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(12) **EX PARTE REEXAMINATION CERTIFICATE** (12015th)
United States Patent
Yoshida

(10) **Number:** **US 10,176,848 C1**(45) **Certificate Issued:** **Mar. 18, 2022**(54) **RECORDING AND REPRODUCING APPARATUS AND METHOD THEREOF**(71) Applicant: **Maxell, Ltd.**, Kyoto (JP)(72) Inventor: **Mari Yoshida**, Yokohama (JP)(73) Assignee: **Maxell, Ltd.****Reexamination Request:**

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(51) **Int. Cl.**

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G06V 20/40 (2022.01)
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G11B 27/28 (2006.01)
G11B 27/30 (2006.01)
H04N 5/77 (2006.01)
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CPC **G11B 27/34** (2013.01); **G06F 16/73** (2019.01); **G06F 16/745** (2019.01); **G06K 9/00** (2013.01); **G06V 20/40** (2022.01); **G06V 40/172** (2022.01); **G11B 27/034** (2013.01); **G11B 27/105** (2013.01); **G11B 27/28** (2013.01); **G11B 27/30** (2013.01); **H04N 5/77** (2013.01); **H04N 5/772** (2013.01); **H04N 5/781** (2013.01); **H04N 5/85** (2013.01); **H04N 9/8042** (2013.01); **G11B 2220/455** (2013.01); **H04N 21/4347** (2013.01)

(58) **Field of Classification Search**

None

See application file for complete search history.

(56)

References Cited

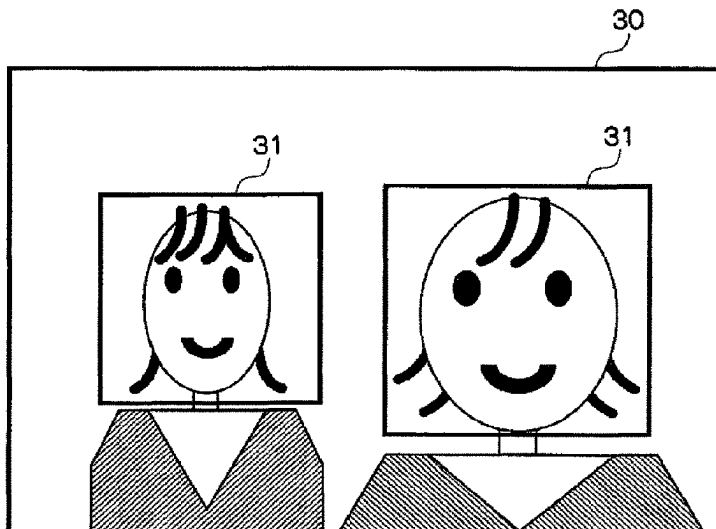
To view the complete listing of prior art documents cited during the proceeding for Reexamination Control Number 90/014,641, please refer to the USPTO's public Patent Application Information Retrieval (PAIR) system under the Display References tab.

Primary Examiner — B. James Peikari

(57)

ABSTRACT

In a recording and reproducing apparatus and a recording and reproducing method for the recording and reproducing apparatus for recording and reproducing image information on a scene obtained through photographing, relative to a predetermined first recording medium and being capable of setting one or more chapters to each scene, a face recognizing process is executed for a photographed image based on the image information, an importance level of each chapter is set in accordance with a result of the face recognizing process for a very important person (VIP) set by a user, and each chapter having a relevant importance level among importance levels of respective chapters is selectively reproduced. A user can therefore find an object chapter and scene quickly and easily.



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EX PARTE REEXAMINATION CERTIFICATE

THE PATENT IS HEREBY AMENDED AS
INDICATED BELOW.

Matter enclosed in heavy brackets [] appeared in the patent, but has been deleted and is no longer a part of the patent; matter printed in italics indicates additions made to the patent.

AS A RESULT OF REEXAMINATION, IT HAS BEEN DETERMINED THAT:

The patentability of claims 11, 12, 16, 17, 19 and 20 is confirmed.

Claims 8, 10, 13, 15 and 18 are cancelled.

New claims 21-84 are added and determined to be patentable.

Claims 1-7, 9 and 14 were not reexamined.

21. *A recording and reproducing apparatus for recording and reproducing image information, comprising:*

a processor; and

a memory coupled to the processor and storing instructions that, when executed by the processor, cause the processor to:

capture a photograph and generate image information of the photograph;

record the image information in a recording medium;

execute a face-recognizing process on the image information to recognize a face;

reproduce the recorded image from the recording medium;

register a person in the image information as a specific person in a mode selected from a first setting mode and a second setting mode, wherein, when the first setting mode is selected, a person with a face is obtained by newly photographing the person in a photographing mode and thereafter registered as the specific person, and, when the second setting mode is selected, a person with a face in the image information is selected from a plurality of faces in the image information recorded in the recording medium and thereafter registered as the specific person; and

selectively reproduce the recorded image information which includes the registered specific person, wherein, in the first setting mode, the specific person is set before photographing the person with a face.

22. *The recording and reproducing apparatus according to claim 21, wherein the image information to be selectively reproduced is the image information which is recognized as including the specific person before the recording of the image information.*

23. *The recording and reproducing apparatus according to claim 21, wherein the image information to be selectively reproduced is the image information having a relatively high importance level picked out among the image information recorded in the recording medium which includes the registered specific person.*

24. *The recording and reproducing apparatus according to claim 21, wherein the memory further stores instructions that, when executed by the processor, cause the processor to:*
control the reproduction of the image information in a reproducing mode set from one of a first reproducing mode and a second reproducing mode,

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wherein a reproducing time required for reproducing the image information under the first reproducing mode is shorter than a reproducing time required for reproducing the image information under the second reproducing mode, and the image information reproduced under the second mode includes the image information reproduced under the first reproducing mode and other of the image information not reproduced under the first reproducing mode.

25. *The recording and reproducing apparatus according to claim 24, wherein the memory further stores instructions that, when executed by the processor, cause the processor to:*
control the reproduction of the image information in the reproducing mode set from one of the first reproducing mode, the second reproducing mode, and a third reproducing mode,

wherein a reproducing time required for reproducing the image information under the third reproducing mode is longer than the reproducing time required for reproducing the image information under the second reproducing mode.

26. *The recording and reproducing apparatus according to claim 21, further comprising a touch panel adhered to a screen of a display.*

27. *The recording and reproducing apparatus according to claim 26, wherein the first setting mode and the second setting mode are each selected using the touch panel via a user interface.*

28. *The recording and reproducing apparatus according to claim 21, wherein the face-recognizing process is executed for a specific person that is set before photographing that specific person.*

29. *The recording and reproducing apparatus according to claim 21, wherein the recording medium is an external drive connected to the recording and reproducing apparatus via USB.*

30. *The recording and reproducing apparatus according to claim 21, wherein the recording and reproducing apparatus is a mobile phone.*

31. *The recording and reproducing apparatus according to claim 21, wherein the recording and reproducing apparatus is an electronic camera.*

32. *The recording and reproducing apparatus according to claim 21, further comprising a user interface including a first option and a second option,*

wherein, when the first option is selected, the recording and reproducing apparatus enters a record mode to capture video information, and

wherein, when the second option is selected, the recording and reproducing apparatus enters a reproduction mode to reproduce and display recorded video information.

33. *The recording and reproducing apparatus according to claim 21, further comprising*
a video camera providing image data; and

a display, wherein, in response to the face-recognizing process recognizing that a face of a person is included in the image data, the display displays the image data with a frame surrounding at least a portion of the face of the person.

34. *The recording and reproducing apparatus according to claim 33, wherein the frame is a rectangular frame.*

35. *The recording and reproducing apparatus according to claim 21, further comprising a display,*
wherein the memory further stores instructions that, when executed by the processor, cause the processor to generate a thumbnail corresponding to the recorded image such that the thumbnail is displayed on the

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display with an icon having a predetermined shape when an importance level is set for the recorded image via a user interface.

36. The recording and reproducing apparatus according to claim 35, wherein the icon is displayed on the thumbnail. 5

37. The recording and reproducing apparatus according to claim 21, wherein the memory further stores instructions that, when executed by the processor, cause the processor to: capture video information corresponding to a scene; automatically set a plurality of sections corresponding to the video information of the scene; generate a plurality of thumbnails corresponding to the plurality of sections; and display the plurality of thumbnails, wherein each of the plurality of thumbnails is associated with the same video information corresponding to the scene. 15

38. The recording and reproducing apparatus according to claim 37, wherein displaying the plurality of thumbnails includes displaying timing information indicating a lapse time of a particular section within the captured video information of the scene. 20

39. The recording and reproducing apparatus according to claim 21, further comprising a display, wherein the display is configured to display a plurality of images, wherein each image in the plurality of images includes a face of a different person, and wherein displaying the plurality of images includes displaying faces without displaying objects included in the background of the plurality of images. 25

40. The recording and reproducing apparatus according to claim 21, wherein the memory further stores instructions that, when executed by the processor, cause the processor to execute the face-recognizing process on image information captured from an external camera not included in the recording and reproducing apparatus. 30

41. The recording and reproducing apparatus according to claim 21, further comprising:

an analog/digital converter, wherein the analog/digital converter is configured to convert an analog image signal corresponding to the captured photograph into a digital image signal; and 40

a codec for compressing the digital image signal using a predetermined compression encoding method and generating encoded image information, wherein the encoded image information is stored in the memory. 45

42. The recording and reproducing apparatus according to claim 41, wherein the predetermined compression encoding method is an MPEG method. 50

43. A recording and reproducing apparatus for recording and reproducing image information, comprising:

a photographing sensor configured to photograph an object and generate image information;

a recorder configured to record the image information generated by the photographing sensor in a recording medium; 55

a reproducer configured to reproduce the image information recorded by the recorder;

processing circuitry configured to:

execute a face-recognizing process on the image information generated by the photographing sensor to recognize a face,

register a person in the image information as a specific person in a mode selected from a first setting mode and a second setting mode, wherein, when the first setting mode is selected, a person with a face is 65

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obtained by newly photographing the person in a photographing mode and thereafter registered as the specific person, and, when the second setting mode is selected, a person with a face in the image information is selected from a plurality of faces in the image information recorded in the recording medium and thereafter registered as the specific person,

firstly pick out image information which includes the registered specific person,

secondly pick out the image information based on a predetermined condition from among the picked-out image information which includes the registered specific person, the predetermined condition being set in accordance with an instruction by a user, and control the reproducer to selectively and sequentially reproduce the image information picked out based on the predetermined condition,

wherein, in the first setting mode, the specific person is set before photographing the person with a face.

44. The recording and reproducing apparatus according to claim 43, wherein the image information to be selectively and sequentially reproduced is the image information which is recognized as including the specific person before the recording of the image information by the recorder. 25

45. The recording and reproducing apparatus according to claim 43, wherein the processing circuitry is further configured to control the reproducer to selectively and sequentially reproduce the image information having the predetermined condition including a relatively high importance level picked out from among the image information recorded in the recording medium which includes the registered specific person. 30

46. The recording and reproducing apparatus according to claim 43,

wherein the processing circuitry is further configured to control the reproducer to selectively and sequentially reproduce the image information picked out based on the predetermined condition in a reproducing mode set from one of a first reproducing mode and a second reproducing mode, and 35

wherein a reproducing time required for reproducing the image information under the first reproducing mode is shorter than a reproducing time required for reproducing the image information under the second reproducing mode, and the image information reproduced under the second mode includes the image information reproduced under the first reproducing mode and other of the image information not reproduced under the first reproducing mode. 40

47. The recording and reproducing apparatus according to claim 46,

wherein the processing circuitry is further configured to control the reproducer to selectively and sequentially reproduce the image information picked out based on the predetermined condition in the reproducing mode set from one of the first reproducing mode, the second reproducing mode, and a third reproducing mode, and wherein a reproducing time required for reproducing the image information under the third reproducing mode is longer than the reproducing time required for reproducing the image information under the second reproducing mode. 45

48. The recording and reproducing apparatus of claim 26, further comprising a touch panel adhered to a screen of a display.

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49. The recording and reproducing apparatus of claim 48, wherein the first setting mode and the second setting mode are each selected using the touch panel via a user interface.

50. The recording and reproducing apparatus according to claim 43, wherein the face-recognizing process is executed for a specific person that is set before photographing that specific person.

51. The recording and reproducing apparatus according to claim 43, wherein the recording medium is an external drive connected to the recording and reproducing apparatus via USB.

52. The recording and reproducing apparatus according to claim 43, wherein the recording and reproducing apparatus is a mobile phone.

53. The recording and reproducing apparatus according to claim 43, wherein the recording and reproducing apparatus is an electronic camera.

54. The recording and reproducing apparatus according to claim 43, further comprising a user interface including a first option and a second option,

wherein, when the first option is selected, the recording and reproducing apparatus enters a record mode to capture video information, and

wherein, when the second option is selected, the recording and reproducing apparatus enters a reproduction mode to reproduce and display recorded video information.

55. The recording and reproducing apparatus according to claim 43, further comprising:

a video camera providing image data; and

a display, wherein, in response to the face-recognizing process recognizing that a face of a person is included in the image data, the display displays the image data with a frame surrounding at least a portion of the face of the person.

56. The recording and reproducing apparatus according to claim 55, wherein the frame is a rectangular frame.

57. The recording and reproducing apparatus according to claim 43, further comprising a display,

wherein the processing circuitry is further configured to generate a thumbnail corresponding to the recorded image such that the thumbnail is displayed on the display with an icon having a predetermined shape when an importance level is set for the recorded image via a user interface.

58. The recording and reproducing apparatus according to claim 57, wherein the icon is displayed on the thumbnail.

59. The recording and reproducing apparatus according to claim 43, wherein the processing circuitry is further configured to:

capture video information corresponding to a scene; automatically set a plurality of sections corresponding to the video information of the scene;

generate a plurality of thumbnails corresponding to the plurality of sections; and

display the plurality of thumbnails, wherein each of the plurality of thumbnails is associated with the same video information corresponding to the scene.

60. The recording and reproducing apparatus according to claim 59, wherein displaying the plurality of thumbnails includes displaying timing information indicating a lapse time of a particular section within the captured video information of the scene.

61. The recording and reproducing apparatus according to claim 43, further comprising a display, wherein the display is configured to display a plurality of images,

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wherein each image in the plurality of images includes a face of a different person, and wherein displaying the plurality of images includes displaying faces without displaying objects included in the background of the plurality of images.

62. The recording and reproducing apparatus according to claim 43, wherein the processing circuitry is further configured to execute the face-recognizing process on image information captured from an external camera not included in the recording and reproducing apparatus.

63. The recording and reproducing apparatus according to claim 43, further comprising:

an analog/digital converter, wherein the analog/digital converter is configured to convert an analog image signal corresponding to the captured photograph into a digital image signal; and

a codec for compressing the digital image signal using a predetermined compression encoding method and generating encoded image information,

wherein the encoded image information is stored in the memory.

64. The recording and reproducing apparatus according to claim 63, wherein the predetermined compression encoding method is an MPEG method.

65. A recording and reproducing apparatus for recording and reproducing image information, comprising:

a photographing sensor configured to photograph an object and generate image information;

a recorder configured to record the image information generated by the photographing sensor in a recording medium;

a reproducer configured to reproduce the image information recorded by the recorder;

processing circuitry configured to:

execute a face-recognizing process on the image information generated by the photographing sensor to recognize a face;

register a person in the image information as a specific person, wherein a person with a face is obtained by newly photographing the person in a photographing mode and thereafter registered as the specific person;

firstly pick out image information which includes the registered specific person,

secondly pick out the image information based on a predetermined condition from among the picked-out image information which includes the registered specific person, the predetermined condition being set in accordance with an instruction by a user, and control the reproducer to selectively and sequentially reproduce the image information picked out based on the predetermined condition,

wherein the specific person is set before photographing the person with a face.

66. The recording and reproducing apparatus according to claim 65,

wherein the processing circuitry is further configured to control the reproducer to selectively and sequentially reproduce the image information picked out based on the predetermined condition in a reproducing mode set from one of a first reproducing mode and a second reproducing mode, and

wherein a reproducing time required for reproducing the image information under the first reproducing mode is shorter than a reproducing time required for reproducing the image information under the second reproducing mode, and the image information reproduced under

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the second mode includes the image information reproduced under the first reproducing mode and other of the image information not reproduced under the first reproducing mode.

67. The recording and reproducing apparatus according to claim 65,

wherein the processing circuitry is further configured to control the reproducer to selectively and sequentially reproduce the image information picked out based on the predetermined condition in the reproducing mode set from one of the first reproducing mode, the second reproducing mode, and a third reproducing mode, and wherein a reproducing time required for reproducing the image information under the third reproducing mode is longer than the reproducing time required for reproducing the image information under the second reproducing mode.

68. The recording and reproducing apparatus of claim 65, further comprising a touch panel adhered to a screen of a display.

69. The recording and reproducing apparatus according to claim 65, wherein the face-recognizing process is executed for a specific person that is set before photographing that specific person.

70. The recording and reproducing apparatus according to claim 65, wherein the recording medium is an external drive connected to the recording and reproducing apparatus via USB.

71. The recording and reproducing apparatus according to claim 65, wherein the recording and reproducing apparatus is a mobile phone.

72. The recording and reproducing apparatus according to claim 65, wherein the recording and reproducing apparatus is an electronic camera.

73. The recording and reproducing apparatus according to claim 65, further comprising a user interface including a first option and a second option,

wherein, when the first option is selected, the recording and reproducing apparatus enters a record mode to capture video information, and

wherein, when the second option is selected, the recording and reproducing apparatus enters a reproduction mode to reproduce and display recorded video information.

74. The recording and reproducing apparatus according to claim 65, further comprising:

a video camera providing image data; and

a display, wherein, in response to the face-recognizing process recognizing that a face of a person is included in the image data, the display displays the image data with a frame surrounding at least a portion of the face of the person.

75. The recording and reproducing apparatus according to claim 74, wherein the frame is a rectangular frame.

76. The recording and reproducing apparatus according to claim 65, further comprising a display,

wherein the processing circuitry is further configured to generate a thumbnail corresponding to the recorded image such that the thumbnail is displayed on the display with an icon having a predetermined shape when an importance level is set for the recorded image via a user interface.

77. The recording and reproducing apparatus according to claim 76, wherein the icon is displayed on the thumbnail.

78. The recording and reproducing apparatus according to claim 65, wherein the processing circuitry is further configured to:

capture video information corresponding to a scene;

automatically set a plurality of sections corresponding to the video information of the scene;

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generate a plurality of thumbnails corresponding to the plurality of sections; and

display the plurality of thumbnails, wherein each of the plurality of thumbnails is associated with the same video information corresponding to the scene.

79. The recording and reproducing apparatus according to claim 78, wherein displaying the plurality of thumbnails includes displaying timing information indicating a lapse time of a particular section within the captured video information of the scene.

80. The recording and reproducing apparatus according to claim 65, further comprising a display,

wherein the display is configured to display a plurality of images,

wherein each image in the plurality of images includes a face of a different person, and

wherein displaying the plurality of images includes displaying faces without displaying objects included in the background of the plurality of images.

81. The recording and reproducing apparatus according to claim 65, wherein the processing circuitry is further configured to execute the face-recognizing process on image information captured from an external camera not included in the recording and reproducing apparatus.

82. The recording and reproducing apparatus according to claim 65, further comprising:

an analog/digital converter, wherein the analog/digital converter is configured to convert an analog image signal corresponding to the captured photograph into a digital image signal; and

a codec for compressing the digital image signal using a predetermined compression encoding method and generating encoded image information.

83. The recording and reproducing apparatus according to claim 82, wherein the predetermined compression encoding method is an MPEG method.

84. A recording and reproducing apparatus for recording and reproducing image information, comprising:

a processor;

a display displaying a first option and a second option, wherein when the first option is selected, the recording and reproducing apparatus enters a record mode to capture video information, and when the second option is selected, the recording and reproducing apparatus enters a reproduction mode to reproduce and display recorded video information;

a memory coupled to the processor and storing instructions that, when executed by the processor, cause the processor to:

capture a photograph and generate image information of the photograph; record the image information in a recording medium;

execute a face-recognizing process on the image information to recognize a face;

reproduce the recorded image from the recording medium;

register a person in the image information as a specific person in a mode selected from a first setting mode and a second setting mode, wherein, when the first setting mode is selected, an image information of a person with a face is obtained by newly photographing the person with a face in a photographing mode and, thereafter, the image information of the person with a face is used to register the person with a face as the specific person, and, when the second setting mode is selected, a person with a face in an image information of a person with a face is selected from

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a plurality of faces in the image information recorded in the recording medium and, thereafter, the image information of the person with a face is used to register the person with a face as the specific person;
 selectively reproduce the recorded image information which includes the registered specific person; and
 generate a thumbnail corresponding to the recorded image in the recording medium such that the thumbnail is displayed on the display with an icon having a predetermined shape when an importance level is set for the recorded image via a user interface;
 a touch panel adhered to a screen of the display, wherein the first setting mode and the second setting mode are each selected using the touch panel;
 a video camera providing video image data, wherein, in response to the face-recognizing process recognizing that a face of a person is included in the video image data, the display displays the video image data with a frame surrounding at least a portion of the face of the person;
 an analog/digital converter, wherein the analog/digital converter is configured to convert analog image data corresponding to the captured photograph into a digital image signal; and

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a codec for compressing the digital image signal using a predetermined compression encoding method and generating encoded image information, wherein the encoded image information is stored in the memory,
 wherein the video camera captures video information corresponding to a scene and the processor:
 automatically sets a plurality of sections corresponding to the video information of the scene; and
 generates a plurality of thumbnails corresponding to the plurality of sections, wherein each of the plurality of thumbnails is associated with the same video information corresponding to the scene, and the display displays the plurality of thumbnails; and
 wherein the display is configured to display at least a plurality of images recorded in the recording medium such that contents of each image in the plurality of images includes a face of a different person and background objects and displaying the plurality of images includes displaying the faces without displaying all of the background objects included in the contents of each image of the plurality of images.

* * * * *

UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION

PATENT NO. : 10,176,848 C1
APPLICATION NO. : 90/014641
DATED : March 18, 2022
INVENTOR(S) : Mari Yoshida

Page 1 of 11

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

In the Claims

Column 1, Lines 23-50, substitute Claim 21 with the following claim:

--21. *A recording and reproducing apparatus for recording and reproducing image information, comprising:*

a processor; and

a memory coupled to the processor and storing instructions that, when executed by the processor, cause the processor to:

capture a photograph and generate image information of the photograph;

record the image information in a recording medium;

execute a face-recognizing process on the image information to recognize a face;

reproduce the recorded image from the recording medium;

register a person in the image information as a specific person in a mode selected from a first setting mode and a second setting mode, wherein, when the first setting mode is selected, an image information of a person with a face is obtained by newly photographing the person with a face in a photographing mode and, thereafter, the image information of the person with a face is used to register the person with a face as the specific person, and, when the second setting mode is selected, a person with a face in an image information of a person with a face is selected from a plurality of faces in the image information recorded in the recording medium and, thereafter, the image information of the person with a face is used to register the person with a face as the specific person; and

selectively reproduce the recorded image information which includes the registered specific person,

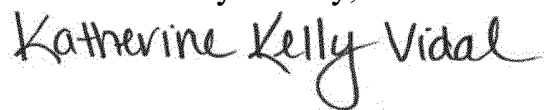
wherein, when a registered specific person is recognized during a capture of additional image information, autofocus and autoexposure are adjusted for the additional image information of the registered specific person.--

Column 1, Line 51 to Column 2, Line 9, substitute Claims 22, 23, and 24 with the following claims:

--22. *The recording and reproducing apparatus according to claim 21, wherein, in the second*

Signed and Sealed this

Third Day of May, 2022



Katherine Kelly Vidal

Director of the United States Patent and Trademark Office

setting mode, the image information to be selectively reproduced is the image information which is recognized as including the specific person before the recording of the image information.

23. The recording and reproducing apparatus according to claim 21, wherein the image information to be selectively reproduced is the image information having a relatively high importance level picked out among the image information recorded in the recording medium which includes the registered specific person.

24. The recording and reproducing apparatus according to claim 21, wherein the memory further stores instructions that, when executed by the processor, cause the processor to:

control the reproduction of the image information in a reproducing mode set from one of a first reproducing mode and a second reproducing mode,

wherein a reproducing time required for reproducing the image information under the first reproducing mode is shorter than a reproducing time required for reproducing the image information under the second reproducing mode, and the image information reproduced under the second mode includes the image information reproduced under the first reproducing mode and other of the image information not reproduced under the first reproducing mode.--

Column 2, Lines 25 to 36, substitute Claims 25, 26, 27, 28, and 29 with the following claims:

--25. The recording and reproducing apparatus according to claim 24, wherein the memory further stores instructions that, when executed by the processor, cause the processor to:

control the reproduction of the image information in the reproducing mode set from one of the first reproducing mode, the second reproducing mode, and a third reproducing mode,

wherein a reproducing time required for reproducing the image information under the third reproducing mode is longer than the reproducing time required for reproducing the image information under the second reproducing mode.

26. The recording and reproducing apparatus according to claim 21, further comprising a touch panel adhered to a screen of a display.

27. The recording and reproducing apparatus according to claim 26, wherein the first setting mode and the second setting mode are each selected using the touch panel via a user interface.

28. The recording and reproducing apparatus according to claim 21, wherein the face-recognizing process is executed for a specific person that is set before photographing that specific person.

29. The recording and reproducing apparatus according to claim 21, wherein the recording medium is an external drive connected to the recording and reproducing apparatus via USB.--

Column 2, Lines 37 to 61, substitute Claims 30, 31, 32, 33, and 34 with the following claims:

--30. The recording and reproducing apparatus according to claim 21, wherein the recording and reproducing apparatus is a mobile phone.

31. The recording and reproducing apparatus according to claim 21, wherein the recording and reproducing apparatus is an electronic camera.

32. *The recording and reproducing apparatus according to claim 21, further comprising a user interface including a first option and a second option,
 wherein, when the first option is selected, the recording and reproducing apparatus enters a record mode to capture video information, and
 wherein, when the second option is selected, the recording and reproducing apparatus enters a reproduction mode to reproduce and display recorded video information.*

33. *The recording and reproducing apparatus according to claim 21, further comprising
 a video camera providing image data; and
 a display, wherein, in response to the face-recognizing process recognizing that a face of a person is included in the image data, the display displays the image data with a frame surrounding at least a portion of the face of the person.*

34. *The recording and reproducing apparatus according to claim 33, wherein the frame is a rectangular frame.--*

Column 2, Line 62 to Column 3, Line 21, substitute Claims 35, 36, 37, and 38 with the following claims:

--35. *The recording and reproducing apparatus according to claim 21, further comprising a display,
 wherein the memory further stores instructions that, when executed by the processor, cause the processor to generate a thumbnail corresponding to the recorded image such that the thumbnail is displayed on the display with an icon having a predetermined shape when an importance level is set for the recorded image via a user interface.*

36. *The recording and reproducing apparatus according to claim 35, wherein the icon is displayed on the thumbnail.*

37. *The recording and reproducing apparatus according to claim 21, wherein the memory further stores instructions that, when executed by the processor, cause the processor to:
 capture video information corresponding to a scene;
 automatically set a plurality of sections corresponding to the video information of the scene;
 generate a plurality of thumbnails corresponding to the plurality of sections; and
 display the plurality of thumbnails, wherein each of the plurality of thumbnails is associated with the same video information corresponding to the scene.*

38. *The recording and reproducing apparatus according to claim 37, wherein displaying the plurality of thumbnails includes displaying timing information indicating a lapse time of a particular section within the captured video information of the scene.--*

Column 3, Lines 22 to 50, substitute Claims 39, 40, 41, and 42 with the following claims:

--39. *The recording and reproducing apparatus according to claim 21, further comprising a display,
 wherein the display is configured to display a plurality of images,
 wherein each image in the plurality of images includes a face of a different person, and
 wherein displaying the plurality of images includes displaying faces without displaying objects included in the background of the plurality of images.*

40. The recording and reproducing apparatus according to claim 21, wherein the memory further stores instructions that, when executed by the processor, cause the processor to execute the face-recognizing process on image information captured from an external camera not included in the recording and reproducing apparatus.

41. The recording and reproducing apparatus according to claim 21, further comprising:
 an analog/digital converter, wherein the analog/digital converter is configured to convert analog image data corresponding to the captured photograph into a digital image signal; and
 a codec for compressing the digital image signal using a predetermined compression encoding method and generating encoded image information,
 wherein the encoded image information is stored in the memory.

42. The recording and reproducing apparatus according to claim 41, wherein the predetermined compression encoding method is an MPEG method.--

Column 3, Line 51 to Column 4, Line 20, substitute Claim 43 with the following claim:

--43. A recording and reproducing apparatus for recording and reproducing image information, comprising:

 a photographing sensor configured to photograph an object and generate image information;
 a recorder configured to record the image information generated by the photographing sensor in a recording medium;

 a reproducer configured to reproduce the image information recorded by the recorder;
 processing circuitry configured to:

 execute a face-recognizing process on the image information generated by the photographing sensor to recognize a face,

 register a person in the image information as a specific person in a mode selected from a first setting mode and a second setting mode, wherein, when the first setting mode is selected, an image information of a person with a face is obtained by newly photographing the person with a face in a photographing mode and, thereafter, the image information of the person with a face is used to register the person with a face as the specific person, and, when the second setting mode is selected, a person with a face in an image information of a person with a face is selected from a plurality of faces in the image information recorded in the recording medium, and thereafter, the image information of the person with a face is used to register the person with a face as the specific person,

 firstly pick out image information which includes the registered specific person,
 secondly pick out the image information based on a predetermined condition from among the picked-out image information which includes the registered specific person, the predetermined condition being set in accordance with an instruction by a user, and

 control the reproducer to selectively and sequentially reproduce the image information picked out based on the predetermined condition,

 wherein, when a registered specific person is recognized during a capture of additional image information, autofocus and autoexposure are adjusted for the additional image information of the registered specific person.--

Column 4, Lines 21 to 64, substitute Claims 44, 45, 46, and 47 with the following claims:

--44. The recording and reproducing apparatus according to claim 43, wherein, in the second

setting mode, the image information to be selectively and sequentially reproduced is the image information which is recognized as including the specific person before the recording of the image information by the recorder.

45. The recording and reproducing apparatus according to claim 43, wherein the processing circuitry is further configured to control the reproducer to selectively and sequentially reproduce the image information having the predetermined condition including a relatively high importance level picked out from among the image information recorded in the recording medium which includes the registered specific person.

46. The recording and reproducing apparatus according to claim 43, wherein the processing circuitry is further configured to control the reproducer to selectively and sequentially reproduce the image information picked out based on the predetermined condition in a reproducing mode set from one of a first reproducing mode and a second reproducing mode, and wherein a reproducing time required for reproducing the image information under the first reproducing mode is shorter than a reproducing time required for reproducing the image information under the second reproducing mode, and the image information reproduced under the second mode includes the image information reproduced under the first reproducing mode and other of the image information not reproduced under the first reproducing mode.

47. The recording and reproducing apparatus according to claim 46, wherein the processing circuitry is further configured to control the reproducer to selectively and sequentially reproduce the image information picked out based on the predetermined condition in the reproducing mode set from one of the first reproducing mode, the second reproducing mode, and a third reproducing mode, and wherein a reproducing time required for reproducing the image information under the third reproducing mode is longer than the reproducing time required for reproducing the image information under the second reproducing mode.--

Column 4, Line 65 to Column 5, Line 27, substitute Claims 48, 49, 50, 51, 52, 53, and 54 with the following claims:

--48. The recording and reproducing apparatus of claim 43, further comprising a touch panel adhered to a screen of a display.

49. The recording and reproducing apparatus of claim 48, wherein the first setting mode and the second setting mode are each selected using the touch panel via a user interface.

50. The recording and reproducing apparatus according to claim 43, wherein the face-recognizing process is executed for a specific person that is set before photographing that specific person.

51. The recording and reproducing apparatus according to claim 43, wherein the recording medium is an external drive connected to the recording and reproducing apparatus via USB.

52. The recording and reproducing apparatus according to claim 43, wherein the recording and reproducing apparatus is a mobile phone.

53. The recording and reproducing apparatus according to claim 43, wherein the recording and reproducing apparatus is an electronic camera.

54. The recording and reproducing apparatus according to claim 43, further comprising a user interface including a first option and a second option,

wherein, when the first option is selected, the recording and reproducing apparatus enters a record mode to capture video information, and

wherein, when the second option is selected, the recording and reproducing apparatus enters a reproduction mode to reproduce and display recorded video information.--

Column 5, Lines 28 to 58, substitute Claims 55, 56, 57, 58, and 59 with the following claims:

--55. The recording and reproducing apparatus according to claim 43, further comprising:

a video camera providing image data; and

a display, wherein, in response to the face-recognizing process recognizing that a face of a person is included in the image data, the display displays the image data with a frame surrounding at least a portion of the face of the person.

56. The recording and reproducing apparatus according to claim 55, wherein the frame is a rectangular frame.

57. The recording and reproducing apparatus according to claim 43, further comprising a display,

wherein the processing circuitry is further configured to generate a thumbnail corresponding to the recorded image such that the thumbnail is displayed on the display with an icon having a predetermined shape when an importance level is set for the recorded image via a user interface.

58. The recording and reproducing apparatus according to claim 57, wherein the icon is displayed on the thumbnail.

59. The recording and reproducing apparatus according to claim 43, wherein the processing circuitry is further configured to:

capture video information corresponding to a scene;

automatically set a plurality of sections corresponding to the video information of the scene;

generate a plurality of thumbnails corresponding to the plurality of sections; and

display the plurality of thumbnails, wherein each of the plurality of thumbnails is associated with the same video information corresponding to the scene.--

Column 5, Line 59 to Column 6, Line 24, substitute Claims 60, 61, 62, 63, and 64 with the following claims:

--60. The recording and reproducing apparatus according to claim 59, wherein displaying the plurality of thumbnails includes displaying timing information indicating a lapse time of a particular section within the captured video information of the scene.

61. The recording and reproducing apparatus according to claim 43, further comprising a display,

wherein the display is configured to display a plurality of images,

wherein each image in the plurality of images includes a face of a different person, and

wherein displaying the plurality of images includes displaying faces without displaying objects included in the background of the plurality of images.

62. The recording and reproducing apparatus according to claim 43, wherein the processing circuitry is further configured to execute the face-recognizing process on image information captured from an external camera not included in the recording and reproducing apparatus.

*63. The recording and reproducing apparatus according to claim 43, further comprising:
an analog/digital converter, wherein the analog/digital converter is configured to convert analog image data corresponding to the captured photograph into a digital image signal; and
a codec for compressing the digital image signal using a predetermined compression encoding method and generating encoded image information,
wherein the encoded image information is stored in the memory.*

64. The recording and reproducing apparatus according to claim 63, wherein the predetermined compression encoding method is an MPEG method.--

Column 6, Lines 25 to 54, substitute Claim 65 with the following claim:

--65. A recording and reproducing apparatus for recording and reproducing image information, comprising:

*a photographing sensor configured to photograph an object and generate image information;
 a recorder configured to record the image information generated by the photographing sensor in a recording medium;*

*a reproducer configured to reproduce the image information recorded by the recorder;
 processing circuitry configured to:*

execute a face-recognizing process on the image information generated by the photographing sensor to recognize a face;

register a person in the image information as a specific person, wherein an image information of a person with a face is obtained by newly photographing the person with a face in a photographing mode and, thereafter, the image information of the person with a face is used to register the person with a face as the specific person;

*firstly pick out an image information which includes the registered specific person,
 secondly pick out an image information based on a predetermined condition from among the picked-out image information which includes the registered specific person, the predetermined condition being set in accordance with an instruction by a user, and*

*control the reproducer to selectively and sequentially reproduce the image information picked out based on the predetermined condition,
wherein, when a registered specific person is recognized during a capture of additional image information, autofocus and autoexposure are adjusted for the additional image information of the registered specific person.--*

Column 6, Line 55 to Column 7, Line 28, substitute Claims 66, 67, 68, 69, and 70 with the following claims:

--66. The recording and reproducing apparatus according to claim 65, wherein the processing circuitry is further configured to control the reproducer to selectively and sequentially reproduce the image information picked out based on the predetermined condition in a reproducing

mode set from one of a first reproducing mode and a second reproducing mode, and wherein a reproducing time required for reproducing the image information under the first reproducing mode is shorter than a reproducing time required for reproducing the image information under the second reproducing mode, and the image information reproduced under the second mode includes the image information reproduced under the first reproducing mode and other of the image information not reproduced under the first reproducing mode.

67. The recording and reproducing apparatus according to claim 65, wherein the processing circuitry is further configured to control the reproducer to selectively and sequentially reproduce the image information picked out based on the predetermined condition in the reproducing mode set from one of the first reproducing mode, the second reproducing mode, and a third reproducing mode, and wherein a reproducing time required for reproducing the image information under the third reproducing mode is longer than the reproducing time required for reproducing the image information under the second reproducing mode.

68. The recording and reproducing apparatus of claim 65, further comprising a touch panel adhered to a screen of a display.

69. The recording and reproducing apparatus according to claim 65, wherein the face-recognizing process is executed for a specific person that is set before photographing that specific person.

70. The recording and reproducing apparatus according to claim 65, wherein the recording medium is an external drive connected to the recording and reproducing apparatus via USB.--

Column 7, Lines 29 to 59, substitute Claims 71, 72, 73, 74, 75, and 76 with the following claims:

--71. The recording and reproducing apparatus according to claim 65, wherein the recording and reproducing apparatus is a mobile phone.

72. The recording and reproducing apparatus according to claim 65, wherein the recording and reproducing apparatus is an electronic camera.

73. The recording and reproducing apparatus according to claim 65, further comprising a user interface including a first option and a second option,

wherein, when the first option is selected, the recording and reproducing apparatus enters a record mode to capture video information, and

wherein, when the second option is selected, the recording and reproducing apparatus enters a reproduction mode to reproduce and display recorded video information.

74. The recording and reproducing apparatus according to claim 65, further comprising:

a video camera providing image data; and

a display, wherein, in response to the face-recognizing process recognizing that a face of a person is included in the image data, the display displays the image data with a frame surrounding at least a portion of the face of the person.

75. The recording and reproducing apparatus according to claim 74, wherein the frame is a rectangular frame.

76. The recording and reproducing apparatus according to claim 65, further comprising a display, wherein the processing circuitry is further configured to generate a thumbnail corresponding to the recorded image such that the thumbnail is displayed on the display with an icon having a predetermined shape when an importance level is set for the recorded image via a user interface.--

Column 7, Line 60 to Column 8, Line 24, substitute Claims 77, 78, 79, 80, and 81 with the following claims:

--77. The recording and reproducing apparatus according to claim 76, wherein the icon is displayed on the thumbnail.

78. The recording and reproducing apparatus according to claim 65, wherein the processing circuitry is further configured to:

*capture video information corresponding to a scene;
automatically set a plurality of sections corresponding to the video information of the scene;
generate a plurality of thumbnails corresponding to the plurality of sections; and
display the plurality of thumbnails, wherein each of the plurality of thumbnails is associated with the same video information corresponding to the scene.*

79. The recording and reproducing apparatus according to claim 78, wherein displaying the plurality of thumbnails includes displaying timing information indicating a lapse time of a particular section within the captured video information of the scene.

80. The recording and reproducing apparatus according to claim 65, further comprising a display, wherein the display is configured to display a plurality of images, wherein each image in the plurality of images includes a face of a different person, and wherein displaying the plurality of images includes displaying faces without displaying objects included in the background of the plurality of images.

81. The recording and reproducing apparatus according to claim 65, wherein the processing circuitry is further configured to execute the face-recognizing process on image information captured from an external camera not included in the recording and reproducing apparatus.--

Column 8, Lines 25 to 36, substitute Claims 82 and 83 with the following claims:

*--82. The recording and reproducing apparatus according to claim 65, further comprising:
an analog/digital converter, wherein the analog/digital converter is configured to convert analog image data corresponding to the captured photograph into a digital image signal; and
a codec for compressing the digital image signal using a predetermined compression encoding method and generating encoded image information.*

83. The recording and reproducing apparatus according to claim 82, wherein the predetermined compression encoding method is an MPEG method.--

Column 8, Line 37 to Column 9, Line 12, substitute a portion of Claim 84 with the following portion:

*--84. A recording and reproducing apparatus for recording and reproducing image information, comprising:
a processor;*

a display displaying a first option and a second option, wherein when the first option is selected, the recording and reproducing apparatus enters a record mode to capture video information, and when the second option is selected, the recording and reproducing apparatus enters a reproduction mode to reproduce and display recorded video information;

a memory coupled to the processor and storing instructions that, when executed by the processor, cause the processor to:

capture a photograph and generate image information of the photograph;

record the image information in a recording medium;

execute a face-recognizing process on the image information to recognize a face;

reproduce the recorded image from the recording medium;

register a person in the image information as a specific person in a mode selected from a first setting mode and a second setting mode, wherein, when the first setting mode is selected, an image information of a person with a face is obtained by newly photographing the person with a face in a photographing mode and, thereafter, the image information of the person with a face is used to register the person with a face as the specific person, and, when the second setting mode is selected, a person with a face in an image information of a person with a face is selected from a plurality of faces in the image information recorded in the recording medium and, thereafter, the image information of the person with a face is used to register the person with a face as the specific person; selectively reproduce the recorded image which includes the registered specific person; and

generate a thumbnail corresponding to the recorded image in the recording medium such that the thumbnail is displayed on the display with an icon having a predetermined shape when an importance level is set for the recorded image via a user interface;--

Column 9, Line 13 to Column 10, Line 23, substitute the remaining portion of Claim 84 with the following portion:

--a touch panel adhered to a screen of the display, wherein the first setting mode and the second setting mode are each selected using the touch panel;

a video camera providing video image data, wherein, in response to the face-recognizing process recognizing that a face of a person is included in the video image data, the display displays the video image data with a frame surrounding at least a portion of the face of the person;

an analog/digital converter, wherein the analog/digital converter is configured to convert analog image data corresponding to the captured photograph into a digital image signal; and

a codec for compressing the digital image signal using a predetermined compression encoding method and generating encoded image information, wherein the encoded image information is stored in the recording medium,

wherein the video camera captures video information corresponding to a scene and the processor:

automatically sets a plurality of sections corresponding to the video information of the scene; and

generates a plurality of thumbnails corresponding to the plurality of sections, wherein each of the plurality of thumbnails is associated with the same video information corresponding to the scene, and the display displays the plurality of thumbnails; and

wherein the display is configured to display at least a plurality of images recorded in the recording medium such that contents of each image in the plurality of images includes a face of a different person and background objects and displaying the plurality of images includes displaying the faces

without displaying all of the background objects included in the contents of each image of the plurality of images.--