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(54) **AIR CONDITIONING DEVICE, AND CONTROL METHOD THEREFOR AND CONTROL DEVICE THEREOF**

(57) The present disclosure provides an air conditioning equipment, a method for controlling an air conditioning equipment and a control device. The method for controlling the air conditioning equipment includes the following operations: determining a preset scene mode,

the preset scene mode being a mode for simulating a preset environment by controlling an operation of the air conditioning equipment (S 1); and controlling the air conditioning equipment to operate according to the preset scene mode (S2).

EP 3 742 063 A1

Description**CROSS-REFERENCE TO RELATED APPLICATIONS**

[0001] This application claims the priority to Chinese Patent Applications No. 201810359110.5, entitled "AIR CONDITIONING EQUIPMENT, METHOD FOR CONTROLLING AIR CONDITIONING EQUIPMENT, AND CONTROL DEVICE", filed on April 19, 2018, the entire contents of which are incorporated herein by reference.

TECHNICAL FIELD

[0002] The present disclosure relates to the technical field of household electrical appliances, in particular to an air conditioning equipment, a method for controlling an air conditioning equipment, and a control device.

BACKGROUND

[0003] With the development of smart home appliances, home appliances with automatic control functions have been gradually increased. As long as the corresponding target parameters are set, the home appliance can automatically operate according to the set target parameters. However, the setting of these target parameters is not convenient enough. Take an air conditioning equipment such as an air conditioners and a humidifier as examples, the target parameters corresponding to the operation of air conditioning equipment usually need to be manually set by the user, which not only makes the user's operation troublesome, but also requires the user to understand the setting requirements of each target parameter. Therefore, the control of home appliances is not convenient enough.

SUMMARY

[0004] The main objective of the present disclosure is to provide an air conditioning equipment, a method for controlling an air conditioning equipment, and a control device, which aims to solve the problem of insufficient control of household appliances in the prior art.

[0005] The present disclosure provides a method for controlling an air conditioning equipment, including the following operations:

determining a preset scene mode, the preset scene mode being a mode for simulating a preset environment by controlling an operation of the air conditioning equipment; and
controlling the air conditioning equipment to operate according to the preset scene mode.

[0006] In an embodiment, the operation of "determining a preset scene mode" includes:

detecting and obtaining a preset control instruction;

and

determining the preset scene mode in response to the preset control instruction.

[0007] In an embodiment, the operation of "detecting and obtaining a preset control instruction" includes:

detecting and obtaining a preset voice control instruction, the preset voice control instruction being the preset control instruction; or
detecting and obtaining a preset gesture control instruction, the preset gesture control instruction being the preset control instruction; or
detecting and obtaining a preset control operation performed by a user on an air conditioning interface, and obtaining the preset control instruction in response to the preset control operation; or
detecting and obtaining the preset control instruction received by an instant messaging software.

[0008] In an embodiment, the operation of "detecting and obtaining a preset control operation performed by a user on an air conditioning interface" includes:

detecting the preset control operation based on at least one multimedia data output by the air conditioning interface, the air conditioning interface being configured to output at least one multimedia data corresponding to a scene mode, the multimedia data including at least one of text, image, audio, and video.

[0009] In an embodiment, the operation of "detecting and obtaining a preset control operation performed by a user on an air conditioning interface" includes:

outputting a control interface of an air conditioning application; outputting a setting interface of the scene mode on the control interface; detecting the preset control operation based on the setting interface; or

outputting a quick control interface for controlling the air conditioning equipment; outputting a control interface of the scene mode on the quick control interface; detecting the preset control operation generated based on the control interface; the quick control interface being a control interface output by at least one of an expansion component of a current device and a lock screen interface of the current device.

[0010] In an embodiment, the preset scene mode includes a target parameter value of at least one scene parameter; the operation of "controlling the air conditioning equipment to operate according to the preset scene mode" includes:

controlling the air conditioning equipment to operate according to the target parameter value of the at least one scene parameter.

[0011] In an embodiment, the operation of "controlling the air conditioning equipment to operate according to the preset scene mode" includes:

obtaining a target parameter value of at least one parameter of air freshness, cleanliness, temperature, humidity, and air volume demand required in the preset scene mode; and
controlling the operation of the air conditioning equipment according to the target parameter value corresponding to the preset scene mode to form a simulated environment required by the preset scene mode.

[0012] In an embodiment, the operation of "controlling the air conditioning equipment to operate according to the preset scene mode" includes:

controlling the air conditioning equipment to operate according to a corresponding target temperature value in the preset scene mode through an operation of a compressor of the air conditioning equipment; and/or

controlling the air conditioning equipment to operate according to a corresponding target humidity value in the preset scene mode through an operation of a humidification module of the air conditioning equipment; and/or

controlling the air conditioning equipment to operate according to a corresponding target air volume information in the preset scene mode through an operation of a fan of the air conditioning equipment; and/or

controlling the air conditioning equipment to operate according to a corresponding target freshness information in the preset scene mode through an operation of a fresh air module of the air conditioning equipment; and/or

controlling the air conditioning equipment to operate according to a corresponding target cleanliness information in the preset scene mode through an operation of a purification module of the air conditioning equipment.

[0013] In an embodiment, the preset environment includes a preset natural environment.

[0014] In an embodiment, the preset natural environment includes at least one of a preset natural feature environment, a preset geographic location environment, and a preset time natural environment.

[0015] In an embodiment, the preset scene mode includes at least one scene parameter, and the at least one scene parameter is a target parameter of the air conditioning equipment according to an environmental parameter in the preset environment.

[0016] In an embodiment, the preset environment includes an environment suitable for living organisms with a preset health level.

[0017] In an embodiment, the preset scene mode includes at least one scene parameter, and the scene parameter is a target parameter of the air conditioning equipment according to an environmental parameter in

the environment suitable for the living organisms with the preset health level.

[0018] In an embodiment, after the operation of "controlling the air conditioning equipment to operate according to the preset scene mode", the method further includes:

prompting an operation state of the air conditioning equipment in the preset scene mode and sending a prompt information.

[0019] In an embodiment, the prompt information is sent in a form of a display interface or a voice output.

[0020] In an embodiment, the air conditioning equipment includes: a housing; an air inlet and an air outlet provided on the housing; a heat exchange air duct communicating with the air inlet and the air outlet; and a heat exchanger and a fan provided in the heat exchange air duct.

[0021] In an embodiment, the air conditioning equipment further includes:

an air treatment duct; and

at least one of a fresh air module, a humidification module, and a purification module communicating with the air treatment duct;

the operation of "controlling the air conditioning equipment to operate according to the preset scene mode" includes:

controlling the fresh air module to circulate air, controlling the humidification module to humidify air, controlling the purification module to generate negative ions to purify air; and/or

adjusting a swinging state and an air volume of the air treatment duct to form a simulated environment required by the preset scene mode.

[0022] In an embodiment, the air conditioning equipment further includes:

a display unit configured to display the air conditioning interface of the air conditioning equipment and receive the preset control instruction.

[0023] The present disclosure further provides an air conditioning equipment, including: a housing; an air inlet and an air outlet provided on the housing; a heat exchange air duct communicating with the air inlet and the air outlet; a heat exchanger and a fan provided in the heat exchange air duct; a memory storing a program for controlling the air conditioning equipment; and a controller configured to read and execute the program for controlling the air conditioning equipment from the memory, the program, when executed by the controller, implementing the method as described above.

[0024] In an embodiment, the air conditioning equipment further includes a fresh air module, a humidification module, and a purification module.

[0025] In an embodiment, the air conditioning equipment further includes:

a display module connected to the controller, and configured to display an air conditioning interface of the air

conditioning equipment, and send a preset control instruction to the controller after receiving a preset control instruction.

[0026] The present disclosure further provides an air conditioning equipment, including: a housing; an air inlet and an air outlet provided on the housing; a heat exchange air duct communicating with the air inlet and the air outlet; a heat exchanger and a fan provided in the heat exchange air duct; a processor configured to determine a preset scene mode and control the air conditioning equipment to operate according to the preset scene mode, the preset scene mode being a mode for simulating a preset environment by controlling an operation of the air conditioning equipment.

[0027] The present disclosure further provides a control device, including a memory, a processor, a program for controlling an air conditioning equipment stored on the memory and executable on the processor, the program, when executed by the processor, implementing the method as described above.

[0028] One or more technical solutions provided in the embodiments of the present disclosure have at least the following technical effects or advantages:

1. The air conditioning equipment is controlled to enter the preset scene mode through determining the current preset scene mode corresponding to the air conditioning equipment. In this way, the user no longer needs to manually set the corresponding target parameters one by one, but only needs to determine the corresponding preset scene mode to control the air conditioning equipment to enter the preset scene mode, which greatly facilitates the user's operations.
2. Using the control device to control the air conditioning equipment is more flexible and convenient than directly operating on the air conditioning equipment.
3. At least one multimedia data corresponding to each scene mode are output through the air conditioning interface, including at least one of text, image, audio, and video. The user can perform preset control operations based on at least one multimedia data output from the air conditioning interface, which reflects flexibility and humanized design, and improves the user's operation experience.
4. When performing the operation control of the air conditioning equipment, the air conditioning equipment is directly controlled to operate according to the target parameter value of at least one scene parameter included in the preset scene mode. In this way, the convenience of the control operation is further improved.
5. When controlling the operation of the air conditioning equipment, the quick control interface for controlling the air conditioning equipment is output through the expansion component or the lock screen interface, which greatly facilitates the user's operation and flexibility.

6. The preset control instruction is triggered by multiple methods such as voice, gesture, and preset control operation based on the air conditioning interface, so as to determine the preset scene mode and control the air conditioning equipment to enter the preset scene mode. The operation is flexible and convenient, which further improves the user's operation experience.

BRIEF DESCRIPTION OF THE DRAWINGS

[0029]

FIG. 1 is a schematic structural diagram of an air conditioning equipment according to an embodiment of the present disclosure;

FIG. 2 is a schematic diagram of the functional modules of the control circuit board in the air conditioning equipment according to an embodiment of the present disclosure;

FIG. 3 is a diagram showing an example of an interactive structure realizing control of an air conditioning equipment using a control device according to an embodiment of the present disclosure;

FIG. 4 is a schematic diagram of the hardware module of the control device according to an embodiment of the present disclosure;

FIG. 5 is a schematic flowchart of a method for controlling an air conditioning equipment according to an embodiment of the present disclosure;

FIG. 6 is a schematic diagram of an air conditioning interface according to an embodiment of the present disclosure;

FIG. 7 is a schematic diagram of the setting interface of the scene mode according to an embodiment of the present disclosure; and

FIG. 8 is a schematic diagram of outputting a quick control interface for controlling an air conditioning equipment on a lock screen interface of the current device.

[0030] The realization of the objective, functional characteristics, advantages of the present disclosure are further described with reference to the accompanying drawings.

DETAILED DESCRIPTION OF THE EMBODIMENTS

[0031] In order to better understand the above technical solutions, exemplary embodiments of the present disclosure will be described in more detail with reference to the accompanying drawings. Although the drawings show exemplary embodiments of the present disclosure, it should be understood that the present disclosure can be implemented in various forms and should not be limited by the embodiments set forth herein. On the contrary, these embodiments are provided to enable a more thorough understanding of the present disclosure and to fully

convey the scope of the present disclosure to those skilled in the art.

[0032] The technical solution of the present disclosure is mainly to solve the technical problem that the corresponding parameters need to be manually set by the user one by one when implementing the control of the home appliance, which makes the user's operation troublesome and the control of the home appliance is not convenient enough. The present disclosure provides a method for controlling an air conditioning equipment. The method for controlling the air conditioning equipment mainly adopts the following technical solutions: determining the preset scene mode corresponding to the air conditioning equipment (a mode that simulates the preset environment by controlling the operation of the air conditioning equipment), and then controlling the air conditioning equipment to enter the preset scene mode. In this way, the user no longer needs to manually set the corresponding target parameters one by one, but only needs to determine the corresponding preset scene mode to control the air conditioning equipment to enter the preset scene mode, which greatly facilitates the user's operations.

[0033] The embodiments of the present disclosure provides an air conditioning equipment.

[0034] As shown in FIG. 1, FIG. 1 is a schematic structural diagram of an air conditioning equipment according to an embodiment of the present disclosure.

[0035] The air conditioning equipment 100 includes a housing 10. The shape of the housing 10 and the structure on the housing 10 are not limited to the shapes shown in the figure, and can be designed to adapt to the shape and structure according to actual applications. The housing 10 is provided with an input/output module 20, such as a display screen, a key, or a combination of the two. The input/output module 20 is also provided with a button (not shown) for quick control. The button can be a physical button or a virtual button.

[0036] As shown in FIG. 2, FIG. 2 is a schematic diagram of functional modules of the control circuit board in the air conditioning equipment according to an embodiment of the present disclosure. A control circuit board 30 is provided in the housing 10, and the control circuit board 30 is electrically connected to the input/output module 20. The control circuit board 30 includes a processor 31, a memory 32, and a communication module 33 for communicating with external devices. The memory 32 may include a storage module integrated on the control circuit board, or may be a storage device electrically connected to the control circuit board.

[0037] Those skilled in the art can understand that the structure shown in FIGs. 1 and 2 does not constitute a limitation on the air conditioning equipment 100, and may include more or less components than shown, or a combination of certain components, or differently arranged components.

[0038] As shown in FIG. 2, the memory 32, which is a computer storage medium, may include an operating

system and a program for controlling the air conditioning equipment.

[0039] In the control circuit board 30 shown in FIG. 2, the processor 31 may be configured to call the program for controlling the air conditioning equipment stored on the memory 32 and perform the following operations:

determining a preset scene mode, the preset scene mode being a mode for simulating a preset environment by controlling an operation of the air conditioning equipment; and
controlling the air conditioning equipment to operate according to the preset scene mode.

[0040] In the technical solutions of the present disclosure, when the processor 31 calls the program for controlling the air conditioning equipment and runs, the preset scene mode corresponding to the air conditioning equipment (a mode that simulates the preset environment by controlling the operation of the air conditioning equipment) is determined, and then the air conditioning equipment to enter the preset scene mode is controlled. In this way, the user no longer needs to manually set the corresponding target parameters one by one, but only needs to determine the corresponding preset scene mode to control the air conditioning equipment to enter the preset scene mode, which greatly facilitates the user's operations.

[0041] In some embodiments, the processor 31 may be configured to call the program for controlling the air conditioning equipment stored on the memory 32, and when the preset scene mode is determined, perform the following operations:

detecting and obtaining a preset control instruction; and
determining the preset scene mode in response to the preset control instruction.

[0042] In some embodiments, the processor 31 may be configured to call the program for controlling the air conditioning equipment stored on the memory 32 and further perform the following operations:

detecting and obtaining a preset voice control instruction; or
detecting and obtaining a preset gesture control instruction; or
detecting and obtaining a preset control operation performed by a user on an air conditioning interface, and obtaining the preset control instruction in response to the preset control operation; or
detecting and obtaining the preset control instruction received by an instant messaging software.

[0043] In some embodiments, the processor 31 may be configured to call the program for controlling the air conditioning equipment stored on the memory 32 and

further perform the following operations:

detecting the preset control operation based on at least one multimedia data output by the air conditioning interface, the air conditioning interface being configured to output at least one multimedia data corresponding to each scene mode, the multimedia data including at least one of text, image, audio, and video.

[0044] In some embodiments, the processor 31 may be configured to call the program for controlling the air conditioning equipment stored on the memory 32 and further perform the following operations:

outputting a control interface of an air conditioning application; outputting a setting interface of the scene mode on the control interface; detecting the preset control operation based on the setting interface; or

outputting a quick control interface for controlling the air conditioning equipment; outputting a control interface of the scene mode on the quick control interface; detecting the preset control operation generated based on the control interface; the quick control interface being a control interface output by at least one of an expansion component of a current device and a lock screen interface of the current device.

[0045] In some embodiments, the preset scene mode includes a target parameter value of at least one scene parameter; the processor 31 may be configured to call the program for controlling the air conditioning equipment stored on the memory 32 and further perform the following operations:

controlling the air conditioning equipment to operate according to the target parameter value of the at least one scene parameter.

[0046] In some embodiments, the processor 31 may be configured to call the program for controlling the air conditioning equipment stored on the memory 32 and further perform the following operations:

obtaining a target parameter value of at least one parameter of air freshness, cleanliness, temperature, humidity, and air volume demand required in the preset scene mode; and

controlling the operation of the air conditioning equipment according to the target parameter value corresponding to the preset scene mode to form a simulated environment required by the preset scene mode.

[0047] In some embodiments, the processor 31 may be configured to call the program for controlling the air conditioning equipment stored on the memory 32 and further perform the following operations:

controlling the air conditioning equipment to operate according to a corresponding target temperature value in the preset scene mode through an operation

of a compressor of the air conditioning equipment; and/or

controlling the air conditioning equipment to operate according to a corresponding target humidity value in the preset scene mode through an operation of a humidification module of the air conditioning equipment; and/or

controlling the air conditioning equipment to operate according to a corresponding target air volume information in the preset scene mode through an operation of a fan of the air conditioning equipment; and/or

controlling the air conditioning equipment to operate according to a corresponding target freshness information in the preset scene mode through an operation of a fresh air module of the air conditioning equipment; and/or

controlling the air conditioning equipment to operate according to a corresponding target cleanliness information in the preset scene mode through an operation of a purification module of the air conditioning equipment.

[0048] In some embodiments, the processor 31 may be configured to call the program for controlling the air conditioning equipment stored on the memory 32, after the operation of "controlling the air conditioning equipment to operate according to the preset scene mode", and further perform the following operations:

prompting an operation state of the air conditioning equipment in the preset scene mode and sending a prompt information.

[0049] Further, the prompt information is sent in a form of a display interface or a voice output.

[0050] Further, the preset environment comprises a preset natural environment.

[0051] Further, the preset natural environment includes at least one of a preset natural feature environment, a preset geographic location environment, and a preset time natural environment.

[0052] Further, the preset scene mode includes at least one scene parameter, and the scene parameter is a target parameter of the air conditioning equipment according to an environmental parameter in the preset environment.

[0053] Further, the preset environment includes an environment suitable for living organisms with a preset health level.

[0054] Further, the preset scene mode includes at least one scene parameter, and the scene parameter is a target parameter of the air conditioning equipment according to an environmental parameter in an environment suitable for a living organism with a preset health level.

[0055] In some embodiments, the air conditioning equipment includes: a housing; an air inlet and an air outlet provided on the housing; a heat exchange air duct communicating with the air inlet and the air outlet; and a heat exchanger and a fan provided in the heat exchange

air duct.

[0056] Further, the air conditioning equipment further includes: an air treatment duct; and at least one of a fresh air module, a humidification module, and a purification module communicating with the air treatment duct. The processor 31 may be configured to call the program for controlling the air conditioning equipment stored on the memory 32, and further perform the following operations: controlling the fresh air module to circulate air, controlling the humidification module to humidify air, controlling the purification module to generate negative ions to purify air; and/or adjusting a swinging state and an air volume of the air treatment duct to form a simulated environment required by the preset scene mode.

[0057] Further, the air conditioning equipment further includes: a display unit configured to display the air conditioning interface of the air conditioning equipment and receive the preset control instruction. In an embodiment, the display unit may be the same component as the aforementioned input/output module 20, or may also be provided separately.

[0058] As shown in FIGs. 3 and 4, FIG. 3 is a diagram showing an example of an interactive structure realizing control of an air conditioning equipment using a control device according to an embodiment of the present disclosure. FIG. 4 is a schematic diagram of the hardware module of the control device according to an embodiment of the present disclosure.

[0059] The control device 200 includes a first communication module 201 for information interaction with the air conditioning equipment 100, and an input/output module 202. The air conditioning equipment 100 includes a second communication module (not shown) that performs information interaction with the control device 200. The control device 200 communicates with the second communication module of the air conditioning equipment 100 through the first communication module 201 to realize the information exchange between the two. Specifically, in an interactive example, the control device 200 sends a control instruction to the air conditioning equipment 100 to control the operation of the air conditioning equipment 100. The air conditioning equipment 100 returns its operating data and operating results to the control device 200 for the user to view.

[0060] In an embodiment, the input/output module 202 includes, for example, a display screen, a key, or a combination of the two. Moreover, the input/output module 202 is also provided with a button (not shown) for realizing quick control. The button may be a physical button or a virtual button.

[0061] Further, the control device 200 also includes a processor 203 and a memory 204. The components of the control device 200 exchange information through communication lines. The memory 204 may include a storage module integrated on the processor, or may be a storage device that is independently provided and exchanges information with the processor through a communication line.

[0062] Those skilled in the art can understand that the structure shown in FIGs. 3 and 4 does not constitute a limitation on the control device 200, and may include more or less components than shown, or a combination of certain components, or with differently arranged components.

[0063] As shown in FIG. 4, the memory 204, which is a computer storage medium, may include an operating system and a program for controlling the air conditioning equipment.

[0064] In the control device 200, shown in FIG. 4, the processor 203 may be configured to call the program for controlling the air conditioning equipment stored on the memory 204 and perform the following operations:

determining a preset scene mode, the preset scene mode being a mode for simulating a preset environment by controlling an operation of the air conditioning equipment; and
controlling the air conditioning equipment to operate according to the preset scene mode.

[0065] In the technical solutions of the present disclosure, when the processor 203 calls the program for controlling the air conditioning equipment and runs, the preset scene mode corresponding to the air conditioning equipment (a mode that simulates the preset environment by controlling the operation of the air conditioning equipment) is determined, and then the air conditioning equipment to enter the preset scene mode is controlled. In this way, the user no longer needs to manually set the corresponding target parameters one by one, but only needs to determine the corresponding preset scene mode to control the air conditioning equipment to enter the preset scene mode, which greatly facilitates the user's operations.

[0066] Besides, using the control device to control the air conditioning equipment is more flexible and convenient than directly operating on the air conditioning equipment.

[0067] In some embodiments, the processor 203 may call the program for controlling the air conditioning equipment stored on the memory 204, and also perform the following operations when performing one-key control parameter control of the household electrical appliance:

detecting and obtaining a preset control instruction; and
determining the preset scene mode in response to the preset control instruction.

[0068] In some embodiments, the processor 203 may be configured to call the program for controlling the air conditioning equipment stored on the memory 204, and further perform the following operations:

detecting and obtaining a preset voice control instruction; or

detecting and obtaining a preset gesture control instruction; or
 detecting and obtaining the preset control operation performed by a user based on an air conditioning interface, and obtaining the preset control instruction in response to the preset control operation; or
 detecting and obtaining the preset control instruction received by an instant messaging software.

[0069] In some embodiments, the processor 203 may be configured to call the program for controlling the air conditioning equipment stored on the memory 204, and further perform the following operations:

detecting the preset control operation based on at least one multimedia data output by the air conditioning interface, the air conditioning interface being configured to output at least one multimedia data corresponding to each scene mode, the multimedia data including at least one of text, image, audio, and video.

[0070] In some embodiments, the processor 203 may be configured to call the program for controlling the air conditioning equipment stored on the memory 204, and further perform the following operations:

outputting a control interface of an air conditioning application; outputting a setting interface of the scene mode on the control interface; detecting the preset control operation based on the setting interface; or

outputting a quick control interface for controlling the air conditioning equipment; outputting a control interface of the scene mode on the quick control interface; detecting the preset control operation generated based on the control interface; the quick control interface being a control interface output by at least one of an expansion component of a current device and a lock screen interface of the current device.

[0071] In some embodiments, the preset scene mode includes a target parameter value of at least one scene parameter; the processor 203 may be configured to call the program for controlling the air conditioning equipment stored on the memory 204, and further perform the following operations:

controlling the air conditioning equipment to operate according to the target parameter value of the at least one scene parameter.

[0072] In some embodiments, the processor 203 may be configured to call the program for controlling the air conditioning equipment stored on the memory 204, and further perform the following operations:

obtaining a target parameter value of at least one parameter of air freshness, cleanliness, temperature, humidity, and air volume demand required in the preset scene mode; and
 controlling the operation of the air conditioning equipment according to the target parameter value corre-

sponding to the preset scene mode to form a simulated environment required by the preset scene mode.

[0073] In some embodiments, the processor 203 may be configured to call the program for controlling the air conditioning equipment stored on the memory 204, and further perform the following operations:

controlling the air conditioning equipment to operate according to a corresponding target temperature value in the preset scene mode through an operation of a compressor of the air conditioning equipment; and/or

controlling the air conditioning equipment to operate according to a corresponding target humidity value in the preset scene mode through an operation of a humidification module of the air conditioning equipment; and/or

controlling the air conditioning equipment to operate according to a corresponding target air volume information in the preset scene mode through an operation of a fan of the air conditioning equipment; and/or

controlling the air conditioning equipment to operate according to a corresponding target freshness information in the preset scene mode through an operation of a fresh air module of the air conditioning equipment; and/or

controlling the air conditioning equipment to operate according to a corresponding target cleanliness information in the preset scene mode through an operation of a purification module of the air conditioning equipment.

[0074] In some embodiments, the processor 203 may be configured to call the program for controlling the air conditioning equipment stored on the memory 204, after the operation of "controlling the air conditioning equipment to operate according to the preset scene mode", and further perform the following operations:
 prompting an operation state of the air conditioning equipment in the preset scene mode, and sending a prompt information.

[0075] Further, the prompt information is sent in a form of a display interface or a voice output.

[0076] Further, the preset environment comprises a preset natural environment.

[0077] Further, the preset natural environment includes at least one of a preset natural feature environment, a preset geographic location environment, and a preset time natural environment.

[0078] Further, the preset scene mode includes at least one scene parameter, and the scene parameter is a target parameter of the air conditioning equipment according to an environmental parameter in the preset environment.

[0079] Further, the preset environment includes an en-

vironment suitable for living organisms with a preset health level.

[0080] Further, the preset scene mode includes at least one scene parameter, and the scene parameter is a target parameter of the air conditioning equipment according to an environmental parameter in an environment suitable for a living organism with a preset health level.

[0081] In some embodiments, the air conditioning equipment includes: a housing; an air inlet and an air outlet provided on the housing; a heat exchange air duct communicating with the air inlet and the air outlet; and a heat exchanger and a fan provided in the heat exchange air duct.

[0082] Further, the air conditioning equipment further includes: an air treatment duct; and at least one of a fresh air module, a humidification module, and a purification module communicating with the air treatment duct. The processor 203 may be configured to call the program for controlling the air conditioning equipment stored on the memory 204, and further perform the following operations:

controlling the fresh air module to circulate air, controlling the humidification module to humidify air, controlling the purification module to generate negative ions to purify air; and/or adjusting a swinging state and an air volume of the air treatment duct to form a simulated environment required by the preset scene mode.

[0083] It should be noted that the above-mentioned air conditioning equipment that interacts with the control device can also independently implement the quick control function, and has a structure for realizing the quick control function.

[0084] As shown in FIG. 5, FIG. 5 is a schematic flowchart of a method for controlling an air conditioning equipment according to an embodiment of the present disclosure.

[0085] In some embodiments, the method includes the following operations:

S1: determining a preset scene mode, the preset scene mode being a mode for simulating a preset environment by controlling an operation of the air conditioning equipment; and

S2: controlling the air conditioning equipment to operate according to the preset scene mode.

[0086] Specially, in this embodiment, a variety of preset scene modes corresponding to the operation of air conditioning equipment are preset. The preset scene mode is a mode for simulating the preset environment by controlling the operation of the air conditioning equipment. Then, according to the determined preset scene mode, the air conditioning equipment is controlled to enter the preset scene mode, that is, the air conditioning equipment is controlled to operate in the preset scene mode, so as to provide the user with the corresponding environment in the preset scene mode.

[0087] Further, the preset environment may include a

preset natural environment. The scene mode corresponding to the preset natural environment includes at least one scene parameter. There are many ways to determine the scene parameter, for example: determining the environmental parameter corresponding to the preset natural environment. The environmental parameters include, for example, air parameters, sound parameters, etc. The target value of the operating parameter of the air conditioning equipment corresponding to the preset environment is determined according to the determined environmental parameter, and a scene mode corresponding to the preset environment is generated based on the determined target value of the operating parameter of the air conditioning equipment. When the scene mode is running, the air conditioning equipment automatically runs according to the target value of the environmental parameter corresponding to the scene mode to simulate the preset natural environment.

[0088] Further, the preset natural environment, for example, includes at least one of a preset natural feature environment, a preset geographic location environment, and a preset time natural environment. The preset natural feature environment is such as empty mountain fresh rain, fresh after rain and other natural feature environment. The preset location environment includes a preset geographic location environment and a preset geomorphic location environment. The preset geographic location may be based on different environments that each city is located in, such as the environment of cities such as Beijing, Nanjing, and Vancouver. The preset geomorphic locations have different environments based on different geomorphologies, such as deserts, jungles, and empty mountains. The preset time natural environment is, for example, preset solar terms, preset seasons, preset time periods of each day such as morning, evening, and so on.

[0089] The preset environment further includes an environment suitable for living organisms with a preset health level, and the scene mode corresponding to the preset natural environment includes at least one scene parameter. There are many ways to determine the situational parameter, for example: determining the environmental parameter of the organism that affects the preset health level; determine the target value of the operating parameter of the home appliance suitable for the preset environment according to the determined environmental parameter, and generating a scene mode corresponding to the preset environment based on the determined target value of the operating parameter of the home appliance. When the scene mode is running, the air conditioning equipment automatically runs according to the target value of the environmental parameter corresponding to the scene mode to simulate the preset environment.

[0090] Further, the preset health level includes, for example, sub-health, disease, and the like. Organisms include, for example, human bodies, animals, and even plants.

[0091] Further, at least one parameter value is corre-

spondingly set for each scene parameter of the above scene mode. In this way, the scene parameter of the scene mode can be a specific value or a range value, it can also be a plurality of discrete values, or a curve formed by a series of values.

[0092] In this embodiment, when controlling the operation of the air conditioning equipment, the user does not need to manually set the target parameters corresponding to the operation of the air conditioning equipment one by one, but only needs to determine the preset scene mode corresponding to the operation of the air conditioning equipment. According to the determined preset scene mode, the air conditioning equipment is controlled to enter the preset scene mode, that is, the air conditioning equipment is controlled to operate in the preset scene mode, so as to provide the user with a corresponding environment in the preset scene mode.

[0093] In some embodiments, the operation S1 includes: detecting and obtaining a preset control instruction; and determining the preset scene mode in response to the preset control instruction. Specifically, after the air conditioning equipment is started up, when the user needs to control the air conditioning equipment to run the preset scene mode, the preset control instruction is triggered by executing the preset control operation. When the preset control instruction is detected and obtained, in response to the preset control instruction, the preset scene mode corresponding to the preset control instruction is determined.

[0094] Optionally, four methods for detecting and obtaining the preset control instruction are listed below:

1. Method 1: The preset control instruction is a preset voice control instruction. In an exemplary embodiment, the operation of "detecting and obtaining a preset control instruction" specifically includes: detecting and obtaining the preset voice control instruction. In an exemplary embodiment, when the user needs to control the air conditioning equipment to run the preset scene mode, the user inputs the corresponding preset voice control instruction. For example, the air conditioning equipment is pre-installed with a voice collection module and a voice recognition module. When the user needs to control the air conditioning equipment to run a preset scene mode, the user inputs corresponding voice control information. The air conditioning equipment collects the user's voice control information through the voice collection module, and recognizes the voice control information collected by the voice collection module through the voice recognition module, and obtains a preset voice control instruction. Then, in response to the preset voice control instruction, the preset scene mode corresponding to the preset voice control instruction is determined.

2. Method 2: The preset control instruction is a preset gesture control instruction. In an exemplary embodiment, the operation of "detecting and obtaining a

preset control instruction" specifically includes: detecting and obtaining the preset gesture control instruction.

In an exemplary embodiment, when the user needs to control the air conditioning equipment to run the preset scene mode, the user performs a gesture control operation, thereby triggering the input of a corresponding preset gesture control instruction. For example, the air conditioning equipment is pre-installed with a gesture detection module, when the user needs to control the air conditioning equipment to run the preset scene mode, the air conditioning equipment detects the user's control gesture through the gesture detection module, and obtains a preset gesture control instruction corresponding to the detected control gesture. Then, in response to the preset gesture control instruction, the preset scene mode corresponding to the preset gesture control instruction is determined.

3. Method 3, the preset control instruction is input based on the preset air conditioning interface. In an exemplary embodiment, the operation of "detecting and obtaining a preset control instruction" specifically includes: detecting and obtaining a preset control operation performed by a user based on an air conditioning interface, and obtaining the preset control instruction in response to the preset control operation.

In this embodiment, the air conditioning interface for controlling the air conditioning equipment is output. When the user needs to control the air conditioning equipment to run the corresponding preset scene mode, the user performs the corresponding preset control operation based on the air conditioning interface. When the preset control operation performed by the user based on the air conditioning interface is detected and obtained, the corresponding preset control instruction is obtained in response to the preset control operation.

4. Method 4, the preset control instruction is received based on instant messaging software. In an exemplary embodiment, the operation of "detecting and obtaining a preset control instruction" specifically includes: detecting and obtaining the preset control instruction received by an instant messaging software.

[0095] In this embodiment, the control of air conditioning equipment is associated with instant messaging software such as WeChat, QQ, and MSN. When controlling the air conditioning equipment, the preset control instruction is received through instant messaging software. In an exemplary embodiment, the preset control instruction is received through the WeChat official account. In another exemplary embodiment, the preset control instruction is received through a WeChat applet.

[0096] In some embodiments, the operation of "detecting and obtaining the preset control operation performed

by a user based on an air conditioning interface" includes: detecting the preset control operation based on at least one multimedia data output by the air conditioning interface, the air conditioning interface being configured to output at least one multimedia data corresponding to each scene mode, the multimedia data including at least one of text, image, audio, and video.

[0097] In this embodiment, the air conditioning interface is configured to output at least one multimedia data corresponding to each scene mode, and the multimedia data includes at least one of text, image, audio, and video. When the user needs to control the air conditioning equipment to run the preset scene mode, the user performs a corresponding preset control operation based on at least one multimedia data output from the air conditioning interface. When it is detected that the user performs a preset control operation based on at least one multimedia data output from the air conditioning interface, a preset control instruction is obtained in response to the preset control operation. Then, in response to the preset control instruction, the preset scene mode corresponding to the preset control instruction is determined.

[0098] For example, as shown in FIG. 6, FIG. 6 is a schematic diagram of an air conditioning interface according to an embodiment of the present disclosure. On the air conditioning interface, the corresponding images of good forest air, fresh images after rain, and seaside images corresponding to experience natural mode are output, and each image contains the "Experience Now" function button. Assuming that the user wants to experience a refreshing environment after rain, the user can perform a preset control operation of clicking the "Experience Now" function button on the refreshing image output on the air conditioning interface. When detecting a preset control operation based on the "Experience Now" function button on the after-rain refreshing image output on the air conditioning interface, in response to the preset control operation, a corresponding preset control instruction is obtained. In response to the preset control instruction, it is determined that the preset scene mode corresponding to the preset control instruction is to experience refreshing after rain in a natural mode. Then, according to the determined preset scene mode, the air conditioning equipment is controlled to operate to provide users with a refreshing environmental experience after the rain.

[0099] In some embodiments, the operation of "detecting and obtaining the preset control operations performed by the user based on the air conditioning interface" specifically includes: outputting the control interface of the air conditioning application; outputting the setting interface of the scene mode on the control interface; and detecting the preset control operation based on the setting interface. Specially, in this embodiment, the air conditioning application APP is pre-loaded. When the air conditioning application APP is opened, the control interface of the air conditioning application APP is output, and the setting interface of the scene mode is output on the control interface. For example, as shown in FIG. 7, FIG. 7 is

a schematic diagram of the setting interface of the scene mode. The user can perform the preset control operation based on the setting interface of the scene mode, such as clicking the "Experience Now" function button in the setting interface of the scene mode. When the preset control operation based on the setting interface of the scene mode is detected, a corresponding preset control instruction is obtained in response to the preset control operation.

[0100] In another embodiment, the operation of "detecting and obtaining the preset control operations performed by the user based on the air conditioning interface" specifically includes: outputting a quick control interface for controlling the air conditioning equipment on an expansion component of a current device; outputting a control interface of the scene mode on the quick control interface; and detecting the preset control operation generated based on the control interface. Specially, in this embodiment, an extension components such as a Widget component and a floating window are loaded on the current device. When the user clicks on the expansion component, a quick control interface for controlling the air conditioning equipment is output on the current device, and a scene mode control interface can be output on the quick control interface. The user performs a corresponding preset control operation based on the control interface of the scene mode, and when the preset control operation performed by the control interface based on the scene mode is detected, a corresponding preset control instruction is obtained in response to the preset control operation.

[0101] In another embodiment, the operation of "detecting and obtaining the preset control operations performed by the user based on the air conditioning interface" specifically includes: outputting a quick control interface for controlling the air conditioning equipment on the lock screen interface of the current device; outputting the control interface of the scene mode on the quick control interface; and detecting the preset control operation generated based on the control interface. Specially, in this embodiment, the quick control interface for controlling the air conditioning equipment is output on the lock screen interface of the current equipment. For example, as shown in FIG. 8, FIG. 8 is a schematic diagram of outputting a quick control interface for controlling an air conditioning equipment on the lock screen interface of the current device. The control interface of the scene mode is output on the quick control interface. The user performs a corresponding preset control operation based on the control interface of the scene mode, and when the preset control operation performed by the control interface based on the scene mode is detected, a corresponding preset control instruction is obtained in response to the preset control operation. In this way, the speed of controlling the air conditioning equipment is improved, and it is convenient for users to operate.

[0102] In some embodiments, the preset scene mode includes a target parameter value of at least one scene

parameter; the operation S2 includes controlling the air conditioning equipment to operate according to the target parameter value of the at least one scene parameter. Specially, when the preset scene mode is determined, the target parameter value of at least one scene parameter is determined. When the air conditioning equipment is controlled to enter the preset scene mode, the air conditioning equipment is controlled to operate according to the determined target parameter value of at least one scene parameter to simulate the preset environment in the preset scene mode.

[0103] In some embodiments, the operation S2 includes: obtaining a target parameter value of at least one parameter of air freshness, cleanliness, temperature, humidity, and air volume demand required in the preset scene mode; and controlling the operation of the air conditioning equipment according to the target parameter value corresponding to the preset scene mode to form a simulated environment required by the preset scene mode. Specially, after the preset scene mode is determined, the target parameter value of at least one of the air freshness, cleanliness, temperature, humidity, and air volume required in the preset scene mode is obtained. Then, according to the obtained target parameter value, the air conditioning equipment is controlled to operate at the target parameter value to form a simulated environment required by the preset scene mode.

[0104] In some embodiments, the operation S2 includes: controlling the air conditioning equipment to operate according to a corresponding target temperature value in the preset scene mode through an operation of a compressor of the air conditioning equipment. Specially, the air conditioning equipment includes a compressor. If the target parameter corresponding to the preset scene mode includes temperature, after the preset scene mode is determined, the target temperature value of the temperature corresponding to the preset scene mode is acquired. Then according to the obtained target temperature value, the operation of the compressor of the air conditioning equipment is controlled to control the air conditioning equipment to operate according to the target temperature value to form the simulated environment required by the preset scene mode.

[0105] In another embodiment, the operation S2 includes: controlling the air conditioning equipment to operate according to a corresponding target humidity value in the preset scene mode through an operation of a humidification module of the air conditioning equipment. Specifically, the air conditioning equipment includes a humidification module. If the target parameter corresponding to the preset scene mode includes humidity, after the preset scene mode is determined, the target humidity value of the temperature corresponding to the preset scene mode is acquired. Then, according to the obtained target humidity value, the operation of the humidification module of the air conditioning equipment is controlled to control the air conditioning equipment to operate according to the target humidity value to form the

simulated environment required by the preset scene mode.

[0106] In another embodiment, the operation S2 includes: controlling the air conditioning equipment to operate according to a corresponding target air volume information in the preset scene mode through an operation of a fan of the air conditioning equipment. Specifically, the air conditioning equipment includes a fan. If the target parameter corresponding to the preset scene mode includes the air volume, after the preset scene mode is determined, the target air volume information of the corresponding air volume in the preset scene mode is acquired. Then the operation of the fan of the air conditioning equipment is controlled according to the obtained target air volume information to control the air conditioning equipment to operate in accordance with the target air volume information to form the simulated environment required by the preset scene mode.

[0107] In another embodiment, the operation S2 includes: controlling the air conditioning equipment to operate according to a corresponding target freshness information in the preset scene mode through an operation of a fresh air module of the air conditioning equipment. Specifically, the air conditioning equipment includes a fresh air module. If the target parameter corresponding to the preset scene mode includes air freshness, after the preset scene mode is determined, the target freshness information of the air freshness corresponding to the preset scene mode is acquired. Then, according to the obtained target freshness information, the operation of the fresh air module of the air conditioning equipment is controlled to control the air conditioning equipment to operate according to the target freshness information to form the simulated environment required by the preset scene mode.

[0108] In another embodiment, the operation S2 includes: controlling the air conditioning equipment to operate according to a corresponding target cleanliness information in the preset scene mode through an operation of a purification module of the air conditioning equipment. Specifically, the air conditioning equipment includes a purification module. If the target parameter corresponding to the preset scene mode includes air cleanliness, after the preset scene mode is determined, the target cleanliness information of the air cleanliness corresponding to the preset scene mode is acquired. Then, according to the obtained target cleanliness information, the operation of the purification module of the air conditioning equipment is controlled to control the air conditioning equipment to operate according to the target cleanliness information to form a simulated environment required by the preset scene mode.

[0109] It should be noted that the above embodiments can be combined in many ways. That is, the operation of air conditioning equipment is controlled according to the target parameter value of at least one of the air freshness, cleanliness, temperature, humidity and air volume requirements corresponding to the preset scene mode

to form the simulated environment required by preset scene. In an embodiment, when there are multiple parameters in the scene mode, the components of the air conditioning equipment are coordinated and controlled by one or several main parameters, or the combination of these multiple parameters, so as to form a corresponding simulated environment in a preset scene mode.

[0110] Optionally, the air conditioning equipment includes: a housing; an air inlet and an air outlet provided on the housing; a heat exchange air duct communicating with the air inlet and the air outlet; and a heat exchanger and a fan provided in the heat exchange air duct. Optionally, the fan includes a supply air through-flow wind wheel, and the heat exchange air duct includes an air duct curve formed by a chassis and a volute tongue matched with the supply air through-flow wind wheel. The air conditioning equipment also includes an air guide component and a drive stepping motor. The air guide component includes an air guide louver, which is driven by the drive stepping motor to drive the air guide louver to sweep the wind, so as to realize air supply in different directions. The internal refrigerant circulation of the air conditioning equipment is controlled by the heat exchanger to realize the cooling/heating function of the air conditioning equipment.

[0111] Further, the air inlet includes a detachable filter mesh component to filter the incoming air, thereby improving the quality of the indoor air.

[0112] Further, the air conditioning equipment further includes: an air treatment duct independent from the heat exchange air duct, the air treatment duct including two independent left and right air ducts, and at least one of a fresh air module, a humidification module, and a purification module arranged in the air treatment duct. The fresh air module is configured to circulate external air and internal air through the left and right air ducts. The humidification module includes a built-in water tank, and is configured to humidify indoor air through atomizing water in the water tank and transporting the atomized water to the room. The purification module is configured to generate negative ions to purify the indoor air.

[0113] Specially, the operation S2 includes: controlling the fresh air module to circulate air, controlling the humidification module to humidify air, controlling the purification module to generate negative ions, adjusting a swinging state and an air volume of the left and right air ducts, so as to transport the air processed by the fresh air module, the humidification module and the purification module to the room through the left and right air ducts.

[0114] In this embodiment, if the corresponding target parameters in the preset scene mode include air freshness, cleanliness, temperature, humidity and air volume requirements, after the preset scene mode is determined, the target temperature, target humidity, target air volume information, target cleanliness information and target freshness information corresponding to the air freshness, cleanliness, temperature, humidity and air volume requirements in the preset scene mode are obtained. Then,

the operations of the heat exchanger, the fan, the fresh air module, the humidification module and purification module of the air conditioning equipment are controlled respectively, the fresh air module is controlled to circulate air, the humidification module is controlled to humidify air, the purification module is controlled to generate negative ions, a swinging state and an air volume of the left and right air ducts are adjusted, so as to transport the air processed by the fresh air module, the humidification module and the purification module to the room through the left and right air ducts. In this way, the user is no longer required to manually set the target parameters one by one, which greatly facilitates the user's operation.

[0115] Optionally, when the fresh air module is controlled to circulate air, the fresh air module circulates the external air and the internal air through the left and right air ducts of the air treatment duct.

[0116] Optionally, the humidification module is arranged in the air treatment duct and further includes a pump. The humidification module pumps out the water in the water tank through the pump and performs atomization treatment, and then transports it to the room through the left and right air ducts, thereby realizing the humidification treatment of the indoor air.

[0117] Optionally, the purification module is also arranged in the air treatment duct, such as at the entrance of the air treatment duct. When the outdoor air enters the air treatment duct, negative ions are generated through the purification module to sterilize the air, and then enter the room, thereby purifying the indoor air.

[0118] Further, the air conditioning equipment further includes a display unit for displaying the air conditioning interface of the air conditioning equipment and receiving the preset control instruction. Specifically, the air conditioning equipment further includes a display unit, such as but not limited to a large-size touch screen. The air conditioning interface of the air conditioning equipment is displayed on the display unit for users to view and operate. The user performs the preset control operation based on the air conditioning interface displayed by the display unit, thereby triggering the preset control instruction. The preset control instruction is received through the display unit, and then the corresponding preset scene mode is determined according to the preset control instruction, and the air conditioning equipment is controlled to enter the preset scene mode. That is, the visual control operation is provided through the display unit, thus greatly improving the user's operating experience.

[0119] In some embodiments, after the operation S2, the method further includes prompting an operation state of the air conditioning equipment in the preset scene mode, and sending a prompt information. Specifically, after the air conditioning equipment is controlled to enter the preset scene mode, the air conditioning equipment to enter the preset scene mode is prompted, in order to inform the user that the air conditioning equipment successfully runs in the preset scene mode, the simulated environment required by the preset scene mode is

formed.

[0120] Optionally, the above-mentioned prompt information may be sent out in various forms, such as but not limited to the form of a display interface or the form of voice output. Further, multiple types of information are also broadcast, such as operation audio broadcast, weather information broadcast and so on. The user can obtain the operation status of the air conditioning equipment by prompting the air conditioning equipment to enter the preset scene mode, thereby further improving the user experience.

[0121] Those skilled in the art should understand that the embodiments of the present disclosure can be provided as a method, a system, or a computer program product. Therefore, the present disclosure may adopt the form of a complete hardware embodiment, a complete software embodiment, or an embodiment combining software and hardware. Moreover, the present disclosure may adopt the form of a computer program product implemented on one or more computer-usable storage media (including but not limited to disk storage, CD-ROM, optical storage, etc.) containing computer-usable program codes.

[0122] The present disclosure is described with reference to flowcharts and/or block diagrams of methods, devices (systems), and computer program products according to embodiments of the present disclosure. It should be understood that each process and/or block in the flowchart and/or block diagram, and the combination of processes and/or blocks in the flowchart and/or block diagram can be realized by computer program instructions. These computer program instructions can be provided to the processors of general-purpose computers, special-purpose computers, embedded processors, or other programmable data processing equipment to produce a machine, such that the instructions executed by the processor of the computer or other programmable data processing equipment generate means for implementing the functions specified in one or more processes in the flowchart and/or one block or more in the block diagram.

[0123] These computer program instructions can also be stored on a computer-readable memory that can guide a computer or other programmable data processing equipment to work in a specific manner, such that the instructions stored on the computer-readable memory produce an article of manufacture including an instruction device that implements the functions specified in one process or multiple processes in the flowchart and/or one block or multiple blocks in the block diagram.

[0124] These computer program instructions can also be loaded on a computer or other programmable data processing equipment, such that a series of operation steps are executed on the computer or other programmable equipment to produce computer-implemented processing, thereby, the instructions executed on the computer or other programmable devices provide steps for implementing the functions specified in one or more

processes in the flowchart and/or one block or more in the block diagram.

[0125] It should be noted that in the claims, any reference signs located in parentheses should not be constructed as limitations on the claims. The word "comprising" does not exclude the presence of parts or steps not listed in the claims. The word "a" or "an" preceding a component does not exclude the presence of multiple such components. The present disclosure can be realized by means of hardware including several different components and by means of a suitably programmed computer. In the unit claims enumerating several devices, several of these devices may be embodied in the same hardware item. The use of the words first, second, and third does not indicate any order. These words can be interpreted as names.

[0126] Although the preferred embodiments of the present disclosure have been described, those skilled in the art can make additional changes and modifications to these embodiments once they learn the basic creative concept. Therefore, the appended claims are intended to be interpreted as including the preferred embodiments and all changes and modifications falling within the scope of the present disclosure.

[0127] Obviously, those skilled in the art can make various changes and modifications to the present disclosure without departing from the spirit and scope of the present disclosure. Thus, if these modifications and variations of the present disclosure fall within the scope of the claims of the present disclosure and their equivalent technologies, then the present disclosure is also intended to include these modifications and variations.

Claims

1. A method for controlling an air conditioning equipment, comprising
 Determining a preset scene mode, the preset scene mode being a mode for simulating a preset environment by controlling an operation of the air conditioning equipment; and
 Controlling the air conditioning equipment to operate according to the preset scene mode.
2. The method of claim 1, wherein the operation of "determining a preset scene mode" comprises:
 - detecting and obtaining a preset control instruction; and
 - determining the preset scene mode in response to the preset control instruction.
3. The method of claim 2, wherein the operation of "detecting and obtaining a preset control instruction" comprises:
 - detecting and obtaining a preset voice control

- instruction, the preset voice control instruction being the preset control instruction; or
 detecting and obtaining a preset gesture control instruction, the preset gesture control instruction being the preset control instruction; or
 detecting and obtaining a preset control operation performed by a user on an air conditioning interface, and obtaining the preset control instruction in response to the preset control operation; or
 detecting and obtaining the preset control instruction received by an instant messaging software.
4. The method of claim 3, wherein the operation of "detecting and obtaining a preset control operation performed by a user on an air conditioning interface" comprises:
 detecting the preset control operation based on at least one multimedia data output by the air conditioning interface, the air conditioning interface being configured to output at least one multimedia data corresponding to a scene mode, the multimedia data including at least one of text, image, audio, and video.
5. The method of claim 3, wherein the operation of "detecting and obtaining a preset control operation performed by a user on an air conditioning interface" comprises:
 outputting a control interface of an air conditioning application; outputting a setting interface of the scene mode on the control interface; detecting the preset control operation based on the setting interface; or
 outputting a quick control interface for controlling the air conditioning equipment; outputting a control interface of the scene mode on the quick control interface; detecting the preset control operation generated based on the control interface; the quick control interface being a control interface output by at least one of an expansion component of a current device and a lock screen interface of the current device.
6. The method of claim 1, wherein the preset scene mode comprises a target parameter value of at least one scene parameter; the operation of "controlling the air conditioning equipment to operate according to the preset scene mode" comprises:
 controlling the air conditioning equipment to operate according to the target parameter value of the at least one scene parameter.
7. The method of claim 1, wherein the operation of "controlling the air conditioning equipment to operate according to the preset scene mode" comprises:
 obtaining a target parameter value of at least one parameter of air freshness, cleanliness, temperature, humidity, and air volume demand required in the preset scene mode; and
 controlling the operation of the air conditioning equipment according to the target parameter value corresponding to the preset scene mode to form a simulated environment required by the preset scene mode.
8. The method of claim 1, wherein the operation of "controlling the air conditioning equipment to operate according to the preset scene mode" comprises:
 controlling the air conditioning equipment to operate according to a corresponding target temperature value in the preset scene mode through an operation of a compressor of the air conditioning equipment; and/or
 controlling the air conditioning equipment to operate according to a corresponding target humidity value in the preset scene mode through an operation of a humidification module of the air conditioning equipment; and/or
 controlling the air conditioning equipment to operate according to a corresponding target air volume information in the preset scene mode through an operation of a fan of the air conditioning equipment; and/or
 controlling the air conditioning equipment to operate according to a corresponding target freshness information in the preset scene mode through an operation of a fresh air module of the air conditioning equipment; and/or
 controlling the air conditioning equipment to operate according to a corresponding target cleanliness information in the preset scene mode through an operation of a purification module of the air conditioning equipment.
9. The method of claim 1, wherein the preset environment comprises a preset natural environment.
10. The method of claim 9, wherein the preset natural environment comprises at least one of a preset natural feature environment, a preset geographic location environment, and a preset time natural environment.
11. The method of claim 9, wherein the preset scene mode comprises at least one scene parameter, and the at least one scene parameter is a target parameter of the air conditioning equipment according to an environmental parameter in the preset environment.
12. The method of claim 1, wherein the preset environment comprises an environment suitable for living

organisms with a preset health level.

13. The method of claim 12, wherein the preset scene mode comprises at least one scene parameter, and the scene parameter is a target parameter of the air conditioning equipment according to an environmental parameter in the environment suitable for the living organisms with the preset health level. 5
14. The method of claim 1, wherein after the operation of "controlling the air conditioning equipment to operate according to the preset scene mode", the method further comprises:
prompting an operation state of the air conditioning equipment in the preset scene mode and sending a prompt information 10 15
15. The method of claim 14, wherein the prompt information is sent in a form of a display interface or a voice output. 20
16. The method of claim 1, wherein the air conditioning equipment comprises:
a housing; 25
an air inlet and an air outlet provided on the housing;
a heat exchange air duct communicating with the air inlet and the air outlet; and
a heat exchanger and a fan provided in the heat exchange air duct. 30
17. The method of claim 16, wherein the air conditioning equipment further comprises:
an air treatment duct; and 35
at least one of a fresh air module, a humidification module, and a purification module communicating with the air treatment duct;
the operation of "controlling the air conditioning equipment to operate according to the preset scene mode" comprises:
controlling the fresh air module to circulate air, controlling the humidification module to humidify air, controlling the purification module to generate negative ions to purify air; and/or 40 45
adjusting a swinging state and an air volume of the air treatment duct to form a simulated environment required by the preset scene mode. 50
18. The method of claim 16, wherein the air conditioning equipment further comprises:
a display unit configured to display the air conditioning interface of the air conditioning equipment and receive the preset control instruction. 55

19. An air conditioning equipment, comprising:

a housing;
an air inlet and an air outlet provided on the housing;
a heat exchange air duct communicating with the air inlet and the air outlet;
a heat exchanger and a fan provided in the heat exchange air duct;
a memory storing a program for controlling the air conditioning equipment; and
a controller configured to read and execute the program for controlling the air conditioning equipment from the memory, the program, when executed by the controller, implementing the method of claim 1.

20. The air conditioning equipment of claim 19, wherein the air conditioning equipment further comprises:

an air treatment duct independent from the heat exchange air duct, the air treatment duct comprising two independent left and right air ducts, and
at least one of a fresh air module, a humidification module, and a purification module arranged in the air treatment duct, wherein

the fresh air module being configured to circulate external air and internal air through the left and right air ducts,
the humidification module comprising a built-in water tank, and being configured to humidify indoor air by atomizing water in the water tank and transporting the atomized water to the room,
the purification module being configured to generate negative ions to purify the indoor air.

21. The air conditioning equipment of claim 19, wherein the air conditioning equipment further comprises:
a display module connected to the controller, and configured to display an air conditioning interface of the air conditioning equipment, and send a preset control instruction to the controller after receiving the preset control instruction.

22. An air conditioning equipment, comprising:

a housing;
an air inlet and an air outlet provided on the housing;
a heat exchange air duct communicating with the air inlet and the air outlet;
a heat exchanger and a fan provided in the heat exchange air duct;
a processor configured to determine a preset

scene mode and control the air conditioning equipment to operate according to the preset scene mode, the preset scene mode being a mode for simulating a preset environment by controlling an operation of the air conditioning equipment. 5

- 23.** A control device, comprising a memory, a processor, a program for controlling an air conditioning equipment stored on the memory and executable on the processor, the program, when executed by the processor, implementing the method of claim 1. 10

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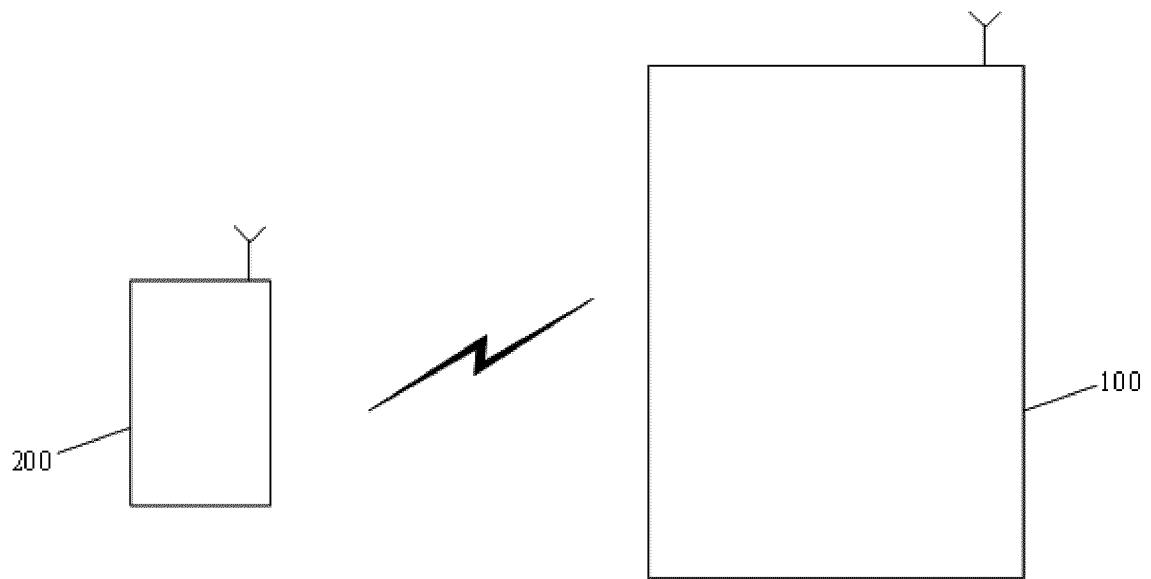


FIG 1

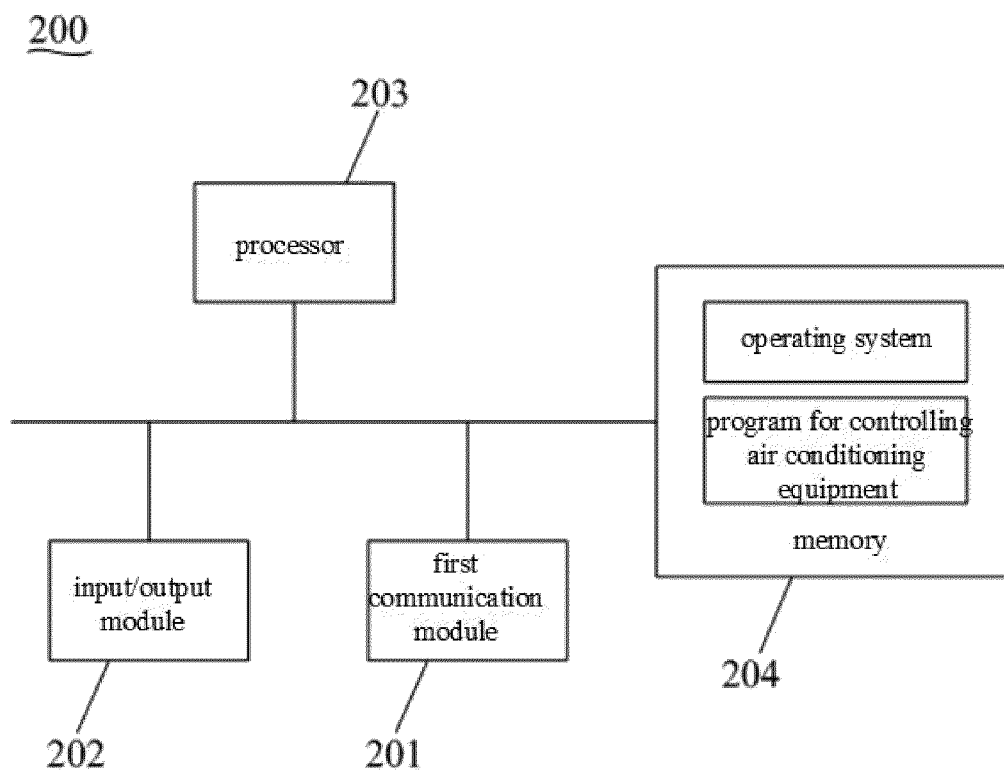


FIG 2

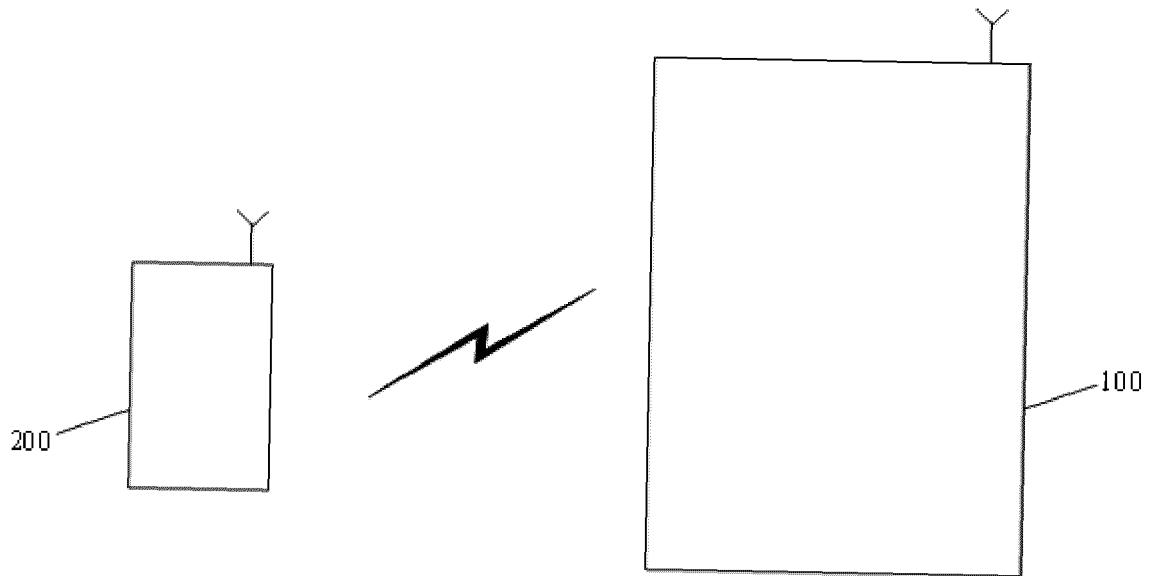


FIG. 3

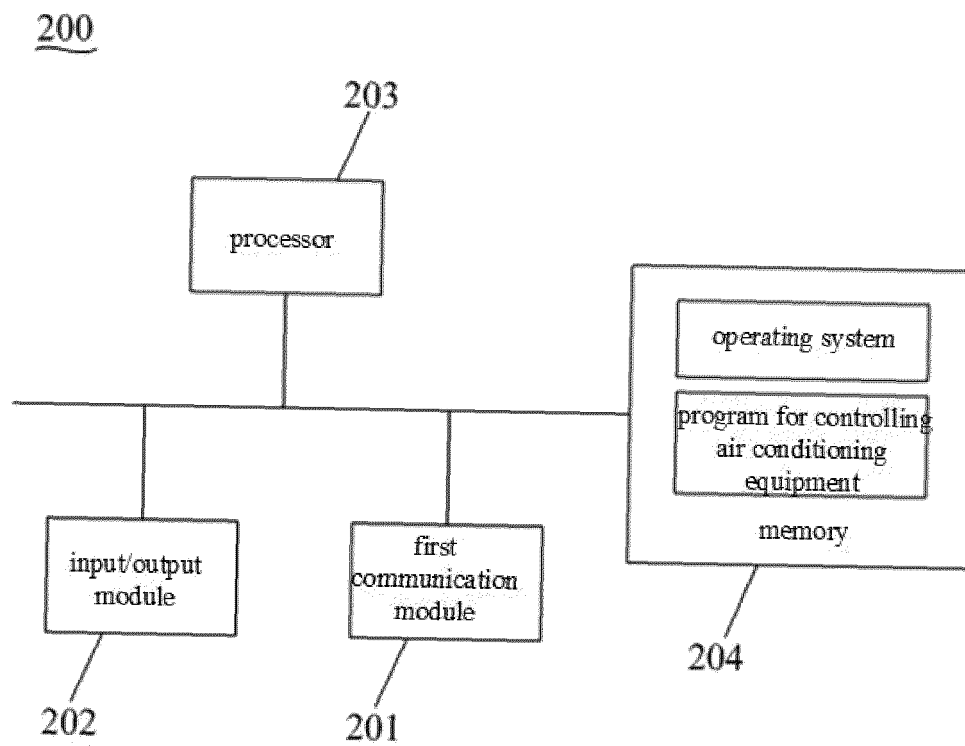


FIG. 4

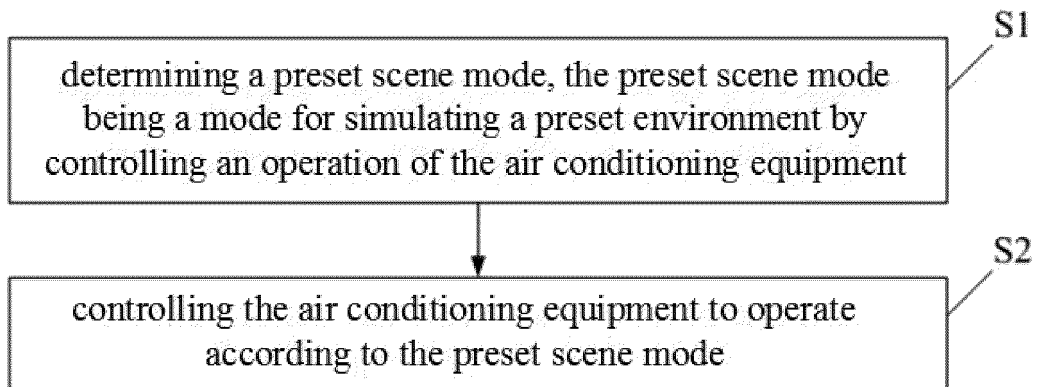


FIG. 5

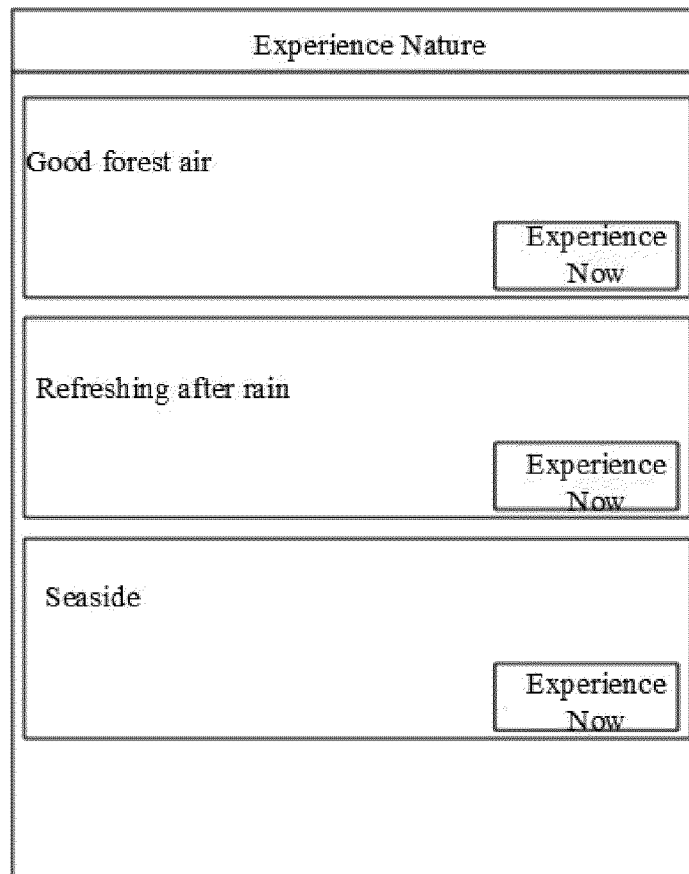


FIG. 6

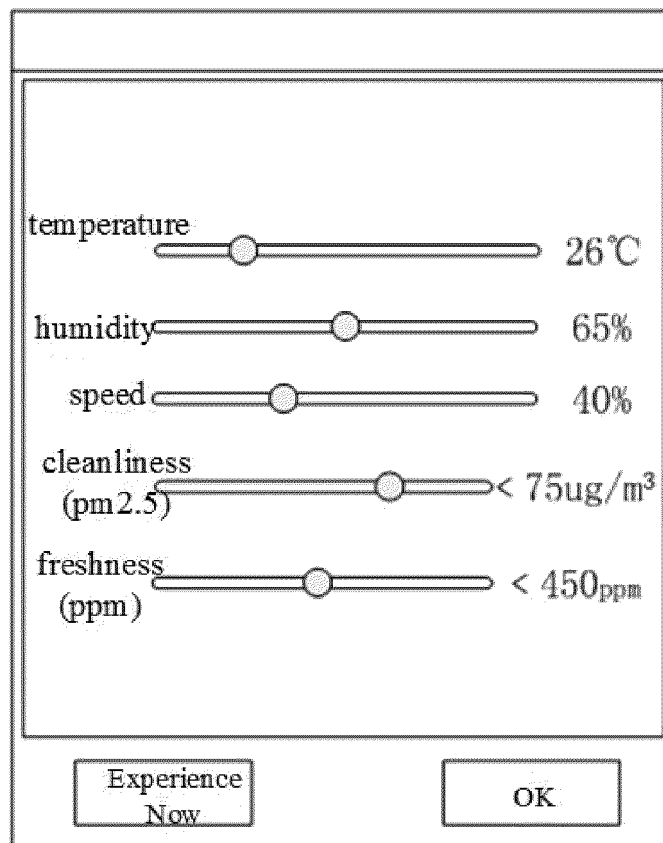


FIG. 7

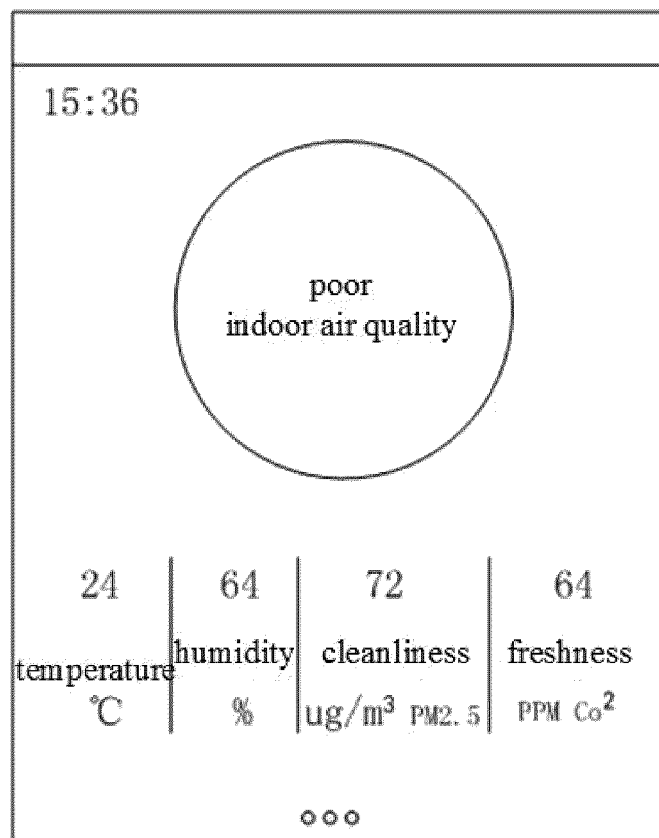


FIG. 8

INTERNATIONAL SEARCH REPORT

International application No.

PCT/CN2018/092859

A. CLASSIFICATION OF SUBJECT MATTER

F24F 11/65(2018.01)i; F24F 11/64(2018.01)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)

F24F

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

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

CNABS, CNTXT, CNKI, VEN 空调, 空气调节, 情景, 模式, 环境, 模拟 air, condition+, circumstance, scene, mode, environment, surrounding, simulat+

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	CN 105155874 A (GREE ELECTRIC APPLIANCES, INC. OF ZHUHAI) 16 December 2015 (2015-12-16) description, paragraphs [0028]-[0058], and figures 2-3	1-23
X	CN 105783175 A (SICHUAN CHANGHONG ELECTRIC CO., LTD.) 20 July 2016 (2016-07-20) description, paragraphs [0021]-[0028], and figures 1-2	1-23
A	CN 101118078 A (COHAND TECHNOLOGY CO., LTD.) 06 February 2008 (2008-02-06) entire document	1-23
A	CN 104633851 A (SICHUAN CHANGHONG ELECTRIC CO., LTD.) 20 May 2015 (2015-05-20) entire document	1-23
A	JP 2001108280 A (MATSUSHITA ELECTRIC IND. CO., LTD.) 20 April 2001 (2001-04-20) entire document	1-23

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

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“&” document member of the same patent family

Date of the actual completion of the international search

04 December 2018

Date of mailing of the international search report

28 December 2018

Name and mailing address of the ISA/CN

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China

Authorized officer

Facsimile No. (86-10)62019451

Telephone No.

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INTERNATIONAL SEARCH REPORT
Information on patent family members

International application No.

PCT/CN2018/092859

Patent document cited in search report	Publication date (day/month/year)	Patent family member(s)	Publication date (day/month/year)
CN 105155874 A	16 December 2015	None	
CN 105783175 A	20 July 2016	None	
CN 101118078 A	06 February 2008	CN 101118078 B	13 October 2010
CN 104633851 A	20 May 2015	CN 104633851 B	01 May 2018
JP 2001108280 A	20 April 2001	None	

Form PCT/ISA/210 (patent family annex) (January 2015)

REFERENCES CITED IN THE DESCRIPTION

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Patent documents cited in the description

- CN 201810359110 [0001]