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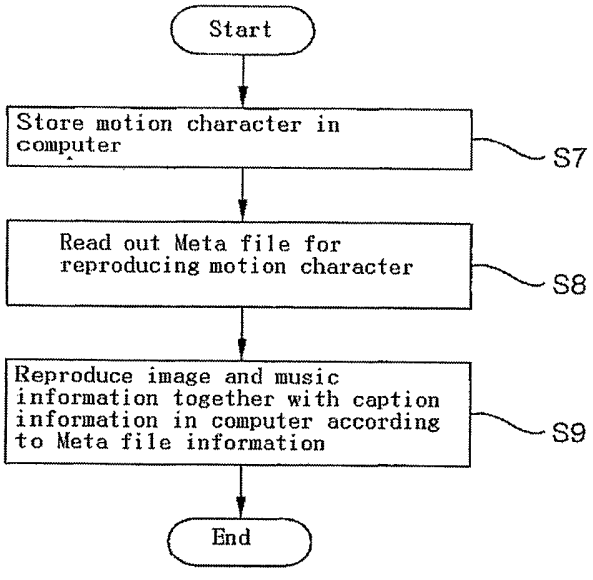
(54) **Title:** METHOD FOR MANUFACTURING AND DISPLAYING REAL CHARACTER TYPE MOVIE AND RECORDED MEDIUM INCLUDING SAID REAL CHARACTER TYPE MOVIE AND PROGRAM FOR DISPLAYING THEREOF



(57) **Abstract:** Disclosed are a method for making and displaying a real character type character and a recorded medium including the character and a reproducing program thereof. The method for making characters includes the steps of extracting motion information from a moving picture, providing at least one of audio information, message information, and caption information according to the motion information, making a character including at least one of the motion information or an independent character, and making a meta file including information required for making and executing the motion information, the audio information, the caption information and the message information included in the character. A method for displaying characters includes the steps of storing the characters in the personal computer, reading a meta file for reproducing the characters, and combining motion information, music information and caption information with each other or displaying the characters in the personal computer according to information of the meta file.

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METHOD FOR MANUFACTURING AND DISPLAYING REAL CHARACTER TYPE MOVIE AND RECORDED MEDIUM INCLUDING SAID REAL CHARACTER TYPE MOVIE AND PROGRAM FOR DISPLAYING THEREOF

[Technical Field]

The present invention relates to a method for making and displaying a real character type movie including an image, an audio, a caption and a message and a recorded medium including said real character type movie and a program for displaying the movie. More particularly, the present invention relates to a method and a system capable of reproducing multimedia digital contents including a real character type motion character representing a predetermined part of a moving picture, MP3 music, and a caption, a real character type notification character, and a real character type plug-in character on a background of a computer, in which the motion, music and caption are synchronized with the above real character type characters and displayed on the background of the computer through a motion player.

[Background Art]

In general, characters are used for cartoon type 2D or 3D avatars, an image chatting, an animation GIF, a pet animal breeding game using a dinosaur or a puppy having an artificial intelligence and various emotional expressions, a motion capture service, a 3D real-time image animation, a 3D image, a background of a computer, an animation and a game. In order to provide the characters with natural motions, motion capture services capable of providing motions with a rapid speed significantly higher than a speed of key frames has been being actively studied and developed.

An I-dance/MySprite service available from a site in Korea (http://www.idance.co.kr) teaches the dance to users by using 3D motion characters with MP music and character images. The I-dance/MySprite service provides 3D images, a zoom function, and a camera view shift by using a Direct X technique and a 3D engine thereof.

A star Myto service provides star friends with mail arrival/reception notification and scheduling functions in user's computers by using 2D star characters. According to the star Myto service, a real type character is displayed with 8-bit (256) colors and a smaller amount of frames at low file

capacity and inferior image quality by using a Bitmap Masking technique based on a Microsoft Agent technology.

An MS Agent service, which is available from a site of (http://www.microsoft.com/msagent/default.asp), provides a next-generation OS interface in which a chatting or a command is executed based on voice of a user or a text. The MS Agent may represent an artificial intelligence function by accumulating the database.

According to an MS PLUS Dancer service (http://www.microsoft.com/korea/windows/plus/dme/music.asp), the dance posture of an expert dancer is provided in the window when music is played in the PC. The MS PLUS Dancer service adopts an Anti-aliasing technique of an alpha channel scheme and provides images with a high compression rate and a superior quality based on the Microsoft Windows Media Video technology.

A VirtualGirl(V2) service, which is available from a site of (http://www.virtual2.com/int/index.php), provides a strip girl performing a strip dancing in a desktop computer. According to the VirtualGirl(V2) service displays a real type motion character based on the Bitmap Masking technique and provides a ×2 zoom function with 8-bit (256) colors at low file capacity and inferior image quality.

However, although various character application services have been currently provided, a real emotional character type motion character service allowing users to easily use the service by using a computer has not been yet provided. That is, a character-user communication technique capable of allowing users to make communication with my stars provided in users computers through visual characters, audio and texts has not been provided.

[Disclosure of the Invention]

The present invention has been made to solve the above problems occurring in the prior art, and accordingly, it is an object of the present invention to provide a method for making emotional images and displaying the emotional images in a computer, in which real character type characters including a motion clip representing a predetermined part of a moving picture, MP3 music, and a caption can be displayed in a monitor of the computer.

Another object of the present invention is to provide a method for

making image information through the steps of extracting dynamic objects from a moving picture of humans through an anti-aliasing processing scheme based on a Bitmap Masking technique and an alpha channel technique, making MP3 audio information, a message and caption information in relation to the image information, and integrally combining the above information.

Still another object of the present invention is to provide a method for displaying real character type characters in a background of a user' computer, in which multimedia digital contents including a real character type motion character representing various motions displayed in a monitor of the computer and motion characters, a real character type notification character representing a message arrival, a message reception, a program start, a program close, and an e-mail arrival, real character type image information related to various messengers and a real character type plug-in character displayed when playing a WinAmp are displayed in the background of the user's computer while synchronizing the motion, music and caption with the above real character type characters.

In order to accomplish the above objects, according to one aspect of the present invention, there is provided a method for making characters displayed in a personal computer and including at least one of motion information, music information, caption information, and message information, the method comprising the steps of: making a 2D moving picture of a human or a subject; extracting motion information including graphic information and alpha channel information from the 2D moving picture through a bitmap masking scheme, an alpha channel scheme or a combination of the bitmap masking scheme and the alpha channel scheme; providing MP3 audio information synchronized with the motion information, message information, and caption information having a hyperlink function and being synchronized with a screen image frame of the motion information, respectively; making a character including at least one of the motion information, the MP3 audio information, the message information and the caption information or an independent character; and making a meta file including information required for making and executing the motion information, the audio information, the caption information and the message information included in the character.

In order to accomplish the above objects, according to one aspect of the present invention, there is provided a method for displaying characters in a personal computer, the method comprising the steps of: storing the characters in the personal computer; reading a meta file for reproducing the characters; and combining motion information, music information and caption information with each other or displaying the characters in the personal computer according to information of the meta file.

The present invention also provides a recording medium including a reproduction program for reproducing the character.

[Effect of the Invention]

According to a method and a system of the present invention, various real character type characters are displayed on a background of a computer with a motion, music and a caption, thereby providing users with a new emotional real character service, in which a motion clip, music and the caption are simultaneously provided with the various real character type characters through a motion player. That is, various real character type characters including the real character type motion character, the real character type notification character, and the real character type plug-in character are synchronized with the motion, music and caption, so that the various real character type characters are provided to users simultaneously with the motion, music and caption.

[Brief Description of the Drawings]

The foregoing and other objects, features and advantages of the present invention will become more apparent from the following detailed description when taken in conjunction with the accompanying drawings in which:

FIG. 1 is a flowchart illustrating a method for making a real character type character displayed in a computer according to one embodiment of the present invention;

FIG. 2 is a flowchart illustrating a method for displaying a real character type character on a background of a computer with a motion, music and a caption according to one embodiment of the present invention;

FIG. 3 is a block view illustrating the structure of software for making

and displaying a real character type character according to one embodiment of the present invention;

FIG. 4 is a view illustrating a screen image, in which three data files of a motion, a caption, and MP3 music are synchronized in real time;

FIG. 5 is a view illustrating an initial screen image of a motion player according to one embodiment of the present invention;

FIG. 6 is a view illustrating a screen image of a motion player for setting functions according to one embodiment of the present invention;

FIG. 7 is a view illustrating screen images for displaying downloaded real character type moving picture information and player information of a motion player;

FIG. 8 is a screen image illustrating a procedure of extracting a masking area from image data covered with a mask through a desktop live real character type moving picture player (Bitmap Mask type virtual motion player) in order to extract a dynamic object from the image data;

FIG. 9 is a view illustrating screen images in which an actual area of a dynamic object in each frame is shown in the form of data;

FIG. 10 is a view illustrating screen images in which a 24-bit RGB image and alpha image data are combined with each other through an alpha channel type virtual motion player;

FIG. 11 is a view illustrating screen images in which an image is processed through an anti-aliasing process based on 32-bit window rendering;

FIG. 12 is a view illustrating a basic structure of a real character type character including a motion character, a notification character and a plug-in character according to one embodiment of the present invention;

FIG. 13 is a view illustrating a basic structure of a real character type character;

FIG. 14 is a view illustrating a basic structure of a real character type motion character;

FIG. 15 is a view illustrating a basic structure of a real character type message arrival/reception notification character;

FIG. 16 is a view illustrating a real character type message character;

FIG. 17 is a view illustrating a real character type program start character;

FIG. 18 is a view illustrating a real character type program close

character;

FIG. 19 is a view illustrating a real character type e-mail character;

FIG. 20 is a view illustrating a real character type messenger notification character;

FIG. 21 is a view illustrating a menu of a motion player;

FIG. 22 is a view illustrating an initial screen image of a motion player according to one embodiment of the present invention;

FIG. 23 is a view illustrating a screen image of a motion player for selecting real character type characters according to one embodiment of the present invention;

FIG. 24 is a view illustrating a player option image of a motion player according to one embodiment of the present invention;

FIG. 25 is a screen image illustrating player information of a motion player according to one embodiment of the present invention;

FIG. 26 is a view illustrating screen images for displaying membership information and a POP3 server list of a motion player according to one embodiment of the present invention;

FIG. 27 is a view illustrating a user table of a database used for a motion player according to one embodiment of the present invention;

FIG. 28 is a view illustrating a group table of a database used for a motion player according to one embodiment of the present invention;

FIG. 29 is a view illustrating a group_relay table of a database used for a motion player according to one embodiment of the present invention;

FIG. 30 is a view illustrating a message table of a database used for a motion player according to one embodiment of the present invention; and

FIG. 31 is a view illustrating a screen image displayed when playing a motion player according to one embodiment of the present invention.

[Best Mode for Carrying Out the Invention]

Reference will now be made in detail to the preferred embodiments of the present invention with reference to accompanying drawings. The preferred embodiments are for illustrative purpose only.

According to the present invention, after making real character type moving pictures, the real character type moving pictures are displayed in a computer. Hereinafter, a method for making and displaying the real character

type moving pictures will be described with reference to FIGS. 1 and 2.

Referring to FIG. 1, the method for making the real character type moving pictures includes a step of taking a real character type moving picture (step S1). Herein, the real character type moving picture signifies a moving picture of a human or an object adaptable for making a real character type character. For example, the real character type moving picture may represent a signer who dances while singing. It is also possible to make the real character type character by using a previously obtained moving picture. In addition, it is also possible to make or display the real character type character according to the present invention by taking a picture of expert dancers, entertainers, or pet animals, instead of the singer.

Then, character type image information is extracted from the moving picture (step S2). That is, only character type image information related to the human is extracted from the moving picture while leaving the background image. Herein, The character type image information can be made by means of a Bitmap masking scheme, an alpha channel scheme, or a combination thereof. The character type image information may include picture information and alpha channel information. A method of extracting the character type image information will be described later in detail with reference to FIGS. 8 to 11.

After that, at least one of audio information, message information and caption information corresponding to the character type image information is made (step S3). Herein, the audio information is made based on a MP3 scheme and synchronized with the character type image information, but other audio schemes are also applicable for the present invention. In addition, the caption information is synchronized with an image frame of the character type image information and includes a hyperlink function.

Then, a character including the character moving picture information and at least one of the audio information, message information and caption information, or the real character type individual character is made (step S4).

After that, a meta file including information required for making and executing the moving picture information, audio information, caption information and the message information included in the real character type character is made (step S5).

The meta file includes clip information, synchronization information,

and user information of the moving picture information and the real character type character can be executed by using the moving picture information only.

Referring to FIG. 2, a method for reproducing the real character type character including a motion, music and a caption on a background of a computer includes the steps of storing the real character type character including motion, music and caption data in a user's computer (step S7), reading the meta file for reproducing the real character type character (step S8), and combining the moving picture information, music information and caption data according to meta file information in order to determine frames per a second by using the meta file including the user information and image information, or displaying the image or the real character type character on a background of the user's computer (step S9).

The motion clip includes the moving picture information, synchronization information, area information representing a region and a size of a background image of the computer for reproducing the motion clip, music link information for linking MP3 music to the motion clip, and caption link information for linking the caption to the motion clip. The motion clip can be independently played. That is, the real character type character can be displayed without music data and caption data.

The caption data include caption information and caption synchronization information, and the music data include MP3 data file and other music data file.

The real character type character 70 includes the real character type notification character representing a message arrival, a message reception, a program start, a program close, and an e-mail arrival, the real character type messenger character related to various messengers, the real character type plug-in character displayed when playing a WinAmp, and a real character type motion character representing various show clips and theme clips, which can be reproduced without being combined with other programs.

The real character type character 70 includes at least one of the image information, audio information, message information, and caption information and is displayed in the background of the computer.

The real character type character 70 may continuously check the e-mail or the message in a predetermined period of time.

It is possible to download a new real character type character from a

database or a server having the real character type character by accessing the database or the server in a predetermined period of time or in real time through a wired/wireless Internet. The real character type character includes graphic information, alpha channel area information, audio information, caption information, caption link information and meta files. The real character type character can be independently displayed without providing the audio information and the caption information.

As described above, according to the present invention, the real character type character including the image information, the audio information, or the caption information is made based on the moving picture, and the real character type character is displayed in the computer or portable terminals, such as portable phones and PDAs. Hereinafter, the structure of software used for making and reproducing the real character type character will be described with reference to FIG. 3.

FIG. 3 is a block view illustrating the structure of software for making and displaying the real character type character according to one embodiment of the present invention.

As shown in FIG. 3, a software system according to one embodiment of the present invention mainly includes a real character type character 70 and a motion player 80. The real character type character 70 is displayed in the personal computer or portable terminals, such as portable phones and PDAs by means of the motion player 80. When the real character type character 70 is displayed in the personal computer, the real character type character 70 can be independently displayed in the background of the personal computer, so the user can view the real character type character 70 while performing other computer works.

In addition, a plurality of real character type characters 70 can be stored in a recoding medium, such as a CD and a DVD, together with the motion player 80. In this case, the recoding medium is automatically played by means of a CD player or a DVD player.

Referring to FIG. 3, the software system according to one embodiment of the present invention includes software for a composer 10, a caption player 20 and the motion player 80, and date file for a motion clip 30, audio information 40 (hereinafter, referred to as music), and caption information 50.

A system for displaying the motion, music and caption of the various real character type characters 70 in the background of the computer includes the composer 10, which extracts the motion from the moving picture and stores MP3 music data together with caption information, the caption player 20 for creating the caption adaptable for each frame, and the motion player 80 for combining and playing three data file of the motion clip, MP3 music and the caption.

The motion player 80 according to the present invention may provide users with a new real character type character service. As shown in Table 1, the motion player 80 simultaneously displays the motion clip, MP3 music, and caption on the background of the user's computer so that the user can view or listen the motion, music and caption of the real character type character while performing other computer works.

The composer 10 sets clip information by extracting the motion clip from the moving picture file and creating a VMC file including contents required fro a VMC file shown in Table 1.

Table 1

Data name	Extension name	Contents	Description
Motion clip	VMC	-Moving picture -Sync Info -Area Info -Caption link Info -MP3 link info	Motion clip can be independently played without using below two files
Caption	VSC	-Caption link Info -Caption Sync Info	Caption information of XML
MP3	MP#	-MP3 music	

The clip according to the present invention includes following five elements.

-metal file (inf)- the metal file includes clip information, sync information, and user's information (contents security) and determines frames per a second based on the user's information and image information

-Vmc (motion clip)- visual graphic information

-Vma (alpha clip)- alpha channel area information

-MP3- audio information (reproduces sound information according to time information)

-Vsc (script file)- the Vsc reproduces the caption per each frame based on meta information and includes caption information xml (if necessary), the Vsc has a hyperlink function so the user can be connected to a predetermined web site when clicking the Vsc

The Vmc (motion clip) and Vma (alpha clip) are used for adjusting resolution of the background or processing anti-aliasing. The Vmc (motion clip) and Vma (alpha clip) change a play mode (16-bit or 24-bit) depending on display environment of a user, create frames per a second according to the meta information, and check the play mode in a predetermined period of time (for example, 1 second) by operating a Vplayer timer.

The motion player according to the present invention reproduces a predetermined character clip based on the meta file. The meta file includes the user's information and image information and determines the frames per a second. First, the motion player determines whether the character clip must be executed by checking the user's information of the character clip. Then, the motion player calculates time units based on reproducing frames per a second of an image file of the executable file and the total number of the frames. In addition, the motion player produces the 24-bit image file, the 8-bit alpha image and a sound clip based on the calculated time units. When displaying the 24-bit image file, the motion player has transparent information according to gray scale information of the 8-bit image. Thus, a 32-bit image is created and the caption file includes words to be displayed according to the frames, so that the caption is displayed while being defined by a word balloon.

FIG. 4 is a view illustrating a screen image in which three data files of the motion clip, the caption and MP3 music are synchronized in real time according to a music time line.

FIG. 5 is a view illustrating an initial screen image of the motion player, and FIG. 6 is a view illustrating a screen image of the motion player

for setting functions according to one embodiment of the present invention. The user can set a position, a display period, and other information of the character in the motion player for variously displaying the character.

FIG. 7 is a view illustrating screen images for displaying downloaded real character type moving picture information and player information of the motion player. As shown in FIG. 7, the real character type character can be added or the real character type character can be set such that the real character type character is continuously displayed. It is also possible to check information of the downloaded real character type character.

The caption file of XML (extensible markup language) may appoint a font color based on sync information of the moving picture information.

<?xml version-"1.0" encoding="euc-kr"?>
<CAPTIONS version-"1.0">
<CAPTION ID="1033" BOX_NAME="help defined by word balloon_1" TEXT_COLOR="0,0,0">
caption file is located in this place
</CAPTIONS>
</CAPTIONS>

Table 2

Character security	Purchaser information is stored in character file for preventing illegal use
WinAmp plug-in	Animation is displayed when playing WinAmp
Web browser plug-in	Plug-in is operated when accessing a predetermined URL
MSN messenger helper	Exchanges message boxes
Link function is added to caption	Hyperlink function is operated when clicking a part of the caption

Motion music is created by means of the composer 10, and the caption is created by means of the caption player 20 so that the motion music and the caption are stored in an information server of a CP (contents provider) or an SP (service provider). When an authorized member accesses the web site of the CP/SP, the motion, music and caption data are provided to the member through the wired/wireless Internet. The authorized member can

download the motion player through the Internet, and the authorized member can download the real character type character having the motion, music and caption data from a database having multimedia contents by using the motion player.

The motion player according to the present invention downloads a new clip in the user's computer through a download component (Active X control) and adds the new clip to a hard disc of the user's computer. At this time, if user's information of the motion player does not match with information of a user who performs the download, the download may fail. The download component inserts the user's information to the meta information of the file while the clip is being downloaded by the user, thereby realizing a CDM (content delivery management). At this time, a download zip file is temporarily stored in the web, and a decompression function and the clip are added to a user player. The certification for the active X control is achieved through anycert.

Referring to FIG. 8, the motion player adopting a bitmap masking scheme using a desktop live character player according to one embodiment of the present invention has various functions of extracting a dynamic object from image data covered with a mask, forming an actual area of the dynamic object per each frame in the form of data, making VMP format data capable of storing area data and moving picture data, and VMP window rendering. As shown in FIG. 8, after extracting a masking area from the image based on an index color, areas to be displayed are obtained in the form of data per each frame (frame 001 to frame 004). Then, area data information and image information are calculated by means of the motion player so as to display the real character type character on the background of the computer.

The motion player adopting the bitmap masking scheme extracts the image data of the real character type character image, makes the image data as transparent image data through a windows bitmap masking scheme, and adjusts the transparent degree of the image by using a bitmap blending scheme.

FIG. 9 is a view illustrating the actual area of the dynamic object per each frame in the form of data. Referring to FIG. 9, the data information and the image information are calculated so as to form an image file format used for playing the motion player and the real character type character file is

displayed on the background of the personal computer.

FIG. 10 is a view illustrating screen images in which a 24-bit RGB image and alpha image data are combined with each other through an alpha channel type motion player, FIG. 11 is a view illustrating screen images obtained through a masking technique for a background color and the alpha channel, in which an image is processed through an anti-aliasing process based on 32-bit window rendering.

The alpha channel type motion player includes a technique for combining 24-bit RGB image data and 8-bit alpha image data, a technique for extracting the actual area of the dynamic object per each frame in the form of data, a technique for making VMP format data capable of containing area data and moving picture data therein, a 32-bit image window rendering technique and an anti-aliasing technique.

Instead of using the bitmap masking technique, a version-up alpha channel type motion player can be used. In this case, the alpha channel type motion player is equipped with the 32-bit image play technique and the anti-aliasing technique.

Character certification may allow a secured download through a DSC (download session control), and provide a DRM (digital rights management) for the character together with a motion player database through a certification procedure for the character and the user. When downloading the character, meta data can be added to the character by the purchaser.

In addition, the present invention provides a character related messaging service, in which a character message for the specific character used for making communication with the server is represented through a word balloon for the character. An MP3-based audio and an XML-based word balloon are outputted from the real character type character according to the present invention.

FIG. 12 is a view illustrating a basic structure of the real character type character including a motion character, a notification character and a plug-in character according to one embodiment of the present invention.

The system according to the present invention is capable of reproducing multimedia digital contents including the motion character representing the motion clip, MP3 music, a real time message and the caption, the notification character, and the plug-in character on the background of the

user's computer based on a predetermined rule by using the motion player 80, in which three data files of the motion, music and caption are synchronized with the above characters by matching motion data, audio data, and text messages in a music time line for the real time data synchronization.

As shown in FIG. 12, the characters include the motion character having the theme clip and the show clip, a notification character for representing the message arrival, message reception, program start, program close and e-mail arrival, a messenger character related to various messengers, and the plug-in character displayed when playing the WinAmp. The multimedia digital contents including the above characters are displayed on the background of the user's computer by means of the motion player 80 while being synchronized with the motion, music and caption.

In addition, the show clip is provided in the motion character in order to provide performance of one's special skill or special shows.

The notification character includes a message arrival character displayed when the message is arrived, a message reception character displayed when the user checks the content of the arrived message, a program start character displayed when booting the computer, a program close character displayed when closing the computer, and an e-mail character notifying the user of the reception of the e-mail.

The plug-in character includes a messenger character notifying the user of information related to messengers and a WinAmp character displayed when playing the WinAmp.

FIG. 13 is a view illustrating a basic structure of the real character type character (character), FIG. 14 is a view illustrating a basic structure of the real character type motion character (motion character), FIG. 15 is a view illustrating a basic structure of a real character type message arrival/reception notification character (message arrival/reception notification character), FIG. 16 is a view illustrating the real character type message character (message character), FIG. 17 is a view illustrating the real character type program start character (program start character), FIG. 18 is a view illustrating the real character type program close character (program close character), FIG. 19 is a view illustrating the real character type e-mail character (e-mail character), and FIG. 20 is a view illustrating the real character type messenger notification character (messenger notification character).

As shown in FIG. 13, according to the basic structure of the real character type character, the character comes out of a task bar formed in the background of the computer and a drag function is available in the background of the computer. Tray icons are formed in the task bar and the character is played or stopped when double-clicking the tray icons. When the user clicks the tray icons or a right button of a mouse while placing a cursor on the character, a menu is displayed. An area size of the character is 320 x 240 pixels and a size of the character is 130 to 180 pixels.

Referring to FIG. 14, when playing the motion player 80, the motion character is displayed after the start character. The motion character is displayed for 1 to 2 minutes with MP3 sound. Selected motion characters are sequentially displayed according to a predetermined position and a predetermined period and a multiple character selection is also available.

Referring to FIG. 15, the message arrival character is displayed when the motion character is not displayed in order to notify the user with the arrival of the message. The motion character is displayed for about 10 seconds with sound. Only one message arrival character is used. If the motion character is being displayed, only an icon may flicker and the message arrival character is displayed when the user clicks the icon.

Referring to FIG. 16, the message reception character is displayed for about 10 seconds when the user checks the contents of the message. In a case of entertainment information, a basic message reception character is displayed. In a case of star information, a star message reception character is displayed. In addition, the message reception character has save, delete and detailed view functions. The save function is used when storing the message reception character in a message storage box, the delete function is used when deleting the message reception character, and the detailed view function is used when connecting the user to a web page of a web site.

Referring to FIG. 17, the program start character is displayed for about 10 seconds with sound when playing the motion player. That is, a selected program start character is displayed when displaying the motion player after booting the computer. Only one program start character is available.

Referring to FIG. 18, the program close character is displayed for about 10 seconds with sound when closing the motion player. That is, a

selected program closing character is displayed when closing the motion player. Only one program close character is available.

Referring to FIG. 19, the e-mail character is displayed for about 10 seconds with sound when the e-mail is arrived. That is, a selected e-mail character is displayed when the e-mail is arrived. Only one e-mail character is available.

Referring to FIG. 20, the messenger notification character is displayed for about 10 seconds with sound when the message is arrived through the messenger. That is, a selected messenger notification character is displayed when the message is arrived through the messenger. Only one messenger notification character is available.

In addition, the above characters are provided with various functions of a transparent degree adjustment function, a position adjustment function, a period adjustment function, a messaging function with a server, a contents security function, an e-mail check function, and a fade in/out function.

Referring to FIG. 21, a menu of the motion player 80, which reproduces the characters, includes a program and membership information item consisting of a program update, a help for allowing the user to access the program web page, and a membership information used for login of a member, a character addition/selection/option item consisting of a character download connected to the web site and a character selection/option window, a caption/sound/character off item consisting of caption on/off, sound on/off and character on/off, a previous character item, a next character item and an end item.

FIG. 22 is a view illustrating an initial screen image of the motion player according to one embodiment of the present invention, FIG. 23 is a view illustrating a screen image of the motion player for selecting the characters according to one embodiment of the present invention, FIG. 24 is a view illustrating a player option image of the motion player according to one embodiment of the present invention, FIG. 25 is a screen image illustrating player information of the motion player according to one embodiment of the present invention, and FIG. 26 is a view illustrating screen images for displaying membership information and a POP3 server list of the motion player according to one embodiment of the present invention.

Referring to FIG. 22, the selection of characters is achieved by using

tap bars for the motion character clip, the notification character clip and the plug-in character clip. The characters can be selected according to groups thereof.

The character list shown in a right side of FIG. 22 is a reserved character list and a character list shown in a left side of the FIG. 22 is a play list. Selection and delete of the characters can be carried out through double-clicking the name of the characters to be selected or deleted.

The user can select one of the motion character, the notification character, and the plug-in character from the screen image of the motion player 80 used for selecting the characters. After selecting the character from the reserved character list, the user registers the selected character in the play list. The user can set the program start character, the message arrival character, and the e-mail arrival character. For example, the program start character of the notification character is set to a "Lee hyo ree" interview character.

The player option screen of the motion player 80 includes a period item consisting of "when clicking icon", "continuous display" and "time set" combo boxes, a position item consisting of "left", "right" and "shift" combo boxes, and an other item consisting of "notify upon receiving e-mail", "semi-transparency", "sound off" and "caption off" combo boxes.

The player information screen of the motion player 80 includes player information, player update information, and user information.

FIG. 27 is a view illustrating a user table of a database of the motion player used for user information required for certification, FIG. 28 is a view illustrating a group table used for the character group, FIG. 29 is a view illustrating a group_relay table showing a user group and a grade for the group, and FIG.30 is a view illustrating a message table of a database used for the motion player.

Referring to FIG. 27, the user table includes attributes, such as a user ID, which is a primary key, and a password.

Referring to FIG. 28, the group table includes attributes, such as a group ID, which is a primary key, a group name, and a group creation date.

Referring to FIG. 29, the group_relay table includes attributes, such as a user ID, a group ID, and a grade for the group.

Referring to FIG. 30, the message table includes attributes, such as a message ID, which is a primary key, a user ID, a group ID, a creation date, an

expire date, a subject, and a message.

In order to download the characters, the user access the web site based on the user ID and the password stored in the user table. If the user ID and the password are authorized, the user can select the characters and stores the character in the group_relay table including information related to the user ID, the group ID, and the grade for the group. After that, the user can download the character from a client.

In order to send the message, the user access the web site based on the user ID and the password stored in the user table. If the user ID and the password are authorized, it is checked whether the user has a right for sending the message based on the user ID and the group ID stored in the group_relay table. If it is determined that the user has the right for sending the message, the user can input the message into the message table.

FIG. 31 is a view illustrating a screen image displayed when playing the motion player according to one embodiment of the present invention. The menu of the motion player is displayed when clicking a right button of a mouse while placing a cursor on a V-player tray icon formed at a right lower end of the background of the computer. Thus, user can control the function of the motion player through the menu.

The operational period of the motion player is primarily selected through the period item for the motion player, and then, the position of the character in the background of the computer is set. After that, pop3 mail is set so as to realize the mail notification function and the messaging function. The user can use the other item so as to adjust the motion player according to preference of the user.

Therefore, it is possible to provide the user with various characters including the motion character, the notification character, and the plug-in character while synchronizing the motion, music and caption with the above characters even if the user is in the process of other computer work.

[Industrial Applicability]

As can be seen from the foregoing, according to a method and a system of the present invention, various real character type characters are displayed on a background of a computer with a motion, music and a caption, thereby providing users with a new emotional real character service, in which

a motion clip, music and the caption are simultaneously provided with the various real character type characters through a motion player. That is, various real character type characters including the real character type motion character, the real character type notification character, and the real character type plug-in character are synchronized with the motion, music and caption, so that the various real character type characters are provided to users simultaneously with the motion, music and caption.

In addition, the present invention can provide a method for displaying real character type characters in a background of a user' computer, in which multimedia digital contents including a real character type motion character representing a predetermined part of a moving picture, MP3 music, a real time message and a caption, a real character type notification character representing a message arrival, a message reception, a program start, a program close, and an e-mail arrival, real character type image information related to various messengers and a real character type plug-in character displayed when playing a WinAmp are displayed in the background of the user's computer, so that it is possible to provide the user with the above characters including the motion, music and caption even if the user is in the process of other computer work.

Furthermore, the motion clip created by the composer may store caption information together with music information, so the motion clip can be easily displayed. Accordingly, the present invention is applicable for various fields, such as education, adult, entertainment, and software plug-in fields, while activating a star marketing field. In addition, the present invention is also applicable for a star character service, a music service (voice and song), and a text service (words of the song and news). Moreover, the present invention can be used for a leisure field, an entertainment contents field, educational contents filed, an advertising field, and medical contents field.

While this invention has been described in connection with what is presently considered to be the most practical and preferred embodiment, it is to be understood that the invention is not limited to the disclosed embodiment and the drawings, but, on the contrary, it is intended to cover various modifications and variations within the spirit and scope of the appended claims.

[Claims]

1. A method for making characters displayed in a personal computer and including at least one of motion information, music information, caption information, and message information, the method comprising the steps of:

making a 2D moving picture of a human or a subject;

extracting motion information including graphic information and alpha channel information from the 2D moving picture through a bitmap masking scheme, an alpha channel scheme or a combination of the bitmap masking scheme and the alpha channel scheme;

providing MP3 audio information synchronized with the motion information, message information, and caption information having a hyperlink function and being synchronized with a screen image frame of the motion information, respectively;

making a character including at least one of the motion information, the MP3 audio information, the message information and the caption information or an independent character; and

making a meta file including information required for making and executing the motion information, the audio information, the caption information and the message information included in the character.

2. The method as claimed in claim 1, wherein the meta file includes clip information, synchronization information, and user information of the motion information, and the character is executable by using the motion information only.

3. The method as claimed in claim 1, wherein the bitmap scheme includes functions of extracting a dynamic object from character data covered with a mask, forming an actual area of the dynamic object per each frame in a form of data, making VMP format data capable of storing area data and character data, and VMP window rendering, the bitmap scheme extracts a masking area from an image based on an index color so as to form an actual display area per each frame in a form of data, and converts the motion information into a reproducible image file format,

the alpha channel scheme includes functions of combining 24-bit RGB image data with 8-bit alpha image data, forming the actual area of the

dynamic object in the form of data per each frame, making VMP format data capable of containing area data and character data therein, 32-bit image window rendering, anti-aliasing, and storing two images in mutually different channels.

4. A method for displaying characters, which are obtained through the method of claim 1, in a personal computer, the method comprising the steps of:

storing the characters in the personal computer;

reading a meta file for reproducing the characters; and

combining motion information, music information and caption information with each other or displaying the characters in the personal computer according to information of the meta file.

5. The method as claimed in claim 4, wherein the characters include a notification character representing a program start, a program close, an e-mail reception, and a message reception,

a messenger character related to various messengers,

a plug-in character displayed when playing a WinAmp, and

a motion character representing various show clips and theme clips, which are reproduced without being combined with other programs.

6. The method as claimed in claim 5, further comprising a step of continuously checking e-mail or message reception information in a predetermined period of time.

7. The method as claimed in claim 6, further comprising a step of downloading a new character from a database or a server having the characters by accessing the database or the server in a predetermined period of time or in real time through a wired/wireless Internet.

8. The method as claimed in claim 6, wherein the character includes graphic information, alpha channel area information, audio information, caption information, caption link information and meta files, and it is possible to independently display the character without providing the

audio information and the caption information.

9. The method as claimed in claim 8, wherein at least one character including at least one of the motion information, audio information, message information and caption information is synchronized with other character so as to be displayed in the personal computer.

10. The method as claimed in claim 5, wherein the character includes the show clip or the theme clip in order to provide performance of one's special skill or special shows.

11. The method as claimed in claim 5, wherein the notification character includes a message arrival character displayed when a message is arrived, a message reception character displayed when a user checks a content of the arrived message, a program start character displayed when booting the personal computer, a program close character displayed when closing the personal computer, and an e-mail character notifying the user of the reception of an e-mail.

12. The method as claimed in claim 9, wherein, according to a basic structure of the character, the character comes out of a task bar of a background of the personal computer, a drag function is available in the background of the personal computer, tray icons are formed in a task bar, the character is played or stopped when double-clicking the tray icons, a menu is displayed when the user clicks the tray icons or a right button of a mouse while placing a cursor on the character, and the character has a predetermined size.

13. The method as claimed in claim 12, wherein the character is displayed with sound for a predetermined period of time, selected characters are sequentially displayed according to positions and periods of the characters, and a multiple selection for the characters is available.

14. The method as claimed in claim 13, wherein the message arrival character is displayed with sound for a predetermined period of time

when the motion character is not displayed in order to notify the user with the arrival of the message, a selected message arrival character is displayed, only one message arrival character is available, an icon flickers while the motion character is being executed, and the message arrival character is displayed when the user clicks the icon.

15. The method as claimed in claim 9, wherein the message reception character is displayed for a predetermined period of time when the user checks the contents of the message, a basic message reception character is displayed in a case of entertainment information, a star message reception character is displayed in a case of star information, a selected message reception character is displayed, and the message reception character includes save, delete and detailed view functions, in which the save function is used when storing the message reception character in a message storage box, the delete function is used when deleting the message reception character, and the detailed view function is used when connecting the user to a web page of a web site.

16. The method as claimed in claim 13, wherein a selected program start character is displayed for a predetermined period of time with sound simultaneously with booting of the personal computer, and the program close character is displayed for a predetermined period of time with sound when closing the motion player.

17. The method as claimed in claim 9, wherein the e-mail character is displayed for a predetermined period of time with sound when the e-mail is arrived, and the messenger notification character is displayed for a predetermined period of time with sound when the message is arrived through a messenger.

18. The method as claimed in claim 13, wherein the characters are provided with various functions of adjusting a transparent degree, adjusting the position, adjusting the period, checking e-mail, and fade in/out.

19. The method as claimed in claim 9, wherein the motion

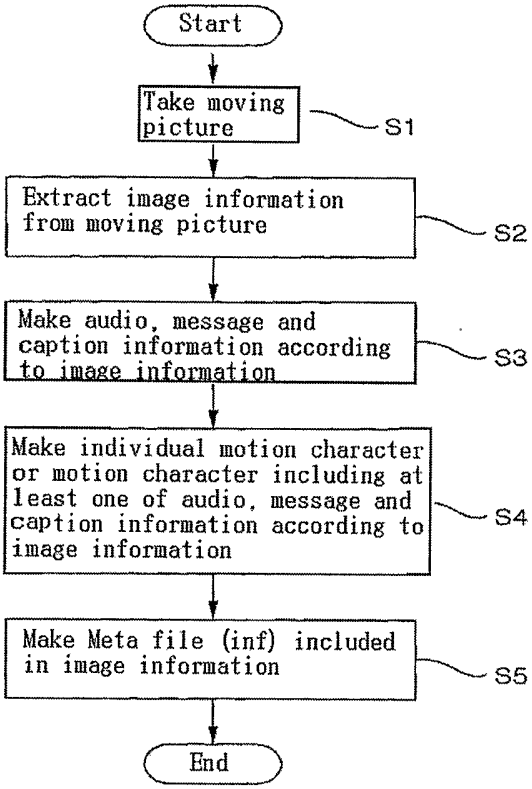
information of the character includes a predetermined part of a moving picture.

20. The method as claimed in claim 9, wherein provides a character related messaging service, in which a character message for a specific character used for making communication with a database or a server is represented with an MP3-based audio signal and an XML-based word balloon.

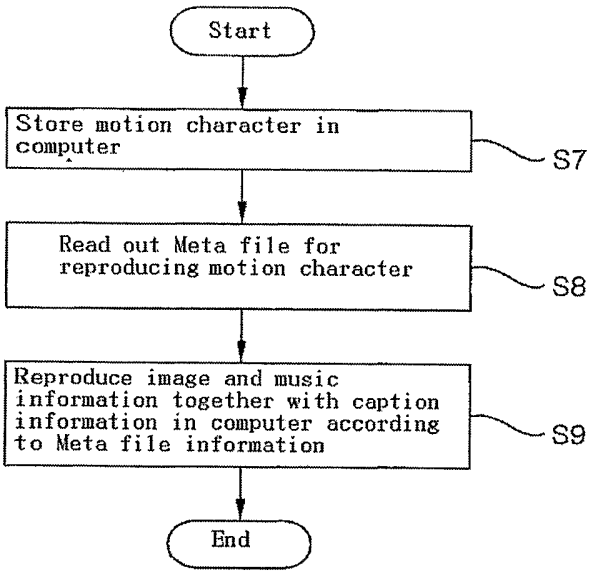
21. A recording medium including a character claimed in any one of claims 1 to 3.

22. A recording medium including a reproduction program for reproducing a character claimed in any one of claims 4 to 20.

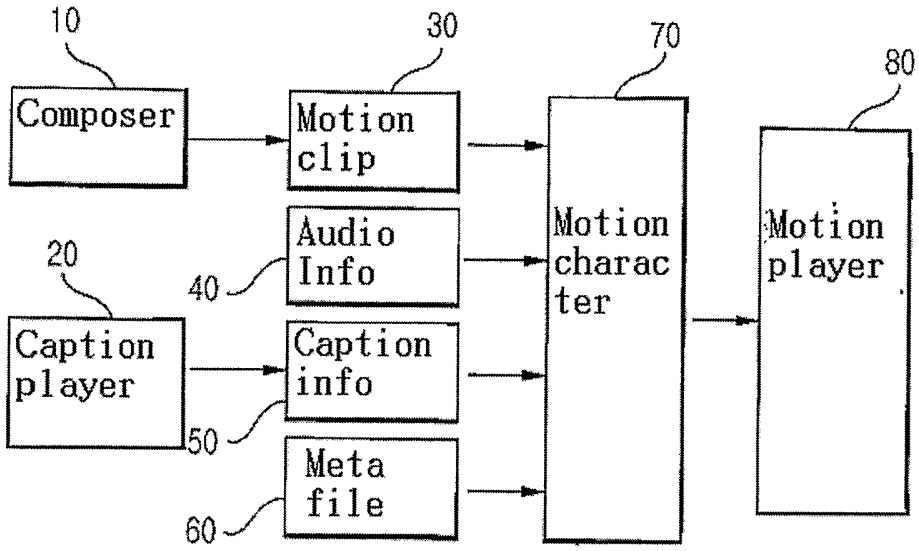
[FIG. 1]


Start
Take moving picture
S1
Extract image information from moving picture
S2
Make audio, message and caption information according to image information
S3
Make individual motion character or motion character including at least one of audio, message and caption information according to image information
S4
Make Meta file (inf) included in image information
S5
End

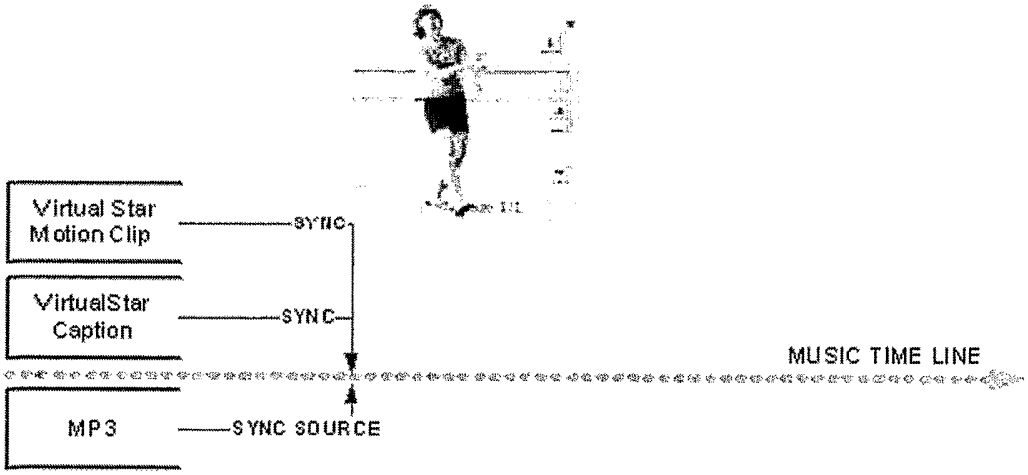
[FIG. 2]


Start
Store motion character in computer
S7
Read out Meta file for reproducing motion character
S8
Reproduce image and music information together with caption information in computer according to Meta file information
S9
End

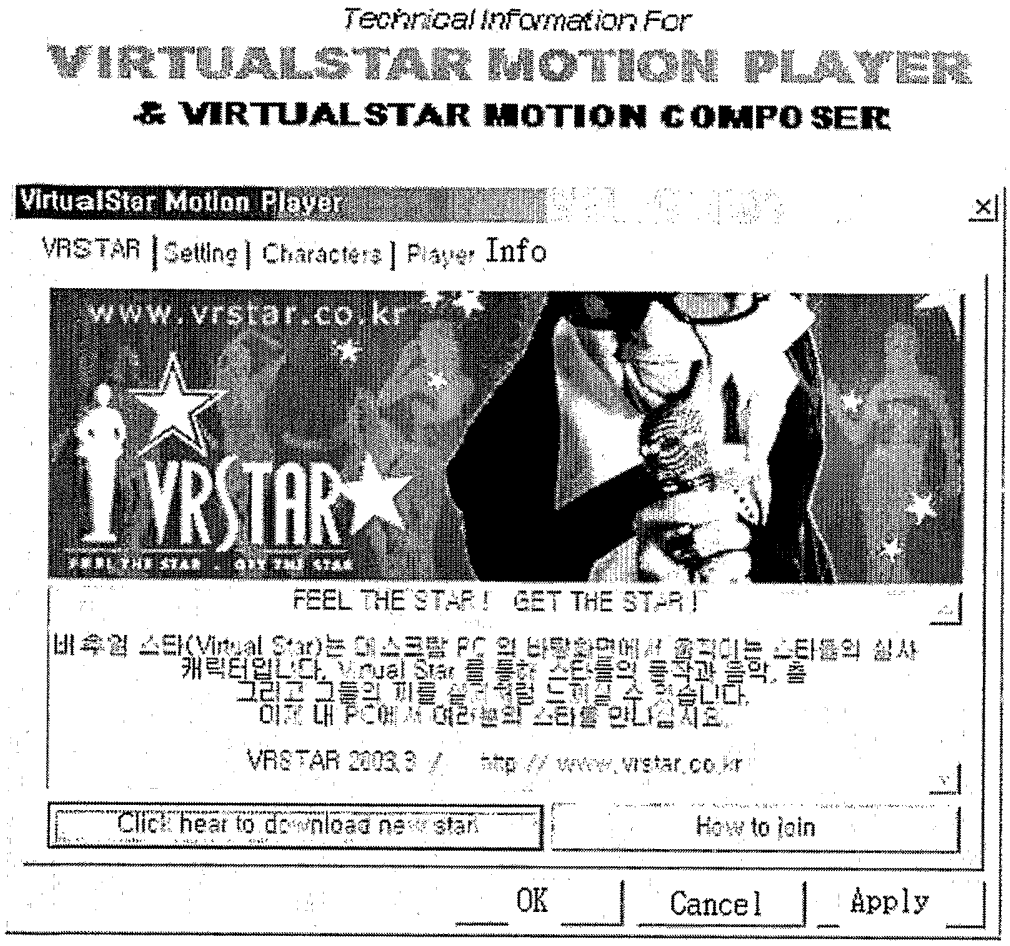
[FIG. 3]


10
Composer
30
Motion clip
70
80
Motion player
Audio Info
40
20
Caption player
Caption info
50
Meta file
60
Motion charac ter

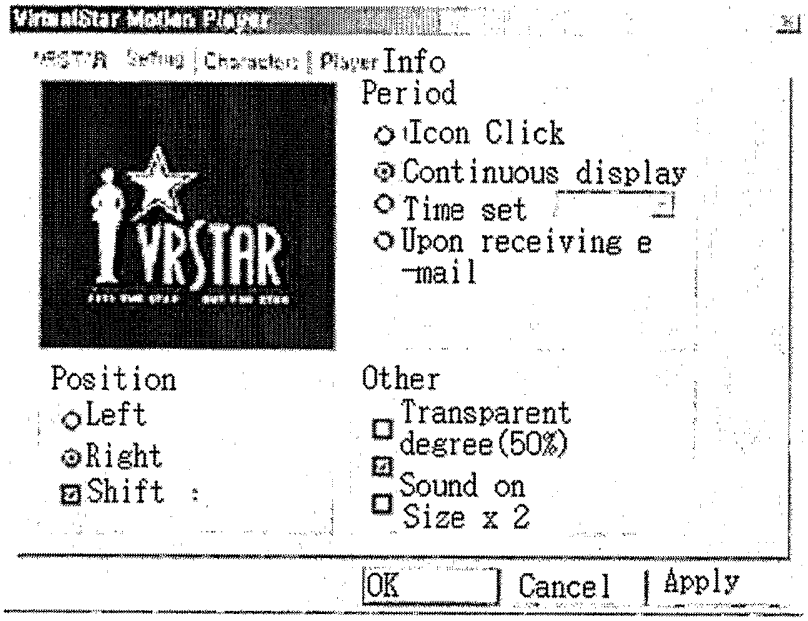
[FIG. 4]


Virtual Star Motion Clip
SYNC
VirtualStar Caption
SYNC
MUSIC TIME LINE
MP3
SYNC SOURCE

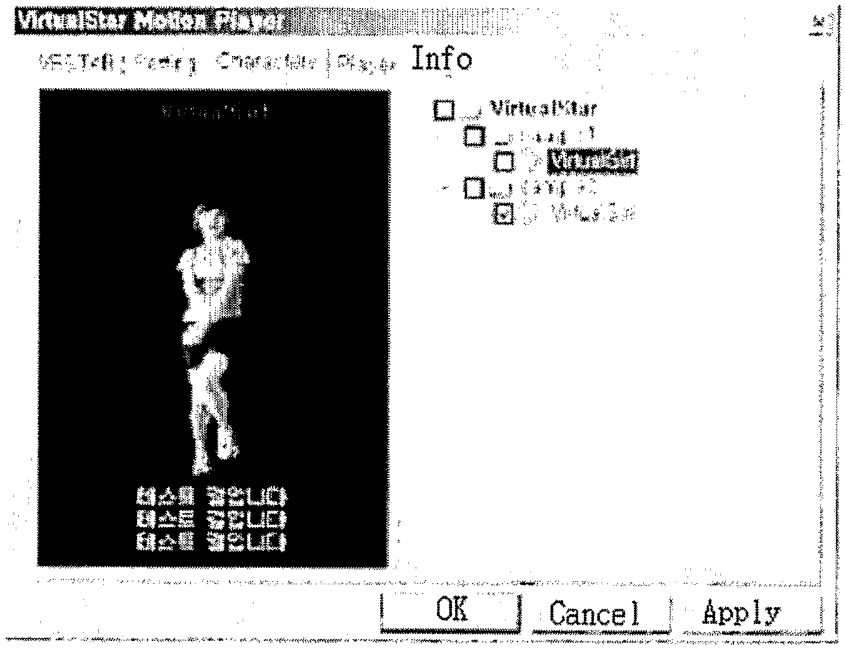
[FIG. 5]

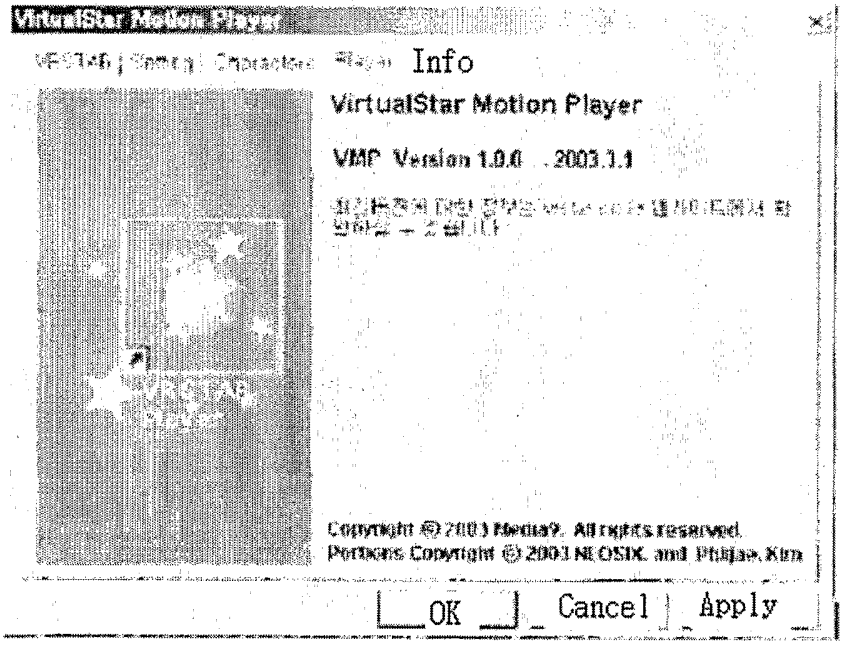

Technical Information For
VIRTUALSTAR MOTION PLAYER
& VIRTUALSTAR MOTION COMPOSER
VirtualStar Motion Player
VRSTAR | Setting | Characters | Player Info
www.vrstar.co.kr
VRSTAR
FEEL THE STAR ! GET THE STAR !
VRSTAR 2003.9
Click hear to download new star
How to join
OK
Cancel
Apply

[FIG. 6]

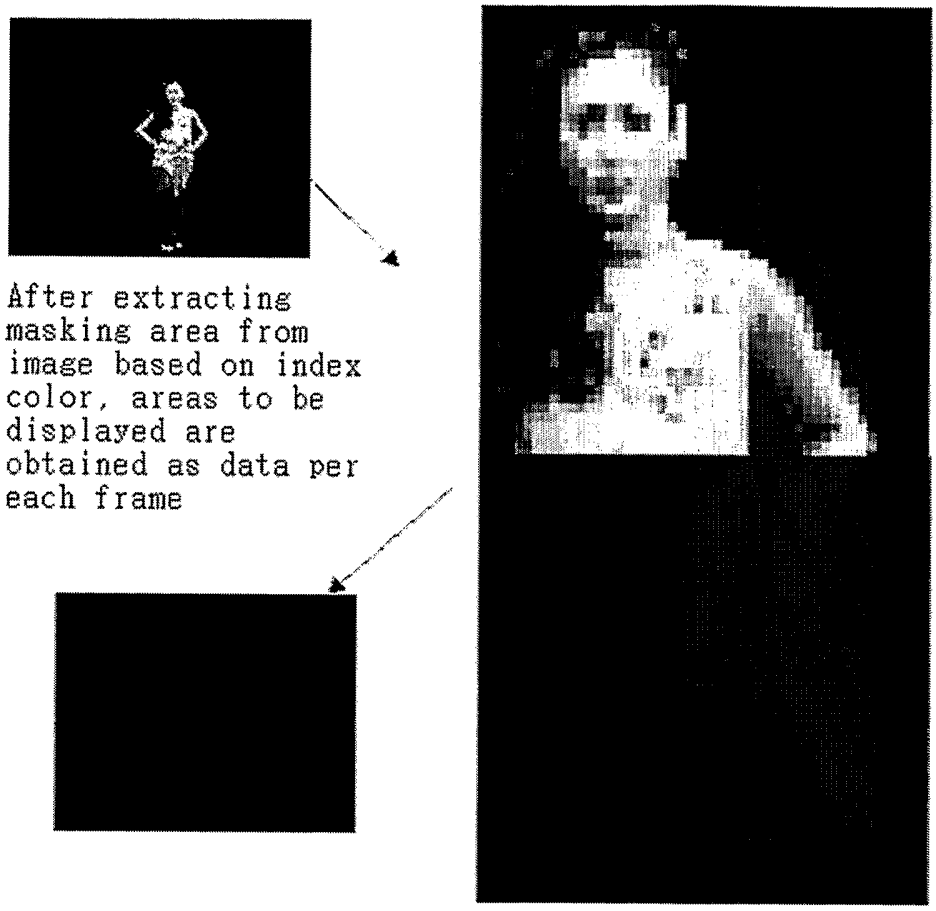

Info
Period
Icon Click
Continuous display
Time set
Upon receiving e
-mail
VRSTAR
Position
Left
Right
Shift
Other
Transparent
degree(50%)
Sound on
Size x 2
OK
Cancel
Apply

[FIG. 7]


Info
OK
Cancel
Apply

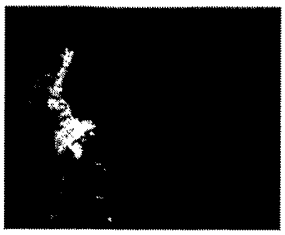

Info
VirtualStar Motion Player
OK
Cancel
Apply

[FIG. 8]

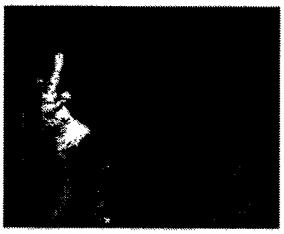

After extracting masking area from image based on index color, areas to be displayed are obtained as data per each frame

[FIG. 9]

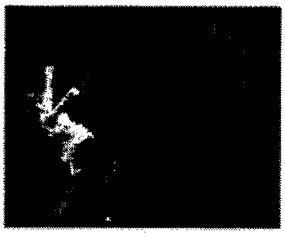
Frame 001



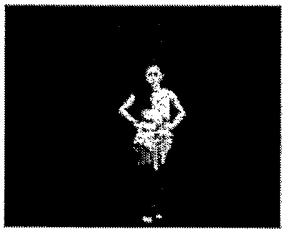
Frame 002



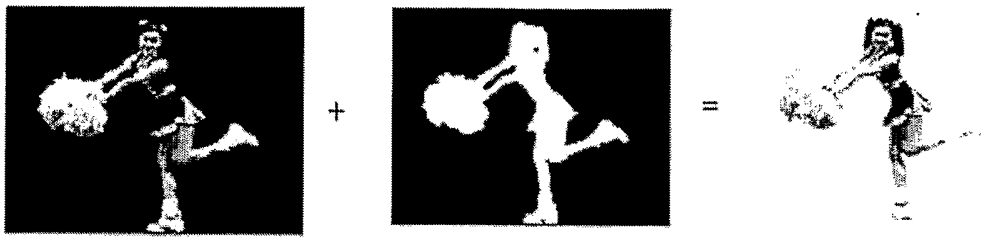
Frame 003



Frame 100

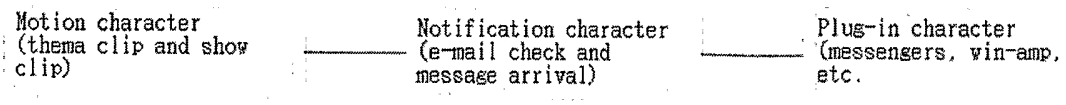


[FIG. 10]

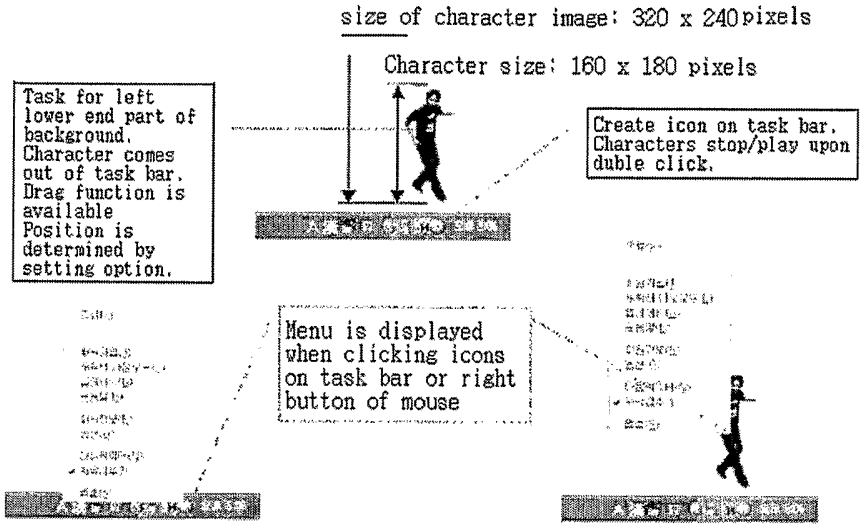


[FIG. 11]

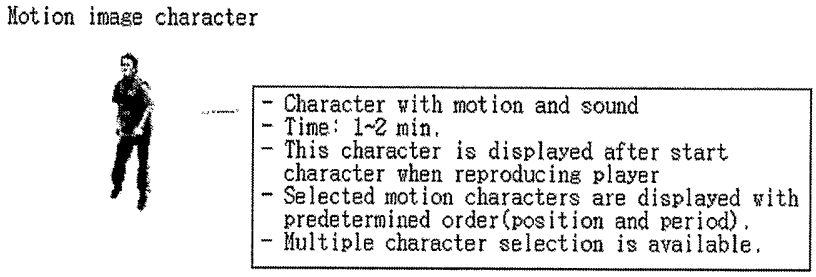
[FIG. 12]



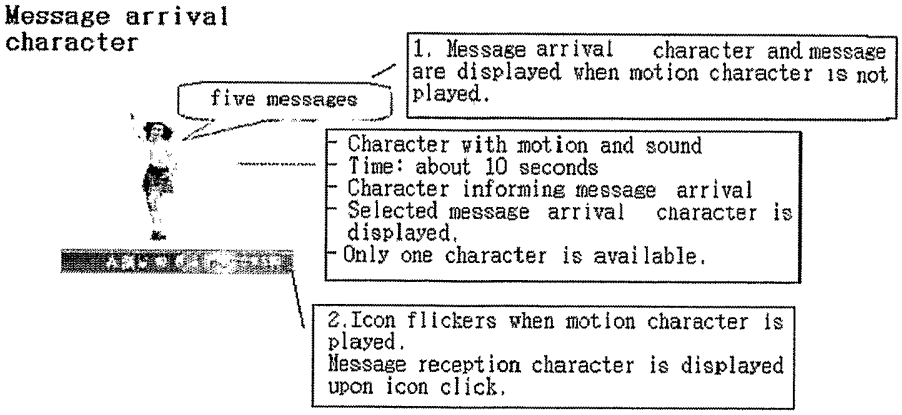
[FIG. 13]



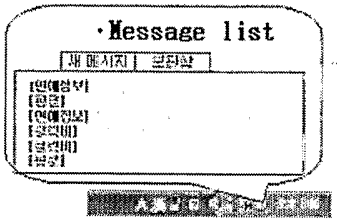
[FIG. 14]



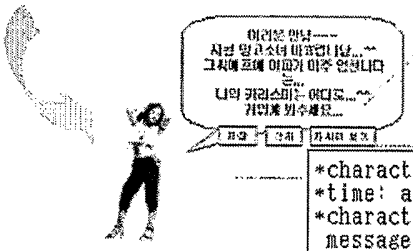
[FIG. 15]



[FIG. 16]



* message list is displayed when clicking message view button in message reception character
* message sub-menu
 - new message: message list not checked
 - storage box: stored message list after checking
* message list
 -[entertainment] head mark
 -[star] head mark
* no character

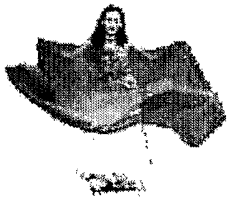


* Save: save in message storage box
* delete: delete message whihout saving
* detailed info: connected to website

*character displayed when checking message
*time: about 10 seconds(repeat)
*character is displayed corresponding to selected message(loading time may be delayed)
 - basic message character in case of entertainment
 - star message character in case of a star information
*message cannot be received if there is no character(service is limited)
*no-dedicated character, characters are randomly displayed(character selection is not available)

[FIG. 17]

* Program start character



* Character with motion and sound
* Time: about 10 seconds
* Character is displayed when playing player, player operates simultaneously with booting.
* Selected motion character is displayed.
* Only one character is available

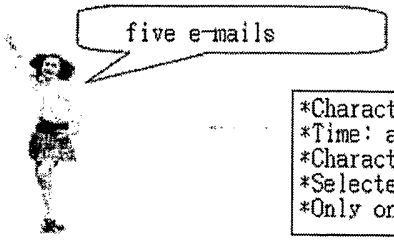
[FIG. 18]

*Program close character

* Character with motion and sound
* Time: about 10 seconds
* Character is displayed when closing player
* Selected motion character is displayed
* Only one character is available

[FIG. 19]

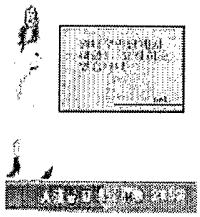
*E-mail character



*Character with motion and sound
*Time: about 10 seconds
*Character is displayed upon receiving e-mail
*Selected motion character is displayed
*Only one character is avialable

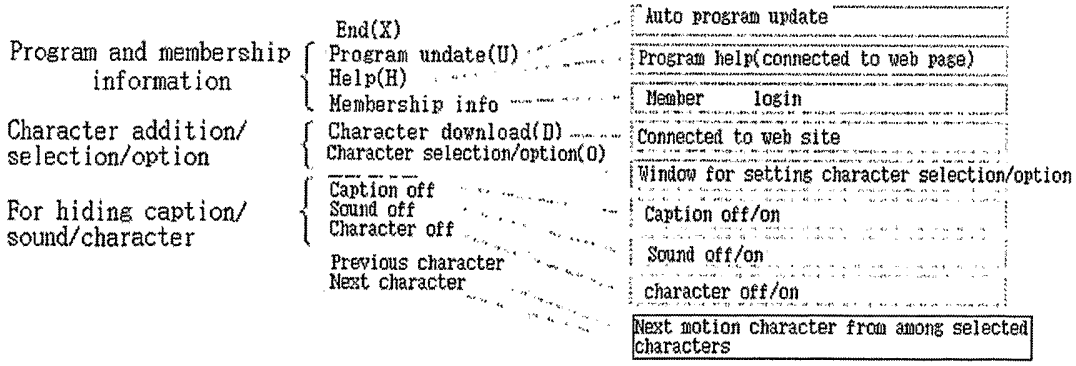
[FIG. 20]

*Messenger notification character

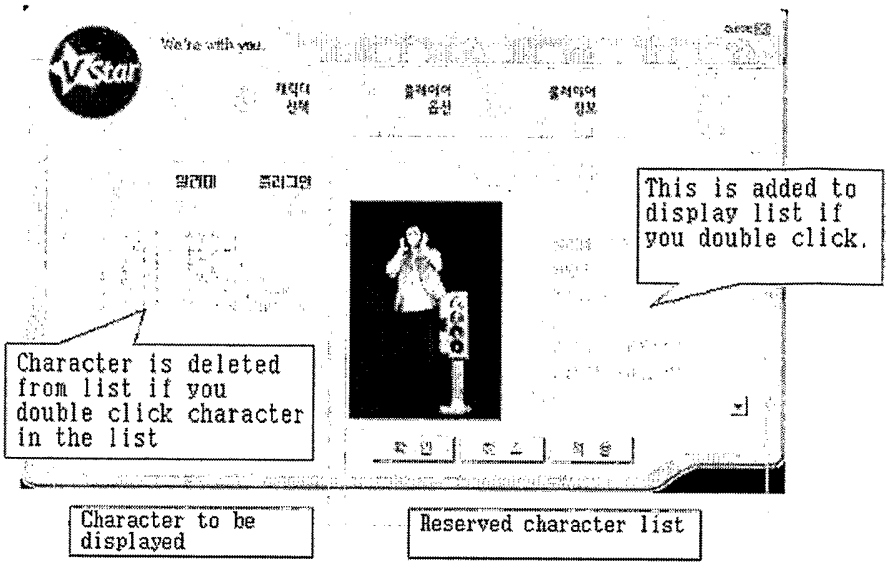


*Character displayed with messenger arrival
*Time: about 10 seconds
*Character substituting for notification box of messenger
*Selected motion character is displayed
*Only one character is available

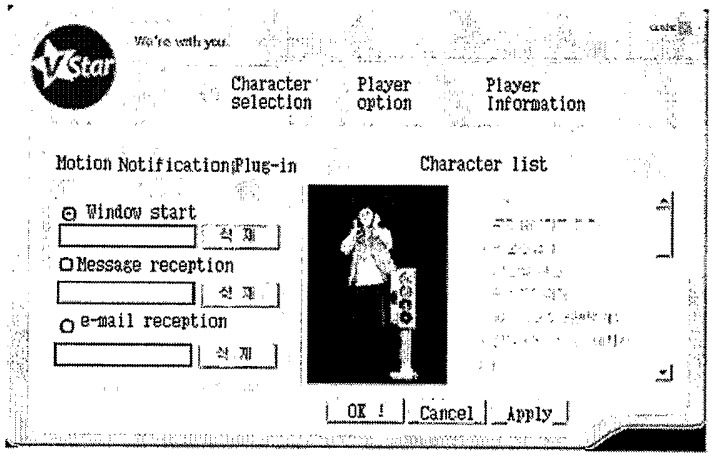
[FIG. 21]



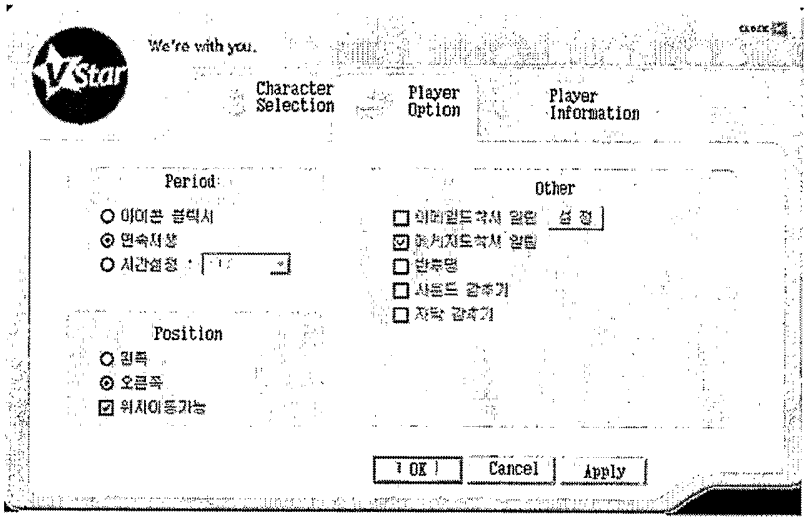
[FIG. 22]


This is added to display list if you double click.
Character is deleted from list if you double click character in the list
Character to be displayed
Reserved character list

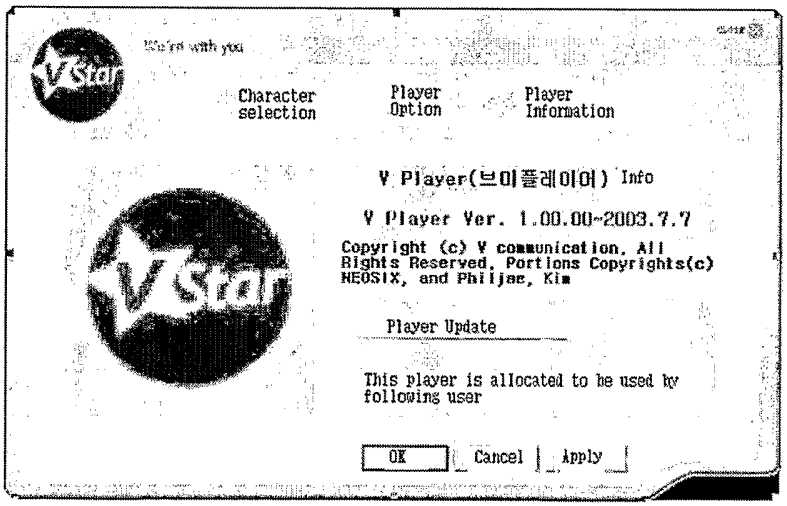
[FIG. 23]


Character selection
Player option
Player Information
Motion Notification Plug-in
Character list
Window start
Message reception
e-mail reception
OK !
Cancel
Apply

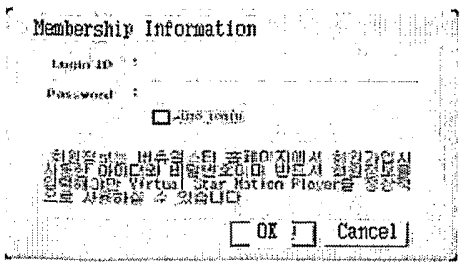
[FIG. 24]

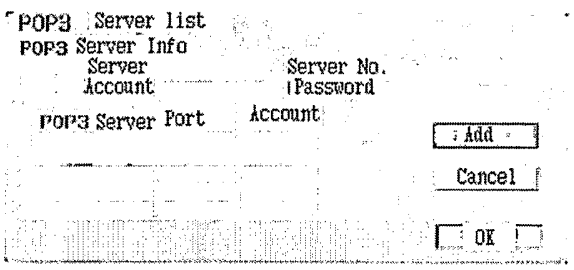


[FIG. 25]



[FIG. 26]





[FIG. 27]

User					
FIELD	TYPE	NULL	KEY	DEFAULT	ETC...
User_id	VARCHAR	NOT NULL	PRI		ID
Password	VARCHAR	NOT NULL			Password
...	...	...	...	...	...

[FIG. 28]

Group					
FIELD	TYPE	NULL	KEY	DEFAULT	ETC...
Group_id	VARCHAR	NOT NULL	PRI		Group ID
Group_name	VARCHAR	NOT NULL			Group name
Create_date	DATETIME	NOT NULL			Create date
...	...	...	...	...	...

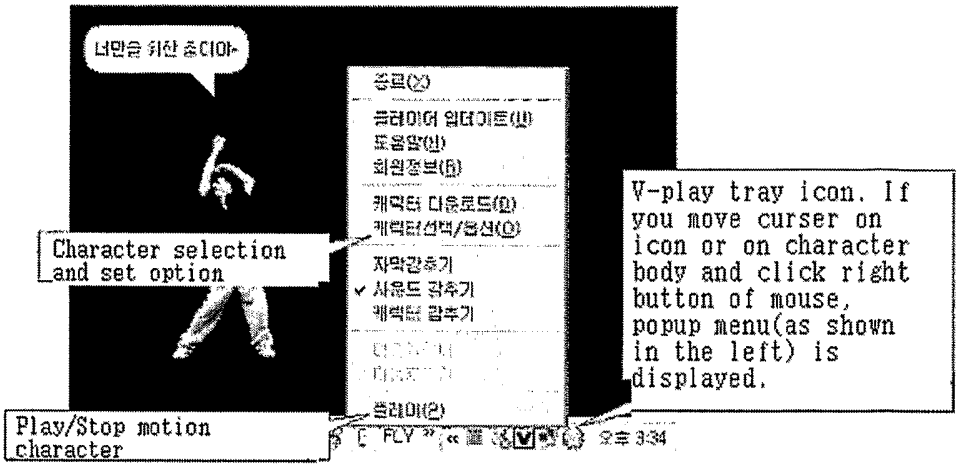
[FIG. 29]

Group_Relay					
FIELD	TYPE	NULL	KEY	DEFAULT	ETC...
User_id	VARCHAR	NOT NULL			User ID
Group_Id	VARCHAR	NOT NULL			Group ID
Grade	CHAR(1)	NOT NULL		N(omal)	Grade
...					

[FIG. 30]

Message					
FIELD	TYPE	NULL	KEY	DEFAULT	ETC...
Message_id	VARCHAR	NOT NULL	PRI		Message ID
User_id	VARCHAR	NOT NULL			User ID
Group_id	VARCHAR	NOT NULL			Group ID
Create_date	DATETIME	NOT NULL			Creat date
Expire_date	DATETIME	NOT NULL			Expire Date
Subject	VARCHAR	NULL			Subject
Message	TEXT	NOT NULL			Message

[FIG. 31]


너만을 위한 춤디아-
Character selection and set option
Play/Stop motion character
V-play tray icon. If you move curser on icon or on character body and click right button of mouse, popup menu(as shown in the left) is displayed.

INTERNATIONAL SEARCH REPORT

International application No.
PCT/KR2004/003240

A. CLASSIFICATION OF SUBJECT MATTER

IPC7 G11B 20/10

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC 7 G11B 20/10 G09G 5/00 G06T 15/00 H04N 7/14

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
Korean Patents and applications for inventions since 1975

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
WPI, PAJ "character, 2D, 3D, motion, avatar, music, voice, message, caption, MP3

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 2002-0008704 A1 (MECHAEL C. SHEASBY et al.) 24 January 2002 See the whole document	1, 2, 21, 22
A	US 6,384,829 B1 (FUJI XEROX CO., LTD.) 7 May 2002 See the whole document	1, 2, 21, 22
A	US 6,570,551 B1 (FUJI XEROX CO., LTD.) 27 May 2003 See the whole document	1, 2, 21, 22
P, A	US 2004-0179039 A1 (KAZUHIKO TAIRA et al.) 16 September 2004 See the whole document	1, 2, 21, 22

☐ Further documents are listed in the continuation of Box C. ☐ See patent family annex.

* Special categories of cited documents:
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"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents,such combination being obvious to a person skilled in the art
"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
22 MARCH 2005 (22.03.2005)	**22 MARCH 2005 (22.03.2005)**

Name and mailing address of the ISA/KR	Authorized officer
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