Method for Acquiring Electronic Service Guide, Mobile Multimedia Broadcast Server Platform and Mobile Terminal

Technical Field

The present invention relates to the technical field of wireless communication, and in particular, to a method for a mobile terminal to acquire an Electronic Service Guide (ESG) in mobile multimedia broadcasting services, a mobile multimedia broadcasting service platform and a mobile terminal.

Background Art

The digital mobile multimedia broadcasting technology and standards develop rapidly in recent years, and mobile multimedia broadcasting service has been attracting a large amount of attention across the world as a new broadcasting form of multimedia, whose operation prospect has put a large number of upstream and downstream enterprises of the industrial chain into industrialized development. For example, DVB-H (Digital Video Broadcast Handheld) in Europe, MediaFLO (Media Forward Link Only) in America, CMMB (China Mobile Multimedia Broadcasting) in China and the like all adopt the form of unidirectional broadcasting to provide a plurality of kinds of services, such as advertisement, weather report, news, sports shows, variety, multimedia radio plays, movies and so on, for the terminal users, and the users can select the service content of the mobile multimedia broadcasting according to their own interests.

ESG is a multimedia broadcasting information guide service, through which a terminal can acquire the information related to the multimedia broadcasting and multicast services including service name, broadcasting time, content summary and the like so as to facilitate rapid search and visit. Therefore, a user can read materials about various services, skim over the video channels and program list, skim over the price table, select and purchase one or more contents in the price table, and login in a website and browse a webpage by browsing ESG at the terminal.

The national ESG information is transmitted at the basic frequency points of the satellite platform while the local ESG information is transmitted at the basic frequency points of the local network. Therefore, different ESG information can be transmitted in different areas according to their own service characteristics. And the user can only view the services shown in the ESG information of the place where it is located. Therefore, it is not necessary for a mobile terminal to receive ESG information of places other than the place where it is located. How to enable a mobile terminal to acquire the desired available ESG information is precisely the problem to be solved by the present invention.

Summary of the Invention

The technical problem to be solved by the present invention is to provide a method and system for a mobile terminal to acquire an Electronic Service Guide (ESG), a mobile multimedia broadcasting service platform and a mobile terminal so as to acquire a correct ESG.

In order to solve the above technical problem, the present invention provides a method for a mobile terminal to acquire an Electronic Service Guide (ESG), comprising:

the mobile terminal sending current area information of the mobile terminal to a mobile multimedia broadcasting service platform via a mobile communication network;

the mobile multimedia broadcasting service platform receiving the current area information of the mobile terminal, and sending an ESG corresponding to the current area information of the mobile terminal to the mobile terminal; and

the mobile terminal receiving the ESG.

Furthermore, the mobile multimedia broadcasting service platform stores ESGs and information about the corresponding relationship between the ESGs and area information.

Furthermore, the information of the corresponding relationship between the ESGs and the area information may be represented by: the corresponding area information contained in a service identifier of the ESG; or a reference table of the ESGs and the area information.

Furthermore, the step of the mobile terminal sending current area information of the mobile

terminal to a mobile multimedia broadcasting service platform via a mobile communication network comprises:

the mobile terminal registering at the mobile communication network to acquire and store the current area information;

the mobile terminal sending an ESG request message to the mobile multimedia broadcasting service platform via the mobile communication network, wherein the request message includes the current area information.

Furthermore, the step of the mobile multimedia broadcasting service platform receiving the current area information of the mobile terminal, and sending an ESG corresponding to the current area information of the mobile terminal to the mobile terminal comprises:

the mobile multimedia broadcasting service platform receiving the request message, and analyzing the request message to acquire the current area information of the mobile terminal, searching for the ESG corresponding to the current area information and sending the corresponding ESG to the mobile terminal after encapsulation.

Furthermore, the area information may include one or more of a routing area identifier (RAI), a location area identifier (LAI) and cell identification (CellID).

In order to solve the above technical problem, the present invention further provides a system for a mobile terminal to acquire an Electronic Service Guide (ESG), comprising a mobile terminal and a mobile multimedia broadcasting service platform, the mobile terminal and the mobile multimedia broadcasting service platform communicating with each other via a mobile communication network, wherein,

the mobile terminal may be used to send current area information to the mobile multimedia broadcasting service platform and to receive an ESG sent by the mobile multimedia broadcasting service platform;

the mobile multimedia broadcasting service platform may be used to send a corresponding ESG to the mobile terminal according to the current area information of the mobile terminal.

Furthermore, the mobile multimedia broadcasting service platform may be used to store

ESGs and information about the corresponding relationship between the ESGs and the area information, the information about the corresponding relationship between the ESGs and the area information may be represented as follows: the corresponding area information contained in a service identifier of the ESG; or a reference table of the ESGs and the area information.

Furthermore, the current area information of the mobile terminal may be acquired by the mobile terminal through registering at the mobile communication network, and the area information may include one or more of a routing area identifier (RAI), a location area identifier (LAI) and a cell identification (CellID).

In order to solve the above technical problem, the present invention further provides a mobile multimedia broadcasting service platform for supporting a mobile terminal to acquire an Electronic Service Guide (ESG), wherein the mobile terminal and the mobile multimedia broadcasting service platform communicates via a mobile communication network, the mobile multimedia broadcasting service platform is configured to receive current area information of the mobile terminal sent by the mobile terminal via the mobile communication network and send an ESG corresponding to the current area information of the mobile terminal to the mobile terminal so that the mobile terminal acquires the ESG.

In order to solve the above technical problem, the present invention further provides a mobile terminal for acquiring an Electronic Service Guide (ESG), wherein the mobile terminal acquires an ESG by sending current area information to a mobile multimedia broadcasting service platform.

Furthermore, the current area information may be acquired by the mobile terminal through registering at a mobile communication network, and the area information includes one or more of a routing area identifier (RAI), a location area identifier (LAI) and a cell identification (CellID).

In order to solve the above technical problem, the present invention further provides a mobile terminal for acquiring an Electronic Service Guide (ESG), which is configured to acquire current area information of the mobile terminal through registering at a mobile communication network and to acquire a corresponding ESG by sending the current area information of the mobile terminal to a mobile multimedia broadcasting service platform.

In order to solve the above technical problem, the present invention further provides a mobile multimedia broadcasting service platform for supporting a mobile terminal to acquire an Electronic Service Guide (ESG), wherein the mobile terminal and the mobile multimedia broadcasting service platform communicates with each other via a mobile communication network, the mobile multimedia broadcasting service platform is configured to store ESGs and information about the corresponding relationship between the ESGs and the area information, receive current area information of the mobile terminal sent by the mobile terminal via the mobile communication network and send the ESG corresponding to the current area information of the mobile terminal to the mobile terminal so that the mobile terminal acquires the ESG.

The method, system and the mobile terminal of the present invention enable the mobile terminal to only receive the currently available and correct ESG information by means of acquiring the current area information of the mobile terminal, thus reducing the amount of data to be processed by the mobile terminal, decreasing the unnecessary load on the network caused by redundant data, and improving the performance of the whole system for providing multimedia services.

Brief Description of Drawings

FIG. 1 illustrates the system circumstance in which the present invention is applied; and

FIG. 2 is a processing flow of a mobile terminal acquiring an ESG according to the example of the present invention.

Preferred Embodiments of the Invention

The main idea of the method and system of the present invention is that a mobile multimedia broadcasting service platform sends to the mobile terminal an ESG corresponding to the current area information sent by the mobile terminal via a mobile communication network.

The preferred example of the present invention will be described with reference to the drawings. It should be appreciated that the preferred example described herein is only for

describing and explaining the present invention and is not intended to limit the present invention.

As shown in FIG. 1, the system for a mobile terminal to acquire an ESG according to the present invention comprises a mobile multimedia broadcasting service platform and a mobile terminal (including various cards used together therewith),wherein the mobile terminal and the mobile multimedia broadcasting service platform communicates via a mobile communication network.

The mobile terminal is used to register at the mobile communication network, acquire and store the area information, and it is also used to send an ESG request to the mobile multimedia broadcasting service platform, display the ESG acquired from the mobile multimedia broadcasting service platform;

the mobile terminal is also used to count the number of times for sending an ESG request so as to repeatedly send an ESG request in a case that no ESG is received and a set number of times is not exceeded;

the mobile multimedia broadcasting service platform is used to store the ESG and information about the corresponding relationship between the ESG and the area information, and it is also used to receive and analyze the ESG request sent by the mobile terminal, search for the corresponding ESG according to the acquired area information and send the ESG that has been searched out to the mobile terminal after encapsulation.

The corresponding area information may be contained in a service identifier of the ESG, or a reference table of the ESG and the area information can be used to represent the corresponding relationship between the area information and the ESG.

As shown in FIG. 2, the method for a mobile terminal to acquire an ESG according to the present invention enables a mobile multimedia broadcasting service platform to send available and correct ESG information to the mobile terminal depending on the area where the mobile terminal is located to achieve area dependent service function; the method comprises the following steps:

Step 201: a mobile terminal registering at a mobile communication network, acquiring and storing the current area information;

The area information is a RAI (Routing Area Identity), a LAI (Location Area Identity) or a CellID (Cell Identification), or any combination thereof, depending on the negotiation between the mobile multimedia broadcasting service platform and the mobile terminal.

Step 202: registering and storing the ESG and information about the corresponding relationship between the ESG and the area information in the mobile multimedia broadcasting service platform;

The registering may be implemented by inputting the ESG and the information by an administrator of the mobile multimedia broadcasting service platform via portals and storing the ESG and the information in a database.

The corresponding area information may be contained in a service identifier of the ESG, or a reference table of the ESG and the area information can be used to represent the corresponding relationship between the area information and the ESG.

Step 201 and step 202 do not have to be executed in sequence.

Step 203: the mobile multimedia broadcasting service platform receiving an ESG request message sent by the mobile terminal, wherein the request message carries the current area information;

Step 204: the mobile multimedia broadcasting service platform analyzing the area information in the request message;

Step 205: the mobile multimedia broadcasting service platform searching for the ESG information corresponding to the area information that has been analyzed out in step 204 and encapsulating the ESG information, storing the session information of the terminal in the memory;

Step 206: the mobile multimedia broadcasting service platform sending the encapsulated ESG information in step 205 to the mobile terminal;

Step 207: if it is successfully transmitted, the mobile terminal displaying the received ESG information to the user, and the mobile multimedia broadcasting service platform deleting the session information of the terminal stored in the memory, and the flow ending. Otherwise, the

mobile multimedia broadcasting service platform judges whether the number of times for transmission exceeds a set number of times (which can be configured by configuration files or databases), if yes, then the flow is ended, otherwise, the ESG information sent to the mobile terminal is directly taken out from the session information stored in the memory in step 205 and transmitted repeatedly. For a mobile terminal, the mobile terminal can judge whether the ESG information returned by the mobile multimedia broadcasting service platform is received within a set period of time (set by the terminal itself), if yes, it is construed that the ESG information is successfully requested, otherwise, it is construed that the ESG information is not successfully requested, in which case an ESG request message is initiated again, and the mobile multimedia broadcasting service platform turns to step 203 for processing.

The method, system and the mobile terminal of the present invention enable the mobile terminal to only receive the currently available information by means of acquiring the current area information of the mobile terminal, thus reducing the amount of data to be processed by the mobile terminal, decreasing the unnecessary load on the network caused by redundant data, and improving the performance of the whole system for providing multimedia services.

The above example is only a preferred example of the present invention and is not intended to limit the present invention. For a person having ordinary skill in the art, the present invention may have various modifications and transformations. However, any modification, equivalent substitution, improvement and the like made without departing from the spirit and principle of the present invention shall fall into the protection scope of the present invention.

Industrial Applicability

The present invention enables the mobile terminal to only receive the currently available and correct ESG information by means of acquiring the current area information of the mobile terminal, thus reducing the amount of data to be processed by the mobile terminal, decreasing the unnecessary load on the network caused by redundant data, and improving the performance of the whole system for providing multimedia services.

What we claim is:

1. A method for a mobile terminal to acquire an Electronic Service Guide (ESG), comprising the following steps of:

the mobile terminal sending current area information of the mobile terminal to a mobile multimedia broadcasting service platform via a mobile communication network;

the mobile multimedia broadcasting service platform receiving the current area information of the mobile terminal, and sending an ESG corresponding to the current area information of the mobile terminal to the mobile terminal; and

the mobile terminal receiving the ESG.

2. The method according to claim 1, wherein:

the mobile multimedia broadcasting service platform stores ESGs and information about the corresponding relationship between the ESGs and area information.

3. The method according to claim 2, wherein:

correspondence between the ESGs and the area information is implemented by containing the corresponding area information in a service identifier of the ESG; or using a reference table of the ESGs and the area information.

4. The method according to claim 1, wherein:

the step of the mobile terminal sending current area information of the mobile terminal to a mobile multimedia broadcasting service platform via a mobile communication network comprises the following steps of:

the mobile terminal registering at the mobile communication network to acquire and store the current area information;

the mobile terminal sending an ESG request message to the mobile multimedia broadcasting service platform via the mobile communication network, wherein the request message includes the current area information; and

the step of the mobile multimedia broadcasting service platform receiving the current area information of the mobile terminal, and sending an ESG corresponding to the current area

information of the mobile terminal to the mobile terminal comprises the following steps of:

the mobile multimedia broadcasting service platform receiving the request message, and analyzing the request message to acquire the current area information of the mobile terminal, searching for the ESG corresponding to the current area information and sending the corresponding ESG to the mobile terminal after encapsulation.

5. The method according to claim 1, wherein:

the area information includes one or more of a routing area identifier (RAI), a location area identifier (LAI) and cell identification (CellID).

6. The method according to claim 1, further comprising the following steps of:

the mobile multimedia broadcasting service platform storing the corresponding ESG before sending the ESG corresponding to the current area information of the mobile terminal to the mobile terminal; and

the mobile multimedia broadcasting service platform sending the stored corresponding ESG to the mobile terminal again if the ESG corresponding to the current area information of the mobile terminal is not successfully sent to the mobile terminal.

7. The method according to claim 6, wherein:

the mobile multimedia broadcasting service platform stops sending if a number of times for sending the stored corresponding ESG to the mobile terminal reaches a set number of times.

8. The method according to claim 1 or 6, further comprising the following step of:

the mobile terminal sending the current area information of the mobile terminal to the mobile multimedia broadcasting service platform via the mobile communication network again if the mobile terminal does not receive the corresponding ESG within a set period of time.

9. A mobile multimedia broadcasting service platform for supporting a mobile terminal to acquire an Electronic Service Guide (ESG), wherein:

the mobile terminal and the mobile multimedia broadcasting service platform communicates via a mobile communication network, the mobile multimedia broadcasting service platform is configured to receive current area information of the mobile terminal sent by the mobile terminal via the mobile communication network and send an ESG corresponding to

the current area information of the mobile terminal to the mobile terminal so that the mobile terminal acquires the ESG.

10. The mobile multimedia broadcasting service platform according to claim 9, wherein:

the mobile multimedia broadcasting service platform is also configured to store ESGs and information about the corresponding relationship between ESGs and the area information, and the correspondence between ESGs and the area information is implemented by containing the corresponding area information in a service identifier of the ESG or using a reference table of ESGs and the area information.

11. The mobile multimedia broadcasting service platform according to claim 9, wherein:

the current area information of the mobile terminal is acquired through registering by the mobile terminal at the mobile communication network, and the area information includes one or more of a routing area identifier (RAI), a location area identifier (LAI) and a cell identification (CellID)

12. A mobile terminal for acquiring an Electronic Service Guide (ESG) configured to acquire a corresponding ESG by sending current area information of the mobile terminal to a mobile multimedia broadcasting service platform.

13. The mobile terminal according to claim 12, wherein:

the current area information of the mobile terminal is acquired by the mobile terminal through registering at the mobile communication network, and the area information includes one or more of a routing area identifier (RAI), a location area identifier (LAI) and a cell identification (CellID)

14. The mobile terminal according to claim 12, wherein:

the ESG and information about the corresponding relationship between the ESG and the area information are stored in the mobile multimedia broadcasting service platform.

15. A mobile terminal for acquiring an Electronic Service Guide (ESG) configured to acquire current area information of the mobile terminal through registering at a mobile communication network and to acquire a corresponding ESG by sending the current area information of the mobile terminal to a mobile multimedia broadcasting service platform.

16. A mobile multimedia broadcasting service platform for supporting a mobile terminal to acquire an Electronic Service Guide (ESG), wherein the mobile terminal and the mobile multimedia broadcasting service platform communicates with each other via a mobile communication network, the mobile multimedia broadcasting service platform is configured to store ESGs and information about the corresponding relationship between the ESGs and the area information, receive current area information of the mobile terminal sent by the mobile terminal via the mobile communication network and send the ESG corresponding to the current area information of the mobile terminal to the mobile terminal so that the mobile terminal acquires the ESG.