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A method of managing the operation of a mobile terminal in a telecommunications network

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A B S T R A C T

A method of managing the operation of a mobile telephone in a telecommunications network, the method
5 being of the type in which the mobile terminal is designed to operate selectively in a telephone call mode or in a navigator mode, and of the type in which display means, forming part of the mobile terminal or connected to the mobile terminal, are suitable for displaying a
10 service data page formatted by a sequence of instructions in a language adapted to service data, the service data page giving access to at least one service. In the method, a "preferred" mobile terminal operating mode is selected for implementing a service by incorporating a
15 preferred mode selection instruction in the sequence of instructions for the service data page giving access to the service. Preferably, the navigator mode uses wireless application protocol (WAP), and the language adapted to service data is taken from the extensible
20 markup language (XML) family, and in particular is wireless markup language (WML). In a variant, the language adapted to service data is hypertext markup language (HTML) or a language derived therefrom.

AUSTRALIA

Patents Act 1990

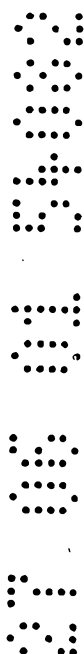
ORIGINAL

COMPLETE SPECIFICATION

STANDARD PATENT

Invention Title: A method of managing the operation of a mobile terminal in a telecommunications network

The following statement is a full description of this invention, including the best method of performing it known to us:



A METHOD OF MANAGING THE OPERATION OF A MOBILE TERMINAL IN A TELECOMMUNICATIONS NETWORK

Field of the invention

5 The present invention relates to a method of managing the operation of a mobile terminal in a telecommunications network.

Background of the invention

10 In the prior art, a method of managing the operation of a mobile telephone in a telecommunications network is employed in which the mobile terminal is designed to operate selectively in a telephone call mode or in a navigator mode, and in which display means, forming part of the mobile terminal or connected to the mobile
15 terminal, are suitable for displaying a service data page formatted by a sequence of instructions in a language adapted to service data, the service data page giving access to at least one service.

20 In conventional manner, in a mobile telephone network, the wireless application protocol (WAP) enables a mobile terminal to interchange data with an Internet type network (IP technology) or an intranet network. The language adapted to service data and adapted to mobile terminals is usually wireless markup language (WML).
25 This language is adapted to the limited display means of a mobile terminal (screen of small size and generally monochrome) and to the limited means available for interactivity between a user and the display means of the mobile terminal (simplified keypad, or thumb wheel).

30 Typically, the operator running the mobile telephone network manages a computer or "WAP" gateway that provides translation between protocols adapted to the Internet, specifically the transmission protocol known as hypertext transfer protocol (HTTP) and the security protocol known
35 as transport layer security (TLS), and the corresponding protocols adapted to the WAP standard, specifically the

transmission protocols known as wireless session protocol (WSP) and wireless translation protocol (WTP), and the security protocol known as wireless transport layer security (WTLS). The WAP gateway thus serves to convert
 5 data between the mobile telephone network run by the operator and the Internet. The operator managing the WAP gateway can thus provide subscribers with a "WAP portal" via which various different services are proposed.

In general, when a subscriber connects to the WAP
 10 portal (with the mobile terminal operating in navigator mode), the various services proposed by the operator are accessed by means of functions displayed on the screen of the mobile terminal. Typically, a service is selected by means of the keys, arrow buttons, an arrow navigator, a
 15 thumb wheel, etc. on the keypad. The selected service is generally accessed by pressing an "enter" button on the keypad. Nevertheless, in order to make the mobile terminal operate in telephone mode, the user must exit navigator mode and thus leave WAP mode.

20 An example of conventional operation of the mobile terminal in navigator mode is described below.

A subscriber possessing voice mail uses navigator mode to consult a mail management service that is accessible via the WAP portal of the operator. By way of
 25 example, a service data page could then be displayed in the following form:

Voice messages
1. Normal. Secretary
2. Urgent. Boss
3. Normal. Unknown
4. Urgent. + 33 6 00 00 00 00

The subscriber selects option "2. Urgent. Boss" in
 30 order to listen to the corresponding message and conventionally that has the effect of configuring the mobile terminal in telephone call mode. The subscriber

cannot then access the other options proposed by the
above service data page without leaving telephone call
mode and returning to navigator mode. It will be
observed that in some cases the call in telephone call
5 mode marks the end of navigation.

An object of the present invention is to impart an
operating mode to a mobile terminal of a
telecommunications network, which mode is always adapted
to the current service while avoiding awkward changes
10 between the "telephone call" and "navigator" operating
modes of the mobile terminal.

The applicant does not concede that the prior art
discussed in this specification forms part of the common
general knowledge in the art at the priority date of this
15 application.

Summary of the invention

According to a first aspect the present invention
provides a method of managing the operation of a mobile
telephone in a telecommunications network, the method
20 being of the type in which the mobile terminal is
designed to operate selectively in a telephone call mode
or in a navigator mode, and of the type in which display
means, forming part of the mobile terminal or connected
to the mobile terminal, are suitable for displaying a
25 service data page formatted by a sequence of instructions
in a language adapted to service data, the service data
page giving access to at least one service, wherein a
"preferred" mobile terminal operating mode is selected
for implementing a service by incorporating a preferred
30 mode selection instruction in the sequence of
instructions for the service data page giving access to
the service.

According to preferred embodiments of the invention:

the navigator mode uses wireless application
35 protocol (WAP); and either

· the language adapted to service data is taken from the extensible markup language (XML) family, and in particular is wireless markup language (WML); or else

· the language adapted to service data is hypertext markup language (HTML) or a language derived therefrom.

Detailed description of the embodiments

The invention will be better understood on reading the following description given purely by way of example.

A mobile terminal of a telecommunications network
 10 can operate selectively either in telephone call mode or in navigator mode. The mobile terminal has conventional means forming the man-machine interface. These interface means are mounted on the mobile terminal or are united in a separate unit which is connected to the mobile
 15 terminal. Telephone call mode corresponds to the mobile terminal operating in such a manner as to enable voice to be transmitted between the terminal and the telecommunications network, and thus corresponds to the man-machine interface operating in a manner that is
 20 suitable for telephone usage (marking the duration of the call, the number of the other party, giving access to functions such as "hang-up", "dial", etc.). Navigator mode corresponds to the mobile terminal operating in such a manner as to enable data to be exchanged with an
 25 Internet type network or where appropriate an intranet network, and thus to the man-machine interface operating in a manner that is suitable for navigation use (displaying data and navigation functions associated with on-line services).

30 The mobile terminal has a screen forming the display means of the man-machine interface and capable of displaying a service data page that is formatted in conventional manner by a sequence of instructions in a language adapted to service data. The service data page
 35 gives access to at least one service.

It will be observed that the display means can be part of the mobile terminal or can be connected to said terminal.

Preferably, navigator mode uses the wireless application protocol (WAP) and the language adapted to service data is of the extensible markup language (XML) family, and in particular is wireless markup language (WML). In a variant, the language adapted to service data can be hypertext markup language (HTML) or a language derived therefrom.

In the method according to the invention, a "preferred" mobile terminal operating mode is selected for implementing a service by incorporating an instruction for selecting the preferred mode in the sequence of instructions for the service data page giving access to the service.

Thus, in WML, a navigator mode selection instruction can be defined as: <type 1> and an instruction for selecting telephone call mode can be defined as: <type 2>.

The sequence of instructions for a service data page including an instruction for selecting navigator mode is thus presented in the following form:

```
<WML>
  <type 1>
  ...
  </type 1>
</WML>
```

and the sequence of instructions for a service data page including an instruction for selecting telephone call mode is presented in the following form:

```
<WML>
  <type 2>
  ...
  </type 2>
</WML>
```

Example 1: navigator mode preferred

A subscriber possesses voice mail and uses navigator mode to consult a voice mail management service that is accessible via the operator's WAP portal. A service data
5 page including an instruction for selecting navigator mode is then displayed in the following format, for example:

Voice messages
1. Normal. Secretary
2. Urgent. Boss
3. Normal. Unknown
4. Urgent. + 33 6 00 00 00 00

10 The subscriber selects option "2. Urgent. Boss", so as to consult the corresponding message. However, because of the instruction for selecting navigator mode, this mode is maintained, thus making it possible, while the message is being played back, for the service data
15 page to be displayed as follows:

Voice mail options
1. Delete message
2. Save message
3. Call sender
4. Voice mail main menu
5. Exit voice mail navigator

20 The subscriber selects option "1. Delete message" and then option "4. Voice mail main menu". The screen then displays the following navigator page:

Voice messages

1. Normal. Secretary
2. Normal. Unknown
3. Urgent. + 33 6 00 00 00 00

The subscriber can then select option "3. Urgent.
+ 33 6 00 00 00 00" in order to consult the corresponding
5 message.

Example 2: telephone call mode preferred

A subscriber wishes to make a call, but does not
know the telephone number. To find out the number, the
10 subscriber uses navigator mode to consult a directory
service available via the operator's WAP portal. A
service data page including an instruction for selecting
telephone call mode is then displayed, e.g. in the
following format:

15

Directory

1. Name []
2. Forename []
3. Address []

The subscriber inputs the data and presses "enter".
The screen then displays:

Result of search

NAME

Address

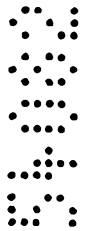
1. Call + 0 01 00 00 00
2. Search another name
3. Add to address book

20

The subscriber selects option "1. Call
+ 0 01 00 00 00" so as to call "NAME", with the mobile

terminal then operating in its preferred telephone call mode. The screen of the mobile terminal displays the usual information corresponding to this mode of operation so as to give easy access to the usual functions of the

5 telephone call type.



Claims

1/ A method of managing the operation of a mobile telephone in a telecommunications network, the method being of the type in which the mobile terminal is
5 designed to operate selectively in a telephone call mode or in a navigator mode, and of the type in which display means, forming part of the mobile terminal or connected to the mobile terminal, are suitable for displaying a service data page formatted by a sequence of instructions
10 in a language adapted to service data, the service data page giving access to at least one service, wherein a "preferred" mobile terminal operating mode is selected for implementing a service by incorporating a preferred mode selection instruction in the sequence of
15 instructions for the service data page giving access to the service.

2/ A method according to claim 1, wherein the navigator mode uses wireless application protocol (WAP).

3/ A method according to claim 1 or claim 2, wherein the language adapted to service data is taken from the extensible markup language (XML) family, and in particular is wireless markup language (WML).

4/ A method according to claim 1 or claim 2, wherein the language adapted to service data is hypertext markup language (HTML) or a language derived therefrom.

5/ A method of managing the operation of a mobile telephone in a telecommunications network substantially as herein described with reference to the accompanying examples.