

## **APP SYSTEM FOR CLEANING MANAGEMENT AND SERVICE**

### **BACKGROUND OF THE INVENTION**

#### **1. Field of the Invention**

The invention relates APP systems and more particularly to an APP system for cleaning management and service to allow a user to know the current cleaning status and report complaints to an employee in charge of the cleaning, thereby improving cleaning management quality.

#### **2. Description of Related Art**

Conventionally, in cleaning a large building or the like a user contacts a cleaning company and then a cleaning company assigns an employee to clean the building. However, a user neither knows the employee nor knows cleaning progress in time during the cleaning. Further, the user has to contact the cleaning company if the user finds the cleaning to be incomplete or other problems. Thereafter, the cleaning company contacts the employee in charge of the cleaning. This is a time consuming process and thus the problems cannot be solved in time.

Thus, the need for improvement still exists.

### **SUMMARY OF THE INVENTION**

It is therefore one object of the invention to provide an APP system for cleaning management and service comprising an application system provided in a terminal device, the application system including a user identification module, the user identification module having at least one manager module, at least one on-site staff module, at least one employee module, and at least one service employee module wherein user names and their rights are recorded in the manager module, the on-site staff module, the employee module, or the service employee module; the manager module includes a first service module and a first service record module wherein the first service module is configured to provide a menu of service items, after the service items have been activated, corresponding regions in charge are assigned to both the

on-site staff module and the service employee module for processing, and the first service record module shows the service items and processing progress based on publication date and time of the first service module; the on-site staff module includes a second service module, a second service record module, and a staff management module wherein the second service module is connected to the first service module and shows the following: the manager module publishes the service items to be processed and publication date and time, name and correspondence of the service employee module of a corresponding region, processing progress and projected date and time to be finished, the second service record module records the service items and processing progress based on the second service module; the employee module includes a third service record module and a warehouse management module wherein the third service record module is connected to the second service record module and simultaneously shows the same, the warehouse management module is used to manage inventory and take-out items; and the service employee module includes a fourth service module and a fourth service record module wherein the fourth service module is connected to the first service module and shows the service items to be processed, locations, and publication date and time published by the manager module, and the fourth service record module shows the service items and processing progress based on the fourth service module.

By utilizing the cleaning management and service APP system of the invention, after a cleaning job has been assigned to an employee, a leader of a group of employees and the employee in charge of cleaning are informed the same by a manager by an online notification. This simplifies the job flow and save time. The employee can report cleaning status online so that both the manager and the group leader may know cleaning progress in time. Further, the group leader may assign additional employees to the cleaning site if such need arises. Alternatively, the group leader may have opinions and agree to assign more employees to support the

cleaning job at the manager's suggestion if the need is confirmed.

The above and other objects, features and advantages of the invention will become apparent from the following detailed description taken with the accompanying drawings.

## 5 BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a block diagram of an APP system for cleaning management and service according to the invention;

FIG. 2 depicts a bed cleaning service menu of a first service module of a manager module of the invention;

10 FIG. 3 depicts a scroll-down interface of the bed cleaning service menu;

FIG. 4 depicts a sanitizing menu of the first service module of the manager module of the invention;

FIG. 5 depicts the first service record module of the manager module;

FIG. 6 depicts status of the first service record module of the manager module;

15 FIG. 7 depicts a first list menu of the manager module;

FIG. 8 depicts a second service module of an on-site staff module of the invention;

FIG. 9 depicts a second service record module of the on-site staff module;

FIG. 10 depicts a staff management module of the on-site staff module;

20 FIG. 11 depicts a warehouse management module of an employee module of the invention;

FIG. 12 depicts a management system module of the employee module;

FIG. 13 depicts a publication module of the employee module;

25 FIG. 14 depicts a fourth service module of a service employee module of the invention;

FIG. 15 depicts a fourth service record module of the service employee module;

FIG. 16 depicts a cleaning quality check list module of the service employee

module;

FIG. 17 depicts an activation interface of the cleaning quality check list module ;  
and

FIG. 18 depicts general public how to respond by scanning QR code in case of  
5 trash according to the invention.

## DETAILED DESCRIPTION OF THE INVENTION

Referring to FIG. 1, an APP system for cleaning management and service in accordance with the invention comprises an application system 12 provided in a terminal device (e.g., mobile phone, tablet computer, or personal computer) 10, the  
10 application system 12 including a user identification module 14, the user identification module 14 having at least one manager module 20, at least one on-site staff module 30, at least one employee module 40 and at least one service employee module 50 in which user names and their rights are recorded in the manager module 20, the on-site staff module 30, the employee module 40 or the service employee module 50.

15 The manager module 20 includes a first service module 21 and a first service record module 22. The first service module 21 may provide a menu of service items. After the service items have been activated, corresponding regions in charge are assigned to the on-site staff module 30 and the service employee module 50 for processing. The first service record module 22 shows the service items and  
20 processing progress based on publication date and time of the first service module 21.

The on-site staff module 30 includes a second service module 31, a second service record module 32 and a staff management module 33 in which the second service module 31 is connected to the first service module 21 and shows the following: the manager module 20 publishes the service items to be processed and publication  
25 date and time, name and correspondence of the service employee module 50 of a corresponding region, processing progress and projected date and time to be finished. The second service record module 32 records the service items and processing

progress based on the second service module 31.

The employee module 40 includes a third service record module 41 and a warehouse management module 42. The third service record module 41 is connected to the second service record module 32 and simultaneously shows the same. The warehouse management module 42 is used to manage inventory and take-out items. The service employee module 50 includes a fourth service module 51 and a fourth service record module 52. The fourth service module 51 is connected to the first service module 21 and shows the service items to be processed, locations, and publication date and time published by the manager module 20. The fourth service record module 52 shows the service items and processing progress based on the fourth service module 51. The fourth service module 51 includes a processing delay menu 511, a processing beginning menu 512 and a job finish menu 513 for updating the processing progress and synchronously transmitting same to the first service record module 22, the second service record module 32, the third service record module 41 and the fourth service record module 52 respectively.

Referring to FIGS. 2 and 3 in conjunction with FIG. 1, FIG. 2 shows the interface is the screen shot after the manager module 20 has been loaded. The manager module 20 can select a bed cleaning service menu 211, a cleaning service menu 212, a sanitizing menu 213 or a gardening service menu 214 from the first service module 21 as shown in FIG. 2.

FIG. 3 shows clicking the bed cleaning service menu 211. By scrolling down the screen, a user can select a cleaning ward number, a bed number, time, date, remarks and picture attachments. As shown in FIG. 3, it further shows the first service module 21 providing options of reservation service and immediate service so that bed cleaning in reserve or immediate bed cleaning can be chosen.

Referring to FIG. 4 in conjunction with FIG. 1, it shows the manager module 20 selects the sanitizing menu 213 from the first service module 21, the sanitizing menu

213 providing options of locations and remarks. While not shown, the sanitizing menu 213 provides options of reservation service and immediate service. Each of the cleaning service menu 212 and the gardening service menu 214 provide options of locations, remarks, reservation service and immediate service.

5 Referring to FIG. 5 in conjunction with FIGS. 1-4, it shows the screen after the manager module 20 has clicked the first service record module 22. As shown, the manager module 20 records the bed cleaning service menu 211 and the sanitizing menu 213 on June 5. The manager may review the first service record module 22 to confirm cleaning status or check service contents of the past seven days. Further, in 10 case that many managers use the application system at the same time, there are a plurality of the manager modules 20 each capable of reviewing respective reserved service menu. But the on-site staff module 30, the employee module 40 and the service employee module 50 are not limited. The on-site staff module 30 and the service employee module 50 can receive reserved service requests from the manager 15 modules 20 at nearby regions. The employee module 40 can receive reserved service requests from all of the manager modules 20. Likewise, the on-site staff module 30, the employee module 40 and the service employee module 50 are not limited to have one user. They can have many users respectively.

Referring to FIG. 6 in conjunction with FIGS. 1 and 5, respective service items of 20 the first service record module 22, the second service record module 32, the third service record module 41, and the fourth service record module 52 show status. In FIG. 6 in the first service record module 22 as an exemplary example, status sequentially shows stamp of publication date and time of the manager module 20, time stamp of processing progress of the service employee module 50 and time 25 stamp of job finish. For example, in the lower part of FIG. 5 “10 20” job menu is clicked, the “10 20” meaning ward number 10 and bed number 20, and the screen changes to screen of FIG. 6. Three circles are shown in the upper part of FIG. 6 and each circle is

associated with a specific status. A time stamped is shown beside the circle if a job is finished. Each circle can be filled with color or flashing when the job is finished so as to alert a user.

Referring to FIG. 7 in conjunction with FIG. 1, the manager module 20 further comprises a first list menu 23 being a daily work log menu, a fault record menu, a cleaning check list menu, a client complaint service menu, a list check menu, a satisfaction survey menu or any combination thereof. The daily work log menu shows job descriptions, jobs to be finished or signatures on a duty roster. The fault record menu shows fault descriptions. The cleaning check list menu shows self-evaluation scores of the service employee module 50. The client complaint service menu shows how a client submits complaints. The satisfaction survey menu shows many questions of cleaning satisfaction for evaluating client satisfaction in a 6-month period. The list check menu shows historical faults recorded on the manager module 20, client satisfaction survey, or public satisfaction survey.

Referring to FIG. 8 in conjunction with FIG. 1, after the manager module 20 has reserved a service, the second service module 31 of the on-site staff module 30 jumps out of reserved items of the manager module 20. The reserved items are classified based on all reserved items, reserved items to be served, reserved items being served or reserved items have been finished.

Referring to FIG. 9 in conjunction with FIG. 1, after the service employee module 50 has clicked the job finish menu 513, all finished items are updated in each of the first service record module 22 of the manager module 20, the second service record module 32 of the on-site staff module 30, the third service record module 41 of the employee module 40, and the fourth service record module 52 of the service employee module 50. The manager module 20 can evaluate all of the finished items and gives a score to each of the finished items. If the score is less than a preset value, the system issues an alert to each of the on-site staff module 30 and the employee

module 40 so that an on-site staff member or an employee can investigate the reasons of low score.

Referring to FIG. 10 in conjunction with FIG. 1, the staff management module 33 of the on-site staff module 30 includes an employee management menu 331 and a signature menu 332. The employee management menu 331 is connected to the service employee module 50. The employee management menu 331 has a substitute employee management menu and an address book. The substitute employee management menu shows a total number of employees on duty, a total number of employees on vacation, and a total number of substitute employees based on date. Regarding employees on vacation shown in the service employee module 50, the on-site staff module 30 can assign any employee shown in the service employee module 50 as a substitute employee. The substitute employee may receive a list of jobs to be finished from an employee shown in the service employee module 50 on vacation. The address book shows correspondence addresses in the service employee module 50. The signature menu 332 shows a procurement list, a change list, a signature list, a repair list and an order list to be written so as to implement online recording. The staff management module 33 of the on-site staff module 30 further comprises a second list menu 333 being a daily work log menu, a cleaning check list menu, a fault record menu, a cleaning evaluation menu, a public satisfaction survey menu or any combination thereof. The staff management module 33 is connected to the warehouse management module 42 of the employee module 40 so that inventory status and take-out items status can be reviewed.

Referring to FIG. 11 in conjunction with FIGS. 1 and 10, the warehouse management module 42 of the employee module 40 shows inventory status and take-out items status. As shown, the inventory status includes items, the number of inventory and the safety number of inventory; and the take-out items status shows items and the number of take-out items (not shown). The number of take-out items

includes the number of items taken out in this week and the average number of items taken out in the last four weeks. Thus, the purpose of item control is obtained.

Referring to FIG. 12 in conjunction with FIG. 1, the employee module 40 further comprises a management system module 43 including a list menu 431 and a list review menu 432. The list menu 431 includes a supervision check list for confirming jobs to be improved and evaluating a check result. The list review menu 432 is used to review the first list menu 23 or the second list menu 333. The management system module 43 is connected to the employee management menu 331 and the signature menu 332 for improving human resource management.

Referring to FIG. 13 in conjunction with FIG. 1, the employee module 40 further comprises a publication module 44. The manager module 20 includes a first publication receiving module 24. The on-site staff module 30 includes a second publication receiving module 34. The service employee module 50 includes a third publication receiving module 54. The publication module 44 is connected to the first publication receiving module 24, the second publication receiving module 34 and the third publication receiving module 54 respectively. The publication module 44 shows the latest information and education and training contents. The employee module 40 edits receiving counterparts which are the manager module 20, the on-site staff module 30, the service employee module 50 or any combination thereof.

Referring to FIGS. 14 and 15 in conjunction with FIG. 1, after the manager module 20 has reserved a service, the fourth service module 51 of the service employee module 50 issues a notification. The service employee module 50 can be a cleaning employee or sanitizing employee based on different service items reserved by the manager module 20. The competent service employee module 50 receives the service request and a corresponding cleaning employee or sanitizing employee processes the service request. The service employee module 50 provides services based on regions, locations and time assigned by the manager module 20. As shown

in FIG. 14, the processing delay menu 511 of the fourth service module 51 shows options including disposing garbage, receiving items, being cleaning or going to restroom to give a reason why the jobs assigned by the manager module 20 cannot be processed in time. The “being cleaning” means there are other cleaning jobs being taken. When the service employee module 50 begins to show “being cleaned”, it clicks the processing beginning menu 512 and shows an icon of being cleaned. After a service employee has finished cleaning or sanitizing, the fourth service module 51 can be manually updated as the job finish menu 513. The status of the fourth service module 51 changes service status of the fourth service record module 52. The status change of the fourth service record module 52 synchronously updates the first service record module 22 of the manager module 20, the second service record module 32 of the on-site staff module 30, the third service record module 41 of the employee module 40 and the fourth service record module 52 of the service employee module 50. Thus, a manager, an on-site staff member and an employee may know progress of the current service.

Referring to FIGS. 16 and 17 in conjunction with FIG. 1, the service employee module 50 includes a cleaning quality check list module 55. The cleaning quality check list module 55 is connected to the manager module 20 and the on-site staff module 30 respectively. The cleaning quality check list module 55 shows a number of important cleaning opinions so that an employee may pay attention to them and evaluate same. Both the manager module 20 and the on-site staff module 30 show an evaluation record of the cleaning quality check list module 55. Purpose of the cleaning quality check list module 55 is to allow an employee to check if there are any regions were not sufficiently cleaned after the cleaning has been finished, thereby increasing cleaning quality.

Referring to FIG. 18 in conjunction with FIG. 1, the on-site staff module 30 further comprises a first notification receiving menu 334, and the service employee module

50 further comprises a second notification receiving menu 56. A predetermined QR code 60 can be printed on a sticker (or a piece of paper) which can be adhered to a wall adjacent to an area where trash may be stacked. Thus, any person may scan the QR code 60 on the sticker to enter the cleaning service menu 212 to describe the dirty environment and report same if the person notices the trash stacked in the area. Next, the cleaning service menu 212 may send the report in a notification to both the first notification receiving menu 334 of the staff management module 33 and the second notification receiving menu 56 of the service employee module 50 in charge of cleaning and garbage disposal of the area. After the service employee module 50 has received the notification, one or more employees will go to the area indicated by the QR code 60 to do the cleaning.

While the invention has been described in terms of preferred embodiments, those skilled in the art will recognize that the invention can be practiced with modifications within the spirit and scope of the appended claims.

# WHAT IS CLAIMED IS:

1. An APP system for cleaning management and service, comprising:

an application system (12) provided in a terminal device (10), the application system (12) including a user identification module (14), the user identification module (14) having at least one manager module (20), at least one on-site staff module (30), at least one employee module (40), and at least one service employee module (50) wherein:

user names and their rights are recorded in the manager module (20), the on-site staff module (30), the employee module (40), or the service employee module (50);

the manager module (20) includes a first service module (21) and a first service record module (22) wherein the first service module (21) is configured to provide a menu of service items, after the service items have been activated, corresponding regions in charge are assigned to both the on-site staff module (30) and the service employee module (50) for processing, and the first service record module (22) shows the service items and processing progress based on publication date and time of the first service module (21);

the on-site staff module (30) includes a second service module (31), a second service record module (32), and a staff management module (33) wherein the second service module (31) is connected to the first service module (21) and shows the following: the manager module (20) publishes the service items to be processed and publication date and time, name and correspondence of the service employee module (50) of a corresponding region, processing progress and projected date and time to be finished, the second service record module (32) records the service items and processing progress based on the second service module (31);

the employee module (40) includes a third service record module (41) and a warehouse management module (42) wherein the third service record module (41) is connected to the second service record module (32) and simultaneously shows same,

and the warehouse management module (42) is configured to manage inventory and take-out items; and

the service employee module (50) includes a fourth service module (51) and a fourth service record module (52) wherein the fourth service module (51) is connected to the first service module (21) and shows the service items to be processed, locations, and publication date and time published by the manager module (20), and the fourth service record module (52) shows the service items and processing progress based on the fourth service module (51).

2. The APP system for cleaning management and service of claim 1, wherein the service items of the first service record module (22), the second service record module (32), the third service record module (41), and the fourth service record module (52) show status; and in the first service record module (22) status sequentially shows stamp of publication date and time of the manager module (20), time stamp of processing progress of the service employee module (50), and time stamp of job finish.

3. The APP system for cleaning management and service of claim 1, wherein the first service module (21) provides options of reservation service and immediate service so as to choose bed cleaning in reserve or immediate bed cleaning; the menu of the service items includes a bed cleaning service menu (211), a cleaning service menu (212), a sanitizing menu (213), and a gardening service menu (214); and the bed cleaning service menu (211) provides options of a cleaning ward number, a bed number, time, date, remarks, and picture attachments; and each of the cleaning service menu (212), the sanitizing menu (213), and the gardening service menu (214) provide options of locations, remarks, and picture attachments.

4. The APP system for cleaning management and service of claim 3, wherein the on-site staff module (30) further comprises a first notification receiving menu (334), and the service employee module (50) further comprises a second notification

receiving menu (56) wherein a predetermined corresponding QR code (60) is configured to be scanned to enter the cleaning service menu (212) to describe environment and report same, and the report is sent to both the first notification receiving menu (334) and the second notification receiving menu (56).

5 5. The APP system for cleaning management and service of claim 1, wherein the manager module (20) further comprises a first list menu (23) being a daily work log menu, a fault record menu, a cleaning check list menu, a client complaint service menu, a list check menu, a satisfaction survey menu, or any combination thereof; and the staff management module (33) further comprises a second list menu (333) being a  
10 daily work log menu, a cleaning check list menu, a fault record menu, a cleaning evaluation menu, a public satisfaction survey menu, or any combination thereof.

6. The APP system for cleaning management and service of claim 5, wherein the staff management module (33) includes an employee management menu (331) and a signature menu (332); the employee management menu (331) is connected to the  
15 service employee module (50); the employee management menu (331) has a substitute employee management menu and an address book; the substitute employee management menu shows a total number of employees on duty, a total number of employees on vacation, and a total number of substitute employees based on date; with respect to the employees on vacation, the on-site staff module (30) is  
20 capable of assigning any employee shown in the service employee module (50) as a substitute employee; the substitute employee is configured to receive a list of jobs to be finished from the employee shown in the service employee module (50) on vacation; the address book shows correspondence addresses in the service employee module (50), and the signature menu (332) shows a procurement list, a  
25 change list, a signature list, a repair list, and an order list to be written so as to implement online recording; and the staff management module (33) is connected to the warehouse management module (42) so that inventory status and take-out items

status are configured to be reviewed.

7. The APP system for cleaning management and service of claim 6, wherein the employee module (40) further comprises a management system module (43) including a list menu (431) and a list review menu (432); the list menu (431) includes a supervision check list for confirming jobs to be improved and evaluating a check result; the list review menu (432) is configured to review the first list menu (23) or the second list menu (333); and the management system module (43) is connected to both the employee management menu (331) and the signature menu (332) for improving human resource management.

8. The APP system for cleaning management and service of claim 1, wherein the employee module (40) further comprises a publication module (44); the manager module (20) includes a first publication receiving module (24); the on-site staff module (30) includes a second publication receiving module (34); the service employee module (50) includes a third publication receiving module (54); the publication module (44) is connected to the first publication receiving module (24), the second publication receiving module (34), and the third publication receiving module (54) respectively; and the publication module (44) shows the latest information and education and training contents; the employee module (40) edits receiving counterparts being the manager module (20), the on-site staff module (30), the service employee module (50), or any combination thereof.

9. The APP system for cleaning management and service of claim 1, wherein the fourth service module (51) includes a processing delay menu (511), a processing beginning menu (512), and a job finish menu (513) for updating processing progress and synchronously transmitting same to the first service record module (22), the second service record module (32), the third service record module (41), and the fourth service record module (52) respectively.

10. The APP system for cleaning management and service of claim 1, wherein the

service employee module (50) includes a cleaning quality check list module (55), the cleaning quality check list module (55) is connected to the manager module (20) and the on-site staff module (30), and the cleaning quality check list module (55) shows a plurality of cleaning opinions for attention and self-evaluation.