(19) Europäisches Patentamt
European Patent Office
Office européen des brevets

(11) **EP 4 079 955 A1**

(12) **EUROPEAN PATENT APPLICATION**
published in accordance with Art. 153(4) EPC

(43) Date of publication:
26.10.2022 Bulletin 2022/43

(21) Application number: **20904117.7**

(22) Date of filing: **17.11.2020**

(51) International Patent Classification (IPC):
D06F 33/00 *(2020.01)* ***D06F 33/30*** *(2020.01)*

(52) Cooperative Patent Classification (CPC):
D06F 33/00; D06F 33/30; D06F 58/32

(86) International application number:
PCT/CN2020/129334

(87) International publication number:
WO 2021/120955 (24.06.2021 Gazette 2021/25)

(84) Designated Contracting States:
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR
Designated Extension States:
BA ME
Designated Validation States:
KH MA MD TN

(30) Priority: **17.12.2019 CN 201911301710**

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(54) CONTROL METHOD FOR SMART CLOTHES TREATMENT SYSTEM

(57) The present invention relates to the technical field of smart home, and specifically relates to a control method for a smart clothes treatment system, aiming at solving the problem that an existing linkage method is more suitable for being applied to a system of associated home appliances that work according to the same operating parameters and the linkage mobility and the degree of intelligence are not good. The control method of the smart clothes treatment system can automatically recommend care parameter information of a clothes care device according to washing parameter information of a clothes washing device, so that the clothes care device can directly operate on the basis of the recommended care parameter information. The control method can be appliable to a combination of linkage home appliances having different types of operating parameters such as the clothes washing device and the clothes care device, so that multiple home appliances having a large difference in operating parameters can perform linkage operation on the basis of a specific matching scenario, improving the linkage mobility and degree of intelligence of the entire linkage system, saving the parameter generation and processing time of the associated home appliances, and improving the data processing efficiency of the associated home appliances.

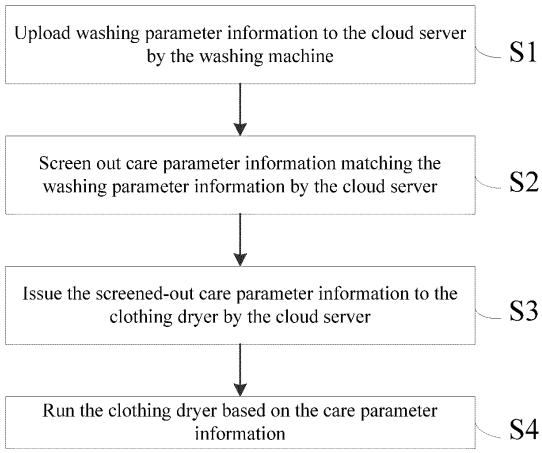

FIG.1

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Description

FIELD

[0001] The present disclosure belongs to the technical field of smart home, and specifically relates to a method for controlling a smart clothing treatment system.

BACKGROUND

[0002] All existing smart washing machines and smart clothing dryers can be controlled at a mobile phone terminal by networking, thereby realizing the smart operation of the smart washing machines or smart clothing dryers. However, when the smart washing machine and the smart clothing dryer are required to be used successively to treat the clothing, it is difficult to realize a smart coordination of the smart washing machine and the smart clothing dryer.

[0003] In the existing coordinate control methods, after operating parameters are acquired by the household appliance that is actively running, the operating parameters can be transmitted to other household appliances that are associated with the household appliance that is actively running, so that the associated household appliances can run based on the operating parameters already acquired by the household appliance that is actively running. The disadvantage of the above coordinate method is that it is only applicable to smart household appliances that work based on the same operating parameters, and the above coordinate method is not applicable when the operating parameters differ greatly between the associated household appliances. For example, when the washing machine runs a washing program based on washing requirements of the clothing to be washed, then in the following drying or ironing program, in addition to setting some operating parameters based on basic treatment requirements such as the material and weight of the clothing to be washed that can be acquired by the washing machine, some other operating parameters may also be set according to the user's personal treatment preference, the current treatment environment (indoor/outdoor temperature) and other factors. It is difficult for the washing program and the drying program to complete all the settings of program based on exactly the same clothing information, and it is difficult for the existing coordinate methods to have enough flexibility to suit such situations.

[0004] Accordingly, there is a need in the art for a new method for controlling a smart clothing treatment system to solve the above problem.

SUMMARY

[0005] In order to solve the above problem in the prior art, that is, to solve the problem that the existing coordinate methods are only applicable to a household appliance associated system that works according to the same operating parameters, which leads to poor coordinate flexibility and intelligence degree, the present disclosure provides a method for controlling a smart clothing treatment system, in which the smart clothing treatment system includes a clothing washing apparatus, a clothing care apparatus and a cloud server, and the control method includes: uploading washing parameter information to the cloud server by the clothing washing apparatus; screening out care parameter information that matches the washing parameter information by the cloud server; issuing the screened-out care parameter information to the clothing care apparatus by the cloud server; and running the clothing care apparatus based on the care parameter information.

[0006] In a preferred technical solution of the control method of the present disclosure, the step of "screening out care parameter information that matches the washing parameter information by the cloud server" includes: screening out preset washing parameter information that matches the washing parameter information by the cloud server; and taking care parameter information associated with the screened-out preset washing parameter information as the screened-out care parameter information by the cloud server.

[0007] In a preferred technical solution of the control method of the present disclosure, the step of "screening out preset washing parameter information that matches the washing parameter information by the cloud server" includes: acquiring washing completion information of the clothing washing apparatus by the cloud server; and if the washing completion information is acquired, then screening out preset washing parameter information that matches the washing parameter information by the cloud server.

[0008] In a preferred technical solution of the control method of the present disclosure, the step of "screening out preset washing parameter information that matches the washing parameter information by the cloud server" further includes: in a case where the washing completion information is received, acquiring standby state information of the clothing care apparatus by the cloud server; and screening out preset washing parameter information that matches the washing parameter information by the cloud server only if the standby state information is acquired within a preset time.

[0009] The present disclosure also provides a method for controlling a smart clothing treatment system, in which the smart clothing treatment system includes a clothing washing apparatus, a clothing care apparatus and a cloud server, and the control method includes: uploading washing parameter information to the cloud server by the clothing washing apparatus, so that the cloud server can screen out care parameter information that matches the washing parameter information and issue the screened-out care parameter information to the clothing care apparatus, and that the clothing care apparatus can run based on the care parameter information.

[0010] The present disclosure also provides a method

for controlling a smart clothing treatment system, in which the smart clothing treatment system includes a clothing washing apparatus, a clothing care apparatus and a cloud server, and the control method includes: running the clothing care apparatus based on care parameter information sent by the cloud server, the care parameter information being care parameter information screened out by the cloud server and matching washing parameter information uploaded to the cloud server by the clothing washing apparatus.

[0011] The present disclosure also provides a method for controlling a smart clothing treatment system, in which the smart clothing treatment system includes a clothing washing apparatus, a clothing care apparatus and a cloud server, and the control method includes: receiving by the cloud server washing parameter information uploaded by the clothing washing apparatus; screening out care parameter information that matches the washing parameter information by the cloud server; and issuing the screened-out care parameter information to the clothing care apparatus by the cloud server, so that the clothing care apparatus can run based on the care parameter information.

[0012] In a preferred technical solution of the above control method, the step of "screening out care parameter information that matches the washing parameter information by the cloud server" includes: screening out preset washing parameter information that matches the washing parameter information by the cloud server; and taking care parameter information associated with the screened-out preset washing parameter information as the screened-out care parameter information by the cloud server.

[0013] In a preferred technical solution of the above control method, the step of "screening out preset washing parameter information that matches the washing parameter information by the cloud server" includes: acquiring washing completion information of the clothing washing apparatus by the cloud server; and if the washing completion information is acquired, then screening out preset washing parameter information that matches the washing parameter information by the cloud server.

[0014] In a preferred technical solution of the above control method, the step of "screening out preset washing parameter information that matches the washing parameter information by the cloud server" further includes: in a case where the washing completion information is received, acquiring standby state information of the clothing care apparatus by the cloud server; and screening out preset washing parameter information that matches the washing parameter information by the cloud server only if the standby state information is acquired within a preset time.

[0015] It can be understood by those skilled in the art that the method for controlling a smart clothing treatment system of the present disclosure can automatically issue the care parameter information of the clothing care apparatus according to the washing parameter information uploaded by the clothing washing apparatus, so that the clothing care apparatus can directly run based on the recommended care parameter information, and the user does not need to set the care parameters each time before using the clothing care apparatus, or the clothing care apparatus generates care parameters through automatic conversion according to the washing parameter information of the clothing washing apparatus, thus effectively shortening the preparation time before the clothing care apparatus runs, and enhancing the coordination between the clothing washing apparatus and the clothing care apparatus; moreover, the overall clothing treatment efficiency is improved at the same time of reducing the user's operation steps. Through the above control method, the control method of the present disclosure can be applied to a combination of coordinate household appliances with different kinds of operating parameters, such as the clothing washing apparatus and the clothing care apparatus, so that multiple household appliances with large differences in the operating parameters can run coordinatively based on specific matching scenes, thus improving the coordinate flexibility and intelligence degree of the entire coordinate system. Parameter generating and processing time of the associated household appliances (such as the clothing care apparatus) is omitted, data processing efficiency when the associated household appliances are running is improved, and configuration requirements on hardware processors of the associated household appliances are reduced.

[0016] Preferably, the smart clothing treatment system also includes a mobile terminal, through which the user can autonomously set a coordinate mapping of the washing parameter information and the care parameter information, so that the clothing washing apparatus and the clothing care apparatus can run coordinatively based on the same clothing information while also meeting individualized needs of users, making the coordinate running mode more suitable for actual running needs of different users. At the same time, the coordinate setting operation can be completed through a mobile terminal that is frequently used by the user, so that the use is convenient.

BRIEF DESCRIPTION OF DRAWINGS

[0017]

FIG. 1 is a flowchart showing main steps of the method for controlling a smart clothing treatment system; and

FIG. 2 is a flowchart showing detailed steps of a preferred embodiment of the method for controlling a smart clothing treatment system.

DETAILED DESCRIPTION

[0018] It should be understood by those skilled in the art that these embodiments are only used to explain the

technical principles of the present disclosure, and are not intended to limit the scope of protection of the present disclosure. Those skilled in the art can make adjustments as needed to adapt to specific application scenes. For example, although the clothing washing apparatus of the present disclosure is described in connection with a washing machine and the clothing care apparatus is described in connection with a clothing dryer, this is not limiting. In practical applications, the clothing washing apparatus may also be any clothing washing apparatus such as a washing-drying integrated machine and a steam washing apparatus, and the clothing care apparatus may also be any clothing care apparatus that can treat the washed clothing, such as a clothing ironing apparatus, a clothing sterilization apparatus, and a clothing air-drying and storage apparatus.

[0019] It should be noted that in the description of the present disclosure, although various steps of the control method of the present disclosure have been described in specific orders in the present application, these orders are not limiting, and those skilled in the art can execute the steps in different orders without departing from the basic principle of the present disclosure.

[0020] In view of the problem pointed out in the "BACKGROUND OF THE INVENTION" that existing coordinate methods are more suitable for being applied to a household appliance associated system that works according to the same operating parameters, which leads to poor coordinate flexibility and intelligence degree, the present disclosure provides a method for controlling a smart clothing treatment system, aiming to realize a coordinate control of the combination of coordinate household appliances with different kinds of operating parameters, such as the clothing washing apparatus and the clothing care apparatus, so that multiple household appliances with large differences in the operating parameters can run coordinatively based on specific matching scenes, thus improving the coordinate flexibility and intelligence degree of the entire coordinate system.

[0021] First, reference is made to FIG. 1, which is a flowchart showing main steps of the method for controlling a smart clothing treatment system. As shown in FIG. 1, the smart clothing treatment system of the present disclosure includes a washing machine, a clothing dryer and a cloud server, in which the washing machine and the clothing dryer can be communicatively connected with the cloud server respectively to realize data transmission. The method for controlling the smart clothing treatment system includes:

Step S1: uploading washing parameter information of the washing machine to the cloud server by the washing machine;

Step S2: screening out care parameter information that matches the washing parameter information by the cloud server;

Step S3: issuing the screened-out care parameter information to the clothing dryer by the cloud server; and

Step S4: running the clothing dryer based on the issued care parameter information.

[0022] In step S1, the "washing parameter information" of the washing machine is all the information relevant to the current washing program of the washing machine, including execution subject information of the current washing program, parameters involved in the current washing program, progress stage of the current washing program, etc. Specifically, the execution subject is representative information that can distinguish the current washing machine from other clothing washing apparatuses or household appliances, such as model information, set name and installation location of the washing machine, etc. The progress stage of the current washing program is any information that can reflect a progress status of the current washing program, such as the name of current stage (such as wait-to-wash, washing-in-progress, wait-to-rinse, rinsing-in-progress, spin-drying, program completed, etc.), remaining running time, overall running time and already-run time, etc. As an example, the parameters involved in the current washing program may include at least one or more of main operating parameters such as washing mode, washing intensity, clothing weight, heating temperature, the number of rinsing times, and spinning speed. Of course, the types of information contained in the washing parameter information are not limited to the above three types. When the specific type, application scene and the like of the clothing washing apparatus change, those skilled in the art can increase or decrease the types of information contained in the washing parameter information according to the actual running requirements.

[0023] In step S2, the "care parameter information" is a combination of main care parameters of the clothing drying program of the clothing dryer, including any one or more of drying parameters such as drying intensity, drying temperature, drying mode, drying time, etc. It should be noted that although the above care parameter information is described in connection with the combination of main care parameters, in fact, when the type of the clothing care apparatus changes, the number of parameters contained in the care parameter information can be changed according to the specific type of the clothing care apparatus. For example, if only one main operating parameter is involved in the clothing care program of the clothing care apparatus, the care parameter information may also include only one care parameter.

[0024] In the above step, the combination of parameters of any washing program out of multiple washing programs of the washing machine can be associated with the combination of parameters of the corresponding drying program, in which the drying program and the washing program associated with each other correspond to

matching basic clothing. For example, when the washing parameter information contains silk material washing mode information, the parameters in the associated drying program are the parameters corresponding to low-intensity drying requirements. On this basis, the user can also add other drying parameters according to the actual running requirements of the current associated scene (such as the associated scene related to silk clothing), such as sterilization mode, disinfection duration, aromatherapy duration, etc., so as to complete the setting of one associated scene between the washing parameter information of the washing machine and the care parameter information of the clothing dryer. In the presence of at least one of the above associated scenes, as long as the washing parameter information uploaded by the washing machine is the corresponding washing parameter information in the saved associated scene, the cloud server can automatically trigger the associated scenario, and issue the care parameter information associated with the current washing program of the washing machine to the clothing dryer, so that the clothing dryer can run directly based on the care parameter information issued by the cloud server and dry the clothing. When multiple associated scenes are provided between the same group of washing machine and clothing dryer, the change of the current washing program of the washing machine can automatically trigger the change of the drying program of the clothing dryer, which greatly improves the convenience for the user in use, and reduces the program generating and processing time of the clothing dryer, so that the data processing speed of the clothing dryer before drying the clothing is faster and the clothing dryer is more responsive.

[0025] Further, step S2 specifically includes:

screening out preset washing parameter information that matches the washing parameter information by the cloud server; and

taking care parameter information associated with the screened-out preset washing parameter information as the screened-out care parameter information by the cloud server.

[0026] In the above step, at least one coordinate mapping of preset washing parameter information and care parameter information is saved in a database of the cloud server. When the cloud server receives the washing parameter information corresponding to the current washing program uploaded by the washing machine, the cloud server can search and screen in all the coordinate mappings according to the received washing parameter information, so as to screen out preset parameter information that is the same as or corresponding to the washing parameter information. For example, when the washing parameter information includes a combination of parameters such as the washing duration being 15 minutes and the number of rinsing times being 3, if the preset parameter information is the same as the washing parameter information, then the preset parameter information is also a combination of parameters such as the washing duration being 15 minutes and the number of rinsing times being 3. If the preset parameter information corresponds to the washing parameter information, then the preset parameter information may be the corresponding conditions of various parameters such as the washing duration being 10-20 minutes and the number of rinsing times being more than 2. In this case, since each preset parameter information is associated with one care parameter information, when the preset parameter information matching the washing parameter information is screened out, the care parameter information associated with the preset parameter information is the care parameter information that the cloud server wants to screen out.

[0027] Further, the above step of "screening out preset washing parameter information that matches the washing parameter information by the cloud server" specifically includes:

acquiring washing completion information of the washing machine by the cloud server; and

if the washing completion information is acquired, then screening out preset washing parameter information that matches the washing parameter information by the cloud server.

[0028] In the above step, the "washing completion information" is information indicating that the washing machine has completed all the washing processes, and the running of the washing program is completed. After the washing machine uploads the washing parameter information to the cloud server, the cloud server will acquire the washing completion information of the washing machine, so as to determine the timing of screening out the care parameter information as being after completion of clothing washing and before the care operation needs to be started.

[0029] In a possible embodiment, the way that the cloud server acquires the washing completion information of the washing machine is to issue inquiry information to the washing machine, and the washing machine can return the washing completion information to the cloud server under the condition that the inquiry information is received and the washing is completed.

[0030] In another possible embodiment, the way that the cloud server acquires the washing completion information of the washing machine is to search for the washing completion information in the washing parameter information uploaded by the washing machine. Specifically, the washing parameter information uploaded by the washing machine directly contains the washing completion information, and the cloud server can acquire the washing completion information by searching in the washing parameter information. For example, the washing machine uploads the washing parameter information

in real time, and the uploaded washing parameter information contains the remaining running duration. When the cloud server obtains the washing completion information indicating a remaining running duration of 0 by searching, the screening operation on the care parameter information will begin.

[0031] More specifically, the above step of "screening out preset washing parameter information that matches the washing parameter information by the cloud server" further includes:

in a case where the washing completion information is received, acquiring standby state information of the clothing dryer by the cloud server; and

screening out preset washing parameter information that matches the washing parameter information by the cloud server only if the standby state information is acquired within a preset time.

[0032] In the above step, the "standby state information" is information indicating that the clothing dryer is in a standby, operable state. When the cloud server acquires the standby state information, it indicates that the clothing dryer is an executable object of the issued drying program. If it is determined that the executable object exists and the drying program needs to be issued, the cloud server starts to screen out the care parameter information, so as to determine the specific drying parameters of the clothing dryer that needs to perform the drying work. In addition, the above preset time can be flexibly set according to actual running requirements, and the preset time can be zero or any duration longer than zero. When the preset time is not zero, the cloud server can start screening out the care parameter information as long as the standby state information is acquired before the preset time expires.

[0033] In addition, the control method of the present disclosure further includes:

not screening out the preset washing parameter information that matches the washing parameter information by the cloud server, if the standby state information cannot be acquired within the preset time.

[0034] In the above step, if the cloud server cannot acquire the standby state information, it means that the clothing dryer is in a non-standby state (such as a power-off state, a running state, etc.); even if the drying program is issued, there is no executable object, so the cloud server does not need to screen out the care parameter information at this time.

[0035] In addition, the smart clothing treatment system of the present disclosure also includes a mobile terminal, and before step S1, the control method of the present disclosure further includes:

sending the coordinate mapping of the preset washing parameter information and the care parameter information to the cloud server by the mobile terminal; and

storing the coordinate mapping of the preset washing parameter information and the care parameter information in the cloud server.

[0036] In the above step, the user can edit the coordinate mapping of the preset washing parameter information and the care parameter information through the mobile terminal, so as to add, delete or change the coordinate mapping stored in the cloud server according to the actual coordinate requirements of different users.

[0037] Moreover, in addition to setting the coordinate mapping stored in the cloud server through the mobile terminal, it is also possible to establish a personal account in the cloud server through the mobile terminal, so that the user can establish, change or delete the coordination of the clothing washing apparatus and the clothing care apparatus under his/her personal account, which makes it convenient to quickly set and look up the coordinate mapping information of the household appliances under the personal account.

[0038] It can be understood by those skilled in the art that in any of the above control methods, the number of the clothing washing apparatuses and the number of the clothing care apparatuses are each not limited to one, and a plurality of clothing washing apparatuses or clothing care apparatuses may be of the same type, or may be of different types, as long as the various execution subjects can be distinguished from each other when establishing the coordinate mapping relationship.

[0039] In addition to the conventional one-to-one association between the washing machine and the clothing dryer, in a possible embodiment, the number of the washing machines is plural, and the number of the clothing dryers is one. In this case, a mapping relationship can be established between each of the washing programs of the plurality of washing machines and the drying program of the clothing dryer. When any of the washing machines is washing the clothing, recommendation of the corresponding care parameter information can be triggered through the uploaded washing parameter information.

[0040] In another possible embodiment, the number of the washing machines is one, and the number of the clothing dryers is plural. In this case, a mapping relationship can be established between each washing program of the washing machine and the drying programs of the plurality of clothing dryers. When any washing machine is washing the clothing and recommendation of the corresponding care parameter information is triggered, the care parameter information can be recommended to any one or more clothing dryers in the standby state, so that the user can distribute the washed clothing to a plurality of clothing dryers for drying at the same time.

[0041] In yet another possible embodiment, the number of the washing machines is plural, and the number of the clothing dryers is plural. In this case, for

the same washing machine, a mapping relationship can be established between each washing program thereof and the drying programs of the plurality of clothing dryers. When any one or more washing machines is washing the clothing and recommendation of the corresponding care parameter information is triggered, the corresponding care parameter information can be recommended to any one or more clothing dryers in the standby state based on the washing parameter information of different washing machines, so that the user can not only distribute the clothing to a plurality of washing machines for washing, but also can distribute the washed clothing to a plurality of clothing dryers for drying at the same time, which realizes batch treatment of the clothing at the same time and improves the overall treatment efficiency of all the clothing.

[0042] The preferred embodiment of the present disclosure will be described below in connection with a situation in which the number of the washing machines and the number of the clothing dryers each is one.

[0043] Reference is again made to FIG. 2, which is a flowchart showing detailed steps of the preferred embodiment of the method for controlling a smart clothing treatment system. As shown in FIG. 2, the detailed steps of the preferred embodiment of the control method include:

Step S100: uploading the washing parameter information to the cloud server by the washing machine;

Step S101: acquiring the washing completion information of the washing machine by the cloud server;

Step S102: judging whether the cloud server has acquired the washing completion information;

if the cloud server has acquired the washing completion information, then executing step S103; otherwise, returning to step S102;

Step S103: acquiring the standby state information of the clothing dryer by the cloud server;

Step S104: judging whether the cloud server has acquired the standby state information within the preset time;

if the cloud server has not acquired the standby state information within the preset time, then executing step S105; and if the cloud server has acquired the standby state information within the preset time, then executing step S106;

Step S105: not screening out the preset washing parameter information that matches the washing parameter information by the cloud server, and ending the program;

Step S106: screening out the preset washing parameter information that matches the washing parameter information by the cloud server;

Step S107: taking the care parameter information associated with the screened-out preset washing parameter information as the screened-out care parameter information by the cloud server;

Step S108: issuing the screened-out care parameter information to the clothing dryer by the cloud server; and

Step S109: running the clothing dryer based on the care parameter information.

[0044] In summary, the method for controlling a smart clothing treatment system of the present disclosure can automatically recommend the care parameter information of the clothing dryer according to the washing parameter information of the washing machine, so that the clothing dryer can run directly based on the recommended care parameter information. The control method of the present disclosure can be applied to a combination of coordinate household appliances with different types of operating parameters, such as the washing machine and the clothing dryer, so that multiple household appliances with large differences in the operating parameters can run coordinatively based on the specific matching scene, thus improving the coordinate flexibility and intelligence degree of the entire coordinate system. Parameter generating and processing time of the associated household appliances is omitted, and data processing efficiency of the associated household appliances is improved.

[0045] Hitherto, the technical solutions of the present disclosure have been described in connection with the preferred embodiments shown in the accompanying drawings, but it is easily understood by those skilled in the art that the scope of protection of the present disclosure is obviously not limited to these specific embodiments. Without departing from the principles of the present disclosure, those skilled in the art can make equivalent changes or replacements to relevant technical features. All these technical solutions after such changes or replacements will fall within the scope of protection of the present disclosure.

Claims

1. A method for controlling a smart clothing treatment system, wherein the smart clothing treatment system comprises a clothing washing apparatus, a clothing care apparatus and a cloud server, and the control method comprises:

   uploading washing parameter information to the cloud server by the clothing washing apparatus;

screening out care parameter information that matches the washing parameter information by the cloud server;
issuing the screened-out care parameter information to the clothing care apparatus by the cloud server; and
running the clothing care apparatus based on the care parameter information.

2. The method according to claim 1, wherein the step of "screening out care parameter information that matches the washing parameter information by the cloud server" comprises:

screening out preset washing parameter information that matches the washing parameter information by the cloud server; and
taking care parameter information associated with the screened-out preset washing parameter information as the screened-out care parameter information by the cloud server.

3. The method according to claim 2, wherein the step of "screening out preset washing parameter information that matches the washing parameter information by the cloud server" comprises:

acquiring washing completion information of the clothing washing apparatus by the cloud server; and
if the washing completion information is acquired, then screening out preset washing parameter information that matches the washing parameter information by the cloud server.

4. The method according to claim 3, wherein the step of "screening out preset washing parameter information that matches the washing parameter information by the cloud server" further comprises:

in a case where the washing completion information is received, acquiring standby state information of the clothing care apparatus by the cloud server; and
screening out preset washing parameter information that matches the washing parameter information by the cloud server only if the standby state information is acquired within a preset time.

5. A method for controlling a smart clothing treatment system, wherein the smart clothing treatment system comprises a clothing washing apparatus, a clothing care apparatus and a cloud server, and the control method comprises:
uploading washing parameter information to the cloud server by the clothing washing apparatus, so that the cloud server can screen out care parameter information that matches the washing parameter information and issue the screened-out care parameter information to the clothing care apparatus, and that the clothing care apparatus can run based on the care parameter information.

6. A method for controlling a smart clothing treatment system, wherein the smart clothing treatment system comprises a clothing washing apparatus, a clothing care apparatus and a cloud server, and the control method comprises:
running the clothing care apparatus based on care parameter information issued by the cloud server, wherein the care parameter information is information screened out by the cloud server and matching washing parameter information uploaded to the cloud server by the clothing washing apparatus.

7. A method for controlling a smart clothing treatment system, wherein the smart clothing treatment system comprises a clothing washing apparatus, a clothing care apparatus and a cloud server, and the control method comprises:

receiving by the cloud server washing parameter information uploaded by the clothing washing apparatus;
screening out care parameter information that matches the washing parameter information by the cloud server; and
issuing the screened-out care parameter information to the clothing care apparatus by the cloud server, so that the clothing care apparatus can run based on the care parameter information.

8. The method according to claim 7, wherein the step of "screening out care parameter information that matches the washing parameter information by the cloud server" comprises:

screening out preset washing parameter information that matches the washing parameter information by the cloud server; and
taking care parameter information associated with the screened-out preset washing parameter information as the screened-out care parameter information by the cloud server.

9. The method according to claim 8, wherein the step of "screening out preset washing parameter information that matches the washing parameter information by the cloud server" comprises:

acquiring washing completion information of the clothing washing apparatus by the cloud server; and
if the washing completion information is ac-

quired, then screening out preset washing parameter information that matches the washing parameter information by the cloud server.

10. The method according to claim 9, wherein the step of "screening out preset washing parameter information that matches the washing parameter information by the cloud server" further comprises:

in a case where the washing completion information is received, acquiring standby state information of the clothing care apparatus by the cloud server; and
screening out preset washing parameter information that matches the washing parameter information by the cloud server only if the standby state information is acquired within a preset time.

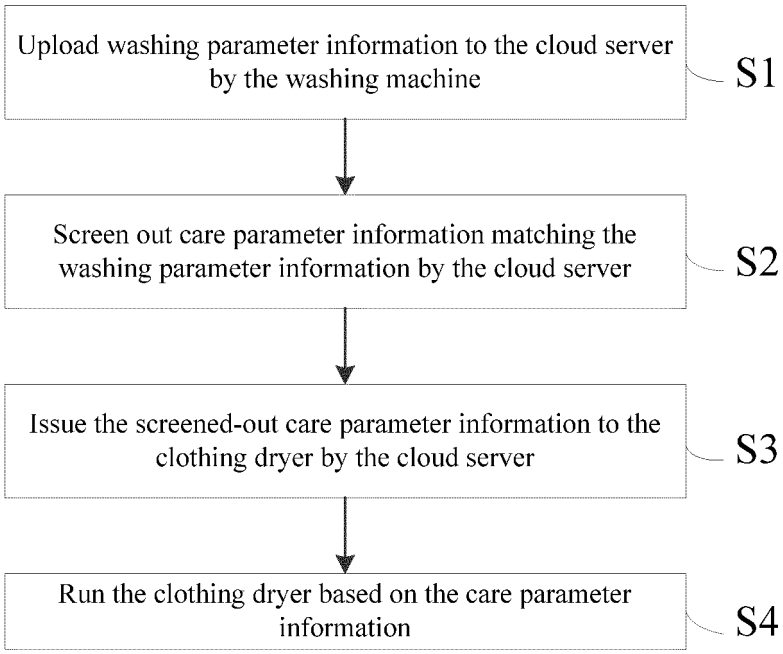
Upload washing parameter information to the cloud server by the washing machine
S1
Screen out care parameter information matching the washing parameter information by the cloud server
S2
Issue the screened-out care parameter information to the clothing dryer by the cloud server
S3
Run the clothing dryer based on the care parameter information
S4

FIG.1

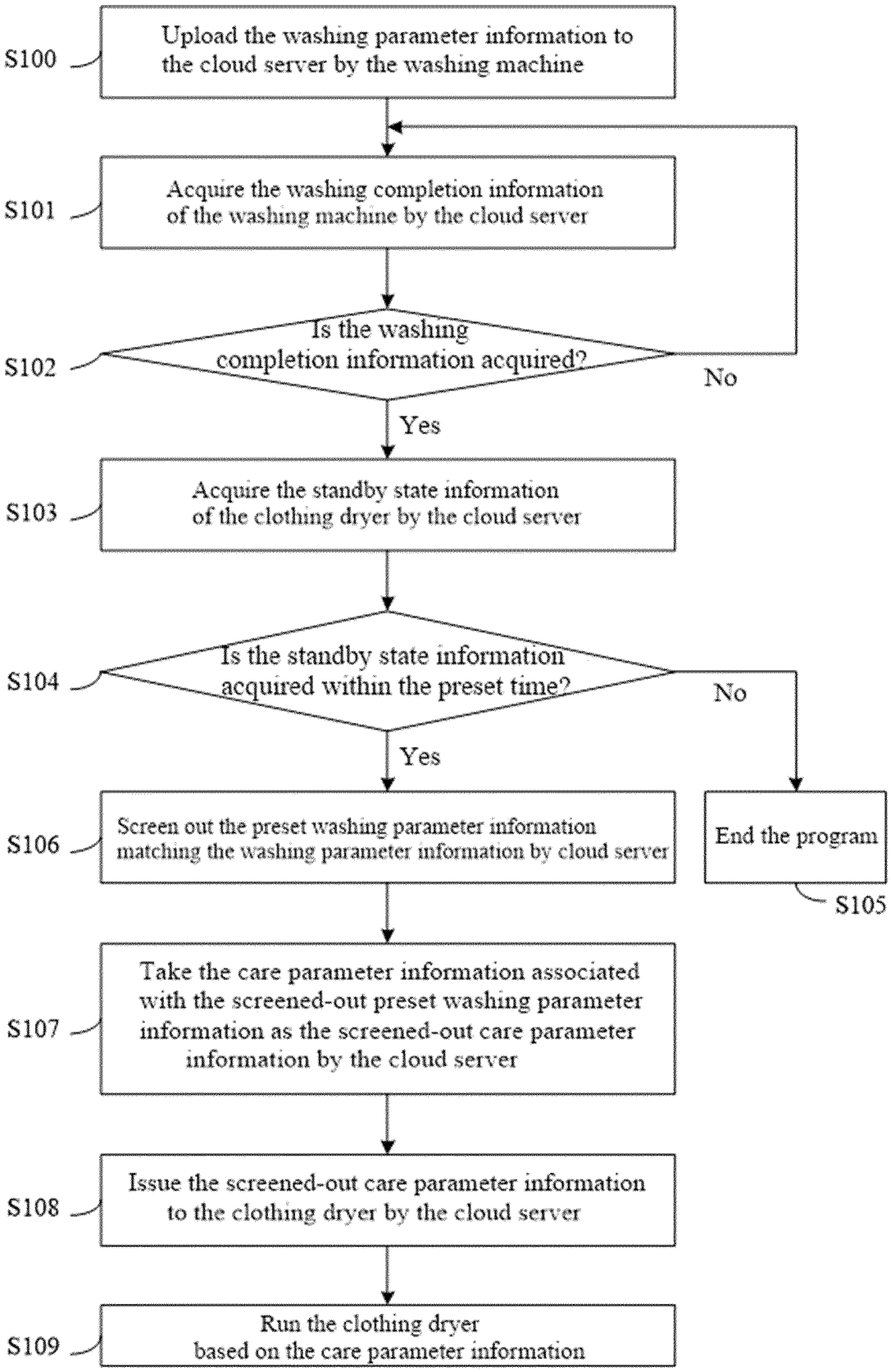
S100
Upload the washing parameter information to the cloud server by the washing machine
S101
Acquire the washing completion information of the washing machine by the cloud server
S102
Is the washing completion information acquired?
No
Yes
S103
Acquire the standby state information of the clothing dryer by the cloud server
S104
Is the standby state information acquired within the preset time?
No
Yes
S106
Screen out the preset washing parameter information matching the washing parameter information by cloud server
End the program
S105
S107
Take the care parameter information associated with the screened-out preset washing parameter information as the screened-out care parameter information by the cloud server
S108
Issue the screened-out care parameter information to the clothing dryer by the cloud server
S109
Run the clothing dryer based on the care parameter information

FIG.2

INTERNATIONAL SEARCH REPORT

International application No.
PCT/CN2020/129334

A. CLASSIFICATION OF SUBJECT MATTER

D06F 33/00(2020.01)i; D06F 33/30(2020.01)i

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

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

D06F

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

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

EPODOC, WPI, CNPAT, CNKI: 洗衣机, 干衣机, 洗涤, 清洗, 干燥, 干衣, 控制, 联动, 关联, 相关, 云端, 服务器, 筛选, 匹配, washing, laundry, dryer, wash+, dry+, control+, linkage, relat+, server, cloud w terminal, filter, screen, match+

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
PX	CN 110699909 A (QINGDAO HAIER WASHING MACHINE CO., LTD.) 17 January 2020 (2020-01-17) description, specific embodiments, and figure 1	1-10
Y	CN 104674501 A (WUXI LITTLE SWAN COMPANY LIMITED) 03 June 2015 (2015-06-03) description, paragraphs 29-32, figures 1-4	1-10
Y	CN 106868792 A (WUXI LITTLE SWAN COMPANY LIMITED) 20 June 2017 (2017-06-20) description paragraphs 29-32, paragraphs 105-118, figures 2, 4	1-10
A	CN 106032614 A (QINGDAO HAIER WASHING MACHINE CO., LTD.) 19 October 2016 (2016-10-19) entire document	1-10
A	CN 109594282 A (QINGDAO HAIER WASHING MACHINE CO., LTD.) 09 April 2019 (2019-04-09) entire document	1-10

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

* Special categories of cited documents:
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"O" document referring to an oral disclosure, use, exhibition or other means
"P" document published prior to the international filing date but later than the priority date claimed
"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
01 February 2021	**19 February 2021**
Name and mailing address of the ISA/CN **China National Intellectual Property Administration (ISA/CN)** **No. 6, Xitucheng Road, Jimenqiao, Haidian District, Beijing 100088** **China**	Authorized officer
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INTERNATIONAL SEARCH REPORT

International application No.
PCT/CN2020/129334

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	CN 108842404 A (ZHUHAI GREE INTELLIGENT EQUIPMENT CO., LTD. et al.) 20 November 2018 (2018-11-20) entire document	1-10
A	CN 107104860 A (MIDEA GROUP CO., LTD.) 29 August 2017 (2017-08-29) entire document	1-10
A	CN 106868842 A (GUANGZHOU SHIYUAN ELECTRONIC TECHNOLOGY COMPANY LIMITED) 20 June 2017 (2017-06-20) entire document	1-10
A	JP 2018175901 A (PANASONIC IP. MAN. CORP.) 15 November 2018 (2018-11-15) entire document	1-10

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INTERNATIONAL SEARCH REPORT
Information on patent family members

International application No.
PCT/CN2020/129334

Patent document cited in search report	Publication date (day/month/year)	Patent family member(s)	Publication date (day/month/year)
CN 110699909 A	17 January 2020	None	
CN 104674501 A	03 June 2015	None	
CN 106868792 A	20 June 2017	None	
CN 106032614 A	19 October 2016	None	
CN 109594282 A	09 April 2019	WO 2019062486 A1	04 April 2019
CN 108842404 A	20 November 2018	None	
CN 107104860 A	29 August 2017	None	
CN 106868842 A	20 June 2017	WO 2018192110 A1	25 October 2018
JP 2018175901 A	15 November 2018	None	

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