(54) Title: RETRIEVING INFORMATION FROM AN INFORMATION DATABASE

(57) Abstract: A method for improving wireless access to an information database (300), for example the Internet, for a wireless communication unit. The method (300) includes the step of establishing a wireless connection from the wireless communication unit to the information database (310). One or more priority pages of information are retrieved automatically (320) from the information database by the wireless communication unit and stored in an area of memory of the wireless communication unit for subsequent use. The one or more priority pages are based at least in part on a prior behaviour of the wireless communication unit accessing the information database or defined by a user of the wireless communication unit. This provides the advantage that the priority pages are autonomously retrieved and stored in memory, such that when the user subsequently requests one of these pages, the delay experienced by the user between requesting the page and the page being displayed is minimal. This improves the user's WEB/WAP experience, and encourages the user to make more use of the WEB/WAP functionality of the wireless communications unit.
Declarations under Rule 4.17:

— as to the identity of the inventor (Rule 4.17(i)) for all designations
— as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii)) for the following designations AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW, ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG)
— as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii)) for the following designation US

Published:

— without international search report and to be republished upon receipt of that report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.
RETRIEVING INFORMATION FROM AN INFORMATION DATABASE

Field of the Invention

5 This invention relates to a method of retrieving information from an information database, such as the Internet, using a wireless communication unit. The invention is applicable to, but not limited to, a user of a wireless communication unit benefiting from the unit autonomously retrieving one or more wireless access protocol (WAP)/World Wide Web pages from the Internet.

Background of the Invention

15 Present day communication systems attempt to offer the communication system user ever more features and services. In particular, in the mobile communication marketplace, it is desirable to provide the mobile user with access to as much information as the user would possibly want whilst being on the move. For example, the mobile user is provided access to the plethora of Internet services, applications and information on WEB pages and/or Wireless Application Protocol (WAP) pages.

25 The Wireless Application Protocol (WAP) is a standardised advanced intelligent messaging service for digital wireless communication units such as digital mobile telephones that allows the terminal user to view Internet content in a special text format as well as graphical images. A wireless terminal (or digital phone) needs to be WAP-enabled, in order to offer this feature. Essentially, the WAP specifies a thin-client microbrowser using a coding standard called wireless markup language.
(WML), which is optimised for wireless handheld terminals. In effect, a WML page is to a wireless terminal what an HTML page is to an Internet browser, i.e. it contains the code that lets the browser know what a user wants displayed on the wireless terminal's screen.

In addition, WAP also specifies a proxy (remote access) server that acts as a gateway between the wireless network and the wire-line Internet. The proxy server provides protocol translation and optimisation of data transfer for the wireless terminal. It is noteworthy, in the context of the present invention, that wireless terminals, such as mobile phones, are not as powerful as computers, and have much smaller screens. WML code is of a special reduced form, to additionally cope with the narrow bandwidth limitations of wireless transmissions, when compared to HTML code used in wire-line transmissions. Furthermore, as mobile phones have very little memory, WAP information is displayed as small amounts of information, termed 'decks'.

In the field of this invention, namely accessing information sources such as the Internet, it is known that a 'bookmark' allows a user to connect quickly to say, a set of services, by storing and subsequently retrieving a particular page, or retrieving the contents of a particular address of a service or set of services. Mobile/portable communication units often provide a feature that allows a user to store a list of 'bookmarks', or 'favourites'. Each bookmark comprises a Universal Resource Locator (URL) for the respective site and a text string representing, for example, the name of the site, which can be displayed to the user. The user
is able to select the required bookmark from a displayed list by selecting the corresponding text string. A WEB/WAP connection can then be initiated (if one is not already in progress) and a request to access one or more pages of information of the respective site is sent to a remote access server.

Hence, Bookmarks are widely used and offer advantages of ease and speed in accessing a wide variety of information without the need for the user to remember all the relevant address details and needing to manually enter each corresponding URL in his/her wireless communication unit. However, each time the user wants to access a particular WEB/WAP page, even when a connection is in progress, it is necessary for the data relating to that page to be retrieved from the Internet. This retrieval process can be relatively slow, increasing the amount of time taken for the page to be displayed to the user.

It is also known for WEB/WAP enabled units to make use of 'caching'. Whenever a user of such a unit initiates a WEB/WAP connection, the unit stores in an area of memory pages previously visited during that WEB/WAP connection. For example, the previous five to ten pages accessed during that session may be stored in an area of memory, such as random access memory (RAM), along with the page currently being accessed/viewed by the user.

In this way, if the user subsequently wants to revisit one of the previously visited pages stored in memory, it is not necessary to send a request for that page to the remote access server. Instead, the unit can simply recall the contents of the previously visited page from
memory. This reduces the amount of time the user has to wait before the page is displayed. However, this requires the user to have visited the pages previously during that connection in order for the pages to be stored in memory.

A still further method of improving the retrieval of information from the Internet using mobile communication units is known. In this method, when a communication unit retrieves and displays a WEB/WAP page, the unit identifies any links provided in that page to other WEB/WAP pages. The communication unit then sends requests to the remote access server for the WEB/WAP pages located at URLs associated with the links of the current WEB/WAP page. When the unit receives the response(s) for the requests, it stores the WEB/WAP page information in memory. In this manner, when the user subsequently selects a link on the current WEB/WAP page, the unit is able to simply retrieve the page information from memory that corresponds to the selected link. This reduces the delay between the user selecting the link and the corresponding page being displayed. However, this method is only advantageous when the user selects a link from the current WEB/WAP page being displayed, as opposed to requesting unrelated WEB/WAP pages.

A need therefore exists for a mechanism to enable a wireless communication unit to obtain such WAP/WEB pages in a more efficient manner, in order to encourage use of WEB/WAP access on wireless communication units, wherein the abovementioned disadvantages may be alleviated.

Statement of Invention
In accordance with a first aspect of the present invention, there is provided a method for improving wireless access to an information database, as claimed in Claim 1.

In accordance with a second aspect of the present invention, there is provided a storage medium, as claimed in Claim 10.

In accordance with a third aspect of the present invention, there is provided a wireless communication unit, as claimed in Claim 11.

In accordance with a fourth aspect of the present invention, there is provided a wireless communication unit, as claimed in Claim 12.

In accordance with a fifth aspect of the present invention, there is provided a wireless communication system, as claimed in Claim 14.

Further aspects of the present invention are as defined in the dependent Claims.

In summary, a wireless communication unit improves its wireless access to an information database, for example the Internet, in the following manner. A wireless connection is established from the wireless communication unit to the information database. One or more priority pages of information are then retrieved automatically and autonomously from the information database by the wireless communication unit, without any user
interaction. The one or more priority pages of information are then stored in an area of memory of the wireless communication unit for subsequent use. The one or more priority pages are based at least in part on a prior behaviour of the wireless communication unit accessing the information database or a user of the wireless communication unit defines them.

In this manner priority pages are autonomously retrieved and stored in memory, such that when the user subsequently requests one of these pages, the delay experienced by the user between requesting the page and the page being displayed is minimal. This improves the user's WEB/WAP experience, and encourages the user to make more use of the WEB/WAP functionality of the wireless communications unit.

Brief Description of the Drawings

A communication system, communication unit and method for improving wireless access to an information database (such as the Internet) will now be described, by way of example only, with reference to the accompanying drawings, in which:

FIG. 1 shows an overview of a communication system adapted to use the inventive concepts of the present invention;

FIG. 2 illustrates a wireless communication unit adapted to facilitate an improved wireless access to an information database in accordance with the preferred embodiment of the present invention; and
FIG. 3 illustrates a flowchart of the preferred mechanism for a wireless communication unit to request and retrieve information from an information database.

Description of Preferred Embodiments

FIG. 1 illustrates an example of how a wireless communication unit 110, which for the illustrated embodiment is a mobile phone, connects to an information database such as the Internet 112, in accordance with the preferred embodiment of the present invention. A preferred method by which the wireless communication unit 110 is capable of connecting to the Internet is by using the Wireless Application Protocol (WAP) global specification.

The wireless communication unit 110 initiates a WAP connection by dialling the phone number of a remote access server 114. The phone number is obtained from a memory element in the wireless communication unit 110. In this manner, the WAP connection between the wireless communication unit 110 and the remote access server 114 is made via a wireless network, such as a GSM network 116.

The remote access server 114 preferably includes a WAP gateway and in the preferred embodiment of the present invention is connected to, or forms a part of, the Internet 112. On connection to the wireless communication unit 110, the remote access server 114 and the wireless communication unit 110 exchange information, such as required protocols, information etc., so that the
wireless communication unit 110 is capable of sending WAP requests and receiving corresponding responses from the remote access server 114.

The wireless communication unit 110 is then able to send requests to the remote access server 114 for WAP pages having specific Universal Resource Locators (URLs). On receipt of such a request, the remote access server 114 converts the URL of the requested WAP page into its Hyper Text Transport Protocol (HTTP) equivalent and sends the request over the Internet 112 to a host server 118 of the requested WAP page.

On receipt of the request, the host server 118 for the requested WAP page sends a response containing the requested WAP page back to the remote access server 114. This response will be provided in Wireless Markup Language (WML), or in tokenised, or compressed WML (WMLC).

If the response is in WML, the WAP gateway of the remote access server 114 compiles the WML code into WMLC for the requested WAP page information. The WMLC code (whether generated by the WAP gateway or provided directly from the host server 118) is then sent to the wireless communication unit 110 via the wireless communication link, for example over a GSM network 116.

On receipt of the WMLC code, the wireless communication unit 110 extracts the WAP page information and provides it to the user, for example by displaying it on a screen.
In known wireless WEB/WAP page requests, when a user requests that a WEB/WAP page be displayed and the WEB/WAP page is retrieved from a host server 118 via the remote access server 114, the user will experience a delay between requesting the page and the page being displayed, due to this real-time relaying of requests and responses between the respective communication devices.

In accordance with the preferred embodiment of the present invention, in order to reduce this problem of delay, the wireless communication unit 110 defines one or more priority WEB/WAP pages for use by the user.

It is envisaged that when a user initiates a WEB/WAP connection, and preferably once the communication unit receives the initial WEB/WAP page information requested, the wireless communication unit 110 automatically and autonomously requests retrieval of the defined one or more priority WEB/WAP page(s).

Thus, whilst the WEB/WAP connection is enabled, and the user is viewing the information for the initial requested WEB/WAP page, the communication unit is retrieving page information for one or more of the identified priority pages. The one or more priority pages are preferably defined as those pages most frequently accessed by the user, or pages that the user has defined as being priority pages.

The priority pages may be located on a single host server. Alternatively, it is envisaged that the priority pages may be located on a plurality of host servers, for example each priority page may be located on a different
host server. In this latter regard, the remote access
server 114 preferably routes the respective priority page
requests to each of the host server(s).

Furthermore, when the wireless communication unit first
requests the priority WEB/WAP pages, a plurality of
request messages may be sent to the remote access server,
for example one for each WEB/WAP page.

It is also within the contemplation of the present
invention that more than one WEB/WAP page may be
requested in a single request message sent to the remote
access server. It is further envisaged that a single
request message may be sent to the remote access server
requesting all required priority WEP/WAP pages.

In the case where more than one priority WEB/WAP page
request message is to be sent to the remote access server
114, the individual messages are preferably sent once the
page information for the previously requested WEB/WAP
page has been received. In this manner, the subsequent
messages may be automatically requested and received by
the wireless communication unit whilst the user is
viewing a current WEB/WAP page. Hence, the wireless
communication unit anticipates the subsequent WEB/WAP
pages that may be desired by the user, and retrieves such
pages in preparation of the user making a request for
these pages.

However, it is also within the contemplation of the
present invention that the various requests may be sent
to the remote access server independently of whether page
information for previously requested WEB/WAP pages has
been received. In this manner, a range of optional WEB/WAP pages can be retrieved, dependent upon the user’s circumstances, and any historical information relating to the user’s previous navigation through that site.

Referring now to FIG. 2, a block diagram of a wireless communication unit 110, adapted to support the inventive concepts of the preferred embodiments of the present invention, is shown. The wireless communication unit 110 contains an antenna 202 preferably coupled to a duplex filter, antenna switch or circulator 204 that provides isolation between receive and transmit chains within wireless communication unit 110.

The receiver chain, as known in the art, includes receiver front-end circuitry 206 (effectively providing reception, filtering and intermediate or base-band frequency conversion). The receiver front-end circuit 206 receives WEB/WAP transmissions from a host server across the GSM network. The front-end circuit 206 is operably coupled to a signal processing function (processor, generally realised by a DSP) 208. The processing function 208 performs signal demodulation, error correction and formatting. Recovered information from the signal processing function 208 is coupled to an output unit 212, such as a liquid crystal display (LCD) or visual display unit (VDU), via a baseband processing function 210. A controller 214 controls the information flow and operational state of each circuit/element/function.

A memory element 216, such as a flash memory, is operably coupled to the signal processing function 208 and controller 214. In accordance with the preferred
embodiment of the present invention, the page address
and/or text string information for the one or more
retrieved pages is stored in the memory element 216 of
the wireless communication unit 110. The signal
processing function 208 has been adapted, when compared
to known signal processing functions, to determine
whether retrieved pages should be identified as priority
pages based on the on-going and/or historical WEB/WAP
behaviour of the user.

In this manner, if the user subsequently requests that
one of the identified priority pages be accessed, the
page information has already been retrieved and stored in
memory element 216. The information can be retrieved
from memory element 216, by signal processing function
208, without the need to request the information, in a
real-time manner, from the corresponding host server.
This reduces considerably the time delay between the user
requesting the page and the page information being
displayed to the user.

More generally, the above adaptations may be implemented
in a respective wireless communication unit in any
suitable manner. For example, new apparatus may be added
to a conventional wireless communication unit, or
alternatively existing parts of a conventional
communication unit may be adapted, for example by
reprogramming one or more signal processors therein. As
such, the required adaptation may be implemented in the
form of processor-implementable instructions stored on a
storage medium, such as a floppy disk, hard disk, PROM,
RAM or any combination of these or other storage media
functioning as memory element 216.
As regards the transmit chain, this essentially includes an input interface 220, such as a keypad or keyboard. The user initiates WEB/WAP page requests in the normal manner using the input interface 220. The input interface 220 coupled in series through a baseband processor 210, a signal processing function 208, transmitter/modulation circuitry 222 and a power amplifier 224. The processor 208, transmitter/modulation circuitry 222 and the power amplifier 224 are operationally responsive to the controller, with an output from the power amplifier coupled to the duplex filter, antenna switch or circulator 204, as known in the art.

However, in addition to WEB/WAP page requests being made in the normal manner, the signal processing function 208 also autonomously initiates priority WEB/WAP page requests for that particular user, to a corresponding remote access server/host server. Furthermore, the signal processing function 208 disables any transmission request from the user, entered via the input interface 220, for a particular WEB/WAP page if that page has been retrieved and stored.

The transmit chain in wireless communication unit 110 takes the baseband signal from input unit 220 and converts this into a signal for processing by the signal processor 208. The signal processor 208 encodes the signal for transmission by transmit/modulation circuitry 222, thereafter amplified by power amplifier 224, and radiated from antenna 202.
The signal processor function 208 in the transmit chain may be implemented as distinct from the processor in the receive chain. Alternatively, a single processor 208 may be used to implement processing of both transmit and receive signals, as shown in FIG. 2. Furthermore, the various components within the wireless communication unit 110 can be realised in discrete or integrated component form.

Referring now to FIG. 3, a method of retrieving WEB/WAP page information 300, on a wireless communication unit such as a mobile phone, is illustrated according to a preferred embodiment of the present invention.

The method commences when a user initially requests a WEB/WAP page or WEB/WAP connection, as shown in step 310. The wireless communication unit then establishes a connection to a remote access server, as shown in step 312. Preferably, the remote access server is connected to, or forms a part of, the Internet.

The wireless communication unit then generates and sends a request message for the required WEB/WAP page to the remote access server via a wireless communication network such as a GSM network, as in step 314. Once the wireless communication unit receives the page information for the requested WEB/WAP page from the remote access server in step 316, the received page information may be displayed to the user.

Whilst the received page information is being displayed to the user, the wireless communication unit may autonomously send further requests for additional
'priority' pages to the remote access server, as shown in step 318. On receipt of the page information for the priority WEB/WAP pages requested, the page information is stored in step 320 in an area of memory, for example random access memory (RAM) of flash memory of the wireless communication unit.

The processes involved in steps 318 and 320, namely requesting the priority pages, receiving, and storing the page information, are performed in the background. That is to say, the user is substantially unaware that such requests and receiving and storing of page information is taking place. In this regard, these steps are illustrated in broken lines in FIG. 3. To the user it appears that upon initially requesting WEB/WAP page information to be displayed, the next step is to either request a further WEB/WAP page to access, or to terminate the WEB/WAP connection.

When the user requests access to a further WEB/WAP page in step 322, the information for which has already been stored in the memory of the wireless communication unit, the page information is retrieved from memory 324 and displayed to the user, as shown in step 324.

If the user requests a priority page whilst that priority page information is still being retrieved, the information relating to the requested page is preferably given priority in the request/retrieval process.

However, where the user requests access to a further WEB/WAP page that is not a priority page in step 326, it is necessary for the wireless communication unit to
generate and send a request message to the remote access server for the requested WEB/WAP page, as shown in step 328. On receipt of the page information for the requested WEB/WAP page, the page information is displayed to the user, as in step 330.

As will be appreciated by a skilled artisan, the delay between the user requesting access to a WEB/WAP page, and the page information for that WEB/WAP page being displayed, is considerably reduced when the (priority) WEB/WAP page information has previously been retrieved and stored in memory.

When the user terminates the WEB/WAP connection in step 332, the priority page information stored in the memory of the wireless communication unit may be removed from memory, as shown in step 334. This may be performed as soon as the connection is terminated.

In an alternative embodiment, the priority page information may be retained in the memory element of the wireless communication unit for a period of time after the termination of the connection. In this manner, if the user re-establishes the connection within that period of time, it is not necessary for the page information for the priority WEB/WAP pages to be re-retrieved from the host server. Such a re-establishment of communication may be effected after the connection is terminated accidentally, or if the wireless communication unit temporarily loses contact with the network, say due to poor coverage.
As previously mentioned, the priority pages are preferably those pages most frequently accessed by the user, or pages the user has defined as being priority pages. Details of each priority page, for example the URL and a text string indicating the identity of the WEB/WAP page such as its name, are stored in an area of memory of the wireless communication unit.

The user may enter this information manually via a user interface (UI) of the wireless communication unit and an input means, such as a keypad. Alternatively, when the user is viewing a WEB/WAP page during an active WEB/WAP connection, the user may be able to identify that page as a priority page by selecting an option offered by the UI of the wireless communication unit. When the user selects the option, the URL and a test string indicating the identity of the WEB/WAP page are preferably stored in memory. It is envisaged that the text string may be obtained from the WEB/WAP page information, or alternatively may be manually entered by the user.

It is also within the contemplation of the present invention for priority page information to be ‘pushed’ to the wireless communication unit, for example by the remote access server. Such a forced download of a WEB page may be initiated based on, say, a time of day or in response to a breaking news event.

This priority page information may include the URLs and names of WEB/WAP pages, which can be pushed to the wireless communication unit following the establishment of a connection between the wireless communication unit and the remote access server, for subsequent storing in
the memory of the wireless communication unit. The priority page information can then be used by the wireless communication unit to request the corresponding WEB/WAP pages in the same manner as described above. In this regard, the remote access server includes a processor that tracks and reacts upon the WEB/WAP access behaviour of the individual wireless communication unit(s). In general, the network operator with whom the user has subscribed controls the remote access server.

Alternatively, on establishment of a connection between the wireless communication unit and the remote access server, the remote access server may request one or more identified priority pages from their respective host server(s). On receipt of the priority page information from the host server(s), the remote access server(s) push(es) the priority page information to the wireless communication unit. The wireless communication unit then stores the priority page information in memory.

Preferably, the UI of the wireless communication unit allows the user to view a list of the priority page details stored in memory. Preferably, the list displayed includes the text strings of each of the priority pages.

In the preferred embodiment, the user is capable of requesting one of the priority pages, for example by highlighting the relevant text string in the displayed list and pressing an 'OK' or 'Select' function key. If a WEB/WAP connection has already been established, the corresponding WEB/WAP page will already have been requested and stored in memory. Thus, the page information can then be retrieved from memory and displayed immediately to the user.
The present invention may be used alone or in combination with any other known method of improving the retrieval of information from an information database such as the Internet by a wireless communication unit. Such known methods include:

i) 'Favourite' or 'bookmark' lists;

ii) 'Caching' of previously visited WEB/WAP pages; and

iii) Retrieval of WEB/WAP pages corresponding to links provided in the currently displayed WEB/WAP page.

It will be understood that the mechanism for a wireless communication unit to wirelessly access an information database, for example the Internet, as described above, provides at least the following advantages:

(i) By autonomously retrieving and storing user priority pages in memory, the delay experienced between the user subsequently requesting the page and the page being displayed is minimal.

(ii) This enhances the user's perception of accessing WEB/WAP pages using a wireless communication unit, thereby encouraging the user to make more use of the WEB/WAP functionality of the unit.

Although the preferred embodiment of the present invention has been described with reference to a mobile phone operating in a GSM communication system, it is envisaged that any wireless communication unit wishing to access information from a remote information database, such as the Internet, would benefit from the inventive concepts described herein.
It is envisaged that such a wireless communication unit may include, for example, a pager, a portable or mobile radio, a personal digital assistant, a laptop computer, etc. Furthermore, the communication system may be, for example, a bluetooth short range communication system, a 3rd generation cellular communication system such as the 3rd generation partnership project being developed by the European Telecommunication Standards Institute (ETSI), or any other wireless communication system offering wireless access to an information database such as the Internet.

Whilst the specific and preferred implementations of the embodiments of the present invention are described above, it is clear that one skilled in the art could readily apply variations and modifications of such inventive concepts.

Thus, a wireless communication system, a wireless communication unit and method for improving the wireless communication unit’s access to an information database such as the Internet have been described where the aforementioned disadvantages with prior art arrangements have been substantially alleviated.
Claims

1. A method for improving wireless access to an information database, for example the Internet, for a wireless communication unit, the method comprising the step of:
   establishing a wireless connection from the wireless communication unit to the information database;
the method characterised by the steps of:
   retrieving automatically one or more priority pages of information from the information database by the wireless communication unit; and
   storing said one or more priority pages of information in an area of memory of the wireless communication unit for subsequent use, wherein the one or more priority pages are based at least in part on a prior behaviour of said wireless communication unit accessing said information database or defined by a user of the wireless communication unit.

2. The method for improving wireless access to an information database according to Claim 1, wherein the step of retrieving automatically one or more priority pages of information includes automatically sending the wireless communication unit said one or more priority pages of information exclusive of the wireless communication unit requesting said one or more priority pages.

3. The method for improving wireless access to an information database according to Claim 1, wherein the step of retrieving automatically one or more priority pages of information includes the prior steps of:
   requesting, by a user of said wireless communication unit, an information page from the information database; and
   retrieving said information page for use by said user.
4. The method for improving wireless access to an information database according to Claim 1, the method further characterised by the step of:

retrieving a priority page from a memory element of said wireless communication for displaying to a user of the wireless communication unit.

5. The method for improving wireless access to an information database according to Claim 1, the method further characterised by the step of:

selecting autonomously said one or more priority pages, by said wireless communication unit, or

providing, by a remote server, said priority pages to said wireless communication unit, based on:

(i) one or more pages previously accessed by said wireless communication unit, and/or

(ii) one or more pages that a user of said wireless communication unit has defined as being one or more priority pages.

6. The method for improving wireless access to an information database according to Claim 1, the method further characterised by the step of:

retaining priority page information in a memory element of the wireless communication unit for a period of time after the termination of the connection.

7. The method for improving wireless access to an information database according to Claim 1, wherein the one or more priority information page(s) includes at least one World Wide Web page or WAP page.
8. The method for improving wireless access to an information database according to Claim 7, the method further characterised by the step of:
   storing, by a user of the communication unit, a text string indicating an identity of the at least one World Wide Web page or WAP page in a memory element of the wireless communication unit such that the page is identified as a priority page.

9. The method for improving wireless access to an information database according to Claim 1, the method further characterised by the step of:
   converting an address of a requested WAP page into a HTTP equivalent at a remote access server;
   sending said request over the Internet to a host server of the requested WAP page;
   receiving said request at said host server; and
   sending a response containing the requested WAP page back to said remote access server.

10. A storage medium storing processor-implementable instructions and/or data for controlling a processor to perform the method steps of Claim 1.

11. A wireless communication unit adapted to perform the method steps of Claim 1.
12. A wireless communication unit for wirelessly accessing an information database, for example the Internet, the wireless communication unit characterised by:

   a signal processing function that autonomously initiates a priority information page request to a host server for a user of the wireless communication unit;

   a receiver for retrieving automatically said one or more priority pages of information from an information database; and

   a memory element, operably coupled to said receiver, storing said one or more retrieved priority pages of information for subsequent use by a user of the wireless communication unit, wherein the one or more priority pages are based at least in part on a prior behaviour of said wireless communication unit accessing said information database or defined by a user of the wireless communication unit.

13. The wireless communication unit according to Claim 12, wherein the wireless communication unit is a pager, a portable or a mobile radio, a personal digital assistant, or a laptop computer.
14. A wireless communication system, comprising a wireless communication unit wirelessly accessing an information database, for example the Internet, in, or operably coupled to, the wireless communication system, the wireless communication system characterised by:

- a remote access server, for wirelessly coupling to said wireless communication unit; and

- a host server, containing at least one information page requested by said wireless communication unit; wherein the remote access server accesses at least one priority information page from said host server based on a behaviour of said wireless communication unit or defined by a user of the wireless communication unit and automatically transmits one or more priority pages of information to said wireless communication unit exclusive of the wireless communication unit requesting said one or more priority pages.
User initiates a WEB/WAP connection by requesting a WEB/WAP-page to access.

Phone connects to a remote access server.

Phone generates and sends a request message to the remote access server for the required WEB/WAP page.

Requested WEB/WAP page information received from the remote access server and displayed.

User requests access to a priority page stored in memory.

Priority page extracted from memory and displayed.

User requests access to a non-priority page.

Phone generates and sends a request to the remote access server for a WEB/WAP page.

Requested WEB/WAP page received from remote access server and displayed.

Phone autonomously sends requests for priority pages to the remote access server.

Priority page information received from the remote access server and stored in memory.

User terminates WEB/WAP connection.

Priority pages removed from memory.