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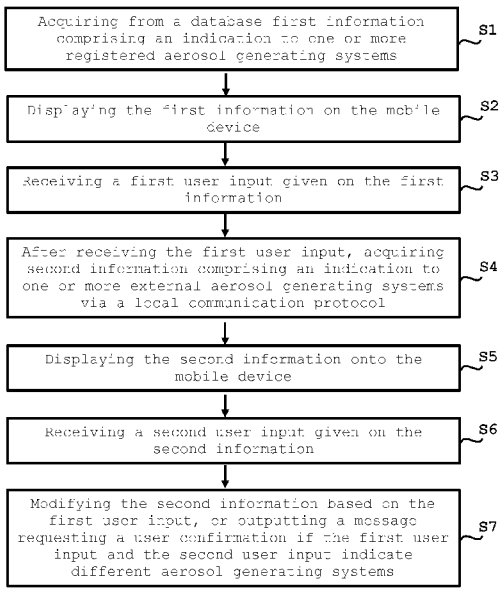

Figure 1

(57) **Abstract:** A method for being performed in a mobile device comprising the steps of: acquiring from a database first information comprising an indication to one or more registered aerosol generating systems; displaying the first information on the mobile device; receiving a first user input given on the first information; after receiving the first user input, acquiring second information comprising an indication to one or more external aerosol generating systems via a local communication protocol; displaying the second information onto the mobile device; receiving a second user input given on the second information; modifying the second information based on the first user input, or outputting a message requesting a user confirmation if the first user input and the second user input indicate different aerosol generating systems.

WO 2024/236142 A1

METHOD FOR BEING PERFORMED IN MOBILE DEVICE COMMUNICATING WITH EXTERNAL AEROSOL GENERATING SYSTEM

Technical Field

The present invention generally relates to communication between a mobile device and an external aerosol generating system. More specifically, the present invention relates to a method or application for being performed in a personal computing terminal or mobile device communicating with one or more external aerosol generating system(s).

Technical background

Recently, mobile devices such as smartphone and tablet have been used to connect with external aerosol generating systems in the peripheries of the mobile device and to control the external aerosol generating systems. For example, a user of a mobile device may be able to connect with an external aerosol generating system and update software of the external aerosol generating system by downloading the newest software updates and communicating the software updates from the mobile device to the external aerosol generating system. In this way, the external aerosol generating system does not have to be connected via a wire to receive update or repair. Regular software updates may be necessary for maintaining or even improving a performance and a lifetime of the external aerosol generating system. Also, the user may be able to personalize settings of the external aerosol generating

system by the mobile device. In other words, the software update using the mobile device may be helpful for an optimal and personalized use of the external aerosol generating system. Furthermore, the mobile device may provide an additional advantage that it can give information about the external aerosol generating system which are not shown on the external aerosol generating system.

However, in case there is a plurality of external aerosol generating systems in the vicinity of the mobile device, it may not be easy for the user to recognize an external aerosol generating system to connect among the plurality of external aerosol generating systems. For example, the user may have two or more of the same or similar aerosol generating systems, which has same or similar appearance, and wants to connect only a specific one of the aerosol generating systems. Some users have such the two or more of the same or similar aerosol generating systems to continuously inhale aerosol when the user is not at home, because opportunity to charge the aerosol generating system outside home is still limited.

In another example, there may be a plurality of aerosol generating systems of a same type in the vicinity of the user but not all of the plurality of the aerosol generating systems belong to the user. Such situation may be occurred at smoking room, bar or etc. If a device of another user is in the vicinity of the mobile device and detected by the mobile device, it is undesirable that a connection between the mobile device and the device of another user is established.

Therefore, there is a need for improving communication and configuration between a mobile device and external aerosol generating systems capable of communicating with the mobile device.

Summary

The above problems are solved by the subject-matter of independent claims. Preferred embodiments are given by the subject-matter of dependent claims. Further examples are provided for facilitating the understanding of the invention.

According to an embodiment of the present invention, there is provided a method for being performed in a mobile device comprising the steps of: acquiring from a database first information comprising an indication to one or more registered aerosol generating systems; displaying the first information on the mobile device; receiving a first user input given on the first information; after receiving the first user input, acquiring second information comprising an indication to one or more external aerosol generating systems via a local communication protocol; displaying the second information onto the mobile device; receiving a second user input given on the second information; modifying the second information based on the first user input, or outputting a message requesting a user confirmation if the first user input and the second user input indicate different aerosol generating systems.

According to one embodiment of the present invention, there is provided a mobile device comprising means for carrying out the steps of the above-described method.

The present invention can provide optimal communication between a mobile device and one or more external aerosol generating systems.

Brief description of the drawings

Embodiments of the present invention, which are presented for better understanding of the inventive concepts, but which are not to be seen as limiting the invention, will now be described with reference to the figures in which:

Figure 1 shows a flowchart of a general method embodiment of the present invention;

Figure 2 shows schematically examples of devices with various detachable portions in the context of embodiments of the present invention;

Figure 3 shows schematically an overview of communications according to an embodiment of the present invention;

Figure 4 shows schematically a communication sequence according to an embodiment of the present invention;

Figure 5 shows schematically a communication sequence according to another embodiment of the present invention; and

Figure 6 shows schematically a device, a web browser and a progressive web application according to an embodiment of the present invention.

Detailed description

Figure 1 shows a flowchart of a general method embodiment of the present invention. The method can be performed in a personal computing terminal or mobile device as part of computer code being executable by a processing unit of the

terminal or device, or, in other words, as a corresponding app. The method comprises the steps of: acquiring (step S1) from a database first information comprising an indication to one or more registered aerosol generating systems; displaying (step S2) the first information on the mobile device; receiving (step S3) a first user input given on the first information; after receiving the first user input, acquiring (step S4) second information comprising an indication to one or more external aerosol generating systems via a local communication protocol; displaying (step S5) the second information onto the mobile device; receiving (step S6) a second user input given on the second information; modifying (step S7) the second information based on the first user input, or outputting (step S7) a message requesting a user confirmation if the first user input and the second user input indicate different aerosol generating systems.

In the first step S1, first information comprising an indication to one or more registered aerosol generating systems is acquired from a database. The one or more registered aerosol generating systems may be one or more aerosol generating systems registered to a user of the aerosol generating systems. The database may be a set of data, preferably structured, stored a computer accessible in various ways. Therefore, acquiring the first information from the database by the mobile device may be acquiring the first information from the database inside the mobile device or stored in an external computer such as a server accessible by a communication. In other words, the mobile device does not need to have the first information in the personal computing terminal itself, since acquiring the first information from an external database is possible. The first information comprising the indication to one or more registered aerosol generating systems may be, for example, model name, serial

number, number or code uniquely assigned to a specific device for identification.

In the second step S2, the first information is displayed on the mobile device. The mobile device may be, for example, a smartphone, a tablet or a computer capable of displaying information on the terminal.

In the third step S3, a first user input given on the first information is received. Since the first information is displayed on the mobile device in the step S2, a user can give the first user input on the first information displayed on the mobile device. The mobile device may be capable of receiving information of the user in various ways, such as receiving information by input devices connected to the mobile device or receiving information by a touch display of the mobile device. The first user input may be an aerosol generating system selected by a user. Therefore, an aerosol generating system selected by the user would be determined as the first user input among the one or more registered aerosol generating systems. If the first information is displayed onto the mobile device with the manner of an appearance of registered aerosol generating systems as described later in detail, the user can give the first user input by means of tapping such the appearance, or text surrounding thereof.

In the fourth step S4, the second information comprising an indication to one or more external aerosol generating systems is acquired via local communication protocol. The one or more external aerosol generating systems may be one or more external aerosol generating systems in the vicinity of the mobile device. The local communication protocol may be a short-range wireless communication protocol such as Wi-Fi and Bluetooth. The second information comprising the indication to one or more external aerosol generating systems may be,

for example, as in the first information, model name, serial number, number or code uniquely assigned to a specific aerosol generating system for identification.

In the fifth step S5, the second information is displayed onto the mobile device. While the fifth step S5 may be understood in a similar way with the second step S2, it is not limited thereto and a way of displaying the second information may be similar or different to displaying the first information.

In the sixth step S6, a second user input given on the second information is received. While the sixth step S6 may be understood in a similar way with the third step S3, it is not limited thereto and a way of receiving the second user input given on the second information may be similar or different to receiving the first user input. The second user input may be an aerosol generating system selected by a user. Therefore, it would be possible to choose an aerosol generating system selected by the user as the second user input among the one or more external aerosol generating systems. If the second information is displayed onto the mobile device with the manner of list as described later, the user can give the second user input by means of tapping text on the list.

In the seventh step S7, the second information is modified based on the first user input or a message requesting a user confirmation is output, if the first user input and the second user input indicate different aerosol generating systems. Although the method steps have been presented in a specific numbered order (first to seventh), the steps may be performed in any suitable order or one or more steps may be performed at least in part concurrently or at the same time.

The second information may be modified based on the first user input. A content of the second information which has been modified based on the first user input may not be limited in a certain way. For example, a device indicated by the first user input may be visually highlighted among the one or more external aerosol generating systems in second information and shown on the mobile device. In another example, the second information may be modified such that only the aerosol generating system indicated by the first information stays in the second information by removing other external devices in the second information, if there is any. In yet another example, the other external aerosol generating systems which is not the device indicated by the first information may be visually and/or functionally modified to demotivate or prevent the user when selecting one of the other external aerosol generating systems, if there is any. Also, the modifying of the second information may mean modifying the second information displayed on the mobile device and/or modifying a respective data of the second information.

Alternatively, a message may be output if the first user input and the second user input indicate different aerosol generating systems. If the first user input and the second user input, each selected as the first user input and the second user input, indicate different aerosol generating systems, the message requesting a user confirmation may be output. The user confirmation may be, for example, a confirmation on a consent to connect an aerosol generating system with the mobile device or a confirmation on a rejection to connect an aerosol generating system with the mobile device.

According to an embodiment of the present invention, the method may further comprise the steps of: receiving a third

user input given on the message requesting the user confirmation; and displaying the first information or the second information on the mobile device again, if the third user input indicates rejection against the user confirmation.

The third user input may be a consent or a rejection to connect an aerosol generating system with the mobile device. If the third user input indicates rejection against the user confirmation, the first information or the second information may be displayed again on the mobile device. In this way, the user is able to select the first user input and/or the second user input based on the first information or the second information displayed again on the mobile device. In case the first information is displayed again, the method may repeat the steps starting from the step S2. In case the second information is displayed again, the method may repeat the steps starting from the step S5. Displaying may not mean merely displaying the first information or the second information but may mean redoing of a respective step of displaying which enables further steps to be performed.

In case the first information is displayed again, the method may repeat the steps starting from the step S2 until the last step or only until the next step s3. If the method is repeated until the last step, a new first user input and a new second user input may be received. Alternatively, if the method is repeated until the step S3, only the new first user input is received. In this case, the second user input received initially, in other words, the second user input received before repeating the steps S2 and S3, which has been saved in the mobile device, may allows skipping of further repetition of the steps S4 to S6. The step S7 may therefore be based on the new first user input and the second user input received before the repetition.

According to another embodiment of the present invention, the method may further comprise the steps of: receiving a third user input given on the message requesting the user confirmation; determining as a target aerosol generating system an aerosol generating system indicated by the second user input, if the third user input indicates consent to the user confirmation; and connecting the target aerosol generating system with the mobile device.

The step of receiving the third user input may be understood in a similar way as described before. If the third user input indicates consent to the user confirmation, which is to connect an aerosol generating system with the mobile device, the aerosol generating system indicated by the second user input may be determined as the target aerosol generating system. Therefore, the target aerosol generating system may be an aerosol generating system to be connected with the mobile device. Then, the target aerosol generating system may be connected with the mobile device. Connecting the target aerosol generating system with the mobile device may be understood as pairing the target aerosol generating system with the mobile device.

Although embodiments are described individually, this is merely for a descriptive purpose and should not be understood as limiting. For example, the step of determining as a target aerosol generating system an aerosol generating system indicated by the second user input, if the third user input indicates consent to the user confirmation and connecting the target aerosol generating system with the mobile device may be, as another steps, composed of the previous embodiment as well. In other words, once the step of receiving the third user input given on the message requesting the user confirmation has been performed, an embodiment of the present invention may have further steps of: if the third user input

indicates rejection against the user confirmation, the first information or the second information may be displayed on the mobile device again, and if the third user input indicates consent to the user confirmation, the aerosol generating system indicated by the second user input may be determined as a target aerosol generating system and the aerosol generating system may be connected with the mobile device.

According to yet another embodiment of the present invention, the modifying the second information may be performed so that only aerosol generating system indicated by the first user input remains in the second information and the method may further comprise the steps of: determining as a target aerosol generating system an aerosol generating system indicated by both the first user input and the second user input; and connecting the target aerosol generating system with the mobile device.

Each from the step S3 and the step S6, the first user input and the second user input have been received. If the first user input and the second user input indicate a same aerosol generating system, the second information may be modified so that only the aerosol generating system indicated both by the first user input and the second user input remains in the second information. In other words, if there exists an aerosol generating system which is both selected by the user among the one or more registered aerosol generating systems and detected to be in the vicinity of the mobile device among the one or more external aerosol generating systems, the second information may be modified to have only this aerosol generating system. In this way, only the aerosol generating system which both registered and detected via the local communication protocol can be shown on the mobile device. In other words, an aerosol generating system which is not registered to the user but detected to be located in the

vicinity of the mobile device or registered but not detected would be excluded in the modified second information and not shown on the mobile device.

In this case, the aerosol generating system indicated by both the first user input and the second user input, which is the only device left in the second information, may be determined as the target aerosol generating system. The determination may be done automatically or comprise a step confirming the determination of the target aerosol generating system and the connection with the mobile device. Then, the target aerosol generating system may be connected with the mobile device. As described above, the target aerosol generating system may be paired with the mobile device.

The first information may comprise a first list of the one or more registered aerosol generating systems. The one or more registered aerosol generating systems indicated by the first information may be stored in the first list. By listing the one or more registered aerosol generating systems, it may be possible to easily display and save information of the one or more registered aerosol generating systems. The second information may comprise a second list of the one or more external aerosol generating systems. The one or more external aerosol generating systems indicated by the second information may be stored in the second list. By listing the one or more external aerosol generating systems, it may be possible to easily display and save information of the one or more external aerosol generating systems.

The mobile device may display the first information and the second information in different manners. The step S2 of displaying the first information may be performed with a first manner and the step S5 of displaying the second information is performed with a second manner. The first

manner may be different from the second manner so that the displaying of the one or more registered devices and the one or more external devices may be optimized individually. The first manner may include an appearance of each of the one or more registered aerosol generating systems as shown lower right-hand side of Figure 6. In this manner, when the user swipes the appearance of registered aerosol generating system displayed onto the mobile device, appearance of another registered aerosol generating system may be displayed onto the mobile device. In this way, it is possible to show the first list of the one or more registered aerosol generating systems in illustrative ways on the mobile device. The second manner may include a list or an appearance of each of the one or more external aerosol generating systems.

Figure 2 shows schematically examples of aerosol generating systems with different detachable portions. Each of the one or more registered aerosol generating systems and the one or more external aerosol generating systems may have a detachable portion configured to be replaced according to a user preference. As shown in figure 3, a detachable portion 1021a of an aerosol generating system 102 may be different from a detachable portion 1021b of another aerosol generating system 102. Since a detachable portion may comprise a part of the aerosol generating system, an appearance of an aerosol generating system may be changed, if the detachable portion is replaced. Therefore, the appearance of each of the one or more registered aerosol generating systems displayed as the first manner and the appearance of each of the one or more external aerosol generating systems displayed as the second manner may be configured to be changed based on a replacement of the detachable portion.

In the first manner, aerosol generating systems, among the one or more registered aerosol generating systems, which have

same appearance may be combined into a single item on the first list. As explained above, the first information comprising the indication to one or more registered aerosol generating systems can be acquired from a database located internally or externally. The mobile device may be possible to change a way of acquiring the first information and there may be a duplicated data of the one or more registered aerosol generating systems which has been saved in the personal computing data and acquired again from an external database. However, aerosol generating systems with a same appearance does not need to be shown multiple times on the mobile device, if the aerosol generating systems are actually identical to each other. Therefore, the aerosol generating systems which have same appearance may be combined into a single item on the first list for an illustrative purpose.

Although there may be case where different aerosol generating systems have same appearance, they may be still combined into a single item on the first list for an illustrative purpose. Still, it would be possible to connect with one aerosol generating system among the different aerosol generating systems with same appearance based on the second user input. This may be done by having the second manner which displays the aerosol generating systems having same appearance separately and functionating a notification unit of an aerosol generating system.

Alternatively, even if different aerosol generating systems have same or similar appearance, the first manner may be configured to separately display these different aerosol generating systems. In this alternative embodiment, a notification unit of selected aerosol generating system may be functionalized once the first input is given. It may be helpful for the user to recognize the selected aerosol

generating system to connect among the plurality of registered aerosol generating systems.

In the second manner, aerosol generating systems, among the one or more external aerosol generating systems, which have same appearance may be separately displayed. In this case, the method may further comprise the step of: functionating a notification unit of an aerosol generating system indicated by the second user input, if the aerosol generating system has same appearance with other external aerosol generating systems. In other words, there may be a case where aerosol generating systems having same appearance may be located in the vicinity of the mobile device and detected as external aerosol generating systems. When these aerosol generating systems are separately displayed on the mobile device, the user using the mobile device may not be able to easily distinguish the aerosol generating systems and aerosol generating system which one to connect with the mobile device. Therefore, by functioning the notification unit of the aerosol generating system indicated by the second user input, the user may be able to recognize which aerosol generating system has been chosen by the second user between the aerosol generating systems having same appearance.

Functionating may mean sending a signal to the aerosol generating system indicated by the first or second user input so that the aerosol generating system notifies the user. The notification unit may notify the user in various ways, such as, a LED, a speaker, a vibration motor and a combination of different notification modalities. For example, if there are two external aerosol generating systems having a same appearance, one of the two external aerosol generating systems may output a notification by blinking an integrated LED light bulb to notify the user about the selection, which is, the indication by the second user input.

Figure 3 shows schematically an overview of communications according to an embodiment of the present invention. The mobile device 104 may communicate with a server 1 accessible via a communication. The server 1 may be accessible via a cloud service 2. The mobile device 104 may communicate with an aerosol generating system 102 or a plurality of aerosol generating systems 102 via a local communication protocol. The local communication protocol has been depicted in a dotted line in figure 3. The local communication protocol may be a communication protocol allowing direct communication between the one or more external aerosol generating system and the mobile device 104. For example, the direct communication may be Bluetooth, Wi-Fi or NFC. In this way the mobile device 104 and the one or more external aerosol generating system can directly communicate between each other.

Figures 4 and 5 show schematically communication sequences according to previously described embodiments of the invention. The mobile device is represented as central, and the one or more external aerosol generating systems have been represented as peripherals. As illustrated, the acquiring the second information may comprise the steps of: acquiring one or more advertising signals; sending one or more scan requests in response to the acquiring the one or more advertising signals; and receiving one or more scan responses from the one or more external aerosol generating systems.

The one or more advertising signals from the one or more external aerosol generating systems may be received via the local communication protocol. At this stage, the mobile device may not yet be able to recognize which aerosol generating system is sending an advertising signal. This step may mean that there is at least an aerosol generating system

which is in the vicinity of the mobile device and able to communication with the mobile device via the local communication protocol. Then, the mobile device may send one or more scan requests in response to acquisition of the one or more advertising signals. The one or more scan requests may request an answer from each of the one or more external aerosol generating systems. When the one or more external aerosol generating systems send responses in answer to the one or more scan requests, one or more scan responses may be received by the mobile device from the one or more external aerosol generating systems. In this way, external aerosol generating systems which do not send scan response will not be connected with the mobile device and not considered for further steps.

The step of connecting the target aerosol generating system may comprise the steps of: sending a connection request to the target aerosol generating system; receiving a connection response from the target aerosol generating system, and establishing a connection between the target aerosol generating system and the mobile device based on the connection response. When the target aerosol generating system is determined among the one or more external aerosol generating systems, the connection request may be sent to the target aerosol generating system. In response to the connection request, the target aerosol generating system may send the connection response. Once the connection response has been received in response to the connection request, a connection between the target aerosol generating system and the mobile device may be established based on the connection response. The connection may be established via the local communication protocol.

The step of acquiring the first information may comprise the steps of: acquiring a user identification information from

the mobile device; acquiring a user information based on the user identification information from the database; and acquiring the first information according to the user information. The user identification information may be a log-in data of the user. The user identification information may be acquired by a user of the mobile device, for example, by inputting the log-in data onto the mobile device, or from data stored in the mobile device, for example, from cookies pre-stored in the mobile device. If there is a pre-stored log-in data, the user may not need to input the log-in data every time the user logs in, since the log-in data can be automatically filled in.

Based on the user identification information, the user information may be acquired from the database. The user information may be a profile of the user, including information on the one or more registered aerosol generating systems. In other words, the user information may be information comprising the user identification information and the one or more registered aerosol generating system of the user. Therefore, the first information may be acquired according to the user information.

Figure 6 shows schematically a mobile device, a web browser and a progressive web application (PWA) according to an embodiment of the present invention. A native application 326 may be installed on the mobile device 104. The native application 326 may be an application built for use on the mobile device 104. The native application 326 may be capable of loading a web browser 324. By giving an appropriate address on the web browser 324, the user of the mobile device 104 may be able to access the PWA 328. The PWA 328 may be launched on the web browser 324. In this way, the user of the mobile device 104 may not need to install an application designated for single use.

Since the PWA 328 can be launched on the web browser 324, it may be possible to use cookies accessible with the web browser 324 and ease the use of the PWA 328. When the user logs in to the PWA 328, the PWA 328 may require certain information from the user, such as the log-in data of the user, an age of the user and a consent for a use personal information. Although this information may be important for the use of the PWA, privacy of the user etc., the information may not need to be given at every time the user logs in. Therefore, the cookies accessible via the web browser 324 may enable skipping of some steps by filling in the information without displaying and waiting for inputs from the user. However, alternatively, it may be possible to access contents of the PWA 328 by an application designated for this use as well.

In description, generally, an aerosol generating system may comprise an aerosol generating device such as an e-cigarette and optionally a holder, charger or cradle device which may hold and/or charge the aerosol generating device.

According to an embodiment of the present invention, the mobile device comprising means for carrying out the steps described throughout this document. In the foregoing description, aspects are described with reference to several embodiments. Accordingly, the specification should be regarded as illustrative, rather than restrictive. Similarly, the figures illustrated in the drawings, which highlight the functionality and advantages of the embodiments, are present for example proposes only.

While various embodiments of the present disclosure have been described above, it should be understood that they have been presented by way of example, not limitation. It will be

apparent to persons skilled in the relevant art(s) that various changes in form and detail can be made therein. Thus, the above-described exemplary embodiments are not limiting.

Claims:

1. A method for being performed in a mobile device comprising the steps of:

acquiring from a database first information comprising an indication to one or more registered aerosol generating systems registered to a user;

displaying the first information on the mobile device by listing the one or more registered aerosol generating systems;

receiving a first user input given on the first information for selecting an aerosol generating system among the one or more registered aerosol generating systems;

after receiving the first user input, acquiring second information comprising an indication to one or more external aerosol generating systems via a local short-range wireless communication protocol, said one or more external aerosol generating systems being in the vicinity of the mobile device ;

displaying the second information onto the mobile device by listing the one or more external aerosol generating systems;

receiving a second user input given on the second information for selecting an aerosol generating system among the one or more external aerosol generating systems;

outputting a message requesting a user confirmation if the first user input and the second user input indicate different aerosol generating systems, said user confirmation relating to a consent to connect an aerosol generating system with the mobile device or a rejection to connect an aerosol generating system with the mobile device.

2. The method according to claim 1; further comprising the steps of:

receiving a third user input given on the message requesting the user confirmation; and

displaying the first information or the second information on the mobile device again, if the third user input indicates rejection against the user confirmation.

3. The method according to claim 1; further comprising the steps of:

receiving a third user input given on the message requesting the user confirmation;

determining as a target aerosol generating system an aerosol generating system indicated by the second user input, if the third user input indicates consent to the user confirmation; and

connecting the target aerosol generating system with the mobile device.

4. The method according to any one of claims 1 to 3; wherein

the first information comprises a first list of the one or more registered aerosol generating systems; and

the second information comprises a second list of the one or more external aerosol generating systems.

5. The method according to claim 4; wherein

the displaying the first information is performed with a first manner;

the displaying the second information is performed with a second manner; and

the first manner is different from the second manner.

6. The method according to claim 5; wherein

the first manner includes an appearance of each of the one or more registered aerosol generating systems;
the second manner includes an appearance of each of the one or more registered aerosol generating systems;

each of the one or more registered aerosol generating systems and the one or more external aerosol generating systems includes a detachable portion configured to be replaced according to user preference; and

the appearance of each of the one or more registered aerosol generating systems on the first list and the appearance of each of the one or more external aerosol generating systems are configured to be changed based on a replacement of the detachable portion.

7. The method according to claim 6; wherein

in the first manner, among the one or more registered aerosol generating systems, aerosol generating systems which have same appearance are combined into a single item on the first list.

8. The method according to claim 6 or 7; wherein

in the second manner, among the one or more external aerosol generating systems, aerosol generating systems which have same appearance are separately displayed; and

the method further comprises the step of:

functionating a notification unit of an aerosol generating system indicated by the second user input, if the aerosol generating system has same appearance with other external aerosol generating systems.

9. The method according to any one of claims 1 to 8; wherein

the local short-range wireless communication protocol is a communication protocol allowing a direct communication between the one or more external aerosol generating systems and the mobile device.

10. The method according to any one of claims 1 to 9; wherein the acquiring the second information comprises the steps of:

acquiring one or more advertising signals;

sending one or more scan requests in response to the acquiring the one or more advertising signals; and

receiving one or more scan responses from the one or more external aerosol generating systems.

11. The method according to claim 3; wherein the connecting the target aerosol generating system comprises the steps of:

sending a connection request to the target aerosol generating system;

receiving a connection response from the target aerosol generating system, and

establishing a connection between the target aerosol generating system and the mobile device based on the connection response.

12. The method according to any one or claims 1 to 11, wherein the acquiring the first information comprises the steps of:

acquiring a user identification information from the mobile device;

acquiring a user information based on the user identification information from the database; and

acquiring the first information according to the user information.

13. The method according to claim 12, wherein

the user identification information is acquired by a user of the mobile device or from data stored in the mobile device.

14. A mobile device comprising means for carrying out the steps of the method of claim 1.

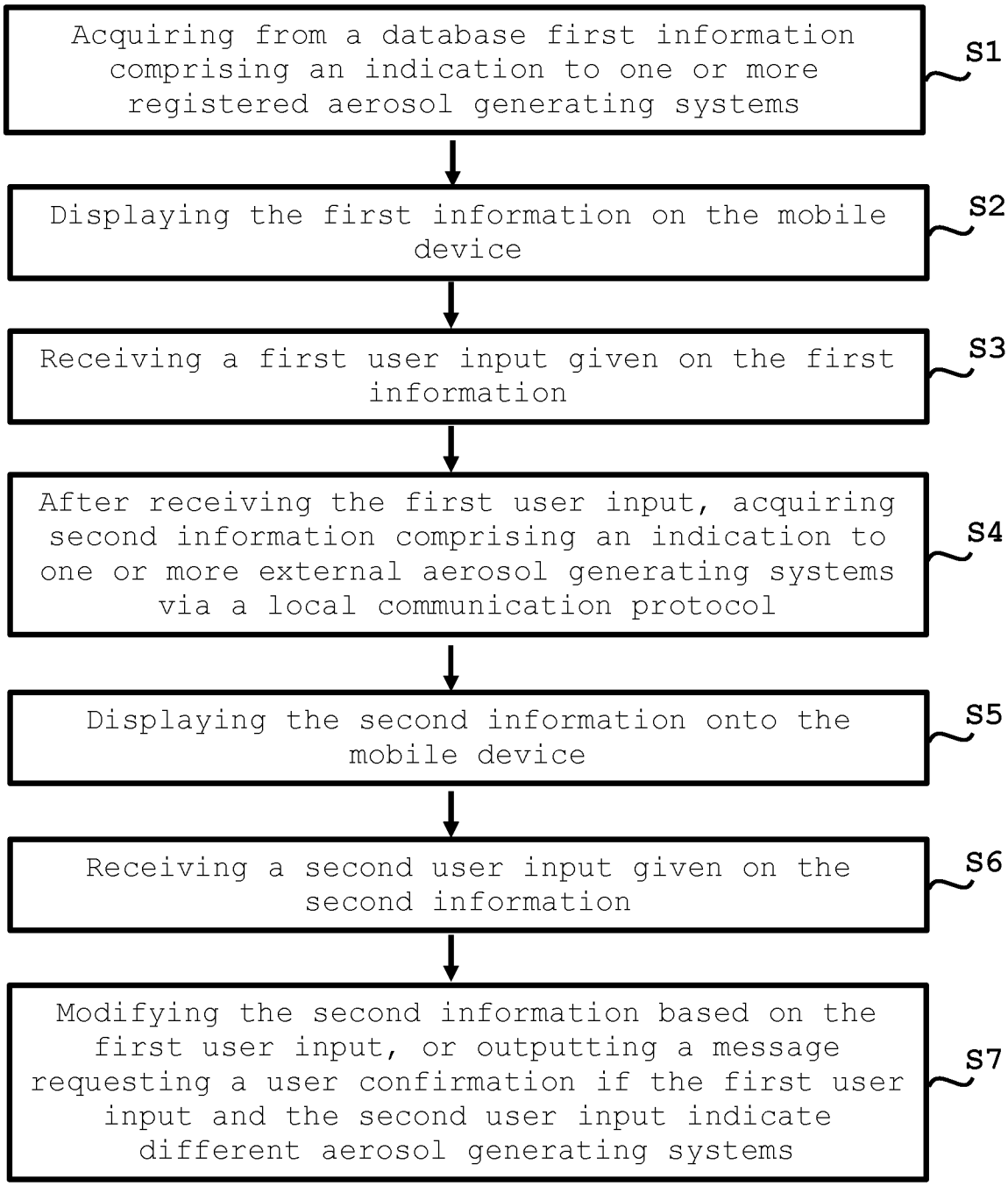
Acquiring from a database first information comprising an indication to one or more registered aerosol generating systems
S1
Displaying the first information on the mobile device
S2
Receiving a first user input given on the first information
S3
After receiving the first user input, acquiring second information comprising an indication to one or more external aerosol generating systems via a local communication protocol
S4
Displaying the second information onto the mobile device
S5
Receiving a second user input given on the second information
S6
Modifying the second information based on the first user input, or outputting a message requesting a user confirmation if the first user input and the second user input indicate different aerosol generating systems
S7

Figure 1

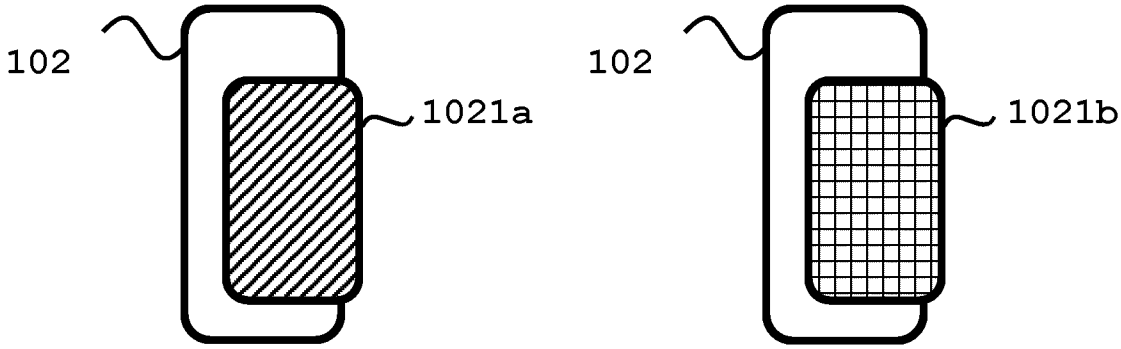

Figure 2

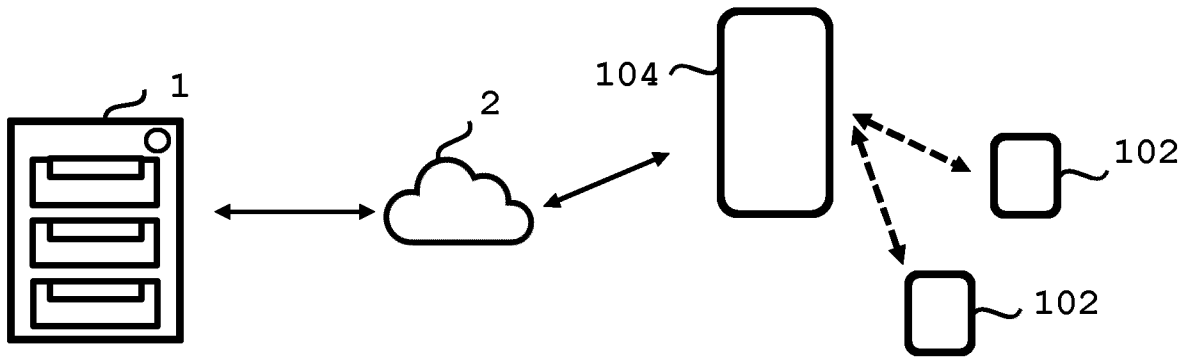

Figure 3

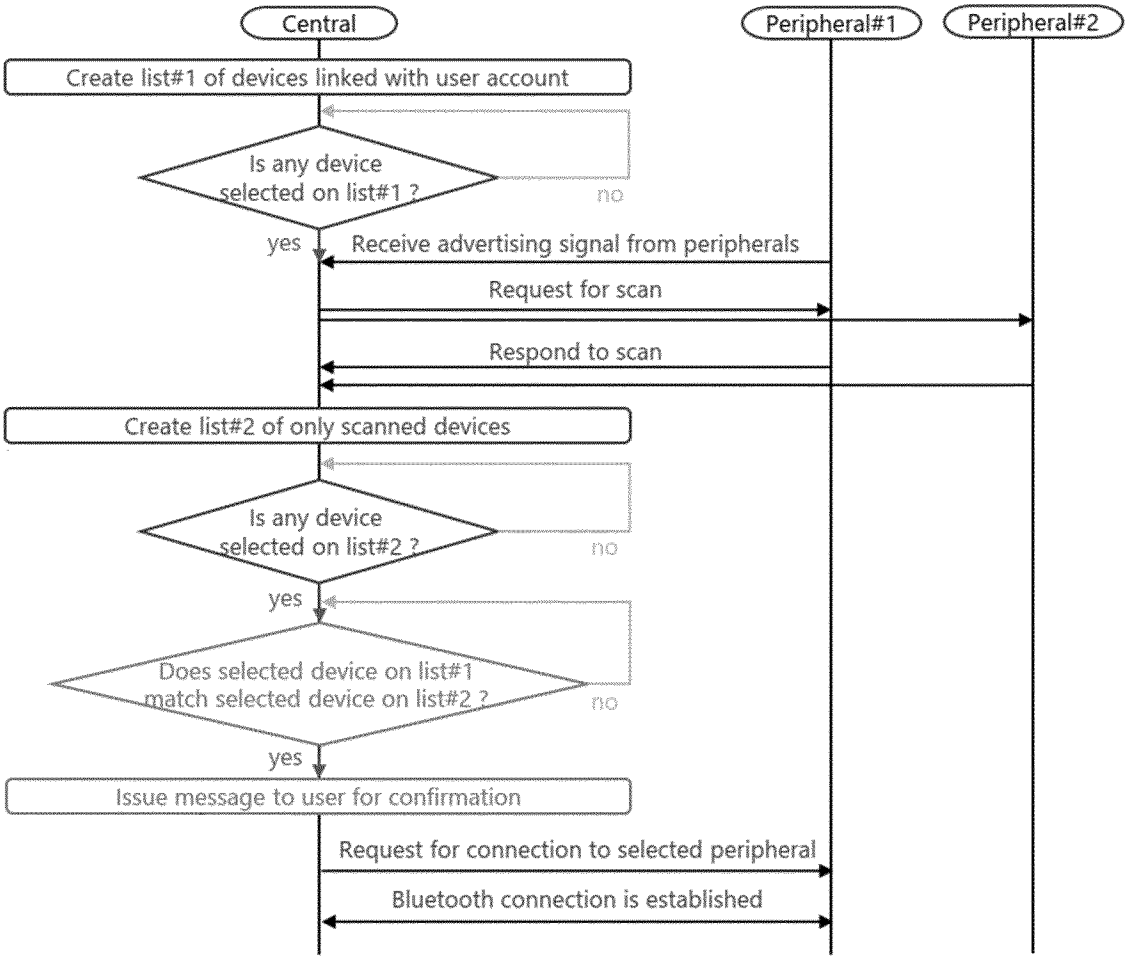
Central
Peripheral#1
Peripheral#2
Create list#1 of devices linked with user account
Is any device selected on list#1 ?
no
yes
Receive advertising signal from peripherals
Request for scan
Respond to scan
Create list#2 of only scanned devices
Is any device selected on list#2 ?
no
yes
Does selected device on list#1 match selected device on list#2 ?
no
yes
Issue message to user for confirmation
Request for connection to selected peripheral
Bluetooth connection is established

Figure 4

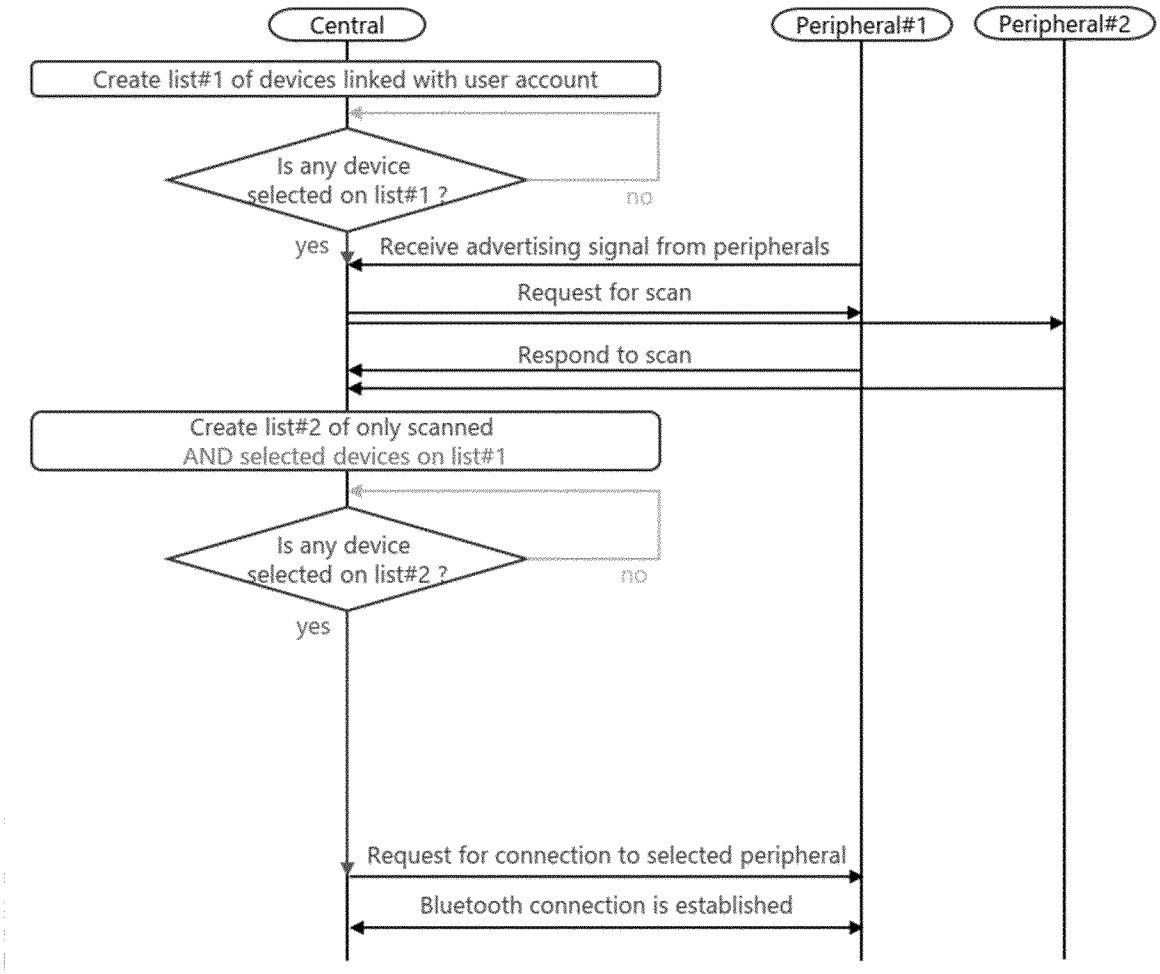
Central
Peripheral#1
Peripheral#2
Create list#1 of devices linked with user account
Is any device selected on list#1 ?
no
yes
Receive advertising signal from peripherals
Request for scan
Respond to scan
Create list#2 of only scanned AND selected devices on list#1
Is any device selected on list#2 ?
no
yes
Request for connection to selected peripheral
Bluetooth connection is established

Figure 5

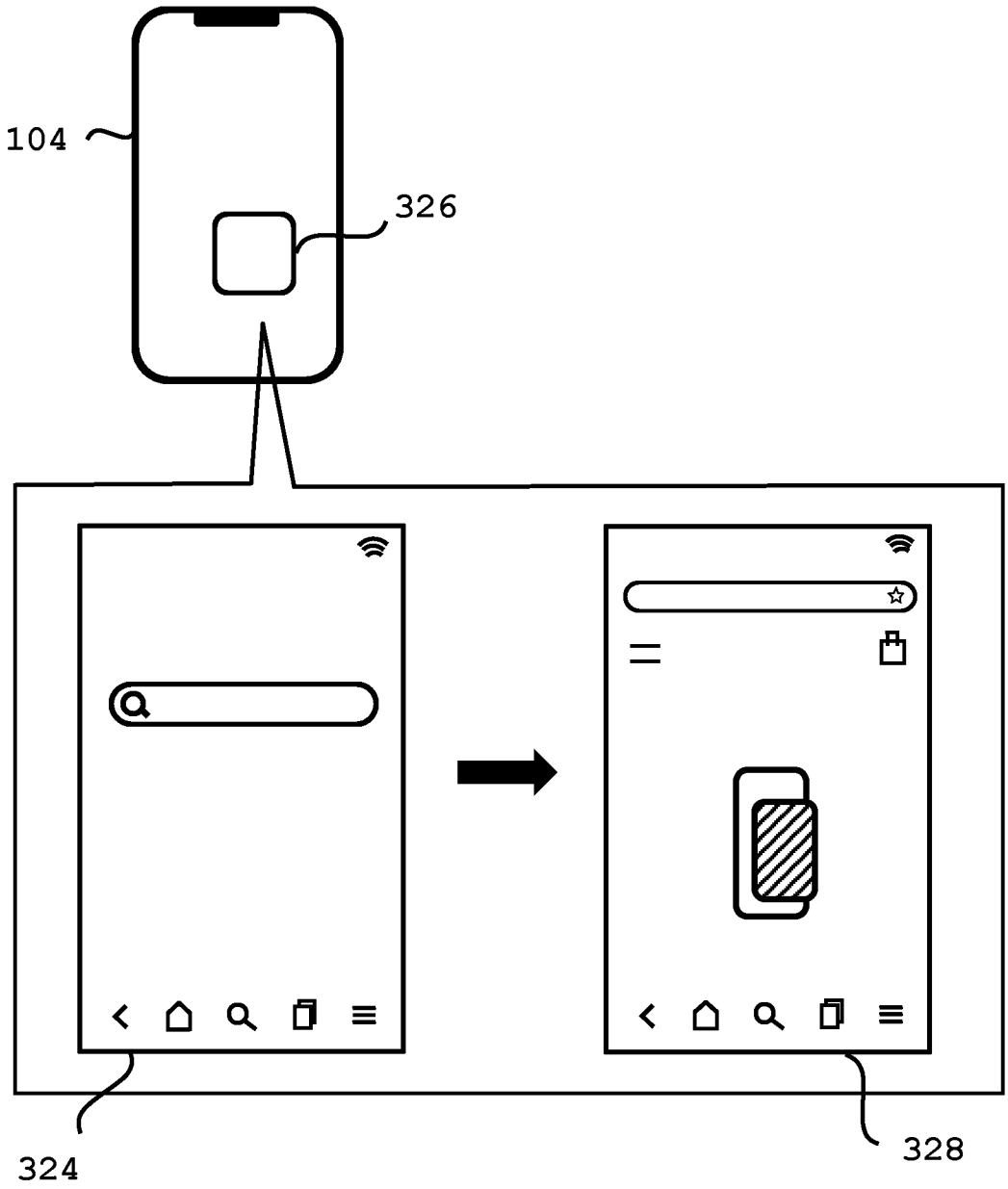

Figure 6

INTERNATIONAL SEARCH REPORT

International application No
PCT/EP2024/063588

A. CLASSIFICATION OF SUBJECT MATTER
INV. H04W4/80
ADD.

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)
H04W

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)
EPO-Internal, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 2022/408841 A1 (KIM YONG HWAN [KR] ET AL) 29 December 2022 (2022-12-29) abstract paragraphs [0018] - [0031], [0058] - [0078]; figures 1,3,6 -----	1-14
X	US 2022/279860 A1 (STOCKALL ADRIAN PETER [CH] ET AL) 8 September 2022 (2022-09-08) abstract paragraphs [0007] - [0030], [0141] - [0242] figures 1,4, 5,6A, 14A, 14B, 15A -----	1-14

☐ Further documents are listed in the continuation of Box C.

☒ See patent family annex.

* Special categories of cited documents :

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"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
7 June 2024	17/06/2024

Name and mailing address of the ISA/	Authorized officer
European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Fax: (+31-70) 340-3016	Pandolfi, Alessandra

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No
PCT/EP2024/063588

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
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		JP 7228032 B2	22-02-2023
		JP 2022522081 A	14-04-2022
		KR 20210092081 A	23-07-2021
		KR 20210135967 A	16-11-2021
		US 2022408841 A1	29-12-2022
		WO 2021145569 A1	22-07-2021
US 2022279860 A1	08-09-2022	CN 114144082 A	04-03-2022
		EP 4008119 A1	08-06-2022
		JP 2022542638 A	06-10-2022
		KR 20220044961 A	12-04-2022
		US 2022279860 A1	08-09-2022
		WO 2021023533 A1	11-02-2021