

COMMUNICATION SYSTEM FOR MULTIMEDIA CONTENT AND METHOD FOR LEAVING A MULTIMEDIA MESSAGE

BACKGROUND OF THE INVENTION

Field of Invention

5 The present invention relates to a communication system for multimedia content and method for leaving a multimedia message, and more particularly to a communication system for multimedia content and method for leaving a multimedia message with the function of providing a personalized message combined with multimedia contents, informing about the time for playing the recorded message in an active way and
10 automatically deleting specific undesired text in the recorded message.

Related Art

Nowadays, the multiple system of cable television has gradually changed from the analog television system to the digital television system. In the digital television system, a user is able to choose and watch a desired program at a desired time; and therefore
15 individualized television system service is a trend for the future television system service. However, before the digital television completely replaces the traditional television, the video converter, popularly referred as a set-top-box, functions as the core of this converting trend. After the traditional television is connected to the video converter (popularly referred as a set-top-box), the traditional television, which before could only receive analog signals,
20 can be converted to receive digital signals and thereby generate images. Therefore, with the cooperation of the television system operator, the user can select his or her favorite programs to watch. The modern hard disk drive is the support technique behind development of the video converter. Provided with a built-in hard disk drive, the video converter may include the function of a personal video recorder (PVR). At present, PVR
25 capability is one of the motivations most likely to drive the user to begin using a video converter with a built-in hard disk. PVR service enables cable television subscribers to

control direct broadcast television, and to manage a large number of television channels provided by digital television. Through PVR, the user can select programs for recording, and can pause and replay real time or live programs, and the recordable time of programming varies depending on the size of the built-in hard disk.

5 The function of the PVR in the conventional art mainly includes recording and watching television in the way of time shift, wherein the time shift, a main function in the conventional art, is used to pause playing of real time television programming and replay live programs in real time. When carrying out the time-shift function, the television program being viewed at present is temporarily stored in the computer, and the user can at
10 any time review previously broadcasted images or skip ahead by a certain interval of time, thus the user will not miss any splendid scene.

However, the current Personal Video Record (PVR) and Digital Video Record (DVR) digital system only enables the user to download the selected multimedia information to the used device to be stored and played, and not to modify multimedia information according to
15 personal requirements or provide, at the same time the multimedia content is being played, a function for leaving a message, and the user cannot get the time for playing recorded messages provided by him or herself either.

Therefore, a system and method for making personalized modification to the multimedia information is required, such that a recorded message edited by the user himself
20 or herself can be played together with multimedia information, and many people can watch it through multimedia transmission, and the user is provided with the time for playing the recorded message and other necessary information associated with the recorded message.

Furthermore, as for the service provider, to satisfy its responsibility to the public, a system and method for filtering before playing is required for the recorded messages edited
25 by the user in combination with multimedia information, to avoid that the user utilizes the method for leaving a message played together with multimedia contents to spread the text a the message violating good social customs, resulting in bad influences.

SUMMARY OF THE INVENTION

In view of this, to solve the problem described above, an object of the present invention is to provide a communication system for multimedia content and method for leaving a multimedia message. The recorded message is edited according to the requests of a user
5 through capability for abundant personalized modification, such that it may be played in combination with multimedia contents to be viewed by many people through multimedia transmission. After the recorded message has been edited, the user is informed of the time for playing the recorded message, so that the system for playing the multimedia content is more practical and flexible.

10 Furthermore, to solve another problem described above, another object of the present invention is to provide a communication system for multimedia content and method for leaving a multimedia message, wherein the multimedia information is filtered before being played, such that multimedia information and a combined recorded message violating good social customs will not be played on any occasion or viewed by the public to cause bad
15 influences.

To achieve the above objects, the present invention provides a communication system for multimedia content with the function for leaving a message combined with multimedia contents, which includes:

a remote multimedia content receiver, for receiving a request from the user to play
20 multimedia contents, or receiving a request for a recorded message service to play the recorded message;

a multimedia content provider, connected with the remote multimedia content receiver over a network, to initiate the function for leaving a message of the remote multimedia content receiver according to a request from the user for the recorded message service; the
25 multimedia content provider including:

a user account module, for verifying and managing the user's information;

a recorded message editor, for providing various editing functions for the recorded message inputted by the user;

a message processor, for analyzing the recorded message edited by the user to filter out certain predetermined text;

- 5 a message compiler, for compiling the analyzed and filtered recorded message to meet the requirements of the multimedia content standard playing format, and calculating the time prepared for playing the recorded message;

a message stacker, for sequentially storing the recorded messages in accordance with the multimedia content standard playing format;

- 10 a content server, sequentially retrieving the recorded message to be played from the message stacker and formatting it into a display field for being played;

wherein the remote multimedia content receiver includes:

an input interface, for receiving the information and command inputted by the user;

- 15 a memory, including a recorded message program to carry out the recorded message service; and

- 20 a central processing unit (CPU), for putting forward a request for a recorded message service to the multimedia content provider according to the command inputted by the user for requesting the recorded message service, and initiating the recorded message service and displaying the interactive interface for editing the recorded message on a connected display module, upon receiving a permitting response for the recorded message service from the multimedia content provider.

In addition, to achieve the above objects, the present invention provides a method for leaving a multimedia message, which comprises: validating the identity of the user and the connected network address used by the user when receiving a command from the user

requesting service; initiating the recorded message service for the device corresponding to the network address upon validating that the service type required by the user is the recorded message service; receiving and analyzing the recorded message inputted by the user; compiling the analyzed recorded message into a recorded message in accordance with
5 the multimedia content standard playing format; storing the compiled recorded message; calculating the time prepared for playing the recorded message and informing the user of the time prepared for playing the recorded message; playing the recorded message according to the time prepared.

Further scope of applicability of the present invention will become apparent from the
10 detailed description given hereinafter. However, it should be understood that the detailed description and specific examples, while indicating preferred embodiments of the invention, are given by way of illustration only, since various changes and modifications within the spirit and scope of the invention will become apparent to those skilled in the art from this detailed description.

15 **BRIEF DESCRIPTION OF THE DRAWINGS**

The present invention will become more fully understood from the detailed description given herein below for illustration only, and thus not limitative of the present invention, and wherein:

FIG. 1 shows a system architecture for a multimedia content provider to provide
20 various contents to the multimedia content receivers;

FIG. 2 shows a system architecture of a multimedia content receiver, a central office, and a multimedia content provider connected thereto;

FIG. 3a shows an embodiment of an operation display image of a message editor;

FIG. 3b shows an embodiment of a display image for displaying the message;

25 FIG. 4 is a flow chart of a preferred embodiment of the workflow of a recorded

message service (step 500) according to the present invention;

FIG. 4a is a flow chart of a sub-program for establishing the service connection (step 530);

FIG. 4b is a flow chart of a sub-program for carrying out browsing (step 560);

5 FIG. 4c is a flow chart of a sub-program for transmitting and loading (step 590);

FIG. 4d is a flow chart of a sub-program for interacting with the user (step 620);

FIG. 4e is a flow chart of a sub-program for processing recorded messages (step 650);
and

FIG. 4f is a flow chart of a sub-program for playing recorded messages (step 680).

10 DETAILED DESCRIPTION OF THE INVENTION

The present invention is illustrated in detail with reference to the accompany drawings as follows:

Referring to FIG. 1, it shows a system architecture for a multimedia content provider 100 to provide various contents to a plurality of multimedia content receivers.

15 In FIG. 1, a multimedia content provider 100 is used to provide various contents to more than one multimedia content receiver (102a, 102b, 102c, 102d), wherein each multimedia content receiver (102a, 102b, 102c, 102d) is connected to more than one television, or display device (104a, 104b, 104c, 104d) of other type, and each screen (104a, 104b, 104c, 104d) can provide the contents provided by the multimedia content provider
20 100 to more than one viewer; and each multimedia content receiver (102a, 102b, 102c, 102d) may also be connected to the input device (106a, 106b, 106c, 106d) for receiving the data or commands inputted by the viewers.

In one preferred embodiment of the present invention, the multimedia content provider

100 distributes the information content to each multimedia content receiver (102a, 102b, 102c, 102d) along a circuit (for example, Digital subscriber line (DSL)) with the packed-switched technique, such as Internet Protocol (IP) transmitting technique, utilizing one or more central office telephone exchanges (108a, 108b). A middle transmission device
5 of the central offices (108a, 108b), for example, is used for enabling the multimedia content provider 100 to effectively provide the same content to many different multimedia content receivers (102a, 102b, 102c, 102d) through the multi-cast content. For example, the multimedia content provider 100 can provide a multi-cast content of a single version to the first central office 108a, and the first central office 108a then transmits the content of this
10 version to each multimedia content receiver connected with the first central office 108a, for example, including the multimedia content receiver 102a and the multimedia content receiver 102b. Other multimedia content receivers may also receive the same multi-cast content, and for example, the multimedia content receiver 102c obtains the content of this version transmitted to the second central office 108b. Additionally, all or part of the
15 multimedia content receivers can receive the content with individual features through a single transmission with the packed-switched technique used by the multimedia content provider 100. For example, when the multimedia content receivers (102a, 102b, 102c) receive the same content by way of multicast, the multimedia content receiver 102d can receive different contents through a single transmission, and the different contents are
20 provided to the second central office 108b, and transferred to the multimedia content receiver 102d.

In addition to the content being transmitted from the multimedia content provider 100 to the multimedia content receivers (102a, 102b, 102c, 102d), many different types of information will also be transmitted from the multimedia content receivers (102a, 102b,
25 102c, 102d) to the multimedia content provider 100 (through the central office described in the embodiment). For example, each multimedia content receiver (102a, 102b, 102c, 102d) can provide content control instructions to the multimedia content provider 100, to indicate the content that is demanded by the user at present. For example, in the case that the content is provided through multiple channels (such as, transmission of television programs), the

content control instruction includes the changing of channels, and therefore, if each multimedia content receiver (102a, 102b, 102c, 102d) receives the same channel information in the way of multicast, some multimedia content receiver, for example, the multimedia content receiver 102b, can instruct the multimedia content provider 100 to
5 change channels at any time, and at this time it leaves this multicast and joins in another different multicast, corresponding to the selected new channel. Each of the other kinds of content control commands can be provided to the multimedia content provider 100 in a similar manner, for example, a specific sound or an interval of image content (for example, video or audio on demand) is selected for a single broadcast content; or an instruction for
10 adjusting the playing flow of a single broadcast content can be generated (such as, pause, slow motion, or fast forward, etc.) when the VCR is used to control the content. The similar content control instructions can be generated through operating the input device by one or more television viewers, and be transmitted to the connected multimedia content receivers.

As described above, the multimedia content provider 100 can receive the command
15 for requesting recorded message service transmitted from the multimedia content receivers (102a, 102b, 102c, 102d) via the central offices (108a, 108b). The command for requesting recorded message service is a control instruction for requesting to enter the recorded message service; and the recorded message service is used by the viewer/user to create a personal recorded message. The processing flow of this service will be disclosed and
20 illustrated in detail as follows.

Referring to FIG. 2, it shows a system architecture of a single multimedia content receiver 102, a central office, and a multimedia content provider 100 connected with the central office.

In FIG. 2, it is a preferred embodiment of a single multimedia content receiver 102, a
25 central office, and a multimedia content provider 100 suitable for carrying out the function of leaving a message. To describe easily the terms of the present invention, only a single multimedia content receiver 102 and a multimedia content provider 100 are taken as a

preferred embodiment of the present invention in FIG. 2, but in actual application, the multimedia content provider 100 can be connected with a plurality of multimedia content receivers, and the multimedia content provider 100 and/or the multimedia content receiver can be selectively connected to one or more third content providers.

5 The multimedia content receiver is, for example, a set-top-box or a PVR; the multimedia content provider is, for example, a multimedia content server; and those skilled in the art may understand that the function for leaving a message can also be applied to other electronic devices, and is not limited to the electronic device mentioned or described in this specification.

10 In this embodiment, the multimedia content receiver 102 comprises a central processing unit (CPU) 112, a network interface 114, an input interface 116, a display driver 118, a memory 120, and a storage module 122.

 The CPU 112 is used to control the overall operation of the multimedia content receiver 100, and initiate the steps of the preferred embodiment of the present invention. It
15 can also process the control command, the image data, or the sound data.

 The network interface 114 is used to enable the multimedia content receiver 102 to transmit the data signal to the multimedia content provider 100, or to receive the data signal from the multimedia content provider 100 via the central office 108.

 The input interface 116 is used to receive the information or control command inputted
20 by the user.

 The display driver 118 is used to format the outputted content to display it on the television or the display device.

 The storage module 122 stores various information, including an individual identification (ID) 123 of each multimedia content receiver, to be provided to the
25 multimedia content provider 100 by the user for registering and identifying; and an IP

address 124, indicating the position of the multimedia content receiver 102 on the network. The storage module 122 also includes other kinds of information, such as the special settings for the multimedia content receiver by each subscriber/viewer.

5 The memory 120 is a module for executing programs, wherein the user interface generator (UI generator) 126 is used to interact with viewers (for example, receiving instructions from the user), and provide and/or modify the content to be transmitted to the associated television or other displays through the display driver 118.

10 In addition, at the terminal of the multimedia content provider 100, a network access server 128 is provided for transmitting the data signal to the multimedia content receiver 102, and receiving the data signal from the multimedia content receiver 102 through the central office 108. The user account server 130 is used to store the information of the subscribers for the content providers, wherein the information may comprise the subscribers' special demands, such as, to which kinds of service he or she is to be subscribed. Thus, the multimedia content provider 100 will obtain the required service type
15 and to transmit the correctly subscribed service content to the corresponding subscribers. Besides the case that the data signal is transmitted to the multimedia content receiver 102, the content server 132 also can be a stored database for storing different types of images and sound data, transmitting them to the subscriber on demand. Moreover, a bill-processing server 134 is provided for processing the corresponding pricing and payment of the
20 subscriber when using the service.

According to the present invention, the multimedia content provider 100 further comprises a recorded message processing server 136 for receiving and processing the recorded messages created by the subscribers.

25 In operation, the recorded message processing server 136 further comprises a new message generator 138, a message editor 140, a message processor 142, a message compiler 144, and a message stacker 146.

When receiving a request for generating a new message, the new message generator 138 will generate a new message table to be edited by the user. The message editor 140 comprises many tools used by the user to increase the attraction of the message. For example, the tools may comprise: a message background selector 148 for the user to select the desired background; a message font selector 150 for the user to select the font, type, size, and color of the edited text; and a diagram selector 152 for the user to edit the diagram, or to insert desired pictures or diagrams.

When the message processor 142 is used to process the content of the recorded message, the message content will first be analyzed by the message content analyzer 154, determining whether a special text content is contained in the message or not, wherein the special text content is predetermined by the terminal of the service provider, for example, text violating good social customs. Therefore, when the message content analyzer 154 finds that some text content corresponding to the predetermined text is contained in the recorded message, for example, some improper content is contained in the message, the improper content will be filtered out by the message content filter 156.

The message compiler 144 is used to compile the processed message into the one to be played, and inform the user about the time for playing the message particularly edited and set by the user, wherein the time for playing the message is calculated by the message compiler 144. When the recorded message is played successfully, the message compiler 144 is also responsible for transmitting the price of playing the recorded message for the subscriber to the bill-processing server 134. Finally, the message stacker 146 is used to store the message to be played. The message is played according to the first-in-first-out principle, and as soon as the message is played, it will be removed from the message stacker 146 immediately.

Referring to FIG. 3a, it shows an embodiment of an operation display image of a message editor 140.

In FIG. 3a, it is a display image of the request for the recorded message service to be

loaded into the interactive interface 158 for editing the recorded message of the multimedia content receiver 102 by the multimedia content provider 100, after being verified and permitted by the network access server 128. As can be seen, the display image of the interactive interface 158 for editing the recorded message comprises two fields, a message
5 decorating field 160 and a message editing field 162.

The message decorating field 160 comprises editing tools, for the user to further increase the attractiveness of the recorded message, wherein the editing tools are, for example, font selection, font color selection, font type selection, background selection, diagram selection, and so on. The message decorating field 160 is a workspace for the user
10 to modify the message content. The display image of the interactive interface 158 for editing the recorded message can also comprise a preview item for the user to preview the message before it is sent out for processing.

Referring to FIG. 3b, it shows an embodiment of a display image of playing the message.

15 The content is transmitted from the multimedia content provider 100 to all of the connected multimedia content receivers via the connected central office. As can be seen, the display image of the recorded message comprises two fields, a media content field 164, and a recorded message content field 166.

The media content field 164 is the space for displaying the program being played,
20 wherein the played program is, for example, a film, news, or a recorded message sent out by any user for being played. Furthermore, according to the present invention, the size of the recorded message content field 166 can be reduced, thus when the recorded message content field 166 is undesirable for the user when he/she is watching the programs, it is convenient for the user to remove the recorded message content field 166 from the display
25 image by minimizing its size to 0%; in such a way, the size of the media content field 164 is automatically extended to be as large as that of the display device. The recorded message content field 166 can also be enlarged to 100%, i.e. fully occupying the whole display

screen, when necessary.

The method of the present invention will be illustrated in detail with reference to the flow charts as follows.

Referring to FIG. 4, it is a flow chart of a preferred embodiment of the workflow for a recorded message service (step 500) according to the present invention.

In FIG. 4, the workflow for the recorded message service (step 500) sequentially includes the following steps: a sub-program for establishing service connection (step 530), a sub-program for carrying out browsing (step 560), a sub-program for transmitting and loading (step 590), a sub-program for interacting with the user (step 620), a sub-program for processing recorded messages (step 650), a sub-program for playing recorded messages (step 680), and so on, which are individually shown in FIGS. 4a, 4b, 4c, 4d, 4e, and 4f.

After the function for leaving a message is selected by the user, the CPU 112 will carry out the computer programs of the workflow for the recorded message service (step 500) in the memory 120. When the program is executed, the CPU 112 will attempt to establish a connection with the multimedia content provider 100 according to the sub-program for establishing service connection (step 530). After the connection with the multimedia content provider 100 has been established, the CPU 112 will carry out the browser program according to the sub-program for carrying out browsing (step 560). When carrying out the browser program, the interactive interface of the recorded message processing server 136 will be transmitted to the multimedia content receiver 102 via the network access server 128 and the central office 108, according to the sub-program for transmitting and loading (step 590). When the interactive interface of the multimedia content provider 100 has been transmitted and loaded completely, the user can begin to edit the recorded message, according to the sub-program for interacting with the user (step 620). When the recorded message processing server 136 receives the edited recorded message, a series of processes will be conducted to the edited recorded message by the message processor 142 and the message compiler 144 of the recorded message processing server 136, according to

sub-program for processing recorded messages (step 650). After being processed, the edited recorded message will be transmitted to be played, according to the sub-program for playing recorded messages (step 680), and after that, the user can see the edited message via the connected television or screen.

5 Referring to FIG. 4a, it is a flow chart of the sub-program for establishing service connection (step 530).

First, the CPU 112 of the multimedia content receiver 102 transmits the request signal for establishing service connection to the multimedia content provider 100 via the network interface 114 (step 531), wherein the content of the request signal for establishing
10 connection at least comprises the ID and IP address of the multimedia content receiver requiring establishment of connection, for being identified by the network access server 128 and the user account server 130 (step 532). When the user account server 130 validates that the ID of the multimedia content receiver 102 has been found, or validates that the multimedia content receiver has been registered (step 533), the network access server 128
15 will respond with a signal of "permit connection" to the multimedia content receiver 102, permitting the access request of the multimedia content receiver 102 (step 537), and meanwhile, the sub-program for carrying out browsing 560 is carried out successively in FIG. 4b.

However, if the user account server 130 found that the ID of the multimedia content
20 receiver is not in the registration list, or it cannot find the ID of the multimedia content receiver, the network access server 128 will respond with a signal of "refuse connection" to the multimedia content receiver 102, and refuse the access request of the multimedia content receiver 102 (step 534). At that time, the CPU 112 of the multimedia content receiver 102 will warn the user through the output display connected to the display driver
25 118 (step 535).

After the multimedia content receiver 100 is permitted access to establish a connection, the network access server 128 continues to identify the type of the service required by the

user (step 538). During identifying, if the required service is validated as the function for leaving a message (step 539), the network access server 128 will carry out the sub-program for transmitting and loading (step 590) as shown in FIG. 4c, and if the user requires other services, the network access server 128 will carry out the associated services as required (step 540).

Referring to FIG. 4b, it is a flow chart of sub-program for carrying out browsing (step 560).

When the CPU 112 receives a signal of "permit connection" from the network access server 128 of the multimedia content provider 100 via the network interface 114, the CPU 112 will carry out the browser program (step 561) in the memory 120 immediately, wherein the signal for carrying out the browser program will then be transmitted to the display driver 118; the program to be executed is converted into visual image format (step 562) to be displayed for the user through the connected display device. During step 561 and/or after step 562, the sub-program for transmitting and loading will be carried out (step 590).

Referring to FIG. 4c, it is a flow chart of sub-program for transmitting and loading (step 590).

As soon as the network access server 128 validates that the service required by the user is the function for leaving a message, the multimedia content receiver 102 will be connected to the recorded message processing server 136 (step 591), wherein the interactive interface of the function for leaving a message will be transmitted to the multimedia content receiver 102 via the network access server 128 (step 592). When the network interface 114 receives an interactive interface of the function for leaving a message (step 593), the interactive interface of the function for leaving a message will be transmitted to the CPU 112 by the network interface 114, and loaded or plugged in the browser program by the CPU 112 (step 594), and then displayed through the display device.

When the interactive interface of the function for leaving a message has been loaded

(step 595), the interactive interface is then initiated to be used by the user (step 596). Then the sub-program for interacting with the user may be carried out (step 620). However, if the interactive interface is still being loaded, the CPU 112 will continue to be loaded until the loading process has been completed.

5 Referring to FIG. 4d, it is a flow chart of the sub-program for interacting with the user (step 620).

In the sub-program for interacting with the user (step 620), the user can select the message to leave and edit it with suitable tools in the loaded interactive interface. After the interactive interface is displayed on the display device, the user can view and make
10 interactions through the input device. The user can input instructions through the input device, and the inputted instruction is received by the input interface 116 (step 621), wherein the inputted instruction can be the inputted control command and/or data. The input interface 116 will transmit the received instruction to the CPU 112 for processing, and will also transmit the response message for the inputted instruction to the UI generator 126
15 to denote the interaction response message with a visual format (step 622), to display it on the display device through the display driver 118 (step 623).

As described above, upon inputting a control command or an ordinary data through the input device, the user can immediately obtain the response to the inputted instruction via the connected television or screen.

20 After the recorded message has been edited, the edited message will be sent to the recorded message processing server 136 for processing according to the user's command. That is, before the edited message is processed according to the sub-program for processing recorded messages (step 650), the recorded message processing server 136 should determine whether the transmitting signal of the edited message is received or not (step
25 624).

Referring to FIG. 4e, it is a flow chart of the sub-program for processing recorded

messages (step 650).

When the transmitting signal of the edited message is received, a series of processes will be conducted to the edited message via the message processor 142. At first, the edited message will be transmitted to the message content analyzer 154 for analyzing (step 651),
5 with the aim of determining whether the message contains a predetermined text content (step 652), for example, any improper content, including, e.g., dirty word or speech, contents harmful to the public, misleading message, and so on. Therefore, if some improper content is found in the message, the improper content will be examined and filtered out by the message content filter (step 653), and a warning signal will be sent to the multimedia
10 content receiver 102, to warn the user that there is some content unsuitable for playing. After being filtered, the message will be weighed (step 654), to know how much content has been filtered out. If most of the content has been filtered out, the message processor 142 will send a warning signal to the multimedia content receiver 102 again (step 655), to warn the user that there is some content unsuitable for playing. The warning signal is transmitted
15 to the multimedia content receiver 102 through the network access server 128 and the central office 108, and received by the network interface 114 (step 656). The warning signal can be transmitted to the CPU 112, and loaded to the browser program by the CPU 112 (step 657), and displayed on the output device through the display driver 118 (step 658).

In step 655, the edited message will be deleted by the message processor 142 (step 659),
20 and the interactive interface will be updated, to create the initiation interactive interface for a new-recorded message (step 660). Then it returns to the sub-program for interacting with the user (step 620).

Furthermore, a function for selectively following up the sub-program for interacting with the user can be added, such that a user account sending out many edited messages with
25 improper content will be marked for the function for leaving a message, thus, when receiving message content sent out by these users, the recorded message processing server 136 need not to process their recorded messages.

Back to step 654, if no improper content is found in the message, or most content of the edited message does not contain improper content, the edited message will be then be compiled by the message compiler 144 (step 661); wherein the inputted data associated with the user are combined together, and then are compiled and designed as a standard
5 format to be played. A feature of generating a function for browsing the message to be played is included. At that time, the user must again validate whether to send out the message or not (step 662).

When the message compiler 144 receives a validation instruction for playing the message to be played, the message compiler 144 will store the message to be played in the
10 message stacker 146, and then according to the sub-program for playing recorded messages (step 680), the message to be played will wait in a queue for being played. Instead, if no validation for the message to be played is sent out by the user, the interactive interface can return to the editing interface for the user to edit or modify the edited message.

When step 661 is carried out, the message compiler 144 will calculate the time period
15 generally prepared for playing the message, the time for beginning to play the message (step 663); wherein the time period is estimated by calculating the number of the messages to be played in the message stacker 146 and the time prepared for playing each of the messages. After obtaining the estimated time, the message compiler 144 will send the time prepared for playing the message to the multimedia content receiver 102 via the network access
20 server 128, to inform the user (step 664). After being received by the network interface 114 (step 665), the message of the time prepared for playing the message will be transmitted to the CPU 112 to be loaded in the browser program (step 666), and then formatted to an image format through the display driver 118, to be displayed on the output device (step 667).

25 At this time, the user may be inquired whether to send out more recorded messages or not (step 668). If the user wants to send out more recorded messages, the interactive interface can be updated by the message processor 142 and an interactive interface of new

recorded message can be generated. On the other hand, if the user does not want to send more recorded messages, the recorded message processing server 136 will leave the interactive interface and be disconnected from the multimedia content receiver 102, and then, the process for the workflow of the recorded message service (step 500) is ended (step 5 669).

Referring to FIG. 4f, it is a flow chart of the sub-program for playing recorded messages (step 680).

At first, the content server 132 of the multimedia content provider 100 will examine whether the message being played has reached the end of the time for playing the message or not (step 681). If yes, the content server 132 will then examine whether there is a message to be played in the message stacker 146 or not (step 682). If a message to be played is waiting in the message stacker 146, the content server 132 will retrieve the first message to be played from the waiting messages (step 686), and format the message to the recorded message display field (step 687). After the message to be played has been formatted to the recorded message display field, the content server 132 will send a new recorded message display field to the central office 108 via the network access server 128 (step 688). After the central office 108 receives a new recorded message display field, the new recorded message display field will replace the recorded message display field being played currently, and then it will be played together with other media contents on all the connected multimedia content receivers 102 (step 689). The recorded message being played can be viewed in all channels provided by the multimedia content provider 100. It should also be noted that, the user must make sure that the recorded message display field has been initiated to display the recorded message being played.

However, if there is no message to be played in the message stacker 146, the content server 132 will display the words "no recorded messages" in the recorded message display field (step 683), and then transmits the formatted recorded message display format to the central office 108 (step 684). After the central office 108 receives a new recorded message

display field, the recorded message field being played will be updated by the new display field with the words “no recorded messages”, and the new recorded message field will be played together with other media content on all the connected multimedia content receivers 102 (step 685), wherein the current screen should be provided with an initiated recorded
5 message display field.

The invention being thus described, it will be obvious that the same may be varied in many ways. Such variations are not to be regarded as a departure from the spirit and scope of the invention, and all such modifications as would be obvious to one skilled in the art are intended to be included within the scope of the following claims.

10

CLAIMS

What is claimed is:

1. A method for leaving a multimedia message, comprising:

receiving a command from a user for requesting a service, and validating the identity of
5 the user and a network address used by the user for connection;

initiating a function for a recorded message service of a multimedia content receiver
corresponding to the network address, when the command for requesting a service is for
the recorded message service;

receiving and analyzing the recorded message inputted by the user;

10 analyzing the recorded message inputted by the user whether the recorded message
containing a predetermined text and deleting the contained predetermined text; and

compiling the analyzed recorded message to a recorded message in accordance with the
multimedia content standard playing format.

2. The method for leaving a multimedia message as claimed in Claim 1, wherein after the
15 step of compiling the analyzed recorded message to the recorded message in accordance
with the multimedia content standard playing format, it comprises:

storing the compiled recorded message;

calculating a time prepared for playing the recorded message and informing the user of the
time prepared for playing the recorded message; and

20 playing the recorded message according to the time prepared for playing the recorded
message.

3. The method for leaving a multimedia message as claimed in Claim 1, wherein in the step of initiating a function of a recorded message service for a device corresponding to the network address, it comprises loading an interactive interface for editing the recorded message to the device.
- 5 4. The method for leaving a multimedia message as claimed in Claim 3, wherein the interactive interface for editing the recorded message comprises a function for a recorded message background selection.
5. The method for leaving a multimedia message as claimed in Claim 3, wherein the interactive interface for editing the recorded message comprises functions for a recorded
10 message font type selection and font size selection.
6. The method for leaving a multimedia message as claimed in Claim 3, wherein the interactive interface for editing the recorded message comprises a function for diagram selection.
7. The method for leaving a multimedia message as claimed in Claim 1, wherein the
15 predetermined text is a text violating good social customs.
8. The method for leaving a multimedia message as claimed in Claim 1, wherein the step of analyzing the recorded message comprising informing the user when the recorded message inputted by the user has been found to contain the predetermined text.
9. The method for leaving a multimedia message as claimed in Claim 1, wherein the
20 multimedia content receiver is a personal video recorder (PVR).
10. A communication system for multimedia content with a function for leaving a message combined with multimedia contents, comprising:
- a remote multimedia content receiver, for receiving a request from a user for a recorded message service to play the recorded message combined with the multimedia content; and

- a multimedia content provider, connected with the remote multimedia content receiver over a network, for initiating the function for a recorded message service of the remote multimedia content receiver according to the recorded message service requested by the user; the multimedia content provider comprising:
- 5 a user account module, for verifying and managing the user's information;
- a recorded message editor, for providing various editing functions for the recorded message inputted by the user;
- a message processor, for analyzing the recorded message edited by the user so as to filter out a predetermined text;
- 10 a message compiler, for compiling the analyzed and filtered recorded message to meet the requirements of the multimedia content standard playing format, and calculating a time prepared for playing the recorded message;
- a message stacker, for sequentially storing the recorded messages in accordance with the multimedia content standard playing format; and
- 15 a content server, sequentially retrieving the recorded message to be played from the message stacker, and formatting it into a recorded message content display field to be played in combination with the multimedia content.
11. The communication system for multimedia content as claimed in Claim 10, wherein the recorded message editor comprises:
- 20 a message background selector, for selecting the recorded message background by the user;
- a message font size selector, for selecting of the recorded message font type and font size by the user; and

a diagram selector, for selecting of a diagram by the user.

12. The communication system for multimedia content as claimed in Claim 10, wherein the message processor comprises:

a message content analyzer, for analyzing the recorded message edited by the user; and

5 a message content filter, informing the user and deleting a predetermined text when it is found that the analyzed recorded message contains the predetermined text.

13. The communication system for multimedia content as claimed in Claim 10, wherein the remote multimedia content receiver comprises:

an input interface, for receiving the information and command inputted by the user;

10 a memory, including a recorded message program to carry out the function for the recorded message service; and

a central processing unit, for putting forward a request for a recorded message service to the multimedia content provider according to the command for requesting the recorded message service inputted by the user, and initiating the function for the recorded message service and displaying the interactive interface for editing the recorded message on a connected display module, upon receiving a permitting response for the recorded message service from the multimedia content provider.

14. The communication system for multimedia content as claimed in Claim 10, wherein the multimedia content provider further comprises a bill-processing server for processing the corresponding pricing and payment when the user uses the service.

15. A remote multimedia content receiver, applied in a communication system for multimedia content, and connected with a multimedia content provider over a network, comprising:

- an input interface, for receiving an information and command inputted by a user;
- a memory, including a recorded message program to carry out the function for the recorded message service; and
- a central processing unit, for putting forward a request for the recorded message service to the multimedia content provider according to the command inputted by the user for requesting the recorded message service, and initiating the function for the recorded message service and displaying the interactive interface for editing the recorded message on a connected display module, upon receiving a permitting response for the recorded message service of the multimedia content provider.
- 10 16. The remote multimedia content receiver as claimed in Claim 15, further comprising a storage module for storing a name and a network address of the remote multimedia content receiver.
- 15 17. The remote multimedia content receiver as claimed in Claim 15, wherein the memory further comprises a user interface generator for converting received commands into interface display format, for display on the display module.