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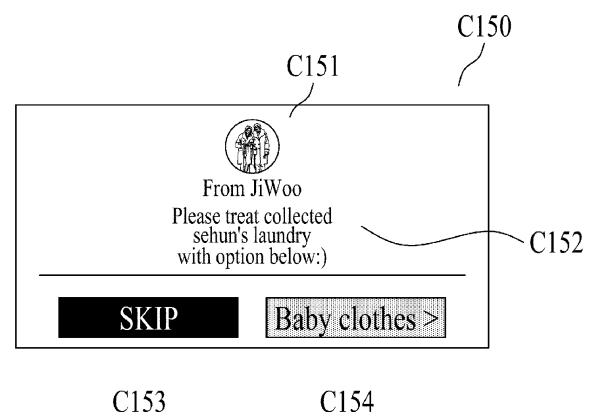
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(54) **LAUNDRY TREATING APPARATUS AND CONTROL METHOD FOR SAME**

(57) A laundry treating apparatus and a control method for same are disclosed. The laundry treating apparatus according to an embodiment of the present invention comprises: a cabinet; a drum which is provided within the cabinet and in which clothes are accommodated; and a screen output unit which is provided in the cabinet to output a screen, wherein the screen output unit is provided to output a message screen on which a user phrase written by a user is displayed.

【FIG. 16】



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Description

[Technical Field]

[0001] The present disclosure relates to a laundry treating apparatus and a method for controlling the same, and more particularly, to a laundry treating apparatus including a screen outputter on which a screen is output, and a method for controlling the same.

[Background]

[0002] A laundry treating apparatus is an apparatus that removes contamination from laundry by putting clothes, bedding, and the like (hereinafter, referred to as the laundry) into a drum. The laundry treating apparatus may perform processes such as washing, rinsing, dehydration, drying, and the like, and the laundry treating apparatus may be categorized into a top loading scheme and a front loading scheme based on a scheme of putting the laundry into the drum.

[0003] The laundry treating apparatus may include a housing forming an outer appearance thereof, a tub accommodated in the housing, the drum rotatably mounted inside the tub and into which the laundry is put, and a detergent supply that supplies detergent into the drum.

[0004] When the drum is rotated by a motor in a state in which washing water is supplied to the laundry accommodated therein, dirt on the laundry may be removed by friction between the drum and washing water.

[0005] The detergent supply is equipped with a detergent supply function to improve a washing effect. In this regard, the detergent refers to a material that enhances the washing effect, such as fiber detergent, a fiber softener, and a fiber bleach. As the detergent, detergent in a form of powder or detergent in a form of liquid may be used.

[0006] Various types of clothes have emerged in modern society, and various types of laundry treatment processes are provided depending on types and characteristics of laundry. In addition, the laundry treating apparatus may be in an environment of being used by two or more users, such as a home.

[0007] When the plurality of users use one laundry treating apparatus, mutual communication may be required in a scheme for treating the laundry or the like, and expression of opinion may be required for a type of laundry, a preferred treatment scheme, or the like.

[0008] In terms of a communication scheme, it may be somewhat cumbersome for the users to use communication terminals to simply convey the opinion for treating the laundry. Further, when the laundry treating apparatus is operated at an unspecified time, a current user may perform a treatment process of the laundry while forgetting content delivered from another user.

[0009] In one example, Korean Patent Application Publication No. 10-2014-0023986 discloses a laundry

treating apparatus including an outputter for providing information to the user and an inputter for generating an input signal based on manipulation of the user.

[0010] The outputter may be constructed to output a screen. Various information may be displayed on the screen. Various indications for indicating a use environment, a current setting state, or the like may be stored in advance in the laundry treating apparatus, and the various indications may be selectively displayed on the screen as necessary.

[0011] However, when the laundry treating apparatus uses only the indications stored in advance, the expression of opinion between the users may not be performed, or even when the opinion is able to be transmitted to a different user, because only the indications stored in advance may be used, it may be difficult to freely express the opinion.

[0012] Accordingly, when the plurality of users use the laundry treating apparatus together or when important information is present in a process of treating the laundry to be currently performed because of the type of laundry or the like, it is important to appropriately transmit the information to be notified in the current laundry treatment process to the user, and furthermore, it is an important task in the present technical field to improve a degree of freedom in the expression of opinion of the user and to improve ease of use of the laundry treatment.

[Summary]

[Technical Problem]

[0013] Embodiments of the present disclosure are to provide a laundry treating apparatus that may effectively transmit information to a user and a method for controlling the same.

[0014] In addition, embodiments of the present disclosure are to provide a laundry treating apparatus that may be conveniently used by a plurality of users and a method for controlling the same.

[0015] In addition, embodiments of the present disclosure are to provide a laundry treating apparatus that enables expression of opinion between a plurality of users and a method for controlling the same.

[0016] In addition, embodiments of the present disclosure are to provide a laundry treating apparatus that enables free and convenient message transmission between users and a method for controlling the same.

[0017] In addition, embodiments of the present disclosure are to provide a laundry treating apparatus that may transmit information important in a laundry treatment process in an emphasized manner to a user and a method for controlling the same.

[0018] In addition, embodiments of the present disclosure are to provide a laundry treating apparatus that enables convenient setting of a course for treating laundry and a method for controlling the same.

[Technical Solutions]

[0019] An embodiment of the present disclosure may include a screen outputter, and a message screen may be output on the screen outputter. The message screen may display a message written by a user via text or the like.

[0020] The user may write the message via a terminal located outside a laundry treating apparatus, and the message may be displayed via the screen outputter after the laundry treating apparatus is turned on, so that the message may be effectively delivered to a user currently using the laundry treating apparatus.

[0021] In addition, a suggested course preset by the user may be displayed on the message screen. The suggested course may be displayed to be selectable on the message screen, and when the suggested course is selected, a screen may be switched to a course setting screen on which the suggested course is displayed.

[0022] A laundry treating apparatus according to an embodiment of the present disclosure as such includes a cabinet, a drum, and a screen outputter. The drum is disposed inside the cabinet and accommodates laundry therein. The screen outputter is disposed on the cabinet and outputs a screen.

[0023] The screen outputter may be constructed to output a message screen on which a user phrase written by a user is displayed. The message screen may display the user phrase transmitted from a terminal of the user or a server.

[0024] An embodiment of the present disclosure may further include a controller that has a course for treating the laundry accommodated in the drum set in advance and controls the screen outputter. The controller may control the screen outputter to display the user phrase transmitted from the terminal or the server on the message screen.

[0025] The controller may control the screen outputter to output a reception failure indication informing the user of a reception failure of the user phrase when reception of the user phrase from the terminal or the server fails.

[0026] An embodiment of the present disclosure may include an inputter that is disposed on the cabinet and generates an input signal by manipulation of the user. The message screen may display the user phrase written via the inputter.

[0027] The screen outputter may output a course setting screen for setting one of a plurality of courses for treating the laundry, and output the message screen before the course setting screen is output after power application.

[0028] The screen outputter may output a start screen before the course setting screen is output after the power application, the start screen may include a plurality of detailed start screens sequentially output after the power application to the screen outputter, and the message screen may correspond to one of the plurality of detailed start screens.

[0029] The plurality of detailed start screens may include a welcome screen for notifying the user of the power application to the screen outputter via a phrase or an image, and the message screen may be output after the welcome screen is output.

[0030] The plurality of detailed start screens may include a notification screen for notifying the user of state information for performing the course via a phrase stored in advance in the controller, and the message screen may be output earlier than the notification screen.

[0031] The message screen may include a confirmation area selectable based on the input signal, and the screen outputter may terminate the output of the message screen and output another screen when the confirmation area is selected on the message screen.

[0032] The inputter may be disposed to overlap at least a portion of the screen of the screen outputter and sense a touch signal of the user.

[0033] The message screen may further include a movement area selectable based on the input signal, and the screen outputter may output a course setting screen where a suggested course set by the user for treating the laundry is displayed to be settable when the movement area is selected on the message screen.

[0034] The suggested course may be set via a terminal of the user or the inputter. Setting information of the suggested course for the user phrase may be transmitted from a terminal of the user or a server.

[0035] The message screen may be output with the movement area removed when the setting information of the suggested course is not transmitted.

[0036] The screen outputter may output a notification screen for notifying the user of state information before the course is performed via a phrase stored in advance in the controller, and then output the message screen.

[0037] The inputter may be disposed to overlap at least a portion of the screen of the screen outputter and sense a touch signal of the user. The screen outputter may display a course different from the suggested course when the touch signal is generated in a sliding manner while the suggested course is displayed on the course setting screen.

[0038] The screen outputter may output thereon a message screen where a suggested course set by a user for treating the laundry is displayed before outputting the course setting screen.

[0039] In one example, a method for controlling a laundry treating apparatus according to an embodiment of the present disclosure includes a message output operation. In the message output operation, a message screen where a user phrase written by a user is displayed may be output via the screen outputter.

[0040] An embodiment of the present disclosure may include a message writing operation and a message receiving operation. In the message writing operation, the user may write the user phrase via a terminal before the message output operation.

[0041] In the message receiving operation, a controller

disposed in the cabinet may receive the user phrase via the terminal or a server before the message output operation after the message writing operation.

[0042] The screen outputter may output a reception failure indication informing a reception failure of the user phrase in the message output operation when the controller fails to receive the user phrase in the message receiving operation.

[0043] A suggested course for treating the laundry may be set by the user in the message writing operation, and the controller may receive suggested course information together with the user phrase in the message receiving operation.

[0044] The screen outputter may output the message screen including a movement area indicating the suggested course in the message output operation.

[0045] An embodiment of the present disclosure may further include a course setting operation of outputting, by the screen outputter, a course setting screen displaying the suggested course when the movement area of the message screen is selected by the user in the message output operation.

[Advantageous Effects]

[0046] The embodiments of the present disclosure may provide the laundry treating apparatus that may effectively transmit the information to the user and the method for controlling the same.

[0047] In addition, the embodiments of the present disclosure may provide the laundry treating apparatus that may be conveniently used by the plurality of users and the method for controlling the same.

[0048] In addition, the embodiments of the present disclosure may provide the laundry treating apparatus that enables the expression of the opinion between the plurality of users and the method for controlling the same.

[0049] In addition, the embodiments of the present disclosure may provide the laundry treating apparatus that enables the free and convenient message transmission between the users and the method for controlling the same.

[0050] In addition, the embodiments of the present disclosure may provide the laundry treating apparatus that may transmit the information important in the laundry treatment process in the emphasized manner to the user and the method for controlling the same.

[0051] In addition, the embodiments of the present disclosure may provide the laundry treating apparatus that enables the convenient setting of the course for treating the laundry and the method for controlling the same.

[Brief Description of the Drawings]

[0052]

FIG. 1 is a perspective view illustrating an outer

appearance of a laundry treating apparatus according to an embodiment of the present disclosure.

FIG. 2 is a cross-sectional view showing interior of a laundry treating apparatus according to an embodiment of the present disclosure.

FIG. 3 is a diagram schematically illustrating an information exchange scheme of a laundry treating apparatus in an embodiment of the present disclosure.

FIG. 4 is a perspective view showing an outer appearance of a laundry treating apparatus in which a first treating apparatus and a second treating apparatus are stacked in an embodiment of the present disclosure.

FIG. 5 is a side view of a laundry treating apparatus in FIG. 4.

FIG. 6 is a conceptual diagram illustrating control connection relationships of a first treating apparatus, a second treating apparatus, and a screen outputter in a laundry treating apparatus in FIG. 4.

FIG. 7 is a diagram illustrating a control panel of a laundry treating apparatus according to an embodiment of the present disclosure.

FIG. 8 is an operational conceptual diagram illustrating processes from power application to course execution of a laundry treating apparatus in an embodiment of the present disclosure.

FIG. 9 is a diagram illustrating a start screen among screens output via a screen outputter in an embodiment of the present disclosure.

FIG. 10 is a diagram illustrating a course setting screen among screens output via a screen outputter in an embodiment of the present disclosure.

FIG. 11 is a diagram showing a course progress screen among screens output via a screen outputter in an embodiment of the present disclosure.

FIG. 12 is a conceptual diagram illustrating relationships between a plurality of courses and various options in an embodiment of the present disclosure.

FIG. 13 is a diagram illustrating a message screen among screens output via a screen outputter in an embodiment of the present disclosure.

FIG. 14 is a diagram illustrating a state in which a user phrase output on a message screen is written via a terminal in an embodiment of the present disclosure.

FIG. 15 is a diagram illustrating a reception failure indication output via a screen outputter in an embodiment of the present disclosure.

FIG. 16 is a diagram illustrating a message screen including a movement area in an embodiment of the present disclosure.

FIG. 17 is a diagram illustrating a process of outputting a course setting screen as a movement area of a message screen is selected in an embodiment of the present disclosure.

FIG. 18 is a diagram illustrating a process of changing a course on a course setting screen output via a

movement area in an embodiment of the present disclosure.

FIG. 19 is a diagram illustrating a process in which a plurality of start screens are output on a screen outputter after power application in an embodiment of the present disclosure.

FIG. 20 is a diagram illustrating a state in which a message screen is output earlier than a notification screen among start screens in an embodiment of the present disclosure.

FIG. 21 is a diagram illustrating a state in which a message screen is output later than a notification screen among start screens in an embodiment of the present disclosure.

FIG. 22 is a flowchart illustrating a method for controlling a laundry treating apparatus according to an embodiment of the present disclosure.

[Best Mode]

[0053] Hereinafter, with reference to the attached drawings, an embodiment of the present disclosure will be described in detail so as to be easily practiced by a person with ordinary skill in the art to which the present disclosure belongs.

[0054] However, the present disclosure may be implemented in various different forms and may not be limited to the embodiment described herein. In addition, to clearly illustrate the present disclosure in the drawings, parts that are not related to the description are omitted, and similar parts are given similar reference numerals throughout the present document.

[0055] In the present document, redundant descriptions of the same components are omitted.

[0056] Further, in the present document, it will be understood that when an element is referred to as being "connected with" another element, the element may be directly connected with the other element or intervening elements may also be present. In contrast, in the present document, it will be understood that when an element is referred to as being "directly connected with" another element, there are no intervening elements present.

[0057] Further, terms used herein are only used to describe a specific embodiment, and are not used as a limitation of the present disclosure.

[0058] Further, in the present document, a singular representation may include a plural representation unless it represents a definitely different meaning from the context.

[0059] Further, the terms such as "include" or "have" used herein are intended to indicate that features, numbers, steps, operations, elements, components, or combinations thereof used in the following description exist and it should be thus understood that the possibility of existence or addition of one or more different features, numbers, steps, operations, elements, components, or combinations thereof is not excluded.

[0060] Further, in the present document, the term 'an-

d/or' includes a combination of a plurality of listed items or any of the plurality of listed items. Herein, 'A or B' may include 'A', 'B', or 'both A and B'.

[0061] In FIG. 1, a laundry treating apparatus 1 according to an embodiment of the present disclosure is shown. The laundry treating apparatus 1 according to an embodiment of the present disclosure includes a cabinet 10. The cabinet 10 may have a space defined therein, and may form an outer appearance of the laundry treating apparatus 1.

[0062] The cabinet 10 may include a front panel, a rear panel, a side panel, and a top panel. The plurality of panels may be coupled to each other to form the cabinet 10. A laundry inlet 12 for allowing the outside and the inside of the cabinet 10 to be in communication with each other may be defined in one surface of the cabinet 10.

[0063] FIG. 1 illustrates a state in which the laundry inlet 12 is defined in the front panel according to an embodiment of the present disclosure, but the location of the laundry inlet 12 is not necessarily limited to the front panel.

[0064] A laundry door 15 may be coupled to the cabinet 10 to selectively shield the laundry inlet 12. For example, the laundry door 15 may be pivotably coupled to the front panel to shield the laundry inlet 12 based on a pivoting location.

[0065] An embodiment of the present disclosure may include a control panel 100. The control panel 100 may include an inputter 120 and an outputter. However, the inputter 120 and the outputter are not limited to being equipped only on the control panel 100.

[0066] A user may identify setting information of a course or progress information of the course from information output via the outputter, and may manipulate the inputter 120 to generate an input signal, thereby giving various commands to a controller 90, such as changing course setting. The control panel 100 and the controller 90 will be described in detail later.

[0067] In one example, inside of the laundry treating apparatus 1 is illustrated in FIG. 2. A tub 30 and a drum 20 may be disposed inside the laundry treating apparatus 1 defined by the cabinet 10.

[0068] The tub 30 may be disposed inside the laundry treating apparatus 1 to accommodate water therein. The tub 30 may include a tub inlet 35 facing the laundry inlet 12. Accordingly, the laundry input via the laundry inlet 12 as the user opens the laundry door 15 may pass through the laundry inlet 12 and the tub inlet 35 and be accommodated in the tub 30.

[0069] The drum 20 may be rotatably disposed inside the tub 30. An embodiment of the present disclosure may further include a driver 70, and the drum 20 may be connected to the driver 70 to receive a rotational force.

[0070] The drum 20 may accommodate the laundry therein. The drum 20 may include a drum inlet 25 facing the tub inlet 35. Accordingly, the laundry input via the laundry inlet 12 by the user may be accommodated in the drum 20 via the tub inlet 35 and the drum inlet 25.

[0071] An embodiment of the present disclosure may include a water supply 40. The water supply 40 may be connected to an external water supply source and water may be supplied from the outside, and the water supply 40 may include a water supply hose that is a flow path of water, a water supply valve for regulating a flow of water, and the like.

[0072] An embodiment of the present disclosure may include a detergent supply 50. The detergent supply 50 may store detergent therein, and may supply the detergent into the tub 30 when the detergent is required in performing a course for treating the laundry.

[0073] FIG. 2 illustrates a structure in which the water supply 40 and the detergent supply 50 are connected to each other, and water flowing along the water supply 40 is supplied into the tub 30 together with the detergent via the detergent supply 50, but the present disclosure is not necessarily limited thereto. Further, the water supply 40 may be directly connected to the inside of the tub 30.

[0074] An embodiment of the present disclosure may include a drain 60. The drain 60 may be connected to the tub 30 to discharge water present in the tub 30 to the outside of the cabinet 10. The drain 60 may include a drain hose through which water flows, a drain pump that generates a flow force of water, and the like.

[0075] In an embodiment of the present disclosure, when a course for washing the laundry is performed, water and the detergent may be supplied into the tub 30 via the water supply 40 and the detergent supply 50, the washing of the laundry may be performed via rotation of the drum 20 by the driver 70, and water and the detergent of the tub 30 may be discharged to the outside of the cabinet 10 via the drain 60 as necessary.

[0076] However, the laundry treating apparatus 1 according to an embodiment of the present disclosure does not necessarily include the tub 30, and is able to be in a form in which the tub 30 is omitted as necessary. That is, an embodiment of the present disclosure may not be necessarily limited to a washing machine, and may be a dryer in the state in which the tub 30 is removed.

[0077] FIG. 3 conceptually illustrates an information exchange scheme of the laundry treating apparatus 1 according to an embodiment of the present disclosure.

[0078] In an embodiment of the present disclosure, the laundry treating apparatus 1 may be equipped to enable communication. A communication unit may enable various types of communication such as Bluetooth and WIFI. However, when necessary, the communication unit for the communication may be omitted.

[0079] In case of having the communication unit, the laundry treating apparatus 1 may be in direct communication with a terminal 5 of the user or communicate with a communication medium disposed outside the laundry treating apparatus 1, and in case of establishing communication with a communication medium, the laundry treating apparatus 1 may exchange information with a server 4 via the communication medium.

[0080] The terminal 5 of the user may be various

devices having a communication function. For example, the terminal 5 may be various devices having the communication function, such as a mobile phone, a computer, a tablet PC, or the like.

[0081] The laundry treating apparatus 1 may exchange the information with the terminal 5 via the communication process with the terminal 5, or exchange the information with the server 4 via the communication process with the communication medium, when necessary. Furthermore, the terminal 5 may exchange the information with the server 4, and the laundry treating apparatus 1 may exchange the information with the server 4 via the communication medium, so that the information exchange may be indirectly performed with the terminal 5.

[0082] In one example, the laundry treating apparatus 1 according to an embodiment of the present disclosure may be composed of only the single drum 20, or may be composed of a first treating apparatus 2 including the drum 20 and a second treating apparatus 3 including a second drum 85 different from the drum 20 as shown in FIG. 3.

[0083] When the laundry treating apparatus 1 includes the first treating apparatus 2 and the second treating apparatus 3, the first treating apparatus 2 and the second treating apparatus 3 may be connected to each other in a wired manner to exchange information or may exchange the information in a wireless manner as shown in FIG. 3.

[0084] For example, the first treating apparatus 2 and the second treating apparatus 3 may be connected to each other in a direct wireless communication scheme such as a Bluetooth scheme to exchange the information, may be in communication with each other via a communication medium, or may be indirectly connected to each other via information exchange with the server 4 using the communication medium.

[0085] FIG. 4 shows the laundry treating apparatus 1 in which the first treating apparatus 2 and the second treating apparatus 3 are stacked. Referring to FIG. 4, an embodiment of the present disclosure may include the second treating apparatus 3 installed on the first treating apparatus 2.

[0086] The first treating apparatus 2 may include the cabinet 10 and the drum 20 described above. The second treating apparatus 3 may include a second cabinet 80, the second drum 85, and the like independently of the first treating apparatus 2.

[0087] The first treating apparatus 2 and the second treating apparatus 3 may perform courses for treating the laundry independently or in conjunction with each other. For example, the first treating apparatus 2 may correspond to the washing machine capable of washing the laundry and perform the course for washing the laundry, and the second treating apparatus 3 may correspond to a drying machine capable of drying the laundry and perform a course for drying the laundry.

[0088] For example, the first treating apparatus 2 may include the cabinet 10, the drum 20, and the tub 30 described above and may perform the course for wash-

ing the laundry, and the second treating apparatus 3 may include the second cabinet 80 disposed on the cabinet 10 and the second drum 85 rotatably disposed inside the second cabinet 80 and may perform the course for drying the laundry. However, both the first treating apparatus 2 and the second treating apparatus 3 may correspond to the washing machine or the dryer.

[0089] In one example, referring to FIG. 4, the laundry treating apparatus 1 may include the control panel 100 connected to the first treating apparatus 2 and the second treating apparatus 3. That is, when the laundry treating apparatus 1 includes the plurality of treating apparatuses, the control panel 100 may also be connected to each of the plurality of treating apparatuses to output information on the plurality of treating apparatuses or receive commands from the plurality of treating apparatuses.

[0090] When the first treating apparatus 2 and the second treating apparatus 3 are stacked, the control panel 100 may be disposed on at least one of the first treating apparatus 2 and the second treating apparatus 3. FIG. 4 illustrates a state in which the control panel 100 is positioned at a lower portion of the second treating apparatus 3 to facilitate access of the user to secure ease of use.

[0091] FIG. 5 illustrates a side view of the laundry treating apparatus 1 in which the first treating apparatus 2 and the second treating apparatus 3 are in the stacked form as shown in FIG. 4. In the laundry treating apparatus 1, the single drum 20 may be disposed inside the single cabinet 10, or the drum 20 and the second drum 85 described above may be disposed together therein.

[0092] In addition, as shown in FIG. 5, the second treating apparatus 3 may include the second cabinet 80 distinguished from the cabinet 10 of the first treating apparatus 2. In this case, the first treating apparatus 2 and the second treating apparatus 3 may be separately manufactured and assembled to each other in a use space of the laundry treating apparatus 1, or may be assembled to each other in advance in a production process.

[0093] However, the arrangement of the first treating apparatus 2 and the second treating apparatus 3 is not limited to stacking in a direction perpendicular to the ground. The first treating apparatus 2 and the second treating apparatus 3 may be arranged to be aligned with each other in a direction parallel to the ground or may be located to be spaced apart from each other.

[0094] FIG. 6 is a conceptual diagram schematically showing a connection relationship of the controller 90 in an embodiment of the present disclosure. The laundry treating apparatus 1 may include the controller 90, and the controller 90 may include at least one of a processor, an communication unit, and storage.

[0095] The processor may perform a processing process via calculation or the like of information, the communication unit may enable communication in various communication schemes such as Bluetooth and WIFI, and the storage may store information.

[0096] When the laundry treating apparatus 1 includes the first treating apparatus 2 and the second treating apparatus 3, the controller 90 may be connected to each of the first treating apparatus 2 and the second treating apparatus 3. In addition, the controller 90 may be connected to a screen outputter 110 to control the screen outputter 110.

[0097] The controller 90 may be equipped in at least one of the first treating apparatus 2, the second treating apparatus 3, and the screen outputter 110. The controller 90 may include a plurality of controllers equipped in the first treating apparatus 2, the second treating apparatus 3, and the screen outputter 110, respectively.

[0098] For example, the first treating apparatus 2 may include a first sub-controller involved in operation of the first treating apparatus 2, the second treating apparatus 3 may include a second sub-controller involved in operation of the second treating apparatus 3, and the screen outputter 110 may include a screen controller involved in operation of the screen outputter 110.

[0099] The above-described controller 90 may be connected to the first sub-controller, the second sub-controller, and the screen controller to transmit a command of the user or receive information. In addition, one of the first sub-controller, the second sub-controller, and the screen controller may correspond to the above-described controller 90.

[0100] FIG. 7 shows the control panel 100 according to an embodiment of the present disclosure. The control panel 100 will be described in detail as follows.

[0101] The control panel 100 may include the inputter 120 and the outputter described above. The outputter may output various information such as auditory information and visual information so as to be provided to the user.

[0102] For example, the outputter may include a speaker for outputting a sound for providing the information or the screen outputter 110 for outputting the screen, and the screen outputter 110 may include a display for outputting the screen on which an image is expressed.

[0103] The inputter 120 may generate the input signal based on the manipulation of the user, and the input signal may be transmitted to the controller 90 and converted into various command signals. The inputter 120 may include a button assembly 125 having various buttons for generating the input signal by the manipulation of the user, and the buttons may be of various types such as a mechanical type or a touch type.

[0104] In an embodiment of the present disclosure, the inputter 120 may include a power button, and when the first treating apparatus 2 and the second treating apparatus 3 are disposed together, the power button may include a first power button for the first treating apparatus 2 and a second power button for the second treating apparatus 3.

[0105] In addition, when the laundry treating apparatus 1 includes the first treating apparatus 2 and the second treating apparatus 3, the inputter 120 may include a

switch button 127. The switch button 127 may be used to switch an object on which the information is displayed via the screen outputter 110 from the first treating apparatus 2 to the second treating apparatus 3 and from the second treating apparatus 3 to the first treating apparatus 2.

[0106] In addition, the button assembly 125 may include an additional function button 126. The additional function button 126 may be used to output an additional function screen C270 in which additional functions for settings throughout use of the laundry treating apparatus 1 or additional settings for the course are displayed.

[0107] In addition, the button assembly 125 may include an execution button. When the execution button is manipulated in a course setting process P2, a currently set course may be performed. When the laundry treating apparatus 1 includes the first treating apparatus 2 and the second treating apparatus 3, the execution button may include a first execution button for starting a course of the first treating apparatus 2 and a second execution button for starting a course of the second treating apparatus 3.

[0108] In one example, the inputter 120 may include a touch inputter 123, and the touch inputter 123 may be equipped in the screen outputter 110. The touch inputter 123 may be formed in a shape of a panel for sensing a touch of the user and may be included in the display.

[0109] Accordingly, when the user touches an indicator such as an image or the like displayed on the screen outputter 110, a touch signal for a corresponding location may be transmitted to the controller 90 by the touch inputter 123, and the controller 90 may perform a control activity based on the touch signal.

[0110] FIG. 8 conceptually illustrates an operation process of the laundry treating apparatus 1 according to an embodiment of the present disclosure and a screen of the screen outputter 110 according thereto.

[0111] First, when power is applied via the power button, the laundry treating apparatus 1 may perform a start process P1 in which the controller 90 determines normal states or the like of various components and prepares for performing the course, and the screen outputter 110 may output a start screen C100 for notifying the user of the start process P1.

[0112] After the start process P1 is completed, the controller 90 may perform the course setting process P2. A plurality of courses for treating the laundry may be stored in advance in the controller 90, and in the course setting process P2, the user may select one of the plurality of courses.

[0113] In addition, in the course setting process P2, various options for the course may be adjusted by the user. A detailed description of the option will be made later. The screen outputter 110 may output the course setting screen C200 for providing information on course setting in the course setting process P2.

[0114] When the above-described execution button is manipulated in the course setting process P2, the controller 90 may perform a course progress process P3 in which the course for treating the laundry is performed. In

the course progress process P3, the controller 90 may perform the course determined via the course setting process P2, and the screen outputter 110 may output a course progress screen C300 indicating a progress of the corresponding course.

[0115] FIG. 9 illustrates the start screen C100 output from the screen outputter 110 according to an embodiment of the present disclosure. The start screen C100 may include an image notifying the user of the power application or may include several information for performing the course.

[0116] The screen shown in FIG. 9 corresponds to a welcome screen C110 indicating the power application of the laundry treating apparatus 1 in the start screen C100. The welcome screen C110 may be a screen that is output on the screen outputter 110 at the beginning of the power application to the laundry treating apparatus 1 or initially. The welcome screen C110 may include various phrases and images for forming an intimacy with the user or notifying the power application.

[0117] In FIG. 10, the course setting screen C200 is illustrated. In the course setting screen C200, a name of a course that is currently selected among the plurality of courses or the like may be displayed, and option setting information for the corresponding course may be displayed.

[0118] Specifically, the course setting screen C200 may include a course name area C201 in which the name of the course that is selected is displayed, and may include a suggestion area C210 in which a course description phrase C215 for describing the course displayed in the course name area C201 or content related to a suggestion content C212 to be described later is displayed.

[0119] In addition, the course setting screen C200 may include an indicator area C203. Various indicators C204 indicating information on a currently set option, state information, or the like may be displayed in the indicator area C203.

[0120] In addition, the course setting screen C200 may include an option information area C202 indicating current option information for the course displayed in the course name area C201. Setting values for one or more options may be displayed in the option information area C202.

[0121] However, the course setting screen C200 according to an embodiment of the present disclosure does not necessarily include all of the course name area C201, the suggestion area C210, the indicator area C203, and the option information area C202. Further, arrangement of the respective areas may also vary as needed.

[0122] In FIG. 11, the course progress screen C300 is illustrated. In the course progress screen C300, the course name area C201 in which the course in progress is displayed, a time guide area C310 indicating a remaining time until completion of the course, a state display area C320 indicating a current state of the course, a progress bar C330 indicating a current process among

entire processes of the course in an image form, and the indicator area C203 and the option information area C202 described above may be defined.

[0123] FIG. 12 is a conceptual diagram showing a concept of a plurality of courses and various options in an embodiment of the present disclosure.

[0124] In an embodiment of the present disclosure, the course corresponds to a process stored in advance in the controller 90 to include at least one or more strokes for treating the laundry. The course may include the at least one strokes.

[0125] For example, a standard course for washing the laundry may be preset in the controller 90, including at least one of a water supply stroke, a washing stroke, a rinsing stroke, a drainage stroke, and a dehydration stroke.

[0126] A plurality of different courses may be stored in advance in the controller 90. FIG. 12 illustrates the standard course, a strong course, a quiet course, and the like, but the plurality of courses are not necessarily limited thereto.

[0127] In one example, the controller 90 may be equipped to adjust various options for a course. In an embodiment of the present disclosure, the options may be categorized into adjustable options, simple additional options, and adjustable additional options.

[0128] Whether to apply the adjustable option may not be determined by the user, and may be maintained in a state of being predetermined by the controller 90. In other words, the adjustable option for each course may be determined by the controller 90 in advance, and the user may change a setting value of the adjustable option activated in the corresponding course.

[0129] For example, the plurality of courses may include a rinsing course including a water supply stroke, a rinsing stroke, and a drainage stroke. The controller 90 may activate a rinsing number option, a water amount option, or the like as the adjustable option for the rinsing course, and a washing strength option or the like may be deactivated in advance.

[0130] Accordingly, when the rinsing course is displayed in the course setting screen C200, the user is able to only change a setting value of the rinsing number option or the like activated as the adjustable option, and is not able to change the state of the washing strength option or the like to the active state. Such adjustable option may be determined based on strokes included in the corresponding course.

[0131] In one example, the option adjustable by the user in an embodiment of the present disclosure may include a plurality of option values C260. For example, the above-described rinsing number option may include option values C260 such as one time, two times, and three times, and one option value C260 selected by the user may be reflected in the controller 90 as a setting value of the corresponding option.

[0132] That is, when the user selects the option value C260 of 'two times' among the option values C260 of the

rinsing number option in the rinsing course, the option value C260 of 'two times' may become a setting value of the rinsing number option and may be reflected in the corresponding course.

[0133] In one example, an embodiment of the present disclosure may include the simple additional option. The simple additional option refers to an option that may only be determined by the user on whether it is to be applied to the corresponding course, and may not enable separate setting value adjustment.

[0134] For example, in the standard course for washing the laundry, a steam option of spraying steam is basically set to be in a non-applied state. However, the user may change the state of the steam option to an applied state as necessary and reflect the steam option in the corresponding course.

[0135] The simple additional option that may be changed by the user on whether it is to be applied to each of the plurality of courses may be preset in the controller 90. For example, in the above-described standard course, the steam option corresponds to the simple additional option that may be changed by the user on whether it is to be applied.

[0136] However, in case of a steam course in which the steam option is essentially set to be in the applied state, the steam option may be preset in the controller 90 so as not to be changed by the user on whether it is to be applied, and thus, the steam option for the steam course does not correspond to the simple additional option.

[0137] In one example, an embodiment of the present disclosure includes the adjustable additional option. The adjustable additional option refers to an option that may be determined by the user on whether it is to be applied to the corresponding course, and furthermore, and may have to select one of the plurality of option values C260 for the corresponding option as a setting value when the option is applied.

[0138] For example, an embodiment of the present disclosure may include a reservation option as the adjustable additional option. The user may select whether to apply the reservation option to the standard course for the washing, and when the reservation option is applied, determine one of the plurality of option values C260 for the reservation option, for example, the plurality of option values C260 such as after 30 minutes, after 1 hour, and after 1 hour and 30 minutes, as the setting value.

[0139] FIG. 13 is a diagram illustrating a message screen C150 output via the screen outputter 110 in the laundry treating apparatus 1 according to an embodiment of the present disclosure. In an embodiment of the present disclosure, the screen outputter 110 may output the message screen C150 on which content input by the user is displayed.

[0140] First, an embodiment of the present disclosure may include the cabinet 10, the drum 20, and the screen outputter 110. The drum 20 may be disposed inside the cabinet 10 and may accommodate the laundry therein. The screen outputter 110 may be disposed on the cabinet

10 and may output the screen.

[0141] The screen outputter 110 may be constructed to output the message screen C150 on which a user phrase C152 written by the user is displayed. A user name C151 may be displayed on the message screen C150 to indicate the user who input the user phrase C152.

[0142] The laundry treating apparatus 1 may be in an environment of being used by a plurality of user, such as a home, and when the plurality of users are present, communication between the users on a laundry treatment process may be required.

[0143] For example, there may be settings required in the process for treating the laundry depending on characteristics of the laundry currently being treated, and furthermore, it may be necessary to transfer a laundry treatment scheme preferred or required by one user to another user.

[0144] As described above, when information is required to be transmitted from one user to another user in the treatment of the laundry, said one user may express an opinion to said another user via the message screen C150.

[0145] The user name C151 may be displayed to indicate a subject who wrote the user phrase C152. The controller 90, the server 4, and/or the terminal 5 of the laundry treating apparatus 1 may store the user name C151 for indicating each of the plurality of users, and the user name C151 may be displayed on the message screen C150.

[0146] The user phrase C152 may be written as characters. Further, a plurality of user phrases C152 may be stored in advance in the controller 90, the server 4, and/or the terminal 5 and thus the user may select one of those, or the user may directly write the user phrase C152 as the characters.

[0147] When the plurality of user phrases C152 are stored in advance in the controller 90 or the like, the user phrase C152 may be additionally stored in the controller 90 via the server 4 or the like, and the user may select the user phrase C152 containing necessary content and output the same on the message screen C150.

[0148] The message screen C150 may include a confirmation area C153. The confirmation area C153 may be displayed on the message screen C150 to be selectable, and the user may select the confirmation area C153 by manipulating the inputter 120 such as the touch inputter 123 and the button assembly 125.

[0149] The touch inputter 123 may be disposed to overlap at least a portion of the screen of the screen outputter 110 and may be constructed to sense a touch signal of the user. That is, in an embodiment of the present disclosure, the screen outputter 110 may be constructed to sense the touch signal of the user.

[0150] When the touch inputter 123 is used, when a touch signal for the confirmation area C153 is sensed on the screen outputter 110, the controller 90 may determine that the user has selected the confirmation area C153.

[0151] The message screen C150 may include the

confirmation area C153 that may be selected based on the input signal, and the screen outputter 110 may be constructed to terminate the output of the message screen C150 and output another screen when the confirmation area C153 is selected on the message screen C150.

[0152] A user who currently desires to use the laundry treating apparatus 1 may check a message transmitted from another user via the message screen C150, and after checking the user phrase C152, may select the confirmation area C153 to move to another screen.

[0153] The confirmation area C153 may have a function of terminating the message screen C150, and may include a word or an image for indicating the function of terminating the message screen C150.

[0154] FIG. 13 illustrates a state in which a word "skip" is displayed in the confirmation area C153, but the word indicating the confirmation area C153 may be variously determined in addition to the 'skip'.

[0155] FIG. 14 illustrates a state in which the user phrase C152 is being written via the terminal 5 of the user according to an embodiment of the present disclosure. On the terminal 5 illustrated in FIG. 14, a message writing screen C170 for writing the user phrase C152 is output.

[0156] In an embodiment of the present disclosure, the user terminal 5 may be able to exchange information with the controller 90 of the laundry treating apparatus 1 via the server 4, or may be able to exchange the information directly with the controller 90.

[0157] That is, the controller 90 may exchange the information with the terminal 5 of the user via the server 4, or may exchange the information by being in direct communication with the terminal 5 of the user.

[0158] The terminal 5 of the user may be constructed to output a screen and input characters. The message writing screen C170 for writing the user phrase C152 may be output on the terminal 5 of the user, and the user may directly write the user phrase C152 to be output on the message screen C150 via the terminal 5.

[0159] The message screen C150 may display the user phrase C152 transmitted from the terminal 5 of the user or the server 4. That is, the controller 90 may receive the user phrase C152 written by the user from the terminal 5 or the server 4 and control the screen outputter 110 such that the user phrase C152 is displayed on the message screen C150.

[0160] That is, as described above, an embodiment of the present disclosure may further include the controller 90 in which a course for treating the laundry accommodated in the drum 20 is preset and which controls the screen outputter 110.

[0161] The controller 90 may control the screen outputter 110 to display the user phrase C152 transmitted from the terminal 5 or the server 4 on the message screen C150.

[0162] However, in an embodiment of the present disclosure, the user phrase C152 may not necessarily be

written only via the terminal 5 of the user. For example, the user may write the user phrase C152 via the inputter 120 according to an embodiment of the present disclosure. That is, the message screen C150 may display the user phrase C152 written via the inputter 120.

[0163] The inputter 120 according to an embodiment of the present disclosure may include the button assembly 125, and the button assembly 125 may include a plurality of character buttons respectively corresponding to different characters. When the plurality of character buttons are present, the user may manipulate the character buttons to write the user phrase C152.

[0164] In one example, the inputter 120 according to an embodiment of the present disclosure may include a sound sensor such as a microphone, and the controller 90 may be constructed to convert a sound signal input via the sound sensor into characters.

[0165] That is, the user may directly input content corresponding to the user phrase C152 as speech via the sound sensor, and the controller 90 may convert the sound signal input via the sound sensor into the characters and write the user phrase C152 as the characters substitutingly.

[0166] FIG. 15 illustrates a reception failure indication C160 output via the screen outputter 110 in an embodiment of the present disclosure.

[0167] In an embodiment of the present disclosure, the controller 90 may be constructed to receive the user phrase C152 from the terminal 5 or the server 4, and may control the screen outputter 110 to output the reception failure indication C160 informing the user of a reception failure of the user phrase C152 when the reception of the user phrase C152 fails because of a communication problem or the like.

[0168] The reception failure indication C160 may be displayed in place of the message screen C150 in an order in which the message screen C150 is output or displayed as a part of the message screen C150. The reception failure indication C160 may include a phrase indicating that the reception of the user phrase C152 has failed.

[0169] An embodiment of the present disclosure may output the reception failure indication C160 in the reception failure situation of the user phrase C152, thereby notifying the user that the communication problem or the like exists, and further, notifying the user that the user phrase C152 exists even though the reception has failed.

[0170] FIG. 16 illustrates the message screen C150 including a movement area C154 indicating a suggested course.

[0171] Referring to FIG. 16, in an embodiment of the present disclosure, the screen outputter 110 may be constructed to output the message screen C150 on which the suggested course set by the user is displayed for treating the laundry.

[0172] The suggested course may be the course preset by the user who wrote the user phrase C152. For example, the user who writes the user phrase C152 may

directly select a course desired by himself/herself, set various options for the corresponding course in advance, and store the selected course as the suggested course.

[0173] The suggested course may be displayed on the message screen C150, so that a current user may receive the course and the option settings intended by the user who wrote the user phrase C152 as it is and perform the laundry treatment process.

[0174] The suggested course may be set via the terminal 5 of the user or the inputter 120. For example, the terminal 5 of the user may provide not only the screen for writing the user phrase C152 but also a screen for setting the suggested course. The user phrase C152 and the suggested course may be simultaneously written or set on one screen.

[0175] In one example, the user may set the suggested course via manipulation of the inputter 120 equipped on the laundry treating apparatus 1, and the suggested course set by the user may be directly stored in the controller 90 or may be received by the controller 90 via the server 4 and stored in the controller 90.

[0176] An embodiment of the present disclosure may enable message transmission between the users via the message screen C150 and simultaneously enable transmission of the course setting desired by one user to another user as the suggested course, thereby improving convenience in the communication and the course setting.

[0177] In one example, the message screen C150 may further include the movement area C154 that may be selected based on the input signal, and the suggested course may be displayed in the movement area C154. That is, the movement area C154 may be understood as an object representing the suggested course.

[0178] When the movement area C154 is selected on the message screen C150, the screen outputter 110 may output a course setting screen C200 on which the suggested course set by the user for treating the laundry is displayed to be settable.

[0179] The movement area C154 may be displayed to be selectable by the user via the inputter 120 or the like, like the above-described confirmation area C153. As the course setting screen C200 reflecting the setting of the suggested course is output together with the selection of the movement area C154, convenience of use may be improved.

[0180] In one example, setting information of the suggested course for the user phrase C152 may be transmitted from the terminal 5 of the user or the server 4, and the message screen C150 may be output in a state in which the movement area C154 is removed when the setting information of the suggested course is not transmitted.

[0181] For example, although FIG. 15 shows the message screen C150 on which the movement area C154 is not displayed because the information on the suggested course is not received, FIG. 16 shows the message screen on which the movement area C154 is displayed

as the information on the suggested course is received.

[0182] In an embodiment of the present disclosure, whether the information on the suggested course has been received may not be processed as the reception failure indication C160 differently from whether the user phrase C152 has been received. For example, the user phrase C152 may be essential in the message screen C150, but because the setting of the suggested course is optional depending on the user, it may not be processed as the reception failure indication C160.

[0183] FIG. 17 illustrates a course setting screen C200 displayed based on the suggested course setting by the selection of the movement area C154. (a) in FIG. 17 shows the message screen C150 on which the movement area C154 indicating the suggested course is displayed, and (b) in FIG. 17 shows the course setting screen C200 output as the movement area C154 in (a) in FIG. 17 is selected.

[0184] A user who turns on the laundry treating apparatus 1 may check the content transmitted from another user via the user phrase C152 of the message screen C150, may select the movement area C154 and move to the course setting screen C200 when agreeing to the corresponding content, and may select the confirmation area C153 and output the course setting screen C200 when disagreeing to the corresponding content.

[0185] When the confirmation area C153 is selected, because it corresponds to the simple termination of the message screen C150, the course setting screen C200 may be displayed as a default setting. However, when the movement area C154 is selected, the course setting screen C200 indicating the suggested course directly set by the user who wrote the user phrase C152 may be output.

[0186] The course setting screen C200 output as the movement area C154 is selected may display the course preset by the user who wrote the message in a course name area C201, a plurality of adjustable options having setting values predetermined by the user may be displayed in an option information area C202, and an indicator C204 indicating additional options preset by the user may be activated in an indicator area C203.

[0187] In addition, on the course setting screen C200 output as the movement area C154 of the message screen C150 is selected, a phrase indicating that the movement area C154 has been selected and thus the suggested course is being displayed may be displayed in a suggestion area C210.

[0188] In an embodiment of the present disclosure, in the suggestion area C210 of the course setting screen C200, a course description phrase C215 for describing the course displayed in the course name area C201 may be displayed, suggestion content in which the controller 90 suggests a course change or an option change to the user may be displayed, or a phrase indicating that the current course is the suggested course preset by the user via the message screen C150 may be displayed.

[0189] On the course setting screen C200 output as the

movement area C154 of the message screen C150 is selected, the course description phrase C215 and a phrase indicating that the suggested course by the user is displayed in preference to the suggestion content may be displayed in the suggestion area C210.

[0190] FIG. 18 illustrates a process in which the course displayed on the course setting screen C200 is changed from the suggested course to another course according to an embodiment of the present disclosure. (a) in FIG. 18 illustrates the course setting screen C200 on which the suggested course by the user is displayed, and (b) in FIG. 18 illustrates a course setting screen C200 on which a course other than the suggested course is displayed as a command for changing the course is transmitted to the controller 90 by the user in (a) in FIG. 18.

[0191] As described above, in an embodiment of the present disclosure, the inputter 120 may be disposed to overlap at least a portion of the screen of the screen outputter 110 to sense the touch signal of the user.

[0192] That is, the screen outputter 110 may be constructed to sense the touch signal of the user with respect to at least the portion of the screen. In an embodiment of the present disclosure, the controller 90 may change the course when a sliding-type touch signal for the course setting screen C200 is received.

[0193] The sliding-type touch signal corresponds to a touch signal sensed as the user moves a contact portion along one direction while maintaining a state of being in contact with the screen of the screen outputter 110.

[0194] For example, the user may generate the sliding type touch signal by moving a finger along the screen while touching the screen with the finger. (a) in FIG. 18 conceptually illustrates the sliding-type touch signal via an arrow.

[0195] In one example, in an embodiment of the present disclosure, the controller 90 may provide a plurality of different courses to the user to enable various treatment of the laundry. In addition, one of the plurality of courses may be displayed on the course setting screen C200.

[0196] As the plurality of courses are sequentially displayed on the course setting screen C200 one by one, a limited screen area may be efficiently utilized and the plurality of courses may be provided to the user to be selected.

[0197] A display order of the plurality of courses displayed on the course setting screen C200 may be determined in advance. Accordingly, the plurality of courses may be sequentially displayed one by one on the course setting screen C200 based on the display order.

[0198] A course order indication C205 indicating the display order of the plurality of courses may be output on the course setting screen C200. That is, the user may check the course order indication C205 on the course setting screen C200 to identify an order of the currently displayed course.

[0199] There may be various shapes of the course order indication C205. For example, as illustrated in

FIG. 18, the course order indication C205 may include objects respectively corresponding to the courses, and may indicate the display order of the course currently displayed to the user via a color change or the like of an object corresponding to the currently displayed course.

[0200] The name of the course displayed on the course setting screen C200 may be displayed in the course name area C201, and when there is manipulation of an execution button by the user, a process of treating the laundry based on the course displayed in the course name area C201, that is, a course progress process P3 may be performed.

[0201] When the screen outputter 110 is constructed to sense the touch signal, the user may command the controller 90 to change the course by generating the sliding-type touch signal with respect to the screen while the course setting screen C200 is output.

[0202] For example, a course ranked first in the display order may be displayed on the course setting screen C200 output after the laundry treating apparatus 1 is turned on. The user may command the controller 90 to display a next course on the course setting screen C200 by generating the sliding-type touch signal based on one direction or to display a previous course by generating the sliding-type touch signal based on the other direction opposite to said one direction.

[0203] The scheme of changing the course on the course setting screen C200 as described above may be equally applied even when the suggested course is displayed. That is, when the touch signal is generated in the sliding manner while the suggested course is displayed on the course setting screen C200, the screen outputter 110 may display a course different from the suggested course.

[0204] In this case, the suggested course may be one of the plurality of courses stored in advance in the controller 90, or may correspond to a new course different from the plurality of courses. When the sliding-type touch signal is generated while the suggested course is displayed, the screen outputter 110 may display the course ranked first in the display order among the plurality of courses stored in advance in the controller 90.

[0205] Accordingly, when the user desires another course after directly checking a setting state of the suggested course while the course setting screen C200 on which the suggested course is displayed is output as the movement area C154 of the message screen C150 is selected, the user may input the sliding-type touch signal and select the plurality of courses stored in advance in the controller 90 in order.

[0206] In one example, the course displayed on the course setting screen C200 may be changed in a scheme other than the manipulation scheme via the touch inputter 123. For example, the user may change the course displayed on the course setting screen C 200 by manipulating the button assembly 125 equipped on the control panel 100.

[0207] FIG. 19 is a diagram illustrating a change pro-

cess of a screen output on the screen outputter 110 after the laundry treating apparatus 1 is turned on according to an embodiment of the present disclosure.

[0208] An embodiment of the present disclosure may output the start screen C100 via the screen outputter 110 after the laundry treating apparatus 1 is turned on, and may output the course setting screen C200 for setting the course after the start screen C100 is output.

[0209] (a) in FIG. 19 illustrates a welcome screen C110 for notifying the user of the power on state of the laundry treating apparatus 1 of the start screen C100, and (b) in FIG. 19 illustrates a first notification screen C121 corresponding to a notification screen C120 of the start screen C100. (c) in FIG. 19 illustrates a second notification screen C122 corresponding to the notification screen C120, and (d) in FIG. 19 illustrates the course setting screen C200 output for setting the course after outputting the start screen C100.

[0210] A change in the screen output on the screen outputter 110 will be described in detail with reference to FIG. 19.

[0211] First, after the laundry treating apparatus 1 is turned on, the controller 90 may perform a start process P1. In the start process P1, the controller 90 may identify a state of the laundry treating apparatus 1, check environmental information, and load various information for treating the laundry.

[0212] In the start process P1, the screen outputter 110 may output the start screen C100. The start screen C100 may include a plurality of detailed start screens C100 such as the welcome screen C110 and the notification screen C120.

[0213] When a predetermined time elapses after the welcome screen C110 is output, the screen outputter 110 may output the notification screen C120. The notification screen C120 may include a plurality of notification screens C120 such as the first notification screen C121 and the second notification screen C122.

[0214] The notification screen C120 may provide the user with various information to be checked before the course is performed. The first notification screen C121 and the second notification screen C122 may include different information.

[0215] (b) in FIG. 19 illustrates the first notification screen C121 that notifies the user of the environmental information such as a temperature and a humidity, and (c) in FIG. 19 illustrates the second notification screen C122 that notifies the user of an abnormal state that may be problematic in treating the laundry, such as a detergent lacking state.

[0216] However, the information provided on the first notification screen C121 and the second notification screen C122 may not be necessarily limited as described above, and various information may be provided as necessary.

[0217] After the output of the notification screen C120 is terminated, the controller 90 may enter a course setting process P2 for setting the course, and the screen out-

putter 110 may output the course setting screen C200 for setting the course.

[0218] FIG. 20 illustrates a process of outputting the start screens C100 including the message screen C150. (a) in FIG. 20 illustrates the welcome screen C110, (b) in FIG. 20 illustrates a message screen C150 output after the welcome screen C110, (c) in FIG. 20 illustrates the notification screen C120 output after the message screen C150, and (d) in FIG. 20 illustrates the course setting screen C200 output after the notification screen C120.

[0219] In an embodiment of the present disclosure, the screen outputter 110 may be constructed to output the course setting screen C200 for setting one of the plurality of courses for treating the laundry, and may output the message screen C150 before the course setting screen C200 is output after the power application.

[0220] As described above, the message screen C150 may include the movement area C154 for moving to the course setting screen C200 based on the suggested course, and thus the message screen C150 may be output before the output of the course setting screen C200 and the screen may be switched to the course setting screen C200 on which the suggested course is displayed via the selection of the movement area C154.

[0221] Furthermore, the message screen C150 may correspond to a screen on which information emphasized by the user is displayed as the user phrase C152, and thus the message screen C150 may be output before the course setting screen C200 such that the user phrase C152 may be checked before setting the course.

[0222] In one example, the screen outputter 110 may be constructed to output the start screen C100 before the course setting screen C200 is output after the power application. The start screen C100 may include the plurality of detailed start screens C100 sequentially output after the screen outputter 110 is turned on, and the message screen C150 may correspond to one of the plurality of detailed start screens C100.

[0223] Furthermore, the plurality of detailed start screens C100 may include the welcome screen C110 that notifies the user of the power application of the screen outputter 110 via a phrase or an image, and the message screen C150 may be output after the welcome screen C110.

[0224] In one example, as described above, the plurality of detailed start screens C100 may include the notification screen C120 that notifies the user of state information for performing the course via a phrase stored in advance in the controller 90, and the message screen C150 may be output earlier than the notification screen C120.

[0225] When the message screen C150 is output in preference to the notification screen C120, the current user may check the content of the user phrase C152 written by another user before the notification screen C120, so that the content of the user phrase C152 may be more emphasized. FIG. 20 illustrates a process of outputting the message screen C150 in preference to the

notification screen C120 after outputting the welcome screen C110.

[0226] FIG. 21 illustrates a process of outputting the message screen C150 after the notification screen C120 in an embodiment of the present disclosure. (a) in FIG. 21 illustrates the welcome screen C110 of the start screen C100, (b) in FIG. 21 illustrates the notification screen C120 output after the welcome screen C110, (c) in FIG. 21 illustrates the message screen C150 output after the notification screen C120, and (d) in FIG. 21 illustrates the course setting screen C200 output after the message screen C150.

[0227] In an embodiment of the present disclosure, the screen outputter 110 may output the message screen C150 after outputting the notification screen C120. As described above, the message screen C150 may include the movement area C154 for moving to the course setting screen C200 based on the suggested course.

[0228] However, when the suggested course is set and the movement area C154 is displayed on the message screen C150, the screen is switched to the course setting screen C200 when the user selects the movement area C154. When the movement area C154 is selected on the message screen C150 output earlier than the notification screen C120, the notification screen C120 may not be output to the user, and thus it may be disadvantageous in providing various information to the user.

[0229] Accordingly, in an embodiment of the present disclosure, the message screen C150 may have various display orders of the plurality of detailed start screens C100, but when the suggested course is set, it may be advantageous to output the message screen C150 at least after the notification screen C120.

[0230] FIG. 22 is a flowchart illustrating a method for controlling the laundry treating apparatus 1 according to an embodiment of the present disclosure. Hereinafter, the control method will be described with reference to FIG. 22, but a description of the above-described content regarding the laundry treating apparatus 1 will be omitted as much as possible.

[0231] In an embodiment of the present disclosure, the laundry treating apparatus 1 may include the cabinet 10, the drum 20 that is rotatably disposed inside the cabinet 10 and accommodates the laundry therein, and the screen outputter 110 that is disposed on the cabinet 10 and outputs the screen.

[0232] In addition, the method for controlling the laundry treating apparatus 1 according to an embodiment of the present disclosure may include a message output step S700. In the message output step S700, the message screen C150 on which the user phrase C152 written by the user is displayed may be output via the screen outputter 110.

[0233] That is, in the message output step S700, the screen outputter 110 may output the message screen C150 including the user phrase C152, and the controller 90 may control the screen outputter 110 such that the message screen C150 is output.

[0234] In one example, the method for controlling the laundry treating apparatus 1 according to an embodiment of the present disclosure may further include a message writing step S500 and a message receiving step S600.

[0235] Before the message output step S700, in the message writing step S500, the user may write the user phrase C152 via the terminal 5. That is, in the message writing step S500, the user phrase C152 may be written via the terminal 5 or the inputter 120 by the user.

[0236] After the message writing step S500 and before the message output step S700, in the message receiving step S600, the controller 90 equipped in the cabinet 10 may receive the user phrase C152 via the terminal 5 or the server 4.

[0237] When the controller 90 fails to receive the user phrase C152 in the message receiving step S600, the screen outputter 110 may output the reception failure indication C160 indicating the reception failure of the user phrase C152 in the message output step S700.

[0238] In the message writing step S500, the suggested course for treating the laundry may be set by the user. The suggested course may be set via the terminal 5 or the inputter 120 by the user.

[0239] In the message receiving step S600, the controller 90 may receive the suggested course information together with the user phrase C152. In the message output step S700, the screen outputter 110 may output the message screen C150 including the movement area C154 indicating the suggested course. When the suggested course is received, the controller 90 may control the screen outputter 110 such that the movement area C154 is displayed on the message screen C150.

[0240] In one example, the method for controlling the laundry treating apparatus 1 according to an embodiment of the present disclosure may further include a course setting step S800. In the course setting step S800, when the movement area C154 of the message screen C150 is selected by the user in the message output step S700, the screen outputter 110 may output the course setting screen C200 on which the suggested course is displayed.

[0241] Although the present disclosure has been illustrated and described with respect to the specific embodiments, it will be apparent to those skilled in the art that the present disclosure may be variously improved and modified without departing from the technical spirit of the present disclosure provided by the following claims.

Claims

1. A laundry treating apparatus comprising:

a cabinet;
a drum disposed inside the cabinet and constructed to accommodate laundry therein; and
a screen outputter disposed on the cabinet and configured to output a screen,

wherein the screen outputter is configured to output thereon a message screen where a user phrase written by a user is displayed.

2. The laundry treating apparatus of claim 1, wherein the message screen displays the user phrase transmitted from a terminal of the user or a server.

3. The laundry treating apparatus of claim 2, further comprising a controller having a course for treating the laundry accommodated in the drum set in advance and configured to control the screen outputter, wherein the controller is configured to control the screen outputter to display the user phrase transmitted from the terminal or the server on the message screen.

4. The laundry treating apparatus of claim 3, wherein the controller is configured to control the screen outputter to output a reception failure indication informing the user of a reception failure of the user phrase when reception of the user phrase from the terminal or the server fails.

5. The laundry treating apparatus of claim 1, further comprising an inputter disposed on the cabinet and configured to generate an input signal by manipulation of the user, wherein the message screen displays the user phrase written via the inputter.

6. The laundry treating apparatus of claim 1, wherein the screen outputter is configured to output a course setting screen for setting one of a plurality of courses for treating the laundry, and output the message screen before the course setting screen is output after power application.

7. The laundry treating apparatus of claim 6, wherein the screen outputter is configured to output a start screen before the course setting screen is output after the power application,

wherein the start screen includes a plurality of detailed start screens sequentially output after the power application to the screen outputter, wherein the message screen corresponds to one of the plurality of detailed start screens.

8. The laundry treating apparatus of claim 7, wherein the plurality of detailed start screens include a welcome screen for notifying the user of the power application to the screen outputter via a phrase or an image, wherein the message screen is output after the welcome screen is output.

9. The laundry treating apparatus of claim 7, further

comprising a controller having a course for treating the laundry stored in advance and configured to control the screen outputter,

wherein the plurality of detailed start screens include a notification screen for notifying the user of state information for performing the course via a phrase stored in advance in the controller,
wherein the message screen is output earlier than the notification screen.

10. The laundry treating apparatus of claim 1, further comprising an inputter disposed on the cabinet and configured to generate an input signal by manipulation of the user,

wherein the message screen includes a confirmation area selectable based on the input signal,
wherein the screen outputter is configured to terminate the output of the message screen and output another screen when the confirmation area is selected on the message screen.

11. The laundry treating apparatus of claim 10, wherein the inputter is disposed to overlap at least a portion of the screen of the screen outputter and configured to sense a touch signal of the user.

12. The laundry treating apparatus of claim 10, wherein the message screen further includes a movement area selectable based on the input signal, wherein the screen outputter is configured to output a course setting screen where a suggested course set by the user for treating the laundry is displayed to be settable when the movement area is selected on the message screen.

13. The laundry treating apparatus of claim 12, wherein the suggested course is set via a terminal of the user or the inputter.

14. The laundry treating apparatus of claim 12, wherein setting information of the suggested course for the user phrase is transmitted from a terminal of the user or a server,
wherein the message screen is output with the movement area removed when the setting information of the suggested course is not transmitted.

15. The laundry treating apparatus of claim 12, further comprising a controller having a course for treating the laundry stored in advance and configured to control the screen outputter,
wherein the screen outputter is configured to output a notification screen for notifying the user of state information before the course is performed via a

phrase stored in advance in the controller, and then output the message screen.

16. The laundry treating apparatus of claim 15, wherein the inputter is disposed to overlap at least a portion of the screen of the screen outputter and configured to sense a touch signal of the user,
wherein the screen outputter is configured to display a course different from the suggested course when the touch signal is generated in a sliding manner while the suggested course is displayed on the course setting screen.

17. A laundry treating apparatus comprising:

a cabinet;
a drum rotatably disposed inside the cabinet and constructed to accommodate laundry therein;
and
a screen outputter disposed on the cabinet and configured to output a screen,
wherein the screen outputter is configured to output thereon a message screen where a suggested course set by a user for treating the laundry is displayed before outputting the course setting screen.

18. A method for controlling a laundry treating apparatus including a cabinet, a drum rotatably disposed inside the cabinet and constructed to accommodate laundry therein, and a screen outputter disposed on the cabinet and configured to output a screen, the method comprising:
a message output operation of outputting a message screen where a user phrase written by a user is displayed via the screen outputter.

19. The method of claim 18, further comprising:

a message writing operation of writing, by the user, the user phrase via a terminal before the message output operation; and
a message receiving operation of receiving, by a controller disposed in the cabinet, the user phrase via the terminal or a server before the message output operation after the message writing operation.

20. The method of claim 19, wherein the screen outputter is configured to output a reception failure indication informing a reception failure of the user phrase in the message output operation when the controller fails to receive the user phrase in the message receiving operation.

21. The method of claim 19, wherein a suggested course for treating the laundry is set by the user in the message writing operation,

wherein the controller is configured to receive suggested course information together with the user phrase in the message receiving operation, wherein the screen outputter is configured to output the message screen including a movement area indicating the suggested course in the message output operation. 5

- 22.** The method of claim 21, further comprising a course setting operation of outputting, by the screen outputter, a course setting screen displaying the suggested course when the movement area of the message screen is selected by the user in the message output operation. 10

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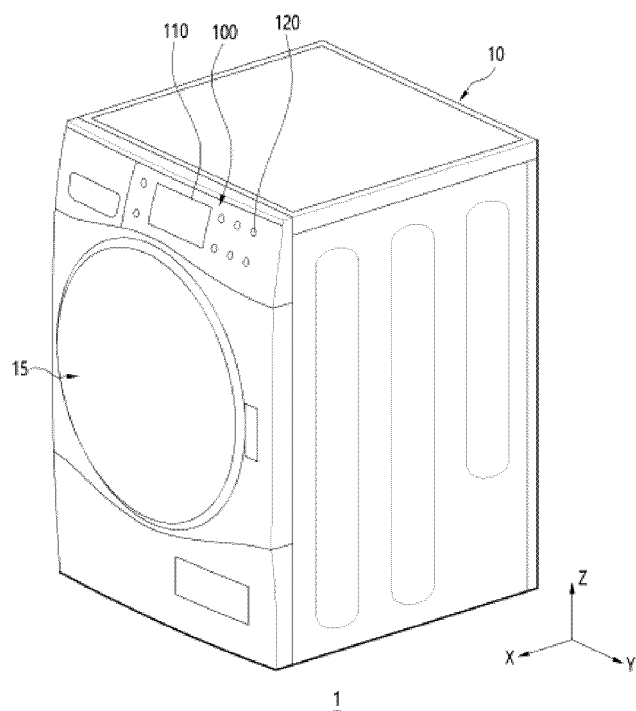
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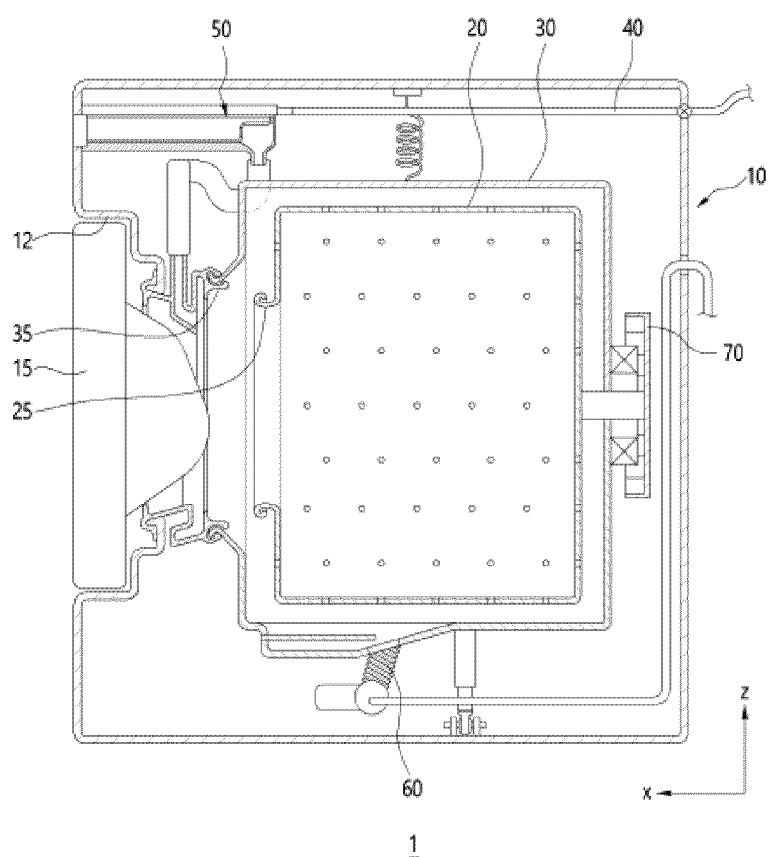
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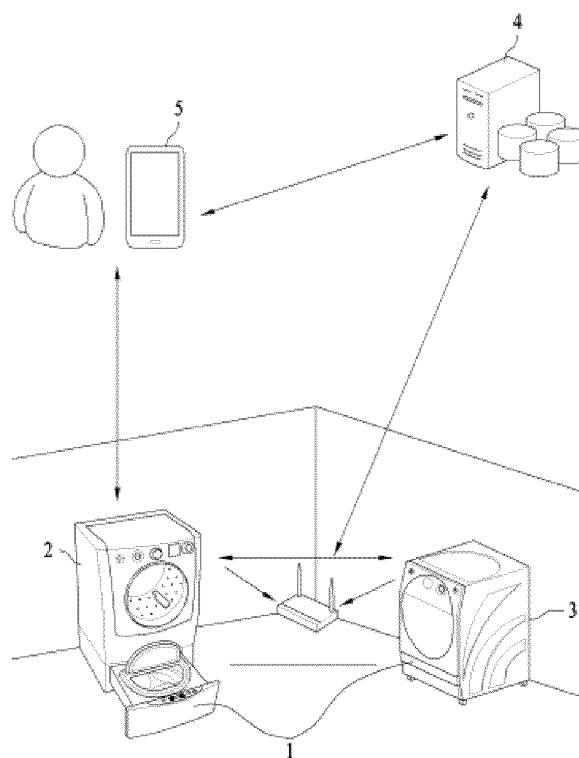
【FIG. 1】



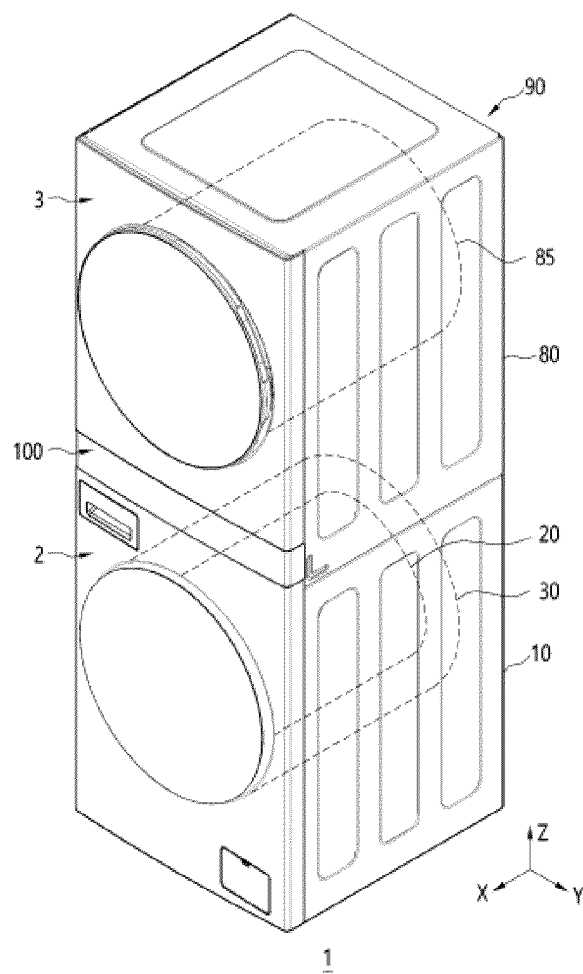
【FIG. 2】



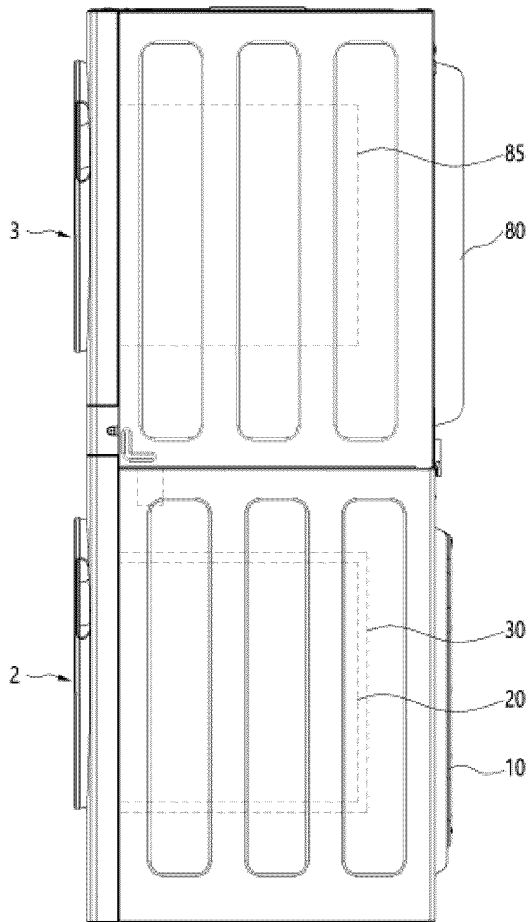
【FIG. 3】



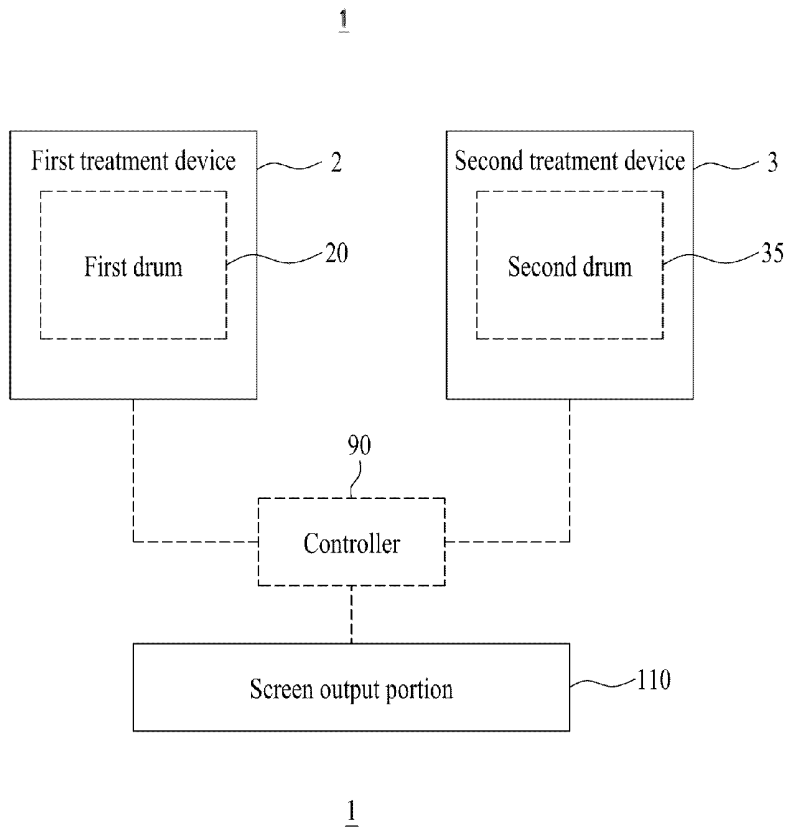
【FIG. 4】



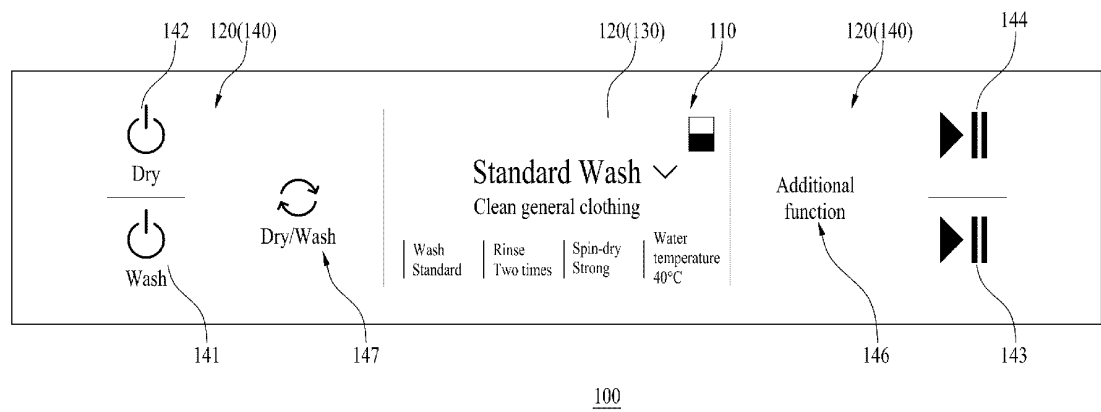
【FIG. 5】



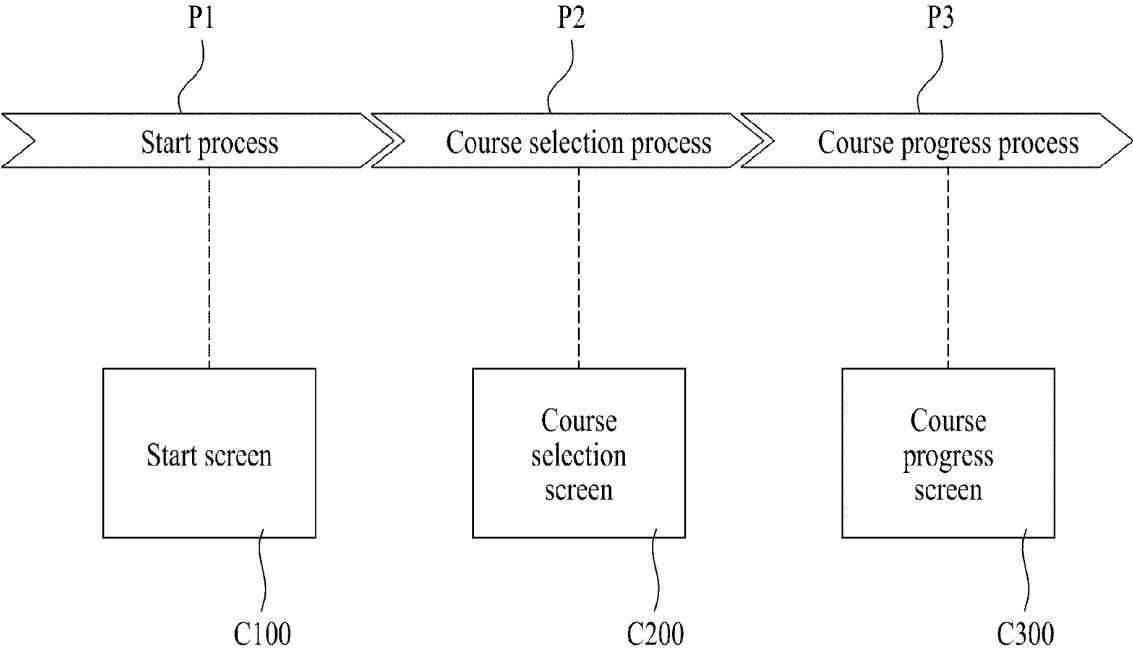
【FIG. 6】



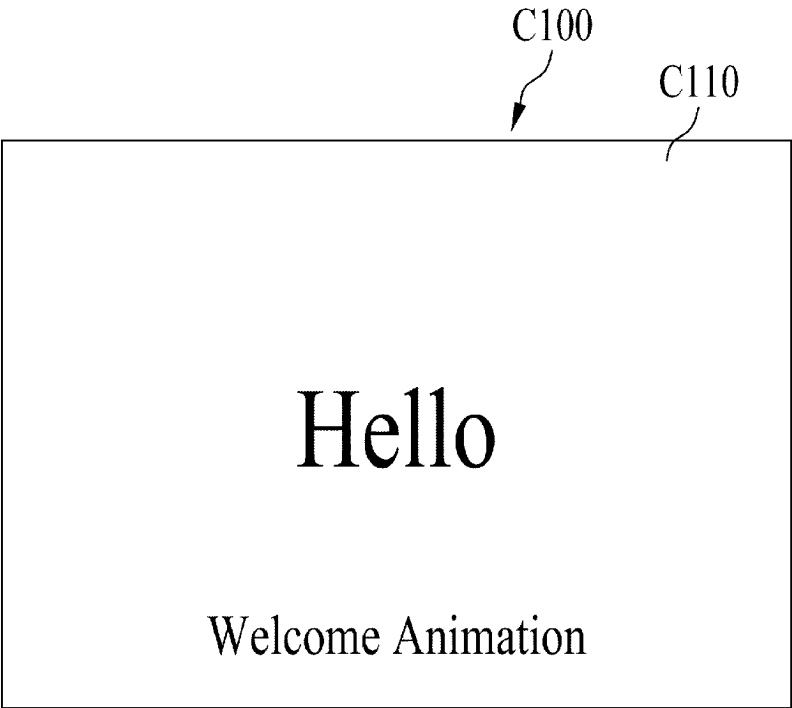
【FIG. 7】



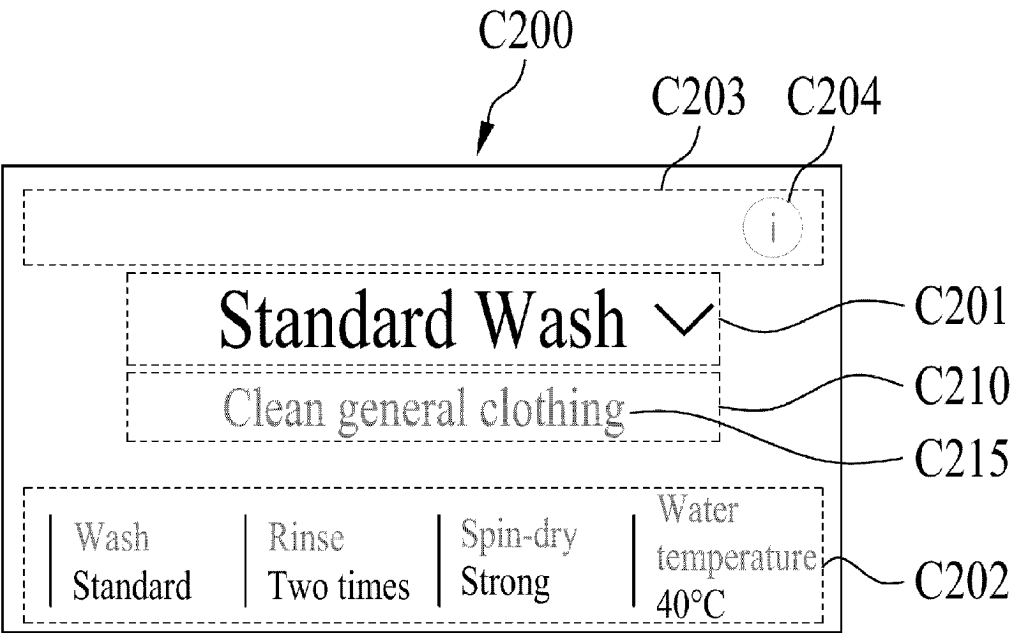
【FIG. 8】



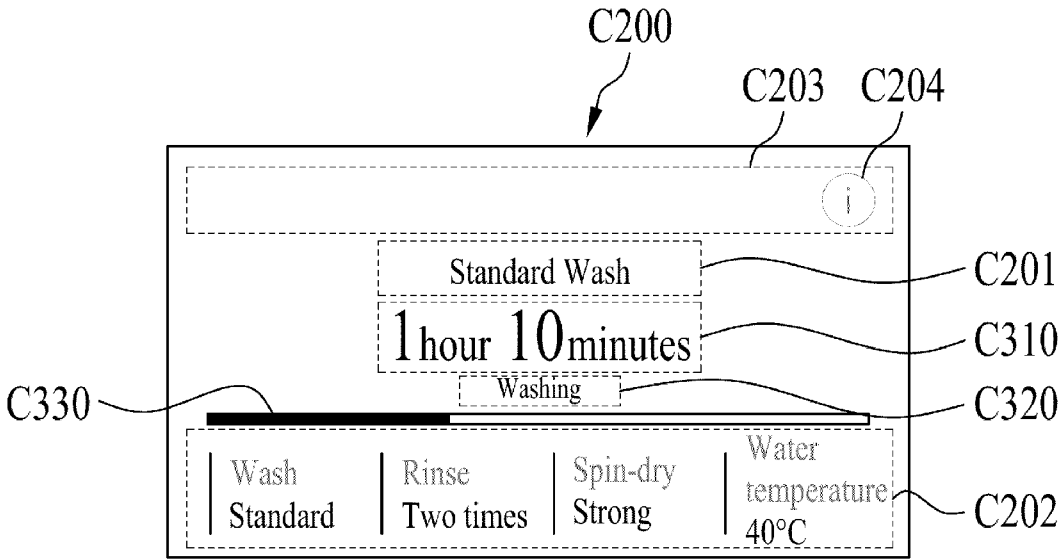
【FIG. 9】



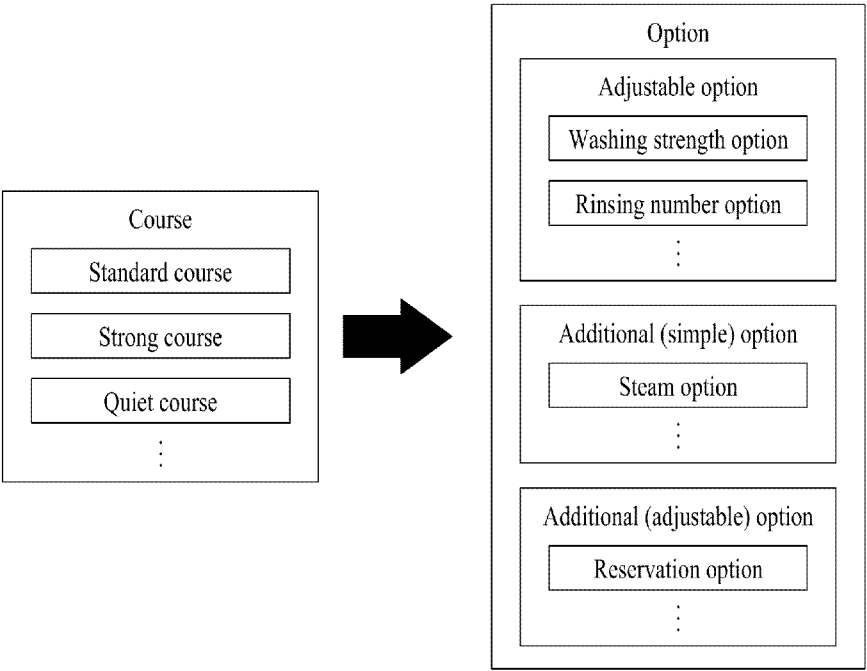
【FIG. 10】



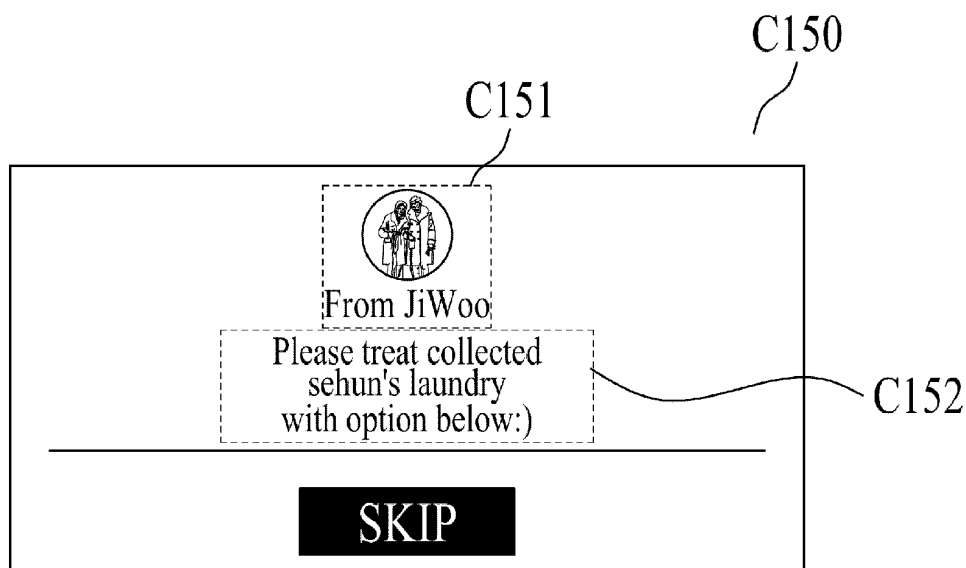
【FIG. 11】



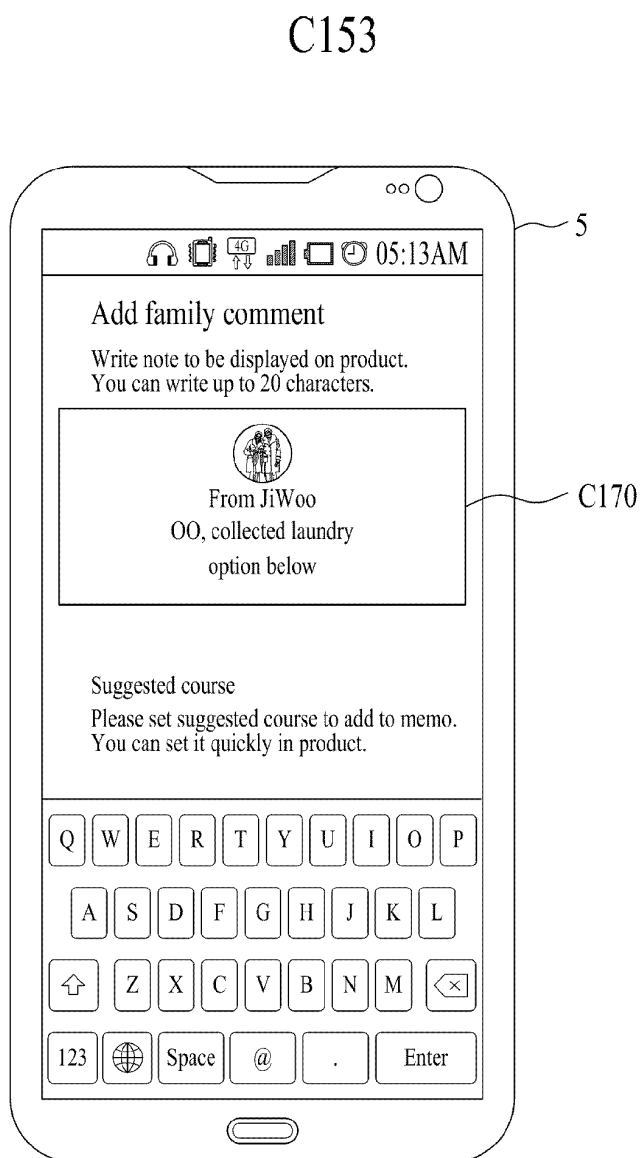
【FIG. 12】



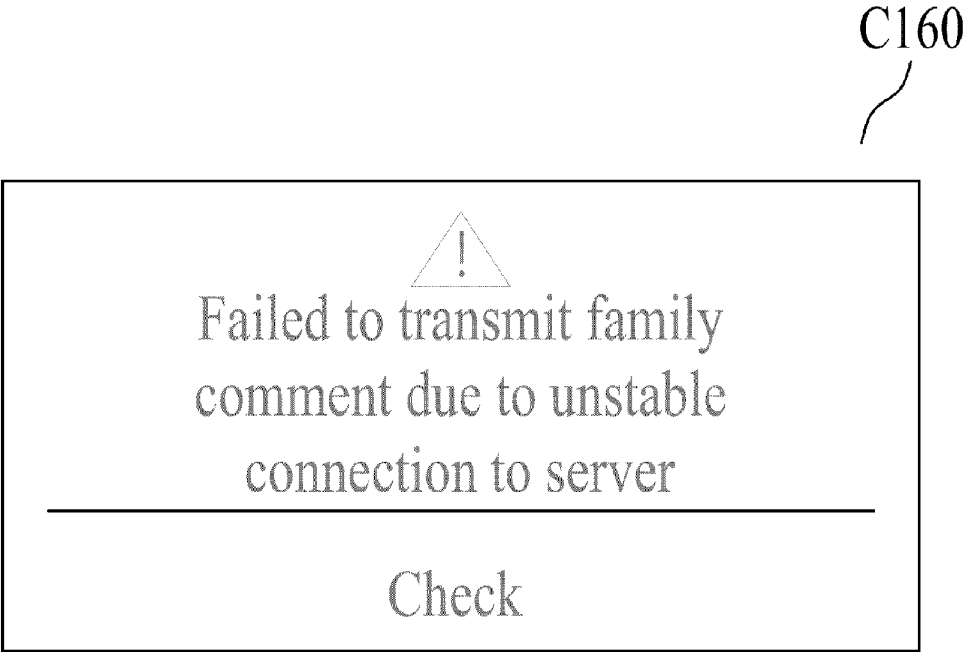
【FIG. 13】



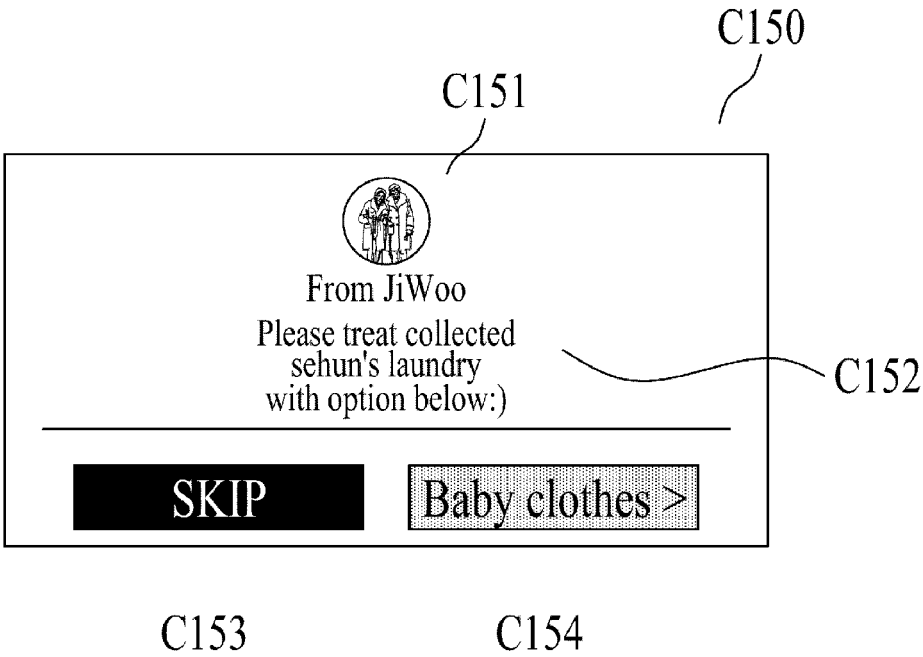
【FIG. 14】



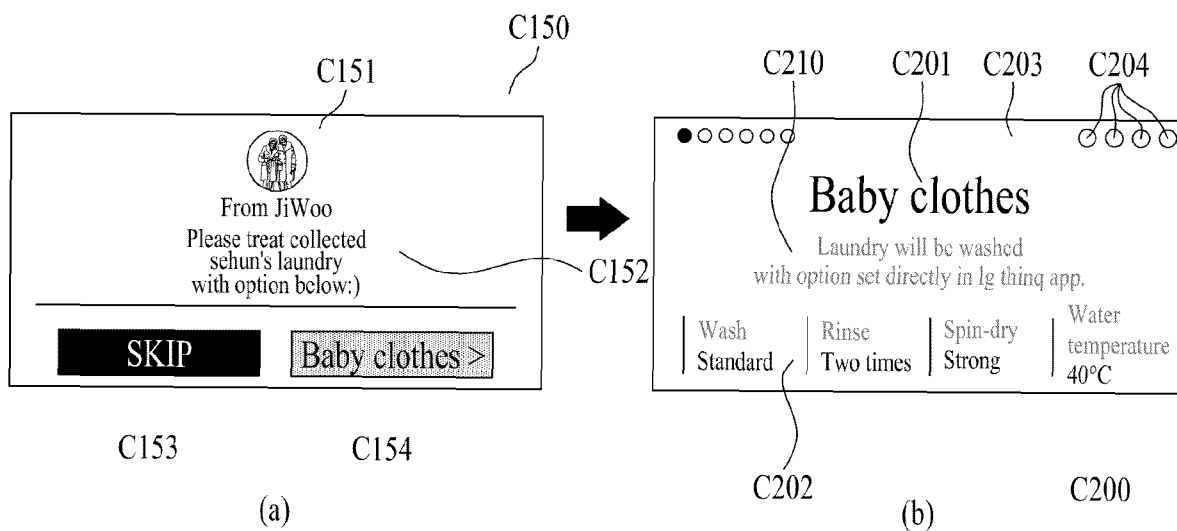
【FIG. 15】



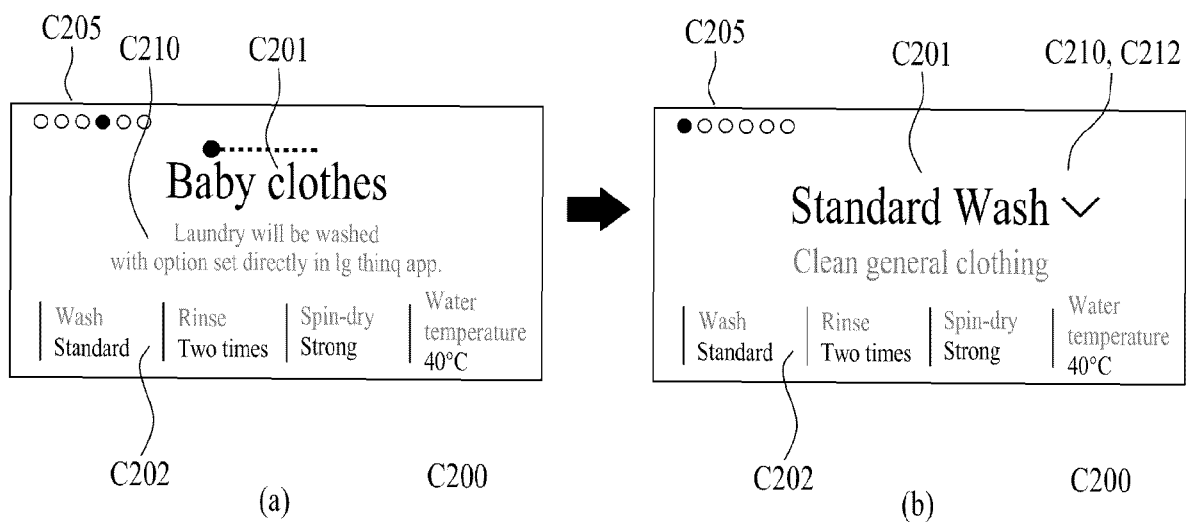
【FIG. 16】



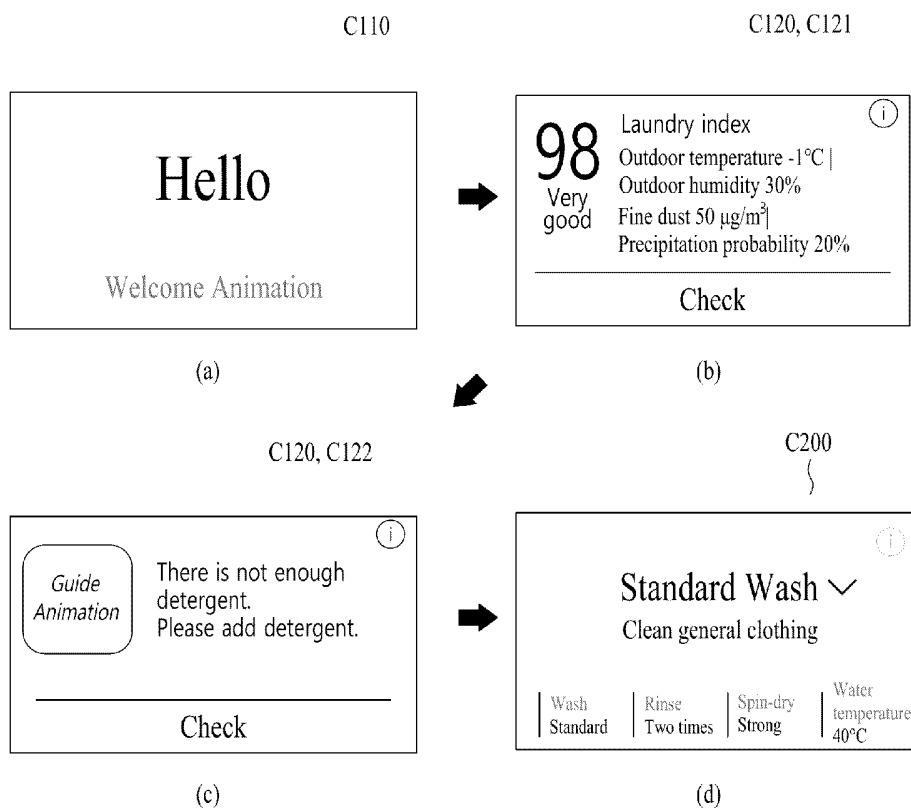
【FIG. 17】



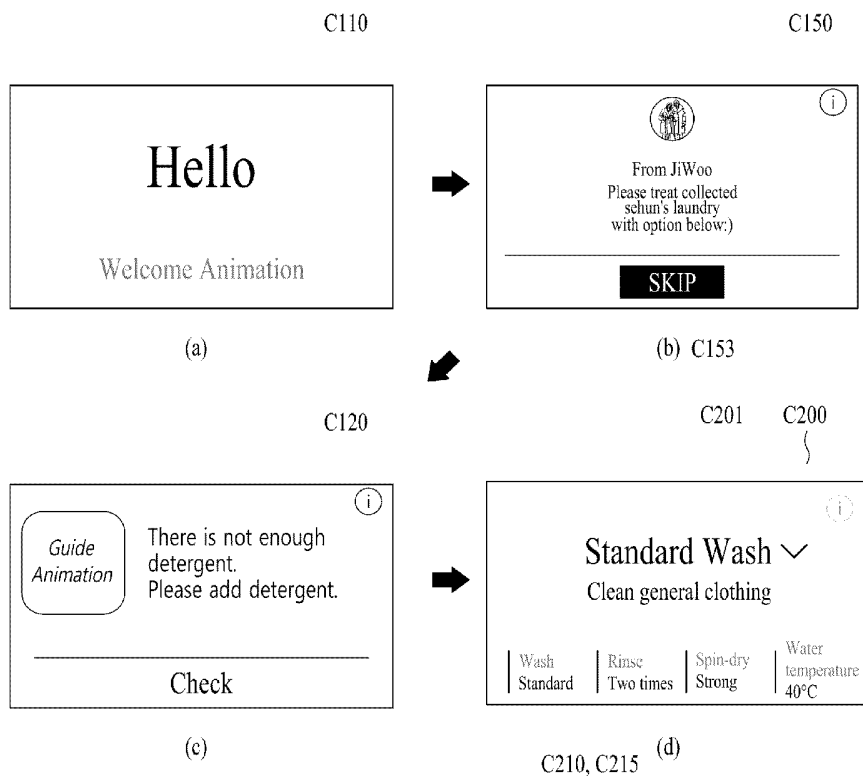
【FIG. 18】



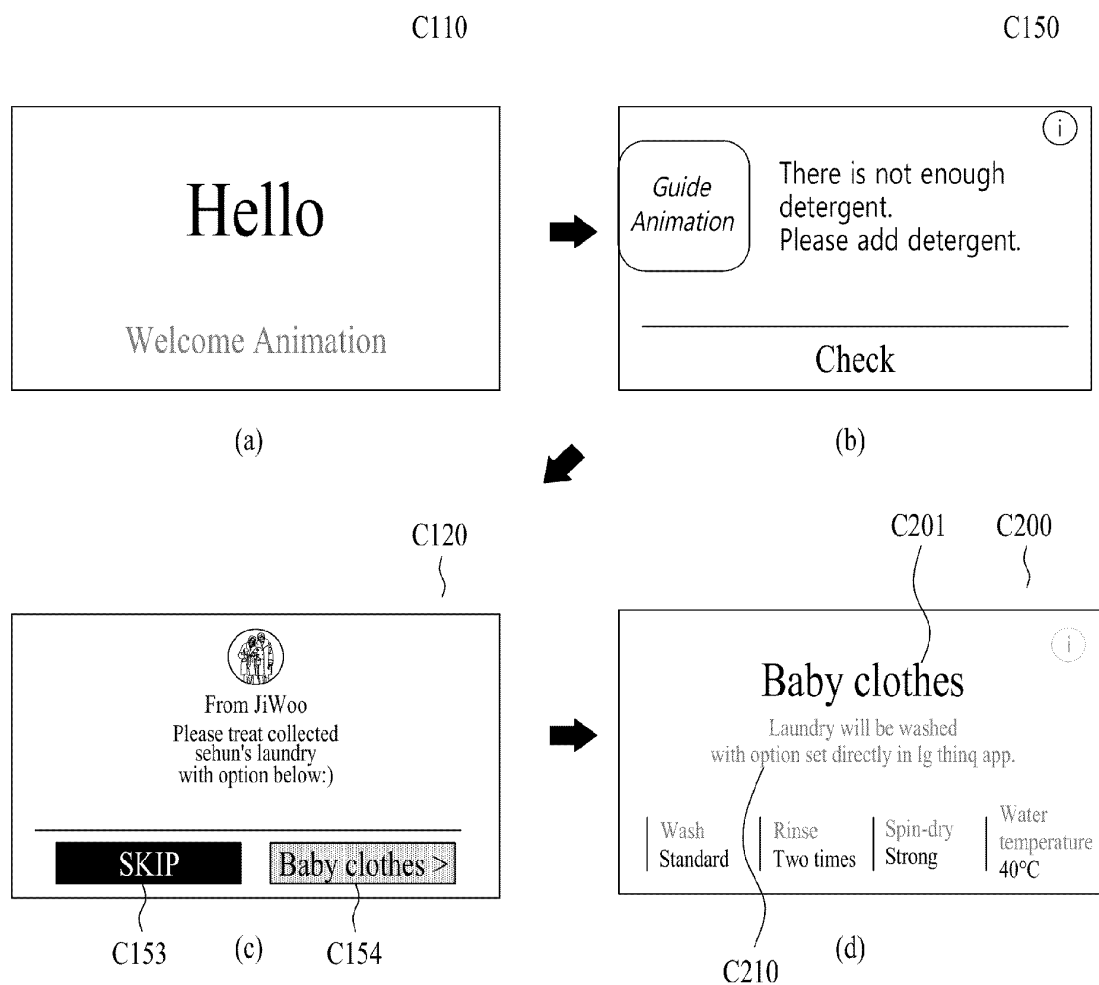
【FIG. 19】



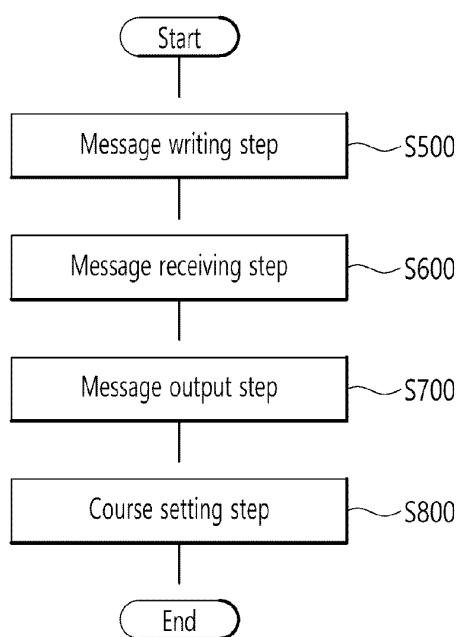
【FIG. 20】



【FIG. 21】



【FIG. 22】



INTERNATIONAL SEARCH REPORT

International application No.

PCT/KR2023/013638

A. CLASSIFICATION OF SUBJECT MATTER

D06F 34/34(2020.01)i; D06F 34/05(2020.01)i; D06F 34/30(2020.01)i; D06F 34/32(2020.01)i; D06F 29/00(2006.01)i;
D06F 31/00(2006.01)i; D06F 105/58(2020.01)i

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

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

D06F 34/34(2020.01); D06F 33/00(2006.01); D06F 33/02(2006.01); D06F 39/00(2006.01); G06F 3/041(2006.01);
H04N 5/44(2011.01); H04W 4/14(2009.01); H04W 4/16(2009.01)

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Korean utility models and applications for utility models: IPC as above

Japanese utility models and applications for utility models: IPC as above

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

eKOMPASS (KIPO internal) & keywords: 의류처리장치(clothes treating apparatus), 캐비닛(cabinet), 드럼(drum), 화면
(screen), 사용자문구(user statement), 메시지(message)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	KR 10-2002-0053389 A (LG ELECTRONICS INC.) 05 July 2002 (2002-07-05) See paragraphs [0007], [0019], [0023]-[0028], [0031], [0035]-[0036] and [0040]-[0041]; and figures 2-3.	1-5,18-20
Y		6-11,17
A		12-16,21-22
Y	JP 2002-112139 A (SONY CORP.) 12 April 2002 (2002-04-12) See paragraphs [0028]-[0037]; claims 1-2; and figures 4-6.	6-9
Y	KR 10-2003-0003940 A (LG ELECTRONICS INC.) 14 January 2003 (2003-01-14) See paragraphs [0017] and [0030]; claim 4; and figure 3.	10-11
Y	KR 10-2013-0011536 A (LG ELECTRONICS INC.) 30 January 2013 (2013-01-30) See paragraphs [0025] and [0054]; and figure 3.	17

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

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“X” document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

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Date of the actual completion of the international search

04 January 2024

Date of mailing of the international search report

04 January 2024

Name and mailing address of the ISA/KR

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Facsimile No. +82-42-481-8578

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INTERNATIONAL SEARCH REPORT

International application No. PCT/KR2023/013638

C. DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	KR 10-2012-0023497 A (SAMSUNG ELECTRONICS CO., LTD.) 13 March 2012 (2012-03-13) See paragraphs [0207]-[0214]; and figures 56-57.	1-22

INTERNATIONAL SEARCH REPORT
Information on patent family members

International application No.

PCT/KR2023/013638

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Patent document cited in search report	Publication date (day/month/year)	Patent family member(s)	Publication date (day/month/year)
KR 10-2002-0053389 A	05 July 2002	None	
JP 2002-112139 A	12 April 2002	None	
KR 10-2003-0003940 A	14 January 2003	AU 2002-315929 B2	07 July 2005
		CN 1295927 C	17 January 2007
		CN 1464925 A	31 December 2003
		EP 1402101 A1	31 March 2004
		EP 1402101 B1	19 November 2008
		JP 2004-522369 A	22 July 2004
		JP 2006-221674 A	24 August 2006
		KR 10-2003-0003939 A	14 January 2003
		US 2003-0179746 A1	25 September 2003
		WO 03-004752 A1	16 January 2003
KR 10-2013-0011536 A	30 January 2013	None	
KR 10-2012-0023497 A	13 March 2012	CN 102409508 A	11 April 2012
		CN 102409508 B	10 June 2015
		EP 2426244 A2	07 March 2012
		EP 2426244 A3	30 December 2015
		EP 2426244 B1	17 February 2021
		US 2012-0056827 A1	08 March 2012
		US 8976126 B2	10 March 2015

REFERENCES CITED IN THE DESCRIPTION

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Patent documents cited in the description

- KR 1020140023986 [0009]