

NETWORK CONFIGURATION METHOD FOR INTELLIGENT DEVICE AND RELATED APPARATUS

CROSS-REFERENCE TO RELATED APPLICATION

[0001] This application is filed based upon and claims priority to Chinese patent application No. 202010113339.8, filed on February 24, 2020, the content of which is incorporated herein by reference in its entirety.

TECHNICAL FIELD

[0002] Embodiments of the application relate to the field of intelligent devices, and particularly to a network configuration method for an intelligent device and a related apparatus.

BACKGROUND

[0003] With the development of maker, programming, and artificial intelligence, various robots and intelligent hardware have gradually become an important part of K12 education. However, in practical applications, network configuration is usually required to be performed on intelligent hardware to endow the intelligent hardware with a network transmission manner.

SUMMARY

[0004] The embodiments of the application provide a network configuration method for an intelligent device and a related apparatus.

[0005] A first technical solution adopted in the embodiments of the application is as

follows. A network configuration method for an intelligent device is provided, which may include that: a network configuration manner supported by the intelligent device is acquired; and network information of a network to be connected by the intelligent device is sent to the intelligent device through the network configuration manner supported by the intelligent device to enable the intelligent device to access the network to be connected through the network information. As such, network configuration for intelligent devices supporting different network configuration modes is implemented.

[0006] After the operation that the network information of the network to be connected by the intelligent device is sent to the intelligent device through the network configuration manner supported by the intelligent device to enable the intelligent device to access the network to be connected through the network information, the method may further include that: a detection result sent by the intelligent device through the network configuration manner supported by the intelligent device is received, the detection result being a feedback result indicating whether the intelligent device successfully accesses the network to be connected. As such, the result indicating whether network configuration for the intelligent device succeeds may be obtained, and furthermore, the success rate of network configuration may be increased.

[0007] The network configuration manner supported by the intelligent device may include at least one of a wireless connection manner, a scanning manner, a sound analysis manner, or a preset protocol; and the network information may at least include an account and password required for accessing the network to be connected. As such, network configuration for the intelligent devices supporting different network configuration modes is implemented.

[0008] The operation that the network information of the network to be connected by the intelligent device is sent to the intelligent device through the network configuration manner supported by the intelligent device to enable the intelligent device to access the network to be connected through the network information may include that: the network information of the network to be connected by the intelligent device is sent to the intelligent device through a preset channel of the preset protocol to enable the intelligent device to access the network to be connected through the network information; or, a

wireless connection is established with the intelligent device, and the network information of the network to be connected by the intelligent device is sent to the intelligent device through the wireless connection to enable the intelligent device to access the network to be connected through the network information; or, a picture containing the network information is generated, and the picture is sent or displayed to the intelligent device to enable the intelligent device to obtain the network information by recognizing the picture and further access the network to be connected through the network information; or, the network information of the network to be connected by the intelligent device is sent to the intelligent device through voice information to enable the intelligent device to access the network to be connected through the network information. As such, network configuration for the intelligent devices supporting different network configuration modes is implemented.

[0009] When the network configuration manner supported by the intelligent device is the scanning manner, the sound analysis manner, and the preset protocol, the network information may further include an address of an intelligent terminal; and the operation that the detection result sent by the intelligent device through the network configuration manner supported by the intelligent device is received may include that: the detection result sent by the intelligent device through the address is received. As such, the result indicating whether network configuration for the intelligent device succeeds may be obtained, and furthermore, the success rate of network configuration may be increased.

[0010] A second technical solution provided in the embodiments of the application is as follows. A network configuration method for an intelligent device is provided, which may include that: network information of a network to be connected is acquired from an intelligent terminal through a network configuration manner supported by the intelligent device; and the network to be connected is accessed through the network information. As such, network configuration for intelligent devices supporting different network configuration modes is implemented.

[0011] After the operation that the network to be connected is accessed through the network information, the method may further include that: whether the network to be connected is successfully accessed at present is detected; and a detection result is sent to

the intelligent terminal through the network configuration manner supported by the intelligent device. As such, the result indicating whether network configuration for the intelligent device succeeds may be obtained, and furthermore, the success rate of network configuration may be increased.

[0012] The network configuration manner supported by the intelligent device may include at least one of a wireless connection manner, a scanning manner, a sound analysis manner, or a preset protocol, and the operation that the network information of the network to be connected is acquired from the intelligent terminal through the supported network configuration manner may include that: the network information is received from the intelligent terminal through a preset channel of the preset protocol; or, a wireless connection is established with the intelligent device, and the network information is acquired from the intelligent terminal through the wireless connection; or, a picture provided by the intelligent terminal and including the network information is scanned, and the network information is recognized; or, voice information played by the intelligent terminal and including the network information is analyzed to obtain the network information. As such, network configuration for intelligent devices supporting different network configuration modes is implemented.

[0013] When the network configuration manner supported by the intelligent device is the scanning manner, the sound analysis manner, and the preset protocol, the network information may further include an address of the intelligent terminal; and the operation that the detection result is sent to the intelligent terminal through the network configuration manner supported by the intelligent device may include that: the detection result sent by the intelligent terminal matched with the address. As such, the result indicating whether network configuration for the intelligent device succeeds may be obtained, and furthermore, the success rate of network configuration may be increased.

[0014] A third technical solution provided in the embodiments of the application is as follows. An intelligent terminal is provided, which may include: an acquisition module, configured to acquire a network configuration manner supported by an intelligent device; and a network information sending module, configured to send network information of a network to be connected by the intelligent device to the intelligent device through the

network configuration manner supported by the intelligent device to enable the intelligent device to access the network to be connected through the network information. As such, network configuration for intelligent devices supporting different network configuration modes is implemented.

[0015] The network information sending module may further be configured to:

[0016] receive a detection result sent by the intelligent device through the network configuration manner supported by the intelligent device, the detection result being a feedback result indicating whether the intelligent device successfully accesses the network to be connected.

[0017] The network configuration manner may include at least one of a wireless connection manner, a scanning manner, a sound analysis manner, or a preset protocol; and the network information may at least include an account and password required for accessing the network to be connected.

[0018] The network information sending module may further be configured to:

[0019] send the network information of the network to be connected by the intelligent device to the intelligent device through a preset channel of the preset protocol to enable the intelligent device to access the network to be connected through the network information;

[0020] or, establish a wireless connection with the intelligent device and send the network information of the network to be connected by the intelligent device to the intelligent device through the wireless connection to enable the intelligent device to access the network to be connected through the network information;

[0021] or, generate a picture containing the network information and send or display the picture to the intelligent device to enable the intelligent device to obtain the network information by recognizing the picture and further access the network to be connected through the network information;

[0022] or, send the network information of the network to be connected by the

intelligent device to the intelligent device through voice information to enable the intelligent device to access the network to be connected through the network information.

[0023] When the network configuration manner is any one of the scanning manner, the sound analysis manner, or the preset protocol, the network information may further include an address of the intelligent terminal.

[0024] The network information sending module may further be configured to:

[0025] receive the detection result sent by the intelligent device through the address.

[0026] A fourth technical solution provided in the embodiments of the application is as follows. An intelligent device is provided, which may include: an acquisition module, configured to acquire network information of a network to be connected from an intelligent terminal through a network configuration manner supported by the intelligent device; and a connection module, configured to access the network to be connected through the network information. As such, network configuration for intelligent devices supporting different network configuration modes is implemented.

[0027] The connection module may further be configured to:

[0028] detect whether the network to be connected is successfully accessed at present;
and

[0029] send a detection result to the intelligent terminal through the network configuration manner.

[0030] The network configuration manner may include at least one of a wireless connection manner, a scanning manner, a sound analysis manner, or a preset protocol.

[0031] The acquisition module may further be configured to:

[0032] receive the network information from the intelligent terminal through a preset channel of the preset protocol;

[0033] or, establish a wireless connection with the intelligent device and acquire the network information from the intelligent terminal through the wireless connection;

- [0034] or, scan a picture provided by the intelligent terminal and including the network information and recognize the network information;
- [0035] or, analyze voice information played by the intelligent terminal and including the network information to obtain the network information.
- [0036] When the network configuration manner is any one of the scanning manner, the sound analysis manner, or the preset protocol, the network information may further include an address of the intelligent terminal.
- [0037] The connection module may further be configured to:
- [0038] send the detection result to the intelligent terminal matched with the address.
- [0039] A fifth technical solution provided in the embodiments of the application is as follows. An intelligent terminal is provided, which may include a memory and a processor. The memory may store a program file. The processor may call the program file from the memory to execute any abovementioned network configuration method for the intelligent device.
- [0040] A sixth technical solution provided in the embodiments of the application is as follows. An intelligent device is provided, which may include a memory and a processor. The memory may store a program file. The processor may call the program file from the memory to execute any abovementioned network configuration method for the intelligent device.
- [0041] A seventh technical solution provided in the embodiments of the application is as follows. A computer-readable storage medium is provided, which may store a program file. The program file may be executed to implement any abovementioned network configuration method for the intelligent device.
- [0042] The embodiments of the application have the following beneficial effects. Unlike the conventional art, the embodiments of the application disclose the network configuration method for the intelligent device and the related apparatus. The method includes that: the intelligent terminal acquires the network configuration manner

supported by the intelligent device; and the network information of the network to be connected by the intelligent device is sent to the intelligent device through the network configuration manner supported by the intelligent device to enable the intelligent device to access the network to be connected through the network information. According to the embodiments of the application, the intelligent terminal performs network configuration on the intelligent device according to the network configuration manner supported by the intelligent device, and further implements network configuration for the intelligent device supporting different network configuration modes.

BRIEF DESCRIPTION OF THE DRAWINGS

[0043] The accompanying drawings, which are incorporated in and constitute a part of this specification, illustrate embodiments consistent with the application and, together with the specification, serve to describe the technical solutions of the embodiments of the application.

[0044] FIG. 1A is a schematic diagram of an application scenario of a network configuration method for an intelligent device according to an embodiment of the application.

[0045] FIG. 1B is a schematic flowchart of a first embodiment of a network configuration method for an intelligent device according to an embodiment of the application.

[0046] FIG. 2 is a schematic flowchart of a second embodiment of a network configuration method for an intelligent device according to an embodiment of the application.

[0047] FIG. 3 is a schematic flowchart of a third embodiment of a network configuration method for an intelligent device according to an embodiment of the application.

[0048] FIG. 4 is a schematic flowchart of a fourth embodiment of a network

configuration method for an intelligent device according to an embodiment of the application.

[0049] FIG. 5 is a schematic diagram of signal transmission of a network configuration method for an intelligent device according to an embodiment of the application.

[0050] FIG. 6 is a structure diagram of a first embodiment of an intelligent terminal according to an embodiment of the application.

[0051] FIG. 7 is a structure diagram of a first embodiment of an intelligent device according to an embodiment of the application.

[0052] FIG. 8 is a structure diagram of a second embodiment of an intelligent terminal and an intelligent device according to an embodiment of the application.

[0053] FIG. 9 is a structure diagram of a computer-readable storage medium according to an embodiment of the application.

DETAILED DESCRIPTION

[0054] The technical solutions in the embodiments of the application will be clearly and completely described below in combination with the drawings in the embodiments of the application. It is apparent that the described embodiments are not all but merely part of embodiments of the application. All other embodiments obtained by those of ordinary skill in the art based on the embodiments in the application without creative work shall fall within the scope of protection of the application.

[0055] In the related art, for teaching, using a wireless-network-based communication manner may reduce difficulties in use of intelligent hardware and simultaneously improve user experiences. For different intelligent hardware products, unified software is needed to implement network access to reduce difficulties in use.

[0056] Since different intelligent hardware has different capabilities, different network

configuration methods are used for different intelligent hardware. Network configuration manners in the related art include accessing an access network through a screen, a mouse, a keyboard, etc., which requires a user to perform complicated operations, using an intelligent network configuration mode such as a network configuration protocol, transmitting network configuration information through a Bluetooth connection, transmitting the network configuration information through a two-dimensional code scanning manner, and transmitting the network configuration information through a sound and other media. Different network configuration manners are suitable for different intelligent hardware mainly because different intelligent hardware has different hardware mechanisms and data receiving capabilities.

[0057] For an online programming platform that multiple types of intelligent hardware are required to access, a unified access flow and access network may greatly improve the consistency in using different products by a user and reduce difficulties in understanding and operations for network configuration. In addition, feedback information indicating whether network configuration succeeds is not provided in part of network configuration manners in the related art, so for an ordinary user, particularly a student user, difficulties in understanding are increased, and a network configuration flow is not intuitive.

[0058] Based on this, the embodiments of the application provide a network configuration method for an intelligent device. As shown in FIG. 1A, FIG. 1A is a schematic diagram of an application scenario of a network configuration method for an intelligent device according to an embodiment of the application. The following descriptions are made in combination with FIG. 1A.

[0059] When a user (for example, a student) needs to perform network configuration on his/her own device 100, a "robot assistant" Application (APP) 102 (supporting various mobile platforms) is installed. First, his/her own device is selected. Then, the APP 102 may make a prompt about a certain operation that the user needs to perform on the device such that the device 101 enters a state of waiting for network configuration. Next, the APP 102 may automatically acquire Wireless Fidelity (wifi) information of a network 103 presently to be connected and require the user to input a password. Later on, network configuration information is sent according to a network configuration protocol

supported by the selected device, and a prompt about an operation (for example, scanning a two-dimensional code) needed by the user is made as required. If the device receives the network configuration information and is successfully connected with the network 103, a User Datagram Protocol (UDP) data packet (but not limited to the UDP manner) may be sent to notify the APP 102. The APP 102, after receiving legal feedback information, may determine that network configuration is completed and prompt the user that network configuration succeeds. As such, through a standard operation process and protocol, the network configuration flow is clearer, the same operation process is performed for different intelligent hardware, and convenience is brought to transfer learning.

[0060] The embodiments of the application will be described below in combination with the drawings and embodiments in detail.

[0061] Referring to FIG. 1B, FIG. 1B is a schematic flowchart of a first embodiment of a network configuration method for an intelligent device according to an embodiment of the application. The following operations are included.

[0062] In S11, a network configuration manner supported by the intelligent device is acquired.

[0063] With the development of maker, programming, and artificial intelligence, various robots and intelligent hardware have gradually become an important part of K12 education. In practical applications, network configuration is usually required to be performed on intelligent hardware to endow the intelligent hardware with a network transmission manner. For example, in online education, network connections are simultaneously required to be established for multiple users, and in a using process, network configuration is required to be performed on intelligent devices held by the multiple users to enable the intelligent devices to receive or send information. Specifically, an intelligent terminal is required to acquire the network configuration manner supported by the intelligent device at first when performing network configuration on the intelligent device. The network configuration manner is an access manner for network access of the device. For example, the intelligent device may implement network access by Bluetooth, a voice, scanning, a preset protocol, and other

manners. In an embodiment, the intelligent terminal, when acquiring the network configuration manner supported by the intelligent device, may turn on Bluetooth to detect and search whether the intelligent device supports Bluetooth connection. Alternatively, in another embodiment, the user may manually select a network configuration method from the intelligent terminal according to the network configuration manner supported by the intelligent device. The intelligent terminal includes a device such as a mobile phone and a computer. The intelligent device includes a device such as a transmitter, a home device, electronic sound equipment, a camera, a microphone, and an intelligent robot.

[0064] In another embodiment, a computer program may also be executed through a hardware device such as a processor to implement the network configuration method of the application. Here, descriptions are made in the embodiment of the application only taking the intelligent terminal as an example.

[0065] In a specific embodiment, the network configuration manner supported by the intelligent device includes at least one of a wireless connection manner, a scanning manner, a sound analysis manner, or a preset protocol. If the network configuration manner supported by the intelligent device includes the wireless connection manner, when network configuration is performed on the intelligent device, the wireless connection manner is used. If the intelligent device has the scanning manner, when network configuration is performed on the intelligent device, the intelligent terminal integrates network information and related data in a picture and provides the picture for the intelligent device to perform network configuration on the intelligent device. If the intelligent device has the sound analysis manner, when network configuration is performed on the intelligent device, the intelligent terminal integrates the network information and the related data in voice information and provides the voice information for the intelligent device to perform network configuration on the intelligent device. If the intelligent device supports the preset protocol, when network configuration is performed on the intelligent device, the intelligent terminal integrates the network information and the related data in a data packet through a preset channel of the preset protocol and sends the data packet to the intelligent device to perform network configuration on the intelligent device.

[0066] In another embodiment, if the intelligent device may be connected with the intelligent terminal through a medium such as a data line, when network configuration is performed on the intelligent device, the intelligent terminal sends the network information and the related data to the intelligent device through the data line.

[0067] In S12, network information of a network to be connected by the intelligent device is sent to the intelligent device through the network configuration manner to enable the intelligent device to access the network to be connected through the network information.

[0068] Specifically, the intelligent terminal may perform network configuration on the intelligent device according to the network configuration manner supported by the intelligent device. For example, in an embodiment, if it is detected that the intelligent device supports wireless connection, the intelligent terminal establishes a wireless connection with the intelligent device and sends the network information of the network to be connected by the intelligent device to the intelligent device through the wireless connection to enable the intelligent device to access the network to be connected through the network information. Specifically, descriptions are made taking Bluetooth as an example. The intelligent terminal searches a Bluetooth identifier name representative of the intelligent device and sends a Bluetooth connection request to the intelligent device, and the intelligent device accepts the Bluetooth connection request and completes connection.

[0069] After the intelligent terminal establishes the Bluetooth connection with the intelligent device, the intelligent terminal sends a signal to the intelligent device to control the intelligent device to enter a mode of waiting for network configuration. The intelligent terminal sends the network information of the network to be connected to the intelligent device through the Bluetooth connection to enable the intelligent device to connect the network information. In the embodiment of the application, the network information at least includes an account and password for the network to be connected.

[0070] According to the network configuration method for the intelligent device in the embodiment of the application, the intelligent terminal is wirelessly connected with the intelligent device and sends the related data of the network information to the intelligent

device through a wireless connection channel to enable the intelligent device to connect the network information to further complete network configuration.

[0071] In another embodiment, if the intelligent device supports the scanning manner, the intelligent terminal may establish a device connection with the intelligent device and send the network information of the network to be connected to the intelligent device through a device connection channel to further enable the intelligent device to access the network to be connected. Specifically, the intelligent terminal sends the network information of the network to be connected by the intelligent device to the intelligent device through the picture to enable the intelligent device to access the network to be connected through the network information. Specifically, the picture may be a two-dimensional code, a barcode, an image, etc. In the embodiment of the application, besides the account and password for the network to be connected, the network information also includes an address (for example, an Internet Protocol (IP) address or a physical address) of the intelligent terminal. After network configuration for the intelligent device, a connection result may be fed back to the intelligent terminal through the address.

[0072] In a specific embodiment, if the picture generated by the intelligent terminal is two-dimensional code information, the following protocol information may be included: {"robot_types": ["xx", "yy"], "token": <uuid>, "ip": <phone ip>, "ssid": <router ssid>, "pwd": <router password>}. Here, robot_types is a list of supported intelligent devices, token is an identifier of a detection result, IP is the IP address/identifier of the intelligent terminal, and is configured to receive the detection result, and ssid and pwd are the name (account) and password in the network information of the network to be connected. Specifically, the intelligent device may send the detection result to the intelligent terminal after accessing the network according to the network information contained in the protocol information, and after analyzing the detection result, the intelligent terminal may acquire a network configuration result indicating whether the network configuration for the intelligent device succeeds through the identifier. For example, the intelligent device may send a UDP detection result to the intelligent terminal after accessing the network. In an embodiment, the detection result is specifically { "token":<uuid>, "bssid": <mac addr> }. Here, bssid is the physical address of the intelligent terminal, and token is

the identifier of the detection result. After token is analyzed, a result indicating whether network configuration succeeds may be obtained. If token is consistent with an identifier token of the detection result in the acquired network information, it indicates that network configuration succeeds, and the intelligent terminal obtains a network configuration result indicating that network configuration succeeds. In a specific implementation mode, for example, if the intelligent device supports the Bluetooth manner, the sound analysis manner, etc., similar network information and detection result may be generated in the abovementioned manner such that the intelligent terminal detects a network configuration condition.

[0073] When network configuration is performed on the intelligent device, the intelligent device may scan the picture generated by the intelligent terminal to recognize a picture content and further obtain the network information of the network to be connected. Therefore, the intelligent device has the scanning manner. Hardware for scanning is usually a camera. That is, the network configuration method provided in the embodiment of the application may be applied to an intelligent device with a camera.

[0074] In another embodiment, after the intelligent terminal establishes the wireless connection, for example, the Bluetooth connection, with the intelligent device, the intelligent terminal sends the signal to the intelligent device to control the intelligent device to enter the mode of waiting for network configuration. The intelligent terminal integrates the network information of the network to be connected in picture information through the Bluetooth connection and sends the picture information to the intelligent device to enable the intelligent device to analyze the picture information to further obtain the network information and connect the network information.

[0075] In another embodiment, if the intelligent device supports the sound analysis manner, the intelligent terminal may establish the device connection with the intelligent device and send the network information of the network to be connected to the intelligent device through the device connection channel to further enable the intelligent device to access the network to be connected. Specifically, the intelligent terminal sends the network information of the network to be connected by the intelligent device to the intelligent device through the voice information to enable the intelligent device to access

the network to be connected through the network information. Specifically, the sound may be a voice data packet that is pre-recorded and stored in the intelligent terminal, or may be a voice segment that is recorded in real time. In the embodiment of the application, besides the account and password for the network to be connected, the network information also includes the address of the intelligent terminal. After network configuration for the intelligent device, the connection result may be fed back to the intelligent terminal through the address.

[0076] In another embodiment, if the intelligent device has a voice output function, after network configuration for the intelligent device succeeds, the detection result indicating whether connection succeeds is output through a voice. The intelligent terminal monitors the voice information of the intelligent device, and after monitoring the detection result fed back through the voice information, obtains the connection result of the intelligent device.

[0077] According to the network configuration method for the intelligent device in the embodiment of the application, the intelligent device is required to recognize the voice information generated by the intelligent terminal.

[0078] In another embodiment, if the intelligent device supports the preset protocol, the intelligent terminal may send the network information of the network to be connected to the intelligent device through the preset channel of the preset protocol. Specifically, the preset protocol may be, for example, a Smart config protocol. The intelligent terminal may send the network information to the intelligent device as a data packet according to the preset channel in the preset protocol under the condition of no practical link connection to enable the intelligent device to analyze a data packet length therein and code/decode the information using the length to connect the network to be connected.

[0079] The network configuration method for the intelligent device in the embodiment of the application may support network configuration for different intelligent devices. For example, network configuration may be performed on a device that has the wireless connection manner, or network configuration may be performed on an intelligent device that has the scanning manner, or network configuration may be performed on an intelligent device that has the sound analysis manner, or network configuration may be

performed on an intelligent device supporting the preset protocol. Specifically, according to the network configuration method for the intelligent device in the embodiment of the application, after network configuration is performed on different intelligent devices, detection results of the intelligent devices may be received, results indicating whether network configuration for the intelligent devices succeeds may be obtained through the detection results, furthermore, the success rate of network configuration is increased.

[0080] Referring to FIG. 2, a schematic flowchart of a second embodiment of a network configuration method for an intelligent device according to an embodiment of the application is shown. S21 to S22 of the network configuration method as described in the embodiment of the application are the same as S11 to S12 in the first embodiment shown in FIG. 1B, and will not be elaborated here. A difference from the first embodiment shown in FIG. 1B is that the following operation is further included in the embodiment of the application.

[0081] In S23, a detection result sent by the intelligent device through the network configuration manner supported by the intelligent device is received, the detection result being a feedback result indicating whether the intelligent device successfully accesses the network to be connected.

[0082] In the embodiment of the application, when the intelligent device supports wireless connection, after network configuration is performed on the intelligent device, the detection result is sent to the intelligent terminal through the wireless connection, and the intelligent terminal receives the detection result. The detection result is the feedback result indicating whether the intelligent device successfully accesses the network to be connected.

[0083] When the intelligent device supports the scanning manner, the intelligent device also acquires the address of the intelligent terminal when scanning the picture provided by the intelligent terminal to acquire the account and password for the network to be connected. After network configuration is performed on the intelligent device, the address of the intelligent terminal is searched, and the detection result is sent to the intelligent terminal using the address. The intelligent terminal matched with the address receives the detection result. The detection result is the feedback result indicating

whether the intelligent device successfully accesses the network to be connected.

[0084] When the intelligent device supports the sound analysis manner, the intelligent device also acquires the address of the intelligent terminal when analyzing the voice information provided by the intelligent terminal to acquire the account and password for the network to be connected. After network configuration is performed on the intelligent device, the address of the intelligent terminal is searched, and the detection result is sent to the intelligent terminal using the address. The intelligent terminal matched with the address receives the detection result. The detection result is the feedback result indicating whether the intelligent device successfully accesses the network to be connected.

[0085] When the intelligent device supports the preset protocol, the intelligent device also acquires the address of the intelligent terminal when analyzing the data packet sent through the preset protocol to acquire the account and password for the network to be connected. After network configuration is performed on the intelligent device, the address of the intelligent terminal is searched, and the detection result is sent to the intelligent terminal using the address. The intelligent terminal matched with the address receives the detection result. The detection result is the feedback result indicating whether the intelligent device successfully accesses the network to be connected.

[0086] The network configuration method for the intelligent device in the embodiment of the application may support network configuration for different intelligent devices. For example, network configuration may be performed on a device that has the wireless connection manner, or network configuration may be performed on an intelligent device that has the scanning manner, or network configuration may be performed on an intelligent device that has the sound analysis manner. In addition, according to the network configuration method for the intelligent device in the embodiment of the application, a network configuration process is clear, and the network configuration manner is simple and easy. Moreover, the intelligent terminal is directly or indirectly connected with the intelligent device, and after performing network configuration on the intelligent device, may receive a feedback signal from the intelligent device to further confirm whether network configuration succeeds, so that the success rate of network configuration may be increased, and user experiences may be improved.

[0087] In an embodiment of the application, network configuration may be performed on the intelligent device through certain software in the intelligent terminal. For example, the intelligent terminal starts the network configuration software and generates the network information of the network presently to be connected in the network configuration software. When the intelligent device supports the Bluetooth manner, the network information is sent to the intelligent device through the Bluetooth connection. When the intelligent device supports the scanning manner, the software generates the picture for the network information of the network presently to be connected for provision for the intelligent device. When the intelligent device supports the sound analysis manner, the software generates the voice information for the network information of the network presently to be connected and plays the voice information for provision for the intelligent device.

[0088] After network configuration for the intelligent device, the detection result is sent to the intelligent terminal. The software receives and analyzes the detection result and judges whether network configuration succeeds according to an analysis result. As such, the intelligent terminal may know the network configuration result, the success rate of network configuration is increased, and the user experiences are improved.

[0089] Referring to FIG. 3, a schematic flowchart of a third embodiment of a network configuration method for an intelligent device according to an embodiment of the application is shown. The network configuration method includes the following operations.

[0090] In S31, network information of a network to be connected is acquired from an intelligent terminal through a network configuration manner supported by the intelligent device.

[0091] The intelligent device acquires the network information of the network to be connected from the intelligent terminal through the network configuration manner supported by the intelligent device. Specifically, the network configuration manner supported by the intelligent device includes at least one of wireless connection, a scanning manner, a sound analysis manner, or a preset protocol.

[0092] In a possible implementation mode, the intelligent device supports wireless connection. For example, the intelligent device has a Bluetooth connection manner. In such case, the intelligent device establishes a wireless connection with the intelligent terminal and acquires the network information from the intelligent terminal through the wireless connection. The network information at least includes an account and password for the network to be connected.

[0093] In a possible implementation mode, the intelligent device has the scanning manner, and the supported network configuration manner is the scanning manner. In such case, the intelligent device may call an image acquisition apparatus such as a camera to scan a picture provided by the intelligent terminal to acquire the network information of the network to be connected. Specifically, in the embodiment of the application, besides the account and password for the network to be connected, the network information also includes an address of the intelligent terminal.

[0094] In a possible implementation mode, the intelligent device has the sound analysis manner, and the supported network configuration manner is the sound analysis manner. In such case, the intelligent device may acquire voice information provided by the intelligent terminal by monitoring or other means to acquire the network information of the network to be connected. Specifically, in the embodiment of the application, besides the account and password for the network to be connected, the network information also includes the address of the intelligent terminal.

[0095] In another feasible embodiment, the intelligent device may also use the preset protocol and acquire a data packet including the network information from the intelligent terminal through a preset channel of the preset protocol. For example, the intelligent device may acquire a data packet including related data of the network information from the intelligent terminal using a Smart config protocol under the condition of no practical link connection, analyze a data packet length therein and code/decode the information using the length to transmit the information. This manner has a relatively low requirement on the intelligent device, and any device that supports a wireless manner may support the network configuration manner.

[0096] In S32, the network to be connected is accessed through the network

information.

[0097] After acquiring the network information through any one of the wireless connection, the scanning manner, the sound analysis manner, or the preset protocol, the intelligent device accesses the network to be connected through the account and password for the network to be connected in the network information.

[0098] The network configuration method for the intelligent device in the embodiment of the application may support network configuration for different intelligent devices. For example, network configuration may be performed on a device that has the wireless connection manner, or network configuration may be performed on an intelligent device that has the scanning manner, or network configuration may be performed on an intelligent device that has the sound analysis manner.

[0099] Referring to FIG. 4, a schematic flowchart of a fourth embodiment of a network configuration method for an intelligent device according to an embodiment of the application is shown. S41 to S42 in the embodiment of the application are the same as S31 to S32 in the embodiment shown in FIG. 3. A difference from the embodiment shown in FIG. 3 is that the following operations are further included in the embodiment of the application.

[00100] In S43, whether the network to be connected is successfully accessed at present is detected.

[00101] The intelligent device is connected to the network to be connected after acquiring the network information of the network to be connected through the network configuration manner supported by the intelligent device. After a connection operation is ended, whether connection succeeds is detected.

[00102] In S44, a detection result is sent to the intelligent terminal through the network configuration manner supported by the intelligent device.

[00103] If the intelligent device supports wireless connection and has established the wireless connection with the intelligent terminal, the intelligent device sends the detection result to the intelligent terminal through the wireless connection to enable the

intelligent terminal to confirm whether network configuration succeeds.

[00104] If the intelligent device supports the scanning manner, the detection result is sent to the intelligent terminal matched with the address through the address of the intelligent terminal in the network information acquired by scanning the picture.

[00105] If the intelligent device supports the sound analysis manner, the detection result is sent to the intelligent terminal matched with the address through the address of the intelligent terminal in the network information acquired by analyzing a voice.

[00106] If the intelligent device supports the preset protocol, the network information and the address of the intelligent terminal are acquired through the preset channel of the preset protocol, and the detection result is sent to the intelligent terminal matched with the address.

[00107] The network configuration method for the intelligent device in the embodiment of the application may support network configuration for different intelligent devices. For example, network configuration may be performed on a device that has the wireless connection manner, or network configuration may be performed on an intelligent device that has the scanning manner, or network configuration may be performed on an intelligent device that has the sound analysis manner. In addition, according to the network configuration method for the intelligent device in the embodiment of the application, a network configuration process is clear, and the network configuration manner is simple and easy. Moreover, the intelligent terminal is directly or indirectly connected with the intelligent device, and after network configuration for the intelligent device, the intelligent device may send the detection result to the intelligent terminal to enable the intelligent terminal to confirm whether network configuration for the intelligent device succeeds, so that the success rate of network configuration may be increased, and user experiences may be improved.

[00108] Referring to FIG. 5, a schematic diagram of signal transmission of a network configuration method for an intelligent device according to an embodiment of the application is shown. Specifically, the intelligent terminal 100 establishes a data transceiver channel with the intelligent device 200 and sends network information to the

intelligent device. For example, the intelligent terminal 100 establishes a wireless connection, for example, a Bluetooth connection, with the intelligent device 200. The intelligent terminal 100 sends the network information of a network to be connected to the intelligent device 200 through the Bluetooth connection. The network information includes an account and password for the network to be connected. For another example, the intelligent terminal 100 generates picture information, and the intelligent device 200 scans the picture information to acquire the network information of the network to be connected. Besides the account and password for the network to be connected, the network information also includes physical information of the intelligent terminal. For another example, the intelligent terminal 100 generates voice information, and the intelligent device 200 analyzes the voice information to acquire the network information of the network to be connected. For another example, the intelligent device 200 supports a preset protocol and acquires the network information of the network to be connected through a preset channel of the preset protocol. Besides the account and password for the network to be connected, the network information also includes the physical information of the intelligent terminal.

[00109] The intelligent device 200 sends a detection result to the intelligent terminal 100. Specifically, after acquiring the network information, the intelligent device 200 accesses the network to be connected according to the account and password for the network to be connected in the network information, detects whether connection succeeds and sends the detection result to the intelligent terminal 200. For example, if the intelligent terminal 100 establishes the wireless connection with the intelligent device 200, the intelligent device 200 sends the detection result to the intelligent terminal 100 through the wireless connection. If the intelligent device 200 supports the scanning manner, the detection result is sent to the intelligent terminal 100 matched with the address through the address of the intelligent terminal 100 in the network information acquired by scanning a picture. If the intelligent device 200 supports the sound analysis manner, the detection result is sent to the intelligent terminal 100 matched with the address through the address of the intelligent terminal 100 in the network information acquired by analyzing a voice.

[00110] The network configuration method for the intelligent device in the embodiment

of the application may support network configuration for different intelligent devices. For example, network configuration may be performed on a device that has the wireless connection manner, or network configuration may be performed on a device that has a picture recognition manner, or network configuration may be performed on a device that has the sound analysis manner. In addition, according to the network configuration method for the intelligent device in the embodiment of the application, a network configuration process is clear, and the network configuration manner is simple and easy. Moreover, the intelligent terminal is directly or indirectly connected with the intelligent device, and after network configuration for the intelligent device, the intelligent device sends the detection result indicating whether connection succeeds to the intelligent terminal to further enable the intelligent terminal to confirm whether network configuration succeeds, so that the success rate of network configuration may be increased, and user experiences may be improved.

[00111] For example, in an embodiment, if multiple intelligent devices may also support network configuration to be continued by network sharing and a sensor, besides the abovementioned Bluetooth, voice, scanning, and preset protocol, for example, if the intelligent device has a spiral sensor, the intelligent terminal and the intelligent device may be shaken in a preset distance at the same time, and signals are generated in a shaking process to establish a signal connection therebetween to complete interaction of the network information and the detection result.

[00112] According to the network configuration method of the embodiment of the disclosure, for an online programming platform that multiple intelligent devices are required to access, unified network configuration may be supported, the consistency in using different products by a user is improved greatly, and difficulties in understanding and operations for network configuration are reduced.

[00113] The network configuration method as described in the abovementioned embodiments may be applied to an artificial intelligence programming and teaching experimental platform. Multiple intelligent robot hardware products may be connected to the platform. Therefore, network configuration is required to be performed on different types of robots. An intelligent terminal of a user may download an APP capable of

implementing the network configuration method and select a robot product used by the user through the manner in the abovementioned embodiments to enter a network configuration process. In such a manner, a network may be configured for the robot for use on the experimental platform. For example, the intelligent terminal may prompt the user according to an intelligent hardware type to operate the intelligent device to enter a network configuration mode. At present, there are, not limited to, the following common operations: a, a certain button of the device is clicked twice (or pressed for long time) to enter the network configuration mode, and an indicator lamp of the device may flash; b, a certain button of the device is clicked twice (or pressed for long time) to enter the network configuration mode, a camera of the device may be ejected and turned on, and the indicator lamp may flash; c, a certain button of the device is clicked twice (or pressed for long time) to enter the network configuration mode, a Bluetooth function of the device may be turned on, and the indicator lamp may flash; and d, a certain button of the device is clicked twice (or pressed for long) to enter the network configuration mode, a microphone sound signal is monitored, and the indicator lamp may flash. Then, the user may click the next step in the software of the intelligent terminal to automatically acquire a wifi name of a mobile end, and the user inputs a wifi password. Afterwards, the user continues to click the next step in the software. The abovementioned network configuration method may be executed according to different types of selected intelligent devices, and network configuration information is transmitted according to different network configuration protocols to configure networks for the intelligent devices. When switching/upgrading to different products, even though functions of the robots are different, the network configuration process is kept consistent. A student may be helped to enter an experimental process as soon as possible, and excessive energy waste for a network configuration link is avoided.

[00114] Referring to FIG. 6, a structure diagram of a first embodiment of an intelligent terminal according to the application is shown, which includes an acquisition module 61 and a network information sending module 62. The acquisition module 61 is configured to acquire a network configuration manner supported by an intelligent device. The network configuration manner supported by the intelligent device includes at least one of a wireless connection manner, a scanning manner, a sound analysis manner, or a preset

protocol.

[00115] The network information sending module 62 is configured to send network information of a network to be connected by the intelligent device to the intelligent device through the network configuration manner to enable the intelligent device to access the network to be connected through the network information. Specifically, if the intelligent device supports the wireless connection manner, the intelligent terminal establishes a wireless connection with the intelligent device and sends the network information of the network to be connected by the intelligent device to the intelligent device through the wireless connection to enable the intelligent device to access the network to be connected through the network information. The network information includes an account and password for the network to be connected. If the intelligent device supports the scanning manner, the intelligent terminal sends the network information of the network to be connected by the intelligent device to the intelligent device through a picture to enable the intelligent device to access the network to be connected through the network information. The network information includes the account and password for the network to be connected and an address of the intelligent terminal. If the intelligent device supports the sound analysis manner, the intelligent terminal sends the network information of the network to be connected by the intelligent device to the intelligent device through voice information to enable the intelligent device to access the network to be connected through the network information. The network information includes the account and password for the network to be connected and the address of the intelligent terminal. If the intelligent device supports the preset protocol, the network information of the network to be connected by the intelligent device is sent to the intelligent device through a preset channel of the preset protocol to enable the intelligent device to access the network to be connected through the network information.

[00116] In a feasible embodiment, the network information sending module 62 is further configured to, when the network configuration manner supported by the intelligent device is the scanning manner, the sound analysis manner, and the preset protocol, receive a detection result sent by the intelligent device through the address.

[00117] The intelligent terminal as described in the embodiment of the application may

support network configuration for different intelligent devices. For example, network configuration may be performed on a device that has the wireless connection manner, or network configuration may be performed on a device that has a picture recognition manner, or network configuration may be performed on a device that has the sound analysis manner. In addition, according to the network configuration method for the intelligent device in the embodiment of the application, a network configuration process is clear, and the network configuration manner is simple and easy. Moreover, the intelligent terminal is directly or indirectly connected with the intelligent device, and after network configuration for the intelligent device, the intelligent terminal may receive the detection result indicating whether connection succeeds from the intelligent device to further enable the intelligent terminal to confirm whether network configuration succeeds, so that the success rate of network configuration may be increased, and user experiences may be improved.

[00118] Referring to FIG. 7, a structure diagram of a first embodiment of an intelligent device according to the application is shown, which includes an acquisition module 71 and a connection module 72. The acquisition module 71 is configured to acquire network information of a network to be connected from an intelligent terminal through a network configuration manner supported by the intelligent device. Specifically, if the intelligent device supports wireless connection, the intelligent device establishes a wireless connection with the intelligent terminal and acquires the network information from the intelligent terminal through the wireless connection. The network information includes an account and password for the network to be connected. When the intelligent device supports a scanning manner, a picture provided by the intelligent terminal and including the network information is scanned, and the network information is recognized. The network information includes the account and password for the network to be connected and an address of the intelligent terminal. When the intelligent device supports a sound analysis manner, voice information provided by the intelligent terminal and including the network information is analyzed, and the network information is recognized. The network information includes the account and password for the network to be connected and the address of the intelligent terminal. When the intelligent device supports a preset protocol, the network information received through a preset channel of the preset

protocol is analyzed to enable the intelligent device to access the network to be connected through the network information.

[00119] The connection module 72 is configured to access the network to be connected through the network information. Specifically, the connection module 72 accesses the network to be connected through the account and password for the network to be connected in the network information.

[00120] In a feasible embodiment, the connection module 72 is further configured to detect whether network configuration succeeds and send a detection result to the intelligent terminal.

[00121] The intelligent terminal as described in the embodiment of the application may support network configuration for different intelligent devices. For example, network configuration may be performed on a device that has the wireless connection manner, or network configuration may be performed on a device that has a picture recognition manner, or network configuration may be performed on a device that has the sound analysis manner. In addition, according to the network configuration method for the intelligent device in the embodiment of the application, a network configuration process is clear, and the network configuration manner is simple and easy. Moreover, the intelligent terminal is directly or indirectly connected with the intelligent device, and after network configuration for the intelligent device, the intelligent terminal may receive the detection result indicating whether connection succeeds from the intelligent device to further enable the intelligent terminal to confirm whether network configuration succeeds, so that the success rate of network configuration may be increased, and user experiences may be improved.

[00122] Referring to FIG. 8, a structure diagram of a second embodiment of an intelligent terminal and an intelligent device according to the application is shown. The intelligent terminal and the intelligent device include a memory 81 and processor 82 that are connected with each other.

[00123] The memory 81 is configured to store a program instruction for implementing any abovementioned network configuration method for the intelligent device.

- [00124] The processor 82 is configured to execute the program instruction stored in the memory 81.
- [00125] The processor 82 may also be called a Central Processing Unit (CPU). The processor 82 may be an integrated circuit chip with a signal processing capability. The processor 82 may also be a universal processor, a Digital Signal Processor (DSP), an Application Specific Integrated Circuit (ASIC), a Field Programmable Gate Array (FPGA) or another programmable logical device, a discrete gate or transistor logical device, and a discrete hardware component. The processor 82 may also be a Graphics Processing Unit (GPU), which is also called a display core, a visual processing unit, and a display chip, and is a microprocessor dedicated to image operation on a personal computer, a workstation, a game console, and some mobile devices (such as a tablet computer and a smart phone). The GPU is used to drive conversion of display information required by a computer system and provide a line scanning signal for a display to control correct displaying of the display, and is an important element that connects the display with a mainboard of the personal computer as well as one of important devices for "man-machine interaction". A display card, as an important part in a computer host, is responsible for outputting and displaying graphics. The display card is very important to a person engaged in professional graphic design. The universal processor may be a microprocessor, or the processor may also be any conventional processor, etc.
- [00126] The memory 81 may be a memory bar, a T-Flash (TF) card, etc., and may store all information in the intelligent terminal and the intelligent device. Input original data, a computer program, an intermediate running result, and a final running result are all stored in the memory. The information is stored and read according to a position specified by a controller. The memory endows the intelligent terminal and the intelligent device with a memory manner to ensure normal work. The memory in the intelligent terminal and the intelligent device may be divided into a primary memory (internal storage) and an auxiliary memory (external storage) according to a use of the memory, or may be divided into an external memory and an internal memory. The external storage is usually a magnetic medium, an optical disk, etc., and may store the information for long time. The internal storage refers to a storage component on the mainboard, and is used to store data

and programs under execution. However, the internal storage is only used to temporarily store the programs and the data, and when power is turned off or a power failure occurs, the data may be lost.

[00127] In some embodiments provided by the application, it is to be understood that the disclosed method and device may be implemented in another manner. For example, the device implementation mode described above is only schematic, and for example, division of the modules or units is only logic manner division, and other division manners may be adopted during practical implementation. For example, multiple units or components may be combined or integrated into another system, or some characteristics may be neglected or not executed. In addition, coupling or direct coupling or communication connection between each displayed or discussed component may be indirect coupling or communication connection, implemented through some interfaces, of the device or the units, and may be electrical and mechanical or adopt other forms.

[00128] The units described as separate parts may or may not be physically separated, and parts displayed as units may or may not be physical units, and namely may be located in the same place, or may also be distributed to multiple network units. Part or all of the units may be selected to achieve the purposes of the solutions of the implementation modes according to a practical requirement.

[00129] In addition, each manner unit in each embodiment of the application may be integrated into a processing unit, each unit may also physically exist independently, and two or more than two units may also be integrated into a unit. The integrated unit may be implemented in a hardware form and may also be implemented in form of a software manner unit.

[00130] When implemented in form of software manner unit and sold or used as an independent product, the integrated unit may be stored in a computer-readable storage medium. Based on such an understanding, the technical solutions of the application substantially or parts making contributions to the conventional art or all or part of the technical solutions may be embodied in form of software product, and the computer software product is stored in a computer-readable storage medium, including a plurality of instructions configured to enable a computer device (which may be a personal

computer, a system server, a network device, etc.) or a processor to execute all or part of the steps of the method in each implementation mode of the application.

[00131] Referring to FIG. 9, a structure diagram of a computer-readable storage medium according to the application is shown. The computer-readable storage medium of the application stores a program file 91 capable of implementing the abovementioned network configuration method for the intelligent device. The program file 91 may be stored in the computer-readable storage medium in form of a software product, including a plurality of instructions configured to enable a computer device (which may be a personal computer, a server, a network device, etc.) or a processor to execute all or part of the steps of the method in each implementation mode of the application. The storage device includes various media capable of storing program codes such as a U disk, a mobile hard disk, a Read-Only Memory (ROM), a Random Access Memory (RAM), a magnetic disk, or an optical disk, or is an intelligent terminal device such as a computer, a server, a mobile phone, and a tablet.

[00132] The above is only the implementation mode of the application and not thus intended to limit the patent scope of the application. Any equivalent structure or equivalent flow transformations made by use of the contents of the specification and drawings of the application or direct or indirect application to other related technical fields shall also fall within the patent protection scope of the application.

INDUSTRIAL APPLICABILITY

[00133] The embodiments of the application disclose a network configuration method for an intelligent device and a related apparatus. The method includes that: a network configuration manner supported by the intelligent device is acquired; and network information of a network to be connected by the intelligent device is sent to the intelligent device through the network configuration manner supported by the intelligent device to enable the intelligent device to access the network to be connected through the network information.

CLAIMS

1. A network configuration method for an intelligent device, comprising:

acquiring a network configuration manner supported by the intelligent device; and

sending network information of a network to be connected by the intelligent device to the intelligent device through the network configuration manner to enable the intelligent device to access the network to be connected through the network information.

2. The network configuration method for the intelligent device of claim 1, after sending the network information of the network to be connected by the intelligent device to the intelligent device through the network configuration manner to enable the intelligent device to access the network to be connected through the network information, further comprising:

receiving a detection result sent by the intelligent device through the network configuration manner supported by the intelligent device, the detection result being a feedback result indicating whether the intelligent device successfully accesses the network to be connected.

3. The network configuration method for the intelligent device of claim 1 or 2, wherein the network configuration manner comprises at least one of a wireless connection manner, a scanning manner, a sound analysis manner, or a preset protocol; and the network information at least comprises an account and password required for accessing the network to be connected.

4. The network configuration method for the intelligent device of claim 3, wherein sending the network information of the network to be connected by the intelligent device to the intelligent device through the network configuration manner to enable the intelligent device to

access the network to be connected through the network information comprises:

sending the network information of the network to be connected by the intelligent device to the intelligent device through a preset channel of the preset protocol to enable the intelligent device to access the network to be connected through the network information;

or, establishing a wireless connection with the intelligent device and sending the network information of the network to be connected by the intelligent device to the intelligent device through the wireless connection to enable the intelligent device to access the network to be connected through the network information;

or, generating a picture containing the network information and sending or displaying the picture to the intelligent device to enable the intelligent device to obtain the network information by recognizing the picture and further access the network to be connected through the network information;

or, sending the network information of the network to be connected by the intelligent device to the intelligent device through voice information to enable the intelligent device to access the network to be connected through the network information.

5. The network configuration method for the intelligent device of any one of claims 2 to 4, wherein, when the network configuration manner is any one of a scanning manner, a sound analysis manner, or a preset protocol, the network information further comprises an address of an intelligent terminal;

wherein receiving the detection result sent by the intelligent device through the network configuration manner supported by the intelligent device comprises:

receiving the detection result sent by the intelligent device through the address.

6. A network configuration method for an intelligent device, comprising:

acquiring network information of a network to be connected from an intelligent

terminal through a network configuration manner supported by the intelligent device; and
accessing the network to be connected through the network information.

7. The network configuration method for the intelligent device of claim 6, after accessing the network to be connected through the network information, further comprising:

detecting whether the network to be connected is successfully accessed at present; and
sending a detection result to the intelligent terminal through the network configuration manner.

8. The network configuration method for the intelligent device of claim 6 or 7, wherein the network configuration manner comprises at least one of a wireless connection manner, a scanning manner, a sound analysis manner, or a preset protocol;

wherein acquiring the network information of the network to be connected from the intelligent terminal through the supported network configuration manner comprises:

receiving the network information from the intelligent terminal through a preset channel of the preset protocol,

or, establishing a wireless connection with the intelligent device and acquiring the network information from the intelligent terminal through the wireless connection,

or, scanning a picture provided by the intelligent terminal and comprising the network information and recognizing the network information,

or, analyzing voice information played by the intelligent terminal and comprising the network information to obtain the network information.

9. The network configuration method for the intelligent device of claim 8, wherein, when the

network configuration manner is any one of the scanning manner, the sound analysis manner, or the preset protocol, the network information further comprises an address of the intelligent terminal;

wherein sending the detection result to the intelligent terminal through the network configuration manner comprises:

sending the detection result to the intelligent terminal matched with the address.

10. An intelligent terminal, comprising:

an acquisition module, configured to acquire a network configuration manner supported by an intelligent device; and

a network information sending module, configured to send network information of a network to be connected by the intelligent device to the intelligent device through the network configuration manner to enable the intelligent device to access the network to be connected through the network information.

11. The intelligent terminal of claim 10, wherein the network information sending module is further configured to:

receive a detection result sent by the intelligent device through the network configuration manner supported by the intelligent device, the detection result being a feedback result indicating whether the intelligent device successfully accesses the network to be connected.

12. The intelligent terminal of claim 10 or 11, wherein the network configuration manner comprises at least one of a wireless connection manner, a scanning manner, a sound analysis manner, or a preset protocol; and the network information at least comprises an account and password required for accessing the network to be connected.

13. The intelligent terminal of claim 12, wherein the network information sending module is further configured to:

send the network information of the network to be connected by the intelligent device to the intelligent device through a preset channel of the preset protocol to enable the intelligent device to access the network to be connected through the network information;

or, establish a wireless connection with the intelligent device and send the network information of the network to be connected by the intelligent device to the intelligent device through the wireless connection to enable the intelligent device to access the network to be connected through the network information;

or, generate a picture containing the network information and send or display the picture to the intelligent device to enable the intelligent device to obtain the network information by recognizing the picture and further access the network to be connected through the network information;

or, send the network information of the network to be connected by the intelligent device to the intelligent device through voice information to enable the intelligent device to access the network to be connected through the network information.

14. The intelligent terminal of any one of claims 11 to 13, wherein, when the network configuration manner is any one of the scanning manner, the sound analysis manner, or the preset protocol, the network information further comprises an address of the intelligent terminal;

the network information sending module is further configured to:

receive the detection result sent by the intelligent device through the address.

15. An intelligent device, comprising:

an acquisition module, configured to acquire network information of a network to be connected from an intelligent terminal through a network configuration manner supported by the intelligent device; and

a connection module, configured to access the network to be connected through the network information.

16. The intelligent device of claim 15, wherein the connection module is further configured to:

detect whether the network to be connected is successfully accessed at present; and

send a detection result to the intelligent terminal through the network configuration manner.

17. The intelligent device of claim 15 or 16, wherein the network configuration manner comprises at least one of a wireless connection manner, a scanning manner, a sound analysis manner, or a preset protocol; and

the acquisition module is further configured to:

receive the network information from the intelligent terminal through a preset channel of the preset protocol,

or, establish a wireless connection with the intelligent device and acquire the network information from the intelligent terminal through the wireless connection,

or, scan a picture provided by the intelligent terminal and comprising the network information and recognize the network information,

or, analyze voice information played by the intelligent terminal and comprising the network information to obtain the network information.

18. The intelligent device of claim 17, wherein, when the network configuration manner is any one of the scanning manner, the sound analysis manner, or the preset protocol, the network information further comprises an address of the intelligent terminal; and

the connection module is further configured to:

send the detection result to the intelligent terminal matched with the address.

19. An intelligent terminal, comprising a memory and a processor, wherein the memory stores a program file; and the processor calls the program file from the memory to execute the network configuration method for the intelligent device of any one of claims 1 to 5.

20. An intelligent device, comprising a memory and a processor, wherein the memory stores a program file; and the processor calls the program file from the memory to execute the network configuration method for the intelligent device of any one of claims 6 to 9.

21. A computer-readable storage medium, storing a program file, wherein the program file may be executed to implement the network configuration method for the intelligent device of any one of claims 1 to 5, or the program file may be executed to implement the network configuration method for the intelligent device of any one of claims 6 to 9.