(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
28 June 2001 (28.06.2001)

PCT

(10) International Publication Number
WO 01/47291 A2

(51) International Patent Classification[7]: H04Q 7/00

(21) International Application Number: PCT/IB00/01944

(22) International Filing Date:
22 December 2000 (22.12.2000)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
09/468,840 22 December 1999 (22.12.1999) US

(71) Applicant: **NOKIA CORPORATION** [FI/FI]; Keilalahdentie 4, FIN-02150 Espoo (FI).

(71) Applicant *(for LC only)*: **NOKIA INC.** [US/US]; 6000 Connection Drive, Irving, TX 75039 (US).

(72) Inventors: **RISSANEN, Jussi**; Vironkatu 12, FIN-00120 Helsinki (FI). **TANSKANEN, Erkki**; Luhtipolki 24 A 90, FIN-01660 Vantaa (FI). **MAKIPAA, Mikko**; Ilmarinkatu 12 B 28, FIN-00100 Helsinki (FI). **PAKKALA, Timo**; Saynavatie 14 B 10, FIN-02170 Espoo (FI). **HANNULA, Esko**; Pohjanpolku 10, FIN-33430 Ylojarvi (FI).

(74) Agents: **BRUNDIDGE, Carl, I.** et al.; Antonelli, Terry, Stout & Kraus, LLP, Suite 1800, 1300 N. Seventeenth Street, Arlington, VA 22209 (US).

(81) Designated States *(national)*: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, 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, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW.

(84) Designated States *(regional)*: ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).

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.

WO 01/47291 A2

(54) Title: A SYSTEM AND METHOD FOR DISPLAYING INFORMATION INCLUDED IN PREDETERMINED MESSAGES AUTOMATICALLY

(57) Abstract: A method and apparatus for use in a wireless telecommunications system including a wireless telecommunications network which communicates with a plurality of mobile terminals using radio signals, wherein each mobile terminal includes a display for displaying information. In the invention each mobile terminal is configured to receive a message containing information. Each message is inspected to determine whether the information contained in the message is of a predetermined type. If the message contains information of a predetermined type, the information is automatically displayed on the mobile terminal. If the message does not contain information of the predetermined type, the message is processed in a normal manner.

A SYSTEM AND METHOD FOR DISPLAYING INFORMATION INCLUDED IN PREDETERMINED MESSAGES AUTOMATICALLY

TECHNICAL FIELD

The present invention relates to a method and apparatus for automatically displaying information sent to a mobile terminal on the screen of the mobile terminal. More particularly, the present invention relates to a method and apparatus for automatically displaying information of a predetermined type such as advertising on the screen of a mobile terminal without user intervention and use of storage normally used for storing messages.

Telecommunications systems and services today are in an era of rapid evolution in providing alternatives to the wired Public Switched Telephone Network (PSTN). The most common alternative to the conventional subscriber PSTN involves the use of mobile terminals in a wireless telecommunications system operated according to the Global System for Mobile telecommunications (GSM) or the Code Division Multiple Access (CDMA) standards. These mobile terminals and wireless telecommunications system can also be configured to operate according to the Wireless Application Protocol (WAP) thereby permitting their use in any location in the world and for Internet access. As the technology improves, increasing numbers of individuals will have in their possession mobile terminals and use them to perform a myriad of functions including placing and receiving telephone calls.

Each mobile terminal is configured to include at least a display for displaying information for guiding the user in operating the mobile terminal, information regarding the status or mode of operation of the mobile terminal, information of incoming and outgoing calls and information including, for example, an user logo identifying the Telecommunications Service Provider providing telecommunications services to the mobile terminal over the wireless telecommunications system.

Using the display of each mobile terminal for displaying information other than that described above is desired. Particularly, it is desired to permit other information such as, for example, advertising provided by advertisers to promote various products and services, or warnings of impending events provided by governmental and quasi-governmental organizations to be display

on the display of each mobile terminal.

However, according to the conventional technique, any information sent to the mobile terminal is sent as part of a message which requires the user of the mobile terminal to perform an action to receive and/or view the information contained in the message. Further, such messages are stored in the storage of the mobile terminal to await actions by the user, thereby occupying precious memory space preventing the storage of normal messages.

DISCLOSURE OF THE INVENTION

The present invention provides a method and apparatus for automatically displaying information of a predetermined type contained in a message on the display of a mobile terminal without intervention on the part of the user or the use of storage normally used for storing messages.

The present invention is intended to operate in a wireless telecommunications system including a wireless telecommunications network which communicates with a plurality of mobile terminals using radio signals. Each of the mobile terminals includes a display for displaying information. The information can, for example, be information for guiding the user in the operation of the mobile terminal, information of incoming and outgoing calls, information of the status and mode of operation of the mobile terminal or information such as an user logo identifying the Telecommunications Service Provider providing telecommunication services to the mobile terminal.

According to the present invention, the mobile terminal receives messages containing information from the wireless telecommuications network. Each of the messages is inspected to determine whether the message contains information of a predetermined type. Also the identity of the originator of the message can be reviewed to determine whether the originator is authorized to send messages containing information of a predetermined type. If the message contains information of the predetermined type and the originator is authorized to send such messages, then the information is automatically displayed on the display of the mobile terminal. If the originator is not authorized, then the message is discarded. If the message does not contain information of the predetermined type, then processing of the message is conducted in the normal manner.

The present invention provides for the automatic display of the information of the predetermined type on the display of the mobile terminal where the information of the predetermined type can, for example, be advertising/promotional information from a provider of a product or service, warnings of impending events sent by governmental or quasi-governmental organizations, or information from an individual or organization authorized to provide information that can be automatically displayed on the mobile terminal.

The present invention operates in a manner so as not to require any actions on the part of the user to cause the receipt and display of the information of the predetermined type. Further, the present invention does not require the message containing the information of the predetermined type to be stored in storage normally used for storing messages to be processed. Thus, the storage for storing normally processed messages remains free for its intended use.

BRIEF DESCRIPTION OF THE DRAWINGS

The present invention will be more apparent from the following detailed description, when taken in conjunction with the accompanying drawings, in which:

Fig. 1 is a system diagram of a wireless telecommunications system according to the present invention;

Fig. 2 is a schematic diagram illustrating the format of a message containing information of a predetermined type according to the present invention;

Fig. 3 is a table of a database of profiles of users of the mobile terminals according to the present invention;

Fig. 4 is a flowchart of operations performed by the mobile terminal according to the present invention;

Fig. 5 is a flowchart of operations performed by the wireless telecommunications system according to the present invention;

Fig. 6 is a flowchart of the operations performed by the wireless telecommunications system according to the present invention; and

Figs 7A-B are schematic diagrams illustrating the display of information of a predetermined type on the display of a mobile terminal according to the present invention.

BEST MODE FOR CARRYING OUT THE INVENTION

The present invention shall be described relative to Figs. 1-6, 7A and B. However, it should be noted that the present invention as illustrated in Figs. 1-6, 7A and B is representative of an embodiment of the present invention. The present invention is not limited to the embodiment illustrated. The present invention can be implemented according to any number of embodiments with the primary feature being the automatic display of information of a predetermined type, such as advertising, on the screen of a mobile terminal without user intervention and use of storage normally used for storing messages.

The present invention is intended to operate in a wireless telecommunication system such as that illustrated in Fig. 1. The wireless telecommunications system illustrated in Fig. 1 is merely representative of a simplified network architecture that may take on any number of constructions. The wireless telecommunications system as illustrated in Fig. 1 includes a wireless telecommunications network 10 which communicates with a plurality of mobile terminals 12 using radio signals. Each mobile terminal is configured to include at least a storage 120 for storing messages and a display 121 for displaying information. The telecommunications system can operate according to the GSM or CDMA or similar standards for wireless telecommunications and possibly additionally the WAP protocol or similar such protocols. Further, any combination of a standard and protocol is possible. For example, a packet switched connection, such as GPRS (which is a GSM standard) could be used and HTML can be used instead of WAP. Fig. 1 illustrates the wireless telecommunications system operating according to GSM and the WAP. However, any other standard or protocol can be used.

The wireless telecommunications network 10 can include a Short Message Service Center (SMSC) 13 which provides for the transmission of short messages to the mobile terminals 12. Use of the SMSC allows for "push" messaging to be performed, where certain types of messages are pushed

to the mobile terminal. An SMS message could, for example, include alphanumeric information which is to be transmitted between mobile terminals 12 or other terminals connected to wired telecommunications systems or packet switched networks (e.g., Internet, Intranet) connected to the wireless telecommunications network 10. SMS messages are typically received by a mobile terminal 12 and stored in the storage 120 of the mobile terminal 12 for later access by the user. The user of the mobile terminal is notified of receipt of each SMS message by, for example, indicator information on the display 121 of the mobile terminal 12 or by audio or vibratory information. The user of the mobile terminal 12 is required to perform some action to view the message. If the user chooses to view the message, the message is retrieved from the storage 120 and then displayed on the display 121 of the mobile terminal 12.

The wireless telecommunications network 10 as illustrated in Fig. 1 is connected to wired telecommunications systems including, for example, a PSTN 14 for the transmission of analog signals and an Integrated Services Digital Network (ISDN) 15 for transmission of digital signals. The wireless telecommunications network 10 can also be connected to packet switched networks including, for example, the Internet 17 or Intranets 18, 19 via a server 16. The wireless telecommunications network 10 can, for example, be connected to the server 16 via the SMSC 13. The server 16 can, for example, operate according to the WAP. The WAP server 16 is also connected to the PSTN 14 and the ISDN 15.

An agent server 180 can be connected to the Intranet 18 which is connected to the WAP server 16. Web servers 170A, 170-B can be connected to the Internet 17 which is connected to the WAP server 16. An agent server 190 can be connected to the Intranet 19 which is connected to the Internet 17 which is connected to the WAP server 16.

The WAP server 16 implements operation according to the WAP so that efficient communications can be carried to and from the mobile terminal 12 through the wireless telecommunications network 10 and to and from the agent and web servers 190, 180 and 170 through the Internet 17 or the Intranets 18, 19. More particularly, the WAP server 16 allows the user to "surf" the web to a website (WAP site), for example, after receiving a message containing a URL to

obtain information.

The agent server 180 through its Intranet 18 can, for example, be the server used by a product or service provider (retailer, manufacturer, etc.) to provide advertising type information which is to be automatically displayed on the display of a mobile terminal when received. Alternatively, the agent server 180 could be used by a governmental or quasi-governmental organization to provide warning type information concerning impending events to the mobile terminals or by individuals or organizations authorized to provide information of their choosing to the mobile terminals.

The web servers 170A, B through the Internet 17 can, for example, be used by product or service providers, governmental organizations or authorized individuals or organizations in the same manner as the agent server 180 described above. Particularly, the web servers 170-A, B can provide via the Internet 17 and the WAP server 16 various web pages containing predetermined types of information to be automatically displayed on the display of the mobile terminals.
Further, the agent server 190 through its Intranet 19 and the Internet 17 can, for example, provide predetermined type of information similar to the agent server 180 described above.

In the system illustrated in Fig. 1, information of a predetermined type can come from any one or combination of the servers 170, 180, 190. Information of a predetermined type (advertising, warnings, authorized information, etc.) can be sent from the server 170, 180, 190 through the WAP server 16 through one of the PSTN 14 or ISDN 15, through the wireless telecommunications network 10 and to one or more of the mobile terminals 12. The information once received at the mobile terminal is automatically displayed on the display 121 of the mobile terminal 12. The information of the predetermined type can follow a path through the Internet 17 and WAP server 16, if from the web servers 170A. B. Also the information can follow a path through the Intranet 18 and WAP server 16 if from the agent server 180. Further, the information can follow a path through the Intranet 19, Internet 17 and WAP server 16, if from the agent server 190. The information of the predetermined type is transmitted from the servers 170, 180, 190 as part of a message having a particular format. The messages from the servers 170, 180, 190 are sent as radio signals by the wireless telecommunications network 10 to the mobile terminal 12.

The mobile terminal responds to messages sent from the wireless telecommunications network 10. These messages may, for example, be sent from a message center such as the SMSC 13 included in the wireless telecommunications network 10. The format of each message 20 can, for example, be such as that illustrated in Fig. 2. The format of the message can take any form and be constructed according to any protocol or standard. The message 20 as illustrated in Fig. 2 has a plurality of fields each containing different information used by the mobile terminal 12 to determine how and in what manner the message 20 is to be processed. The message 20 could, for example, include information for creating essentially a screen saver for the mobile terminal with the content of the screen saver being delivered over the wireless telecommunications network. The text or content of the message, for example, could be animated or move across the screen. The message also could include other types of media such as audio, video, graphics and animation that is supported by the terminal so as to deliver the predetermined type of the information to the user.

For example, included in the message 20 is a Message Center (MC) field identifying the message as having been sent from the SMSC 13. A sender field 22 is included in the message 20 to provide information identifying the sender of the message 20. A date field 23 is included in the message 20 to indicate the date on which the message 20 was sent. Date information in the date field 23 could, for example, be used to inform the user of the mobile terminal 12 the date the message was sent so that older messages can be deleted by the user or deleted automatically by the mobile terminal 12. A header field 24 is included in the message 20 containing information indicating the type of message being sent (e.g., SMSC message). An information type indicator field 25 is included in the message 20 to indicate the type of information (e.g., advertising, warning, authorized information, SMS message information) contained in the message 20. Thus, for example, as illustrated in Fig. 2, the information type indicator field could include an "A" indicating that the message contains advertising type information. An end field 27 is included in the message 20 to indicate the end of the message 20. The length of the end field 27 can be variable.

According to the present invention, the mobile terminal 12 receives messages each having a format such as that illustrated in Fig. 2. Thus, each message 20 carries information from the wireless

telecommunications network 10 to the mobile terminal 12 for processing or automatic displaying by the mobile terminal 12. Each message 20 is inspected to determine whether the message contains information of a predetermined type. As per the format illustrated in Fig. 2, the message 20 could include in the information type indicator field 25 information indicating that the information contained in the message 20 is, for example, an advertisement, a warning of an impending event sent, or authorized information.

If upon inspection of the information type indicator field 25 it is determined that the information is of any of the above described types for automatic display, then the information is automatically displayed on the display 121 of the mobile terminal 12. If upon inspection of the information contained in the information type indicator field 25 it is determined that the information contained in the message is not one of the above described types, then the message is processed in the normal manner. The normal manner could, for example, be a processing normally performed when the message is a SMSC message containing SMS message information. This normal processing includes at least storing the message in the storage 120 of the mobile terminal for later access by the user of the mobile terminal.

The message can also be inspected to verify the originator of the message. The wireless telecommunications network and each of the terminals could be set so that only message originators that are verified as trusted sources, or message originators that are given permission to send such messages, are allowed to send messages to the terminals to be automatically displayed on the displays of the terminals. Such a verification prevents anyone from sending unwanted messages to each of the terminals since such messages are automatically displayed on the screen of the mobile terminals 12 without user intervention. The verification of message originators can be accomplished by each terminal storing information identifying verified originators and comprising such stored information with information included in each message identifying the originator of the message. The information in each message can, for example, be information that cannot be modified or information such as a digital signature identifying the message originator. In each terminal once the information contained in each message is compared to the pre-stored information identifying verified

originators, then the message is either discarded or automatically displayed depending on whether a match is found between the pre-stored information in the mobile terminal and the originator identifying information in the message. The message is discarded if the originator of the message is not a verified originator and is automatically displayed on the screen of the mobile terminal if the originator is a verified message originator.

The above described operations performed by the mobile terminal 12 and the operations performed by the wireless telecommunications system including the mobile terminal and the wireless telecommunication network 10 are described below with respect to Figs. 4-6.

The operations performed by the mobile terminal 12 are illustrated in Fig. 4. These operations could, for example, be implemented by hardware, software or a combination of hardware and software. As per Fig. 4, the mobile terminal 12 receives a message from the wireless telecommunications network 10 (step 401). Upon receiving the message the mobile terminal 12 determines whether the message contains information of a predetermined type (step 402). If the information is of the predetermined type namely, for example, an advertising, warning, authorized user information, etc. (step 403), then the message is inspected to determine if the originator of the message is authenticated (authorized) to send such messages (step 404). If the information is not of the predetermined type, then the message is processed in the normal manner (step 405) such as, for example, the normal processing conducted on a SMS message. If the message is from an authorized originator, then the information contained in the message is automatically displayed on the screen of the mobile terminal 12 (step 406). If the message is not from an authorized originator, then the message is discarded (step 407) or possibly under certain circumstances processed normally (step 405). The information identifying the authorized message originators can, for example, be stored in each mobile terminal 12 at the time the mobile terminal 12 registers for wireless telecommunications service from a service provider. At such time, when the mobile terminal registers for service from the service provider, the service provider can send to the mobile terminal 12 various information identifying originators authorized to send messages which are automatically displayed on the screen of the mobile terminal without user intervention.

The present invention also provides for operations which are performed so as to register users of particular ones of the mobile stations so that selected information of a predetermined type are sent to the registered user. The operations performed for registering users of mobile terminals, selecting particular information to be sent to the mobile terminals being used by the registered users and sending the information via the wireless telecommunications network 10 to the mobile terminals 12 being used by the registered users are performed by the telecommunications system including the wireless telecommunications network 10 and the mobile terminals operating in combination with the WAP server 16 and any one or combination of the agent and web servers 180, 190, 170.

Thus, according to the flowchart illustrated in Fig. 5 particular mobile terminals operated in the wireless telecommunications system are registered, for example, in the agent server 190 (step 501). Registration of a mobile terminal could, for example, be accomplished by storing information concerning the mobile terminal in a table 30 (database) such as that illustrated in Fig. 3. The database can, for example, store with respect to each mobile terminal model number information 31 of the mobile terminal being used by the user, mobile terminal subscriber information 33 including, for example, a telephone number of the mobile terminal, profile information 34 indicating, for example, various characteristics including buying habits of the user of the mobile terminal, an SMSC address information 36 indicating a location address of the mobile terminal to permit messages to be quickly sent to the mobile terminal and user action information 37 indicating the history of actions taken by the user with respect to the information automatically displayed on the display of the mobile terminal. The user action information could, for example, indicate that the user purchased the item last advertised, moved to a location to avoid an impending event, provided corrections to sales information sent to the mobile terminal, etc. It should be noted that updates to the user action information 37 occurs after the information of the predetermined type has been displayed on the display of the mobile terminal. Thus, the user action information 34 can in effect be history information indicating the history of actions taken by the user regarding information automatically displayed on the display of the mobile terminal being used by the user.

As illustrated in Fig. 5, once the mobile terminals have been registered according to step 501,

then information to be sent to the registered mobile terminals is selected (step 502). Once the information to be sent has been selected the information is formed into a message which is sent to the registered mobile terminals via the wireless telecommunications network 10 (step 503). Each mobile terminal upon receipt of the message containing the information, performs a step of receiving the message containing the information (step 504). Thereafter, the mobile terminal 12 automatically displays the information contained in the message on the display of the mobile terminal (step 505).

According to the flowchart illustrated in Fig. 6 particular users of the plurality of mobile terminals operated in the wireless telecommunications system can be registered so that selected information of a predetermined type can be provided to the registered users through their mobile terminals when the users enter a predetermined area or location. The method illustrated in Fig. 6 provides unique advantages to providers of products and services, governmental and quasi-governmental organizations and authorized individuals and organizations of the ability to provide information appropriate for viewing by the registered user when the registered user enters a predetermined area or location.

According to the flowchart illustrated in Fig. 6 particular users of the plurality of mobile terminals operated in the wireless telecommunications system are registered, for example, in the agent server 190 (step 601). Registration of the user could, for example, be accomplished by storing information concerning the user and the mobile terminal operated by the user in a database having a table 30 as illustrated in Fig. 3. The location of the user of the mobile terminal is determined (step 602). Location information of a registered user using a mobile terminal can be determined by any number of well known methods such as, for example, the Global Positioning System (GPS) or by processes conducted within the wireless telecommunications network 10 including the use of the SMSC address information 36 stored in table 30.

Based on the location information of the user or based on the location information of the user and the profile of information 34 of user as stored in the table 30 illustrated in Fig. 3, particular information of a predetermined type is selected for sending to the mobile terminal being used by the user (step 603). The selected information could, for example, be information from a provider of a

product or service, when the user is in the location of a retail establishment carrying the product or service, an emergency notice from a governmental or quasi-governmental organization warning the user of a dangerous situation occurring in the location, or information from an authorized individual or organization notifying the user of an emergency meeting. Further, according to the Fig. 6 the selected information is sent to the mobile terminal being used by the registered user (step 604). The information sent to the mobile terminal being used by the registered user is automatically displayed on the display of the mobile terminal (step 605).

It should be noted that the information which is automatically displayed on the display of the user could, for example, be configured in the manner illustrated in Figs. 7A-B. In Figs. 7A and B the display 121 could, for example, display the information of the predetermined type "Buy Hamburger No. 1" 71 and provide additional information such as menu items 72-A to allow the user to perform some type of action relative to the displayed information of the predetermined type. In this example a "select" menu item is displayed. Examples of other menu items 72-B and C that can be provided are illustrated in Fig. 7B. For example, one menu item could be the telephone number of the provider of the product or service. Selection of this menu item by the user causes the mobile terminal to automatically dial the telephone number of the provider of the product or service. Another menu item could, for example, be a link to a web page. Selection of this menu item by the user causes the mobile terminal to automatically display the web page to which the link is directed. The information when displayed on the display of the mobile terminal an be coupled with other operations by the mobile terminal to get the attention of the user. These operations could, for example, be displaying an indicator on the display including blinking, generating an audio signal or causing the mobile terminal to vibrate.

As illustrated in Fig. 6 any action performed by the user relative to the information being displayed is detected (step 606) and then recorded or used to update the profile information 34 or the user action information 37 of the user in table 30 (step 607).

Thus, according to the above, the present invention provides a method and apparatus for automatically displaying information of a predetermined type contained in a message on the display

of a mobile terminal without intervention on the part of the user or use of storage normally used for storing messages. According to the present invention, a mobile terminal, being operated in a wireless telecommunications system including a plurality of the mobile terminals and a wireless telecommunications network, receives messages containing information from the wireless telecommunications network. Each of the messages are inspected to determine whether the message contains information of a predetermined type. If the message contains information of a predetermined type, then the information contained in the message is automatically displayed on the display of the mobile terminal. If the message does not contain information of a predetermined type, then processing of the messages is conducted in a normal manner. The present invention also provides for the detection and recording of actions taken by the user relative to the information which has been automatically displayed on the display of the mobile terminal.

Accordingly, the present invention provides a unique method and apparatus which allows for providers of products and services, governmental and quasi-governmental organizations, authorized individuals and organizations, and the like, to provide information of a predetermined type to users of mobile terminals and have such information automatically displayed on display of the mobile terminal.

While the present invention has been described in detail and pictorially in the accompanying drawings it is not limited to such details since many changes and modifications recognizable to those of ordinary skill in the art may be made to the invention without departing from the spirit and the scope thereof.

WE CLAIM:

1. In a wireless telecommunications system including a wireless telecommunications network which communicates with a plurality of mobile terminals using radio signals, wherein each mobile terminal includes a display for displaying information, a method of automatically displaying information of a predetermined type on said display comprising:

receiving in a mobile terminal a message containing information;

determining whether said information contained in said message is of a predetermined type;

if said message contains information of said predetermined type, automatically displaying said information on said display of said mobile terminal; and

if said message does not contain information of said predetermined type, processing said message in a normal manner.

2. A method according to claim 1, wherein said information of said predetermined type is information provided by a provider of a product or service.

3. A method according to claim 1, wherein said information of said predetermined type is a warning of an impending event provided by a governmental or quasi-governmental organization.

4. A method according to claim 1, wherein said information of said predetermined type is information provided by an individual or organization authorized to use the telecommunications system to automatically display information on the display of a mobile terminal.

5. A method according to claim 1, wherein if said message contains information of said predetermined type, menu items are provided as part of said information, and wherein said menu items are selectable by the user of the mobile terminal to cause predetermined actions to be performed by the mobile terminal relative to said information.

6. A method according to claim 5, wherein said menu items includes a menu item which causes said mobile terminal to dial a particular telephone number.

7. A method according to claim 5, wherein said menu items includes menu item having a link to a web page related to said information.

8. A method according to claim 5, further comprising: detecting which of the menu items are selected by the user of the mobile terminal; and

storing the detected information as history of user action information.

9. A method according to claim 1, wherein when said message does not contain information of said predetermined type, said message is stored in a storage for later access by the user of the mobile terminal.

10. A method according to claim 1, wherein when said message contains information of said predetermined type, operations are performed by said mobile terminal to immediately notify the

user of the mobile terminal that information of said predetermined type is being displayed.

11. A method according to claim 10, wherein said operations performed by said mobile terminal to notify the user of the mobile terminal includes at least one of providing an indicator on the display of the mobile terminal, providing an audio signal, and providing a vibratory signal.

12. A method according to claim 1, wherein said determining comprises:

determining, when said information is of said predetermined type, whether an originator of said message is authorized to send said messages containing information of said predetermined type; and

if said originator of said message is not authorized, discarding said message.

13. A wireless telecommunications system comprising:

a plurality of mobile terminals; and

a wireless telecommunications network which communicates with said mobile terminals using radio signals, wherein each mobile terminal includes a display for displaying information,

wherein each mobile terminal, upon receipt of a message containing information from said wireless telecommunications network, determines whether said information contained in said message is of a predetermined type, if said message contains information of said predetermined type, automatically displays said information on said display of said mobile terminal, and if said message does not contain information of said predetermined type, processes said message in a normal manner.

14. A wireless telecommunications system according to claim 13, wherein said information of said predetermined type is information provided by a provider of a product or service.

15. A wireless telecommunications system according to claim 13, wherein said information of said predetermined type is a warning of an impending event provided by a governmental or quasi-governmental organization.

16. A wireless telecommunications system according to claim 13, wherein said information of said predetermined type is information provided by an individual or organization authorized to use the telecommunications system to automatically display information on the display of a mobile terminal.

17. A wireless telecommunications system according to claim 13, wherein if said message contains information of said predetermined type, menu items are provided as part of said information, and wherein said menu items are selectable by the user of the mobile terminal to cause predetermined actions to be performed by the mobile terminal relative to said information.

18. A wireless telecommunications system according to claim 17, wherein said menu

items includes a menu item which causes said mobile terminal to dial a particular telephone number.

19. A wireless telecommunications system according to claim 17, wherein said menu items includes menu item having a link to a web page related to said information.

20. A wireless telecommunications system according to claim 17, wherein each mobile terminal detects which of the menu items are selected by the user of the mobile terminal, and stores the detected information as history of user action information.

21. A wireless telecommunications system according to claim 13, wherein when said message does not contain information of said predetermined type, said mobile terminal stores said message in a storage for later access by the user of the mobile terminal.

22. A wireless telecommunications system according to claim 13, wherein when said message contains information of said predetermined type, said mobile terminal performs operations to immediately notify the user of the mobile terminal that information of said predetermined type is being displayed.

23. A wireless telecommunications system according to claim 22, wherein said operations performed by said mobile terminal to notify the user of the mobile terminal includes at least one of providing an indicator on the display of the mobile terminal, providing an audio signal, and providing a vibratory signal.

24. A wireless telecommunications according to claim 13, wherein said mobile terminal determines, when said information is of said predetermined type, whether an originator of said message is authorized to send said messages containing information of said predetermined type, and if said originator of said message is not authorized, discards said message.

FIG. 1

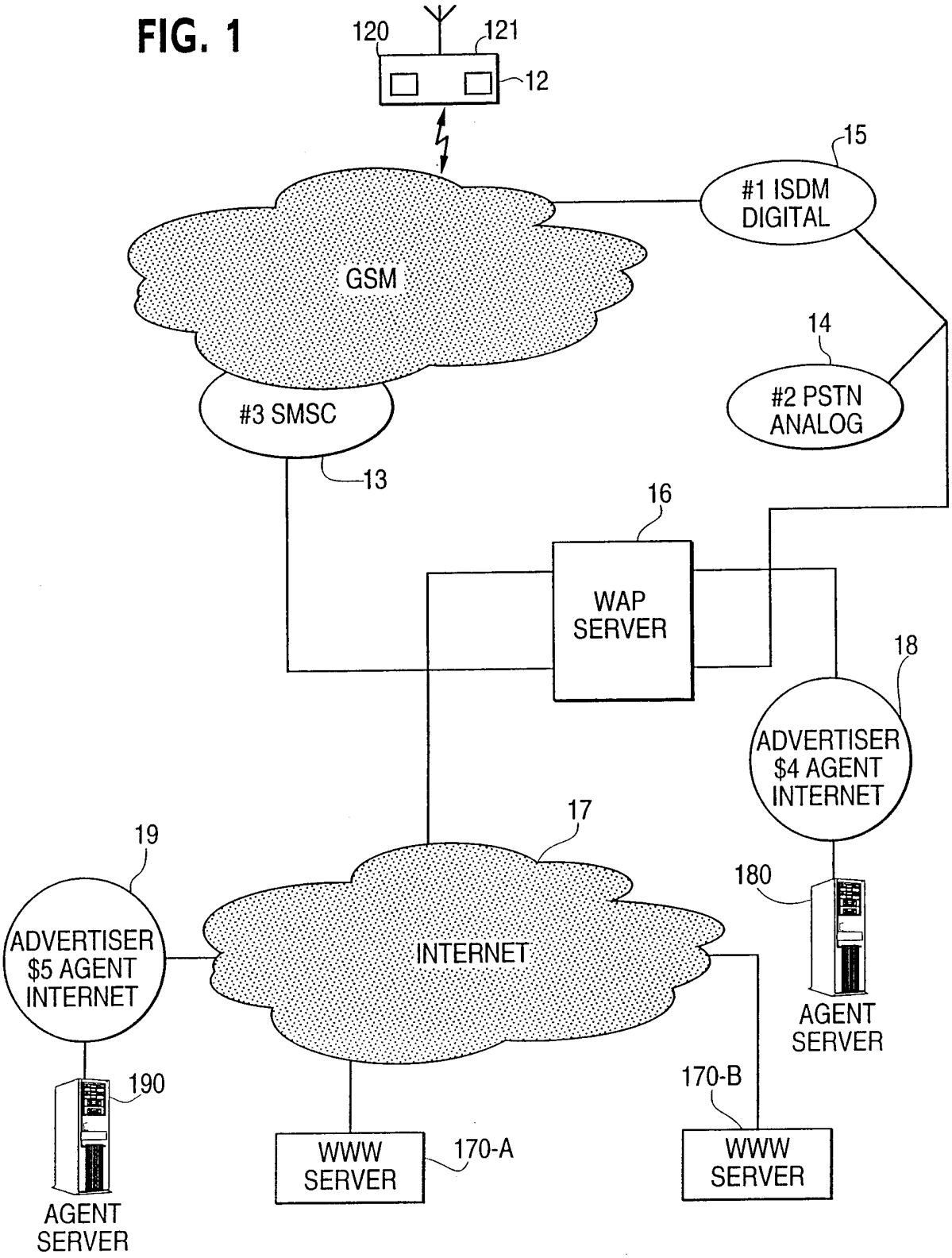

120
121
12
15
#1 ISDM
DIGITAL
GSM
14
#2 PSTN
ANALOG
#3 SMSC
13
16
WAP
SERVER
18
ADVERTISER
$4 AGENT
INTERNET
17
19
180
ADVERTISER
$5 AGENT
INTERNET
INTERNET
AGENT
SERVER
190
170-B
WWW
SERVER
170-A
WWW
SERVER
AGENT
SERVER

FIG. 2

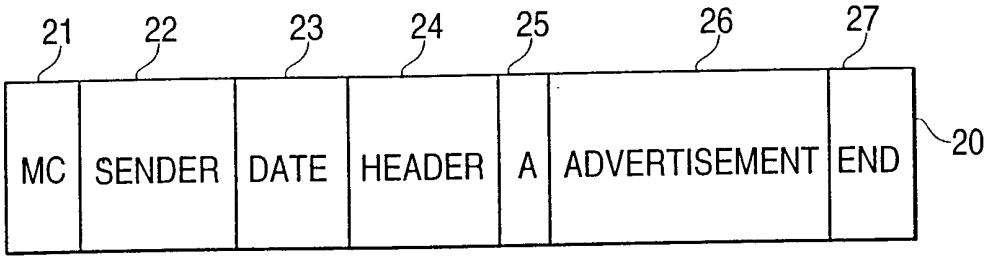


FIG. 3

31 MODEL	33 SUBSCRIBER INFO	34 PROFILE	36 SMSC ADDRESS	37 USER ACTION
NOKIA 6150	5625010	A		BOUGHT PRODUCT
NOKIA 7110	5178110	B		
NOKIA 9110	7565440	C		

30

A -BUSINESS MAN

B-HOMEMAKER

C-AGE 25-40

FIG. 4

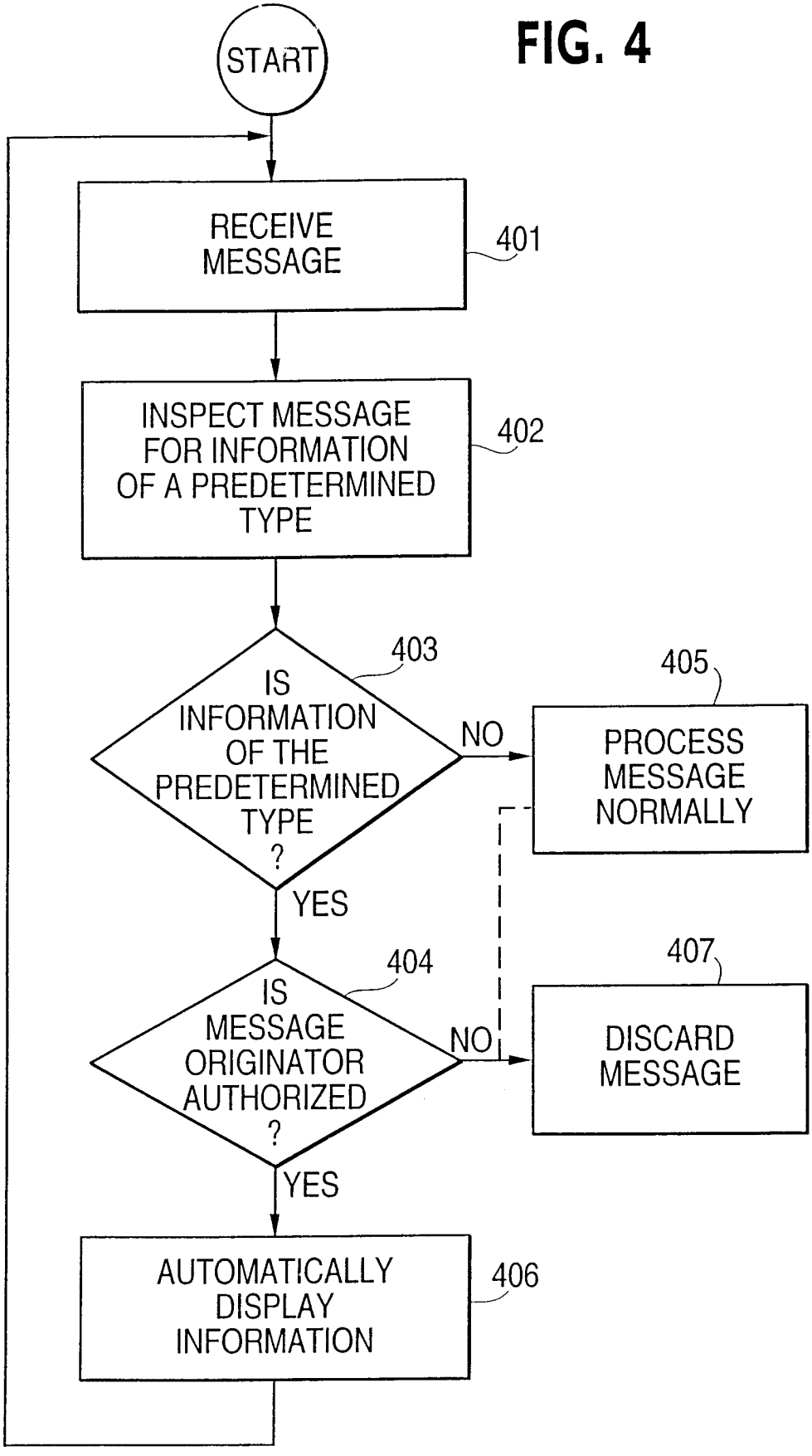

START
RECEIVE MESSAGE
401
INSPECT MESSAGE FOR INFORMATION OF A PREDETERMINED TYPE
402
IS INFORMATION OF THE PREDETERMINED TYPE ?
403
NO
405
PROCESS MESSAGE NORMALLY
YES
IS MESSAGE ORIGINATOR AUTHORIZED ?
404
NO
407
DISCARD MESSAGE
YES
AUTOMATICALLY DISPLAY INFORMATION
406

FIG. 5

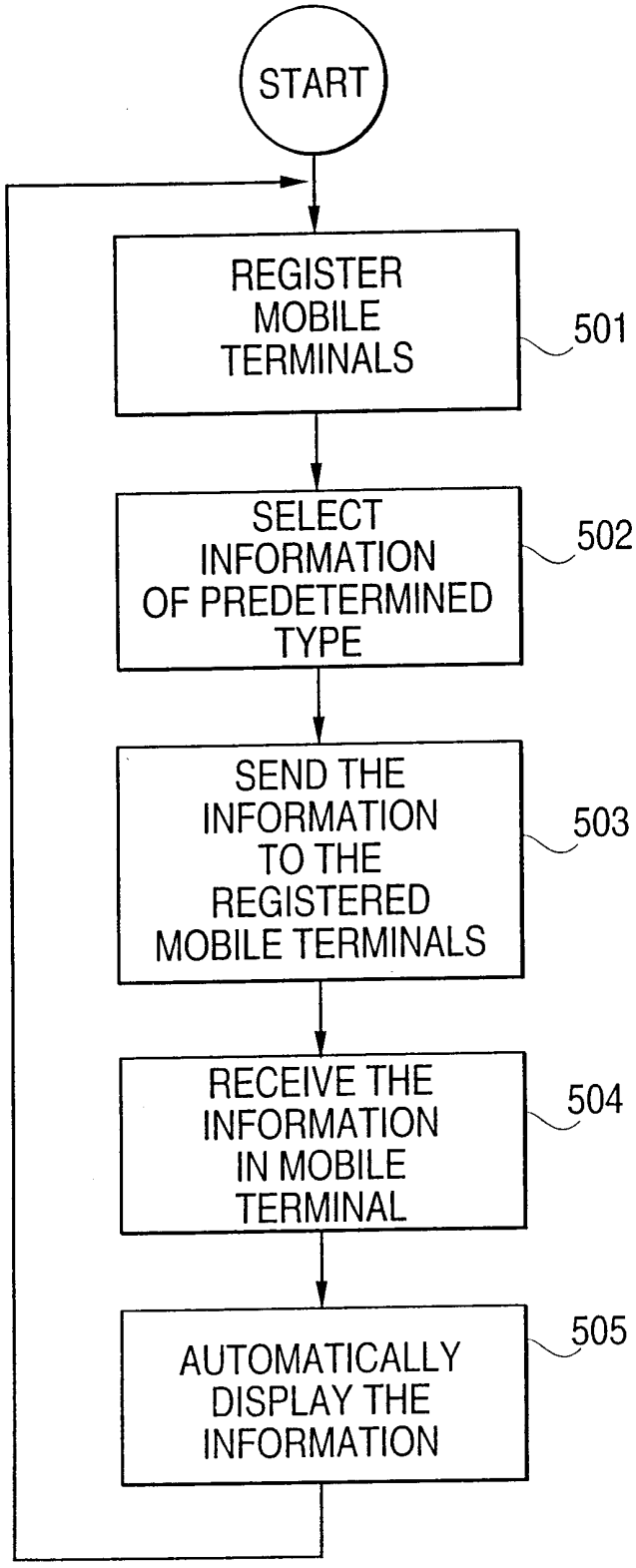

START
REGISTER MOBILE TERMINALS
501
SELECT INFORMATION OF PREDETERMINED TYPE
502
SEND THE INFORMATION TO THE REGISTERED MOBILE TERMINALS
503
RECEIVE THE INFORMATION IN MOBILE TERMINAL
504
AUTOMATICALLY DISPLAY THE INFORMATION
505

FIG. 6

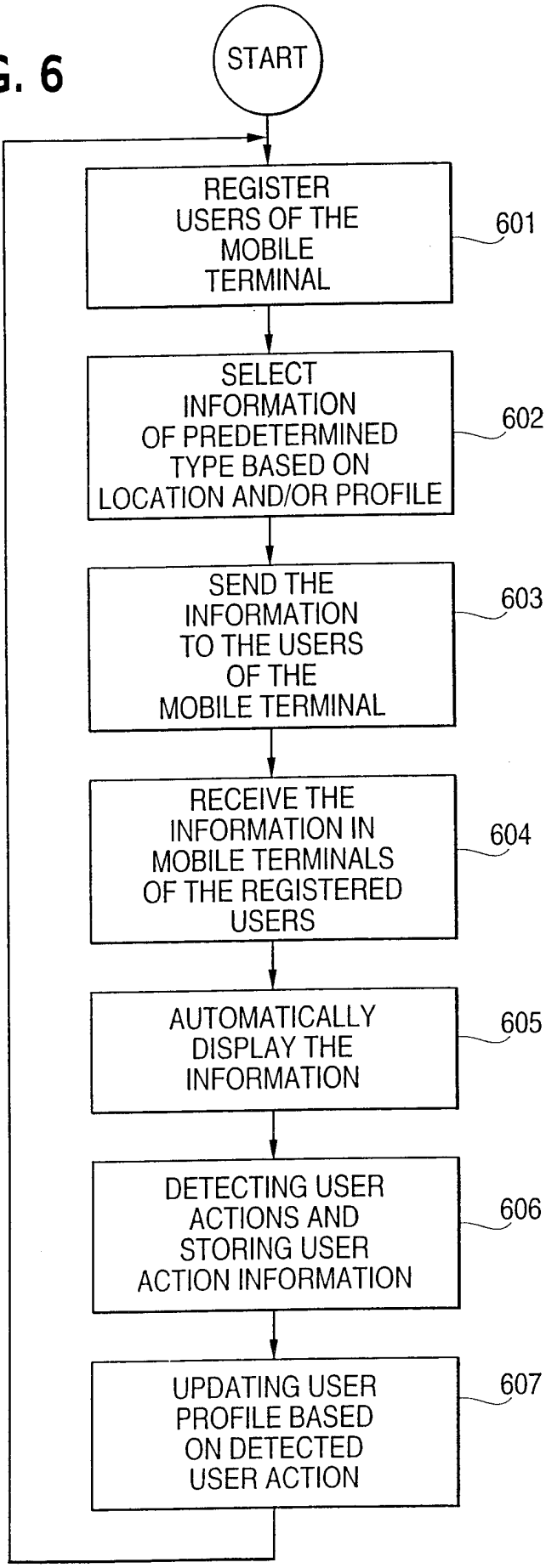

START
REGISTER USERS OF THE MOBILE TERMINAL
601
SELECT INFORMATION OF PREDETERMINED TYPE BASED ON LOCATION AND/OR PROFILE
602
SEND THE INFORMATION TO THE USERS OF THE MOBILE TERMINAL
603
RECEIVE THE INFORMATION IN MOBILE TERMINALS OF THE REGISTERED USERS
604
AUTOMATICALLY DISPLAY THE INFORMATION
605
DETECTING USER ACTIONS AND STORING USER ACTION INFORMATION
606
UPDATING USER PROFILE BASED ON DETECTED USER ACTION
607

FIG. 7A

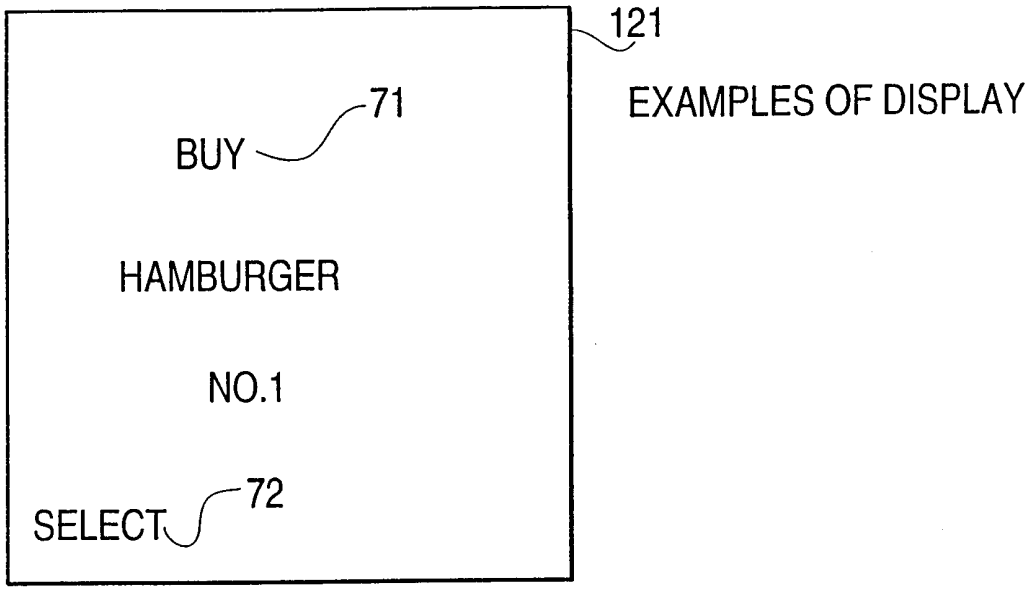
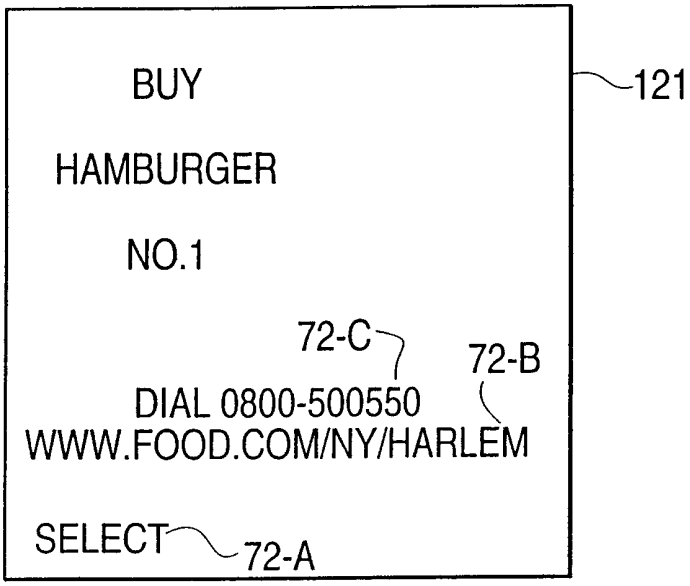

121
EXAMPLES OF DISPLAY
71
BUY
HAMBURGER
NO.1
72
SELECT

FIG. 7B


121
BUY
HAMBURGER
NO.1
72-C
72-B
DIAL 0800-500550
WWW.FOOD.COM/NY/HARLEM
SELECT
72-A