

would be desirable, however, to use this content retrieval technology with a client device such as a web-enabled cell phone, in which the use of add-on programs such as the linkage client is not easily accomplished. That is, with the proliferation of web-enabled cell phones and the like, it would be desirable to enable such devices to use such content retrieval methodologies without requiring adaptation of the software or firmware already present on such devices. One aspect of the invention described herein is thus a server-based URL assembly/retrieval methodology that requires no modification to existing web-enabled devices such as web-enabled cell phones or internet kiosks.

[0010] Another problem encountered by utilization of web-enabled cell phones for Internet access is that such devices have unique display capabilities. That is, one cannot simply take any standard HTML web page and display it on a microbrowser or other such device. Thus, it is desired to be able to use the same linkage code in order to provide different types of content to different types of display devices. That is, it is desired to be able to format the content retrieved differently as a function of the device on which it will be displayed. As a result, a user entering a link code with a web-enabled cell phone will be automatically provided with WML or HDML content appropriate for display on that cell phone, while another user entering the same linkage code into a desktop computer will be provided with standard HTML content suitable for display on a large screen.

[0011] Although web-enabled cell phones can access web pages using the appropriate linkage code technology, one further problem is that much of the original content won't be displayable in the cell phone, since it will be in the form of big HTML pages. Alternatively, a user may be preoccupied and may simply wish to store a linkage code for subsequent retrieval. Therefore, it would be desirable to use the cell phone as a linkage code access device, without retrieving the associated content, but just for acquiring the linkage codes and uploading them to a code list server for later access by the user at a PC running the appropriate software.

SUMMARY OF THE INVENTION

[0012] The present invention is a method of and system for accessing a primary content file with a client device that is browser-based; i.e. that does not require a plug-in type program to be executed on the client device in addition to the browser. The user inputs into the client device a linkage code comprising a routing identification code and an item identification code, and the client device transmits to a URL-assembly server a data stream comprising the linkage code. The URL-assembly server extracts the routing identification code from the data stream and then obtains a URL template associated with the routing identification code, the URL template comprising the name of a resolution server and at least one parameter field to be completed by the URL-assembly server. The URL-assembly server completes the URL template by filling in at least the item identification code and then sends the completed URL template to the resolution server named therein as a primary content URL request. The resolution server determines the location of the primary content file based on the item identification code and then provides the client device with the primary content file.

[0013] The URL-assembly server first obtains the URL template from a routing server. The URL-assembly server

may then cache the URL template along with an expiration date for the URL template, which may be obtained from the routing server.

[0014] The data stream transmitted from the client device to the URL-assembly server may also further include a URL template selection code. In this event, then the URL-assembly server also extracts the URL template selection code from the data stream, and the URL template obtained by the URL-assembly server is also associated with the URL template selection code.

[0015] The URL template may be further completed by filling in least one parameter field with a device identification code, which may be included in the data stream transmitted from the client device to the URL-assembly server. The URL template may also be further completed by filling in least one parameter field with user data, which for example may be retrieved from a user database (populated by a user during a first registration process) located on a registration server.

[0016] The resolution server may directly return the primary content file, or it may redirect the client device to the primary content file by transmitting to the browser on the client device a primary URL for the primary content file. Alternatively, the primary URL may be sent to the client device via a proxy server, wherein the primary URL comprises an auto-request code that automatically redirects the client device to a content server containing the primary content file.

[0017] The linkage code input into the client device may for example be a bar code symbol that is scanned with a bar code scanning device coupled to the client device. The linkage code may also be a human-readable alphanumeric text string that may be typed in with a keypad connected to the client device.

[0018] The client device may be a wireless device such as a web-enabled cell phone, in which case a proxy server may be used by the device for communication with the URL-assembly server, the resolution server and the content server.

[0019] Thus, in the method and system of the invention, an existing browser-based client device such as a web-enabled cell phone or an internet kiosk, may be used to obtain content files from servers on the internet wherein the URL assembly steps are carried out on a server platform on the internet, instead of being done by a plug-in type module running with the client's browser.

BRIEF DESCRIPTION OF THE DRAWING

[0020] FIG. 1 depicts a schematic overview of the wireless application protocol architecture.

[0021] FIG. 2 depicts a block diagram of an exemplary system of the present invention for a device directly connected to the Internet.

[0022] FIG. 2A depicts a block diagram of an alternative system of the present invention for a device connected to the Internet via the wireless application protocol.

[0023] FIG. 3A depicts a flow chart of how a linkage code is mapped to a content server.

[0024] FIG. 3B is a continuation of the flowchart of FIG. 3A.