(54) **DEVICE CONTROL METHOD AND APPARATUS**

VORRICHTUNGSSTEUERUNGSVERFAHREN UND -VORRICHTUNG

PROCÉDÉ DE COMMANDE DE DISPOSITIF, ET APPAREIL

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Description

TECHNICAL FIELD

[0001] The present disclosure relates to the computer technologies, in particular, to a device control method and apparatus.

BACKGROUND

[0002] As smart home devices are accepted and liked by more and more people, property developers continue to develop buildings with smart home system including smart home devices. Property developers will leave the building after installing and debugging each smart home system in the building. However, at this time, the building usually has not been delivered to its owner, thus, the smart home system cannot be delivered directly to the owner from property developers. An application (EP3041280A1) discloses a method and an apparatus for binding an intelligent device. The method includes: acquiring an intelligent device list, the intelligent device list includes binding states of intelligent devices with a current user account; acquiring an operation instruction for an intelligent device in the intelligent device list; and updating a binding state of the intelligent device with the current user account according to the operation instruction. By the technical solution provided by the present disclosure, binding and unbinding between intelligent devices and a user account may be realized and thus safety of intelligent device control can be guaranteed.

TECHNICAL PROBLEM

[0003] At present, the following methods are adopted: 1. When the owner settles in, professionals are sent to reset the smart home system. 2. The smart home system account and password of each house are first kept by the property developers. After the house is sold out, the property developers deliver the account and password to the owner. The two methods have obvious shortcomings. For the first case, different owners will settle in the house at different time, therefore it is necessary to send the professionals to help these owners at different time, which requires a lot of labor costs. For the second case, many steps are involved. Property developers needs to create many different accounts for each of the houses, respectively, which is cumbersome and prone to error. Similarly, similar problems exist in the decoration and delivery of smart office and smart hotels.

SUMMARY

[0004] The main object of the present disclosure is to provide a device control method and apparatus, which are intended to quickly configure user's devices in a house and allow the user to control the devices in the house. The invention is defined by the independent claim.

Preferred embodiments are defined by features of dependent claims.

[0005] To achieve the above object, the present disclosure provides a device control method, where the device control method includes: connecting to a current LAN and searching a device in the LAN; determining whether there is a created device management group corresponding to the device, wherein the device management group further corresponds to one or more smart home devices, and the device management group is created by a previous account; when there is a created device management group, determining whether there is an account bound to the device management group; and when there is no account bound to the device management group, binding a current account of a user to the device management group, when there is an account bound to the device management group and the bound account is not the current account of the user, obtaining a request for joining the device management group sent by the user; binding the current account to the device management group after a preset administrator accepting the request, and obtaining control of the device corresponding to the device management group according to a binding relationship between the current account of the user and the device management group.

[0006] Optionally, in the foregoing device control method, the device is a host, searching a device in the LAN includes broadcasting to find the host in the LAN and receiving the information of the host returned from the host.

[0007] Optionally, in the foregoing device control method, the device is a wireless device, searching a device in the LAN includes: obtaining external network information of the LAN after connecting to the LAN, and querying, according to a preset server configured to record external network information of a plurality of wireless device, the wireless device having the same external network information as that of the LAN.

[0008] Optionally, in the foregoing device control method, controlling all the devices corresponding to the device management group according to the binding relationship between the current account of the user and the device management group includes: providing control information of all the devices corresponding to the device management group to the user through the current account.

[0009] In order to achieve the above object, the present disclosure further provides a device control apparatus, the device control apparatus includes the following modules: a device searching module, configured to connect to a current LAN and search a device in the LAN; a device management group determining module, configured to determine whether there is a created device management group corresponding to the device, wherein the device management group further corresponds to one or more smart home devices, and the device management group is created by a previous account; an account determining module, configured to determine whether there is an account bound to the device management group

when there is a created device management group; and a binding module, configure to, when there is no account bound to the device management group, bind a current account of a user to the device management group; when there is an account bound to the device management group and the bound account is not the current account of the user, obtain a request for joining the device management group sent by the user, bind the current account to the device management group after a preset administrator accepting the request, and obtain control of the device corresponding to the device management group according to a binding relationship between the current account of the user and the device management group.

[0010] Optionally, in the foregoing device control apparatus, the device is a host, the device searching module is configured to broadcast to find the host in the LAN and receive the information of the host returned from the host.

[0011] Optionally, in the foregoing device control apparatus, the device is a wireless device, the device searching module is configured to obtain external network information of the LAN after connecting to the LAN, and query, according to a preset server configured to record external network information of a plurality of wireless device, the wireless device having the same external network information as that of the LAN.

[0012] Optionally, in the foregoing device control apparatus, the binding module is configured to provide control information of the device corresponding to the device management group to the user through the current account.

BENEFICIAL EFFECT

[0013] Based on the embodiment of the disclosure, the property developer uses the account thereof to create a device management group, complete configuring the devices in the device management group, and unbinds the relationship between the account and the device management group in the end. When the user settles in the house and searches the smart home devices in the LAN of the house, the device management group of unbound state corresponding to the smart home devices will be found. Because the configuration of the devices of the device management group has been completed, the user can control the devices of the device management group after binding the account of his/her own with the device management group. The user can control the smart home devices quickly and accurately after setting in without repeating the operation of the property developer.

BRIEF DESCRIPTION OF THE DRAWINGS

[0014]

FIG. 1 is a flow chart of a device control method in accordance with one embodiment of the present disclosure;

FIG. 2 is a flow chart of a device control method according to an embodiment of the present disclosure;

FIG. 3 is a block diagram of a device control apparatus in accordance with one embodiment of the present disclosure.

[0015] The implementation, functional features, and advantages of the present disclosure will be further described in the embodiments combined with the figures.

DETAILED DESCRIPTION OF THE EMBODIMENTS

[0016] It is understood that the specific embodiments described herein are merely illustrative of the disclosure and are not intended to limit the disclosure.

[0017] In the following description, the use of suffixes such as "module", "component" or "unit" for indicating an element is merely an explanation for facilitating the present disclosure and has no specific meaning. Therefore, "module", "component" or "unit" can be used in combination.

[0018] As shown in FIG. 1, a device control method is provided in an embodiment of the present disclosure. The device control method in this embodiment includes the following steps:

[0019] Take a user setting in a building and taking over of smart home devices of the building (the building may be a house, an office or a hotel) as an example. Before that, a property developer of the building has created a device management group through its own account, added smart home devices (which may include hosts, Wi-Fi devices, Zigbee devices, RF devices, or Z-wave devices, etc.) into the device management group, and configured and debugged the smart home devices. Specifically, a client may be made according to the device control method of the embodiment. The property developer has registered an account A via the client running on a terminal (which may be a mobile phone, a tablet, a television, or a personal computer, etc.), created a device management group a for the housing, and added hosts, Wi-Fi devices, and other wireless devices into the device management group a. After the smart home devices are configured and debugged, the device management group a is deleted from the client to unbind the device management group a from the account A. Specifically, after the property developer removes the device management group a, a server receives an instruction of deleting the device management group a from the account A, and performs the following steps:

[0020] step 1), whether another account has been bound to the device management group to be deleted is determined. If yes, delete all bound accounts, and continue with step 2). If not, continue with step 2) directly.

[0021] step 2), whether there is a device in the device management group is determined. If not, unbind the device management group from the account and delete the device management group from the server completely.

If yes, unbind the device management group from the account, and retain the device management group as well as the device and configurations thereof. The device management group is thus in an unbound state. For example, the deleted device management group a is in the unbound state.

[0022] Step S 110, a current LAN (local area network) is connected, and a device in the current LAN are searched.

[0023] In this embodiment, the LAN is usually a local area network set up by a router in the building, and the devices in the building are connected to the LAN. Specifically, after a user settling in the house, a client is run on a terminal, and an account B is registered on the client by the user. The client initiates an instruction to search for a device management group in the LAN.

[0024] Step S120, whether there is a created device management group corresponding to the device is determined, wherein the device management group corresponds to one or more devices.

[0025] In this embodiment, the information of devices, the information of the device management groups, and the correspondence between the devices and the device management groups may be recorded on a preset server. Therefore, it will be performed by the server to search the device management group via the devices.

[0026] Step S130, when there is a created device management group, whether there is an account bound to the device management group is determined.

[0027] In this embodiment, similarly, a binding relationship between the device management group and account thereof is also recorded on the server.

[0028] Take the user controls the smart home devices after settling in the house as an example. The steps after finding a device will performed as follows.

[0029] Step 1), whether the device has a binding relationship with a device management group is determined. If not, the device is deemed as a device not added by any device management group, which will be returned to the client. The client will not show the device having been found. If yes, continue with step 2).

[0030] Step 2), whether there is a binding relationship of the device management group is determined. If not, the device is deemed as a device of a device management group having been deleted. The server returns a corresponding information of the device management group (such as the device management group a) and the unbound state to the client.

[0031] Step S140, when there is no account bound to the device management group, a current account of the user is bound to the device management group, thereby control of the device corresponding to the device management group is obtained according to a binding relationship between the current account of the user and the device management group.

[0032] In this embodiment, the device management group a of unbound state is bound to an account B. Specifically, the client initiates a joining request to the device management group (such as the device management group a) of unbound state. The server binds the account B to the device management group a, and the device of the device management group a with the configuration thereof are returned to the account B. Thus, the account B can directly control the entire smart home devices on the client. A take-over of the smart home devices is completed.

[0033] Similarly, this embodiment may be also applicable to a smart office scenario. For example, after the property developer completes configuring the office devices via the account A, the office devices have been added to the device management group a, and the binding relationship between the account A and the device management group a is unbound. When a user rents the office, the device management group a of unbound state is queried via an account B. The account B is bound to the device management group a to obtain a control of the office devices.

[0034] Based on the embodiment of the disclosure, the property developer uses the account thereof to create a device management group, complete configuring the devices in the device management group, and unbinds the relationship between the account and the device management group in the end. When the user settles in the house and searches the smart home devices in the LAN of the house, the device management group of unbound state corresponding to the smart home devices will be found. Because the configuration of the devices of the device management group has been completed, the user can control the devices of the device management group after binding the account of his/her own with the device management group. The user can control the smart home devices quickly and accurately after setting in without repeating the operation of the property developer.

[0035] As shown in FIG. 2, an embodiment of the present disclosure includes the following steps:

[0036] Step S210, a current LAN is connected and a device in the LAN are searched. When the device is a host, a broadcast to find the host is issued in the LAN. The information of the host returned from the host is received.

[0037] In this embodiment, the information of the host is not limited, for example, it may be a physical address of the host.

[0038] In this embodiment, the client issues the broadcast for searching the hosts. The hosts that receive the broadcast in the LAN will report their own MAC (physical address) addresses to the client. The client uses the MAC addresses of the hosts to query the status of the hosts one by one through the server. The information of the device management group will be found according to the status of the hosts.

[0039] In this embodiment, an alternative solution is also provided:

[0040] The device may be a wireless device, such as a Wi-Fi device. The external network information of the LAN is obtained after connected to the LAN. The wireless

devices having the same external network information as the LAN are queried according to a preset server having been recorded external network information of several wireless devices.

[0041] In this embodiment, the external network information of the Wi-Fi device is not limited. For example, the external network information may be an external network address and a service set identifier.

[0042] In this embodiment, the client sends an instruction to the server for searching Wi-Fi devices in the LAN. The client initiates an external network IP (network address) and SSID (service set identifier) to the server. The server searches the Wi-Fi devices with the same external network IP and SSID as the client. The information of the device management group will be found according to the status of the Wi-Fi devices after finding the qualified Wi-Fi devices.

[0043] Step S220, whether there is a created device management group corresponding to the devices is determined, wherein each device management group corresponds to one or more devices.

[0044] Step S230, when there is a created device management group, whether there is an account bound to the device management group is determined.

[0045] In step S240, when there is no account bound to the device management group, the account of the user is bound to the device management group. The control information of the device corresponding to the device management group is provided to the user through the current account, so that the user can obtain control of the device corresponding to the device management group according to the control information.

[0046] In step S250, when there is an account bound to the device management group, and the bound account is not the current account of the user, a request for joining the device management group sent by the user is obtained. After a preset administrator accepts the request, the current account is bound to the device management group. The control information of the device corresponding to the device management group is provided to the user through the current account, so that the user can obtain control of the device corresponding to the device management group according to the control information.

[0047] In this embodiment, when the device management group is bound to an account, whether the account is the current login account is further determined. When the account is the current login account, it indicates that the devices belong to another device management group bound to the current account (for one account can be added several different device management groups). When the account is not the current login account, it indicates that the devices belong to the device management group bound to another current account. The server returns the corresponding device management group information and account binding information of the device management group to the client. The current account can apply to join the device management group. The current account may be bound to the device management

group as a member with the administrator's permission.

[0048] According to the embodiment of present disclosure, when smart home devices in a house are controlled by previous users by adding them to a device management group, subsequent users may join the device management group to control the smart home devices.

[0049] As shown in FIG. 3, a device control apparatus is provided in an embodiment of the present disclosure. The device control apparatus in this embodiment includes the following steps.

[0050] Take a user setting in a building and taking over of smart devices of the building (the building may be a house, an office or a hotel) as an example. Before that, a property developer of the building has created a device management group through its own account, added smart home devices (which may include hosts, Wi-Fi devices, Zigbee devices, RF devices, or Z-wave devices, etc.) into the device management group, and configured and debugged the smart home devices. Specifically, a client may be made according to the device control method of the embodiment. The property developer has registered an account A via the client running on a terminal (which may be a mobile phone, a tablet, a television, or a personal computer, etc.), created a device management group a for the housing, added hosts, Wi-Fi devices, and other wireless devices into the device management group a. After the smart home devices are configured and debugged, the device management group a is deleted from the client to unbind the device management group a from the account A. Specifically, after the property developer removes the device management group a, a server receives an instruction of deleting the device management group a from the account A and performs the following steps.

[0051] step 1), whether another account has been bound to the device management group to be deleted is determined. If yes, delete all bound accounts, and continue with step 2). If not, continue with step 2) directly.

[0052] step 2), whether there are devices in the device management group is determined. If not, unbind the device management group from the account and delete the device management group from the server completely. If yes, unbind the device management group from the account, and retain the device management group as well as the device and configurations thereof. The device management group is thus in an unbound state. For example, the deleted device management group a is in the unbound state.

[0053] A device searching module 310, a current LAN (local area network) is connected, and a device in the current LAN are searched.

[0054] In this embodiment, the LAN is usually a local area network set up by a router in the building, and the devices in the building are connected to the LAN. Specifically, after a user settling in the house, a client is run on a terminal, and an account B is registered on the client by the user. The client initiates an instruction to search for a device management group in the LAN.

[0055] A device management group determining module 320, whether there is a created device management group corresponding to the devices is determined, wherein the device management group corresponds to one or more devices.

[0056] In this embodiment, the information of devices, the information of the device management groups, and the correspondence between the devices and the device management groups may be recorded on a preset server. Therefore, it will be performed by the server to search the device management group via the devices.

[0057] An account determining module 330, when there is a created device management group, whether there is an account bound to the device management group is determined.

[0058] In this embodiment, similarly, a binding relationship between the device management group and account thereof is also recorded on the server.

[0059] Take the user controls the smart home devices after settling in the house as an example. The steps after finding a device will performed as follows.

[0060] Step 1), whether the devices have a binding relationship with a device management group is determined. If not, the device is deemed as a device not added by any device management group, which will be returned to the client. The client will not show the device having been found. If yes, continue with step 2);

[0061] Step 2), whether there is a binding relationship of the device management group is determined. If not, the device is deemed as a device of a device management group having been deleted. The server returns a corresponding information of the device management group (such as the device management group a) and the unbound state to the client.

[0062] A binding module 340, when there is no account bound to the device management group, a current account of the user is bound to the device management group, thereby control of the device corresponding to the device management group is obtained according to a binding relationship between the current account of the user and the device management group.

[0063] In this embodiment, the device management group a of unbound state is bound to an account B. Specifically, the client initiates a joining request to the device management group (such as the device management group a) of unbound state. The server binds the account B to the device management group a, and the device of the device management group a with the configuration thereof are returned to the account B. Thus, the account B can directly control the entire smart home devices on the client. A take-over of the smart home devices is completed.

[0064] Similarly, this embodiment may be also applicable to a smart hotel scenario. For example, after the property developer completes configuring the office devices via the account A, the office devices have been added to the device management group a, and the binding relationship between the account A and the device

management group a is unbound. When a user rents the office, the device management group a of unbound state is queried via an account B. The account B is bound to the device management group a to obtain a control of the office devices.

[0065] Based on the embodiment of the disclosure, the property developer uses the account thereof to create a device management group, complete configuring the devices in the device management group, and unbinds the relationship between the account and the device management group in the end. When the user settles in the house and searches the smart home devices in the LAN of the house, the device management group of unbound state corresponding to the smart home devices will be found. Because the configuration of the devices of the device management group has been completed, the user can control the devices of the device management group after binding the account of his/her own with the device management group. The user can control the smart home devices quickly and accurately after setting in without repeating the operation of the property developer.

[0066] An embodiment of the present disclosure provides a device control apparatus. The device control apparatus includes the following modules.

[0067] A device searching module 310, a current LAN is connected and a device in the LAN are searched. When the device is a host, a broadcast to find the host is issued in the LAN. The information of the host returned from the host is received.

[0068] In this embodiment, the information of the host is not limited, for example, it may be a physical address of the host.

[0069] In this embodiment, the client issues the broadcast for searching the hosts. The hosts that receive the broadcast in the LAN will report their own MAC (physical address) addresses to the client. The client uses the MAC addresses of the hosts to query the status of the hosts one by one through the server. The information of the device management group will be found according to the status of the hosts.

[0070] In this embodiment, an alternative solution is also provided.

[0071] The device may be a wireless device, such as a Wi-Fi device. The external network information of the LAN is obtained after connected to the LAN. The wireless devices having the same external network information as the LAN are queried according to a preset server having been recorded external network information of several wireless devices.

[0072] In this embodiment, the external network information of the Wi-Fi device is not limited. For example, the external network information may be an external network address and a service set identifier.

[0073] In this embodiment, the client sends an instruction to the server for searching Wi-Fi devices in the LAN. The client initiates an external network IP (network address) and SSID (service set identifier) to the server. The server searches the Wi-Fi devices with the same external

network IP and SSID as the client. The information of the device management group will be found according to the status of the Wi-Fi devices after finding the qualified Wi-Fi devices.

[0074] A device management group determining module 320, whether there is a created device management group corresponding to the devices is determined, wherein each device management group corresponds to one or more devices.

[0075] An account determining module 330, When there is a created device management group, whether there is an account bound to the device management group is determined.

[0076] A binding module 340, when there is no account bound to the device management group, the account of the user is bound to the device management group. The control information of the device corresponding to the device management group is provided to the user through the current account, so that the user can obtain control of the device corresponding to the device management group according to the control information.

[0077] The binding module 340, when there is an account bound to the device management group, and the bound account is not the current account of the user, a request for joining the device management group sent by the user is obtained. After a preset administrator accepts the request, the current account is bound to the device management group. The control information of the device corresponding to the device management group is provided to the user through the current account, so that the user can obtain control of the device corresponding to the device management group according to the control information.

[0078] In this embodiment, when the device management group is bound to an account, whether the account is the current login account is further determined. When the account is the current login account, it indicates that the devices belong to another device management group bound to the current account (for one account can be added several different device management groups). When the account is not the current login account, it indicates that the devices belong to the device management group bound to another current account. The server returns the corresponding device management group information and account binding information of the device management group to the client. The current account can apply to join the device management group. The current account may be bound to the device management group as a controller with the administrator's permission.

[0079] According to the embodiment of present disclosure, when smart home devices in a house are controlled by previous users by adding them to a device management group, subsequent users may join the device management group to control the smart home devices.

[0080] It is to be understood that the term "comprises", "comprising", or any other variants thereof, is intended to encompass a non-exclusive inclusion, such that a process, method, article, or device comprising a series of elements includes those elements. It also includes other elements that are not explicitly listed, or elements that are inherent to such a process, method, article, or device. An element that is defined by the phrase "comprising a ..." does not exclude the presence of additional equivalent elements in the process, method, item, or device that comprises the element.

[0081] The serial numbers of the embodiments of the present disclosure are merely for the description, and do not represent the advantages and disadvantages of the embodiments.

[0082] Through the description of the above embodiments, person skilled in the art can clearly understand that the foregoing embodiment method can be implemented by means of software plus a necessary general hardware platform, and of course, can also be through hardware, but in many cases, the former is better. Based on such understanding, the technical solution of the present disclosure, which is essential or contributes to the prior art, may be embodied in the form of a software product stored in a storage medium (such as ROM/RAM, disk, the optical disc) including a number of instructions executed by a terminal (which may be a mobile phone, a computer, a server, an air conditioner, or a network device, etc.) to perform the methods described in various embodiments of the present disclosure.

[0083] The embodiments of the present disclosure have been described above with reference to the drawings, but the present disclosure is not limited to the specific embodiments described above, and the specific embodiments described above are merely illustrative and not restrictive, and person skilled in the art in the light of the present disclosure may make many forms without departing from the scope of the disclosure as claimed.

INDUSTRIAL APPLICABILITY

[0084] Based on the embodiment of the disclosure, the property developer uses the account thereof to create a device management group, complete configuring the devices in the device management group, and unbinds the relationship between the account and the device management group in the end. When the user settles in the house and searches the smart home devices in the LAN of the house, the device management group of unbound state corresponding to the smart home devices will be found. Because the configuration of the devices of the device management group has been completed, the user can control the devices of the device management group after binding the account of his/her own with the device management group. The user can control the smart home devices quickly and accurately after setting in without repeating the operation of the property developer.

Claims

1. A device control method, comprising:

connecting (S110, S210) to a current LAN and searching a device in the LAN;

determining (S120, S220) whether there is a created device management group corresponding to the device, wherein the device management group further corresponds to one or more smart home devices, and the device management group is created by a previous account;

when there is a created device management group, determining (S130, S230) whether there is an account bound to the device management group; and

when there is no account bound to the device management group, binding (S140, S240) a current account of a user to the device management group, the method **characterized by** comprising:

when there is an account bound to the device management group and the bound account is not the current account of the user, obtaining (S250) a request for joining the device management group sent by the user;

binding the current account to the device management group after a preset administrator accepting the request, and

obtaining control of the device corresponding to the device management group according to a binding relationship between the current account of the user and the device management group.

2. The device control method according to claim 1, wherein the device is a host, searching (S110, S210) a device in the LAN comprises:

broadcasting to find the host in the LAN and receiving the information of the host returned from the host.

3. The device control method according to claim 1, wherein the device is a wireless device, searching (S110, S210) a device in the LAN comprises:

obtaining external network information of the LAN after connecting to the LAN, and querying, according to a preset server configured to record external network information of a plurality of wireless device, the wireless device having the same external network information as that of the LAN.

4. The device control method according to any one of claims 1-3, wherein obtaining control of the device corresponding to the device management group according to the binding relationship between the current account of the user and the device management group comprises:

providing control information of the device corresponding to the device management group to the user through the current account.

5. The device control method according to claim 1, before connecting (S110, S210) to the current LAN and searching the device in the LAN, the method further comprising:

sending an instruction of deleting the device management group from the previous account thereof.

6. The device control method according to claim 1, after searching (S110, S210) the device in the LAN and finding the device, before binding (S140, S240) the current account of the user to the device management group, the method further comprising:

determining whether the device has a binding relationship with the device management group; and

when the device has no binding relationship, hiding information of the device.

7. The device control method according to claim 6, further comprising:

when the device has a binding relationship with the device management group, determining whether there is a binding relationship between the device management group and an account;

when there is no account bound to the device management group, receiving information of the device management group of unbound state.

8. A device control apparatus, comprising:

a device searching module (310), configured to connect to a current LAN and search a device in the LAN;

a device management group determining module (320), configured to determine whether there is a created device management group corresponding to the device, wherein the device management group further corresponds to one or more smart home devices, and the device management group is created by a previous account;

an account determining module (330), configured to determine whether there is an account bound to the device management group when there is a created device management group; and

a binding module (340), configure to, when there is no account bound to the device management group, bind a current account of a user to the device management group, the device control apparatus **characterized by** comprising: when there is an account bound to the device management group and the bound account is not the current account of the user, the binding module (340) configured to obtain a request for joining the device management group sent by the user, and bind the current account to the device

management group after a preset administrator accepting the request, and obtain control of the device corresponding to the device management group according to a binding relationship between the current account of the user and the device management group.

9. The device control apparatus according to claim 8, wherein the device is a host, the device searching module (310) is configured to broadcast to find the host in the LAN and receive the information of the host returned from the host.

10. The device control apparatus according to claim 8, wherein the device is a wireless device, the device searching module (310) is configured to obtain external network information of the LAN after connecting to the LAN, and query, according to a preset server configured to record external network information of a plurality of wireless device, the wireless device having the same external network information as that of the LAN.

11. The device control apparatus according to any one of claims 8-10, wherein the binding module (340) is configured to provide control information of the device corresponding to the device management group to the user through the current account.

12. The device control apparatus according to claim 8, further comprising:
a sending module, configured to send an instruction of deleting the created device management group from the previous bound account thereof.

13. The device control apparatus according to claim 8, further comprising:
a determining module, configured to determine whether the device has a binding relationship with the device management group; and a hiding module, configured to, when the device has no binding relationship, hide information of the device.

Patentansprüche

1. Gerätesteuerungsverfahren, umfassend:

Verbinden (S110, S210) mit einem aktuellen LAN und Suchen nach einem Gerät im LAN;
Bestimmen (S120, S220), ob es eine erstellte Geräteverwaltungsgruppe gibt, die dem Gerät entspricht, wobei die Geräteverwaltungsgruppe auch einem oder mehreren Smart-Home-Geräten entspricht und die Geräteverwaltungsgruppe von einem vorherigen Konto erstellt wird;
Wenn eine Geräteverwaltungsgruppe erstellt wurde, bestimmen (S130, S230), ob ein Konto

an die Geräteverwaltungsgruppe gebunden ist; und
Wenn die Geräteverwaltungsgruppe nicht an ein Konto gebunden ist, binden (S140, S240) eines aktuellen Kontos eines Benutzers an die Geräteverwaltungsgruppe, wobei das Gerätesteuerungsverfahren **dadurch gekennzeichnet ist, dass** es umfasst:

Wenn die Geräteverwaltungsgruppe ein gebundenes Konto hat und das gebundene Konto nicht das aktuelle Konto des Benutzers ist, Erhalten (S250) einer vom Benutzer gesendeten Anfrage, der Geräteverwaltungsgruppe beizutreten;
Binden des aktuellen Kontos an die Geräteverwaltungsgruppe, nachdem ein voreingestellter Administrator die Anfrage akzeptiert hat;
Erhalten die Steuerung über das Geräts, das der Geräteverwaltungsgruppe entspricht, gemäß einer Bindungsbeziehung zwischen dem aktuellen Konto des Benutzers und der Geräteverwaltungsgruppe.

2. Gerätesteuerungsverfahren nach Anspruch 1, wobei das Gerät ein Host ist, wobei das Suchen (S110, S210) nach einem Gerät im LAN Folgendes umfasst:
Übertragen, um den Host im LAN zu finden, und Empfangen der Informationen des Hosts, die vom Host zurückgegeben werden.

3. Gerätesteuerungsverfahren nach Anspruch 1, wobei das Gerät ein drahtloses Gerät ist, wobei das Suchen (S110, S210) nach einem Gerät im LAN Folgendes umfasst:
Erhalten externer Netzwerkinformationen des LAN nach dem Verbinden mit dem LAN und Abfragen des drahtlosen Geräts mit den gleichen externen Netzwerkinformationen wie die des LAN, gemäß einem voreingestellten Server, der konfiguriert ist, um externe Netzwerkinformationen einer Vielzahl von drahtlosen Geräten aufzuzeichnen.

4. Gerätesteuerungsverfahren nach einem der Ansprüche 1 bis 3, wobei das Erhalten der Steuerung über das Geräts, das der Geräteverwaltungsgruppe entspricht, gemäß einer Bindungsbeziehung zwischen dem aktuellen Konto des Benutzers und der Geräteverwaltungsgruppe umfasst:
Bereitstellen von Steuerinformationen des Geräts, das der Geräteverwaltungsgruppe entspricht, an den Benutzer über das aktuelle Konto.

5. Gerätesteuerungsverfahren nach Anspruch 1, vor dem Verbinden (S110, S210) mit dem aktuellen LAN und Suchen nach dem Gerät im LAN, wobei das Verfahren ferner Folgendes umfasst:

Senden einer Anweisung zum Löschen der Geräteverwaltungsgruppe von ihrem vorherigen Konto.

6. Gerätesteuerungsverfahren nach Anspruch 1, nach dem Suchen (S110, S210) nach dem Gerät im LAN und Finden des Geräts, bevor dem binden (S140, S240) des aktuellen Kontos des Benutzers an die Geräteverwaltungsgruppe, das Verfahren ferner bestehend aus:

Bestimmen, ob das Gerät eine Bindungsbeziehung mit der Geräteverwaltungsgruppe hat; und Wenn das Gerät keine Bindungsbeziehung hat, ausblenden von Informationen des Geräts.

7. Gerätesteuerungsverfahren nach Anspruch 6, ferner umfassend:

Wenn das Gerät eine Bindungsbeziehung mit der Geräteverwaltungsgruppe hat, Bestimmen, ob eine Bindungsbeziehung zwischen der Geräteverwaltungsgruppe und einem Konto besteht;
wenn kein Konto an die Geräteverwaltungsgruppe gebunden ist, empfangen von Informationen der Geräteverwaltungsgruppe im ungebundenen Zustand.

8. Gerätesteuerungsvorrichtung, umfassend:

ein Gerätesuchmodul (310), das konfiguriert ist, um sich mit einem aktuellen LAN zu verbinden und ein Gerät im LAN zu suchen;
ein Geräteverwaltungsgruppen-Bestimmungsmodul (320), das konfiguriert ist, um zu bestimmen, ob es eine erstellte Geräteverwaltungsgruppe gibt, die dem Gerät entspricht, wobei die Geräteverwaltungsgruppe ferner einem oder mehreren Smart-Home-Geräten entspricht und die Geräteverwaltungsgruppe durch a vorheriges Kontoerstellt wird;
ein Kontobestimmungsmodul (330), das konfiguriert ist, um zu bestimmen, ob ein Konto an die Geräteverwaltungsgruppe gebunden ist, wenn eine erstellte Geräteverwaltungsgruppe vorhanden ist; und
ein Bindungsmodul (340), das konfiguriert ist, um, wenn kein Konto an die Geräteverwaltungsgruppe gebunden ist, ein aktuelles Konto eines Benutzers an die Geräteverwaltungsgruppe zu binden, wobei die Gerätesteuerungsvorrichtung **dadurch gekennzeichnet ist, dass** es umfasst: wenn ein Konto an die Geräteverwaltungsgruppe gebunden ist und das gebundene Konto nicht das aktuelle Konto des Benutzers ist, das Bindungsmodul (340) konfiguriert ist, um eine vom Benutzer gesendete Anfrage zum Beitritt zur Geräteverwaltungsgruppe zu erhalten

und das aktuelle Konto an die Geräteverwaltungsgruppe zu binden, nachdem einen voreingestellten Administrator, der die Anforderung akzeptiert, und die Steuerung über das Gerät entsprechend der Geräteverwaltungsgruppe gemäß einer Bindungsbeziehung zwischen dem aktuellen Konto des Benutzers und der Geräteverwaltungsgruppe erhalten.

9. Gerätesteuerungsvorrichtung nach Anspruch 8, wobei die Vorrichtung ein Host ist, wobei das Gerätesuchmodul (310) zum Übertragen konfiguriert ist, um den Host im LAN zu finden und die Informationen des Hosts zu empfangen, die von dem Host zurückgegeben werden.

10. Gerätesteuerungsvorrichtung nach Anspruch 8, wobei das Gerät ein drahtloses Gerät ist, das Vorrichtungssuchmodul (310) konfiguriert ist, um externe Netzwerkinformationen des LAN nach dem Verbinden mit dem LAN zu erhalten und abzufragen des drahtlosen Geräts mit den gleichen externen Netzwerkinformationen wie die des LAN, gemäß einem voreingestellten Server konfiguriert, um externe Netzwerkinformationen einer Vielzahl von drahtlosen Geräten aufzuzeichnen.

11. Gerätesteuerungsvorrichtung nach einem der Ansprüche 8 bis 10, wobei das Bindungsmodul (340) konfiguriert ist, um dem Benutzer über das aktuelle Konto Steuerinformationen des Geräts bereitzustellen, das der Geräteverwaltungsgruppe entspricht.

12. Gerätesteuerungsvorrichtung nach Anspruch 8, ferner umfassend:
Ein Sendemodul, das konfiguriert ist, um eine Anweisung zum Löschen der erstellten Geräteverwaltungsgruppe von ihrem vorherigen gebundenen Konto zu senden.

13. Gerätesteuerungsvorrichtung nach Anspruch 8, ferner umfassend:
ein Bestimmungsmodul, das konfiguriert ist, um zu bestimmen, ob das Gerät eine Bindungsbeziehung mit der Geräteverwaltungsgruppe hat; und ein Versteckmodul, das konfiguriert ist, um Informationen des Geräts zu verbergen, wenn das Gerät keine Bindungsbeziehung hat.

Revendications

1. Procédé de commande de dispositif comprenant:

Connectez (S110, S210) au réseau local actuel et recherchez le dispositif dans le réseau local, Déterminer (S120, S220) s'il existe un groupe de gestion de dispositif créé correspondant au

dispositif, si le groupe de gestion de dispositif correspond en outre a un ou plusieurs dispositifs domestiques intelligents et vérifier si le groupe de gestion de dispositif a été créé par un compte précédent,

Lorsqu'il existe un groupe de gestion de dispositifs créé, determiné (S130, S230) s'il existe un compte liéau groupe de gestion de dispositifs;

Lorsqu'il n'y a pas de compte lié au groupe de gestion de dispositif, lier (S 140, S240) un compte actuel d'un utilisateur au groupe de gestion de dispositifs, le procédé étant caractérisé en comprenant:

> Lorsqu'il existe un compte lié au groupe de gestion de dispositifs et que le compte lié n'est pas le compte courant de l'utilisateur, obtenant (S250) une demande d'adhésion au groupe de gestion de dispositifs envoyée par l'utilisateur;
>
> Lier le compte actuel au groupe de gestion de dispositifs après qu'un administrateur prédéfini a accepté la demande, et
>
> Obtenir le contrôle de l'appareil correspondant au groupe de gestion de dispositifs selon une relation de liaison entre le compte courant de l'utilisateur et le groupe de gestion de dispositifs.

2. Procédé de commande de dispositif selon la revendication 1, dans le cas où le dispositif est un hôte; la recherche d'un dispositif dans le réseau local (S110, S210) , comprend:
Emission pour trouver des hôtes dans le réseau local et recevoir des informations sur l'hôtes renvoyés par l'hôtes.

3. Procédé de commande de dispositif selon la revendication 1, dans le cas où le dispositif est un dispositif sans fil, la recherche d'un dispositif dans le réseau local (S110, S210), comprend:
Obtention des informations de réseau externe du réseau local après une connexion au réseau local, et rechercher, selon un serveur prédéfini configuré pour enrégistrer les informations externes du réseau d'une pluralité de dispositifs sans fil, le dispositif sans fil ayant les mêmes informations externes que le réseau local.

4. Procédé de commande de dispositif selon l'une quelconque des revendications 1-3, dans le cas où le contrôle du dispositif correspondant au groupe de gestion de dispositif est obtenu en fonction de la relation de liaison entre le compte actuel de l'utilisateur et le groupe de gestion de dispositif:
Les informations de contrôle du dispositif correspondant au groupe de gestion de dispositif sont fournies a l'utilisateur via le compte actuel.

5. Procédé de commande de dispositif selon la revendication 1, avant la connexion (S110, S210) au réseau local actuel et la recherche de dispositif dans le réseau local, le procédé comprend en outre:
D'envoyer une instruction pour supprimer le groupe de gestion de dispositif du compte précédent.

6. Procédé de commande de dispositif selon la revendication 1, après avoir recherché (S 110, S210) et retrouvé le dispositif, avant de lié (S 140, S240) le compte courant de l'utilisateur au groupe de gestion de dispositif; la procédure comprend en outre:

> Déterminer si le dispositif a une relation de liaison avec le groupe de gestion de dispositifs;
>
> Lorsque le dispositif n'a pas de relation de liaison, masquer les informations du dispositif.

7. Procédé de commande de dispositif selon la revendication 6 comprend en outre:

> Lorsque le périphérique a une relation de liaison avec le groupe de gestion de dispositif, déterminer s'il existe une relation de liaison entre le groupe de gestion de dispositif et le compte;
>
> Lorsqu'il n'y a pas de compte lié au groupe de gestion de dispositifs, recevoir des informations sur du groupe de gestion de dispositifs de l'état non lié.

8. Dispositif de commande de dispositif comprend:

> Un module de recherche de dispositif (310) configuré pour se connecter au réseau local actuel et rechercher un dispositif dans le réseau local;
>
> Le module de détermination de groupe de gestion de dispositif (320) est configuré pour déterminer s'il existe un groupe de gestion de dispositif créé correspondant au dispositif, le groupe de gestion de dispositif correspondant en outre a un ou plusieurs dispositifs domestiques intelligents et le groupe de gestion de dispositif créé par le compte précédent,
>
> Un module de détermination de compte (330) configuré pour déterminer s'il existe un compte lié au groupe de gestion de dispositif, lorsqu'il existe un groupe de gestion de dispositif créé; et un module de liaison (340) configuré pour lorsqu'il n'y a pas de compte lié au groupe de gestion de dispositifs, lier le compte courant d'un utilisateur au groupe de gestion de dispositif, l'appareil de commande de dispositif étant caractérisé en comprenant: Lorsqu'il y a un compte lié au groupe de gestion de dispositif et que le compte lié n'est pas le compte actuel de l'utilisateur, le module de liaison (340) est configuré pour obtenir la demande envoyée par l'utilisateur pour rejoindre le groupe de gestion de dis-

positif, et lier le compte actuel au groupe de gestion de dispositif après que l'administrateur prédéfini ait accepté la demande, ensuite obtenir le contôle du périphérique correspondant au groupe de gestion de dispositif selon une relation de liaison entre le compte courant de l'utilisateur et le groupe de gestion de dispositif.

9. Dispositif de commande de dispositif selon la revendication 8, dans le cas où le dispositif est un hôte, le module de recherche de dispositif (310) est configuré pour diffuser et pour trouver le hôte dans le réseau local et recevoir des informations sur l'hôte renvoyé par l'hôte.

10. Dispositif de commande de dispositif selon la revendication 8, dans le cas où le dispositif est un dispositif sans fil, le module de recherche de dispositif (310) est configuré pour obtenir des informations de réseau externe du réseau local après la connexion au réseau local, et rechercher le dispositif sans fil avec les mêmes informations de réseau externe que le réseau local, sur la base d'un serveur prédéfini configuré pour enregistrer les informations du réseau externe de la pluralité du dispositifs sans fil.

11. Dispositif de commande de dispositif selon l'une quelconque des revendications 8-10, dans ce cas le module de liaison (340) est configuré pour fournir a l'utilisateur des informations de commande du dispositif correspondant au groupe de gestion de dispositif via le compte courant.

12. Dispositif de commande de dispositif selon la revendication 8, comprenant en outre:
    Un module d'envoi configuré pour envoyer des instructions pour supprimer le groupe de gestion de dispositif créé du compte de liaison précédent.

13. Dispositif de commande de dispositif selon la revendication 8, comprenant:
    Un module de détermination configuré pour déterminer si le dispositif a une binding relationship avec le groupe de gestion de dispositifs; et un module de masquage, configuré pour masquer les informations du dispositif lorsque le dispositif n'a pas de relation de liaison.

A CURRENT LAN IS CONNECTED, AND A DEVICE IN THE PRESENT LAN ARE SEARCHED

S110

WHETHER THERE IS A CREATED DEVICE MANAGEMENT GROUP CORRESPONDING TO THE DEVICES HAVING IS DETERMINED, WHEREIN THE DEVICE MANAGEMENT GROUP CORRESPONDS TO ONE OR MORE DEVICES

S120

WHEN THERE IS A CREATED DEVICE MANAGEMENT GROUP, WHETHER THERE IS AN ACCOUNT BOUND TO THE DEVICE MANAGEMENT GROUP IS DETERMINED

S130

WHEN THERE IS NO ACCOUNT BOUND TO THE DEVICE MANAGEMENT GROUP, A CURRENT ACCOUNT OF THE USER IS BOUND TO THE DEVICE MANAGEMENT GROUP, THEREBY CONTROL OF ALL DEVICES CORRESPONDING TO THE DEVICE MANAGEMENT GROUP IS OBTAINED ACCORDING TO A BINDING RELATIONSHIP BETWEEN THE PRESENT ACCOUNT OF THE USER AND THE DEVICE MANAGEMENT GROUP

S140

FIG. 1

A CURRENT LAN IS CONNECTED AND A DEVICE IN THE LAN ARE SEARCHED. WHEN THE DEVICE IS A HOST, A BROADCAST TO FIND THE HOST IS ISSUED IN THE LAN. THE INFORMATION OF THE HOST RETURNED FROM THE HOST IS RECEIVED

S210

WHETHER THERE IS A CREATED DEVICE MANAGEMENT GROUP CORRESPONDING TO THE DEVICES IS DETERMINED, WHEREIN EACH DEVICE MANAGEMENT GROUP CORRESPONDS TO ONE OR MORE DEVICES

S220

WHEN THERE IS A CREATED DEVICE MANAGEMENT GROUP, WHETHER THERE IS AN ACCOUNT BOUND TO THE DEVICE MANAGEMENT GROUP IS DETERMINED

S230

WHEN THERE IS NO ACCOUNT BOUND TO THE DEVICE MANAGEMENT GROUP, THE ACCOUNT OF THE USER IS BOUND TO THE DEVICE MANAGEMENT GROUP. THE CONTROL INFORMATION OF ALL DEVICES CORRESPONDING TO THE DEVICE MANAGEMENT GROUP IS PROVIDED TO THE USER THROUGH THE CURRENT ACCOUNT, SO THAT THE USER CAN OBTAIN CONTROL OF THE DEVICES CORRESPONDING TO THE DEVICE MANAGEMENT GROUP ACCORDING TO THE CONTROL INFORMATION

S240

WHEN THERE IS AN ACCOUNT BOUND TO THE DEVICE MANAGEMENT GROUP, AND THE BOUND ACCOUNT IS NOT THE CURRENT ACCOUNT OF THE USER, A REQUEST FOR JOINING THE DEVICE MANAGEMENT GROUP SENT BY THE USER IS OBTAINED. AFTER A PRESET ADMINISTRATOR ACCEPTS THE REQUEST, THE CURRENT ACCOUNT IS BOUND TO THE DEVICE MANAGEMENT GROUP. THE CONTROL INFORMATION OF ALL DEVICES CORRESPONDING TO THE DEVICE MANAGEMENT GROUP IS PROVIDED TO THE USER THROUGH THE CURRENT ACCOUNT, SO THAT THE USER CAN OBTAIN CONTROL OF THE DEVICES CORRESPONDING TO THE DEVICE MANAGEMENT GROUP ACCORDING TO THE CONTROL INFORMATION

S250

FIG. 2

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┌─────────────────────────────────────┐
│   ┌─────────────────────────────┐    │
│   │    DEVICE SEARCHING         │────── 310
│   │       MODULE                │    │
│   └─────────────────────────────┘    │
│   ┌─────────────────────────────┐    │
│   │  DEVICE MANAGEMENT          │────── 320
│   │  GROUP DETERMINING          │    │
│   │       MODULE                │    │
│   └─────────────────────────────┘    │
│   ┌─────────────────────────────┐    │
│   │  ACCOUNT DETERMINING        │────── 330
│   │       MODULE                │    │
│   └─────────────────────────────┘    │
│   ┌─────────────────────────────┐    │
│   │    BINDING MODULE           │────── 340
│   │                             │    │
│   └─────────────────────────────┘    │
│                                       │
│         DEVICE CONTROL                │
│           APPARATUS                   │
└─────────────────────────────────────┘
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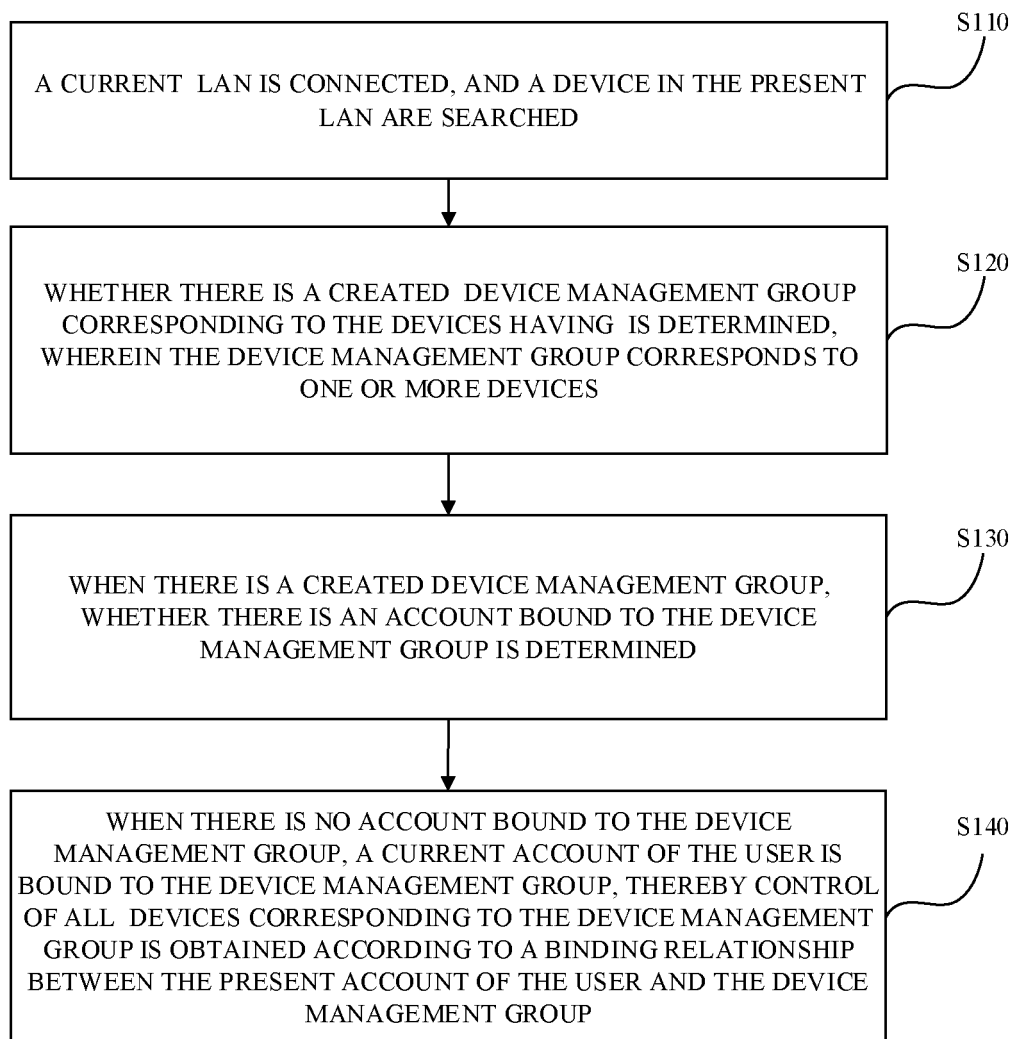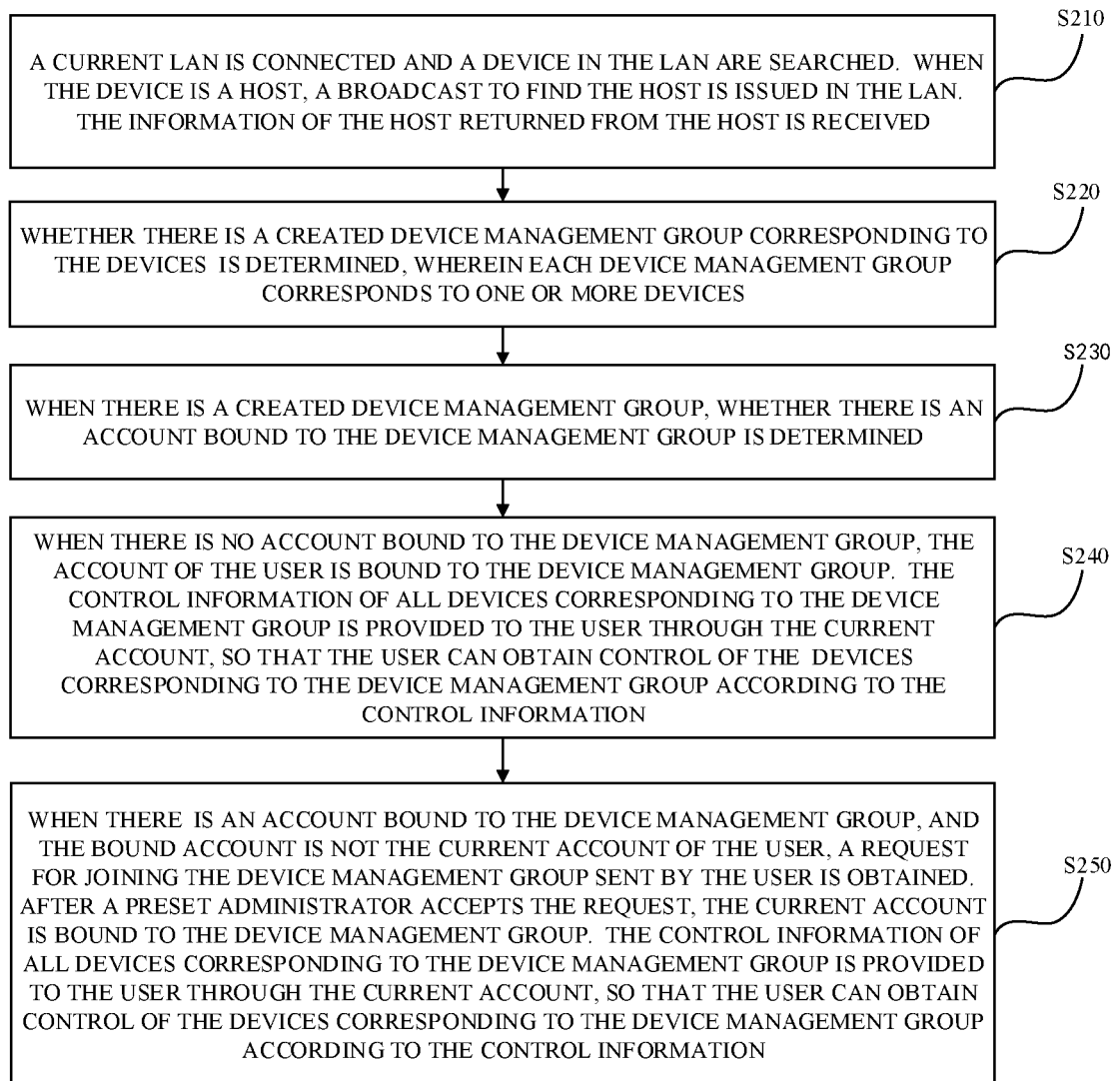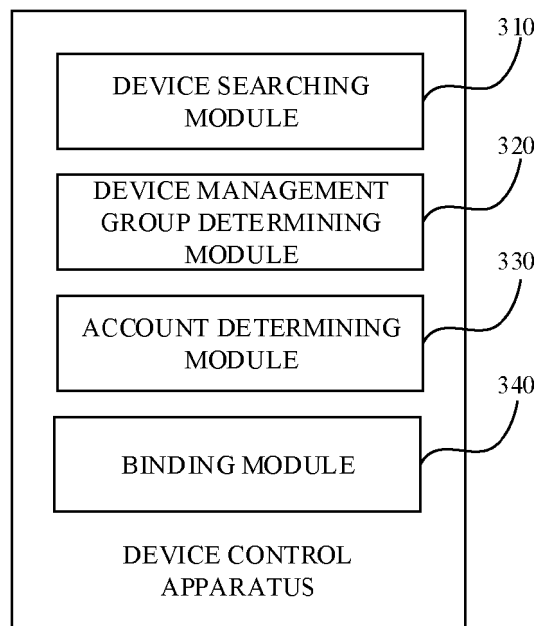
FIG. 3

REFERENCES CITED IN THE DESCRIPTION

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