

[0068] *** Description of Effects of This Embodiment ***

Depending on the maintenance management system according to the present embodiment, it is possible to realize a platform for an air conditioner total service that connects an operation device (a user), a management device (a
5 manufacturer), and a maintenance support device (a maintenance support provider) with each other.

[0069] Depending on the maintenance management system according to the present embodiment, it is possible to realize to users, direct sales of consumable items for an air conditioner through an operation device as an entry point.

10 Further, depending on the maintenance management system according to the present embodiment, it is possible to suggest the users to purchase the most suitable consumable item and it is possible to improve the quality of the air conditioner total service including maintenance services.

[0070] Depending on the maintenance management system according to the
15 present embodiment, an advice instruction can be transmitted to a maintenance terminal device of a maintenance person so that the maintenance person can explain a consumable item in response to the environment of a user, a degree of dirtiness of the consumable item, and a need of the user. Therefore, depending on the maintenance management system according to the present embodiment,
20 it is possible to realize direct sales for consumable items that are reliable and satisfactory for users.

[0071] *** Other Configurations ***

In the present embodiment, the function of each device in the maintenance management system 500 is implemented by software. As a
25 modified example, the function of each device in the maintenance management

conditioner total service.

[0092] In Embodiments 1 and 2 above, each unit of each device in the maintenance management system 500 has been described as an independent functional block. However, the configuration of each device in the maintenance management system 500 may be different from the configurations described in the above embodiments. The functional block of each device in the maintenance management system 500 may be arranged in any configuration, provided that the functions described in the above embodiments can be realized. Further, each device in the maintenance management system 500 may be a single device or a system composed of a plurality of devices.

Further, Portions of Embodiments 1 to 2 may be implemented in combination. Alternatively, one portion of these embodiments may be implemented. These embodiments may be implemented as a whole or partially in any combination.

That is, in Embodiments 1 and 2, each embodiment may be freely combined or any constituent element of each embodiment may be modified. Alternatively, in each embodiment, any constituent element may be omitted.

[0093] The embodiments described above are essentially preferable examples and are not intended to limit the scope of the present disclosure, the scope of applications of the present disclosure, and the scope of uses of the present disclosure. The embodiments described above can be modified in various ways as necessary.

Reference Signs List

[0094] 31: user; 32: maintenance person; 40: consumable item; 41: purchase candidates; 42: purchase consumable item; 43: advice instruction; 44:

CLAIMS

[Claim 1] A maintenance management system that comprises: a management device to manage an air conditioner operated by an operation device; and a maintenance support device to support maintenance of the air conditioner, and that manages the maintenance of the air conditioner, the management device including~~comprising~~:

~~a candidate display unit to select based on lifestyle information that shows a lifestyle of a user who uses the air conditioner, a type to be presented to the user, from among a plurality of types of a consumable item used in the air conditioner, and to display the selected type on the operation device as purchase candidates;~~

~~—— a selection reception unit to receive a candidate selected by the user from among the purchase candidates, as a purchase consumable item; and~~

~~—— a purchase support unit to let the user purchase the purchase consumable item through an electronic commerce environment. and the maintenance support device comprising:~~

~~—— a cleaning determination unit to determine based on the lifestyle information transmitted by the management device, whether or not cleaning for the air conditioner is necessary and to transmit to the operation device when it is determined that the cleaning is necessary, a cleaning notification for notifying the user that the cleaning is necessary; and~~

~~—— a cleaning support unit to display on the operation device, a list of cleaning companies, each of which provides a cleaning service on the air conditioner, to receive a cleaning service request that requests the cleaning service on the air conditioner and indicates a cleaning company selected by the~~

user from the list of the cleaning companies, to execute based on the cleaning service request, a process of arranging the cleaning service, and to let the user input an evaluation for the selected cleaning company after the selected cleaning company has completed providing the cleaning service.

5 [Claim 27] The maintenance management system according to claim 16, wherein

the cleaning determination unit causes the operation device to display the cleaning notification via a maintenance application which is an application program implemented in the operation device and

10 the cleaning support unit receives the cleaning service request via the maintenance application.

[Claim 38] The maintenance management system according to claim 27, wherein

15 the cleaning support unit displays on the operation device via the maintenance application, ~~the~~ a list of the cleaning companies, ~~each of which provides the cleaning service, receives the cleaning service request indicating a cleaning company selected by the user from the list of the cleaning companies,~~ and lets the user input an evaluation for the selected cleaning company via the maintenance application after the selected cleaning company has completed

20 providing the cleaning service.

[Claim 49] The maintenance management system according to claim 38, wherein

25 the cleaning support unit gives a usage point to the user via the maintenance application after providing the cleaning service has been completed.

[Claim ~~540~~] The maintenance management system according to claim ~~38~~ or claim ~~49~~, wherein

the cleaning support unit transmits to the management device as cleaning service information, a usage status of the cleaning service for the user at a time when providing the cleaning service has been completed.

[Claim ~~644~~] The maintenance management system according to any one of claim ~~16~~ to claim ~~540~~, wherein

the management device comprises a cleaning liquid determination unit to determine based on the lifestyle information, a type of cleaning liquid used for the cleaning service and to transmit a determination result to the maintenance support device as a recommended cleaning liquid and

the cleaning determination unit transmits to the operation device, the cleaning notification indicating the recommended cleaning liquid.

[Claim 7] The maintenance management system according to any one of claim 1 to claim 6, wherein

the management device comprises: a candidate display unit to select based on the lifestyle information, a type to be presented to the user, from among a plurality of types of a consumable item used in the air conditioner, and to display the selected type on the operation device as purchase candidates;

a selection reception unit to receive a candidate selected by the user from among the purchase candidates, as a purchase consumable item; and

a purchase support unit to let the user purchase the purchase consumable item through an electronic commerce environment.

[Claim ~~82~~] The maintenance management system according to claim ~~74~~, wherein

the candidate display unit acquires an advice instruction for narrowing down the purchase candidates and displays on the operation device, the purchase candidates narrowed down by following the advice instruction.

[Claim 93] The maintenance management system according to claim 82,
5 wherein

the maintenance support device comprises an advice transmission unit that transmits to the operation device, the advice instruction input by a maintenance person via a maintenance terminal device used by the maintenance person who operates the maintenance of the air conditioner and

10 the candidate display unit acquires the advice instruction transmitted by the advice transmission unit.

[Claim 104] The maintenance management system according to any one of claim 74 to claim 93, wherein

the consumable item is a filter used in the air conditioner and
15 a plurality of types of the filter includes a dust collection filter, a deodorization filter, and an allergen removal filter.

[Claim 115] The maintenance management system according to any one of claim 74 to claim 104, wherein

the maintenance support device acquires consumable item usage
20 information that shows a usage status of the air conditioner by the user at a time when the purchase consumable item is used in the air conditioner, and comprises a usage information transmission unit that transmits the consumable item usage information to the management device and

the management device comprises an information setting unit that sets
25 the consumable item usage information in the lifestyle information.

~~[Claim 6] — The maintenance management system according to any one of claim 1 to claim 5, wherein~~

~~—— the maintenance support device comprises:~~

~~—— a cleaning determination unit to determine based on the lifestyle~~

~~information transmitted by the management device, whether or not cleaning for the air conditioner is necessary and to transmit to the operation device when it is determined that the cleaning is necessary, a cleaning notification for notifying the user that the cleaning is necessary; and~~

~~—— a cleaning support unit to receive a cleaning service request that~~

~~requests a cleaning service on the air conditioner and to execute based on the cleaning service request, a process of arranging the cleaning service.~~

[Claim 12] A maintenance management method by a maintenance management system that comprises: a management device to manage an air conditioner operated by an operation device; and a maintenance support device to support maintenance of the air conditioner, and that manages the maintenance of the air conditioner, the maintenance management method comprising:

~~by a candidate display unit of the management device, selecting determining based on lifestyle information that shows a lifestyle of a user who uses the air conditioner, transmitted by the management device, whether or not cleaning for the air conditioner is necessary and transmitting to the operation device when it is determined that the cleaning is necessary, a cleaning notification for notifying the user that the cleaning is necessary and~~

~~—— displaying on the operation device, a list of cleaning companies, each of which provides a cleaning service on the air conditioner, receiving a cleaning~~

service request that requests the cleaning service on the air conditioner and indicates a cleaning company selected by the user from the list of the cleaning companies, executing based on the cleaning service request, a process of arranging the cleaning service, and letting the user input an evaluation for the selected cleaning company after the selected cleaning company has completed providing the cleaning service.

~~a type to be presented to the user, from among a plurality of types of a consumable item used in the air conditioner, and displaying the selected type on the operation device as purchase candidates;~~

~~—— by a selection reception unit of the management device, receiving a candidate selected by the user from among the purchase candidates, as a purchase consumable item; and~~

~~—— by a purchase support unit of the management device, letting the user purchase the purchase consumable item through an electronic environment.~~

[Claim 13] A maintenance management program for a maintenance management system that comprises: a management device to manage an air conditioner operated by an operation device; and a maintenance support device to support maintenance of the air conditioner, and that manages the maintenance of the air conditioner, the maintenance management program causing a computer to execute:

a candidate display process to ~~select~~determine based on lifestyle information that shows a lifestyle of a user who uses the air conditioner, transmitted by the management device, whether or not cleaning for the air conditioner is necessary and to transmit to the operation device when it is

determined that the cleaning is necessary, a cleaning notification for notifying the user that the cleaning is necessary and

_____ a cleaning support process to display on the operation device, a list of cleaning companies, each of which provides a cleaning service on the air

5 conditioner, to receive a cleaning service request that requests the cleaning service on the air conditioner and indicates a cleaning company selected by the user from the list of the cleaning companies, to execute based on the cleaning service request, a process of arranging the cleaning service, and to let the user input an evaluation for the selected cleaning company after the selected
 10 cleaning company has completed providing the cleaning service.

~~_____ a type to be presented to the user, from among a plurality of types of a consumable item used in the air conditioner, and to display the selected type on the operation device as purchase candidates;~~

~~_____ a selection reception process to receive a candidate selected by the user~~
 15 ~~from among the purchase candidates, as a purchase consumable item; and~~

~~_____ a purchase support process to let the user purchase the purchase consumable item through an electronic environment.~~