

GAMING MACHINE

BACKGROUND OF THE INVENTION

Field of the Invention

5 [0001]

The present invention relates to a gaming machine which includes a display unit that displays an image for use in a game, such as a liquid crystal display device, and in which the game proceeds using the image displayed on the display unit.

10 Description of the Related Art

[0002]

Conventionally, there is a gaming machine which includes a display unit that displays an image for use in a game (a game image), such as a liquid crystal display device, and in which
15 the game proceeds using the image displayed on the display unit. As the gaming machine of this type, for example, there are the following gaming machines: a gaming machine that is operated by a player to rotate or scroll reels (hereinafter called "pseudo-reels") displayed as images on the liquid crystal
20 display device, thus performing variable display (which gaming machine is a so-called video slot machine), and a gaming machine such that card images showing cards are displayed and, in accordance with player's operational entry, display of the card images is changed to allow a game to proceed (which gaming
25 machine is also called a card gaming machine). In the video

slot machine out of these gaming machines, winning or losing of the game and a mode in which the game is won (winning mode) are determined from a combination of symbols (hereinafter called a "symbol combination") falling on a predetermined
5 valid line (pay line) when the reels are stopped, and payout of media for use in the game, such as medals and coins, (hereinafter called "coins") is performed in response to the winning mode.

For example, JP-A-2002-537874 discloses a gaming
10 machine capable of performing a video simulation as rotating reels are displayed on a display unit.

[0003]

As in the aforesaid conventional gaming machines, a gaming machine, which includes a display unit that displays
15 a game image and in which a game proceeds using the game image displayed on the display unit, is in most cases configured such that image data for displaying the game image is stored in a storage unit such as an image ROM and is read therefrom to display the game image on the display unit.

20 [0004]

However, because of the regulations of a country in which to install and use the gaming machine, laws, rules and the needs of the market, the specification (mainly the layout) of the image game sometimes varies from country to country, in which
25 case there is the following problem. That is, it is required

that the gaming machines of this type be broken out according to country in which to use them (hereinafter called "user countries", e.g., the United States and Australia) and that image data that meets the specification of each user country
5 be generated and stored into the storage unit for each of the gaming machines. In other words, an each country's individualized response is required, such that image data are generated and stored according to different specifications for different countries, which contributes to the requirement of
10 time and cost to develop the gaming machine.

Besides, there is a need of, on the one hand, an individualized response not only for each country but also for each state, province, district, etc. and, on the other hand, an individualized response for each month, season, year, etc.
15

SUMMARY OF THE INVENTION

[0006]

the invention has been made to solve the aforesaid problems, and an object of the invention is to provide a gaming
20 machine which includes a display unit that displays a game image for use in a game and in which the game proceeds using the game image displayed on the display unit, wherein an individualized response to the game image for each of operation environments, such as a gaming machine installation site, installation time,
25 and operation start time, is eliminated to shorten a

development period and reduce cost.

[0006]

To solve the aforesaid problem, according the invention, there is provided a gaming machine, having a display means that
5 displays a game image for use in a game, including: an image data storage means that stores general game image data including common image data that is common to a plurality of user countries in which to use the gaming machine and individual image data that differ from user country to user country; and
10 a position changing means that changes the display position of the game image displayed on the display means, on a per user country basis, using the general game image data stored in the image data storage means.

This gaming machine is configured such that, when user
15 countries are designated, the display position of the game image is changed, for each of the designated user countries, using the general game image data stored in the image data storage means.

[0008]

20 Further, according to the invention, there is provided a gaming machine, having a display means that displays a game image for use in a game, including: an image data storage means that stores common image data that is common to a plurality of user countries in which to use the gaming machine and
25 individual image data that differ from user country to user

country; and a layout changing means that changes the display layout of the game image displayed on the display means, using the common image data and any one of the individual image data, stored in the image data storage means.

5 This gaming machine is configured such that, when any one of the individual image data stored in the image data storage means is designated, the display layout of the game image is changed using the designated one of the individual image data and the common image data.

10 [0010]

Besides, the invention provides a gaming machine, having a display means that displays a game image for use in a game, including: an image data storage means that stores common image data that is common to a plurality of user countries in which
15 to use the gaming machine and individual image data that differ from user country to user country; a reading means that reads a user country code for identifying each of the user countries from an external storage medium storing the user country code; and a layout setting means that sets the display layout of the
20 game image, on a per user country basis, using the common image data stored in the image data storage means and any one of the individual image data corresponding to the user country code read by the reading means.

 This gaming machine, which can use the external storage
25 medium to input a user country code from the external, is

configured such that the display layout of the game image is changed using the common image data and individual image data corresponding to the user country code.

[0007]

5 Further, according to the invention, there is provided a gaming machine having a display means that displays a game image for use in a game, including: an image data storage means that stores common image data for displaying on the display means a common image which is common to a plurality of operation
10 environments of the gaming machine and a plurality of individual image data for displaying on the display means a plurality of individual images which are individually used for each of the operation environments of the gaming machine; an operation means capable of performing the operation of
15 entering identification information for specifying any of the operation environments; a specification means that specifies at least one corresponding individual image data which corresponds to the identification information entered by the operation of the operation means, out of the plurality of
20 individual image data; a determination means that determines a positional relationship, on the display means, between the common image and a corresponding individual image based on the corresponding individual image data, in response to the identification information entered by the operation of the
25 operation means; and a display control means that displays the

game image in accordance with the positional relationship determined by the determination means.

[0008]

In this gaming machine, when identification information
5 is entered by operation of the operation means, corresponding individual image data which corresponds to the entered identification information, out of the individual image data stored in the image data storage means, is specified. Besides, a positional relationship between the common image and a
10 corresponding individual image which corresponds to the corresponding individual image data is determined. Thus, the game image is displayed to have the common image and the corresponding individual image, in accordance with the determined positional relationship.

15 [0011]

Besides, the invention provides a gaming machine having a display means that displaying a game image for use in a game, including: a display mode storage means that stores a plurality of display modes in which to display, on the display means,
20 a common image which is common to a plurality of operation environments of the gaming machine and at least any one of a plurality of individual images which are individually used for each of the operation environments of the gaming machine; an operation means capable of performing the operation of
25 entering identification information for specifying any of the

operation environments; a mode specification means that specifies a corresponding display mode which corresponds to the identification information entered by the operation of the operation means, out of the plurality of display modes; and
5 a display control means that displays the game image in accordance with the corresponding display mode specified by the mode specification means.

[0012]

In this gaming machine, when identification information
10 is entered through the operation means, a corresponding display mode which corresponds to the entered identification information, out of the display modes stored in the display mode storage means, is specified. Thus, the game image is displayed in accordance with the specified corresponding
15 display mode.

[0015]

Furthermore, the invention provides a gaming machine having a display means that displaying a game image for use in a game, including: a display control means that performs
20 display control of the display means so as to secure in the display means a common region capable of displaying a common image which is common to a plurality of operation environments of the gaming machine and position adjustment regions for use in adjusting the display position of the common image; and an
25 operation means capable of performing the operation of

entering identification information for specifying any of the operation environments, wherein the display control means displays at least any one of individual images in a corresponding region which corresponds to the identification
5 information entered by the operation of the operation means, out of the position adjustment regions, and displays the common image in the common region or in a region other than the common region and the corresponding region of the position adjustment regions.

10 [0016]

In this gaming machine, the common region and the position adjustment regions are secured in the display means. And, when identification information is entered through the operation means, a corresponding region which corresponds to
15 the entered identification information, out of the position adjustment regions, is specified. Thus, at least any one of the individual images is displayed in the specified corresponding region, whereas the common image is displayed in the common region or in a region other than the common region
20 and the corresponding region of the position adjustment regions.

[0011]

As described in detail above, according to the invention, in a gaming machine which includes a display means that displays
25 a game image and in which a game proceeds using the game image

displayed on the display means, an each country's individualized response to the game image is eliminated, thus making it possible to shorten a development period and reduce cost.

5 [0021]

As described in detail above, according to the invention, in a gaming machine which includes a display means that displays a game image and in which a game proceeds using the game image displayed on the display means, an individualized response to the game image for each of operation environments, such as a gaming machine installation site, installation time, and operation start time, is eliminated, thus making it possible to shorten a development period and reduce cost.

15 BRIEF DESCRIPTION OF THE DRAWINGS

These and other objects and advantages of the present invention will be more fully apparent from the following detailed description taken in conjunction with the accompanying drawings, in which:

20 Fig. 1 is a perspective view showing the overall configuration of a slot machine that is a gaming machine according to an embodiment of the invention;

Fig. 2 is a front view showing the disposal of buttons on a control panel;

25 Fig. 3 is a block diagram of the slot machine showing

mainly the internal configuration thereof;

Fig. 4 is a block diagram showing an image control circuit;

Fig. 5 is a flowchart showing the operational procedure
5 of a main process of the slot machine ranging from start to end of a game;

Fig. 6A is a diagram showing a display layout made by assuming that image display is performed using common image data and individual image data of two country-specific
10 regions; Fig. 6B is a diagram showing the display layout of a game image using the common image data and the individual image data of one country-specific region; Fig. 6C is a diagram showing the display layout of a game image using the common image data and the individual image data of another
15 country-specific region;

Fig. 7A is a diagram showing a game image of a user country in a normal game mode; Fig. 7B is a diagram showing a game image of the same user country as that of Fig. 7A;

Fig. 8A is a diagram showing a game image of a different
20 user country from those of Figs. 7A and 7B; Fig. 8B is a diagram showing a game image of the same user country as that of Fig. 8A;

Fig. 9 is a diagram showing a game image of a user country in a special game mode;

25 Fig. 10 is a diagram showing a game image, in the special

game mode, of a different user country from that of Fig. 9;

Fig. 11 is a perspective view showing the overall configuration of a slot machine that is a gaming machine according to an embodiment of the invention;

5 Fig. 12 is a block diagram of the slot machine shown in Fig. 11, mainly showing the internal configuration thereof;

Fig. 13 is a block diagram of another slot machine, mainly showing the internal configuration thereof;

Fig. 14A and 14B are diagrams showing data and a table
10 that are stored in a program ROM and a ROM, wherein Fig. 14A shows common image data and individual image data that are stored in the program ROM and Fig. 14B shows a specification table;

Fig. 15A and 15B are diagrams each showing the positional
15 relationship between images displayed on a lower image display panel, wherein Fig. 15A shows that an individual image is disposed on the upper side of a common image and Fig. 15B shows that the individual image is disposed on the lower side of the common image;

20 Fig. 16A and 16B are diagrams each showing the positional relationship between the images displayed on the lower image display panel, wherein Fig. 16A shows that the individual images are disposed on the upper and left sides of the common image and Fig. 16B shows that the individual images are disposed
25 on the lower and right sides of the common image;

Figs. 17A and 17B are diagrams each showing the positional relationship between the images displayed on the lower image display panel, wherein Fig. 17A shows that the individual images are disposed on the upper and lower sides of the common image and Fig. 17B shows that the individual images are sequentially disposed on the lower side of the common image;

Fig. 18 is a diagram showing a display pattern table;

Figs. 19A to 19C are diagrams each showing a positional relationship between a common region and position adjustment regions on the lower image display panel, wherein Fig. 19A shows that the position adjustment regions are disposed around the common region, Fig. 19B shows that the position adjustment regions are disposed on both the left and right sides of the common region, and Fig. 19C shows that the individual images are disposed on the upper and lower sides of the common image; and

Fig. 20 is a diagram showing a position specification table.

20

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

[0012]

An embodiment of the invention will be described below, wherein like reference numerals are used to indicate like components, thus omitting redundant description.

25

In the embodiment, the following slot machine 1 will be described as an example of the case in which the invention is applied to a gaming machine having a display unit that displays a game image for use in a game.

5 [0013]

(Overall Configuration of Slot Machine)

Fig. 1 is a perspective view showing the overall configuration of the slot machine 1. The slot machine 1, which is a gaming machine according to the embodiment of the invention, includes a display unit that displays a game image for use in a game. Displayed on the display unit are variable display images (reel images) that, showing an arrangement of a plurality of (five) reels each having a plurality of symbols, are as if the reels scroll. This slot machine 1 is a video slot machine capable of performing a slot game at which the amount of payouts is determined from a symbol combination that is made when the reels displayed on the display unit (the reels displayed as images are also called "pseudo-reels") are stopped.

20 [0014]

The slot machine 1, having a cabinet 2, includes on the front side of the cabinet 2, from the top down, an upper image display panel 3 and a lower image display panel 4. The upper image display panel 3, configured of a liquid crystal display device, displays an image (e.g., an explanation of the game)

such as not being directly involved in the game. And, the configuration is such that the image displayed on the upper image display panel 3 varies according to operational contents.

5 [0015]

The lower image display panel 4, disposed substantially in the vertical center of the cabinet 2, is configured of a not-shown liquid crystal display device. This lower image display panel 4, which is the display unit of the invention,
10 is configured to display the game image including the reel images.

[0016]

And, a control panel 5 is disposed below the lower image display panel 4. Provided on the right side of the control
15 panel 5 are a coin insertion slot 7 for inserting game media for use in the game, such as medals and coins, (hereinafter called "coins") and a bill insertion slot 8 that, provided for a player to insert bills, has a bill insertion sensor 8a (see Fig. 3) that outputs a signal indicative of bill insertion.
20 Furthermore, the slot machine 1 has, at the bottom of the cabinet 2, a coin payout opening 10 and a coin receiving tray 11 that receives coins paid out. And, speakers 9L and 9R are disposed on the right and left of the coin payout opening 10.

[0017]

25 The control panel 5 has 14 buttons 6a to 6n that, shown

in Fig. 2, are substantially similar to those of the well-known video slot machine. The control panel 5 has two buttons at the upper left: a collect button (COLLECT) 6a for determining coins won at the game and a game rule button (GAME RULES) 6b.

5 The other buttons, disposed on the control panel 5 to form two rows below the collect button 6a and game rule button 6b, have five bet buttons 6c to 6g for determining the number of coins bet (the number of bets), five line buttons 6h to 6l for determining the number of lines, a start bonus button (START
10 BONUS) 6m for starting a bonus game, and a gamble button (GAMBLE) 6n for determining the transition to a double game at the end of the bonus game.

[0018]

(Internal Configuration of Slot Machine)

15 Fig. 3 is a block diagram of the slot machine 1, showing mainly the internal configuration thereof. The slot machine 1 has a plurality of components around a microcomputer 31. The slot machine 1 has the microcomputer 31, a random number generator 35, a sampling circuit 36, a clock pulse generator
20 circuit 37, and a frequency divider 38. Besides, the slot machine 1 has a lamp drive circuit 59, an LED drive circuit 61, a hopper drive circuit 63, a payout completion signal circuit 65, an image control circuit 71, and a sound control circuit 72.

25 [0019]

The microcomputer 31 has a CPU (Central Processing Unit) 32, a RAM (Random Access Memory) 33, and a ROM (Read Only Memory) 34. The CPU 32 operates in accordance with programs stored in the ROM 34 and also performs input/output of signals to/from the other components via an I/O port 39 and operational control of the entire slot machine 1. Data and programs to be used when the CPU 32 operates are stored in the RAM 33. For example, random numbers sampled by the to-be-described sampling circuit 36 are temporarily held in the RAM 33 after the game starts, and the code numbers and symbol numbers of the pseudo-reels are stored in the RAM 33. Programs to be executed by the CPU 32 and permanent data are stored in the ROM 34.

[0020]

The random number generator 35 is operated in accordance with instructions of the CPU 32 to generate a predetermined range of random numbers. In accordance with the instructions of the CPU 32, the sampling circuit 36 selects an arbitrary random number from the random numbers generated by the random number generator 35 and inputs the selected random number to the CPU 32. The clock pulse generator circuit 37 generates a reference clock for operating the CPU 32, and the frequency divider 38 inputs to the CPU 32 a signal obtained as the reference clock is divided by a predetermined frequency.

[0021]

The lamp drive circuit 59 outputs to a lamp 60 a signal

for turning on the lamp 60 and blinks the lamp 60 during execution of the game. Game effects are carried out by this blinking. The LED drive circuit 61 controls flashing display of an LED 62. The LED 62 performs display of the number of credits, the number of coins won, etc. The hopper drive circuit 63 drives a hopper 64 in accordance with the control of the CPU 32, and the hopper 64 performs an operation for paying out coins and thus pays out the coins onto the coin receiving tray 11.

10 [0022]

A coin detector 66 measures the number of coins paid out by the hopper 64 and notifies the payout completion signal circuit 65 of data of the measured number of coins. The payout completion signal circuit 65 inputs the data of the number of coins from the coin detector 66 and, when the inputted number of coins reaches data of a set number of coins, inputs to the CPU 32 a signal indicative of coin payout completion.

The image control circuit 71, which is the position changing unit, a layout changing unit, and a layout setting unit of the invention, controls image display on each of the upper and lower image display panels 3 and 4, and performs changing of the display position of and setting or changing of the display layout of the game image on the lower image display panel 4, thus displaying the game image on the lower image display panel 4.

[0023]

As shown in Fig. 4, the image control circuit 71 has an image control CPU 71a, a work RAM 71b, a program ROM 71c, an image ROM 71d, a video RAM 71e, and a VDP (Video Display Processor) 71f. Based on a parameter that, including a to-be-described user country code, is set by the microcomputer 31, the image control CPU 71a, in accordance with an image control program pre-stored in the program ROM 71c, determines an image to be displayed on the upper image display panel 3, and performs changing of the display position of and setting or changing of the display layout of the game image, thus determining an image to be displayed on the lower image display panel 4. The work RAM 71b is configured to serve as a temporary storage unit when the image control CPU 71a executes the image control program.

[0024]

The program ROM 71c stores the image control program, various selection tables, etc. The image ROM 71d, which is the image data storage unit of the invention, stores dot data for forming an image. In the case of the embodiment, general game image data is included in this dot data. This general game image data includes: common image data for use in image display whose content is common to a plurality of user countries (e.g., Australia and the United States) in which to use the slot machine 1; and individual image data for use in each user

country's individualized image display.

[0025]

For example, when the user countries are Australia and the United States, the general game image data is configured in the follow manner. In the lower image display panel 4, when an image displayed using the common image data is assigned to a game region 91a and images displayed using the individual image data of Australia and the United States are assigned to respective country-specific regions 91b and 91c, the general game image data has all the image data required to display the game region 91a, country-specific region 91b, and country-specific region 91c.

[0026]

When such general game image data is used to display the game image on the lower image display panel 4, in accordance with the instructions of the CPU 32, the image control circuit 71 (image control CPU 71a) changes the display position of the game image, based on the user country code. By such changing of the display position, for example, the game image displayed on the lower image display panel 4 as shown in Fig. 6B is displayed with the display position changed as shown in Fig. 6C, i.e., with the display position shifted upward.

Besides, when the general game image data is used to display the game image, the display layout of the game image may be set in the following manner. That is, out of the general

game image data, the common image data of the game region 91a and the individual image data of the country-specific region 91b are used to perform image display on the lower image display panel 4, thus displaying the game image with the layout as shown in Fig. 6B (which is an example of a slot machine for Australia). On the other hand, the common image data and the individual image data of the country-specific region 91c are used to perform image display on the lower image display panel 4, thus displaying the game image with the layout as shown in Fig. 6C (which is an example of a slot machine for the United States). Such setting of the display layout is performed by the image control circuit 71 (image control DPU 71a) in accordance with the instructions of the CPU 32 (the detail of which is described later).

15 [0027]

Additionally, Fig. 6A shows the display layout made by assuming that image display is performed using the common image data of the game region 91a and the individual image data of the country-specific regions 91a and 91c. With such a display layout, the game image is not displayed on the lower image display panel 4.

[0028]

The video RAM 71e is configured to serve as a temporary storage unit when the VDP 71f forms an image. The VDP 71f, having a control RAM 71g, forms individual images for the upper

and lower image display panels 3 and 4, which images are determined by the image control CPU 71a, and outputs the formed individual images to the upper and lower image display panels 3 and 4.

5 Besides, the slot machine 1 is provided with a card slot 73. This card slot 73, which is the reading unit of the invention, is configured to read the to-be-described user country code from a media card a that is an external storage medium storing thereon the user country code for identifying
10 each of the user countries and thus to input the read user country code to the CPU 32.

 The embodiment is configured such that the user country code is stored on the media card a and such that changing of the display position, etc. of the game image are performed based
15 on the user country code read from the media card a. Alternatively, the configuration may be such that reference information (e.g., the serial number of a slot machine) serving as a reference when changing of the display position, etc. are performed is pre-stored on the media card a and such that
20 changing of the display position, etc. of the game image are performed based on the reference information. By so doing, the display position can be changed as slot machines for one user country are distinguished from those for another by serial number, such e.g. that slot machines of serial numbers 1 to
25 100 are for Australia and slot machines of serial numbers 101

to 200 are for the United States.

[0029]

The sound control circuit 72 inputs a sound signal from a sound source IC, amplifies the inputted sound signal, and
5 then outputs a sound from the speakers 9L and 9R. Thereby, for example, a sound for boosting the game mood at a proper time after the game starts is outputted from the speakers 9L and 9R.

[0030]

10 (Operational Contents of Slot Machine)

The operational contents of the slot machine 1 having the aforesaid configuration will now be described with reference to the flowchart shown in Fig. 5. The slot machine 1 according to the embodiment performs a game in a special game
15 mode in addition to a normal game mode for performing a normal game. And, the configuration is such that the normal game is performed when the game mode is in the normal game mode, whereas the bonus game advantageous to the player is executed when the game mode makes the transition to the special game mode.

20 Fig. 5 is a flowchart showing the operational procedure of a main process of the slot machine 1 ranging from start to end of the game, with the procedure divided into blocks. In Fig. 5, the term "step" is abbreviated as S.

[0031]

25 As shown in Fig. 5, when starting the main process, to

start the game, in accordance with the control of the CPU 32, the slot machine 1 performs a start reception process at step 1 and performs a lottery process at subsequent step 2. Next, at step 3, the slot machine 1 performs a normal game process while maintaining the game mode in the normal game mode and then proceeds to step 4. At step 4, in response to the result of the lottery process at step 2, the CPU 32 determines whether a condition for the transition to the bonus game (transition condition) is fulfilled or not. Here, if the transition condition is fulfilled, the process proceeds to step 5, whereas, if not, the main process comes to an end. When the process proceeds to step 5, the CPU 32 causes the game mode to transition to the special game mode, thus performing a bonus game process. Thereafter, the main process comes to an end.

15 [0032]

In the slot machine 1, as it has the aforesaid configuration, in this series of process steps, in accordance with the instructions of the CPU 32, the image control circuit 71 operates as the position changing unit, a layout changing unit, or a layout setting unit of the invention, thus displaying the game image on the lower image display panel 4.

[0033]

Before starting the execution of step 1 (i.e., which here assumes a stage before the game is performed on the slot machine 1, e.g., a delivery time or a manufacturing stage, but is not

limited thereto), in advance, the slot card 73 reads the user country code stored on the media card a, and the slot machine 1 inputs the read user country code to the CPU 32 (the configuration may be such that another entry unit capable of entering the user country code (e.g., a manual entry unit with which the user country code is entered by person's manual operation) is provided to designate a user country code through the manual entry unit). The CPU 32 thus predetermines a user country from the inputted user country code. Based on the user country code that has provided a target for this determination, the image control circuit 71 performs changing of the display position of and setting or changing of the display layout of the game image, on a per user country basis. In the embodiment, a user country of user country code "01" is set to Australia and a user country of user country code "02" is set to the United States. However, the user countries are not limited to Australia and the United States but include even other countries such as South Africa, Japan, and China.

[0034]

At step 3, the normal game process is performed with the game mode maintained in the normal game mode, so that the game image including the pseudo-reels is displayed. However, to display the game image, the image control CPU 71a performs setting of the display layout of the game image. For example, when the user country code is "01" and the CPU 32 determines

that the user country is "Australia", the image control CPU 71a reads image data corresponding to the user country code "01" from the image ROM 71d and inputs the image data to the VDP 71f. In this case, the image data corresponding to the user country code "01" includes the common image data for use in displaying the game region 91a and the individual image data for use in displaying the country-specific region 91b, and the image control CPU 71a sets the display layout of the game image, using both the data. On this occasion, for example, such game images as shown in Figs. 7A and 7B are displayed on the lower image display panel 4.

[0035]

Besides, image data, the read user country code of which corresponds to "02", includes the common image data for use in displaying the game region 91a and the individual image data for use in displaying the country-specific region 91c. Therefore, when the user country code "02" is read subsequently to the user country code "01", the image control CPU 71a sets the display layout of the game image, using the image data corresponding to the user country code "02".

However, the configuration may be as follows. That is, any one user code (e.g., "01") is pre-set to the game image in an initial state and, when a read user country code is different (e.g., "02") from the pre-set one, the display layout of the game image is changed based on the read user country

code. When the display layout of the game image is changed, for example, such game images as shown in Figs. 8A and 8B are displayed on the lower image display panel 4.

Besides, the configuration may be such that the display
5 position of the game image in the initial state corresponding to the user country code "01" is changed (in which the display position is shifted upward) based on the read user country code "02".

That is, the configuration may be such that the display
10 layout of the game image is set each time the user country code is read, or that, with the game image in the initial state being pre-set, the display layout or display position of the game image is changed each time the user country code is read.

[0036]

15 Figs. 7A and 7B show game images 101 and 102, respectively. These game images, each showing the game image displayed when the user country is Australia, have: common regions 101a and 102a that, although differing slightly in their display content, are displayed using the common image data out of the
20 general game image; and country-specific regions 101b and 102b displayed using the individual image data. A title display "LUCKY ANT" and pseudo-reels L1 to L5 are displayed in each of the common regions 101a and 102a. Meter images such as the number of CREDITS and the number of BETs are displayed in each
25 of the country-specific regions 101b and 102b. When the user

country code is "01", the slot machine 1 displays the game image 101 but may be configured to display the game image 102.

[0037]

Besides, Figs. 8A and 8B show two game images 201 and
5 202. These game images, each showing the game image displayed
when the user country is the United States, have: common regions
201a and 202a that, although differing slightly in their
display content, are displayed using the common image data out
of the general game image; and country-specific regions 201b
10 and 202b displayed using the individual image data. A title
display "LUCKY ANT" and pseudo-reels L1 to L5 are displayed
in each of the common regions 201a and 202a. Meter images such
as the number of CREDITS and the number of BETs are displayed
in each of the country-specific regions 201b and 202b. When
15 the user country code is "02", the slot machine 1 displays the
game image 201 but may be configured to display the game image
202.

[0038]

And, as is apparent by comparison of the game image 101
20 (102) for Australia and the game image 201 (202) for the United
States, both the game images, although differing in their
display position on the lower image display panel 4, have the
common regions 101a (102a) and 201a (202a) with the same display
content. Besides, in the game image 101 (102), the
25 country-specific region 101b (102b) is displayed above the

common region 101a (102a), whereas, in the game image 201 (202), the country-specific region 201b (202b) is displayed below the common region 201a (202a). And, these game images also differ in their individual meter kinds. That is, when viewed as a whole, the game image 101 (102) for Australia and the game image 201 (202) for the United States, having apparently different contents, are displayed in conformity to the specifications of the respective countries.

[0039]

10 Thus, the slot machine 1 performs changing of the display position of and changing or setting of the display layout of the game images, using the general game image data, so that the game images become suitable for use in Australia and the United States. Therefore, the general game image data need only be stored in the image ROM 71d, and there is no need to provide an individualized response such that the image data for Australia and the United States are individually generated and separately stored. Accordingly, the slot machine 1 is configured capable of reducing the development cost and period required to store the image data into the image ROM 71d.

[0040]

Besides, in this respect, the same applies even to the case where the game mode is changed to the special game mode. That is, such a game image 103 as shown in Fig. 9 is displayed when the user country code is "01", whereas such a game image

203 as shown in Fig. 10 is displayed when the user country code is "02". The game images 103 and 203, although differing in their display position on the lower image display panel 4, have common regions 103a and 203a with the same display content.

5 Besides, in the game image 103, a country-specific region 203b is displayed above the common region 203a, whereas, in the game image 203, a country-specific region 203b is displayed below the common region 203a. And, these game images also differ in their individual meter kinds. That is, even in the game

10 images 103 and 203 displayed in the special game mode, when viewed as a whole, the game image 103 for Australia and the game image 203 for the United States, having apparently different contents, are displayed in conformity to the specifications of the respective countries.

15 In the special game mode as well, the slot machine 1 is configured capable of reducing the development cost and period required to store the image data into the image ROM 71d.

[0041]

In the aforesaid slot machine 1, changing of the display

20 position, setting of the display layout, etc. of the game image are performed based on the user country code. Alternatively, such changing, setting, etc. may be performed based on the game mode. For example, the configuration may be as follows. That is, to generate the aforesaid general game image data, such

25 data is pre-generated including even the image data for use

in the special game mode. Thus, in the normal game mode, the game image is displayed as shown in Figs. 7A and 7B, whereas, when the game mode turns to the special game mode, the display position is changed to display the game image as shown in Fig.

5 10.

Besides, when changed, the display position is shifted in an up-and-down direction but may be shifted in a side-to-side direction.

[0063]

10 (One Embodiment of the Invention)

The following slot machine 51 will now be described as one embodiment of the invention. Additionally, the slot machine 51 has a common configuration with the aforesaid slot machine 1, and some operational contents are common to both
15 the slot machines. Therefore, the following description is focused on their differences, and their similarities are omitted from the description or the description thereof is simplified.

[0064]

20 Fig. 11 is a perspective view showing the overall configuration of the slot machine 51, and Fig. 12 is a block diagram mainly showing the internal configuration of the slot machine 51. The slot machine 51 is different from the slot machine 1 in that it has a switch operation button 12, that
25 it does not include the card slot 73, and that a microcomputer

31 and an image control circuit 71 are different in operation. The other configurations are common to those of the slot machine 1.

[0065]

5 That is, similar to the slot machine 1, the slot machine 51, having a cabinet 2, includes on the front side of the cabinet 2, from the top down, an upper image display panel 3 and a lower image display panel 4. The upper image display panel 3 displays an image such as not being directly involved in the
10 game. The lower image display panel 4, disposed substantially in the vertical center of the cabinet 2, is configured of a not-shown liquid crystal display device. This lower image display panel 4, which is the display unit of the invention, is configured to display a game image including reel images.

15 [0066]

Furthermore, a control panel 5 similar to that of the slot machine 1 is disposed below the lower image display panel 4. And, provided at the bottom of the cabinet 2 are a coin payout opening 10, a coin receiving tray 11, and speakers 9L
20 and 9R.

[0067]

Besides, the slot machine 51 has the switch operation button 12 disposed on the left side of the control panel 5 (additionally, similar to the slot machine 1, the control panel
25 5 has a coin insertion slot 7 and a bill insertion slot 8).

[0068]

The switch operation button 12, which is the operation unit of the invention, has a plurality of buttons that are not shown. By individual or combinational button depression
5 operations, the switch operation button 12 outputs plural kinds of to-be-described identification codes (in this embodiment, six kinds of identification codes a, b, c, d, e, and f) serving as the identification information of the invention.

10 [0069]

And, similar to the slot machine 1, the slot machine 51 has a plurality of components (a random number generator 35, a sampling circuit 36, a clock pulse generator circuit 37, and a frequency divider 38, which are similar to those of the slot
15 machine 1) around the microcomputer 31. Besides, the slot machine 1 has a lamp drive circuit 59, an LED drive circuit 61, a hopper drive circuit 63, a payout completion signal circuit 65, the image control circuit 71, and a sound control circuit 72. Out of these components, the image control circuit
20 71 is different from that of the slot machine 1, and the others are common to those of the slot machine 1.

[0070]

Similar to the slot machine 1, the microcomputer 31 has a CPU 32, a RAM 33, and a ROM 34. Similar to the slot machine
25 1, the CPU 32 operates in accordance with programs stored in

the ROM 34 to perform operational control of the entire slot machine 51. In contrast, unlike the slot machine 1, the CPU 32 operates as the specification unit of the invention to specify to-be-described corresponding individual image data.

5 Similar to the slot machine 1, the ROM 34 stores programs to be executed by the CPU 32 and permanent data. In contrast, the ROM 34 is different from that of the slot machine 1 in that it has the function of serving as the specification information storage unit and stores a specification table 110 shown in Fig.

10 14B. This specification table 110, having an identification code area 110a and an individual image area 110b, stores individual data codes for specifying individual image data as being correlated with the identification codes. Thus, the configuration is such as to be capable of specifying at least

15 one corresponding individual image data which corresponds to an identification code. According to this specification table 110, for example, the corresponding individual image data which corresponds to the identification code a is to-be-described individual image data 112a. Similar to the

20 slot machine 1, data and programs for use in operation of the CPU 32 are stored in the ROM 34.

[0071]

The image control circuit 71 controls image display on each of the upper and lower image display panels 3 and 4.

25 [0072]

Similar to the slot machine 1, the image control circuit 71 has an image control CPU 71a, a work RAM 71b, a program ROM 71c, an image ROM 71d, a video RAM 71e, and a VDP (Video Display Processor) 71f. Based on a parameter set by the microcomputer 31, the image control CPU 71a, in accordance with an image control program pre-stored in the program ROM 71c, determines an image to be displayed on the upper image display panel 3. Besides, based on a parameter set by the microcomputer 31, the image control CPU 71a determines an image to be displayed on the lower image display panel 4. Furthermore, the image control CPU 71a has the function of serving as the determination unit of the invention which determines a positional relationship between a to-be-described common image 211 and a corresponding individual image (e.g., a to-be-described corresponding individual image 212a) on the lower image display panel 4. The work RAM 71b, video RAM 71e, and VDP 71f are common to those of the slot machine 1.

[0073]

The program ROM 71c stores an image control program, which includes programs for allowing the image control CPU 71a to function as the determination unit and the display control unit, various selection tables, etc. The image ROM 71d, which is the image data storage unit of the invention, stores dot data for forming an image. In the case of the slot machine 51, as shown in Fig. 14A, this dot data includes common image

data (image data for displaying reel images including pseudo-reels) 111 and a plurality of individual image data 112a, 112b, and 112c.

[0074]

5 The common image data 111 is image data for displaying an image common to operation environments of the slot machine 51, i.e., a common image 211 whose content is unchanged even with a change in operation environment. The operation environments are various elements that influence the operation
10 of the slot machine 51. In the case of the slot machine 51, for example, as a spatial environment, there is an installation site in which to install the slot machine 51, such as a country, a state, a province, and a district. And, as a temporal environment, there are an installation time and an operation
15 start time in which to install the slot machine 51, such as a month, a season, and a year. Accordingly, the common image data 111 can act as image data for displaying a common image common to the installation sites (i.e., an image whose content is unchanged even with a change in installation site) and an
20 common image common to the installation times (i.e., an image whose content is unchanged even with a change in installation time). Additionally, the configuration may be such that the image ROM 71d is allowed to store general game image data as in the slot machine 1 and such that the general game image data
25 includes the common image data 111 and the plurality of

individual image data 112a, 112b, and 112c.

[0075]

The individual image data 112a, 112b, and 112c are image data each for displaying an image that is individually used
5 for each operation environment (i.e., an image whose content differs for different operation environments). The individual image data 112a, 112b, and 112c each can be used as, for example, image data for displaying an image that is individually used for each installation site and time (i.e.,
10 an image whose content differs for different installation sites and times).

[0076]

And, to display the game image on the lower image display panel 4, using such common image data 111 and individual image
15 data 112a, 112b, and 112c, the image control circuit 71 (image control CPU 71a) determines the following positional relationship on the lower image display panel 4. That is, the positional relationship is between the common image 211 based on the common image data 111 and a corresponding individual
20 image (e.g., the corresponding individual image 212a) based on corresponding individual image data specified by the CPU 32 out of the individual image data 112a, 112b, and 112c. Thus, the game image is displayed in accordance with the determined positional relationship. In this case, for example, the game
25 image is displayed on the lower image display panel 4 as shown

in Fig. 15A on the one hand and as shown in Fig. 15B on the other hand (which will be described later in detail). In Figs. 14A and 15A to 18, "AAA", "BBB", and "CCC" are displayed for convenience of description, but these letter strings "AAA",
5 "BBB", and "CCC" are not displayed on the lower image display panel 4. The display of "AAA", "BBB", and "CCC" means that images having different contents from each other are displayed.

[0077]

10 (Operational Contents of Slot Machine)

The operational contents of the slot machine 51 having the above configuration will now be described. Similar to the slot machine 1, along the flowchart shown in Fig. 5, the slot machine 1 performs a game in the normal game mode and in the
15 special game mode for use under conditions where the transition condition is fulfilled. Besides, the slot machine 51 operates in a game mode where the game is played and, in addition thereto, operates even in a mode (maintenance mode) corresponding to a manufacturing stage or a maintenance operation. In this
20 maintenance mode, an entry made using the switch operation button 12 is validated by control of the CPU 32 (in the game mode, an entry made using the switch operation button 12 is validated in the start reception process).

[0078]

25 And, on the slot machine 51, in the maintenance mode and

the start reception process, the CPU 32 operates as the specification unit of the invention, whereas the image control circuit 71 (image control CPU 71a) operates as the determination unit and a display control unit of the invention, thus displaying the game image on the lower image display panel 4.

[0079]

In the maintenance mode and the start reception process, when, for example, a slot machine 51 manufacturing operator, examiner, or player performs a depression operation of the switch operation button 12, an identification code responsive to the depressed button is outputted from the switch operation button 12 and inputted to the CPU 32. This identification code is data for specifying any one of a potential plurality of operation environments (e.g., the installation site, installation time, and operation start time) of the slot machine 51 (in this embodiment, six identification codes a, b, c, d, and f are prepared in response to the assumed number of operation environments).

[0080]

Upon input of an identification code, the CPU 32 operates as the specification unit of the invention and sets the inputted identification code in a search key to search the specification table 110, thus specifying corresponding individual image data which corresponds to the identification code. On this

occasion, for example, upon input of the identification code a, the CPU 32 specifies the individual image data 112a as the corresponding individual image data 112a. In contrast, upon input of the identification code c, the CPU 32 specifies the individual image data 112a and 112b as the corresponding individual image data 112a and 112b. Then, the CPU 32 inputs to the image control circuit 71 a directive command including the inputted identification codes and the corresponding individual image data.

10 [0081]

In the image control circuit 71, upon input of a directive command, based on the identification code included in the directive command, the image control CPU 71a operates as the determination unit to determine the positional relationship between the common image 211 based on the common image data 111 and a corresponding individual image (e.g., the corresponding individual image 212a) based on the corresponding individual image data. For example, upon input of the identification code a, the image control CPU 71a determines the positional relationship therebetween such that "the corresponding individual image 212a is disposed on the upper side of the common image 211." Besides, upon input of the identification code b, the image control CPU 71a determines the positional relationship therebetween such that "the corresponding individual image 212a is disposed on the lower

side of the common image 211."

[0082]

Subsequently, the image control CPU 71a operates as the display control unit to display the common image and the corresponding individual image on the lower image display panel 4 in accordance with the determined positional relationship. In this case, for example, when the directive command includes the identification code a and the identification code b, their corresponding individual image data are each the individual image data 112a. However, with the identification code a, displayed as shown in Fig. 15A is the game image in which the individual image 212a is disposed on the upper side of the common image 211. In contrast, with the identification code b, displayed as shown in Fig. 15B is the game image in which the individual image 212a is disposed on the lower side of the common image 211.

[0083]

Besides, in the cases of the identification codes c and d, two kinds of individual image data 112a and 112b act as their corresponding individual image data. In these cases, the game images are displayed, such as shown in Figs. 16A and 16B, respectively. With the identification codes c and d, the positional relationships are determined such that "the corresponding individual image 212a is disposed on the upper side of the common image 211 and the corresponding individual

image 212b is disposed on the left side thereof" and "the corresponding individual image 212a is disposed on the lower side of the common image 211 and the corresponding individual image 212b is disposed on the right side thereof," respectively.

5 The game images are displayed on the lower image displayed panel
4 in accordance with these determined positional relationships.

[0084]

Furthermore, in the cases of the identification codes
10 e and f, the individual image data 112a and 112c act as their corresponding individual image data. In these cases, the game images are displayed, such as shown in Figs. 17A and 17B, respectively. With the identification codes e and f, the positional relationships are determined such that "the
15 corresponding individual images 212a and 212c are disposed on the upper and lower sides of the common image 211" and "the corresponding individual images 212a and 212c are sequentially disposed on the lower side of the common image 211," respectively. The game images are displayed on the lower image
20 displayed panel 4 in accordance with these determined positional relationships.

[0085]

Thus, the slot machine 51 has two kinds of installation sites, for example, Kanto District and Kansai District. When
25 the game image is intended to change in response to each of

the installation sites, the switch operation button 12 is operated so as to input an identification code corresponding to each installation site. Thereby, different game images can be displayed on the lower image display panel 4. In this case, 5 for example, Fig. 15A is used for Kanto District and Fig. 15B is used for Kansai District. Besides, when the game image is intended to differ for each of four kinds of districts with Hokkaido and Kyushu Districts added to two districts of Kanto and Kansai, it is only necessary that Fig. 16A is used for 10 Hokkaido District and Fig. 16B is used for Kyushu District. Similarly, when the game image is intended to change in response to the time of year change and the season (e.g., to switch the year between 2004 and 2005), it is only necessary that Fig. 15A is used for 2004 and Fig. 15B is used for 2005.

15 [0086]

Accordingly, similar to the slot machine 1, in the slot machine 51, even when the game image is changed for each operation environment (e.g., the installation site, installation time, and operation start time), there is no need 20 to provide an individualized response such that individual image data responsive to respective operation environments are generated and stored. Consequently, the slot machine 51 is configured capable of reducing the development cost and period required to store the image data into the image ROM 71d.

25 [0087]

Besides, in the case of the slot machine 51, the identification code entry made by operating the switch operation button 12 can be performed not only in the maintenance mode but also in the start reception process in the game mode.

5 Consequently, in the slot machine 51, the display of the game image switches when the player operates the switch operation button 12 in the start reception process. Therefore, the slot machine 51 is configured capable of meeting a demand such that the player intends to change the display of the game image in

10 response to his/her own taste.

[0088]

(Modified Example 1)

Fig. 13 is a block diagram mainly showing the internal configuration of a slot machine 52. The slot machine 52 is

15 different from the slot machine 51 in that it has a touch panel 13 as the operation unit, instead of the switch operation button 12. This touch panel 13 is disposed covering a surface of not-shown protective glass on the front side of a lower image display panel 4. This touch panel 13 detects a position

20 (contact position) touched by a finger of the player or any other contact body, and inputs to a CPU 32 an identification code serving as corresponding input information which corresponds to the contact position.

[0089]

25 Besides, in the slot machine 52, a ROM 34 stores a display

pattern table 115 shown in Fig. 18 and has the function of serving as the display mode storage unit of the invention. The display pattern table 115, having an identification code area 115a and a display pattern area 115b, stores display pattern codes for specifying a plurality of display patterns as being correlated with the identification codes. Thus, the configuration is such as to be capable of specifying a display pattern in response to an identification code.

[0090]

10 Here, the display pattern, which is the display mode of the invention, is data capable of specifying the manner of displaying on the lower display panel 4 at least any one of individual images 212a to 212c (mainly, the positional relationship between a common image 211 and each of the individual images 212a to 212c). As aforesaid, in the slot machine 51, the image control CPU 71a determines the positional relationship between the common image 211 and a corresponding individual image which corresponds to an identification code out of the individual images 212a to 212c. In contrast, in the slot machine 52, data capable of specifying a positional relationship to be determined by an image control CPU 71a is stored, as the display pattern, in the display pattern table 115. For example, a display pattern corresponding to the identification code a act as data capable of specifying "the individual image 212a is disposed on the upper side of the

15

20

25

common image."

[0091]

And, in the slot machine 52, an identification code is inputted to the CPU 32 as an entry is made by operating the touch panel 13. Then, the CPU 32 operates as the mode specification unit of the invention and sets the inputted identification code in a search key to search the display pattern table 115, thus specifying a display pattern corresponding to the identification code as a corresponding display pattern (the corresponding display mode of the invention). Besides, the CPU 32 inputs to an image control circuit 71 a directive command including data indicative of the specified corresponding display pattern.

[0092]

In the image control circuit 71, upon input of a directive command, the image control CPU 71a operates as the display control unit to dispose the common image and a corresponding individual image in accordance with a corresponding display pattern included in the directive command, thus displaying a game image. In this case as well, similar to the slot machine 51, plural kinds of game images are displayed, such as shown in Figs. 15A, 15B, 16A, 16B, 17A, and 17B.

[0093]

Similar to the slot machine 51, in the slot machine 52 as well, plural kinds of game images are thus displayed, so

that, even to display the plural kinds of game images, there is no need to provide an individualized response to each game image. Thus, the slot machine 52 is configured capable of reducing the development cost and period required to store
5 image data into an image ROM 71d.

[0094]

(Modified Example 2)

A modified example of the slot machine 51 will now be described. This slot machine 51 is configured such that, as
10 shown in Figs. 19A, 19B, and 19C, in a lower image display panel 4, a common image region 4a and a position adjustment region 4b are secured by means of an image control CPU 71a serving as the display control unit. In the case of Fig. 19A, the common image region 4a, disposed in the center of the lower image
15 display panel 4, is a region capable of displaying a common image. The position adjustment region 4b (shaded in Figs. 19A to 19C), having first to fourth position adjustment regions 4b1, 4b2, 4b3, and 4b4 that are disposed adjacent to the periphery of the common image region 4a, is a region (at four
20 corners of which spare regions 4b9 are secured) for use in adjusting the display position of the common image. In the case of Fig. 19B, two position adjustment regions 4b5 and 4b6 are disposed on both the left and right sides of the lower image display panel 4, and the common image region 4a is disposed
25 inside of the position adjustment regions 4b5 and 4b6. In the

case of Fig. 19C, two position adjustment regions 4b7 and 4b8 are disposed on both upper and lower sides of the lower image display panel 4, and the common image region 4a is disposed inside of the position adjustment regions 4b7 and 4b8.

5 Additionally, the position adjustment regions are each used as a region in which to display an individual image.

[0095]

And, a ROM 34, storing a position specification table 120, has the function of serving as the position code storage

10 unit. This position specification table 120, having an identification code area 120a and a corresponding region area 120b as shown in Fig. 20, stores position codes for specifying position adjustment regions as being correlated with identification codes. Thus, the configuration is such as to

15 be capable of specifying at least one position adjustment region corresponding to an identification code. Additionally, this shown specification table 120 corresponds to the lower image display panel 4 shown in Fig. 19A, and the following description corresponds to the lower image display panel 4

20 shown in Fig. 19A.

[0096]

And, in the case of this slot machine 51, upon input of an identification code, a CPU 32 sets the inputted identification code in a search key to search the position

25 specification table 120, thus specifying a corresponding

region that corresponds to the identification code, out of a plurality of the position adjustment regions. On this occasion, for example, upon input of the identification code a, the CPU 32 specifies the position adjustment region 4b1 as
5 the corresponding region. In contrast, upon input of the identification code c, the CPU 32 specifies the position adjustment regions 4b1 and 4b3 as the corresponding regions. Then, the CPU 32 inputs to an image control circuit 71 a directive command including the inputted identification codes
10 and the corresponding regions.

[0097]

In the image control circuit 71, upon input of a directive command, the image control CPU 71a operates as the display control unit to display at least any one of plural individual
15 images in the corresponding region included in the directive command and to display the common image 211 in the other regions including the common region 4a. In this case, an individual image to be displayed in the corresponding region need only be determined, as aforesaid, by searching the specification
20 table 120, but may be determined by another method. Besides, the spare regions 4b9 are appropriately used to display the individual image in the corresponding region.

[0098]

Then, for example, upon input of the identification code
25 a, the position adjustment region 4b1 is specified as the

corresponding region. Therefore, an individual image is displayed using the position adjustment region 4b1 and the spare regions 4b9 disposed on both sides thereof. And, the common image 211 is displayed using the other regions (the
5 common region 4a, the position adjustment regions 4b2, 4b3, and 4b4, and the spare regions 4b9 disposed on both sides of the position adjustment region 4b2). Thus, a game image is displayed as shown in Fig. 15A. Similarly, upon input of the identification code b, the position adjustment region 4b2 is
10 specified as the corresponding region. Therefore, an individual image is displayed using the position adjustment region 4b2 and the spare regions 4b9 disposed on both sides thereof. And, the common image 211 is displayed using the other regions (the common region 4a, the position adjustment
15 regions 4b1, 4b3, and 4b4, and the spare regions 4b9 disposed on both sides of the position adjustment region 4b1). Thus, a game image is displayed as shown in Fig. 15B. Furthermore, upon input of the identification code c, the position adjustment regions 4b1 and 4b3 are specified as the
20 corresponding regions. Therefore, the position adjustment regions 4b1 and 4b3 and three spare regions 4b9, two of which are disposed on both sides of the position adjustment region 4b1 and the remaining one of which is disposed between the position adjustment regions 4b2 and 4b3, are used to display
25 an individual image. And, the other regions (the common region

4a, the position adjustment regions 4b2 and 4b4 and the spare region 4b9 disposed therebetween) are used to display the common image 211. Thus, a game image is displayed as shown in Fig. 16A.

5 [0099]

As the above, in the slot machine 51, plural kinds of game images are displayed. Therefore, even to display a plurality of game images, there is no need to provide an individualized response to each of the game images. Thus, the slot machine 51 is configured capable of reducing the development cost and period required to store image data into the image ROM 71d.

[0042]

15 Additionally, in the aforesaid embodiment, the slot machine has been described as an example. However, the invention is also applicable to a slot machine or Pachi-Slot machine that has not-shown mechanical reels on the back side of the liquid crystal display device.

Furthermore, the slot machine 1 uses the liquid crystal display device as the upper, lower image display panels 3, 4 but may use a transparent EL panel instead of the liquid crystal display device.

[0043]

Besides, the slot machine 1 may be structured such that another liquid crystal display device is disposed on the front

side of the aforesaid liquid crystal display device so as to sandwich a transparent acryl plate therebetween and such that the two liquid crystal display devices are arranged multiplexed along such a direction as to be rendered visible to the player (multiplex arrangement structure). This multiplex arrangement structure makes it possible that an image with a perspective and stereoscopic effect rendered to a sufficient degree is displayed on the lower image display panel 4.

10 [0044]

Additionally, the slot machine 1 has five pseudo-reels arrayed in a line in a vertical direction, but the number of reels is not limited to five. For example, the number of reels may be three or may be nine.

15 The slot machine 1 is a coin input type gaming machine that requires input of coins at the start of the game. However, the invention is also applicable to a gaming machine that requires the use of credits such as coins or the use of money information stored on a prepaid card at the start of the game.

20 In the invention, the game content is not limited to the slot game. For example, the invention may be applied to a card gaming machine that displays card images showing cards or a mahjong gaming machine that displays images showing mahjong tiles.

25 [0006]

As the above, according the invention, there is provided a gaming machine, having a display unit that displays a game image for use in a game, including: an image data storage unit that stores general game image data including common image data that is common to a plurality of user countries in which to use the gaming machine and individual image data that differ from user country to user country; and a position changing unit that changes the display position of the game image displayed on the display unit, on a per user country basis, using the general game image data stored in the image data storage unit.

This gaming machine is configured such that, when user countries are designated, the display position of the game image is changed, for each of the designated user countries, using the general game image data stored in the image data storage unit.

[0007]

Besides, the gaming machine further includes a reading unit that reads a user country code for identifying each of the user countries from an external storage medium storing the user country code, wherein the position changing unit can be configured to change the display position of the game image, based on the user country code read by the reading unit.

This gaming machine can use the external storage medium to input a user country code from the external, thus changing the display position of the game image in response to the user

country code.

[0008]

Further, according to the invention, there is provided a gaming machine, having a display unit that displays a game
5 image for use in a game, including: an image data storage unit that stores common image data that is common to a plurality of user countries in which to use the gaming machine and individual image data that differ from user country to user country; and a layout changing unit that changes the display
10 layout of the game image displayed on the display unit, using the common image data and any one of the individual image data, stored in the image data storage unit.

This gaming machine is configured such that, when any one of the individual image data stored in the image data
15 storage unit is designated, the display layout of the game image is changed using the designated one of the individual image data and the common image data.

[0009]

The gaming machine further includes a reading unit that
20 reads a user country code for identifying each of the user countries from an external storage medium storing the user country code, wherein the layout changing unit can be configured to change the display layout of the game image, based on the user country code read by the reading unit.

25 This gaming machine, which can use the external storage

medium to input a user country code from the external, is configured such that the display layout of the game image is changed using the common image data and individual image data corresponding to the user country code.

5 [0010]

Besides, the invention provides a gaming machine, having a display unit that displays a game image for use in a game, including: an image data storage unit that stores common image data that is common to a plurality of user countries in which
10 to use the gaming machine and individual image data that differ from user country to user country; a reading unit that reads a user country code for identifying each of the user countries from an external storage medium storing the user country code; and a layout setting unit that sets the display layout of the
15 game image, on a per user country basis, using the common image data stored in the image data storage unit and any one of the individual image data corresponding to the user country code read by the reading unit.

This gaming machine, which can use the external storage
20 medium to input a user country code from the external, is configured such that the display layout of the game image is changed using the common image data and individual image data corresponding to the user country code.

[0007]

25 Further, according to the invention, there is provided

a gaming machine having a display unit that displays a game image for use in a game, including: an image data storage unit that stores common image data for displaying on the display unit a common image which is common to a plurality of operation environments of the gaming machine and a plurality of individual image data for displaying on the display unit a plurality of individual images which are individually used for each of the operation environments of the gaming machine; an operation unit capable of performing the operation of entering identification information for specifying any of the operation environments; a specification unit that specifies at least one corresponding individual image data which corresponds to the identification information entered by the operation of the operation unit, out of the plurality of individual image data; a determination unit that determines a positional relationship, on the display unit, between the common image and a corresponding individual image based on the corresponding individual image data, in response to the identification information entered by the operation of the operation unit; and a display control unit that displays the game image in accordance with the positional relationship determined by the determination unit.

[0008]

In this gaming machine, when identification information is entered by operation of the operation unit, corresponding

individual image data which corresponds to the entered identification information, out of the individual image data stored in the image data storage unit, is specified. Besides, a positional relationship between the common image and a corresponding individual image which corresponds to the
5 corresponding individual image data is determined. Thus, the game image is displayed to have the common image and the corresponding individual image, in accordance with the determined positional relationship.

10 [0009]

The gaming machine can be configured to further include a specification information storage unit that stores, in a correlated relationship, the identification information entered through the operation unit and individual data codes
15 for specifying the individual image data.

[0010]

With such a configuration, the corresponding individual image data can be specified by referring to the specification information storage unit.

20 [0011]

Besides, the invention provides a gaming machine having a display unit that displaying a game image for use in a game, including: a display mode storage unit that stores a plurality of display modes in which to display, on the display unit, a
25 common image which is common to a plurality of operation

environments of the gaming machine and at least any one of a plurality of individual images which are individually used for each of the operation environments of the gaming machine; an operation unit capable of performing the operation of entering
5 identification information for specifying any of the operation environments; a mode specification unit that specifies a corresponding display mode which corresponds to the identification information entered by the operation of the operation unit, out of the plurality of display modes; and a
10 display control unit that displays the game image in accordance with the corresponding display mode specified by the mode specification unit.

[0012]

In this gaming machine, when identification information
15 is entered through the operation unit, a corresponding display mode which corresponds to the entered identification information, out of the display modes stored in the display mode storage unit, is specified. Thus, the game image is displayed in accordance with the specified corresponding
20 display mode.

[0013]

In this gaming machine, the display mode storage unit can be configured to store, in a correlated relationship, the identification information entered through the operation unit
25 and display mode codes for specifying the display modes.

[0014]

With such a configuration, a corresponding display mode correlated with the identification information entered through the operation unit can be specified by referring to
5 the display mode storage unit.

[0015]

Furthermore, the invention provides a gaming machine having a display unit that displaying a game image for use in a game, including: a display control unit that performs display
10 control of the display unit so as to secure in the display unit a common region capable of displaying a common image which is common to a plurality of operation environments of the gaming machine and position adjustment regions for use in adjusting the display position of the common image; and an operation unit
15 capable of performing the operation of entering identification information for specifying any of the operation environments, wherein the display control unit displays at least any one of individual images in a corresponding region which corresponds to the identification information entered by the operation of
20 the operation unit, out of the position adjustment regions, and displays the common image in the common region or in a region other than the common region and the corresponding region of the position adjustment regions.

[0016]

25 In this gaming machine, the common region and the

position adjustment regions are secured in the display unit.
And, when identification information is entered through the
operation unit, a corresponding region which corresponds to
the entered identification information, out of the position
5 adjustment regions, is specified. Thus, at least any one of
the individual images is displayed in the specified
corresponding region, whereas the common image is displayed
in the common region or in a region other than the common region
and the corresponding region of the position adjustment
10 regions.

[0017]

Besides, preferably, this gaming machine further
includes a position code storage unit that stores, in a
correlated relationship, the identification information
15 entered through the operation unit and position codes for
specifying the position adjustment regions.

[0018]

With such a configuration, a corresponding region which
corresponds to the identification information entered through
20 the operation unit can be specified by referring to the position
code storage unit.

[0019]

The aforesaid gaming machine can be configured to further
include an image data storage unit that stores common image
25 data for displaying the common image on the display unit and

a plurality of individual image data for displaying the plurality of individual images on the display unit.

[0020]

With such a configuration, the game image can be
5 displayed using the common image data stored in the image data storage unit and the individual image data.

[0011]

As described in detail above, according to the invention,
in a gaming machine which includes a display unit that displays
10 a game image and in which a game proceeds using the game image displayed on the display unit, an each country's individualized response to the game image is eliminated, thus making it possible to shorten a development period and reduce cost.

15 [0021]

As described in detail above, according to the invention,
in a gaming machine which includes a display unit that displays
a game image and in which a game proceeds using the game image
displayed on the display unit, an individualized response to
20 the game image for each of operation environments, such as a gaming machine installation site, installation time, and operation start time, is eliminated, thus making it possible to shorten a development period and reduce cost.

[Drawings]

[Fig. 3]

35 RANDOM NUMBER GENERATOR

36 SAMPLING CIRCUIT

5 37 CLOCK PULSE GENERATOR CIRCUIT

38 FREQUENCY DIVIDER

8a BILL INSERTION SENSOR

5 CONTROL PANEL

a CARD

10 73 CARD SLOT

1 SLOT MACHINE

39 I/O PORT

59 LAMP DRIVE CIRCUIT

60 LAMP

15 61 LED DRIVE CIRCUIT

63 HOPPER DRIVE CIRCUIT

64 HOPPER

65 PAYOUT COMPLETION SIGNAL CIRCUIT

66 COIN DETECTOR

20 71 IMAGE CONTROL CIRCUIT

3 UPPER IMAGE DISPLAY PANEL

4 LOWER IMAGE DISPLAY PANEL

72 SOUND CONTROL CIRCUIT

9L, 9R SPEAKER

25 [Fig. 4]

31 MICROCOMPUTER
 71 IMAGE CONTROL CIRCUIT
 71a IMAGE CONTROL CPU
 71b WORK RAM
 5 71c PROGRAM ROM
 71d IMAGE ROM
 71e VIDEO RAM
 71g CONTROL RAM
 3 UPPER IMAGE DISPLAY PANEL
 10 4 LOWER IMAGE DISPLAY PANEL
 [Fig. 5]
 START
 S1 START RECEPTION PROCESS
 S2 LOTTERY PROCESS
 15 S3 NORMAL GAME PROCESS
 S4 CONDITION FOR TRANSITION TO BONUS GAME is FULFILLED?
 S5 BONUS GAME PROCESS
 END
 [Fig. 6A]
 20 91b PATTERN (FOR AUSTRALIA)
 91a GAME REGION
 91c PATTERN (FOR THE UNITED STATES)
 [Fig. 6B]
 91b PATTERN (FOR AUSTRALIA)
 25 91a GAME REGION

[Fig. 6C]

91a GAME REGION

91c PATTERN (FOR THE UNITED STATES)

[Fig. 12]

- 5 35 RANDOM NUMBER GENERATOR
- 36 SAMPLING CIRCUIT
- 37 CLOCK PULSE GENERATOR CIRCUIT
- 38 FREQUENCY DIVIDER
- 12 SWITCH OPERATION BUTTON
- 10 8a BILL INSERTION SENSOR
- 5 CONTROL PANEL
- 51 SLOT MACHINE
- 39 I/O PORT
- 59 LAMP DRIVE CIRCUIT
- 15 60 LAMP
- 61 LED DRIVE CIRCUIT
- 63 HOPPER DRIVE CIRCUIT
- 64 HOPPER
- 65 PAYOUT COMPLETION SIGNAL CIRCUIT
- 20 66 COIN DETECTOR
- 71 IMAGE CONTROL CIRCUIT
- 3 UPPER IMAGE DISPLAY PANEL
- 4 LOWER IMAGE DISPLAY PANEL
- 72 SOUND CONTROL CIRCUIT
- 25 9L, 9R SPEAKER

[Fig. 13]

- 35 RANDOM NUMBER GENERATOR
- 36 SAMPLING CIRCUIT
- 37 CLOCK PULSE GENERATOR CIRCUIT
- 5 38 FREQUENCY DIVIDER
- 13 TOUCH PANEL
- 8a BILL INSERTION SENSOR
- 5 CONTROL PANEL
- 52 SLOT MACHINE
- 10 39 I/O PORT
- 59 LAMP DRIVE CIRCUIT
- 60 LAMP
- 61 LED DRIVE CIRCUIT
- 63 HOPPER DRIVE CIRCUIT
- 15 64 HOPPER
- 65 PAYOUT COMPLETION SIGNAL CIRCUIT
- 66 COIN DETECTOR
- 71 IMAGE CONTROL CIRCUIT
- 3 UPPER IMAGE DISPLAY PANEL
- 20 4 LOWER IMAGE DISPLAY PANEL
- 72 SOUND CONTROL CIRCUIT
- 9L, 9R SPEAKER

[Fig. 14A]

111 REEL IMAGE

25 [Fig. 14B]

- 110a IDENTIFICATION CODE
- 110b INDIVIDUAL IMAGE DATA
- [Fig. 15A]
- 211 REEL IMAGE
- 5 [Fig. 15B]
- 211 REEL IMAGE
- [Fig. 16A]
- 211 REEL IMAGE
- [Fig. 16B]
- 10 211 REEL IMAGE
- [Fig. 17A]
- 211 REEL IMAGE
- [Fig. 17B]
- 211 REEL IMAGE
- 15 [Fig. 18]
- 115a IDENTIFICATION CODE
- 115b DISPLAY PATTERN
- a INDIVIDUAL IMAGE 212a IS DISPOSED ON UPPER SIDE OF COMMON IMAGE.
- 20 b INDIVIDUAL IMAGE 212a IS DISPOSED ON LOWER SIDE OF COMMON IMAGE.
- c INDIVIDUAL IMAGE 212a IS DISPOSED ON UPPER SIDE OF COMMON IMAGE, AND INDIVIDUAL IMAGE 212b IS DISPOSED ON LEFT SIDE THEREOF.
- 25 d INDIVIDUAL IMAGE 212a IS DISPOSED ON LOWER SIDE OF COMMON

IMAGE, AND INDIVIDUAL IMAGE 212b IS DISPOSED ON RIGHT SIDE THEREOF.

e INDIVIDUAL IMAGES 212a AND 212c ARE DISPOSED ON UPPER AND LOWER SIDES OF COMMON IMAGE.

- 5 f INDIVIDUAL IMAGES 212a AND 212c ARE SEQUENTIALLY DISPOSED ON LOWER SIDE OF COMMON IMAGE.

[Fig. 20]

120a IDENTIFICATION CODE

120b CORRESPONDING REGION

WHAT IS CLAIMED IS:

1. A gaming machine, having a display means that displays a game image for use in a game, comprising:

5 an image data storage means that stores common image data that is common to a plurality of user countries in which to use the gaming machine and individual image data that differ from user country to user country; and

a position changing means that changes the display
10 position of the game image displayed on the display means, on a per user country basis, using the common image data and the individual image data, stored in the image data storage means.

2. The gaming machine according to claim 1, wherein:

15 general game image data includes the common image data and the individual image data; and

the position changing means that changes the display
position of the game image displayed on the display means, using
the general game image data stored in the image data storage
20 means.

3. The gaming machine according to claim 1, wherein

the position changing means sets the display position
of the game image displayed on the display means, using the
25 common image data and any one of the individual image data,

stored in the image data storage means.

4. The gaming machine according to claim 1 or 3,
further comprising

5 a reading means that reads a user country code for
identifying each of the user countries from an external storage
medium storing the user country code.

5. The gaming machine according to claim 4, wherein
10 the position changing means sets the display position
of the game image, based on the user country code read by the
reading means.

6. The gaming machine according to claim 4, wherein
15 the position changing means changes the display position
of the game image, on a per user country basis, using the common
image data stored in the image data storage means and any one
of the individual image data corresponding to the user country
code read by the reading means.

20

7. A gaming machine having a display means that
displays a game image for use in a game, comprising:

an image data storage means that stores common image data
for displaying on the display means a common image which is
25 common to a plurality of operation environments of the gaming

machine and a plurality of individual image data for displaying on the display means a plurality of individual images which are individually used for each of the operation environments of the gaming machine;

5 an operation means capable of performing the operation of entering identification information for specifying any of the operation environments;

 a specification means that specifies at least one corresponding individual image data which corresponds to the
10 identification information entered by the operation of the operation means, out of the plurality of individual image data;

 a determination means that determines a positional relationship, on the display means, between the common image and a corresponding individual image based on the
15 corresponding individual image data, in response to the identification information entered by the operation of the operation means; and

 a display control means that displays the game image in accordance with the positional relationship determined by the
20 determination means.

8. A gaming machine according to claim 7, further comprising

 a specification information storage means that stores,
25 in a correlated relationship, the identification information

entered through the operation means and individual data codes for specifying the individual image data.

9. A gaming machine having a display means that
5 displaying a game image for use in a game, comprising:

a display mode storage means that stores a plurality of display modes in which to display, on the display means, a common image which is common to a plurality of operation environments of the gaming machine and at least any one of a
10 plurality of individual images which are individually used for each of the operation environments of the gaming machine;

an operation means capable of performing the operation of entering identification information for specifying any of the operation environments;

15 a mode specification means that specifies a corresponding display mode which corresponds to the identification information entered by the operation of the operation means, out of the plurality of display modes; and

a display control means that displays the game image in
20 accordance with the corresponding display mode specified by the mode specification means.

10. A gaming machine according to claim 9, wherein
the display mode storage means stores, in a correlated
25 relationship, the identification information entered through

the operation means and display mode codes for specifying the display modes.

11. A gaming machine having a display means that
5 displaying a game image for use in a game, comprising:

a display control means that performs display control of the display means so as to secure in the display means a common region capable of displaying a common image which is common to a plurality of operation environments of the gaming
10 machine and position adjustment regions for use in adjusting the display position of the common image; and

an operation means capable of performing the operation of entering identification information for specifying any of the operation environments, wherein

15 the display control means displays at least any one of individual images in a corresponding region which corresponds to the identification information entered by the operation of the operation means, out of the position adjustment regions, and displays the common image in the common region or in a region
20 other than the common region and the corresponding region of the position adjustment regions.

12. A gaming machine according to claim 11, further comprising

25 a position code storage means that stores, in a

correlated relationship, the identification information entered through the operation means and position codes for specifying the position adjustment regions.

5 13. A gaming machine according to any one of claims 9 to 11, further comprising

an image data storage means that stores common image data for displaying the common image on the display means and a plurality of individual image data for displaying the
10 plurality of individual images on the display means.

14. A gaming machine substantially as hereinbefore described with reference to the accompanying drawings.