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[Designation of Document] specification

[Title of the Invention] IMAGE PRINT FEEDING APPARATUS AND
EDIT PROCESSING METHOD AND BACKGROUND PROCESSING METHOD

[Detailed Description of the Invention]

[0001]

[Industrial Field of Application]

This invention is an evolutionary type of "Print Club" (a photo-sticker machine or an instant photo machine to make tiny stickers) which the applicant first developed and is familiarized by a pet name of "Pricla", and relates to an image print feeding apparatus which enabled to take a picture with more realistic sensation and virtual reality, an edit processing method in the image print feeding apparatus which enabled to edit a plurality of shot picture image data on a

single monitor, and a background processing method in the image print feeding apparatus which facilitates preparation of background to be written in, and is of one which is utilized mainly in the field of entertainment machines.

[0002]

[Prior Art]

Heretofore, existed is a prior art relating to a method and an apparatus for shooting an object to be shot by use of a plurality of lights including strobe lights and RGB lights, such as a shooting method for illuminating an object to be shot by a plurality of lights including strobe lights on the occasion of shoot in a studio (JP-A-11-24138) and an automatic picture vending machine for shooting an object to be shot by use of light sources with different colors (JP-A-2001-100305). Further, techniques of appropriate lighting in response to a shooting mode and of storing the lighting conditions in a memory device and enabling to select it as a lighting appropriate to an object to be shot on the occasion of shoot are disclosed in the JP-A-11-24138 gazette.

[0003]

However, with regard to the appropriate lighting in response to shooting modes and the storing of the lighting conditions shown in JP-A-11-24138, the former is of one that a card in which an appropriate lighting pattern is written in is selected and setting is carried out exactly by the pattern,

and the latter is of one that sample images or image data are stored in advance together with lighting conditions and on the occasion of shoot, optimum lighting condition is set over reading out them and referring to the same, and any one of them requires a photographer to set a lighting condition manually, which involves botheration.

[0004]

In addition, since this prior art is of such content that setting of optimum lighting to an object to be shot is carried out, and insistently is of one which purpose is to obtain a best shot of the object to be shot, it was not of one which can, for example, purposely create a lighting condition of back light, and can create a lighting condition with realistic sensation and virtual reality as if it were shot in a club and a live house.

[0005]

Further, as a prior art which can display a plurality of shot picture image data, Japanese Utility Model Registration No. 3055836 exists and this invention enables it by providing a plurality of displays but is not of content that edit processing is carried out by displaying a plurality of shot picture image data on a single display together with a corresponding input operation part with regard to each shot picture image data.

[0006]

Furthermore, as a technique for combining images,

"chroma-key" has been known but, since it is necessary to make a back surface of an object to be shot blue-back or green-back, there was a program that a color of background in which a user writes images such as characters and figures is always limited to blue or green.

[0007]

[Problems that the Invention is to Solve]

Consequently, this invention was developed for aiming to provide an image print feeding apparatus which can automatically set various lighting conditions and appropriate exposures corresponding thereto, in order to be able to carry out a shoot which is preferable to an object to be shot as a matter of course, and to be able to obtain a print of an image with realistic sensation and virtual reality as if it were shot under the condition of back light or oblique light or shot in a club.

[0008]

Further, the invention is to provide, as an aim of development, methods for edit processing and background processing in the image print feeding apparatus, in order that, in case that taken was a picture image data of many users who got together, a plurality of users can edit separately and independently the same or different shot picture image data and at the same time, a wall surface in a shooting room can be formed by respective colors in order to enrich interior of the shooting

room and to obtain a screen image print with higher satisfaction level.

[0009]

[Means for Solving the Problem]

The invention proposes ,as means for solving the problem, in an image print feeding apparatus which is capable of combining shot picture image data of a user and various image data, and printing out image data prepared by the combining or sending the prepared image to various information communication terminals, and in which a plurality of lights for illuminating the user on the occasion of shoot are disposed, the image print feeding apparatus which comprises a light source information memory part which stores light source information relating to combination variation and light intensity of lights which are turned on among the plurality of lights, an exposure information memory part which stores appropriate exposure information of a camera on the occasion of shoot with respect to each light source information stored in the light source information memory part, a light intensity adjusting unit which can adjust light intensity of lights which were turned on based upon the light source information, and an exposure correcting unit which can correct exposure based upon the exposure information (Claim 1).

[0010]

Further, the invention proposes, in the invention as

set forth in Claim 1, the image print feeding apparatus in which in the light source information memory part, stored is light source information relating to combination variation and light intensity of lights which are turned on, commencing with respect to each basic mode such as, at least, forward light, back light, oblique light and top light, with respect to each attribute mode or each category such as a place, a person or time and in the exposure information memory part, stored is other appropriate exposure information (Claim 2).

[0011]

Furthermore, the invention proposes, in the invention as set forth in Claim 1 or 2, the image print feeding apparatus which has a standing position light for pointing out an optimum standing position of a user in a shooting room, with respect to each light source information stored in the light source information memory part or with respect to each exposure information stored in the exposure information memory part (Claim 3).

[0012]

In addition, the invention proposes, in the invention as set forth in Claim 1 or 2, also as to the image print feeding apparatus wherein disposed is a sensor for sensing a standing position of the user so that optimum light source information and exposure information are selected based upon the standing position of the user and for sending a signal relating to the

detected standing position to the light source information memory part and the exposure information memory part (Claim 4).

[0013]

Further, the invention proposes, in the invention as set forth in any one of Claims 1 through 4, also the image print feeding apparatus having a light source variable unit which can arbitrarily change combination and light intensity of lights which are turned on among the plurality of the lights, in addition to or in place of the light source information (Claim 5).

[0014]

Furthermore, the invention proposes, in an image print feeding apparatus which combines shot picture image data of a user and various image data, and prints out image data prepared by the combining or sends the prepared image to various information communication terminals, an edit processing method which includes a step of displaying a plurality of different shot picture image data and an input operation part corresponding to the shot picture image data on a built-in monitor, a step of editing the different shot picture image data, respectively, through the corresponding input operation part, a step of storing the edited image data, respectively, in a memory unit, and a step of selecting image data which is desired to be printed out, out of the stored image data (Claim 6).

[0015]

In addition, the invention proposes in conjunction therewith, in an image print feeding apparatus which combines shot picture image data of a user and various image data, and prints out image data prepared by the combining or sends the prepared image to various information communication terminals, a background processing method which includes a step of shooting a user tentatively, in advance of combining the shot picture image data and the various image data; a step of monochromatically processing a primary image obtained by the tentative shoot, a step of recognizing the monochromatically processed secondary image as background, a step of finally shooting the user, a step of making a composite image by superimposing the final image obtained by the final shoot and the secondary image, a step of monochromatically processing by processing a difference which is formed between the final image and the secondary image due to the superimposing, and a step of extracting the monochromatically processed difference and the secondary image from the composite image (Claim 7).

[0016]

[Operation]

In the invention of Claim 1, combination variation and light intensity of lights which are turned on among the plurality of lights and further, exposure data with respect to each variation are stored in advance, and since a user simply reads out and selects a favorite variation on the occasion of

shoot so that lighting and light intensity and exposure appropriately reflecting the variation are automatically set, there is no burden for carrying out all setting artificially.

[0017]

In the invention of Claim 2, since the combination variation and light intensity of the lights which are turned on and exposure data are set with respect to each various mode or with respect to each category, a user can easily select a kind and category of a shoot which is desired among them, and thereby, setting as to the selection is carried out instantaneously so that utilization time can be shortened.

[0018]

In the invention of Claim 3, since a standing position of a user is pointed out with respect to each various mode or with respect to each category, a user is always directed to an optimum position and there is need to hurry and blunder just before the shoot.

[0019]

In the invention of Claim 4, since a standing position of a user is always sensed and light source information and exposure information which are suitable for the standing position are determined, there is no burden to set combination of lights which are turned on and exposure.

[0020]

In the invention of Claim 5, since a user can arbitrarily

change combination and light intensity of the lights which are turned on, it is possible to shoot shot picture image data with stronger identity and tasty.

[0021]

In the invention of Claim 6, since a plurality of different shot picture image data are displayed on a single monitor and edit can be carried out respectively and separately, many persons can enjoy it at the same time and utilization time can be saved. Further, cost can be reduced drastically and it can be contributed to miniaturization of an entire apparatus as compared with a case that a plurality of monitors are disposed in order to display a plurality of shot picture image data.

[0022]

In the invention of Claim 7, since there is no need to limit color of the back wall surface to blue or green, color of the wall surface of the shooting room is made to be respective colors and various machines are disposed so that an interior can be enriched.

[0023]

[Mode for Carrying Out the Invention]

Hereinafter, preferred embodiments of the invention will be described with referent to the drawings. Fig. 1 is a schematic oblique perspective view of an image print feeding apparatus according to the invention, looked from a shooting

room side, and Fig. 2 is a schematic view showing an embodiment inside of the shooting room, and Fig. 3 is a system structure view of the invention, and Fig. 4 is a flow chart showing a flow of processing of the image print feeding apparatus according to the invention, and Fig. 5 is a flow chart showing a flow of processing from (A) to (B) in Fig. 4, and Fig. 6 is a schematic plan view showing one example of lighting in case that lights are disposed on a ceiling and a side wall of the shooting room, and Fig. 7 is a schematic front elevation view showing one example of an input part in a edit processing method of the invention.

[0024]

Image Print Feeding Apparatus

An image print feeding apparatus according to the invention is big as shown in Fig. 1 and comprises an apparatus main body 1 and a shooting room 2, and as major constituent elements included in the apparatus main body 1, cited can be cameras 3 and 4 for shooting a user, a monitor 5 for displaying image data including shot picture image data of the user, an input part 6 for carrying out selection and write-in of image data and an input pen 7, a plurality of lighting units 8 for illuminating the user, and a coin slot 9. As a characteristic structure in the invention, cited can be a point that a light source variable unit 10 which can arbitrarily change combination and light intensity of lights which are turned on

is disposed in the apparatus main body 1. In addition, in the invention, the number and kind of the camera and the lighting unit which are disposed in the apparatus main body 1 are not limited to what was shown in the drawings.

[0025]

Then, as to the shooting room 2, in the embodiment of Fig. 2, it is configured by fluorescent lights 11 which are disposed on a ceiling and left and right side walls, spot lights 12 which are disposed at left and right corner portions of the ceiling, a plurality of strobe lights 13 which are disposed on a back wall surface, and RGB lights 14 which are disposed on top thereof, and they are turned on based upon light source information which is set with respect to each selected mode and category, and exposure is determined based upon exposure information which is set in response to this, and shoot of a user is to be carried out. Further, in Fig. 2, although color of the back wall surface of the shooting room 2 is black, this is made so in order to be able to correspond to a case that it is necessary to shoot with darkening background, such as a club mode described later, and in order to be able to correspond to a shoot with bright background, disposed are the curtain 17 which can block out the back wall surface. In addition, in case that strobe lights 13 which were buried in holes of the back wall surface of the shooting room 2 respectively, are turned on simultaneously, a fantastic back light picture can be shot

due to magnitude of the light intensity. Furthermore, for example, in case that a user is shot from a special view point by disposing a camera at a rear upper portion of the shooting room 2 (not shown), they are utilized as lighting therefor.

[0026]

Further, as a system constructional feature of the invention, cited can be a point that a light source information memory part 15 for storing light source information relating to combination of lights which are turned on with respect to each mode and category and its light intensity, an exposure information memory part 16 for storing its exposure information identically, and further, a light intensity adjusting unit 18 for adjusting light intensity of lights which are turned on based upon the light source information, and an exposure correcting unit 19 for correcting exposure based upon the exposure information, are disposed to be able to be selected as shown in Fig. 3.

[0027]

The light source information stored in the light source information memory part 15 is set with respect to each attribute commencing with a basic mode such as forward light, back light, oblique light and top light, a place such as a club and a concert hall, a person such as a model and an idol, time such as day and night, and it is constructed that a user can select these attributes by mode and by category. Then, in the exposure

information memory part 16, appropriate exposure information with respect to each attribute by the mode and category is set. For example, the light source information of plural patterns is stored with respect to each mode and each category, and it is desirable that, when a certain category is selected, as shown in Fig. 6, combination of lights which are turned on can be selected out of the plurality of patterns in order to turn on lights which are disposed at a left oblique front side from a front of a user and at a right oblique rear side from a right side part of the user.

[0028]

Further, in the invention, cited can be ,as one of features, a point that a plurality of standing position lights 20 are disposed for pointing out a standing position, as shown in Fig. 2, in order to direct a user to an optimum position in the shooting room 2, in case that the shoot is carried out by selecting a mode and a category. In Fig. 2, the plurality of standing position lights 20 are disposed on a floor face and among them, a standing position light 20 which is at an optimum position where a user should stand is turned on to direct the user thereto but it is not necessarily limited to the embodiment shown in the figure if the optimum position can be simply shown to the user, and for example, may be used an embodiment that the optimum position is illuminated by a standing position light which is disposed on the ceiling or an embodiment that

the optimum position is illuminated by one movable type standing light. As to which standing position light is turned on or which position is illuminated, it is set with regard to each light source information or each exposure information, and by selecting a mode and a category, a standing position light in response to the setting is automatically turned on or an optimum position is illuminated.

[0029]

In the invention, as another embodiment different from this, in place of or in addition to disposing standing position lights 20, it is possible to solve the similar problem by sensing a position of a user in the shooting room 2, which sensing signal is received by the light source information memory part 15 and the exposure information memory part 16 to determine optimum light source information and exposure information, and this is cited as one of features of the invention. To be more precise, as shown in Fig. 2, a sensor 21 is laid under the floor of the shooting room 2 and a sensor at a position where a user stands is turned on so that the standing position is sensed and its sensing signal is sent to the light source information memory part 15 and the exposure information memory part 16 so that appropriate light source information and exposure information corresponding to the sensing signal are determined. In addition, in the embodiment of Fig. 2, an electric capacitance type sensor known as a mat

switch for use in an automatic door is used as the sensor 21 and a plurality of them are to be laid down. Further, as an embodiment other than shown in the drawings, a limited stationary body sensing type sensor such as a light ray switch (reflection type) is to be disposed on a top part of the shooting room.

[0030]

In addition, in the invention, in order to correct light source information set with respect to each mode and each category which are stored in the light source information memory part 15 or regardless of this, it is configured that combination and light intensity of lights which are arbitrarily turned on can be changed, and this point is also counted as one of feature portions. To be more precise, as shown in Fig. 1, in the invention, a rotatable turntable shape light source variable unit 10 is adopted. It is desirable that in the light source variable unit 10, color samples with continuing from a cold color to a warm color around the turntable are disposed so that a user can understand easily, and by rotating the turntable, several dozens of lights are classified and combination of lights which should be turned on can be changed. Further, by the rotation of the turntable, light intensity is to be also automatically changed in response to combination of lights which should be turned on. Although a user can operate to rotate the turntable by a flat of his/her hand, it is

permitted that rotation and stop can be controlled dynamo-electrically by ON and OFF of a switch (not shown).

[0031]

Edit Processing Method in Image Print Feeding Apparatus

Then, one of features is to be an edit processing method in which, in order to give more interest factor to screen image data to be printed out by the image print feeding apparatus, a plurality of shot picture image data and input operation parts as many as corresponding to them are displayed on a screen on a single input part and edit processing can be carried out through a corresponding input operation part to each of the plural shot picture image data. In the past, there exists an invention described in a gazette of Japanese Utility Model Registration No. 3055836 owned by the applicant as one having a plurality of displays for displaying shot picture image data and screen image data and also, there exists an invention described in JP-A-2000-69404 gazette as one in which two persons can input image data as to one shot picture image data, but there exists nothing in which a plurality of different shot picture image data and corresponding input operation parts are displayed on a single monitor and edit processing can be carried out with respect to each shot picture image data.

[0032]

To be more precise, as shown in Fig. 7, since a plurality of different shot picture image data A and B are displayed on

a single input part 6, and in addition, an input operation part 22 for carrying out edit processing of the shot picture image data A and an input operation part 23 for carrying out edit processing of the shot picture image data B are displayed, by use of a plurality of input pens 7 (two pens in the figure), image data is written in each of them or image data to be stored is selected so that edit processing of shot picture image data is carried out and this is stored in a memory unit 24 and on the occasion of printing out, image data to be desired is to be selected from the memory unit 24.

[0033]

Background Processing Method in Image Print Feeding Apparatus

In the invention, further, cited can be as one of features a point which adopts a unique background processing method in order to be able to make a back wall surface in the shooting room 2 various colors. In a conventional chroma-key processing, in case of using hard chroma-key as a matter of course, even in case of using soft chroma-key, an outline of combining is unclear and artificial, and also, due to complementary color relation with a fresh color of a human, it is necessary to make background color blue or green (in case that an object to be shot wears blue series clothes). However, it grows popular to write image data in a margin portion of shot picture image data, and further, it grows essential to effectively utilize the margin portion, in case of shooting

shot picture image data with virtual reality and realistic sensation as if it were shot for example, in a club or a concert hall, and further, there occurs a necessity of making a color of the back wall surface different from blue and green.

[0034]

Then, in the invention, in order to clarify the outline of composition of shot picture image data and background, tentative shoot is carried out in advance of final shoot, and primary image obtained thereby is monochromatically processed, and the monochromatically processed secondary image is recognized as the background, and subsequently, final shoot is carried out, and the final image obtained thereby is superimposed with the secondary image to be a composite image, and a difference which is generated between the final image and the secondary image due to the superimposing is calculation-processed and monochromatically processed, and by extracting the difference and the secondary image from the composite image, it become possible to combine the background which is not of blue and green with the shot picture image data. By carrying out this background processing, it becomes possible to effectively utilize the margin portion which becomes the background of the shot picture image data, and further, color of the back wall surface can be made black and other colors, and therefore, it is possible to prepare screen image data with realistic sensation as if it were shot in a club or a concert

hall. In addition, color of the back wall surface of the shooting room 2 is made to be black in order to be able to shoot in dark background, but in order to be able to shoot in bright background, a curtain 17 is disposed to block out the entire back wall surface.

[0035]

Flow of Operations up to Print-Out

Then, a flow of operations up to printing out image data prepared by the image print feeding apparatus according to the invention will be explained based upon Figs. 4 and 5. Firstly, when power of the main body 1 of the image print feeding apparatus is turned on to be activated ("Activation" in the figure), initial processing is carried out ("Initial Processing" in the figure) so that advertisement display is carried out on the monitor 5 or the input part 6 or on both of them ("Advertisement Display" in the figure). Then, when a predetermined amount of money is thrown into the coin slot 9, display of whether credit is achieved is displayed ("Credit is achieved?" in the figure) and in case that it is achieved ("Yes" in the figure), a screen for selecting a mode of shoot is displayed ("Mode Selection Screen" in the figure) and in case that it is not achieved ("No" in the figure), it is returned again to a step of "Advertisement Display".

[0036]

In the mode selection screen, in the embodiment of Fig.

4, since three modes of "Club Mode", "Preset" and "Manual" are displayed on the screen on the input part 6 to be able to be selected, a user selects a mode to be desired out of them by use of the input pen. Firstly, in case that "Club Mode" is selected ("Club Mode" in the figure), optimum light source information as if it were shot in a club is called out from the light source information memory part 15 and lights of the combination according to the setting are automatically turned on, or optimum light source information of a plurality of patterns is called out from the light source information memory part 15, and therefore, by selecting desired light source information out of them, lights of the combination according to selected light source information are to be automatically turned on ("Lighting Selection" in the figure). In that case, light intensity is also adjusted to one which is suitable for "Club Mode" by the light intensity adjusting unit 18. Then, a user determines his/her pose and shoot is carried out ("Shoot" in the figure). In that case, appropriate exposure information corresponding to the light source information is called out from the exposure information memory part 16 and exposure of the camera 24 is corrected to one which is suitable for "Club Mode" identically by the exposure correcting unit 19.

[0037]

Further, in case that "Preset" mode is selected ("Preset" in the figure), for example, since categories such

as "Model series", "Cute series" and "Cool series" are displayed on the screen, a category to be desired is selected out of them ("Category Selection" in the figure). In case that "Model series" is tentatively selected, light source information suitable for shooting a model is called out from the light source information memory part 15, and lights of the combination relating to the setting are automatically turned on, or optimum light source information of a plurality of patterns is called out from the light source information memory part 15, and therefore, by selecting desired light source information out of them, lights of the combination according to selected light source information are to be automatically turned on ("Lighting Selection" in the figure). Thus, a user determines his/her pose and shoot is carried out ("Shoot" in the figure). In that case, as to intensity of lights and exposure of a camera, they are automatically adjusted or corrected to one which is suitable, in the same manner as described above. In addition, it is desirable that light source information with a plurality of patterns can be selected with respect to each category such as "Cute series", and "Cool series" in addition to "Model series". Further, in the "Preset Mode" of the invention, after "Lighting Selection", the standing position light 20 is turned on ("Lighting of Standing Position" in the figure), and an optimum standing position is pointed out with respect to each category so that a user can

be easily directed to the position. This is not necessarily adopted only in "Preset" mode but can be adopted in the above-described "Club Mode" and in the "Manual" mode which will be described later. Further, in place of or in addition to the standing position lights 20, disposed is the sensor 21 for sensing a standing position of a user and the sensing signal is sent to the light source information memory part 15 and the exposure information memory part 16 so that it is also possible that optimum light source information and exposure information are to be selected.

[0038]

Then, in case that "Manual" mode is selected ("Manual" in the figure), by operating the light source variable unit 10 ("Lighting Operation" in the figure), it is possible to change combination and light intensity of lights which are turned on. In the embodiment of Fig. 1, the light source variable unit 10 is shown as a turntable type one, and in case that a user himself/herself rotates the turntable by 360-degree, it is possible to change combination and light intensity of lights which are turned on infinitely and easily. Thus, when combination and light intensity of lights are determined by a user, shoot is to be carried out ("Shoot" in the figure). In addition, in that case, it is the same as what was described above that exposure of the camera 24 is corrected to optimum one by the exposure correcting unit 19.

[0039]

In addition, in the shoot of respective modes described above, the tentative shoot is carried out in advance of the final shoot, and it is processed to recognize the secondary image which was obtained by monochromatically processing the primary image of the tentative shoot as the background, and the final image obtained by the final shoot is superimposed with the secondary image to be composite image, and difference which is generated between both sides is further monochromatically processed, and by extracting the difference and the secondary image from the composite image, it becomes possible to obtain the composite image in which outline of shot picture image data and background as the margin portion is clear.

[0040]

In case that the shoot is completed in this manner and shot picture image data having background which is suitable for write-in is prepared, then, operations from (A) to (B) in the figure will be carried out. The operations between (A) and (B) are of major content that image data is written in background as the margin portion of the prepared shot picture image data. Firstly, selected is a system such as whether only one person writes graffiti or whether a plurality of persons write graffiti ("System Selection of Writing Graffiti" in the figure). Then, shot picture image data is selected for writing graffiti by the selected system ("Shot Picture Image Selection" in the

figure). In case that the shot picture image data is selected, displayed is a screen for writing in the shot picture image data by the above system ("Display of Screen for Writing Graffiti" in the figure) and therefore, the write-in is carried out by the above-described system to the input part 6 by use of the input pen 7 ("Input Processing of Writing Graffiti" in the figure). Thus, in case that the writing image data in the shot picture image data is completed and screen image data to be printed out is prepared, layout such as the number of dividing the image data is selected and determined ("Layout Selection" in the figure).

[0041]

In addition, in the invention, it is possible that a plurality of users carry out the editing operation from (A) to (B) in Fig. 5, simultaneously by having a plurality of different shot picture image data and corresponding input operation parts displayed on the single input part. To be more precise, as shown in Fig. 7, the shot picture image data A and the input operation part 22 corresponding thereto, also, the shot picture image data B which is different from A and the input operation part 23 corresponding thereto, are displayed on the single input part 6. Consequently, one user can carry out the editing operation by use of the input pen 7 through the input operation part 22 and also, other user can carry out the editing operation by use of the input pen 7 through the input operation part 23,

separately and simultaneously.

[0042]

Thus, when the editing operation and layout selection are completed, print-out is carried out by a printer 25 which is built in the image print feeding apparatus or an external printer 25 and then, a set of operations is completed. By the completion of operations, the image print feeding apparatus is returned to a stage of "Advertisement Display" and in stand-by waiting for utilization of next user.

[0043]

[Advantage of the Invention]

In an image print feeding apparatus according to the invention, combination variation and light intensity of lights which are turned on and further, exposure data with respect to each variation are stored in advance, and since a user simply reads out and selects a favorite variation so that lighting and light intensity and exposure appropriately reflecting the variation are automatically set, best shoot is carried out stably and there is no burden for carrying out all setting artificially. As a result, utilization time of a user can be shortened materially so that efficiency can be more strengthened.

[0044]

Further, since a standing position of a user is pointed out with respect to each various mode or with respect to each

category by disposing standing position lights, a user is always directed to an optimum position, and adversely, since light source information and exposure information which are suitable for the standing position are determined by disposing a sensor for sensing a standing position of a user, there is no burden to set combination of lights which are turned on and exposure. In addition, since a user can arbitrarily change combination and light intensity of the lights which are turned on, it is possible to shoot shot picture image data with stronger identity and tasty.

[0045]

Further, since a plurality of different shot picture image data are displayed on a single monitor and edit can be carried out respectively and separately, many persons can enjoy it at the same time and utilization time can be saved. Further, cost can be reduced drastically and it can be contributed to miniaturization of an entire apparatus as compared with a case that a plurality of monitors are disposed in order to display a plurality of shot picture image data.

[0046]

Furthermore, since background with clear outline can be prepared by extracting the difference of image in tentative shoot and image in final shoot as the background, and since there is no need to limit a color of back wall surface to blue or green, a color of a wall surface of a shooting room is made

to be respective colors and various machines are disposed so that an interior can be enriched.

[0047]

[Brief Description of the Drawings]

[Fig. 1]

It is a schematic oblique perspective view of an image print feeding apparatus according to the invention, looked from a shooting room side.

[Fig. 2]

It is a schematic view showing an embodiment inside of the shooting room.

[Fig. 3]

It is a system structure view of the invention.

[Fig. 4]

It is a flow chart showing a flow of processing of the image print feeding apparatus according to the invention.

[Fig. 5]

It is a flow chart showing a flow of processing from (A) to (B) in Fig. 4.

[Fig. 6]

It is a schematic plan view showing one example of lighting in case that lights are disposed on a ceiling and a side wall of the shooting room.

[Fig. 7]

It is a schematic front elevation view showing one

example of an input part in a edit processing method of the invention.

[Description of the Reference Numerals and Signs]

- | | |
|----|--|
| 1 | Main body of the image print feeding apparatus |
| 2 | Shooting room |
| 3 | Camera |
| 4 | Camera |
| 5 | Monitor |
| 6 | Input part |
| 7 | Input pen |
| 8 | Lighting unit |
| 9 | Coin slot |
| 10 | Light source variable unit |
| 11 | Fluorescent light |
| 12 | Spot light |
| 13 | Strobe light |
| 14 | RGB light |
| 15 | Light source information memory part |
| 16 | Exposure information memory part |
| 17 | Curtain |
| 18 | Light intensity adjusting unit |
| 19 | Exposure correcting unit |
| 20 | Standing position light |
| 21 | Sensor |
| 22 | Input operation part |

- 23 Input operation part
- 24 Memory unit
- 25 Printer

[Claims]

[Claim 1] In an image print feeding apparatus which is capable of combining shot picture image data of a user and various image data, and printing out screen image data prepared by the combining or sending the prepared screen image to various information communication terminals, and in which a plurality of lights for illuminating the user on the occasion of shoot are disposed, said image print feeding apparatus comprising,

a light source information memory part which stores light source information relating to combination variation and light intensity of lights which are turned on among the plurality of lights,

an exposure information memory part which stores appropriate exposure information of a camera on the occasion of shoot with respect to each light source information stored in the light source information memory part,

a light intensity adjusting unit which can adjust light intensity of lights which were turned on based upon the light source information, and

an exposure correcting unit which can correct exposure based upon the exposure information.

[Claim 2] The image print feeding apparatus as set forth in Claim 1, wherein in the light source information memory part and the exposure information memory part, stored are light source information relating to combination variation and light intensity of lights which are turned on and other appropriate exposure information, commencing with respect to each basic mode such as, at least, forward light, back light, oblique light and top light, with respect to each attribute mode or each category such as a place, a person or time.

[Claim 3] The image print feeding apparatus as set forth in Claim 1 or 2, having a standing position light for pointing out an optimum standing position of a user in a shooting room, with respect to each light source information stored in the light source information memory part or with respect to each exposure information stored in the exposure information memory part.

[Claim 4] The image print feeding apparatus as set forth in Claim 1 or 2, wherein disposed is a sensor for sensing a standing position of the user so that optimum light source information and exposure information are selected based upon the standing position of the user and for sending a signal relating to the detected standing position to the light source information memory part and the exposure information memory part.

[Claim 5] The image print feeding apparatus as set

forth in any one of Claims 1 through 4, having a light source variable unit which can change combination and light intensity of lights which are turned on among the plurality of the lights, in addition to or in place of the light source information.

[Claim 6] In an image print feeding apparatus which combines shot picture image data of a user and various image data, and prints out screen image data prepared by the combining or transmits the prepared screen image to various information communication terminals, an edit processing method including,

a step of displaying a plurality of different shot picture image data and an input operation part corresponding to the shot picture image data, on a built-in monitor,

a step of editing the different shot picture image data, respectively, through the corresponding input operation part,

a step of storing the edited screen image data, respectively, in a memory unit, and

a step of selecting screen image data which is desired to be printed out, out of the stored image data.

[Claim 7] In an image print feeding apparatus which combines shot picture image data of a user and various image data, and prints out screen image data prepared by the combining or transmits the prepared screen image to various information communication terminals, a background processing method including,

a step of shooting a user tentatively,

in advance of combining the shot picture image data and the various image data,

a step of monochromatically processing a primary image obtained by the tentative shoot,

a step of recognizing the monochromatically processed secondary image as background,

a step of finally shooting the user,

a step of making a composite image by superimposing the final image obtained by the final shoot and the secondary image,

a step of monochromatically processing by processing a difference which is formed between the final image and the secondary image due to the superimposing, and

a step of extracting the monochromatically processed difference and the secondary image from the composite image.