DESCRIPTION

TITLE OF INVENTION: INFORMATION PROCESSING DEVICE, METHOD, AND PROGRAM

TECHNICAL FIELD

[0001]

The present invention relates to an information processing device, method, and program, and in particular relates an information processing device, method, and program, for enabling the sanitary conditions to be more accurately comprehended and managed.

BACKGROUND ART

[0002]

In recent years, stricter hygiene management is being demanded in food businesses such as restaurants, staff canteens of, for example, business facilities, and food factories or the like.

[0003]

In response to the foregoing demand, the present applicant previously proposed a hygiene management system which enables the scoring and comprehensive evaluation of the state of hygiene management of food business facilities such as restaurants and their employees, bacteria-related information, and a state of hygiene management from the customer's viewpoint, in order to prevent food poisoning in

such facilities (refer to PTL 1).

CITATION LIST

PATENT LITERATURE

[0004]

PTL 1: Japanese Patent Application Publication No. 2010-287166

SUMMARY OF INVENTION

TECHNICAL PROBLEM

[0005]

While the bacteria-related information in the method of Patent Document 1 includes inspection results of the bacterial count and the like, with bacteria tests, there are cases where the bacteria would die due to environmental conditions such as temperature and number of days from the sampling of the items to be inspected to the actual inspection, and the inspection results could change depending on the situation (condition). Thus, a method which enables the sanitary conditions in a restaurant or the like to be more accurately comprehended and managed is demanded.

[0006]

The present invention was devised in view of the foregoing circumstances, and in particular aims to enable the sanitary conditions to be more accurately comprehended and managed.

SOLUTION TO PROBLEM

[0007]

The information processing device according to one aspect of the present invention includes: a hygiene management information acquisition unit that acquires an inspection result related to a status of hygiene management of a facility which handles food items and operators at the facility; a bacteria-related information acquisition unit that acquires an inspection result related to bacteria of the facility and the operators; a customer viewpoint hygiene management information acquisition unit that acquires an inspection result related to the status of hygiene management of the facility and the operators from a viewpoint of a customer of the facility; a physicochemistry-related information acquisition unit that acquires an inspection result related to a physicochemical inspection of the food items; a gene-related information acquisition unit that acquires an inspection result related to genetic testing of the food items; an important setting unit that sets an importance to each inspection item corresponding to the inspection results acquired by the hygiene management information acquisition unit, the bacteria-related information acquisition unit, the customer viewpoint hygiene management information acquisition unit, the physicochemistry-related information acquisition unit, and the gene-related information acquisition unit; a score processing unit that converts, into scores, the inspection results acquired by the hygiene management information acquisition unit, the bacteria-related information acquisition unit, the customer viewpoint hygiene management information acquisition unit, the physicochemistry-related information acquisition unit, and the gene-related information acquisition unit, and calculates a comprehensive determination result to comprehensively assess the facility based on the scores; and a list display unit that display a list of the comprehensive determination results of a

plurality of facilities; a detail display unit displays inspection items which require improvement among the inspection items of the inspection results based on the comprehensive determination results, wherein the detail display unit displays contents of the improvement to be performed to the inspection items which require improvement among the inspection items of the inspection results, and a deadline for performing the improvement, and the deadline for performing the improvement is set corresponding to the importance set to each inspection item.

[0008]

The information processing method according to one aspect of the present invention is an information processing method of an information processing device that performs hygiene management of a facility which handles food items, the method including: operating a hygiene management information acquisition unit to acquire an inspection result related to a status of hygiene management of a facility which handles food items and operators at the facility; operating a bacteria-related information acquisition unit to acquire an inspection result related to bacteria of the facility and the operators; operating a customer viewpoint hygiene management information acquisition unit to acquire an inspection result related to the status of hygiene management of the facility and the operators from a viewpoint of a customer of the facility; operating a physicochemistry-related information acquisition unit to acquire an inspection result related to a physicochemical inspection of the food items; operating a gene-related information acquisition unit to acquire an inspection result related to genetic testing of the food

items; operating the importance setting unit to set an importance to each inspection item corresponding to the inspection results acquired by the hygiene management information acquisition unit, the bacteria-related information acquisition unit, the customer viewpoint hygiene management information acquisition unit, the physicochemistry-related information acquisition unit, and the gene-related information acquisition unit; operating a score processing unit to convert, into scores, the inspection result acquired by the hygiene management information acquisition unit, the bacteria-related information acquisition unit, the customer viewpoint hygiene management information acquisition unit, the physicochemistry-

related information acquisition unit, and the gene-related information acquisition unit, and to calculate a comprehensive determination result in order to comprehensively assess the facility based on the scores; and operating a list display unit to display a list of the comprehensive determination results of a plurality of facilities; and operating a detail display unit to display inspection items which require improvement among the inspection items of the inspection results, contents of the improvement to be performed to inspection items which require improvement among the inspection items of the inspection results, and a deadline for performing the improvement based on the comprehensive determination results, wherein the deadline for performing the improvement is set corresponding to the importance set to each inspection item.

[0009]

The program according to one aspect of the present invention causes a computer to function as: a hygiene management information acquisition unit that acquires an inspection result related to a status of hygiene management of a facility which handles food items and operators at the facility; a bacteria-related information acquisition unit that acquires an inspection result related to bacteria of the facility and the operators; a customer viewpoint hygiene management information acquisition unit that acquires an inspection result related to the status of hygiene management of the facility and the operators from a viewpoint of a customer of the facility; a physicochemistry-related information acquisition unit that acquires an inspection result of a physicochemical inspection of the food items; a gene-related information acquisition unit that acquires an

inspection result of genetic testing of the food items; an importance setting unit that sets an importance to each inspection item corresponding to the inspection results acquired by the hygiene management information acquisition unit, the bacteria-related information acquisition unit, the customer viewpoint hygiene management information acquisition unit, the physicochemistry-related information acquisition unit, and the gene-related information acquisition unit; a score processing unit that converts, into scores, the inspection results acquired by the hygiene management information acquisition unit, the bacteria-related information

acquisition unit, the customer viewpoint hygiene management information acquisition unit, the physicochemistry-related information acquisition unit, and the gene-related information acquisition unit, and calculates a comprehensive determination result to assess comprehensively the facility based on the scores; and a list display unit that display a list of the comprehensive determination results of a plurality of facilities; and a detail display unit that displays inspection items which require improvement among the inspection items of the inspection results based on the comprehensive determination results, wherein the detail display unit displays contents of the improvement to be performed to the inspection items which require improvement among the inspection items of the inspection results, and a deadline for performing the improvement, and the deadline for performing the improvement is set corresponding to the importance set to each inspection item.

[0010]

In one aspect of the present invention, acquired are an inspection result related to a status of hygiene management of a facility which handles food items and operators at the facility, an inspection result related to bacteria of the facility and the operators, an inspection result related to the status of hygiene management of the facility and the operators from a viewpoint of a customer of the facility, an inspection result of a physicochemical inspection of the food items, and an inspection result of genetic testing of the food items. In addition, the acquired inspection results are converted into scores, a comprehensive determination result which comprehensively assesses the facility based on the scores is calculated, and a list of comprehensive determination results of a plurality of facilities is displayed.

ADVANTAGEOUS EFFECTS OF INVENTION

[0011]

According to one aspect of the present invention, the sanitary conditions can be more accurately comprehended and managed.

BRIEF DESCRIPTION OF DRAWINGS

[0012]

Fig. 1 is a block diagram showing a configuration example of the hygiene management system to which the present invention is applied.

Fig. 2 is a block diagram showing a hardware configuration example of the server.

Fig. 3A and Fig. 3B are diagrams showing an example of the inspection items that can be inspected by the facility inspection server.

Fig. 4 is a diagram showing an example of the inspection items that fall under physicochemistry-related information and gene-related information.

Fig. 5 is a block diagram showing a functional configuration example of the facility inspection server.

Fig. 6 is a block diagram showing a detailed configuration example of the evaluation value input unit.

Fig. 7 is a diagram showing an example of the hygiene management information input screen.

Fig. 8 is a diagram showing an example of the bacterial count input screen.

Fig. 9 is a diagram showing an example of the bacteria test implementation rate input screen.

Fig. 10 is a diagram showing an example of the customer viewpoint hygiene management information input screen.

Fig. 11 is a diagram showing an example of the physicochemistry-related information input screen.

Fig. 12 is a diagram showing an example of the gene-related information input screen.

Fig. 13 is a diagram showing an example of the importance setting screen.

Fig. 14 is a diagram explaining the alert notification processing.

Fig. 15A and Fig. 15B are diagrams showing an example of the alert setting screen.

Fig. 16 is a diagram showing an example of the alert screen.

Fig. 17 is a diagram showing an example of the inspection result list screen.

Fig. 18A and Fig. 18B are diagrams showing an example of the detail screen.

Fig. 19 is a flowchart explaining the evaluation value input processing.

Fig. 20 is a flowchart explaining the inspection result display processing.

DESCRIPTION OF EMBODIMENTS

[0013]

[Configuration example of hygiene management system]

Fig. 1 is a block diagram showing a configuration example of the hygiene management system to which the present invention is applied.

[0014]

The hygiene management system 1 of Fig. 1 is a system which manages, for example, the sanitary condition of kitchens of elementary schools, factories, offices, care facilities, and the like, or food business facilities such as restaurants and others.

[0015]

The hygiene management system 1 can centrally manage the sanitary condition of multiple facilities, and is a system that is particularly useful when numerous (multiple) facilities are being deployed nationwide or in a given territory. The management of sanitary conditions performed by the hygiene management system 1 is referred to as "hygiene management (inspection)", "sanitation management (inspection)", "facility inspection" or the like. In the ensuing explanation, the foregoing management is referred to as a "facility inspection" since explained is a case of confirming the sanitary conditions of facilities in the form of chain restaurants of a company running a restaurant chain.

[0016]

Accordingly, to put it differently, the hygiene

management system 1 of Fig. 1 centrally confirms (comprehends) the sanitary conditions of a plurality of facilities in the form of chain restaurants of a company running a restaurant chain, offers advice to (those who are in charge of the facility) on improvement as needed, and also confirms the progress of the improvement.

[0017]

The hygiene management system 1 is configured from a server 11 and one or more terminal devices 12. In Fig. 1, while three terminal devices 12-1 to 12-3 are illustrated, the number of terminal devices 12 may be increased or decreased as needed. The server 11 and the terminal device 12 are connected via a network such as the internet, a LAN (Local Area Network), or a VPN (Virtual Private Network).

[0018]

The server 11 is an information processing device that processes information for conducting a facility inspection executes an application program for conducting a facility inspection (hereinafter referred to as the "facility inspection program").

[0019]

The terminal device 12 is, for example, a personal computer (including a laptop), a tablet terminal, a high-performance mobile phone (so-called smartphone), or a dedicated input terminal. The terminal device 12 is set up in the respective facilities, or carried by an auditor who makes

a round of the respective facility and confirms the sanitary conditions of the facilities.

[0020]

A facility manager of the respective facilities, a management supervisor who manages sanitary conditions employed by the company running the facilities, or an auditor (hereinafter collectively referred to as the "user") operates the terminal device 12, and the terminal device 12 accesses the server 11 on which the facility inspection program is running.

[0021]

The facility inspection program that is executed by the server 11 is a WEB application created in a markup language such as HTML, and a predetermined screen created by the facility inspection program is displayed on the display of the terminal device 12 by a browser that is running on the terminal device 12. The browser comprises as its basic functions, for example, a display function of interpreting the HTML (Hypertext Markup Language) document and displaying a screen on a display or the like, a communication function of accessing the website the server 11 by setting a URL (Uniform Resource Locators) and downloading data or sending data to the site, and a jump function of jumping to the URL that that has been added as a link in the HTML document.

[0022]

The terminal device 12 receives operations (inputs)

performed by the user on a predetermined screen displayed on the display by the facility inspection program, and sends the operated contents to the server 11 via a network.

[0023]

The server 11, on which the facility inspection program is running, receives the contents that were operated using the terminal device 12, and performs predetermined data processing or displays the subsequent screen on the terminal device 12 according to the operated contents.

[0024]

[Hardware configuration example of server 11]

Fig. 2 shows a hardware configuration example of the server 11.

[0025]

In the server 11 of Fig. 2, a CPU (Central Processing Unit) 31 executes various types of processing according to the programs stored in a ROM (Read Only Memory) 32 or a storage unit 38. The term "program" as used herein includes, in addition to the facility inspection program described above as a matter of course, an OS (Operating System) such as Windows (registered trademark) and a driver of a network adapter. Programs to be executed by the CPU 31 and data are suitably stored in a RAM (Random Access Memory) 33. The CPU 31, the ROM 32, and the RAM 33 are mutually connected via a bus 34.

[0026]

An I/O interface 35 is additionally connected to the CPU

31 via the bus 34. Connected to the I/O interface 35 are an input unit 36 configured from a keyboard, a mouse, a microphone or the like, and an output unit 37 configured from a display, a speaker or the like. The CPU 31 executes various types of processing in correspondence with the commands input from the input unit 36. The CPU 31 additionally outputs the processing results to the output unit 37.

[0027]

Additionally connected to the I/O interface 35 is a storage unit 38 configured from a hard disk or the like. The storage unit 38 stores programs to be executed by the CPU 31 and various types of data. Note that these programs may also be acquired from an external device by the communication unit 39.

[0028]

Moreover, connected to the I/O interface 35 are a communication unit 39 for communication with an external device via a network, and a drive 40. The drive 40 drives a removable media 41 such as a magnetic disk, an optical disk, a magneto-optical disk or a semiconductor memory when it is inserted, and acquires the programs and data recorded thereon. The acquired programs and data are transferred to the storage unit 38 as needed, and stored.

[0029]

Note that, since the hardware configuration of the terminal device 12 of Fig. 1 is basically the same as the

configuration of the server 11, the explanation thereof is omitted.

[0030]

[Examples of inspection items in facility inspection]

The specific functions that can be realized by the CPU 31 of the server 11 executing the facility inspection program are now explained. Note that, since the server 11 yields a facility inspection function as a result of executing the facility inspection program, the server 11 is referred to as the facility inspection server 11 in the ensuing explanation.

[0031]

The facility inspection server 11 centrally manages the inspection results from the inspection of sanitary conditions of numerous facilities that are scattered throughout or in a part of a country. Here, the inspection items to be used for inspecting the sanitary condition of a facility include inspection items that are judged with different indexes, and the facility inspection server 11 scores (digitizes) each of the plurality of inspection items represented with different indexes according to a predetermined reference, and the facilities can be confirmed and compared with a single reference.

[0032]

Thus, the inspection items that can be inspected by the facility inspection server 11 are foremost explained with reference to Fig. 3A and Fig. 3B.

[0033]

Fig. 3A and Fig. 3B show an example of the inspection items that can be inspected by the facility inspection server 11.

[0034]

As large categories of the inspection items that can be inspected by the facility inspection server 11, there are the following; namely, "hygiene management state", "bacteria-related information", "customer viewpoint hygiene management state", "physicochemistry-related information" and "gene-related information". Moreover, the large categories may be further classified into medium categories and small categories as needed.

[0035]

"Hygiene management state" as one of the large categories is an inspection item related to the state of hygiene management of the facility and the facility's employees (operators), and is specifically an inspection item related to the level of neatness of equipment and fixtures, and food ingredients in the facility, and the level of grooming and appearance of employees.

[0036]

In the example of Fig. 3A and Fig. 3B, "hygiene management state" is classified into the four medium categories of "neatness", "cleaning", "cleanliness" and "education". The medium category of "neatness" includes the

small categories of "inside refrigerator/inside freezer", "cupboard", "cooking utensils", "kitchen area" and "food ingredients to be stored at room temperature". The medium category of "cleaning" includes the small categories of "inside refrigerator/inside freezer", "cupboard" and "cooking utensils". The medium category of "cleanliness" includes the small categories of "attire", "hair" and "fingernails". The medium category of "education" includes the small categories of "morning assembly" and "end-of-day assembly".

[0037]

"Bacterial-related information" as one of the large categories is a bacteria-related inspection item of the facility and its employees, and is specifically an inspection item related to the number of bacteria on the equipment and fixtures in the facility and on the hands and fingers of employees, and the implementation rate of the bacteria test to employees.

[0038]

In the example of Fig. 3A and Fig. 3B, "bacteria-related information" includes the two medium categories of "bacterial count inspection (common bacteria)" and "bacteria test implementation rate". The medium category of "bacterial count inspection (common bacteria)" includes the small categories of "fingers", "refrigerator handle", "chopping board", "faucet", "vacuum pot handle", "doorknob", "rice paddle" and "knife". The medium category of "bacteria test implementation rate"

includes the small categories of "stool test submission rate" and "norovirus inspection implementation rate".

[0039]

"Customer viewpoint hygiene management state" as one of the large categories is an inspection item related to the hygiene management state of the facility and its employees from the viewpoint of a customer of the facility, and is specifically an inspection item related to the level of neatness of equipment and fixtures, and food ingredients in the facility, and the level of grooming and appearance of employees from the viewpoint of customers who visit the facility.

[0040]

In the example of Fig. 3A and Fig. 3B, "customer viewpoint hygiene management state" includes the two medium categories of "inside facility" and "employee". The medium category of "inside facility" includes the small categories of "tables and counters", "floor", "tableware" and "restroom". The medium category of "employee" includes the small categories of "attire", "hair" and "fingernails".

[0041]

"Physicochemical-related information" as one of the large categories is an inspection item related to the physicochemical inspection of food items (food ingredients).

[0042]

In the example of Fig. 3A and Fig. 3B,

"physicochemistry-related information" includes, as the small categories, "water activity", "pH", "peroxide value", "acid value", "sorbic acid", "nitrite" and "propylene glycol".

[0043]

"Genetic-related information" as one of the large categories is an inspection item related to the genetic inspection of food items (food ingredients).

[0044]

In the example of Fig. 3A and Fig. 3B, "gene-related information" includes, as the small categories, "verotoxin factor", "Salmonella factor", "Staphylococcus aureus factor" and "Vibrio parahaemolyticus factor".

[0045]

Note that the classification method of the large categories, the medium categories, and the small categories illustrated in Fig. 3A and Fig. 3B and the inspection items falling under those categories are merely exemplifications and are not limited thereto, and may be suitably set as needed.

[0046]

For example, as the inspection items falling under "physicochemistry-related information" and inspection items falling under "gene-related information", there are the times shown in Fig. 4, including those shown in Fig. 3A and Fig. 3B.

[0047]

As the cause of food poisoning, bacteriological factors account for 90%, and factors detected physicochemically

account for the remaining 10%. The effectiveness of the physicochemical method is in that the substantially the same numerical value can be obtained, even in different inspection facilities, so as long as there is an evaluated standard substance and the same method is adopted, and the same determination results can be attained. Moreover, even for individual tests, by using public references or customary levels, a certain level of determination can be reached. Meanwhile, with the bacteriological method, there are cases where the bacteria would die due to environmental conditions such as temperature and number of days from the sampling of the items to be inspected to the actual inspection, and the inspection results could change depending on the situation (condition). Accordingly, by performing a comprehensive evaluation by incorporating the physicochemical method in addition to the bacteriological method, the facility inspection can be conducted more effectively.

[0048]

Note that the items to be inspected based on bacteriological inspection, physicochemical inspection, and genetic testing are not limited to food items and food ingredients, and may also be, for example, water, air, soil and other items that are generally referred to as a sample.

[0049]

As explained with reference to Fig. 3A, Fig. 3B, and Fig. 4, among the sanitary conditions that can be managed by

the facility inspection server 11, there are those which can be confirmed visually, and those which can be confirmed with numerical values obtained by using the bacteriological method, the physicochemical method, and the genetic method. The facility inspection server 11 can comprehensively determine these inspection results in facility units, and compare the facilities.

[0050]

[Functional configuration example of facility inspection server 11]

Fig. 5 is a block diagram showing a functional configuration example of the facility inspection server 11.

[0051]

The facility inspection server 11 is configured from a user authentication unit 51, an input information screen generation unit 52, an input information analyzing unit 53, an information storage unit 54, and a management screen generation unit 55.

[0052]

The user authentication unit 51 authenticates the user of the terminal device 12 who accessed the facility inspection server 11 based on a predetermined user ID, password or the like. Information that can be examined or input differs for each authenticated user. For example, a management supervisor of the company can confirm the sanitary conditions and improvement status of all facilities, but a facility manager

of each facility can confirm only the sanitary conditions and improvement status of his/her facility. Note that an ID or the like that is unique to the terminal device 12 may also be used as the authentication password.

[0053]

The input information screen generation unit 52 generates an input screen for inputting predetermined information, and displays the generated input screen on the terminal device 12.

[0054]

The input information screen generation unit 52 is configured from an evaluation value input unit 61, an evaluation reference value input unit 62, an importance setting unit 63, and an alert setting unit 64.

[0055]

The evaluation value input unit 61 generates an evaluation value input screen for causing the user to input the evaluation value (inspection result), which is the result of the evaluation (inspection) of the respective inspection items, and displays the generated evaluation value input screen on the terminal device 12. Moreover, the evaluation value input unit 61 acquires the evaluation values of the respective items input by the user on the evaluation value input screen displayed on the terminal device 12, and supplies the acquired evaluation values to the input information analyzing unit 53.

[0056]

The evaluation reference value input unit 62 generates an evaluation reference value input screen for inputting the evaluation reference value of the respective inspection items to be used as the reference upon inputting the evaluation values, and displays the generated evaluation reference value input screen on the terminal device 12. Moreover, the evaluation reference value input unit 62 acquires the evaluation reference values input by the user on the evaluation reference value input screen displayed on the terminal device 12, and supplies the acquired evaluation reference values to the information storage unit 54.

[0057]

The importance setting unit 63 generates an importance setting screen for setting the importance of the respective inspection items, and displays the generated importance setting screen on the terminal device 12. Moreover, the importance setting unit 63 supplies, to the information storage unit 54, the importance of the respective inspection items that was set by the user on the importance setting screen displayed on the terminal device 12.

[0058]

The alert setting unit 64 generates an alert setting screen for registering the alert contact destination, and displays the generated alert setting screen on the terminal device 12. In other words, the facility inspection server 11

has a function of notifying an alert when the evaluation value of the respective inspection items is a preset level or lower, and an alert is notified to the contact destination that was input on the alert setting screen. Moreover, the alert setting screen also has a function of setting a special alert notifying condition (special alert condition) that is different from the default alert notifying condition. The alert setting unit 64 supplies, to the information storage unit 54, information such as the alert contact information that was set by the user on the alert setting screen displayed on the terminal device 12.

[0059]

The analysis processing based on the information input by the user on the respective screens generated by the input information screen generation unit 52 is performed by the input information analyzing unit 53.

[0060]

The input information analyzing unit 53 is configured from a score processing unit 71, an alert notification unit 72, and an inspection report generation unit 73.

[0061]

The score processing unit 71 performs score processing of converting the evaluation values of the respective inspection items that were input by the user on the evaluation value input screen into scores based on the evaluation reference values. The scoring results are supplied to and

stored in the information storage unit 54.

[0062]

The alert notification unit 72 determines whether an alert is necessary by comparing the evaluation values of the respective inspection items that were input by the user on the evaluation value input screen with the alert notifying condition. Moreover, when it is determined that an alert is necessary, the alert notification unit 72 also performs the processing of notifying an alert.

[0063]

The inspection report generation unit 73 generates an inspection report of the respective facilities based on the evaluation values of the respective inspection items that were input by the user on the evaluation value input screen, and supplies the generated inspection reports to the information storage unit 54. The inspection reports stored in the information storage unit 54 can be examined as needed. Note that the inspection report may also be generated by being classified based on large categories, medium categories, and small categories, in addition to being generated for each facility.

[0064]

The information storage unit 54 is configured from a score information storage unit 81, an evaluation reference information storage unit 82, an importance information storage unit 83, an alert information storage unit 84, and an

inspection report storage unit 85.

[0065]

The score information storage unit 81 stores score information, which is the storing results of the score processing unit 71. The score information is stored in hierarchy, for example, in order of facilities, large category, medium category, and small category of inspection items.

[0066]

The evaluation reference information storage unit 82 stores evaluation reference information, which is the evaluation reference value of the respective inspection items that was input by the user on the evaluation reference value input screen, and supplies the evaluation reference information to the score processing unit 71 and the alert notification unit 72 of the input information analyzing unit 53 as needed.

[0067]

The importance information storage unit 83 stores, as importance information, the importance of the respective inspection items that was input by the user on the importance setting screen.

[0068]

The alert information storage unit 84 stores, as alert information, a default alert notifying condition, and an alert contact destination and a special alert condition that were

input by the user on the alert setting screen, and supplies the alert information to the score processing unit 71 and the alert notification unit 72 of the input information analyzing unit 53 as needed.

[0069]

The inspection report storage unit 85 stores the inspection reports that were generated by the inspection report generation unit 73.

[0070]

The management screen generation unit 55 generates a management screen for confirming the inspection results of the respective facilities; that is, the scores of the respective inspection items of the respective facilities and the progress of improvement of the inspection items that were determined as requiring improvement required, and displays the generated management screen on the terminal device 12.

[0071]

The management screen generation unit 55 is configured from a list screen generation unit 91 and a detail screen generation unit 92.

[0072]

The list screen generation unit 91 generates an inspection result list screen which allows the examination of the inspection results of the respective facilities, and displays the generated inspection result list screen on the terminal device 12. Note that, on the inspection result list

screen, when the login user is a management supervisor of the company who is supervising all facilities or a user who is in charge of managing a plurality of facilities, that login user can examine the inspection results of a plurality of facilities such as all facilities or the facilities in the area that is being managed by the login user. Meanwhile, when the login user is a user such as a manager who is only permitted to examine the inspection results of one facility, the inspection result of only one facility is displayed on the inspection result list screen.

[0073]

The detail screen generation unit 92 generates a detail screen of the inspection results, and displays the generated detail screen on the terminal device 12. The detail screen is a screen which allows the examination of the inspection results of one facility among the inspection results of the plurality of facilities that are stored (managed) in the information storage unit 54. The detail screen is displayed on the terminal device 12 when a predetermined single facility is selected among the inspection results of one or more facilities displayed by the list screen generation unit 91.

[0074]

[Detailed configuration example of evaluation value input unit 61]

Fig. 6 is a block diagram showing a detailed configuration example of the evaluation value input unit 61.

[0075]

The evaluation value input unit 61 is configured from a hygiene management information screen generation unit 101, a bacteria-related information screen generation unit 102, a customer viewpoint hygiene management information screen generation unit 103, a physicochemistry-related information screen generation unit 104, and a gene-related information screen generation unit 105, which correspond to the large category of the inspection items.

[0076]

The hygiene management information screen generation unit 101 generates a hygiene management information input screen for inputting the inspection results of the respective inspection items falling under the large category "hygiene management state", and displays the generated hygiene management information input screen on the terminal device 12.

[0077]

The bacteria-related information screen generation unit 102 generates a bacteria-related information input screen for inputting the inspection results of the respective inspection items falling under the large category "bacteria-related information", and displays the generated bacteria-related information input screen on the terminal device 12.

[0078]

The customer viewpoint hygiene management information screen generation unit 103 generates a customer viewpoint

hygiene management information input screen for inputting the inspection results of the respective inspection items falling under the large category "customer viewpoint hygiene management state", and displays the generated customer viewpoint hygiene management information input screen on the terminal device 12.

[0079]

The physicochemistry-related information screen generation unit 104 generates a physicochemistry-related information input screen for inputting the inspection results of the respective inspection items falling under the large category "physicochemistry-related information", and displays the generated physicochemistry-related information input screen on the terminal device 12.

[0080]

The gene-related information screen generation unit 105 generates a gene-related information input screen for inputting the inspection results of the respective inspection items falling under the large category "gene-related information", and displays the generated gene-related information input screen on the terminal device 12.

[0081]

[Example of hygiene management information input screen]

Fig. 7 shows an example of the hygiene management information input screen that is displayed on the display of the terminal device 12 by the hygiene management information

screen generation unit 101.

[0082]

The leftmost side of the hygiene management information input screen indicates the medium categories "neatness", "cleaning", "cleanliness" and "education" falling under the large category "hygiene management state". The right side of the medium category "neatness" shows the five small categories "inside refrigerator/inside freezer", "cupboard", "cooking utensils", "kitchen area" and "food ingredients to be stored at room temperature" falling under the medium category "neatness". The right side of the medium category "cleaning" shows the three small categories "inside refrigerator/inside freezer", "cupboard" and "cooking utensils" falling under the medium category "cleaning". The right side of the medium category "cleanliness" shows the three small categories "attire", "hair" and "fingernails" falling under the medium category "cleanliness". The right side of the medium category "education" shows the two small categories "morning assembly" and "end-of-day assembly" falling under the medium category "education".

[0083]

In addition, the right side of the respective inspection items is provided with the radio buttons of "Excellent", "Good", "Average", "Below average" and "Poor" for use as the evaluation (inspection result) regarding the respective inspection items. The auditor inputs one among "Excellent",

"Good", "Average", "Below average" and "Poor" for each inspection item based on the predetermined evaluation reference that was decided by the evaluation reference value input unit 62.

[0084]

The column on the right end of the respective inspection items is provided with a comment column for inputting comments regarding the inspection result. Matters that need to be improved (description of advice) regarding the inspection items that require improvement are input in the comment column.

[0085 0 0 0 1]

In addition, the lower part of the hygiene management information input screen is provided with a "Select" button for deciding on the evaluations of the respective inspection items that were selected by the auditor, and a "Clear" button for clearing (resetting) the evaluations of the respective inspection items selected by the auditor.

[0086]

The auditor inputs, on the hygiene management information input screen shown in Fig. 7, the inspection results from the inspection of the sanitary conditions of the inspected facilities, and presses the "Select" button.

[0087]

Note that the comment column, the "Select" button, and the "Clear" button are also provided in the respective screens

shown in Fig. 8 to Fig. 12 described later, and the explanation of the comment column, the "Select" button, and the "Clear" button is omitted in the explanation of Fig. 8 to Fig. 12.

[0088]

[Example of bacteria-related information input screen]

Fig. 8 shows an example of the bacterial count input screen for inputting the inspection results of the medium category "bacterial count inspection" of the large category "bacteria-related information" to be displayed on the display of the terminal device 12 by the bacteria-related information screen generation unit 102.

[0089]

The leftmost side of the bacterial count input screen indicates the eight small categories "fingers", "refrigerator handle", "chopping board", "faucet", "jug handle", "doorknob", "rice paddle" and "knife" falling under the medium category "bacterial count inspection".

[0090]

In addition, the right side of the respective inspection items is provided with the radio buttons of "Up to 10^2", "10^2 to 10^3", "10^3 to 10^4", "10^4 to 10^6" and "10^6 and up" for use as the evaluation (inspection result) regarding the respective inspection items. "Up to 10^2" indicates that the bacterial count obtained from the wiping inspection was less than 10^2 bacteria. "10^2 to 10^3" indicates that the bacterial count was

10^2 bacteria or more and less than 10^3 bacteria. "10^3 to 10^4" indicates that the bacterial count was 10^3 bacteria or more and less than 10^4 bacteria. "10^4 to 10^6" indicates that the bacterial count was 10^4 bacteria or more and less than 10^6. "10^6 and up" indicates that the bacterial count was 10^6 bacteria or more. The auditor selects (inputs) one radio button among "Up to 10^2", "10^2 to 10^3", "10^3 to 10^4", "10^4 to 10^6" and "10^6 and up" based on the inspection result.

[0091]

The references of "Up to 10^2", "10^2 to 10^3", "10^3 to 10^4", "10^4 to 10^6" and "10^6 and up" as the bacterial count shown in Fig. 8 correspond to the 5-level evaluation of "Excellent", "Good", "Average", "Below average" and "Poor" shown in Fig. 7. The numerical value of the bacterial count corresponding to each evaluation was input (decided) on the evaluation reference value input screen generated by the evaluation reference value input unit 62.

[0092]

[Bacteria test implementation rate input screen]

Fig. 9 shows an example of the bacteria test implementation rate input screen for inputting the inspection results of the medium category "bacteria test implementation rate" of the large category "bacteria-related information" to be displayed on the display of the terminal device 12 by the bacteria-related information screen generation unit 102.

[0093]

The leftmost side of the bacteria test implementation rate input screen indicates the two small categories "stool test submission rate" and "norovirus inspection implementation rate" falling under the medium category "bacteria test implementation rate".

[0094]

In addition, the right side of the respective inspection items is provided with the radio buttons of "100%", "Up to 90%", "Up to 80%", "Up to 70%" and "69% or less". "100%" indicates that the implementation rate of inspection is 100%. "Up to 90%" indicates that the implementation rate of inspection is 90% or more and less than 100%. "Up to 80%" indicates that the implementation rate of inspection is 80% or more and less than 90%. "Up to 70%" indicates that the implementation rate of inspection is 70% or more and less than 80%. "69% or less" indicates that the implementation rate of inspection is 69% or less. The auditor selects (inputs) one radio button among "100%", "Up to 90%", "Up to 80%", "Up to 70%" and "69% or less" based on the inspection result.

[0095]

The references of "100%", "Up to 90%", "Up to 80%", "Up to 70%" and "69% or less" as the implementation rate of inspection shown in Fig. 9 correspond to the 5-level evaluation of "Excellent", "Good", "Average", "Below average" and "Poor" shown in Fig. 7. The numerical value of the implementation rate corresponding to each evaluation was input

(decided) on the evaluation reference value input screen generated by the evaluation reference value input unit 62.

[0096]

[Example of customer viewpoint hygiene management information input screen]

Fig. 10 shows an example of the customer viewpoint hygiene management information input screen for inputting the inspection results of the large category "customer viewpoint hygiene management state" to be displayed on the display of the terminal device 12 by the customer viewpoint hygiene management information screen generation unit 103.

[0097]

The leftmost side of the customer viewpoint hygiene management information input screen indicates the medium categories "inside facility" and "employee" falling under the large category "customer viewpoint hygiene management state". The right side of the medium category "inside facility" shows the four small categories "tables and counters", "floor", "tableware" and "restroom" falling under the medium category "inside facility". The rights side of the medium category "employee" shows the three small categories "attire", "hair" and "fingernails" falling under the medium category "employee".

[0098]

In addition, the right side of the respective inspection items is provided with the radio buttons of "Excellent",

"Good", "Average", "Below average" and "Poor" for use as the evaluation (inspection result) regarding the respective inspection items. The auditor inputs one among "Excellent", "Good", "Average", "Below average" and "Poor" for each inspection item based on the predetermined evaluation reference that was decided by the evaluation reference value input unit 62.

[0099]

[Example of physicochemistry-related information input screen]

Fig. 11 shows an example of the physicochemistry-related information input screen to be displayed on the display of the terminal device 12 by the physicochemistry-related information screen generation unit 104.

[0100]

The leftmost side of the physicochemistry-related information input screen indicates "cake", "salad" and "rice ball" as the food ingredients (food items) to be subject to the physicochemical inspection, and the right side thereof shows the inspection items to be inspected in the respective food ingredients.

[0101]

Specifically, as the inspection items, "water activity", "pH", "peroxide value" and "acid value" are indicated for the food ingredient "cake", "water activity", "pH", "sorbic acid" and "nitrite" are indicated for the food ingredient "salad", and "water activity", "pH", "nitrite" and "propylene glycol"

are indicated for the food ingredient "rice ball", respectively.

[0102]

While the right side of the inspection items of the food ingredients shown on the physicochemistry-related information input screen shows the evaluation reference values corresponding to the 5-level evaluation of "Excellent", "Good", "Average", "Below average" and "Poor", the evaluation reference value of the physicochemistry-related information differs depending on the inspection item.

[0103]

Specifically, with the inspection item "water activity", when the measured value thereof is "A1", "A2", "A3", "A4" and "A5", they respectively become the evaluation of "Excellent", "Good", "Average", "Below average" and "Poor". With the inspection item "pH", when the measured value thereof is "B1", "B2" "B3", "B4" and "B5", they respectively become the evaluation of "Excellent", "Good", "Average", "Below average" and "Poor". Since the inspection item "water activity" and "pH" will have different values depending on the food ingredient to be inspected, specific numerical values are omitted, and "A1", "A2", "A3", "A4" and "A5", and "B1", "B2", "B3", "B4" and "B5" have been indicated. Numerical values of a predetermined range are substituted in "A1", "A2", "A3", "A4" and "A5", and "B1", "B2", "B3", "B4" and "B5".

[0104]

With the inspection items other than inspection items "water activity" and "pH", when the content mass [mg/kg] is "Up to 0.1", "0.1 to 0.25", "0.25 to 0.50", "0.50 to 1.0", "1.0 and up", they respectively become the evaluation of "Excellent", "Good", "Average", "Below average" and "Poor".

[0105]

The evaluation reference value of each inspection item generally differs depending on the substance (food ingredients), and the numerical values shown in Fig. 11 are merely examples, and the evaluation reference values are not limited thereto. The evaluation reference value of the respective inspection items of the physicochemistry-related information can be suitably input (decided) on the evaluation reference value input screen generated by the evaluation reference value input unit 62.

[0106]

[Example of gene-related information input screen]

Fig. 12 shows an example of the gene-related information input screen for inputting the inspection results of the large category "gene-related information" to be displayed on the display of the terminal device 12 by the gene-related information screen generation unit 105.

[0107]

The leftmost side of the gene-related information input screen indicates "rice ball" as the food ingredient (food item) to be subject to genetic testing, and the right side

thereof shows the inspection items to be inspected in the food ingredient. Specifically, "verotoxin factor", "Salmonella factor", "Staphylococcus aureus factor" and "Vibrio parahaemolyticus factor" are indicated as the inspection items.

[0108]

The right side of the respective inspection items is provided with the radio buttons of "Up to 50", "50 to 100", "100 to 150", "150 to 200" and "200 and up". "Up to 50" indicates that the measured value is less than 50 [copy]. "50 to 100" indicates that the measured value is 50 or more and less than 100 [copy]. "100 to 150" indicates that the measured value is 100 or more and less than 150 [copy]. "150 to 200" indicates that the measured value is 150 or more and less than 200 [copy]. "200 and up" indicates that the measured value is 200 [copy] or more. The auditor selects (inputs) one radio button among "Up to 50", "50 to 100", "100 to 150", "150 to 200" and "200 and up" based on the inspection result.

[0109]

The references of "Up to 50", "50 to 100", "100 to 150", "150 to 200" and "200 and up" shown in Fig. 12 correspond to the 5-level evaluation of "Excellent", "Good", "Average", "Below average" and "Poor" shown in Fig. 7. However, these evaluation reference values generally differ depending on the substance (food ingredient), and the numerical values shown in Fig. 12 are merely examples and the evaluation reference

values are not limited thereto. The evaluation reference value of the respective inspection items of the gene-related information can be suitably input (decided) on the evaluation reference value input screen generated by the evaluation reference value input unit 62.

[0110]

[Example of importance setting screen]

Fig. 13 shows an example of the importance setting screen to be displayed on the display of the terminal device 12 by the importance setting unit 63. While the importance setting screen shown in Fig. 13 is a screen for setting the importance to each inspection item of the large category "hygiene management state", the same applies to the other inspection items.

[0111]

In this embodiment, the importance that can be set to each inspection item is based on three levels; namely, "critical item" of the highest importance, "noteworthy item" of the second highest importance, and "reminding item" of the lowest importance. On the importance setting screen, as shown in Fig. 13, one of the three-level importance is set for each inspection item based on a pull-down menu.

[0112]

For example, in the example of Fig. 13, "critical item" of the highest importance is set to the small category "inside refrigerator/inside freezer" of the medium category

"neatness". Moreover, "noteworthy item" of the second highest importance is set to the small category "inside refrigerator/inside freezer" of the medium category "cleaning". And "reminding item" is set to the small category "attire" of the medium category "cleanliness".

[0113]

Moreover, the importance setting screen is also provided with a "Select" button that is operated upon ending the setting of importance and selecting (storing) the importance, and a "Cancel" button that is operated upon cancelling the setting of the importance.

[0114]

[Score processing and alert notification processing]

The score processing performed by the score processing unit 71 and the alert notification processing performed by the alert notification unit 72 are now explained with reference to Fig. 14.

[0115]

When the auditor inputs the evaluation values based on the results of inspecting the facility using the respective input screens shown in Fig. 7 to Fig. 12, the score processing unit 71 performs score processing of converting the input evaluation values into scores.

[0116]

For example, as shown in Fig. 14, 5 points, 4 points, 3 points, 2 points and 1 point are respectively assigned to the

respective evaluation values of "Excellent", "Good", "Average", "Below average" and "Poor", and the score processing unit 71 scores the results of the respective inspection items by granting points corresponding to the input evaluation values.

[0117]

Moreover, a default alert level is set to the importance that is set to the respective inspection items. The alert notification unit 72 compares the input evaluation values and the alert level based on the alert level (reference value) according to the importance. In addition, when an evaluation value corresponding to an alert level is input; that is, when the input evaluation value is an inferior result in comparison to the reference value according to the importance, the alert notification unit 72 sends an email notifying an alert to the registered contact destination (regular contact destination described later with reference to Fig. 15A and Fig. 15B).

[0118]

For example, as shown in Fig. 14, with regard to an inspection item to which "critical item" is set as the importance, an alert is notified to the registered contact destination when an evaluation value other than "Excellent" is input.

[0119]

With regard to an inspection item to which "noteworthy item" is set as the importance, an alert is notified to the

registered contact destination when an evaluation value of "Average", "Below average", or "Poor" is input. Moreover, with regard to an inspection item to which "reminding item" is set as the importance, an alert is notified to the registered contact destination when an evaluation value of "Below average" or "Poor" is input.

[0120]

An inspection item for which an alert was notified is, as a general rule, an item that requires improvement. Thus, to an inspection item for which an alert was notified, a deadline (improvement deadline) for performing the required improvement is decided and displayed on the detail screen described later (Fig. 18A and Fig. 18B) according to the importance.

[0121]

For example, when an alert is notified for an inspection item in which "critical item" is set as the importance, a deadline of 1 week is set as the deadline for performing the improvement to that inspection item. When an alert is notified for an inspection item in which "noteworthy item" is set as the importance, a deadline of 2 weeks is set as the deadline for performing the improvement to that inspection item. When an alert is notified for an inspection item in which "reminding item"" is set as the importance, a deadline of 4 weeks is set as the deadline for performing the improvement to that inspection item.

[0122]

Accordingly, by setting and displaying a deadline for improving the inspection item for which an alert was notified, it is possible to urge the facility manager to perform the improvement by the deadline, and enable the management supervisor to comprehend (manage) the improvement status.

[0123]

[Alert setting screen]

Fig. 15A and Fig. 15B show an example of the alert setting screen to be displayed on the display of the terminal device 12 by the alert setting unit 64.

[0124]

Registered in the [regular contact destination] item of the alert setting screen shown in Fig. 15A and Fig. 15B is the contact destination that is notified upon coinciding with the default alert notifying condition explained with reference to Fig. 14.

[0125]

In the [regular contact destination], a plurality of contact destinations can be registered by switching tabs. One tab corresponds to one contact destination, and the device of the contact destination can be selected between "mobile phone" or "note PC (laptop PC)" (mobile type selection), and the email address, company name and business division, as well as the title and name of the person in charge can be input.

[0126]

For example, when an alert is notified to the person in

charge registered as contact destination 1, the message shown in Fig. 16 is displayed on the display of the mobile phone of contact destination 1.

[0127]

Below the [regular contact destination] of Fig. 15A, provided is the [special alert setting] to be input in cases of notifying an alert in a condition other than the default condition.

[0128]

As with the [regular contact destination], the [special alert setting] is also of a tab configuration, and the mobile type can be selected, and the email address, company name and business division, as well as the title and name of the person in charge can be input.

[0129]

Moreover, the [special alert setting] is provided with a column for inputting the inspection item and alert level for notifying an alert in a condition other than the default condition. When an alert notifying condition is input in the [special alert setting], an alert is notified preferentially to the default condition. Entered into the input column of the alert level may be the evaluation of the 5-level evaluation described above, or a specific numerical value of the inspection item.

[0130]

Note that, in the example of Fig. 15B, while there are

four columns for inputting the contact destination and the inspection item and alert level, the number of inputs may be suitably set as needed.

[0131]

[Example of list screen]

The function of the management screen generation unit 55 that displays the results of the comprehensive evaluation of the evaluations values of the respective facilities that were input from the respective input screens shown in Fig. 7 to Fig. 12 is now explained.

[0132]

Fig. 17 shows an example of the inspection result list screen to be displayed on the terminal device 12 by the list screen generation unit 91.

[0133]

The inspection result list screen is provided with the title of "inspection result list" disposed at the upper part thereof, as well as a facility search input section 201, a display period input section 202, a facility list display section 203, a facility detail button 204, and an end button 205.

[0134]

The facility search input section 201 is input with the facility name to be searched when the user is to search the inspection results of a predetermined facility. When the user inputs the facility name into the facility search input

section 201 and presses the search button, the input facility is displayed (moves to the input facility) in the facility list display section 203, and the cursor 206 is displayed on the input facility.

[0135]

The display period input section 202 designates the facility for which the inspection results are to be displayed on the facility list display section 203 based on the period that the inspection was implemented. When the user inputs the period into the display period input section 202 and presses the search button, a list of facilities that were audited during that period is displayed on the facility list display section 203.

[0136]

Disposed in the facility list display section 203 are, horizontally from the left, the items of facility name (restaurant name), comprehensive determination result, implementation date, reporting date of results, hygiene management state, bacteria-related information, customer viewpoint hygiene management state, physicochemistry-related information, gene-related information, inspection report, and improvement schedule. Meanwhile, the facility list display section 203 is vertically divided by facility.

[0137]

The item of facility name (restaurant name) displays the name of the facility (restaurant) that underwent the audit.

The item of comprehensive determination result displays the comprehensive determination result of the audited facility; that is, the total value (sum) of the scores granted to the respective inspection items. The item of implementation date displays the date that the audit was performed. The item of reporting date of results displays the date that the audit results were input into the facility inspection server 11. The item of hygiene management state displays the score of the large category "hygiene management state". The item of bacteria-related information displays the score of the large category "bacteria-related information". The item of customer viewpoint hygiene management state displays the score of the large category "customer viewpoint hygiene management state". The item of physicochemistry-related information displays the score of the large category "physicochemistry-related information". The item of gene-related information displays the score of the large category "gene-related information". The item of the inspection report displays the "download" button, and, when the "download" button is pressed, the inspection report of that facility is displayed. The item of improvement schedule displays the achievement ratio of the improvement status.

[0138]

A management supervisor who is supervising a plurality of facilities may search and display the intended facility among the plurality of facilities displayed vertically in the

facility list display section 203 upon changing the facility to be displayed by moving the cursor 206 vertically or moving the scroll bar 207 vertically.

[0139]

A sort button 208 is provided to the respective items of hygiene management state, bacteria-related information, customer viewpoint hygiene management state, physicochemistry-related information, and gene-related information of the facility list display section 203, and, by pressing the sort button 208, the facilities can be rearranged in ascending order or descending order based on the score of the large category thereof.

[0140]

When the end button 205 below the facility list display section 203 is pressed, the inspection result list screen is closed.

[0141]

Note that, in the facility list display section 203 of Fig. 17, the scores of the hygiene management state and the customer viewpoint hygiene management state of the facility name "Gotanda Facility" are displayed different than the other scores. This shows that there is an inspection item that requires improvement in the large category thereof for which an alert was notified but the improvement is not yet complete.

[0142]

In the facility list display section 203, when the

cursor 206 is moved to the facility name "Gotanda Facility" and the facility detail button 204 is pressed, displayed is a detail screen showing the details of the improvement-required items of the Gotanda facility designated by the cursor 206.

[0143]

[Example of detail screen]

Fig. 18A and Fig. 18B show an example of the detail screen to be displayed as a result of the facility detail button 204 being pressed in the facility list display section 203. Note that Fig. 18A and Fig. 18B are not a detail screen of the facility name "Gotanda Facility" of Fig. 17 (contents do not coincide with those of Fig. 17).

[0144]

Displayed on the detail screen are, for each inspection item that was determined as requiring improvement in the audit, the importance set to that inspection item, the improvement measure displaying the improvement contents (description of advice) that were entered as comments on the evaluation value input screen, whether the improvement has been implemented (implementation check), and the schedule with an improvement deadline. Moreover, the right side of the detail screen indicates a progress graph which graphically shows the achievement ratio of the items to be improved of the overall facility.

[0145]

In the example of Fig. 18A and Fig. 18B, as the first

inspection item requiring improvement, the small category "floor" of the medium category "inside facility" of the large category "hygiene management state" is displayed, and, as the improvement measure (description of advice) thereof, "Scheduling and implementation of periodic cleaning" is displayed. Since the importance of this first inspection item is "noteworthy item", 2 weeks is set as the deadline for performing the improvement. Thus, in the improvement schedule column, "deadline" which indicates the improvement deadline is displayed on September 30, which is 2 weeks after September 16 as the reporting date of results. Moreover, since the first inspection item is an item for which improvement has already been implemented by the facility manager, "Completed" is indicated in the implementation check column. While "Not yet implemented" is indicated in the implementation check column upon the initial evaluation value input, when the facility manager performs the description of advice indicated in the improvement measure column, by pressing the button, the display is switched to "Completed" and, simultaneously, the numerical value and graph of the achievement ratio of the items to be improved of the overall facility are updated.

[0146]

As the second inspection item requiring improvement in Fig. 18A and Fig. 18B, the small category "inside refrigerator/inside freezer" of the medium category "neatness" of the large category "hygiene management state" is displayed,

and, as the improvement measure (description of advice) thereof, "Do not place cardboards in refrigerator, replace them with washable containers, and constantly maintain a sanitary state" is displayed. In addition, since the importance of this second inspection item is "critical item", "deadline" is set at 1 week from the reporting date of results as the deadline for performing the improvement. Moreover, "Completed" is indicated in the implementation check column, and this shows that the improvement has been completed.

[0147]

As the third inspection item requiring improvement in Fig. 18A and Fig. 18B, the small category "fingernails" of the medium category "cleaning" of the large category "hygiene management state" is displayed, and, as the improvement measure (description of advice) thereof, "Replace worn fingernail brush with a new brush" is displayed. Since the importance of this third inspection item is "reminding item", "deadline" is set at 4 weeks from the reporting date of results as the deadline for performing the improvement. Moreover, "Not yet implemented" is indicated in the implementation check column, and this shows that the improvement has not yet been implemented.

[0148]

Accordingly, by perusing the detail screen, the management supervisor or the facility manager can immediately recognize which facility has what kind of items that require

improvement, and to what extent improvement has been performed.

[0149]

By pressing the "Return" button on the detail screen, the user can return to the inspection result list screen of Fig. 17.

[0150]

[Flow of evaluation value input processing]

The evaluation value input processing to be performed by the facility inspection server 11 when the auditor who made a round of the respective facilities and inspected the sanitary conditions of those facilities is to input the inspection results in the facility inspection server 11 is now explained with reference to the flowchart of Fig. 19. During this processing, the facility inspection server 11 is connected, via a network, to the terminal device 12 used by the auditor, and exchanges predetermined data with the terminal device 12.

[0151]

Foremost, in step S1, the user authentication unit 51 displays a login screen on the display of the terminal device 12. The auditor inputs his/her own user ID and password, and the user authentication unit 51 advances the processing to step S2 upon authenticating the user ID and password input from the terminal device 12.

[0152]

In step S2, the facility inspection server 11 causes the

auditor to input the facility information regarding the facility for which the inspection results are to be input. For example, the facility inspection server 11 causes the auditor to input information such as the facility name, implementation date, and name of auditor which are displayed as items of the inspection result list screen shown in Fig. 17. In addition, if there are images of the items to be inspected that were taken during the inspection, the captured images are also uploaded (sent) as needed.

[0153]

In step S3, the hygiene management information screen generation unit 101 generates the hygiene management information input screen of Fig. 7 for causing the auditor to input the inspection result of the respective inspection items falling under the large category "hygiene management state", and displays the generated hygiene management information input screen on the terminal device 12.

[0154]

In step S4, the score processing unit 71 acquires the inspection results of the respective items falling under the large category "hygiene management state" which were input in the hygiene management information input screen, and converts the acquired inspection results into scores based on the evaluation reference value stored in the evaluation reference information storage unit 82.

[0155]

In step S5, the bacteria-related information screen generation unit 102 generates the bacteria-related information input screen (bacterial count input screen of Fig. 8 and bacteria test implementation rate input screen of Fig. 9) for causing the auditor to input the inspection results of the respective items falling under the large category "bacteria-related information", and displays the generated bacteria-related information input screen on the terminal device 12.

[0156]

In step S6, the score processing unit 71 acquires the inspection results of the respective items falling under the large category "bacteria-related information" which were input in the bacteria-related information input screen, and converts the acquired inspection results into scores based on the evaluation reference value stored in the evaluation reference information storage unit 82.

[0157]

In step S7, the customer viewpoint hygiene management information screen generation unit 103 generates the customer viewpoint hygiene management information input screen of Fig. 10 for causing the auditor to input the inspection result of the respective inspection items falling under the large category "customer viewpoint hygiene management state", and displays the generated customer viewpoint hygiene management information input screen on the terminal device 12.

[0158]

In step S8, the score processing unit 71 acquires the inspection results of the respective items falling under the large category "customer viewpoint hygiene management state" which were input in the customer viewpoint hygiene management information input screen, and converts the acquired inspection results into scores based on the evaluation reference value stored in the evaluation reference information storage unit 82.

[0159]

In step S9, the physicochemistry-related information screen generation unit 104 generates the physicochemistry-related information input screen of Fig. 11 for causing the auditor to input the inspection result of the respective inspection items falling under the large category "physicochemistry-related information", and displays the generated physicochemistry-related information input screen on the terminal device 12.

[0160]

In step S10, the score processing unit 71 acquires the inspection results of the respective items falling under the large category "physicochemistry-related information" which were input in the physicochemistry-related information input screen, and converts the acquired inspection results into scores based on the evaluation reference value stored in the evaluation reference information storage unit 82.

[0161]

In step S11, the gene-related information screen generation unit 105 generates the gene-related information input screen of Fig. 12 for causing the auditor to input the inspection result of the respective inspection items falling under the large category "gene-related information", and displays the generated gene-related information input screen on the terminal device 12.

[0162]

In step S12, the score processing unit 71 acquires the inspection results of the respective items falling under the large category "gene-related information" which were input in the gene-related information input screen, and converts the acquired inspection results into scores based on the evaluation reference value stored in the evaluation reference information storage unit 82.

[0163]

Note that, in the respective input screens of steps S3 to S12, comments on advice are also input as needed in addition to the evaluation values as explained with reference to Fig. 7 to Fig. 12.

[0164]

In step S13, the score processing unit 71 calculates a comprehensive determination result which totals the scores acquired in the processing of steps S4 to S12. Moreover, the score processing unit 71 stores collectively in the score information storage unit 81 the calculated comprehensive

determination result and the information acquired in the processing of steps S2 to S12. The data stored in the score information storage unit 81 is used upon displaying the inspection result list screen of Fig. 17 and the detail screen of Fig. 18A and Fig. 18B. In the score information storage unit 81, for instance, facility information, scores, comments, and captured images are classified and stored in hierarchy, for example, in order of facilities, large category, medium category, and small category of inspection items.

[0165]

In step S14, the alert notification unit 72 determines whether an inspection item among the scores acquired in the processing of steps S4 to S12 coincides with a default or special alert notifying condition.

[0166]

When it is determined in step S14 that there is an inspection item which coincides with a default or special alert notifying condition, the processing proceeds to step S15, and the alert notification unit 72 notifies an alert to the preset contact destination. Meanwhile, when it is determined in step S14 that there is no inspection item which coincides with a default or special alert notifying condition, the processing of step S15 is skipped.

[0167]

Subsequently, in step S16, the inspection report generation unit 73 generates an inspection report of that

facility based on the evaluation values that were input by the user in the evaluation value input screen, stores the generated inspection report in the inspection report storage unit 85, and then ends the processing.

[0168]

According to the evaluation value input processing described above, it is possible to calculate and record a comprehensive evaluation value that is obtained by evaluating the facility's hygiene management state, bacteria-related information, customer viewpoint hygiene management state, physicochemistry-related information, and gene-related information according to predetermined evaluation reference values. It is thereby possible to comprehensively determine the sanitary conditions of the facility.

[0169]

Moreover, according to the evaluation value input processing, when the evaluation value that is obtained as a result of evaluating the facility coincides with a predetermined alarm notifying condition, and alarm is notified to an email address of a mobile phone or the like. Accordingly, at the point in time that the auditor inputs the evaluation values into the facility inspection server 11, it is possible to instantaneously notify the management supervisor or the facility manager of the evaluation contents (inspection results) that require improvement, and urge improvement (cause them to perform improvement).

[0170]

[Flow of inspection result display processing]

The inspection result display processing of displaying the inspection results of the respective facilities is now explained with reference to the flowchart of Fig. 20.

[0171]

Foremost, in step S31, the user authentication unit 51 displays the login screen on the display of the terminal device 12. The user inputs his/her own user ID and password, and the user authentication unit 51 advances the processing to S32 upon authenticating the user ID and password input from the terminal device 12.

[0172]

In step S32, the list screen generation unit 91 generates an inspection result list screen which allows the examination of inspection results of a predetermined facility, and displays the generated inspection result list on the terminal device 12. Here, the list screen generation unit 91 identifies the logged in user and, if that user is the management supervisor of all facilities run by the company or a management supervisor of an area who is in charge of multiple facilities in that area, the list screen generation unit 91 displays, on the terminal device 12, an inspection result list screen which allows the examination of inspection results of one or more facilities for which that management supervisor is in charge. Moreover, if the logged in user is

the facility manager of a certain facility, the list screen generation unit 91 displays, on the terminal device 12, an inspection result list screen which allows the examination of inspection results only of that facility.

[0173]

In step S33, the list screen generation unit 91 determines whether the facility detail button 204 has been operated (pressed).

[0174]

When it is determined in step S33 that the facility detail button 204 has been operated, the processing proceeds to step S34, and the detail screen generation unit 92 displays, on the display of the terminal device 12, a detail screen displaying the details of the items to be improved of the facility where the cursor 206 is positioned. Meanwhile, when it is determined in step S33 that the facility detail button 204 has not been operated, the processing of step S34 is skipped.

[0175]

In step S35, the list screen generation unit 91 determines whether the end button 205 has been operated.

[0176]

When it is determined in step S35 that the end button 205 has not been operated, the processing returns to step S32.

[0177]

Meanwhile, when it is determined in step S35 that the

end button 205 has been operated, the processing is ended.

[0178]

According to the inspection result display processing described above, since an inspection result list screen which allows the examination of a plurality of inspection results is displayed on the terminal device 12, a management supervisor who is supervising a plurality of facilities can easily (immediately) confirm the inspection results of all facilities that he/she is supervising.

[0179]

Moreover, with the inspection result list screen, since it is also possible to confirm the comprehensive determination results of the respective facilities and the score (evaluation) for each classification when the inspection items are classified into a predetermined large category, all facilities that the management supervisor is supervising can be easily compared based on the comprehensive determination results or scores of each classification.

[0180]

In addition, with regard to the inspection item (large category) among the scores for which an alert was notified, since the indication of the score in the inspection result list screen differs from the score or a normal inspection item, it is possible to easily comprehend the inspection items that require improvement.

[0181]

In addition, the specific contents of the items to be improved in the facility and the countermeasure contents (description of advice) are displayed on the detail screen. The items to be improved that are displayed on the detail screen correspond to the items for which an alarm was notified in the evaluation value input processing of Fig. 19. Accordingly, since the management supervisor or the facility manager can instantaneously recognize the items that require improvement and how to go about such improvement, the management supervisor or the facility manager can take prompt action.

[0182]

Moreover, as explained with reference to Fig. 18A and Fig. 18B, since the improvement deadline is automatically set (by the facility inspection server 11) according to the importance to the inspection items that require improvement on the detail screen, improvement can be appropriately implemented from items that require urgent measures.

[0183]

In addition, with the detail screen, as explained with reference to Fig. 18A and Fig. 18B, information can be updated as "improvement complete" upon implementing improvement to the inspection items that require improvement. Accordingly, it is also possible to easily confirm whether the improvement has been implemented on the detail screen and the inspection result list screen.

[0184]

Note that the evaluation value input processing of Fig. 19 and the inspection result display processing of Fig. 20 may be executed, for instance, by displaying a screen for causing the user to select either the input of evaluation values or display of inspection results on the initial screen after logging in, and executing the processing according to the user's selection.

[0185]

The embodiments of the present invention are not limited to the embodiments described above, and may be variously modified to the extent that such modifications do not deviate from the gist of this invention.

[0186]

For example, in the foregoing embodiments, while the evaluation value was input by selecting the radio button in the input screen for inputting the evaluation value, the method is not limited thereto and, for example, the evaluation value may also be directly input in tabular input form.

[0187]

In the foregoing embodiments, while the score was granted one-to-one with each inspection item, the score may also be granted to the total value or average value of the evaluation values of a plurality of inspection items. Moreover, one or more scores of the small category, the medium category, and the large category may be subject to weighting

based on a predetermined reference, and a comprehensive determination result may be calculated based on the weighted score.

[0188]

The program to be executed by a computer may be a program in which processing is performed in a times series according to the order described in this specification, or a program in which processing is performed in parallel, or at a necessary timing such as then the program is called.

[0189]

The term "system" as used herein refers to an entire apparatus which is configured from a plurality of devices.

REFERENCE SIGNS LIST

[0190]

1 hygiene management system

11 server

12 terminal device

31 CPU

32 ROM

33 RAM

36 input unit

37 output unit

38 storage unit

39 communication unit

52 input information screen generation unit

53 input information analyzing unit

54 management screen generation unit

55 information storage unit

61 evaluation value input unit

63 importance setting unit

64 alert setting unit

71 score processing unit

72 alert notification unit

91 list screen generation unit

92 detail screen generation unit

CLAIMS

[Claim 1]

An information processing device, comprising:

a hygiene management information acquisition unit that acquires an inspection result related to a status of hygiene management of a facility which handles food items and operators at the facility;

a bacteria-related information acquisition unit that acquires an inspection result related to bacteria of the facility and the operators;

a customer viewpoint hygiene management information acquisition unit that acquires an inspection result related to the status of hygiene management of the facility and the operators from a viewpoint of a customer of the facility;

a physicochemistry-related information acquisition unit that acquires an inspection result related to a physicochemical inspection of the food items;

a gene-related information acquisition unit that acquires an inspection result related to genetic testing of the food items;

an importance setting unit that sets an importance to each inspection item corresponding to the inspection results

acquired by the hygiene management information acquisition unit, the bacteria-related information acquisition unit, the customer viewpoint hygiene management information acquisition unit, the physicochemistry-related information acquisition unit, and the gene-related information acquisition unit;

a score processing unit that converts, into scores, the inspection results acquired by the hygiene management information acquisition unit, the bacteria-related information acquisition unit, the customer viewpoint hygiene management information acquisition unit, the physicochemistry-related information acquisition unit, and the gene-related information

acquisition unit, and calculates a comprehensive determination result to comprehensively assess the facility based on the scores;

a list display unit that display a list of the comprehensive determination results of a plurality of facilities; and

a detail display unit that displays inspection items which require improvement among the inspection items of the inspection results based on the comprehensive determination results, wherein

the detail display unit displays contents of the improvement to be performed to the inspection items which require improvement among the inspection items of the inspection results , and a deadline for performing the improvement, and

the deadline for performing the improvement is set corresponding to the importance set to each inspection item.

[Claim 2]

The information processing device according to claim 1, wherein

the list display unit displays in addition to the comprehensive determination result, with regard to each of

the plurality of facilities, the score corresponding to the inspection result of the hygiene management information acquisition unit, the bacteria-related information acquisition unit, the customer viewpoint hygiene management information acquisition unit, the physicochemistry-related information acquisition unit, and the gene-related information acquisition unit.

[Claim 3]

The information processing device according to claim 1 or claim 2, wherein

the list display unit includes a detail display command unit that displays the detail display unit of one of the facilities.

[Claim 4]

The information processing device according to any one of claims 1 to 3,

wherein

the detail display unit displays whether or not the contents of the improvement to be performed have been implemented to the inspection items which require improvement among the inspection items of the inspection results.

[Claim 5]

The information processing device according to any one of claims 1 to 4, wherein

a shorter deadline to perform the improvement is set with respect to a higher importance set in the importance setting unit in the detail display unit.

[Claim 6]

An information processing method of an information processing device that performs hygiene management of a facility which handles food items,

the method comprising:

operating a hygiene management information acquisition

unit to acquire an inspection result related to a status of hygiene management of a facility which handles food items and operators at the facility;

operating a bacteria-related information acquisition unit to acquire an inspection result related to bacteria of the facility and the operators;

operating a customer viewpoint hygiene management information acquisition unit to acquire an inspection result related to the status of hygiene management of the facility and the operators from a viewpoint of a customer of the

facility;

operating a physicochemistry-related information acquisition unit to acquire an inspection result related to a physicochemical inspection of the food items;

operating a gene-related information acquisition unit to acquire an inspection result related to genetic testing of the food items;

operating the importance setting unit to set an importance to each inspection item corresponding to the inspection results acquired by the hygiene management information acquisition unit, the bacteria-related information acquisition unit, the customer viewpoint hygiene management information acquisition unit, the physicochemistry-related information acquisition unit, and the gene-related information acquisition unit;

operating a score processing unit to convert, into scores, the inspection result acquired by the hygiene management information acquisition unit, the bacteria-related information acquisition unit, the customer viewpoint hygiene management information acquisition unit, the physicochemistry-related information acquisition unit, and the gene-related information acquisition unit, and to

calculate a comprehensive determination result in order to comprehensively assess the facility based on the scores; and

operating a list display unit to display a list of the comprehensive determination results of a plurality of facilities; and

operating a detail display unit to display inspection items which require improvement among the inspection items of the inspection results, contents of the improvement to be performed to inspection items which require improvement among the inspection items of the inspection results, and a deadline for performing the improvement based on the comprehensive determination results, wherein

the deadline for performing the improvement is set corresponding to the importance set to each inspection item.

[Claim 7]

A program for causing a computer to function as:

a hygiene management information acquisition unit that acquires an inspection result related to a status of hygiene management of a facility which handles food items and operators at the facility;

a bacteria-related information acquisition unit that

acquires an inspection result related to bacteria of the facility and the operators;

a customer viewpoint hygiene management information acquisition unit that acquires an inspection result related to the status of hygiene management of the facility and the operators from a viewpoint of a customer of the facility;

a physicochemistry-related information acquisition unit that acquires an inspection result of a physicochemical inspection of the food items;

a gene-related information acquisition unit that acquires an inspection result of genetic testing of the food items;

an importance setting unit that sets an importance to each inspection item corresponding to the inspection results acquired by the hygiene management information acquisition unit, the bacteria-related information acquisition unit, the customer viewpoint hygiene management information acquisition unit, the physicochemistry-related information acquisition unit, and the gene-related information acquisition unit;

a score processing unit that converts, into scores, the inspection results acquired by the hygiene management information acquisition unit, the bacteria-related

information acquisition unit, the customer viewpoint hygiene management information acquisition unit, the physicochemistry-related information acquisition unit, and the gene-related information acquisition unit, and calculates a comprehensive determination result to assess comprehensively the facility based on the scores;

a list display unit that display a list of the comprehensive determination results of a plurality of facilities; and

a detail display unit that displays inspection items which require improvement among the inspection items of the inspection results based on the comprehensive determination results, wherein

the detail display unit displays contents of the improvement to be performed to the inspection items which require improvement among the inspection items of the inspection results , and a deadline for performing the improvement, and

the deadline for performing the improvement is set corresponding to the importance set to each inspection item.

INFORMATION PROCESSING DEVICE, METHOD, AND PROGRAM

ABSTRACT

The present invention relates to an information processing device, method, and program, for enabling the sanitary conditions to be more accurately comprehended and managed. An evaluation value input unit 61 acquires an inspection result of a status of hygiene management of a facility that handles food items and operators thereof, a bacteria-related inspection result, an inspection result of the status of hygiene management from a viewpoint of a customer, an inspection result of a physicochemical inspection, and an inspection result of genetic testing. A score processing unit 71 converts the inspection results into scores, and calculates a comprehensive determination result to comprehensively assess the facility based on the scores. A list screen generation unit 91 displays a list of the comprehensive determination results of a plurality of facilities. This invention can be applied, for example, to a hygiene management system that performs hygiene management.

Fig. 5