This form must be signed in accordance with 37 CFR 1.33. See 37 CFR 1.4 for signature requirements and certifications.					
Signature	/Jeffrey M. Goehring/			Date (YYYY-MM-DD)	2021-01-21
First Name	Jeffrey	Last Name	Goehring	Registration Number	52948
Additional Signature may be generated within this form by selecting the Add button.					

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

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3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.

4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).

5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent C o o p eration Treaty.

6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).

7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.

8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspections or an issued patent.

9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

IPR2025-00857
Apple EX1002 Page 929

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ELECTRONIC ACKNOWLEDGEMENT RECEIPT

APPLICATION #	RECEIPT DATE / TIME	ATTORNEY DOCKET #
14/480,701	**01/21/2021 05:07:02 PM ET**	**7209-0003**

Title of Invention

METHOD AND DEVICE FOR ACCESSING INFORMATION SOURCES AND SERVICES ON THE WEB

Application Information

APPLICATION TYPE	Utility - Nonprovisional Application under 35 USC 111(a)	PATENT #	-
CONFIRMATION #	9483	FILED BY	Angela Sung
PATENT CENTER #	60134387	FILING DATE	09/09/2014
CUSTOMER #	466	FIRST NAMED INVENTOR	Ferid ALLANI
CORRESPONDENCE ADDRESS	-	AUTHORIZED BY	ERIC JENSEN

Documents

TOTAL DOCUMENTS: 1

DOCUMENT	PAGES	DESCRIPTION	SIZE (KB)
7209-0003_Corrected ADS_AddressChange.pdf	3	Application Data Sheet	152 KB

Warning: This is not a USPTO supplied ADS fillable form. Data in the form cannot be automatically loaded to other USPTO systems.

Digest

DOCUMENT	MESSAGE DIGEST(SHA-512)
7209-0003_Corrected ADS_AddressChange.pdf	EF6B023C062C4AF65B7EC72581338F0AD47691AB4909668B0 C24176C8F729A1E14C1A615A929A8F978CC05FF7BF3BE2B17

CE147DE3882D5188978A6D789F7676

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

New Applications Under 35 U.S.C. 111

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

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

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

New International Application Filed with the USPTO as a Receiving Office

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

UNITED STATES PATENT AND TRADEMARK OFFICE

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

APPLICATION NUMBER	FILING or 371(c) DATE	GRP ART UNIT	FIL FEE REC'D	ATTY.DOCKET.NO	TOT CLAIMS	IND CLAIMS
14/480,701	09/09/2014	2177	1330	7209-0003	28	4

CONFIRMATION NO. 9483

CORRECTED FILING RECEIPT

466
NIXON & VANDERHYE, PC
901 NORTH GLEBE ROAD
11TH FLOOR
ARLINGTON, VA 22203



Date Mailed: 01/25/2021

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

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

Inventor(s)

Ferid ALLANI, Luxembourg, LUXEMBOURG;

Applicant(s)

Ferid ALLANI, Luxembourg, LUXEMBOURG;

Power of Attorney: The patent practitioners associated with Customer Number 00466

Domestic Priority data as claimed by applicant

This application is a CON of 13/585,065 08/14/2012 ABN
which is a DIV of 10/169,355 11/05/2002 PAT 8271877
which is a 371 of PCT/FR00/03759 12/29/2000

Foreign Applications for which priority is claimed (You may be eligible to benefit from the **Patent Prosecution Highway** program at the USPTO. Please see http://www.uspto.gov for more information.) - None.
Foreign application information must be provided in an Application Data Sheet in order to constitute a claim to foreign priority. See 37 CFR 1.55 and 1.76.

Permission to Access Application via Priority Document Exchange: Yes

Permission to Access Search Results: No

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

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If Required, Foreign Filing License Granted: 09/15/2014
The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is **US 14/480,701**
Projected Publication Date: Not Applicable
Non-Publication Request: No
Early Publication Request: No
**** SMALL ENTITY ****
Title

METHOD AND DEVICE FOR ACCESSING INFORMATION SOURCES AND SERVICES ON THE WEB

Preliminary Class

715

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

PROTECTING YOUR INVENTION OUTSIDE THE UNITED STATES

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

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

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

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

For information on preventing theft of your intellectual property (patents, trademarks and copyrights), you may wish to consult the U.S. Government website, http://www.stopfakes.gov. Part of a Department of Commerce initiative, this website includes self-help "toolkits" giving innovators guidance on how to protect intellectual property in specific countries such as China, Korea and Mexico. For questions regarding patent enforcement issues, applicants may call the U.S. Government hotline at 1-866-999-HALT (1-866-999-4258).

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Apple EX1002 Page 933

LICENSE FOR FOREIGN FILING UNDER

Title 35, United States Code, Section 184

Title 37, Code of Federal Regulations, 5.11 & 5.15

GRANTED

The applicant has been granted a license under 35 U.S.C. 184, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" followed by a date appears on this form. Such licenses are issued in all applications where the conditions for issuance of a license have been met, regardless of whether or not a license may be required as set forth in 37 CFR 5.15. The scope and limitations of this license are set forth in 37 CFR 5.15(a) unless an earlier license has been issued under 37 CFR 5.15(b). The license is subject to revocation upon written notification. The date indicated is the effective date of the license, unless an earlier license of similar scope has been granted under 37 CFR 5.13 or 5.14.

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

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

NOT GRANTED

No license under 35 U.S.C. 184 has been granted at this time, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" DOES NOT appear on this form. Applicant may still petition for a license under 37 CFR 5.12, if a license is desired before the expiration of 6 months from the filing date of the application. If 6 months has lapsed from the filing date of this application and the licensee has not received any indication of a secrecy order under 35 U.S.C. 181, the licensee may foreign file the application pursuant to 37 CFR 5.15(b).

SelectUSA

The United States represents the largest, most dynamic marketplace in the world and is an unparalleled location for business investment, innovation, and commercialization of new technologies. The U.S. offers tremendous resources and advantages for those who invest and manufacture goods here. Through SelectUSA, our nation works to promote and facilitate business investment. SelectUSA provides information assistance to the international investor community; serves as an ombudsman for existing and potential investors; advocates on behalf of U.S. cities, states, and regions competing for global investment; and counsels U.S. economic development organizations on investment attraction best practices. To learn more about why the United States is the best country in the world to develop technology, manufacture products, deliver services, and grow your business, visit http://www.SelectUSA.gov or call +1-202-482-6800.

PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), by mail or fax, or via EFS-Web.

By mail, send to: Mail Stop ISSUE FEE
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

By fax, send to: (571)-273-2885

INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

466 7590 01/13/2021
NIXON & VANDERHYE, PC
901 NORTH GLEBE ROAD
11TH FLOOR
ARLINGTON, VA 22203

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

Certificate of Mailing or Transmission

I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being transmitted to the USPTO via EFS-Web or by facsimile to (571) 273-2885, on the date below.

(Typed or printed name)
(Signature)
(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
14/480,701	09/09/2014	Ferid ALLANI	7209-0003	9483

TITLE OF INVENTION: METHOD AND DEVICE FOR ACCESSING INFORMATION SOURCES AND SERVICES ON THE WEB

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	SMALL	$600	$0.00	$0.00	$600	04/13/2021

EXAMINER	ART UNIT	CLASS-SUBCLASS
MUHEBBULLAH, SAJEDA	2177	715-760000

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

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

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

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

1 NIXON & VANDERHYE
2
3

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

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document must have been previously recorded, or filed for recordation, as set forth in 37 CFR 3.11 and 37 CFR 3.81(a). Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE (B) RESIDENCE: (CITY and STATE OR COUNTRY)

Please check the appropriate assignee category or categories (will not be printed on the patent) : ❑ Individual ❑ Corporation or other private group entity ❑ Government

4a. Fees submitted: ☒ Issue Fee ❑ Publication Fee (if required) ❑ Advance Order - # of Copies _____

4b. Method of Payment: *(Please first reapply any previously paid fee shown above)*

☒ Electronic Payment via EFS-Web ❑ Enclosed check ❑ Non-electronic payment by credit card (Attach form PTO-2038)

☒ The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment to Deposit Account No. 14-1140

5. **Change in Entity Status** (from status indicated above)

❑ Applicant certifying micro entity status. See 37 CFR 1.29

❑ Applicant asserting small entity status. See 37 CFR 1.27

❑ Applicant changing to regular undiscounted fee status.

NOTE: Absent a valid certification of Micro Entity Status (see forms PTO/SB/15A and 15B), issue fee payment in the micro entity amount will not be accepted at the risk of application abandonment.
NOTE: If the application was previously under micro entity status, checking this box will be taken to be a notification of loss of entitlement to micro entity status.
NOTE: Checking this box will be taken to be a notification of loss of entitlement to small or micro entity status, as applicable.

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

Authorized Signature /Andrew J. Patch/ Date February 2, 2021

Typed or printed name Andrew J. Patch Registration No. 32,925

IPR2025-00857
Apple EX1002 Page 935

Electronic Patent Application Fee Transmittal

Application Number:	14480701
Filing Date:	09-Sep-2014
Title of Invention:	METHOD AND DEVICE FOR ACCESSING INFORMATION SOURCES AND SERVICES ON THE WEB
First Named Inventor/Applicant Name:	Ferid ALLANI
Filer:	Eric Jensen/Amanda Goode
Attorney Docket Number:	7209-0003

Filed as Small Entity

Filing Fees for Utility under 35 USC 111(a)

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
UTILITY APPL ISSUE FEE	2501	1	600	600

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Extension-of-Time:				
Miscellaneous:				
		Total in USD ($)		**600**

Electronic Acknowledgement Receipt	
EFS ID:	41809870
Application Number:	14480701
International Application Number:	
Confirmation Number:	9483
Title of Invention:	METHOD AND DEVICE FOR ACCESSING INFORMATION SOURCES AND SERVICES ON THE WEB
First Named Inventor/Applicant Name:	Ferid ALLANI
Customer Number:	466
Filer:	Eric Jensen/Amanda Goode
Filer Authorized By:	Eric Jensen
Attorney Docket Number:	7209-0003
Receipt Date:	02-FEB-2021
Filing Date:	09-SEP-2014
Time Stamp:	11:42:16
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	CARD
Payment was successfully received in RAM	$600
RAM confirmation Number	E202122B42405482
Deposit Account	141140
Authorized User	Amanda Goode
The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows: 37 CFR 1.16 (National application filing, search, and examination fees) 37 CFR 1.17 (Patent application and reexamination processing fees)	

37 CFR 1.19 (Document supply fees)

37 CFR 1.21 (Miscellaneous fees and charges)

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Issue Fee Payment (PTO-85B)	7209-0003_IF.pdf	106188 6fffed64cdb0522a5237493c3eda38680c4d020e	no	1
Warnings:					
Information:					
2	Fee Worksheet (SB06)	fee-info.pdf	30544 492d8ceef576379623f0eb5d550bf31f90faf95b	no	2
Warnings:					
Information:					
		Total Files Size (in bytes):	136732		

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New Applications Under 35 U.S.C. 111

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

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

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

New International Application Filed with the USPTO as a Receiving Office

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

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UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
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Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	ISSUE DATE	PATENT NO.	ATTORNEY DOCKET NO.	CONFIRMATION NO.
14/480,701	03/09/2021	10943058	7209-0003	9483

466 7590 02/17/2021

NIXON & VANDERHYE, PC
901 NORTH GLEBE ROAD
11TH FLOOR
ARLINGTON, VA 22203

ISSUE NOTIFICATION

The projected patent number and issue date are specified above.

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b)
(application filed on or after May 29, 2000)

The Patent Term Adjustment is 210 day(s). Any patent to issue from the above-identified application will include an indication of the adjustment on the front page.

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (http://pair.uspto.gov).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Application Assistance Unit (AAU) of the Office of Data Management (ODM) at (571)-272-4200.

APPLICANT(s) (Please see PAIR WEB site http://pair.uspto.gov for additional applicants):

Ferid ALLANI, Luxembourg, LUXEMBOURG;

The United States represents the largest, most dynamic marketplace in the world and is an unparalleled location for business investment, innovation, and commercialization of new technologies. The USA offers tremendous resources and advantages for those who invest and manufacture goods here. Through SelectUSA, our nation works to encourage and facilitate business investment. To learn more about why the USA is the best country in the world to develop technology, manufacture products, and grow your business, visit SelectUSA.gov.