DESCRIPTION

Title of Invention

PICTURE DISPLAY DEVICE, AND SETTING MODIFICATION METHOD AND SETTING MODIFICATION PROGRAM ~~THEREOR~~THEREFOR

Technical Field

[0001]

The present invention relates to a technique for changing settings in a picture display device.

Background Art

[0002]

In general, a picture display device such as a television device enables a user thereof to adjust the picture quality such as brightness, contrast, and tint, in accordance with the user's preference. However, when the user tries to adjust the picture quality of the picture display device, the user has to manually change respective setting values while confirming a picture displayed on the picture display device, and therefore time and labor are required. As a method for reducing this time and labor, there is a technique described in the Patent Literature 1 as shown below.

[0003]

{CLAIMS}

1. (Amended)

A picture display device capable of displaying a picture content, comprising:

a storage unit configured to store settings information related to a settings change applied to the picture display device and operator information related to an operator instructing the settings change to the picture display device so that they are associated with each other;

an operator identification unit configured to newly acquire information related to an operator operating the picture display device and compare the information related to the operator newly acquired with the operator information stored in the storage unit to perform an operator identification process; and

a control unit configured to be capable of controlling a plurality of control states including a first control state in which, in a case where as a result of the identification process in the operator identification unit, operator information corresponding to the information related to the operator newly acquired is stored in the storage unit, the settings change based on the settings information stored in the storage unit in association with the corresponding operator information is applied to the picture display device, and a second control state which enables, in a case where no operator information corresponding to the information related to the operator newly acquired is stored in the storage unit, a process of newly storing operator information related to a new operator in the storage unit without applying the settings change based on the settings information already stored in the storage unit,

wherein the settings information is settings information related to a layout on a display screen on which a picture content, an icon related to an acquisition source of information acquirable via a network by a network connecting function of the picture display device, and an icon related to an application executable in the picture display device are displayed together.

2.

3. The picture display device according to claim 1, wherein the operator is a person,
the operator information stored in the storage unit

is a face image of the operator instructing the settings change to the picture display device,

the picture display device further comprises a video input unit configured to allow a face image of an operator of the picture display device to be input, and

the operator identification unit compares the face image of the operator newly input in the video input unit with the face image of the operator already stored as the operator information in the storage unit to perform the identification process.

4. The picture display device according to claim 1, wherein the operator is a person,

the operator information stored in the storage unit is a gesture video of the operator instructing the settings change to the picture display device,

the picture display device further comprises a video input unit configured to allow a gesture video of an operator of the picture display device to be input, and

the operator identification unit compares the gesture video of the operator newly input in the video input unit with a gesture video of the operator already stored as the operator information in the storage unit to perform the identification process.

5. The picture display device according to claim 1, wherein the operator is a person,

the operator information stored in the storage unit is a keyword spoken by the operator instructing the settings change to the picture display device,

the picture display device further comprises an audio input unit configured to allow a keyword spoken by an operator of the picture display device to be input, and

the operator identification unit compares the keyword spoken by the operator newly input in the audio input unit with the keyword spoken by the operator already stored as the operator information in the storage unit to perform the identification process.

6. The picture display device according to claim 1, wherein the operator is a person,

the operator information stored in the storage unit is a voiceprint of a voice uttered by the operator instructing the settings change to the picture display device,

the picture display device further comprises an audio input unit configured to allow a voice uttered by an operator of the picture display device to be input, and

the operator identification unit compares a voiceprint extracted from the voice uttered by the operator newly input in the audio input unit with the voiceprint of the voice uttered by the operator already stored as the operator information in the storage unit to perform the identification process.

7. The picture display device according to claim 1,

wherein the operator is an information terminal,

the operator information stored in the storage unit is any of terminal information, owner information, and a unique number that the operator instructing the settings change to the picture display device remembers,

the picture display device further comprises a communication unit configured to be capable of communicating with an operator of the picture display device, and

the operator identification unit compares any of the terminal information, the owner information, and the unique number newly acquired by communicating with an operator operating the picture display device by means of the communication unit, with any of the terminal information, the owner information, and the unique number already stored as the operator information in the storage unit to perform the identification process.

8. The picture display device according to claim 7,

wherein the any of the terminal information, the owner information, and the unique number is information transmitted to the picture display device only in a case where authentication of a user of the information terminal is successful in the information terminal.

9. The picture display device according to claim 1,

wherein the settings information includes information indicating that at least one of settings related to a picture quality of the picture display device, settings related to a sound quality thereof, and settings related to an operation of a device included therein is changed from an initial value in settings of the picture display device, in addition to the settings information

related to the layout on the display screen.

10. The picture display device according to claim 1, wherein the settings information includes information indicating that a manner in which the picture display device displays picture contents in a list is changed from an initial value in settings of the picture display device, in addition to the settings information related to the layout on the display screen.

11.

12. (Amended)
A setting modification method for a picture display device, comprising:
a storage step of storing settings information related to a settings change applied to the picture display device and operator information related to an operator instructing the settings change to the picture display device so that they are associated with each other;
an operator identification step of newly acquiring information related to an operator operating the picture display device and comparing the information related to the operator newly acquired with the operator information stored in the storage step to perform an operation identification process; and
a control step of capable of controlling a plurality of control states including a first control state in which, in a case where as a result of the identification process in the operator identification step, operator information corresponding to the information related to the operator newly acquired has already been stored in the storage step, the settings change based on the settings information stored in the storage step in association with the corresponding operator information is applied to the picture display device, and a second control state in which, in a case where no operator information corresponding to the information related to the operator newly acquired is stored in the storage step, a process of newly storing operator information on a new operator is enabled without applying the settings change based on the setting information already stored in the storage step,
wherein the settings information is settings information related to a layout on a display screen on which a picture content, an icon related to an acquisition

source of information acquirable via a network by a network connecting function of the picture display device, and an icon related to an application executable in the picture display device are displayed together.

13.

14. (Amended)

A setting modification program causing a picture display device to execute:

a storage step of storing settings information related to a settings change applied to the picture display device and operator information related to an operator instructing the settings change to the picture display device so that they are associated with each other;

an operator identification step of newly acquiring information related to an operator operating the picture display device and comparing the information related to the operator newly acquired with the operator information stored in the storage step to perform an operation identification process; and

a control step of capable of controlling a plurality of control states including a first control state in which, in a case where as a result of the identification process in the operator identification step, operator information corresponding to the information related to the operator newly acquired has already been stored in the storage step, the settings change based on the settings information stored in the storage step in association with the corresponding operator information is applied to the picture display device, and a second control state in which, in a case where no operator information corresponding to the information related to the operator newly acquired is stored in the storage step, a process of newly storing operator information on a new operator is enabled without applying the settings change based on the setting information already stored in the storage step,

wherein the settings information is settings information related to a layout on a display screen on which a picture content, an icon related to an acquisition source of information acquirable via a network by a

network connecting function of the picture display device, and an icon related to an application executable in the picture display device are displayed together.

15.

16. The setting modification method according to claim 12,

wherein the operator is a person,

the operator information stored in the storage step is a face image of the operator instructing the settings change to the picture display device,

the setting modification method further comprises a video input step of allowing a face image of an operator of the picture display device to be input, and

the operator identification step compares the face image of the operator newly input in the video input step with the face image of the operator already stored as the operator information in the storage step to perform the identification process.

17. The setting modification method according to claim 12,

wherein the operator is a person,

the operator information stored in the storage step is a gesture video of the operator instructing the settings change to the picture display device,

the setting modification method further comprises a video input step of allowing a gesture video of an operator of the picture display device to be input, and

the operator identification step compares the gesture video of the operator newly input in the video input step with a gesture video of the operator already stored as the operator information in the storage step to perform the identification process.

18. The setting modification method according to claim 12,

wherein the operator is a person,

the operator information stored in the storage step is a keyword spoken by the operator instructing the settings change to the picture display device,

the setting modification method further comprises an audio input step of allowing a keyword spoken by an operator of the picture display device to be input, and

the operator identification step compares the keyword spoken by the operator newly input in the audio input step with the keyword spoken by the operator already stored as the operator information stored in the storage step to perform the identification process.

19. The setting modification method according to claim 12,

wherein the operator is a person,

the operator information stored in the storage step is a voiceprint of a voice uttered by the operator instructing the settings change to the picture display device,

the setting modification method further comprises an audio input step of allowing a voice uttered by an operator of the picture display device to be input, and

the operator identification step compares a voiceprint extracted from the voice uttered by the operator newly input in the audio input step with the voiceprint of the voice uttered by the operator already stored as the operator information in the storage step to perform the identification process.

20. The setting modification method according to claim 12,

wherein the operator is an information terminal,

the operator information stored in the storage step is any of terminal information, owner information, and a unique number that the operator instructing the settings change to the picture display device remembers,

the setting modification method further comprises a communication step of communicating with an operator of the picture display device, and

the operator identification step compares any of the terminal information, the owner information, and the unique number newly acquired from the operator in the communication step with any of the terminal information, the owner information, and the unique number already stored as the operator information in the storage step to perform the identification process.

21. The setting modification method according to claim 20,

wherein the any of the terminal information, the owner information, and the unique number is information transmitted to the picture display device only in a case where authentication of a user of the information terminal

is successful in the information terminal.

22. The setting modification method according to claim 12,

wherein the settings information includes information indicating that at least one of settings related to a picture quality of the picture display device, settings related to a sound quality thereof, and settings related to an operation of a device included therein is changed from an initial value in settings of the picture display device, in addition to the settings information related to the layout on the display screen.

23. The setting modification method according to claim 12,

wherein the settings information includes information indicating that a manner in which the picture display device displays picture contents in a list is changed from an initial value in settings of the picture display device, in addition to the settings information related to the layout on the display screen.

24. The setting modification program according to claim 14,

wherein the operator is a person,

the operator information stored in the storage step is a face image of the operator instructing the settings change to the picture display device,

the setting modification program further causes the picture display device to execute a video input step of allowing a face image of an operator of the picture display device to be input, and

the operator identification step compares the face image of the operator newly input in the video input step with the face image of the operator already stored as the operator information in the storage step to perform the identification process.

25. The setting modification program according to claim 14,

wherein the operator is a person,

the operator information stored in the storage step is a gesture video of the operator instructing the settings change to the picture display device,

the setting modification program further causes the picture display device to execute a video input step of allowing a gesture video of an operator of the picture display device to be input, and

the operator identification step compares the gesture video of the operator newly input in the video input step with a gesture video of the operator already stored as the operator information in the storage step to perform the identification process.

26. The setting modification program according to claim 14,

wherein the operator is a person,

the operator information stored in the storage step is a keyword spoken by the operator instructing the settings change to the picture display device,

the setting modification program further causes the picture display device to execute an audio input step of allowing a keyword spoken by an operator of the picture display device to be input, and

the operator identification step compares the keyword spoken by the operator newly input in the audio input step with the keyword spoken by the operator already stored as the operator information stored in the storage step to perform the identification process.

27. The setting modification program according to claim 14,

wherein the operator is a person,

the operator information stored in the storage step is a voiceprint of a voice uttered by the operator instructing the settings change to the picture display device,

the setting modification program further causes the picture display device to execute an audio input step of allowing a voice uttered by an operator of the picture display device to be input, and

the operator identification step compares a voiceprint extracted from the voice uttered by the operator newly input in the audio input step with the voiceprint of the voice uttered by the operator already stored as the operator information in the storage step to perform the identification process.

28. The setting modification program according to claim 14,

wherein the operator is an information terminal,

the operator information stored in the storage step is any of terminal information, owner information, and a unique number that the operator instructing the settings change to the picture display device remembers,

the setting modification program further causes the picture display device to execute a communication step of communicating with an operator of the picture display device, and

the operator identification step compares any of the terminal information, the owner information, and the unique number newly acquired from the operator in the communication step with any of the terminal information, the owner information, and the unique number already stored as the operator information in the storage step to perform the identification process.

29. The setting modification program according to claim 28,

wherein the any of the terminal information, the owner information, and the unique number is information transmitted to the picture display device only in a case where authentication of a user of the information terminal is successful in the information terminal.

30. The setting modification program according to claim 14,

wherein the settings information includes information indicating that at least one of settings related to a picture quality of the picture display device, settings related to a sound quality thereof, and settings related to an operation of a device included therein is changed from an initial value in settings of the picture display device, in addition to the settings information related to the layout on the display screen.

31. The setting modification program according to claim 14,

wherein the settings information includes information indicating that a manner in which the picture display device displays picture contents in a list is changed from an initial value in settings of the picture display device, in addition to the settings information related to the layout on the display screen.

CLAIMS

1. A picture display device capable of displaying a picture content, comprising:

a storage unit configured to store settings information related to a settings change applied to the picture display device and operator information related to an operator instructing the settings change to the picture display device so that they are associated with each other;

an operator identification unit configured to newly acquire information related to an operator operating the picture display device and compare the information related to the operator newly acquired with the operator information stored in the storage unit to perform an operator identification process; and

a control unit configured to be capable of controlling a plurality of control states including a first control state in which, in a case where as a result of the identification process in the operator identification unit, operator information corresponding to the information related to the operator newly acquired is stored in the storage unit, the settings change based on the settings information stored in the storage unit in association with the corresponding operator information is applied to the picture display device, and a second

control state which enables, in a case where no operator information corresponding to the information related to the operator newly acquired is stored in the storage unit, a process of newly storing operator information related to a new operator in the storage unit without applying the settings change based on the settings information already stored in the storage unit,

wherein the settings information is settings information related to a layout on a display screen on which a picture content, an icon related to an acquisition source of information acquirable via a network by a network connecting function of the picture display device, and an icon related to an application executable in the picture display device are displayed together.

2. The picture display device according to claim 1,

wherein the operator is a person,

the operator information stored in the storage unit is a face image of the operator instructing the settings change to the picture display device,

the picture display device further comprises a video input unit configured to allow a face image of an operator of the picture display device to be input, and

the operator identification unit compares the face image of the operator newly input in the video input unit

with the face image of the operator already stored as the operator information in the storage unit to perform the identification process.

3. The picture display device according to claim 1, wherein the operator is a person,

the operator information stored in the storage unit is a gesture video of the operator instructing the settings change to the picture display device,

the picture display device further comprises a video input unit configured to allow a gesture video of an operator of the picture display device to be input, and

the operator identification unit compares the gesture video of the operator newly input in the video input unit with a gesture video of the operator already stored as the operator information in the storage unit to perform the identification process.

4. The picture display device according to claim 1, wherein the operator is a person,

the operator information stored in the storage unit is a keyword spoken by the operator instructing the settings change to the picture display device,

the picture display device further comprises an audio input unit configured to allow a keyword spoken by

an operator of the picture display device to be input, and

the operator identification unit compares the keyword spoken by the operator newly input in the audio input unit with the keyword spoken by the operator already stored as the operator information in the storage unit to perform the identification process.

5. The picture display device according to claim 1, wherein the operator is a person,

the operator information stored in the storage unit is a voiceprint of a voice uttered by the operator instructing the settings change to the picture display device,

the picture display device further comprises an audio input unit configured to allow a voice uttered by an operator of the picture display device to be input, and

the operator identification unit compares a voiceprint extracted from the voice uttered by the operator newly input in the audio input unit with the voiceprint of the voice uttered by the operator already stored as the operator information in the storage unit to perform the identification process.

6. The picture display device according to claim 1, wherein the operator is an information terminal,

the operator information stored in the storage unit is any of terminal information, owner information, and a unique number that the operator instructing the settings change to the picture display device remembers,

the picture display device further comprises a communication unit configured to be capable of communicating with an operator of the picture display device, and

the operator identification unit compares any of the terminal information, the owner information, and the unique number newly acquired by communicating with an operator operating the picture display device by means of the communication unit, with any of the terminal information, the owner information, and the unique number already stored as the operator information in the storage unit to perform the identification process.

7. The picture display device according to claim 6,

wherein the any of the terminal information, the owner information, and the unique number is information transmitted to the picture display device only in a case where authentication of a user of the information terminal is successful in the information terminal.

8. The picture display device according to claim 1,

wherein the settings information includes information indicating that at least one of settings related to a picture quality of the picture display device, settings related to a sound quality thereof, and settings related to an operation of a device included therein is changed from an initial value in settings of the picture display device, in addition to the settings information related to the layout on the display screen.

9. The picture display device according to claim 1,

wherein the settings information includes information indicating that a manner in which the picture display device displays picture contents in a list is changed from an initial value in settings of the picture display device, in addition to the settings information related to the layout on the display screen.

10. A setting modification method for a picture display device, comprising:

a storage step of storing settings information related to a settings change applied to the picture display device and operator information related to an operator instructing the settings change to the picture display device so that they are associated with each other;

an operator identification step of newly acquiring information related to an operator operating the picture display device and comparing the information related to the operator newly acquired with the operator information stored in the storage step to perform an operation identification process; and

a control step of capable of controlling a plurality of control states including a first control state in which, in a case where as a result of the identification process in the operator identification step, operator information corresponding to the information related to the operator newly acquired has already been stored in the storage step, the settings change based on the settings information stored in the storage step in association with the corresponding operator information is applied to the picture display device, and a second control state in which, in a case where no operator information corresponding to the information related to the operator newly acquired is stored in the storage step, a process of newly storing operator information on a new operator is enabled without applying the settings change based on the setting information already stored in the storage step,

wherein the settings information is settings information related to a layout on a display screen on which a picture content, an icon related to an acquisition

source of information acquirable via a network by a network connecting function of the picture display device, and an icon related to an application executable in the picture display device are displayed together.

11. A setting modification program causing a picture display device to execute:

a storage step of storing settings information related to a settings change applied to the picture display device and operator information related to an operator instructing the settings change to the picture display device so that they are associated with each other;

an operator identification step of newly acquiring information related to an operator operating the picture display device and comparing the information related to the operator newly acquired with the operator information stored in the storage step to perform an operation identification process; and

a control step of capable of controlling a plurality of control states including a first control state in which, in a case where as a result of the identification process in the operator identification step, operator information corresponding to the information related to the operator newly acquired has already been stored in the storage step,

the settings change based on the settings information stored in the storage step in association with the corresponding operator information is applied to the picture display device, and a second control state in which, in a case where no operator information corresponding to the information related to the operator newly acquired is stored in the storage step, a process of newly storing operator information on a new operator is enabled without applying the settings change based on the setting information already stored in the storage step,

wherein the settings information is settings information related to a layout on a display screen on which a picture content, an icon related to an acquisition source of information acquirable via a network by a network connecting function of the picture display device, and an icon related to an application executable in the picture display device are displayed together.

12. The setting modification method according to claim 10,

wherein the operator is a person,

the operator information stored in the storage step is a face image of the operator instructing the settings change to the picture display device,

the setting modification method further comprises a

video input step of allowing a face image of an operator of the picture display device to be input, and

the operator identification step compares the face image of the operator newly input in the video input step with the face image of the operator already stored as the operator information in the storage step to perform the identification process.

13. The setting modification method according to claim 10,

wherein the operator is a person,

the operator information stored in the storage step is a gesture video of the operator instructing the settings change to the picture display device,

the setting modification method further comprises a video input step of allowing a gesture video of an operator of the picture display device to be input, and

the operator identification step compares the gesture video of the operator newly input in the video input step with a gesture video of the operator already stored as the operator information in the storage step to perform the identification process.

14. The setting modification method according to claim 10,

wherein the operator is a person,

the operator information stored in the storage step is a keyword spoken by the operator instructing the settings change to the picture display device,

the setting modification method further comprises an audio input step of allowing a keyword spoken by an operator of the picture display device to be input, and

the operator identification step compares the keyword spoken by the operator newly input in the audio input step with the keyword spoken by the operator already stored as the operator information stored in the storage step to perform the identification process.

15. The setting modification method according to claim 10,

wherein the operator is a person,

the operator information stored in the storage step is a voiceprint of a voice uttered by the operator instructing the settings change to the picture display device,

the setting modification method further comprises an audio input step of allowing a voice uttered by an operator of the picture display device to be input, and

the operator identification step compares a voiceprint extracted from the voice uttered by the

operator newly input in the audio input step with the voiceprint of the voice uttered by the operator already stored as the operator information in the storage step to perform the identification process.

16. The setting modification method according to claim 10,

wherein the operator is an information terminal,

the operator information stored in the storage step is any of terminal information, owner information, and a unique number that the operator instructing the settings change to the picture display device remembers,

the setting modification method further comprises a communication step of communicating with an operator of the picture display device, and

the operator identification step compares any of the terminal information, the owner information, and the unique number newly acquired from the operator in the communication step with any of the terminal information, the owner information, and the unique number already stored as the operator information in the storage step to perform the identification process.

17. The setting modification method according to claim 16,

wherein the any of the terminal information, the owner information, and the unique number is information transmitted to the picture display device only in a case where authentication of a user of the information terminal is successful in the information terminal.

18. The setting modification method according to claim 10,

wherein the settings information includes information indicating that at least one of settings related to a picture quality of the picture display device, settings related to a sound quality thereof, and settings related to an operation of a device included therein is changed from an initial value in settings of the picture display device, in addition to the settings information related to the layout on the display screen.

19. The setting modification method according to claim 10,

wherein the settings information includes information indicating that a manner in which the picture display device displays picture contents in a list is changed from an initial value in settings of the picture display device, in addition to the settings information related to the layout on the display screen.

20. The setting modification program according to claim 11,

wherein the operator is a person,

the operator information stored in the storage step is a face image of the operator instructing the settings change to the picture display device,

the setting modification program further causes the picture display device to execute a video input step of allowing a face image of an operator of the picture display device to be input, and

the operator identification step compares the face image of the operator newly input in the video input step with the face image of the operator already stored as the operator information in the storage step to perform the identification process.

21. The setting modification program according to claim 11,

wherein the operator is a person,

the operator information stored in the storage step is a gesture video of the operator instructing the settings change to the picture display device,

the setting modification program further causes the picture display device to execute a video input step of

allowing a gesture video of an operator of the picture display device to be input, and

the operator identification step compares the gesture video of the operator newly input in the video input step with a gesture video of the operator already stored as the operator information in the storage step to perform the identification process.

22. The setting modification program according to claim 11,

wherein the operator is a person,

the operator information stored in the storage step is a keyword spoken by the operator instructing the settings change to the picture display device,

the setting modification program further causes the picture display device to execute an audio input step of allowing a keyword spoken by an operator of the picture display device to be input, and

the operator identification step compares the keyword spoken by the operator newly input in the audio input step with the keyword spoken by the operator already stored as the operator information stored in the storage step to perform the identification process.

23. The setting modification program according to

claim 11,

wherein the operator is a person,

the operator information stored in the storage step is a voiceprint of a voice uttered by the operator instructing the settings change to the picture display device,

the setting modification program further causes the picture display device to execute an audio input step of allowing a voice uttered by an operator of the picture display device to be input, and

the operator identification step compares a voiceprint extracted from the voice uttered by the operator newly input in the audio input step with the voiceprint of the voice uttered by the operator already stored as the operator information in the storage step to perform the identification process.

24. The setting modification program according to claim 11,

wherein the operator is an information terminal,

the operator information stored in the storage step is any of terminal information, owner information, and a unique number that the operator instructing the settings change to the picture display device remembers,

the setting modification program further causes the

picture display device to execute a communication step of communicating with an operator of the picture display device, and

the operator identification step compares any of the terminal information, the owner information, and the unique number newly acquired from the operator in the communication step with any of the terminal information, the owner information, and the unique number already stored as the operator information in the storage step to perform the identification process.

25. The setting modification program according to claim 24,

wherein the any of the terminal information, the owner information, and the unique number is information transmitted to the picture display device only in a case where authentication of a user of the information terminal is successful in the information terminal.

26. The setting modification program according to claim 11,

wherein the settings information includes information indicating that at least one of settings related to a picture quality of the picture display device, settings related to a sound quality thereof, and settings

related to an operation of a device included therein is changed from an initial value in settings of the picture display device, in addition to the settings information related to the layout on the display screen.

27. The setting modification program according to claim 11,

wherein the settings information includes information indicating that a manner in which the picture display device displays picture contents in a list is changed from an initial value in settings of the picture display device, in addition to the settings information related to the layout on the display screen.