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- good job
- good claim structure
- if this is your first patent application, I am very impressed!

TITLE OF THE INVENTION

REMOVE BRACKETS

[SYSTEM AND METHOD FOR LIGHT CONTROL SYSTEM USING A PREDEFINED LIGHT PROFILE]

CROSS-REFERENCE TO RELATED APPLICATIONS

[0001] [Not Applicable][List Related Applications]

Examples:

[The present application is a continuation of Application No. XX/XXX,XXX, filed XXXXX, entitled " XXXXX".]

[The present application claims the benefit of U.S. Provisional Application No. 60/XXX,XXX, filed XXXXX, entitled "XXXXXX".]

DETAILED DESCRIPTION OF THE INVENTION

[0009] Figure 1 illustrates a light control system 100 according to an embodiment of the present invention. The light control system 100 includes a controller 110, a router 120, a server 130, at least one light emitting unit 140, a first WIFI wireless connection 150, and a second wireless connection 160. The controller 110 includes a light control display 111. In the present embodiment, the controller 110 is a smartphone. The server 130 includes a data storage unit 131. The data storage unit 131 stores at least one predefined light profile 132.

[0010] The controller 110 communicates with the router 120 through the first WIFI wireless connection 150. The router 120 communicates with the server 130 through the second WIFI wireless connection 160. The data storage unit 131 is electrically connected to the server 130. The router is electrically connected to the light emitting unit 140.

[0011] In operation, a light with a color representing the predefined light profile 132 is emitted from the light emitting unit 140 in series of steps. First, upon selection of a button representing the predefined light profile 132 from the light control display 111, the controller 110 establishes the first WIFI wireless connection 150 to the router 120. Then the controller 110 sends an input data representing the selected predefined light profile 132 to the router 120. Upon receiving the input data representing the selected predefined light profile 132, the router 120 establishes the second WIFI wireless connection 160 to the server 130. The router 120 then relays the input data representing the selected predefined light profile 132 to the server 130. In response to receiving the input data

representing the selected predefined light profile 132, the server 130 retrieves the predefined light profile 132 from the data storage unit 131 that corresponds to the input data representing the selected predefined light profile 132. The server 130 then sends the predefined light profile 132 to the router 120. Then the router 120 relays the predefined light profile 132 to the light emitting unit 140. Then at least one light emitting unit 140 emits a light of a color which corresponds to the predefined light profile 132. In the present embodiment, the light emitting unit 140 is a light emitting diode (LED).

[0012] In another embodiment, the predefined light profile 132 is stored at a memory unit of the controller 110. The memory unit is electrically connected to the controller 110. In operation, upon selection of the button representing the predefined light profile 132 from the light control display 111, the controller 110 establishes the first WIFI wireless connection 150 to the router. Then the controller 110 sends the selected predefined light profile 132 stored at the memory unit to the router 120. The router 120 then relays the predefined light profile 132 to the light emitting unit 140. Then at least one light emitting unit 140 emits a light of a color which corresponds to the predefined light profile 132.

[0013] In another embodiment, the light control system 100 further includes an audio device. The audio device is electronically connected to the router 120. The predefined light profile 132 includes a data requesting a sound profile, and the predefined light profile is stored at the data storage unit 131 of the server 130. The sound profile can be stored either at the data storage unit 131 of the server 130, or at a memory unit of the controller 110. In this embodiment, the sound profile is stored at the data storage unit 132 of the server 130. As described in previous embodiment, upon selection of the button

representing the predefined light profile 132 from light control display 111, the server 130 retrieves the predefined light profile 132 and the sound profile from the data storage unit 131 that corresponds to the input data. The server 130 then sends the predefined light profile 132 and the sound profile to the router 120. Then the router 120 relays the predefined light profile 132 to the light emitting unit 140 and the sound profile to the audio device. Then at least one light emitting unit 140 emits a light of a color which corresponds to the predefined light profile 132, and the audio device plays the sound profile stored at the predefined light profile 132.

[0014] In another embodiment, the light control system 100 further includes an audio device where a speaker of the controller 110 is the audio device. As described in previous embodiment, upon selection of the button representing the predefined light profile 132 from light control display 111, at least one light emitting unit 140 emits a light of a color which corresponds to the predefined light profile 132, and the speaker of the controller 110 plays the sound profile. The sound profile can be stored either at the data storage unit 131 of the server 130, or at a memory unit of the controller 110. In this embodiment, the sound profile is stored at a memory unit of the controller 110.

[0015] In another embodiment, the light control system 100 further includes a heat generating device. The heat generating device is electronically connected to the router 120. The predefined light profile 132 includes a heat profile. As described in previous embodiment, upon selection of the button representing the predefined light profile 132 from light control display 111, at least one light emitting unit 140 emits a light of a color which corresponds to the predefined light profile 132, and the heat

generating device emits a heat according to the heat profile stored at the predefined light profile 132.

[0016] In another embodiment, the light emitting unit 140 is at least one of an interferometric modulator display (IMOD), an electrophoretic ink (E Ink), an organic light-emitting diode (OLED), and a light bulb.

[0017] In another embodiment, the light emitting unit 140 is a light bulb that emits a light with a wavelength between 10nm to 1mm.

[0018] In another embodiment, a data communication protocol of the first WIFI wireless connection 150 and the second WIFI wireless connection 160 may use one or more of WiMax, ANT™, ZigBEE®, Bluetooth®, NFC to receive or transfer data.

[0019] In another embodiment, a data communication protocol of the first WIFI wireless connection 150 and the second WIFI wireless connection 160 may use a wired internet connections, such as local area network (LAN) to receive or transfer data.

[0020] In another embodiment, the controller 110 could be one of, but not limited to, a tablet PC, a cellular phone, a mobile phone, a telephone, a personal computer, a laptop, a remote controller, a personal mobile device, a personal computing device, or a personal digital assistant (PDA).

[0021] Figure 2 illustrates a light control display 200 of the controller according to an embodiment of the present invention. The light control display 200 includes a Standard Lighting button 210, a Brain Power button 215, an Uplift button 220, a BP Relief button 225, a User Light Module 2 button 230, a Tools button 235, a Sleep

Support button 240, a Serenity Now! button 245, a User Light Module 1 button 250, a User Light Module 3 button 255.

[0022] The light control display 200 is a touch-sensitive display for selecting a predefined light profile within a controller. Each button 210~255 represents a predefined light profile which contains a data of colors of light that would be emitted from at least one light emitting unit. For example, a Standard Lighting predefined light profile 210 contains a standard color of lightings, a standard type of a color which is normally used to illuminate homes. A Brain Power predefined light profile 215 contains a data of colors of light that emphasizes yellow color. An Uplift predefined light profile 220 emphasizes yellow and orange colors. A BP Relief predefined light profile 225 emphasizes blue and deemphasizes red and orange colors. A Sleep Support predefined light profile 240 emphasizes blue and violet colors. A Serenity Now! predefined light profile 245 emphasizes green and blue colors. A Tools button 235 is utilized to modify a predefined light profile. A User Light Module 1 button 230, a User Light Module 2 button 250, and a User Light Module 3 button 255 allows a user to create a predefined light profile according to user's desire. Each button is positioned side by side within the light control display 200.

[0023] In operation, a predefined light profile is selected upon touching a button representing one of the predefined light profiles 210~255 displayed in the light control display 200 of the controller. For example, touching the Uplift button 220 from the light control display 200 creates an input data representing an Uplift predefined light profile. The input data representing the Uplift predefined light profile is transmitted from the controller to the router. The router passes the input data representing the Uplift

predefined light profile to the server. The server then retrieves the Uplift predefined light profile from the data storage unit. Then the Uplift predefined light profile is transmitted to the router and router passes the Uplift predefined light profile to the light emitting unit. Then at least one light emitting unit emits a light with a color that is defined in the Uplift predefined light profile, a light that emphasizes yellow and orange colors.

[0024] Further describing the operation of the light control display 200, a predefined light profiles can be modified using the Tools button 235. For example, selecting the Tools button 235 and the Sleep Support button 240 in sequence, the Sleep Support predefined light profile can be modified in the Tools display (shown in FIG. 3). In addition, a new predefined light profile can be created and stored by touching one of the User Light Module 1 button 245, the User Light Module 2 button 250, and the User Light Module 3 button 255 with the Tools button 235.

[0025] In another embodiment, each buttons representing a predefined light profile 210~255 at the light control display 200 can be represented in numbers, letters, symbols, equations, colors, or figures.

[0026] In another embodiment, each predefined light profiles may further include a data of a sound profile to be played at an audio device, a data of a heat profile to be generated at a heat generating device, or a combination of light, sound, and heat profiles.

[0027] Figure 3 illustrates a Tools display 300 of the light control display according to an embodiment of the present invention. The Tools display 300 includes a selected profile name field 310, a Red color adjust bar 315, an Orange color adjust bar 320, a Yellow color adjust bar 325, a Green color adjust bar 330, a Blue color adjust bar 335, a Violet color adjust bar 340, a new profile name field 345, a Save button 350, a

Restore button 355 button, a Share button 360, an Open button 365, and a Cancel button 370.

[0028] The Tools display 300 is a touch-sensitive display for modifying a selected predefined light profile. The selected profile name field 310 displays the name of the predefined light profile that is selected for modification. The Red color adjust bar 315 allows to alter an intensity of red color of the selected predefined light profile. For example, when the Red color adjust bar 315 is shifted to the right towards a high mark, the red color is emphasized when emitting a light of the modified predefined light profile. When the Red color adjust bar 315 is shifted to the left towards a low mark, the red color is deemphasized upon emitting a light of the modified predefined light profile. The Orange color adjust bar 320 defines an intensity of an orange color of the selected predefined light profile. The Yellow color adjust bar 325 allows to alter an intensity of a yellow color of the selected predefined light profile. The Green color adjust bar 330 allows to alter an intensity of a green color of the selected predefined light profile. The Blue color adjust bar 335 allows to alter an intensity of a blue color of the selected predefined light profile. The Violet color adjust bar 340 allows to alter an intensity of a violet color of the selected predefined light profile. The new profile name field 345 allows to input a new name for a user created predefined light profile. The Save button 350 stores the modified data of the predefined light profile. The Restore button 355 restores the predefined light profile to the initial predefined light profile. The Share button 360 converts the predefined light profile into a coded file. The Open button 365 downloads a predefined light profile modified by a second user from a third party server.

The Cancel button 370 nullifies the modified settings and exits from the Tools display 300 and returns to the light control display (shown in FIG 2).

[0029] In operation, a predefined light profile is modified upon touching a Tools button and a predefined light profile button from the light control display in sequence. For example, upon touching a Tools button and then touching a Sleep Support predefined light profile button in sequence from a light control display of a controller, the Tools display 300 is opened. Each color adjust bar 315~340 represents an initial color settings of the Sleep Support predefined light profile. Scrolling the Blue color adjust bar 355 to the left towards the low mark modifies initial color settings of the Sleep Support predefined light profile, and upon emitting a light of the Sleep Support predefined light profile from the light emitting unit, only the violet color is emphasized.

[0030] Upon touching the Save button 350, the controller sends the modified color settings of the selected predefined light profile to the router. The router then passes the modified color settings to the server. In response to receiving the modified color settings of the selected predefined light profile, the server stores the modified color settings of the selected predefined light profile in the data storage unit. In the present embodiment, initial color setting of the selected predefined light profile is remained at the data storage unit of the server for future restoration purposes.

[0031] Upon touching the Restore button 355, the controller sends a restore command for the selected predefined light profile to the router. The router then passes the restore command for the selected predefined light profile to the server. In response to receiving the restore command, the server retrieves an initial predefined light profile stored at the data storage unit that corresponds to the selected predefined light profile of

the restore command. The server then sends the predefined light profile to the router. The router then passes the predefined light profile to the controller. In response to receiving the predefined light profile, each color adjust bar 310~345 of the Tools display 300 is automatically adjusted to the initial position according to the original setting defined in the predefined light profile.

[0032] Upon touching the Share button 360, the server may exchange the modified predefined light profile stored at the data storage unit via a third party server, such as third party like Facebook®, to provide social-media related services. A second user can download the shared predefined light profile through the third party server by using the Open button 365 from the second user's Tools display 300.

[0033] Upon touching the Open button 365, the controller sends an open command to the router. The router passes the command to the server. Then the server receives a modified predefined light profile from a third party server via social media service and stores the modified predefined light profile at the data storage unit. Then the server retrieves the modified predefined light profile and sends the modified predefined light profile to the router. The router then passes the modified predefined light profile to the controller. In response to receiving the modified predefined light profile, the Tools display 300 displays the setting of the received modified predefined light profile.

[0034] Upon touching the Cancel button 370, any modifications made within the Tools display 300 are nullified and exits from the Tools display 300 and returns to the light control display (shown in FIG. 2).

[0035] A new profile name field 345 is used when a user creates a new predefined light profile by selecting one of User Light Module 1, User Light Module 2, or User

Light Module3 and the Tools button. Upon choosing an intensity of each color represented by each color adjust bars 315~340, a new name for the newly created predefined light profile can be typed on the new profile name field 345 using a keyboard of the controller. Upon saving the newly created predefined light profile by touching the Save button 350, a new name replaces one of User Light Module 1, User Light Module 2, or User Light Module3 button displayed at the light control display, and the newly created predefined light profile is stored at the data storage unit of the server.

[0036] In another embodiment, color adjusting bars 315~340 of the Tools display 300 are represented as a wavelength of lights to be emitted from the light emitting unit.

[0037] In another embodiment, color adjusting bars 315~340 are represented in numerical values or in alphabetical values, and are adjusted by typing a numerical values or alphabets of each color.

[0038] In another embodiment, the Tools display 300 may further include additional fields to provide a pre-programmed predefined light profile which would activate selected predefined light profiles at selected times. For example, user can schedule to activate an Uplift predefined light profile from 7 AM to 8 AM, activate a Sleep Support predefined light profile from 10 PM to 11 PM.

[0039] In another embodiment, the Tools display 300 may further include a field to select a transition time of the selected predefined light profile. For example, the transition time of illumination can be immediate or can be gradual up to an hour.

[0040] In another embodiment, the Tools display 300 may further include a field which provides an option to select specific light emitting units to be activated upon

selecting a predefined light profile. For example, upon selecting a Serenity Now! predefined light profile, user can choose to have only light emitting units located at the living room to emit a light of the Serenity Now! predefined light profile, while having light emitting units located at kitchen to maintain a Standard predefined light profile.

[0041] In another embodiment, the Tools display 300 may further include additional adjust bars which provide a button to change a temperature from a heat generating device, or a sound profile from an audio device. For example, setting a temperature to 30°C for a predefined light profile will activate a heat generating device to generate a heat to reach 30°C when emitting a light with a color according to the predefined light profile. Furthermore, setting a sound profile, such as a sound of a wave, rain, and wind in the trees which are stored at the server, will play the selected sound profile at the audio device when emitting a light of the predefined light profile.

[0042] Figure 4 illustrates a flowchart 400 of an embodiment of a process for retrieving a predefined light profile. First, at step 410, an input data requesting a selected predefined light profile is received from a controller. Next, the process proceeds to step 420 where the input data is filtered and decoded. At step 430, a determination is made as to whether or not the input data represents a predefined light profile stored in a data storage unit. If the input data does represent the predefined light profile stored in a data storage unit, the process proceeds to step 440 and the predefined light profile is passed to a router. However, if at step 430 the input data does not represent the predefined light profile stored in the data storage unit, then the process proceeds to step 450 and the input data is discarded. In the present embodiment, this process is processes at the server.

[0043] Alternatively, although the process described above processed the input data at the server and then wirelessly transmitted the predefined light profile to the router, the controller may be equipped with a processor and a memory unit that allows the controller to process, retrieve, and send the predefined light profile.

[0044] Figure 5 illustrates a location/time driven light control system 500 according to an embodiment of the present invention. The location/time driven light control system 500 includes a controller 510, a router 520, a server 530, at least one light emitting unit 540, a first WIFI wireless connection 560, and a second WIFI wireless connection 570. The controller 510 includes a location/time driven light control display 511, a global positioning system (GPS) sensor 512, and a time sensor 513. In the present embodiment, the controller 510 is a smartphone. The server 130 includes a data storage unit 531. The data storage unit 531 stores at least one predefined light profile 532. The data storage unit 531 stores at least one predefined control data 533.

[0045] The controller 510 communicates with the router 520 through the first WIFI wireless connection 560. The GPS sensor 512 is electrically connected to the controller 510. The time sensor 513 is electrically connected to the controller 510. The router 520 communicates with the server 530 through the second WIFI wireless connection 570. The data storage unit 531 is electrically connected to the server 530. The router is electrically connected to the light emitting unit 540.

[0046] In operation, a light with a color representing the predefined light profile 532 is emitted from the light emitting unit 540 by detecting a location data or a time data in series of steps. Upon selection of a button representing the predefined light profile 532 from the light control display 511, and then selecting a GPS mode button (shown in FIG.

3) from the controller 510, the first WIFI wireless connection 560 to the router 520 is established. Then the GPS sensor 512 detects the location of the controller 510. Then the controller 510 sends an input data requesting the predefined light profile and the location data to the router 520. Upon receiving the input data requesting the predefined light profile and the location data, the router 520 establishes the second WIFI wireless connection 570 to the server. The router 520 then relays the input data requesting the predefined light profile and the location data to the server 530. In response to receiving the input data requesting the predefined light profile and the location data, the server 530 compares the location data with the predefined control data 533 stored in the data storage unit 532. The predefined control data 533 is predefined at the location/time driven light control display (shown in FIG. 6) which sets the condition as to when to activate or deactivate the light control system. When the distance between the location of the controller 510 and a user's home is further than the distance defined in the predefined control data 533, then the server transmits the predefined light profile 532 to the router 520. The router 520 relays the predefined light profile 532 to the light emitting unit 540. Then at least one light emitting unit 540 emits a light of a color which corresponds to the predefined light profile 532. For example, when the predefined control data 533 is set to 1 mile radius of a user's home, the server 530 transmits the predefined light profile 532 to the router 520 when the distance between the location of the controller 510 and user's home is further than 1 mile radius. If the location of the controller 510 is within the 1 mile radius of the user's home, then the server 530 transmits a termination command which deactivates the light emitting unit from emitting a light of the predefined light profile 532. In the present embodiment, the predefined light profile 532 has a violet color

a little bit more here - link to prev Ultra Violet research

in the visible spectrum that has germ fighting properties. A GPS mode allows the light emitting unit 540 to emit a light of violet color in user's residence without a user being exposed to the light by using the location data.

[0047] Further describing the operation of the location/time driven light control display 500, upon selection of a button representing the predefined light profile 532 and a timer button from the light control display 511, the time sensor 512 detects a time of the controller 510. Then the controller 510 sends an input data requesting the predefined light profile and a time data to the router 520. The router 520 then relays the input data requesting the predefined light profile and a time data to the server 530. In response to receiving the input data requesting the predefined light profile and a time data, the server 530 compares the time data with the predefined control data 533 stored in the data storage unit 532. When the time data is within the time range defined in the predefined control data 533, then the server transmits the predefined light profile 532 to the router 520. The router 520 relays the predefined light profile 532 to the light emitting unit 540. Then at least one light emitting unit 540 a light of a color which corresponds to the predefined light profile 532. If the time data is not within the time range defined in the predefined control data 533, the server 530 transmits a termination command which deactivates the light emitting unit from emitting a light of the predefined light profile 532.

[0048] In another embodiment, the predefined light profile 532 and the predefined control data 533 are stored at a memory unit of the controller 510. The memory unit is electrically connected to the controller 510. In operation, upon selection of the button representing the predefined light profile 532 and either the GPS mode or the timer mode from the location/time driven light control display 511, the controller 510

establishes the first WIFI wireless connection 560 to the router. The controller 510 processes the detected data and compares the detected data with the predefined control data 533 and then sends the selected predefined light profile 532 stored at the memory unit to the router 520 when the conditions are met. The router 520 then relays the predefined light profile 532 to the light emitting unit 540. Then at least one light emitting unit 540 emits a light of a color which corresponds to the predefined light profile 532.

[0049] In another embodiment, the light emitting unit 540 is at least one of an interferometric modulator display (IMOD), an electrophoretic ink (E Ink), an organic light-emitting diode (OLED), and a light bulb.

[0050] In another embodiment, the light emitting unit 140 is a light bulb that emits a light with a wavelength between 10nm to 1mm.

[0051] In another embodiment, a data communication protocol of the first WIFI wireless connection 560 and the second WIFI wireless connection 570 may use one or more of WiMax, ANT™, ZigBEE®, Bluetooth®, NFC to receive or transfer data.

[0052] In another embodiment, a data communication protocol of the first WIFI wireless connection 560 and the second WIFI wireless connection 570 may use a wired internet connections, such as local area network (LAN) to receive or transfer data.

[0053] In another embodiment, the controller 510 could be one of, but not limited to, a tablet PC, a cellular phone, a mobile phone, a telephone, a personal computer, a laptop, a remote controller, a personal mobile device, a personal computing device, or a personal digital assistant (PDA).

[0054] In another embodiment, the light emitting unit 540 is a light bulb that emits a wavelength in the range between 10nm to 1mm.

[0055] Figure 6 illustrates a location/time driven light control display 600 of a controller according to an embodiment of the present invention. The location/time driven light control display 600 includes a GPS mode button 610, a GPS on settings field 611, a GPS off settings field 612, a GPS set home button 613, a Timer mode button 630, a Timer on settings field 631, a Timer off settings field 632.

[0056] The location/time driven light control display 600 is a touch-sensitive display for selecting a condition which would automatically initiate or terminate emitting a light of a predefined light profile when the condition is met. Each buttons are positioned side by side within the location/time driven light control display 600.

[0057] In operation, a GPS sensor of a controller detects a location of a controller upon touching the GPS mode button 610 from the location/time driven light control display 600. A GPS on settings field 611 sets a condition that initiates transmission of the predefined light profile from a server to a router when the condition is met.

[0058] Further describing the operation of the location/time driven light control display 600, a GPS off settings field 612 sets a condition that deactivates emitting a light of a predefined light profile from a light emitting unit. For example, upon touching the GPS mode button 610 and typing number 2 on the GPS on settings field 611, and typing number 1 on the GPS off settings field 612 using a keyboard from a controller, a GPS sensor within the controller starts to detect a location of the controller and then sends an input data requesting the predefined light profile and the location data to a router. The router then sends the input data requesting the predefined light profile and the location

data to the server. Upon receiving the input data requesting the predefined light profile and the location data, the server retrieves the predefined light profile and sends the predefined light profile to the router when the location data is 2 miles radius away from a location of user's home. Then router passes the predefined light profile to a light emitting unit and the light emitting unit emits a light of the predefined light profile. When the location data is within 1 miles radius away from a location of user's home. Then router passes the termination profile the light emitting unit. In response to receiving the termination command, the light emitting unit stops to emit a light of the predefined light profile.

[0059] Further describing the operation of the location/time driven light control display 600, a GPS set home button 613 sets a location data of user's home. For example, upon touching the GPS mode button 610 and touching the GPS set home button, a GPS sensor within the controller detects a current location of the controller and sends the location data to a router. The router then sends the location data to the server. Upon receiving the location data, the server stores the location data of user's home.

[0060] Further describing the operation of the location/time driven light control display 600, a time sensor detects a time data upon touching the Timer mode button 630 from the location/time driven light control display 600. A Timer on settings field 631 sets a time that initiates transmission of a stored predefined light profile from a server to a router when the condition is met.

[0061] Further describing the operation of the location/time driven light control display 600, a Timer off settings field 632 sets a time that deactivates emitting a light of a predefined light profile from a light emitting unit. For example, upon touching the Timer

mode button 630 and typing 2 PM on the GPS on settings field 631 and typing 4 PM on the GPS off settings field 632 using a keyboard from a controller, a time sensor within the controller starts to detect a time from the controller and sends an input data requesting the predefined light profile and the time data to a router. The router then sends the input data requesting the predefined light profile and the time data to the server. Upon receiving the input data requesting the predefined light profile and the time data, the server retrieves the predefined light profile and sends the predefined light profile to the router when the time data is within the range of 2 PM to 4 PM, which was defined at the Timer on settings field 631 and Timer off settings field 632 Then router passes the predefined light profile to a light emitting unit. When the time data is outside of the range of 2 PM to 4 PM, the server sends a termination command to a router. Then router passes the termination profile the light emitting unit. In response to receiving the termination command, the light emitting unit does not emit a light of the predefined light profile.

[0062] Figure 7 illustrates a flowchart 700 of an embodiment of a process for detecting one of location, time data from a controller. First, at step 703, an input data requesting a selected predefined light profile is received from a controller. Next, the process proceeds to step 705 where the controller establishes a wireless communication to the router. At step 710, a determination is made as to whether or not a GPS mode has been selected by a user. If the GPS mode has been selected, the process proceeds to step 715 and initiates the GPS sensor to detect the location data of the controller. Then at step 730, the controller sends the input data requesting the predefined light profile and the location data to the router. However, if at step 710, a GPS mode has not been selected, the process proceeds to step 720. At step 720, a determination is made as to whether or

not a Timer mode has been selected by a user. If the Timer mode has been selected, the process proceeds to step 725 and initiates the Time sensor to detect a time data. Then at step 730, the controller sends the input data requesting the predefined light profile and the time data to the router. However, if at step 720, a Timer mode has not been selected, the process proceeds to step 722, and the input data is discarded. Once the controller sends the input data requesting the predefined light profile and one of location, time data to the router, the process proceeds back to step 710 for continuous monitoring of location/time data detected from the controller.

[0063] Alternatively, although the process described above sent the time data from the controller to the router, the server may be equipped with a clock that detects time data. Consequently, at step 720, if the Timer mode has been selected, the process skips the step 725 and proceeds to step 730, and the controller sends the input data requesting the predefined light profile.

[0064] Figure 8 illustrates a flowchart of 800 of an embodiment of a process for comparing a detected data to a predefined control data. First, at step 810, an input data requesting a selected profile and one of location data, time data is received. Then at step 815, a determination is made as to whether the input data includes a location data. If the location data is included within the input data, the process proceeds to step 820. Then at step 820, a determination is made whether the predefined control data has been stored at a data storage unit. If the predefined control data is stored, the process proceeds to step 830. At step 830, a determination is made as to whether a distance between the location data and user's home is outside of a distance set forth in the predefined control data. If the distance between the location data and user's home is outside of the condition set forth in

the predefined control data, the predefined light profile requested at step 810 is retrieved from a data storage unit at step 880. Then at step 890, the predefined light profile is transmitted to a router. If at step 820, the predefined control data is not stored at the data storage unit, the input data is discarded. However, if at step 830 the distance between the location data and user's home is within the condition set forth in the predefined control data, the process proceeds to step 835. At step 835, a terminate command is created which deactivates a light emitting unit from emitting a light of the predefined light profile. Then at step 890, the terminate command is transmitted to the router. If at step 815, the location data is not included within the input data, the process proceeds to step 850. At step 850, a determination is made as to whether the input data includes a time data. If the time data is included the process proceeds to step 860. If the time data is not included, the process proceeds to step 855 and the input data is discarded. At step 860, a determination is made whether the predefined control data has been stored at the data storage unit. If the predefined control data is stored, the process proceeds to step 870. At step 870, a determination is made as to whether the time data received at step 810 is within the time range set forth in the predefined control data. If the time data is within the time rage defined in the predefined control data, at step 880, the predefined light profile requested at step 810 is retrieved from a data storage unit. Then at step 890, the predefined light profile is transmitted to a router. If at step 860, the predefined control data is not stored at the data storage unit, the input data is discarded. At step 870, if the time data is not within the range of time set forth in the predefined control data, the process proceeds to step 875. At step 875, a terminate command is created which deactivates the light emitting unit

from emitting a light of the predefined light profile. Then at step 890, the terminate command is transmitted to the router.

[0065] Figure 9 illustrates a blood pressure driven light control system 900 according to an embodiment of the present invention. The blood pressure driven light control system 900 includes a blood pressure detecting device 910, a controller 920, a router 930, a server 940, at least one light emitting unit 950, a first WIFI wireless connection 960, a second wireless connection 970, and a third wireless connection 980. The controller 920 includes a blood pressure driven light control display 922 and a GPS sensor 924. In the present embodiment, the controller 920 is a smartphone and the blood pressure detecting device 910 is a wireless real time blood pressure tracking wrist monitor. The server 940 includes a data storage unit 942. The data storage unit 942 stores at least one predefined light profile 944 and a predefined control data 946.

[0066] The controller 920 communicates with the blood pressure detecting device 910 through the first WIFI wireless connection 960. The blood pressure detecting device and the controller 920 communicates with the router 930 through the second WIFI wireless connection 970. The router 120 communicates with the server 130 through the third WIFI wireless connection 980. The data storage unit 942 is electrically connected to the server 940. The router is electrically connected to the light emitting unit 950. The GPS sensor 924 is electrically connected to the controller 920.

[0067] In operation, a light with a color representing the predefined light profile 944 is emitted from the light emitting unit 950 in series of steps. Upon selection of a button representing the predefined light profile 944 from a light control display (shown in FIG. 2) the blood pressure driven light control display 922 appears on the controller 920.

In response to touching the button representing the predefined light profile, the controller 920 establishes the first WIFI wireless connection 960 to the blood pressure detecting device 910. Upon selection of a RealTime monitor on button (shown in FIG. 10) from the blood pressure driven light control display 922, the controller 920 transmits an activation command to the blood pressure detecting device 910 and the blood pressure detecting device starts to detect user's blood pressure. Additionally, upon selection of a RealTime monitor on button the GPS sensor 924 starts to detect a location data. In response to activation of the blood pressure detecting device 910, the controller 920 then establishes the second WIFI wireless connection 970 to the router 930. The controller 920 also establishes the second WIFI wireless connection 970 to the router. Once the second WIFI wireless connection has been established, the controller then 920 transmits an input data requesting the predefined light profile 944, a location data detected from the GPS sensor 924. The blood pressure detecting device 910 also transmits a detected blood pressure measurement data to the router 930. The blood pressure detecting device 910 also transmits the blood pressure measurement data to the controller 920. Upon receiving the input data, the location data, and the blood pressure measurement data, the router 120 establishes the third WIFI wireless connection 980 to the server 940. The router 93 then relays the input data, the location data, and the blood pressure measurement data to the server 940. In response to receiving the input data, the location data, and the blood pressure measurement data, the server 940 first compares the location data to a user's home location data included in the predefined control data 946. If the location data is away from user's home location, the input data is discarded. If the location data matches the user's home location data, then the server compares the blood pressure measurement

data to the predefined control data 946 stored at the data storage unit 942. If the blood pressure measurement data is not within the range defined in the predefined control data 946, the server 940 retrieves the predefined light profile 944 requested in the input data. The server 940 then sends the predefined light profile 944 to the router 930. Then the router 930 relays the predefined light profile 944 to the light emitting unit 950. Then at least one light emitting unit 950 emits a light of a color which corresponds to the predefined light profile 944. In the present embodiment, the light emitting unit 950 is a light emitting diode (LED). The blood pressure detecting device 910 continues to transmit the blood pressure measurement data to the server 940. The controller 920 also continues to transmit the location data to the server 940. When the blood pressure measurement data becomes within the range set forth in the predefined control data 946, then server sends a termination command to the light emitting unit 950, and then light emitting unit 950 terminates emitting a light of a color corresponding to the predefined light profile 944. In the present embodiment, the predefined light profile is represented by a BP relief predefined light profile button (shown in FIG.2) which emphasizes the blue color and deemphasizes the red color.

[0068] In another embodiment, the blood pressure driven light control system 900 further includes an audio device. The audio device is electronically connected to the router 930. The predefined light profile 944 includes a sound profile, and the predefined light profile is stored at the data storage unit 942 of the server 940. As described in previous embodiment, if the blood pressure measurement data is not within the range of predefined control data 946, the server 940 retrieves the predefined light profile 944 from the data storage unit 942. The server 940 then sends the predefined light profile 944 to

the light emitting unit 950 and the audio device. Then at least one light emitting unit 950 emits a light of a color which corresponds to the predefined light profile 944, and the audio device plays the sound profile stored at the predefined light profile 944.

[0069] In another embodiment, the blood pressure driven light control system 900 further includes an audio device where a speaker of the controller 920 is the audio device. As described in previous embodiment, if the blood pressure measurement data is not within the range of predefined control data, the server 940 retrieves the predefined light profile 944 from the data storage unit 942. The server 940 then sends the predefined light profile 944 to the light emitting unit 950 and the audio device. Then at least one light emitting unit 950 emits a light of a color which corresponds to the predefined light profile 944, and the speaker of the controller 920 plays the sound profile stored at a memory unit of the controller 920.

[0070] In another embodiment, the light emitting unit 950 is at least one of an interferometric modulator display (IMOD), an electrophoretic ink (E Ink), an organic light-emitting diode (OLED), and a light bulb.

[0071] In another embodiment, the light emitting unit 950 is a light bulb that emits a wavelength in the range between 10nm to 1mm.

[0072] In another embodiment, a data communication protocol of the first WIFI wireless connection 960, the second WIFI wireless connection 970, and the third WIFI wireless connection 980 may use one or more of WiMax, ANT™, ZigBEE®, Bluetooth®, NFC to receive or transfer data.

[0073] In another embodiment, a data communication protocol of the first WIFI wireless connection 960, the second WIFI wireless connection 970, and the third WIFI wireless connection 980 may use wired internet connections, such as local area network (LAN) to receive or transfer data.

[0074] In another embodiment, the controller 920 could be one of, but not limited to, a tablet PC, a cellular phone, a mobile phone, a telephone, a personal computer, a laptop, or a personal digital assistant (PDA).

[0075] In another embodiment, the blood pressure detecting device 910 can be replaced with other physiological data detecting devices, such as a blood glucose level detector, a hormone level detector, or a psychological level detector.

[0076] In another embodiment, the blood pressure detecting device 910 communicates with the controller 920 only through the first WIFI wireless communication 960.

[0077] In another embodiment, the blood pressure driven light control system 900 further includes a third party monitoring system. While, in the previous embodiment, the predefined light profile was transmitted to the light emitting unit according to the condition set forth in the predefined control data 946, a determination to transmit the predefined light profile can be made by the third party monitoring system. The third party monitoring system communicates with the blood pressure detecting device 910, the controller 920, and the server 940 through a fourth wireless connection. The third party monitoring system receives the detected blood pressure measurement data from the blood pressure detecting device 910, and receives the location data from the controller 920. If the location of the controller 910 is at user's home and the blood pressure measurement

data is above a standard, the third party monitoring system transmits the predefined light profile 944 from the server 940 to the router 930. In the present embodiment, the third party monitoring system is operated by health professionals.

[0078] Figure 10 illustrates a blood pressure driven light control display 1000 of a controller according to an embodiment of the present invention. The blood pressure driven light control display 1000 includes a RealTime monitor on button 1010, a current blood pressure field 1020, a set high blood pressure field 1030, a set low blood pressure field 1040, a restore default button 1050, a set home button 1060, and a cancel button 1070.

[0079] The blood pressure driven light control display 1000 is a touch-sensitive display for selecting a condition which would automatically initiate or terminate emitting a light of a predefined light profile.

[0080] In operation, the RealTime monitor on button 1010 sends an activation command to a blood pressure detecting device which would initiate a detection of a user's blood pressure and activates a GPS sensor of a controller. In response to receiving a detected blood pressure measurement data from the blood pressure detecting device, the detected blood pressure values is displayed in the current blood pressure field 1020. A predefined control data is determined at the blood pressure driven light control display 1000 using the set high blood pressure field 1030 and the set low blood pressure field 1040. Upon typing a number in both fields 1030~1040 using a keyboard of the controller, the typed values are transmitted to the router from the controller as the predefined control data. The router then relays the predefined control data to the server. Then, the server stores the predefined control data at the data storage unit. For example, when a user types

120 at the set high blood pressure field 1030 and 60 at the set low blood pressure field 1040, the server will retrieve and transmit the predefined light profile when the detected blood pressure measurement data from the blood pressure detecting device exceeds 120 mmHg, or falls below 60 mmHg. In response to receiving the predefined light profile, a light emitting unit emits a light of a color that corresponds to the predefined light profile. The restore default button 1050 restores the value displayed at the set high blood pressure field 1030, and the set low blood pressure field 1040 to the original factory setting. For example, upon touching the restore default button 1050, the set high blood pressure field 1030 restores to 112 mmHg and the set low blood pressure field 1040 to 64mmHg. The set home button 1060 defines the location of user's home. For example, upon touching the set home button 1060, the controller transmits current location data to the server. The server stores this location data as a predefined control data at the data storage unit. The Cancel button 1070 nullifies modified values typed settings and returns to a light control display (shown in FIG. 2)

[0081] In another embodiment, the blood pressure driven light control display 1000 may further include a field to choose a sound profile stored in the data storage device which can be played from an audio device when the light emitting unit emits a light of a predefined light profile. For example, sound of a wave, rain, and wind in the trees are types of a sound profile.

[0082] Figure 11 illustrates a flowchart 1100 of an embodiment of a process for monitoring a blood pressure of a user. First, at step 1110, a blood pressure is detected from a blood pressure detecting device, and an input data requesting a predefined light profile, a location data, and a blood pressure measurement data is received. Then at step

1120, a determination is made as to whether the location data matches a location of user's home. If the location data received matches the location of user's home stored as a predefined control data, the process proceeds to step 1130. However if the location data received does not match the location data of user's home, then the process proceeds to step 1160 and the input data requesting the predefined light profile is discarded. At step 1130, a determination is made as to whether the detected blood pressure measurement data is within the range set forth in the predefined control data. If the blood pressure measurement data is out of the range set forth in the predefined control data, the process proceeds to step 1170. At step 1170, the predefined light profile requested in the input data is retrieved from a data storage unit. Then at step 1180, a light emitting unit emits a light of a color that corresponds to the predefined light profile. Then, the process relays back to the step 1110 for continuous monitoring. However, if at step 1130 the blood pressure measurement data is within the range of the predefined control data, the process proceeds to step 1140. At step 1170, a determination is made as to whether the light emitting unit is currently emitting a light of the predefined light profile. If the light emitting unit is currently emitting a light of the predefined light profile, then at step 1150, emitting a light of the predefined light profile is terminated. Then the process relays back to the step 1110 for continuous monitoring. If at step 1140, if the light emitting unit is currently not emitting a light of the predefined light profile, the process relays back to the step 1110 for continuous monitoring.

add Boilerplate ¶

"Controller" seems to be the same in this claim → would a light switch satisfy this claim? - good claim structure

CLAIMS

1. A light control system, said system comprising:

a controller including a memory storing at least one predefined light profile; and

at least one light emitting unit,

wherein said controller transmits said predefined light profile to said light emitting unit in response to selection of said predefined light profile stored in said memory,

wherein said light emitting unit emits a light with a color that corresponds to said predefined light profile in response to receiving said predefined light profile from said controller.

2. The light control system of claim 1 wherein said light emitting unit is light emitting diodes (LED).

3. The light control system of claim 1 wherein said emitted light has a wavelength range from 10nm to 1mm.

4. The light control system of claim 1 wherein said predefined light profile is transmitted through WIFI wireless connection.

5. The light control system of claim 1 further including:

an audio device,

wherein said predefined light profile includes a sound profile,

wherein said controller transmits said predefined light profile to said audio device in response to selection of said predefined light profile stored on said memory,

wherein said audio device plays said sound profile in response to receiving said predefined light profile from said controller.

6. The light control system of claim 1 further including:

a server storing at least one predefined control data; and

said controller including a GPS sensor,

wherein said controller detects a location data using said GPS sensor, and transmits said location data to said server,

wherein said server receives said location data and compares said location data to said predefined control data,

when said location data is in a location defined in said predefined control data, said server transmits said predefined light profile to said light emitting unit,

wherein said light emitting unit emits a light with a color that corresponds to said predefined light profile in response to receiving said predefined light profile from said server.

"detecting" in response? Maybe a better way to say it?

7. A method of emitting a light, said method comprising:

detecting a data from a controller in response to selection of a predefined light profile,

wherein said controller uses a sensor to detect said data, and transmits said data to a server,

wherein said controller is in communication with a server using a wireless network;

transmitting a predefined light profile to a light emitting unit,

wherein said data is compared to a predefined control data in response to receiving said data from said controller,

when said data is within the condition defined in said predefined control data; and

no antecedent basis

emitting a light from said light emitting unit,

wherein said light emitting unit emits a light with a color that corresponds to said predefined light profile in response to receiving said predefined light profile from said server.

8. A method of claim 7 wherein said data is a location data, and said sensor is a GPS sensor.

9. A method claim of 7 wherein said data is a time data, and said sensor is a clock.

10. A monitored light control system, said system comprising:

a monitoring device;

a server storing at least one predefined light profile; and

at least one light emitting unit,

wherein said monitoring device collects a measurement data and transmits said measurement data to said server,

wherein said server receives said measurement data and compares said data to a predefined control data,

when said measurement data is outside a range defined in said predefined control data, said server transmits said predefined light profile to said light emitting unit,

wherein said light emitting unit emits a light with a color that corresponds to said predefined light profile in response to receiving said predefined light profile from said server.

11. The monitored light control system of claim 10 wherein said measurement data is a blood pressure.

12. The monitored light control system of claim 10 wherein said light emitting unit is light emitting diodes (LED).

13. The monitored light control system of claim 10 wherein said predefined light profile is transmitted through WIFI connection.

14. The monitored light control system of claim 10 further including:

an audio device,

wherein said predefined light profile includes a sound profile,

wherein said audio device plays said sound profile in response to receiving said predefined light profile from said controller.

15. The monitored light control system of claim 10 further including:

a server storing at least one predefined GPS location data; and

a controller including a GPS sensor,

wherein said controller detects a location data using said GPS sensor, and transmits said location data to said server,

wherein said server receives said location data and compares said location data to said predefined GPS location data,

when said location data is in a location defined in said predefined GPS location data, said server transmits said predefined light profile to said light emitting unit,

wherein said light emitting unit emits a light with a color that corresponds to said predefined light profile in response to receiving said predefined light profile from said server.

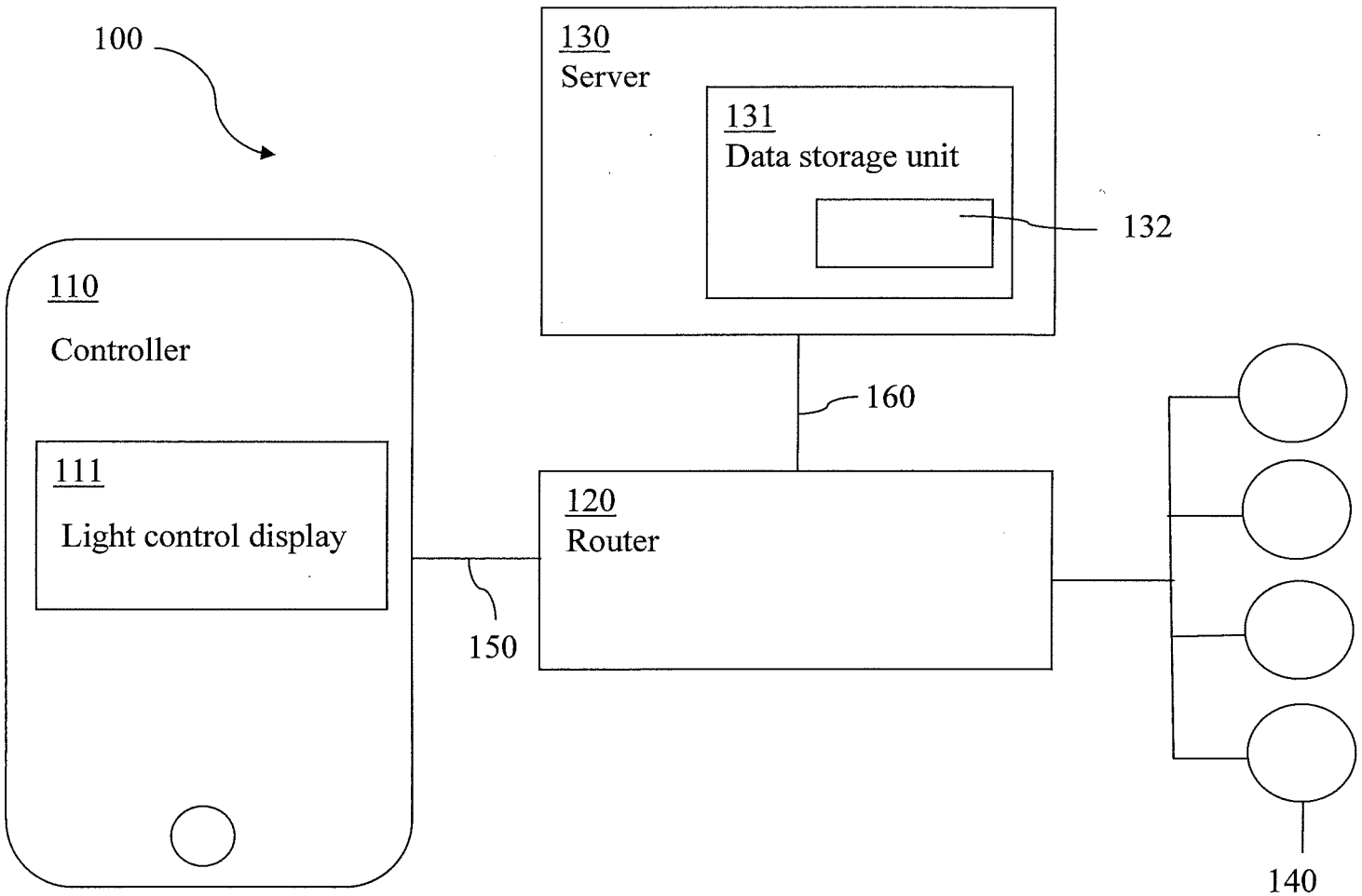
100
130
Server
131
Data storage unit
132
110
Controller
111
Light control display
160
120
Router
150
140

FIG. 1

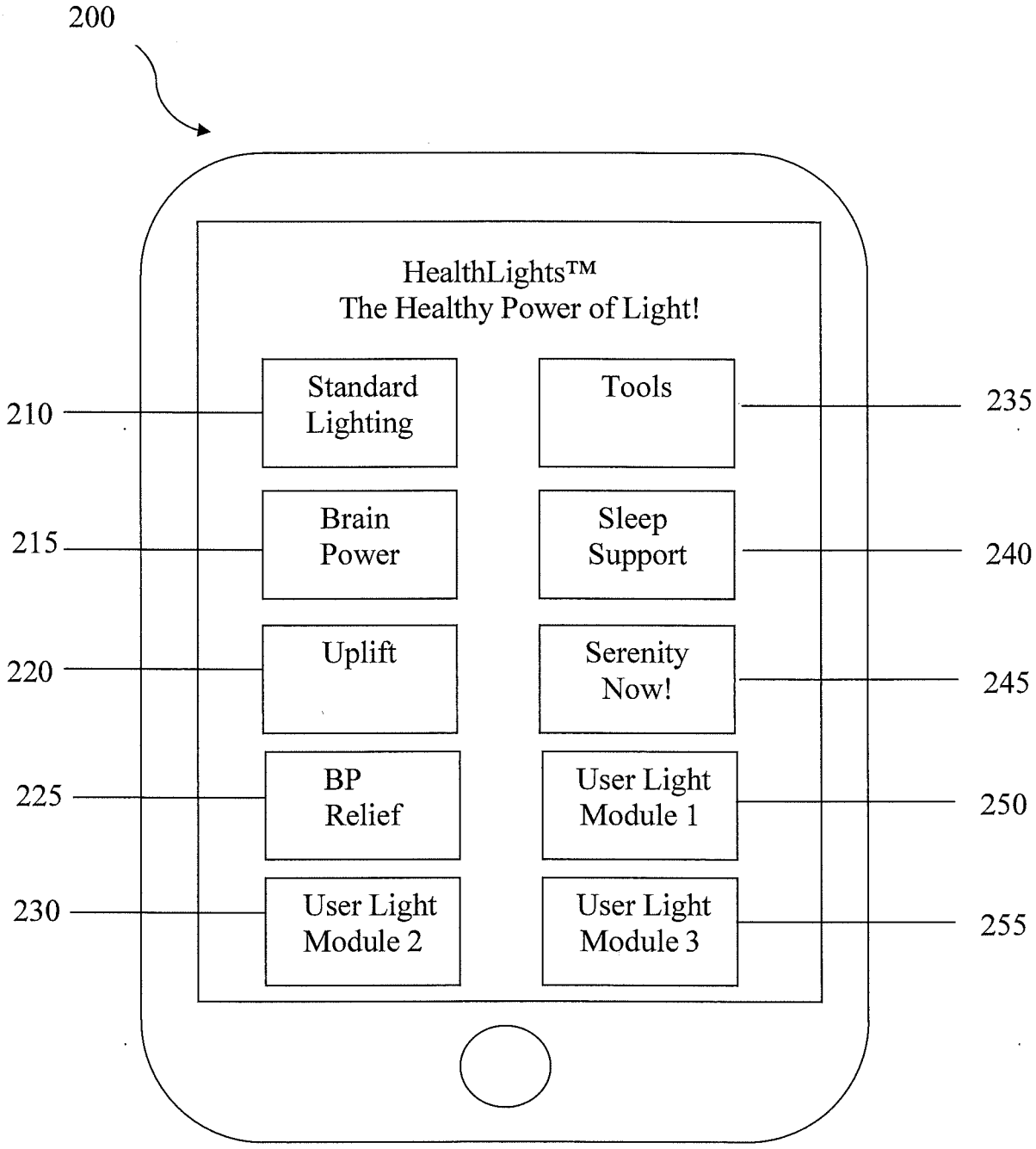
200
HealthLights™
The Healthy Power of Light!
Standard Lighting
Tools
Brain Power
Sleep Support
Uplift
Serenity Now!
BP Relief
User Light Module 1
User Light Module 2
User Light Module 3
210
215
220
225
230
235
240
245
250
255

FIG. 2

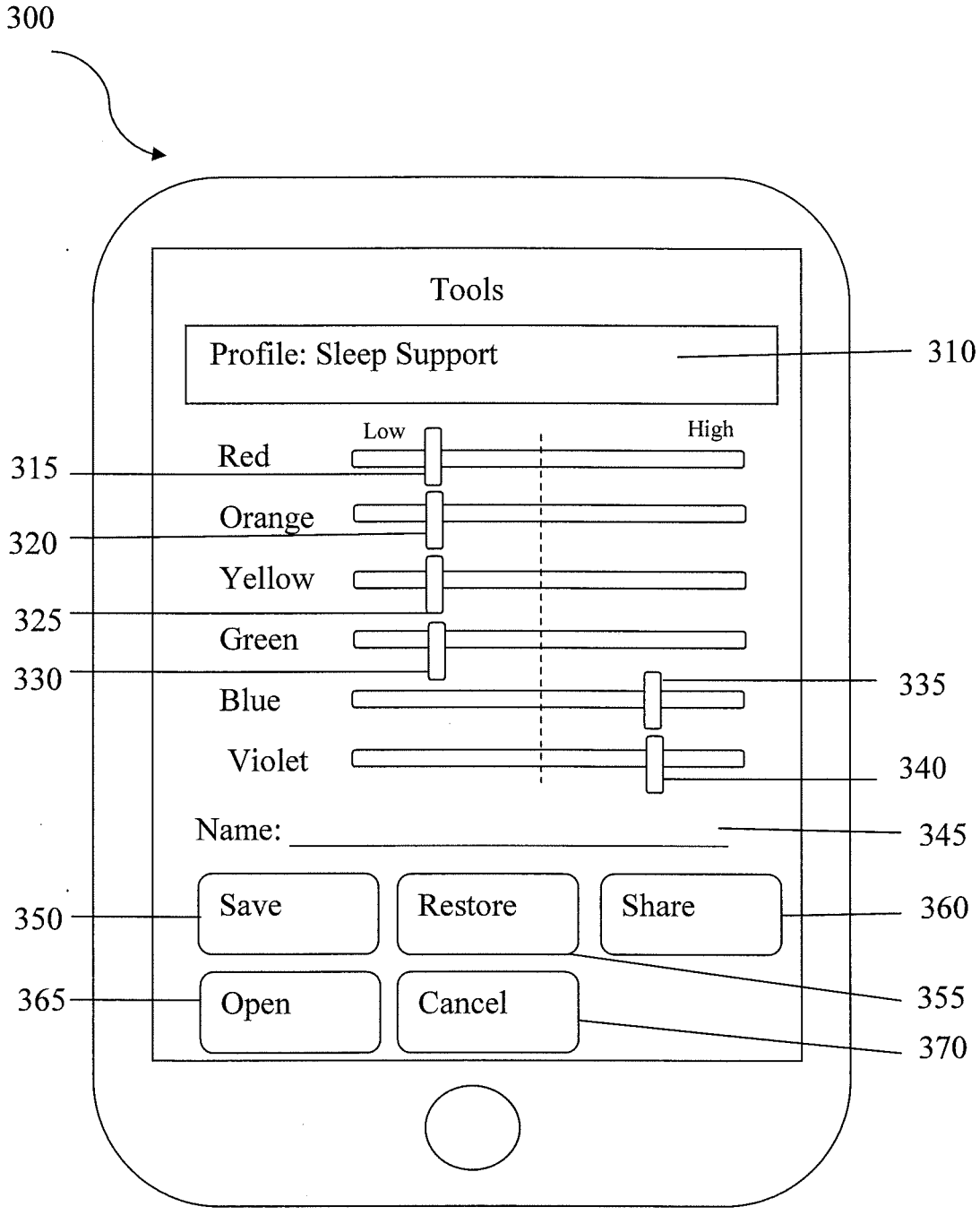
300
Tools
Profile: Sleep Support
310
Low
High
315
Red
320
Orange
325
Yellow
330
Green
Blue
335
Violet
340
Name:
345
350
Save
Restore
Share
360
365
Open
Cancel
355
370

FIG. 3

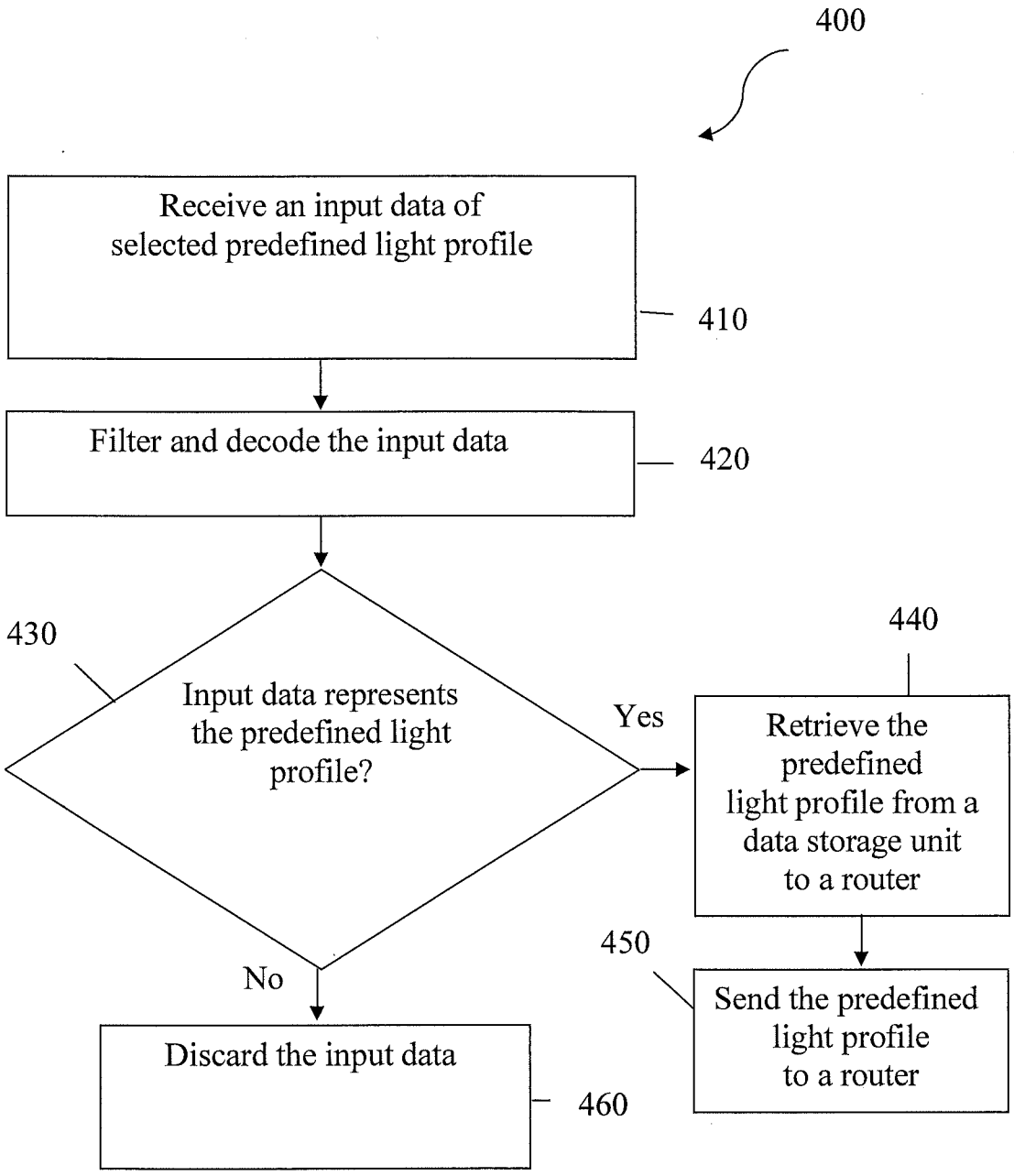
400
Receive an input data of selected predefined light profile
410
Filter and decode the input data
420
430
Input data represents the predefined light profile?
Yes
440
Retrieve the predefined light profile from a data storage unit to a router
450
Send the predefined light profile to a router
No
Discard the input data
460

FIG. 4

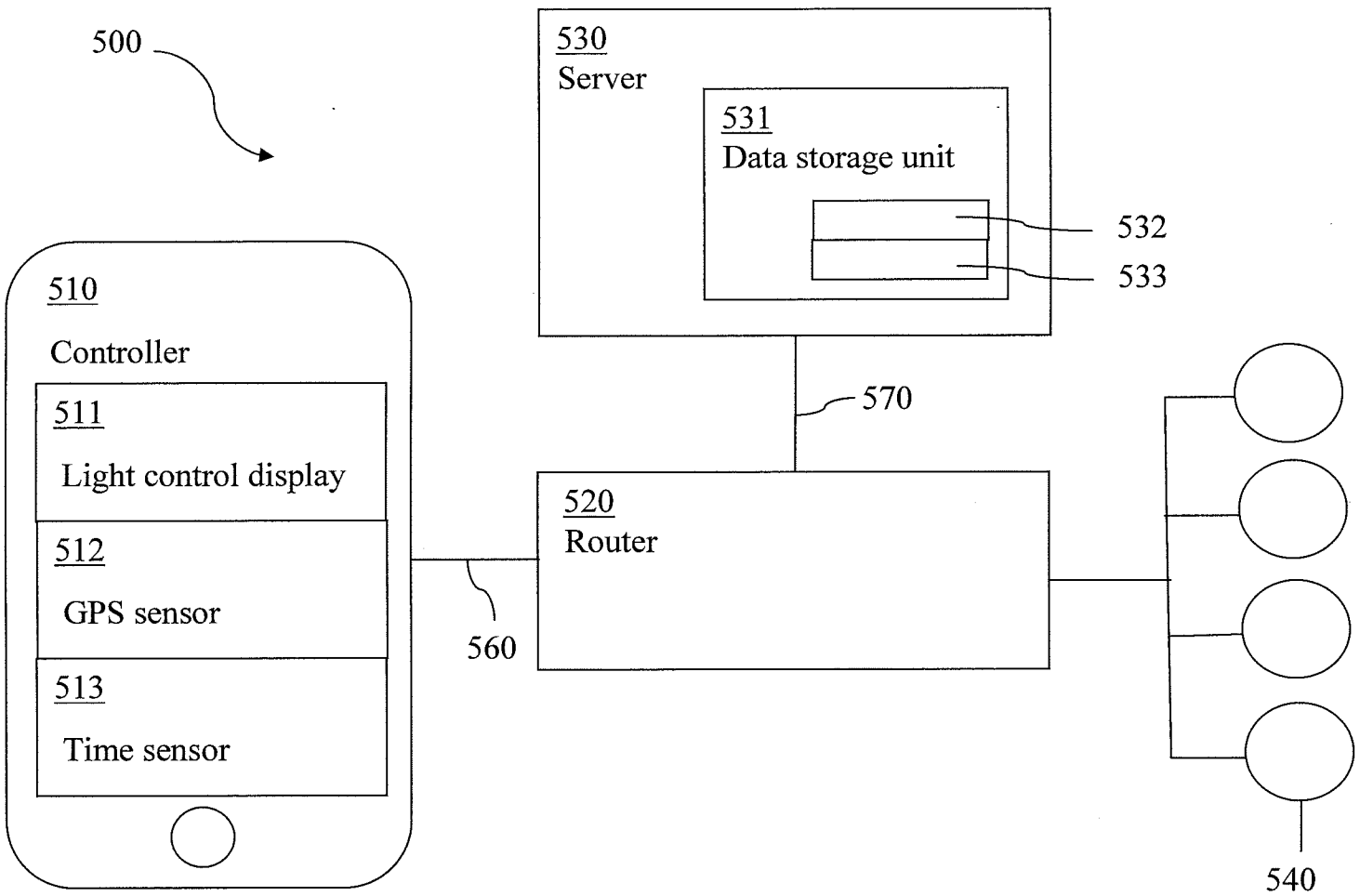
500
530
Server
531
Data storage unit
532
533
510
Controller
511
Light control display
512
GPS sensor
513
Time sensor
570
520
Router
560
540

FIG. 5

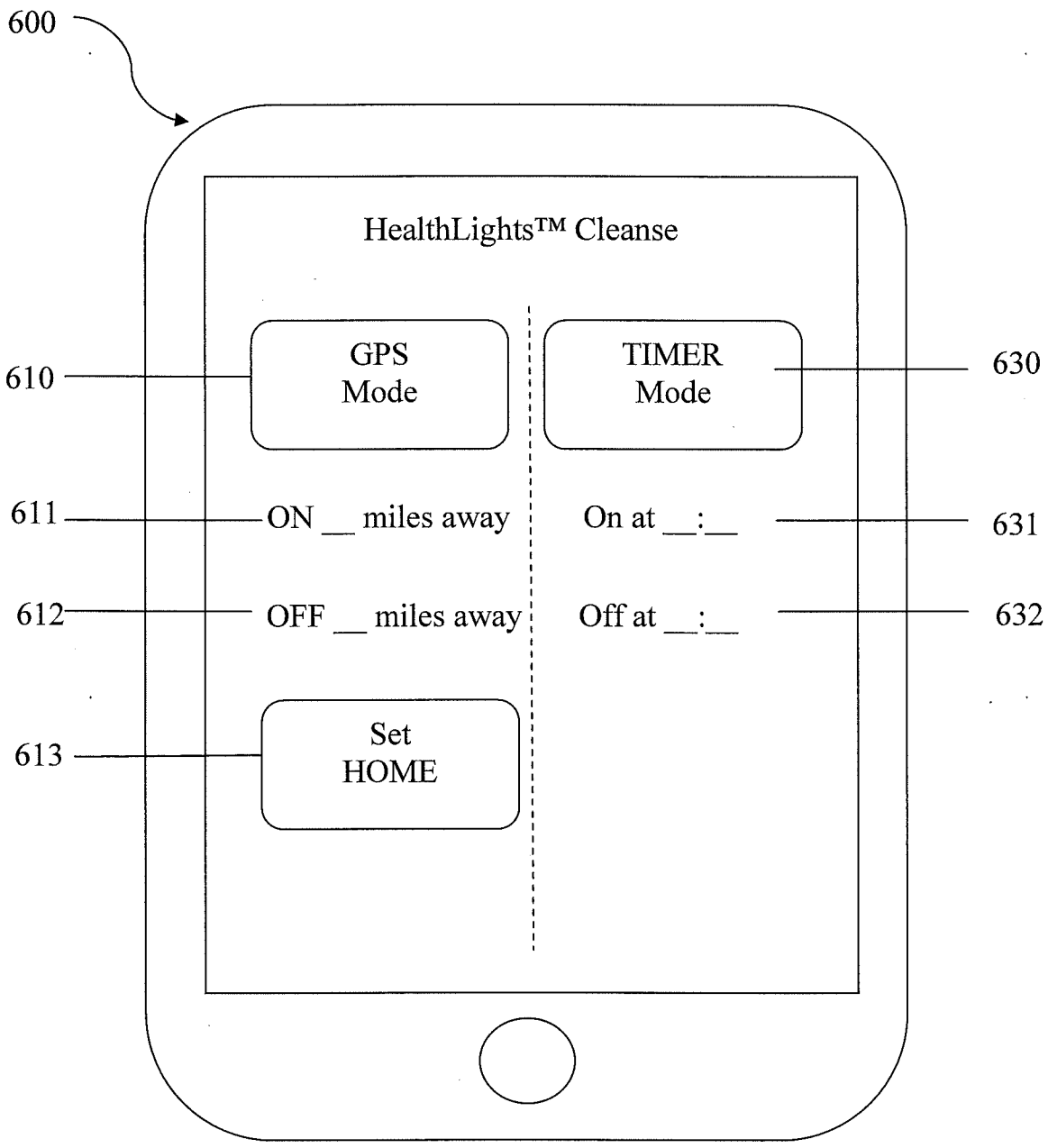
600
HealthLights™ Cleanse
GPS Mode
TIMER Mode
610
630
611
ON __ miles away
On at __:__
631
612
OFF __ miles away
Off at __:__
632
613
Set HOME

FIG. 6

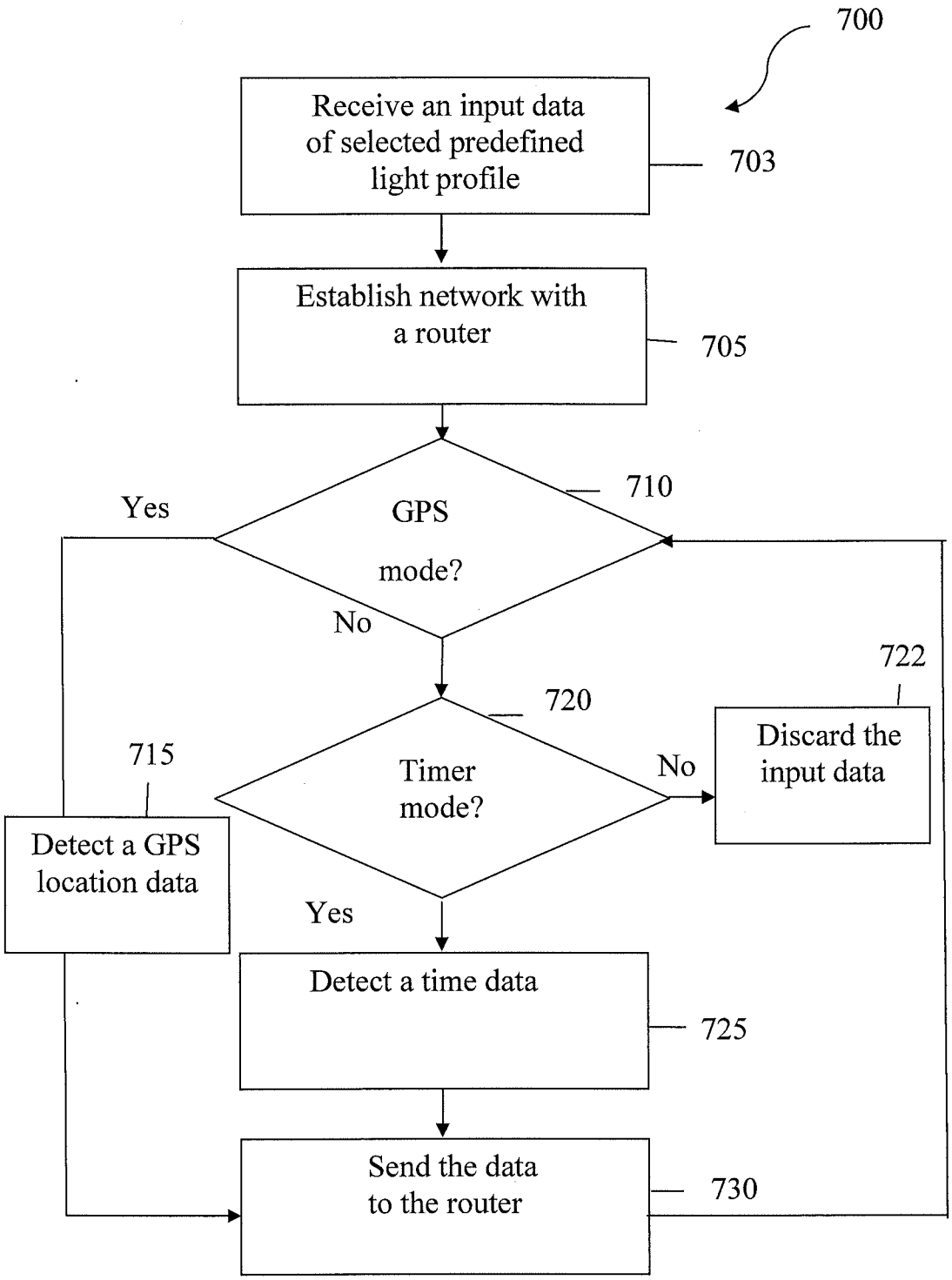
700
Receive an input data of selected predefined light profile
703
Establish network with a router
705
GPS mode?
710
Yes
No
Timer mode?
720
No
722
Discard the input data
715
Detect a GPS location data
Yes
Detect a time data
725
Send the data to the router
730

FIG. 7

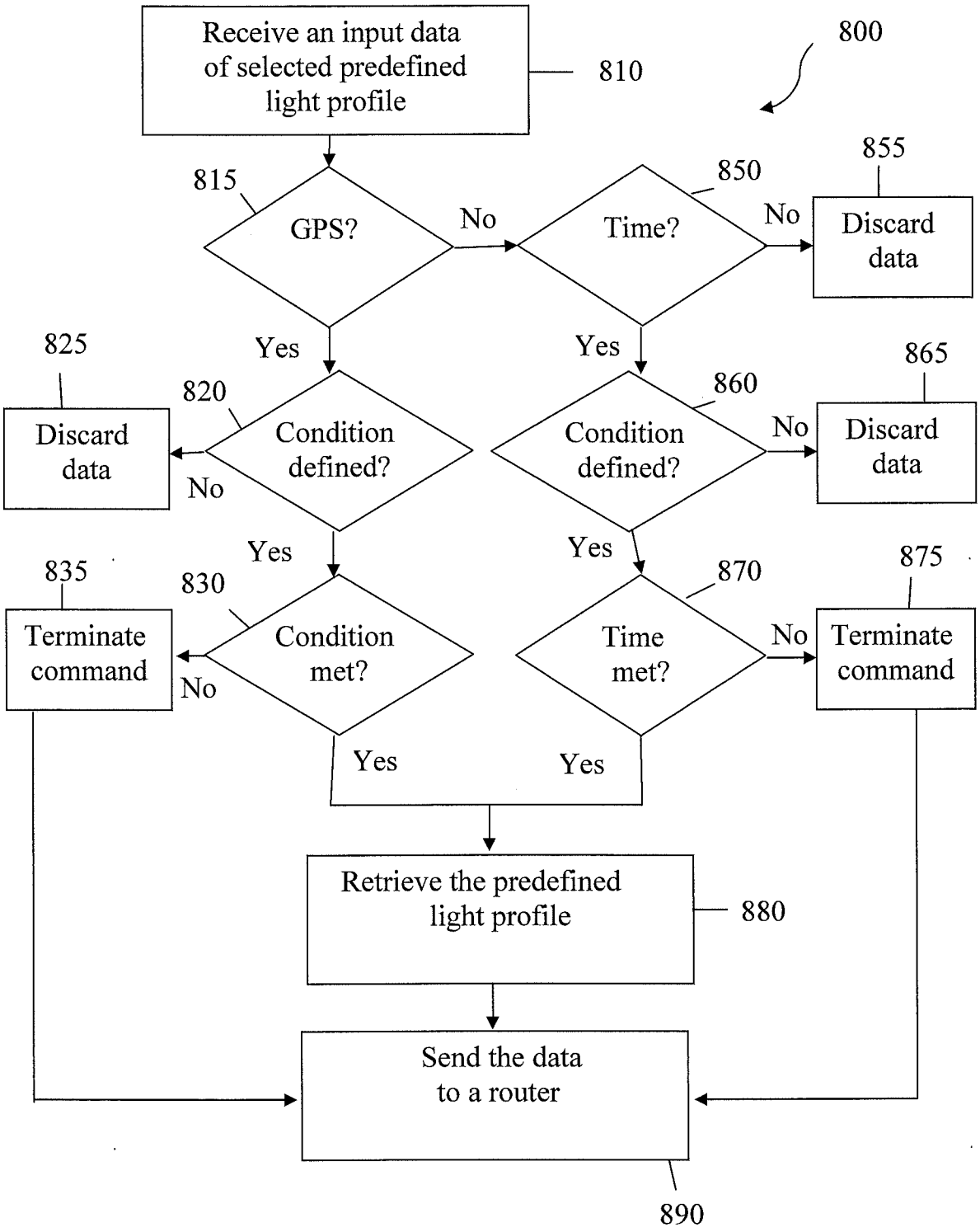
Receive an input data of selected predefined light profile
810
800
815
GPS?
No
850
Time?
No
855
Discard data
Yes
Yes
825
820
Condition defined?
No
Discard data
860
Condition defined?
No
865
Discard data
Yes
Yes
835
830
Condition met?
No
Terminate command
870
Time met?
No
875
Terminate command
Yes
Yes
Retrieve the predefined light profile
880
Send the data to a router
890

FIG. 8

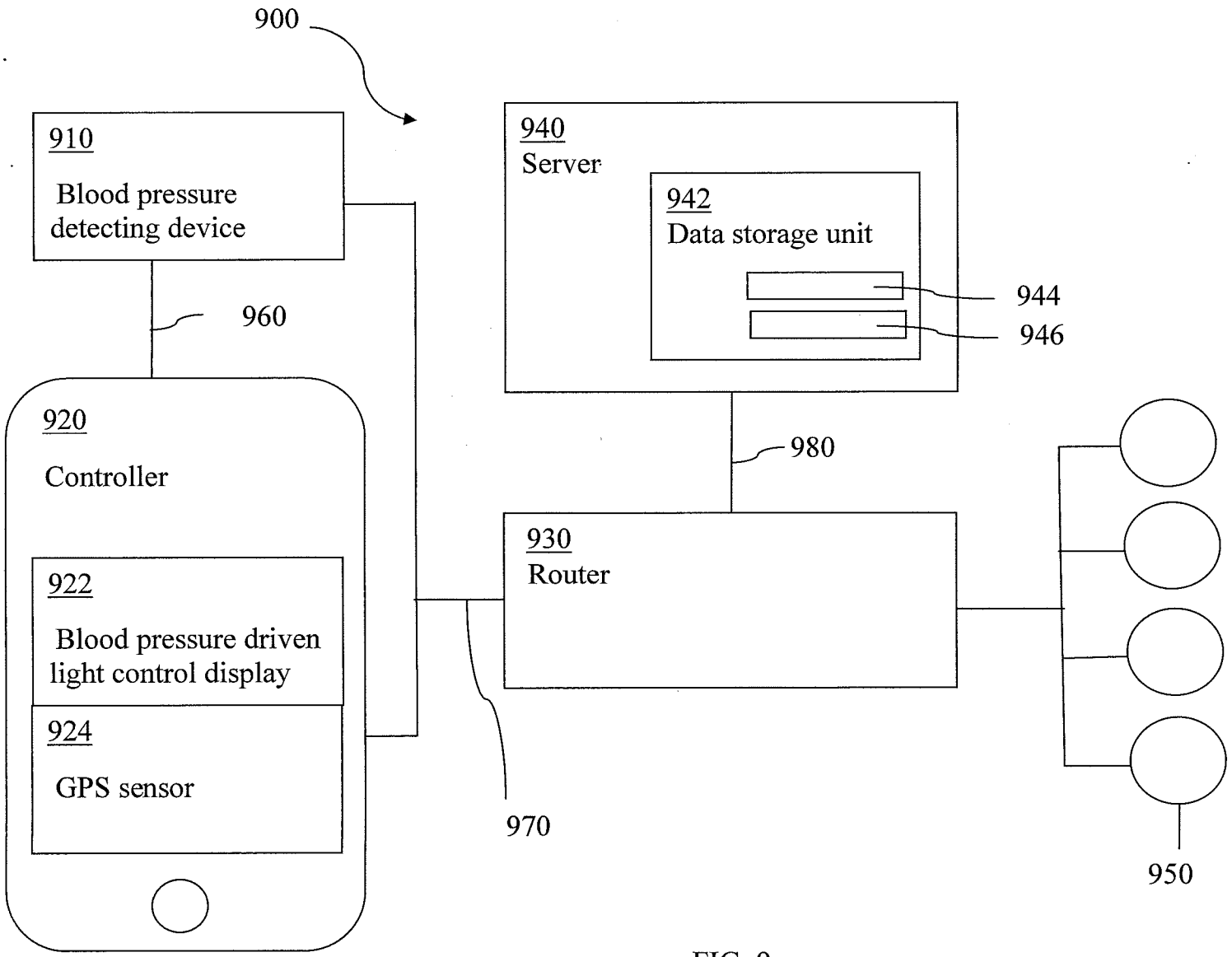
900
910
Blood pressure detecting device
960
920
Controller
922
Blood pressure driven light control display
924
GPS sensor
940
Server
942
Data storage unit
944
946
980
930
Router
970
950

FIG. 9

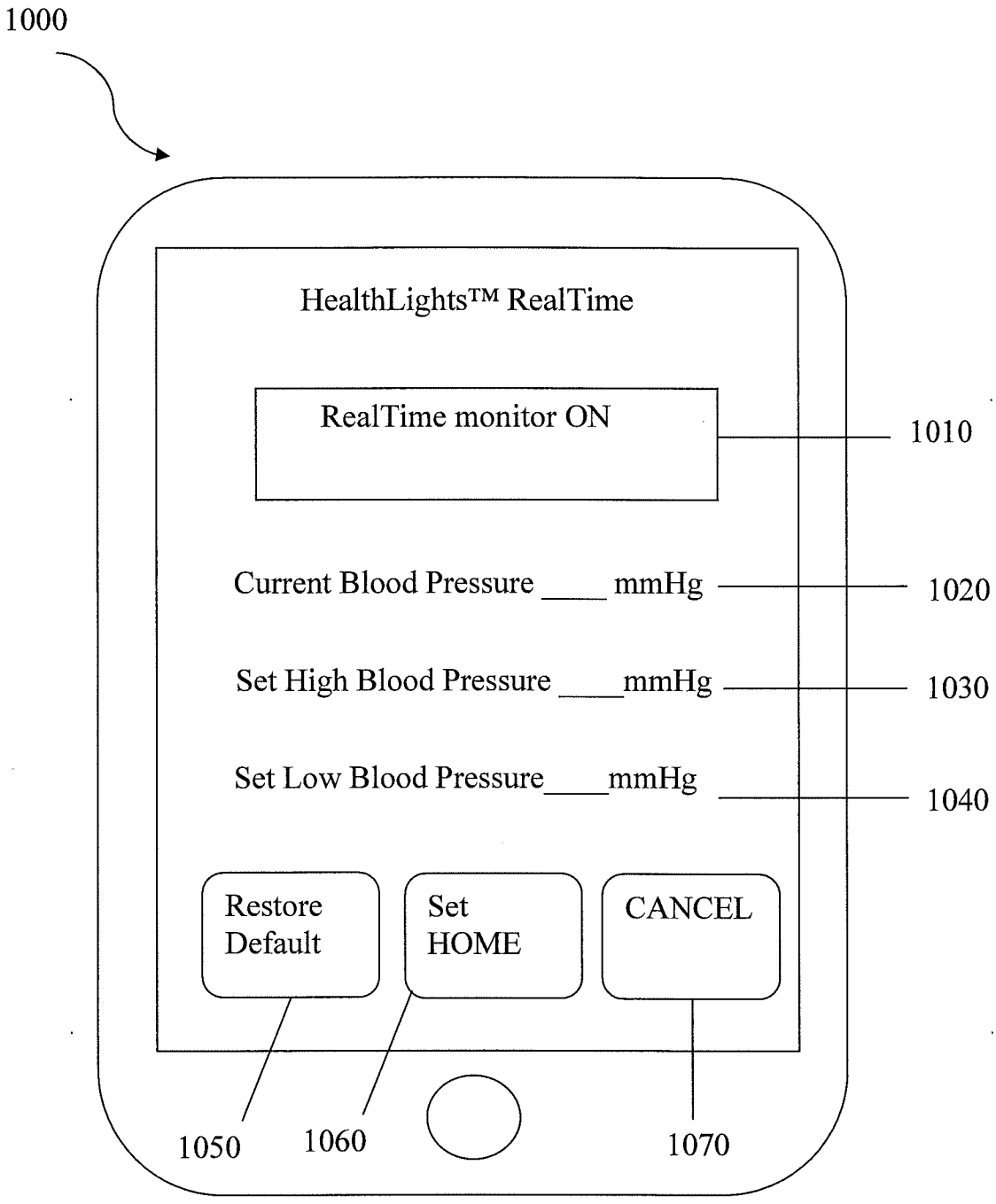
1000
HealthLights™ RealTime
RealTime monitor ON
1010
Current Blood Pressure ____ mmHg
1020
Set High Blood Pressure ____mmHg
1030
Set Low Blood Pressure____mmHg
1040
Restore Default
Set HOME
CANCEL
1050
1060
1070

FIG. 10

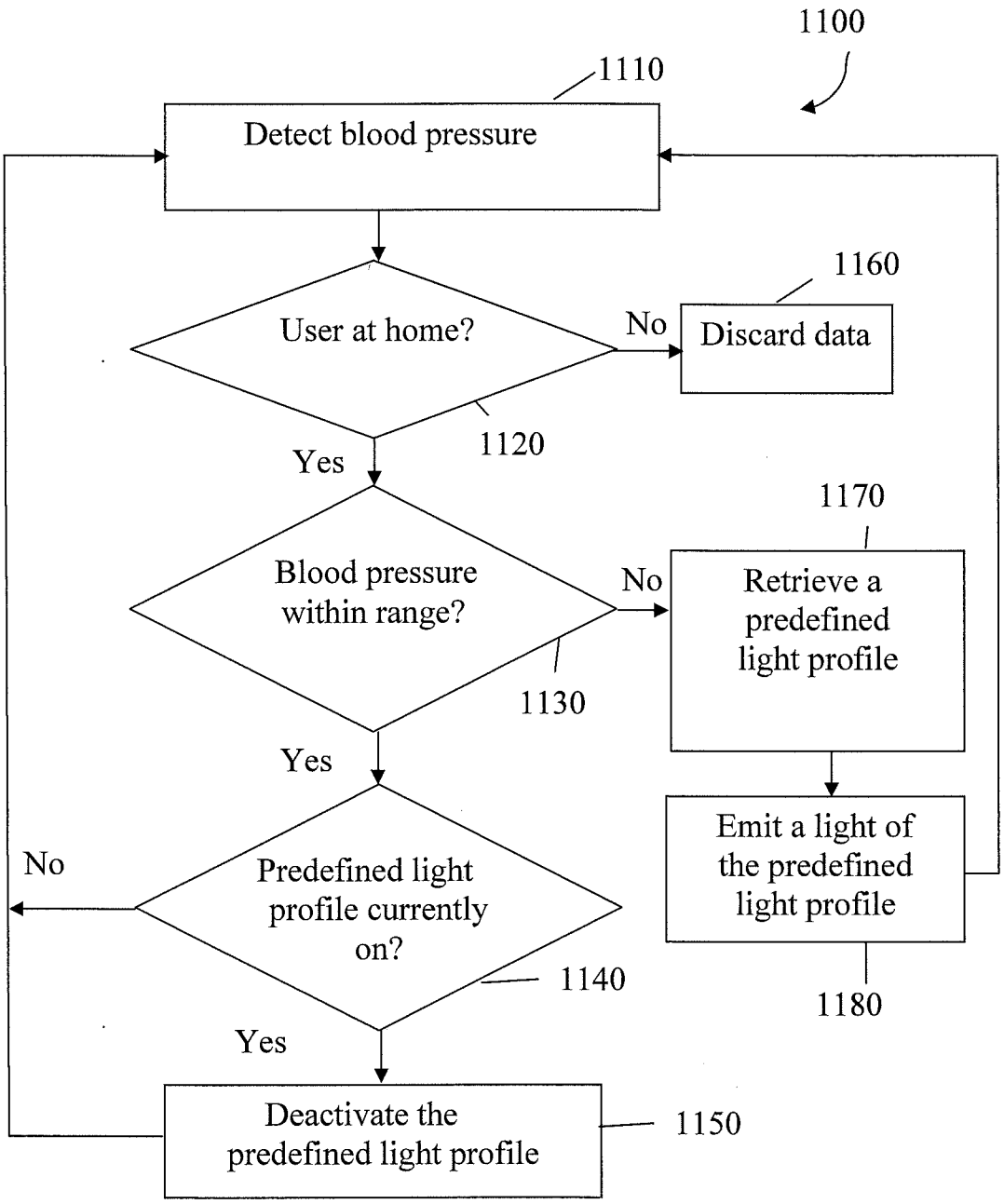
1100
1110
Detect blood pressure
1160
User at home?
No
Discard data
1120
Yes
1170
Blood pressure within range?
No
Retrieve a predefined light profile
1130
Yes
Emit a light of the predefined light profile
No
Predefined light profile currently on?
1140
1180
Yes
Deactivate the predefined light profile
1150

FIG. 11