DESCRIPTION

Title of Invention: SALES EXPANSION ASSISTANCE SYSTEM, SALES EXPANSION ASSISTANCE PROGRAM, AND SALES EXPANSION ASSISTANCE DEVICE

Technical Field

[0001] The present invention relates to arts for assisting sales expansion, etc., of seals and related peripheral technologies, such as gaskets and peripheral equipment thereof, etc., that are necessary for seal handling.

Background Art

[0002] An item that prevents leakage of a fluid or prevents entry of foreign matter from the exterior is called a seal. The seal is, for example, used in a joint, pipeline, or other fixed portion, a valve, pump, or other rotating portion, a reciprocation or other motion portion, etc., in any of various plants (Non Patent Literature 1).

[0003] In regard to such a seal, there is known a system that provides, to a user who uses a sealing material, selection information on a usable or recommended sealing material based on input of the user's usage conditions (Patent Literature 1).

Citation List

Patent Literature

[0004] Patent Literature 1: International Publication No. WO/2015/156304

Non Patent Literature

[0005] Non Patent Literature 1: Takahito Nishida, "Gendai Gasuketto Gairon" ("New Gaskets and Gasketing Technology"), NIPPON VALQUA INDUSTRIES, LTD., May 10, 2015, p. 1

Summary of Invention

Technical Problem

[0006] There are present a great variety of seals and the needs of respective customers for the seals are diverse. It is presumed that there are present potential needs that not even the customers are aware of and, in fact, such needs are yet to be specified.

Although sales representatives for seals visit customers and

make efforts to specify the needs of the customers, it has been pointed out that considerable experience is required to specify the great variety of seals. Therefore, although sales representatives obviously learn from experienced people, the problem of lack of promptness in providing an appropriate seal and information thereon upon coming to know of the needs of the respective customers has been pointed out.

The present inventors found that the needs of customers can be specified from a vast amount of information related to seals that have been produced and provided over the years.

In view of the above issues, an object of the present invention is to specify customer-side needs, specify information on seals or seal handling, etc., required by the customer and customer-side potential demands, and contribute to sales expansion of products in accordance with demand.

Solution to Problem

[0007] To achieve the above object, one aspect of a sales expansion assistance system according to the present invention includes an inquiry screen for displaying a questionnaire that includes one or more questions and inputting a response or responses to the one or more questions of the questionnaire, a contents menu screen for displaying one or more contents menus and selecting one or more of the one or more contents menus, a contents information screen for displaying contents information belonging to the one or more contents menus, a storage that stores at least a question information database that stores question information presented in the questionnaire, and a contents information database that stores the contents information in association with the one or more contents menus, and an information processing unit that collects and diagnoses a plurality of responses input in the inquiry screen, computes the one or more contents menus by using the diagnosis results, and searches for contents information belonging to the one or more contents menus.

[0008] In the sales expansion assistance system, the one or more questions included in the questionnaire may include information

related to seals, information related to seal handling or both of the information.

Further, in the sales expansion assistance system, a guidance screen for displaying guidance information that guides to the inquiry screen and guiding to the inquiry screen by selection of the guidance information may be included.

Further, in the sales expansion assistance system, an information screen for displaying information that enables acquisition of the contents information desired by responding to a question or questions included in the questionnaire may be included and, after changing over to the information screen by selection of the guidance information displayed in the guidance screen, changeover from the information screen to the inquiry screen may be enabled.

Further, in the sales expansion assistance system, an information processing terminal or an information display device that is connected wirelessly or by wire to the information processing unit and displays the inquiry screen, the contents menu screen, or the contents information screen may be included.

Further, in the sales expansion assistance system, a first management screen that is disclosed to a person having a first authority and is for displaying one or more of creation, renewal, or deletion of the questionnaire or the one or more questions, an obtained score or obtained scores of the response or responses, user information, or a history of inquiry or the response or responses, or a second management screen that is disclosed to a person having a second authority differing from the first authority and is for displaying one or more of customer information or the history of the inquiry or the response or responses may be included, a response database that stores the response or responses and the obtained score or obtained scores in association with the one or more questions, a user information database that stores the user information, a history information database that stores the history of the response or responses to the one or more questions, or a management database

that registers a grantor of the second authority may be stored in the storage, and the information processing unit may present the first management screen or the second management screen in accordance with the first authority or the second authority and allow processing selected in accordance with the authority.

In the sales expansion assistance system, a score or scores corresponding to the response or responses to the question information may be allocated in the question information database and the information processing unit may generate the diagnosis results that include the score extracted in accordance with a response input in the inquiry screen.

[0009] To achieve the above object, one aspect of a sales expansion assistance program according to the present invention is a sales expansion assistance program that is to be executed by a computer and is for causing the computer to implement the functions including a function of generating an inquiry screen for displaying a questionnaire that includes one or more questions and inputting a response or responses to the one or more questions of the questionnaire, a function of generating a contents menu screen for displaying one or more contents menus and selecting one or more of the one or more contents menus, a function of generating a contents information screen for displaying contents information belonging to the one or more contents menus, a function of storing, in a storage, at least a question information database that stores question information presented in the questionnaire, and a contents information database that stores the contents information in association with the one or more contents menus, and a function of collecting and diagnosing a plurality of responses input in the inquiry screen, computing the one or more contents menus by using the diagnosis results, and searching for contents information belonging to the one or more contents menus.

[0010] Further, in the sales expansion assistance program, the functions may include a function of generating a first management screen that is disclosed to a person having a first authority and

is for displaying one or more of creation, renewal, or deletion of the questionnaire or the one or more questions, an obtained score or obtained scores of the response or responses, user information, or a history of inquiry or the response or responses, or a function of generating a second management screen that is disclosed to a person having a second authority differing from the first authority and is for displaying one or more of customer information or the history of the inquiry or the response or responses and includes a function of storing, in the storage, a response database that stores the response or responses and the obtained score or obtained scores in association with the one or more questions, a user information database that stores the user information, a history information database that stores the history of the response or responses to the one or more questions, or a management database that registers a grantor of the second authority, and a function of presenting the first management screen or the second management screen in accordance with the first authority or the second authority and allowing processing selected in accordance with the authority.

[0011] To achieve the above object, one aspect of a sales expansion assistance device according to the present invention includes an information presenting unit that presents an inquiry screen for displaying a questionnaire that includes one or more questions and inputting a response or responses to the one or more questions of the questionnaire, a contents menu screen for displaying one or more contents menus and selecting one or more of the one or more contents menus, or a contents information screen for displaying contents information belonging to the one or more contents menus, a storage that stores at least a question information database that stores question information presented in the questionnaire, and a contents information database that stores the contents information in association with the one or more contents menus, and an information processing unit that collects and diagnoses a plurality of responses input in the inquiry screen, computes the one or more contents menus by using the diagnosis results, and searches

for contents information belonging to the one or more contents menus.

Advantageous Effects of Invention

[0012] By the present invention, any of the following effects is obtained.

(1) By responding to a question of the questionnaire, a potential need that a user has can be made apparent, information related to seals or seal handling required by the user can be discovered, and these can be presented and linked to sales.

(2) A question of the questionnaire may be responded to virtually, a potential demand can be found from information obtained virtually from the response, and sales skills or technical skills related to seals, seal handling, or other information to be provided to a customer can be improved.

(3) By setting questions and diagnosing response results, current issues and potential needs can be discovered and contributions can be made toward sales expansion of seals and seal handling and toward seal handling of high reliability.

Brief Description of Drawings

[0013] Fig. 1 is a diagram showing a sales expansion assistance system according to an embodiment.

Fig. 2A is a diagram showing an inquiry screen, Fig. 2B is a diagram showing a contents menu screen, and Fig. 2C is a diagram showing a contents information screen.

Fig. 3 is a flowchart showing an example of a processing procedure of the sales expansion assistance system.

Fig. 4 is a diagram showing a mode of use of the sales expansion assistance system.

Fig. 5 is a diagram showing an example of a sales expansion assistance system according to an example.

Fig. 6 is a diagram showing an example of hardware of a server device.

Fig. 7 is a diagram showing an example of a data structure of a home screen.

Fig. 8 is a flowchart showing a processing procedure for sales

expansion assistance.

Fig. 9A is a diagram showing a top page screen of the system and Fig. 9B is a diagram showing a screen transition when a capture icon is depressed.

Fig. 10A is a diagram showing a screen transition when an engagement icon is depressed and Fig. 10B is a diagram showing a screen transition when the engagement icon is depressed.

Fig. 11A is a diagram showing a screen transition when the engagement icon is depressed and Fig. 11B is a diagram showing a screen transition when the engagement icon is depressed.

Fig. 12A is a diagram showing a screen transition indicating operation of a questionnaire icon and Fig. 12B is a diagram showing a screen transition for starting diagnosis.

Fig. 13 is a diagram showing an information table showing questions, replies, scores, and diagnosis results of a questionnaire.

Fig. 14A is a diagram showing a diagnosis starting screen and Fig. 14B is a diagram showing a screen showing diagnosis results.

Fig. 15 is a flowchart showing a processing procedure for service information 1.

Fig. 16 is a diagram showing a service information screen.

Fig. 17 is a diagram showing a service information screen.

Fig. 18 is a diagram showing a service information screen.

Fig. 19 is a flowchart showing a processing procedure for service information 2.

Fig. 20 is a diagram showing a service information screen.

Fig. 21 is a flowchart showing a processing procedure for service information 3.

Fig. 22 is a diagram showing a service information screen.

Fig. 23 is a flowchart showing a processing procedure for service information 4.

Fig. 24 is a diagram showing a service information screen.

Fig. 25 is a diagram showing an example of a data structure of a management screen.

Fig. 26 is a flowchart showing a processing procedure for system management.

Fig. 27A is a diagram showing an authentication screen and Fig. 27B is a diagram showing a login page.

Fig. 28 is a flowchart showing a processing procedure for user setting.

Fig. 29 is a diagram showing a management top screen.

Fig. 30A is a diagram showing a user settings list screen and Fig. 30B is a diagram showing user settings information.

Fig. 31A is a diagram showing a create new user settings screen and Fig. 31B is a diagram showing a user settings confirmation screen.

Fig. 32A is a diagram showing a user settings renewal screen and Fig. 32B is a diagram showing a user settings deletion confirmation screen.

Fig. 33 is a flowchart showing a processing procedure for inquiry information setting processing.

Fig. 34A is a diagram showing an inquiry section settings list screen and Fig. 34B is a diagram showing inquiry settings information.

Fig. 35A is a diagram showing a create new inquiry section settings screen and Fig. 35B is a diagram showing an inquiry section settings renewal screen.

Fig. 36A is a diagram showing a reply settings list screen and Fig. 36B is a diagram showing a create new reply settings screen.

Fig. 37 is a diagram showing a reply settings renewal screen.

Fig. 38 is a flowchart showing a processing procedure for customer settings processing.

Fig. 39 is a diagram showing a user top screen.

Fig. 40A is a diagram showing a customer settings list screen and Fig. 40B is a diagram showing customer settings information.

Fig. 41A is a diagram showing a create new customer settings screen and Fig. 41B is a diagram showing a customer settings confirmation screen.

Fig. 42 is a diagram showing a history list screen.

Fig. 43A is a diagram showing a memo screen, Fig. 43B is a

diagram showing a service category screen, and Fig. 43C shows an inquiry details screen.

Fig. 44 is a diagram showing a customer settings renewal screen.

Description of Embodiments

[0014] Fig. 1 shows a sales expansion assistance system according to an embodiment of the present invention.

A sales expansion assistance system 2 uses, for example, a computer system and includes an information processing unit 4, a storage 6, and an information presenting unit 8. The information processing unit 4 executes various programs, such as an OS (operating system), a sales expansion assistance program, etc., in the storage 6 and derives information necessary for sales expansion. The storage 6 stores the various programs, such as the OS, the sales expansion assistance program, etc., and stores various databases 10 related to sales expansion information. The information presenting unit 8 is connected by wire or wirelessly to the information processing unit 4 and presents information necessary for information processing by the information processing unit 4, sales expansion information that is a processing result derived by the information processing, etc. The information presenting unit 8 may be a display device, a portable information terminal, a printer, or other device that presents image information.

[0015] The information processing by the information processing unit 4 includes processing of collecting and diagnosing, for example, responses 18 from a customer to questions 16 of a questionnaire 14 presented in an inquiry screen 12-1, using diagnosis results thereof to compute one or more contents menus 20, and searching contents information 22 belonging to the one or more contents menus 20. Here, the questions 16 may include, for example, information related to seals, information related to seal handling or both of the information. The “customer” is a person receiving presentation of information on seals, seal handling, etc., from the sales expansion assistance system 2.

For example, a question information database 10-1, a contents

information database 10-2, etc., are stored in the storage 6. The questions 16 presented in the questionnaire 14 are stored in the question information database 10-1. The contents information 22 is stored in association with the contents menus 20 in the contents information database 10-2.

At the information presenting unit 8, the inquiry screen 12-1, a contents menu screen 12-2, a contents information screen 12-3, etc., are displayed in a display screen 12. As shown in Fig. 2A, the inquiry screen 12-1 displays the questionnaire 14 that includes one or more questions 16 and enables input of a response 18 to a question 16 of the questionnaire 14. As shown in Fig. 2B, the contents menu screen 12-2 presents one or more contents menus 20 and enables selection of one or more of the one or more contents menus 20. As shown in Fig. 2C, the contents information screen 12-3 presents the contents information 22 belonging to the one or more contents menus 20.

[0016] <Processing Functions of the Information Processing Unit 4>

Processing functions of the information processing unit 4 include an inquiry screen generating function, a contents menu screen generating function, a contents information screen generating function, a database generating function, a function of collecting and diagnosing a response to a question, etc.

Fig. 3 shows a processing procedure that realizes these functions. In this processing procedure, the inquiry screen 12-1 for displaying the questionnaire 14 that includes one or more questions 16 and inputting the response 18 to the question 16 of the questionnaire 14, is generated (S11).

The contents menu screen 12-2 for displaying one or more contents menus 20 and selecting one or more of the one or more contents menus 20, is generated (S12).

The contents information screen 12-3 for displaying the contents information 22 belonging to the one or more contents menus 20, is generated (S13).

At least the question information database 10-1 that stores question information presented in the questionnaire 14, and the contents information database 10-2, in which the contents information 22 is stored in association with the one or more contents menus 20, are stored in the storage 6 (S14).

A plurality of responses input in the inquiry screen 12-1 are, for example, collected and diagnosed, the diagnosis results are used to compute one or more contents menus 20, and the contents information 22 belonging to the one or more contents menus 20 is searched (S15).

[0017] <Mode of Use of the Sales Expansion Assistance System 2>

In a mode of use of the sales expansion assistance system 2, for example, as shown in Fig. 4A, a sales representative 24, who performs sales expansion of seals and seal handling, presents, to a customer 26, for example, the display screen 12 of the system on a display 30 of a personal computer (hereinafter referred to as the “PC”) 28 that executes the sales expansion assistance system 2, then guides from this display screen 12 to the inquiry screen 12-1, makes the customer 26 respond to a plurality of the questions 16 of the questionnaire 14, and presents the diagnosis results. The PC 28 is an example of a sales expansion assistance device.

[0018] As use of the sales expansion assistance system 2, for example, as shown in Fig. 4B, a large-sized display 30 is installed on a wall surface and the display screen 12 of the system is presented.

In this mode, a plurality of sales representatives 24-1 and 24-2 and a plurality of customers 26-1 and 26-2 are made to respond to the plurality of the questions 16 of the questionnaire 14 and the diagnosis results are presented.

[0019] <Effects of the Embodiment>

The following effects are obtained by the embodiment.

(1) A comprehensive diagnosis is made possible from the responses to the questions of the questionnaire, potential needs of the customer side can be discovered, information related to seals

or seal handling (may hereinafter also be referred to as seal information) most suited to the customer side can be presented, and sales expansion can be achieved.

(2) By virtual responses to the questions of the questionnaire, not only can potential demands be discovered, but contributions can also be made toward improving technical or sales skills.

(3) By setting of the questions and comprehensive diagnosis of the response results, reliability of the selected seal or the applied seal handling is increased.

Examples

[0020] <Sales Expansion Assistance System 2>

Fig. 5 shows a sales expansion assistance system according to an example. In Fig. 5, portions that are the same as those of Fig. 1 are provided with the same symbols.

This sales expansion assistance system 2 includes a server device 32 as an example of a sales expansion assistance device and a plurality of PCs 28-11, 28-12, …, PCs 28-21, 28-22, …, and PC 28-X as information processing terminals and these are connected by wire or wirelessly. The PCs 28-11, 28-12, …, the PCs 28-21, 28-22, …, and the PC 28-X may be smartphones, etc. The sales expansion assistance device includes an information processing terminal or an information display device that is connected to a server by wire or wirelessly and is capable of displaying various information, such as the inquiry screen, the contents menu screen, the contents information screen, etc.

[0021] In this example, the PCs 28-11, 28-12, …, are PCs that are operable, for example, by a customer 26 who is given a certain authority necessary for receiving the providing of seal information from the sales expansion assistance system 2. The PC 28-X is a PC that is operable by a manager who is given a high authority (a first authority) for management of a system user, etc. Here, a “system user” or a “user” is a person having a usage authority for the sales expansion assistance system 2 with respect to a customer 26, and a “manager” is a person having a usage authority for management

of a “system user” or a “user” of the sales expansion assistance system 2 and for the sales expansion assistance system 2. The PCs 28-21, 28-22, …, are PCs that are operable by a system user, who is in a position of providing the seal information from the sales expansion assistance system 2 and is given a certain authority (a second authority that is lower than the first authority).

By such classification of authority, leakage of personal information and falsification of questions, etc., handled by the sales expansion assistance system 2 can be prevented and integrity and reliability of inquiry and diagnosis results can be maintained.

[0022] <Server Device 32>

As shown in Fig. 6, the server device 32 includes a processor 34, a storage 36, and a communication unit 38.

The processor 34 executes an OS, a program of the sales expansion assistance system 2, etc., that are in the storage 36. A hard disk or a semiconductor memory is used as the storage 36, and a program storage 40 and the databases 10 are constructed therein. The communication unit 38 is connected by wire or wirelessly to the PCs 28-11, 28-12, …, the PCs 28-21, 28-22, …, and the PC 28-X and perform communication for the necessary information processing.

The databases 10 store various information, to be described later, that are used in the sales expansion assistance system and in executing a sales expansion assistance program and include a plurality of databases, such as an inquiry information database 10-10, a response information database 10-11, a service information database 10-12, a customer information database 10-13, a user information database 10-14, a history information database 10-15, a management database 10-16, etc. The inquiry information database 10-10 and the response information database 10-11 are each an example of the question information database 10-1, and the service information database 10-12 is an example of the contents information database 10-2. Information related to customers is stored in the customer information database 10-13. Screen information and other information related to a user are stored in the user information

database 10-14. Information on a history related to inquiries and responses, a history related to the customer, the user, and the manager, a history related to the system, etc., is stored in the history information database 10-15. Management information on the manager having the first authority, the user having the second authority, etc., is stored in the management database 10-16.

[0023] This sales expansion assistance system 2 includes home screens 42 and management screens 44 as two screen groups.

<Home Screens 42>

As shown in Fig. 7, the home screens 42 include a top page screen 42-1. The top page screen 42-1 is an example of a guidance screen that guides to the inquiry screen and changeover to the inquiry screen can be performed by selection of guidance information. This top page screen 42-1 includes a pre-questionnaire-reply top page 42-11 and a diagnosis results top page 42-12. An engagement icon 42-2, a questionnaire icon 42-3, a service information icon 42-4, etc., are displayed in these pre-questionnaire-reply top page 42-11 and diagnosis results top page 42-12. By depression of the engagement icon 42-2, a plurality of engagement information screens 42-21, 42-22, 42-23, and 42-24 unfold successively. By depression of the questionnaire icon 42-3, a plurality of questionnaire information screens 42-31, 42-32, …, 42-3N unfold. By depression of the service information icon 42-4, a plurality of service information screens 42-41, 42-42, 42-43, 42-44, etc., unfold. These plurality of engagement information screens 42-21, 42-22, 42-23, and 42-24, plurality of questionnaire information screens 42-31, 42-32, …, 42-3N, and plurality of service information screens 42-41, 42-42, 42-43, 42-44, …, are each an example of an information screen that displays system information expressing that acquisition of contents information is enabled.

[0024] <Processing Procedure for Sales Expansion Assistance>

Fig. 8 shows, as an example of a sales expansion assistance program, a processing procedure for sales expansion assistance. In this processing, the top-page screen 42-1 is displayed (S101)

and depression of the engagement icon 42-2 of this top page screen 42-1 is judged (S102). If the engagement icon 42-2 is depressed (YES in S102), the engagement information screens are displayed (S103). If the engagement icon 42-2 is not depressed (NO in S102), whether or not the questionnaire icon 42-3 is selected is determined (S104). If the questionnaire icon 42-3 is selected (YES in S104), S103 is skipped and whether or not diagnosis is started is judged (S105). If a diagnosis start icon is depressed (YES in S105), changeover to the questionnaire information screen 42-31 is performed (S106). If diagnosis is not started (NO in S105), a return to S101 is performed.

[0025] Responses are made to questions in the questionnaire information screen (S107) and whether or not responses to all of the questions have ended is judged (S108). If responses have not been made to all of the questions (NO in S108), responding to the questionnaire information screen is continued (S107 and S108).

If response to all of the questions have ended (YES in S108), a start diagnosis icon is depressed (S109) and diagnosis processing is executed (S110). By ending of diagnosis, diagnosis results are displayed in the top page screen 42-1 (S111).

[0026] If there is no depression of the questionnaire icon 42-3 in S104 (NO in S104), whether or not the service information icon 42-4 is depressed is judged (S112). If the service information icon 42-4 is not depressed (NO in S112), a return to the display of the top page screen 42-1 is performed (S101). If the service information icon 42-4 is depressed (YES in S112), the service information screens are displayed (S113), and the processing ends.

The sales expansion assistance processing may further include, for example, a function of creating a quotation slip that is in accordance with the contents of the diagnosis results or the selected service information. With this quotation slip creating function, for example, service information of contents that are in accordance with a state of a customer can be presented based on the contents of the questionnaire and quotation slips for respective cases of

selecting a portion or all of these presented services may be created automatically. Also, a quotation slip may be created in accordance with the number and types of service information icons depressed by the customer. In addition, a screen for selecting whether or not to create a quotation slip may be generated and displayed after display of the service information. The server device 32, for example, stores monetary amount data associated with the service information and reads the monetary amount data and creates a quotation slip in accordance with the selected service information.

This quotation slip creation processing is not restricted to a case of being performed after the diagnosis processing by the questionnaire. The sales expansion assistance system 2 may, for example, changeover to the quotation slip creation processing at a timing desired by a customer. For example, a quotation slip create icon may be displayed in the home screens 42 or the top page screen 42-1.

[0027] <Screen Display>

In this processing, the top page screen 42-1 is displayed as shown in Fig. 9A before replying to the questionnaire. In this pre-questionnaire-reply top page 42-11 are displayed the engagement icon 42-2, the questionnaire icon 42-3, the service information icon 42-4, a seal education service (hereinafter referred to as “education”) icon, a tightening management service icon, a tool training icon, a components introduction support icon, etc.

When the engagement icon 42-2 is depressed, transition to the engagement information screen 42-21 shown in Fig. 9B is performed, and transitions from this engagement information screen 42-21 to the engagement information screens 42-22, 42-23, and 42-24, shown in Fig. 10A, Fig. 10B, and Fig. 11A, and the questionnaire information screen 42-31, shown in Fig. 11B, are enabled. Changeover to inquiry processing can be performed by depression of the start diagnosis icon of this questionnaire information screen (Fig. 11B).

[0028] By depressing the questionnaire icon 42-3 from the pre-questionnaire-reply top page 42-11 of the top page screen 42-1

as shown in Fig. 12A, a modal window is displayed on the pre-questionnaire-reply top page 42-11 as shown in Fig. 12B and changeover to the inquiry processing can be performed without having to go through the depression of the engagement icon 42-2.

As shown in Fig. 13, a table of the questionnaire 14 includes a plurality of columns, that is, a question column 14-1, a reply column 14-2, a score column 14-3, and a diagnosis result column 14-4. A plurality of the questions 16 are stored in the question column 14-1, the responses 18 to the questions 16 are stored in the reply column 14-2, and scores according to category, such as education, etc., are stored in the score column 14-3. The diagnosis result column 14-4 contains information on evaluation, scores, matrix, application, etc. If planned numbers of replies for the questions 16 differ, an arbitrary weighting processing is performed by the manager to achieve averaging of the information to be evaluated with respect to the scores. Information provided to a customer, such as the applicable education, tools, etc., can thereby be optimized.

[0029] When the start of diagnosis is instructed as shown in Fig. 14A after responding to all of the questions, the diagnosis results are displayed in the diagnosis results top page 42-12 as shown in Fig. 14B. In this example, as information expressing the diagnosis results, the education icon, the tightening management service icon, and the components introduction support icon are displayed in colors different from those before replying to the questionnaire. By this display, the customer 26 is enabled to reference the diagnosis results.

[0030] <Processing Procedure 1 after Diagnosis Results>

Fig. 15 shows a processing procedure 1 after the diagnosis results. From the display of the diagnosis results top page 42-12 (S201) after the diagnosis results of the inquiry, it is judged whether or not the education icon is selected (S202) and as long as the education icon is not selected (NO in S202), the diagnosis results top page 42-12 is maintained, and when the education icon

is selected (YES in S202), education (seal education service) information is displayed (S203). Whether or not the display of the education information has ended is judged (S204) and if it has not ended (NO in S204), the display of the education information is continued (S203) and if it has ended (YES in S204), a return to the diagnosis results top page 42-12 is performed.

As the education information, the education information corresponding to the customer 26 who received the diagnosis results is presented by the service information screen 42-41 as shown, for example, in Fig. 16, Fig. 17, and Fig. 18. This education information includes information on working skill supervisor and technician training services, seal training systems, training curriculums, etc.

[0031] <Processing Procedure 2 after Diagnosis Results>

Fig. 19 shows a processing procedure 2 after the diagnosis results. From the display of the diagnosis results top page 42-12 (S301) after the diagnosis results of the inquiry, it is judged whether or not the tightening management service icon is selected (S302) and as long as the tightening management service icon is not selected (NO in S302), the diagnosis results top page 42-12 is maintained. When the tightening management service icon is selected (YES in S302), tightening management service information is displayed (S303). Whether or not the display of this tightening management service information has ended is judged (S304) and if it has not ended (NO in S304), the display of the tightening management service information is continued (S303) and if it has ended (YES in S304), a return to the diagnosis results top page 42-12 is performed.

As this tightening management service information, the tightening management service information corresponding to the customer 26 who received the diagnosis results is presented by the service information screen 42-42 as shown, for example, in Fig. 20. This tightening management service information includes tightening information and system management information that are

in accordance with the diagnosis results.

[0032] <Processing Procedure 3 after Diagnosis Results>

Fig. 21 shows a processing procedure 3 after the diagnosis results. From the display of the diagnosis results top page 42-12 (S401) after the diagnosis results of the inquiry, it is judged whether or not the tool training icon is selected (S402) and as long as the tool training icon is not selected (NO in S402), the diagnosis results top page 42-12 is displayed. When the tool training icon is selected (YES in S402), the tool training information is displayed (S403). Whether or not the display of the tool training information has ended is judged (S404) and if it has not ended (NO in S404), the display of the tool training information is continued (S403) and if it has ended (YES in S404), a return to the diagnosis results top page 42-12 is performed.

As the tool training information, the tool training information corresponding to the customer 26 who received the diagnosis results is presented by the service information screen 42-43 as shown, for example, in Fig. 22. This tool training information includes selection information and operation standards information on specialized tools that are in accordance with the diagnosis results.

[0033] <Processing Procedure 4 after Diagnosis Results>

Fig. 23 shows a processing procedure 4 after the diagnosis results. From the display of the diagnosis results top page 42-12 (S501) after the diagnosis results of the inquiry, it is judged whether or not the components introduction support icon is selected (S502), and as long as the components introduction support icon is not selected (NO in S502), the diagnosis results top page 42-12 is displayed. When the components introduction support icon is selected (YES in S502), the components introduction support information is displayed (S503). Whether or not the display of the components introduction support information has ended is judged (S504) and if it has not ended (NO in S504), the display of the components introduction support information is continued (S503) and if it has ended (YES in S504), a return to the diagnosis results

top page 42-12 is performed.

As the components introduction support information, the components introduction support information corresponding to the customer 26 who received the diagnosis results is presented by the service information screen 42-44 as shown, for example, in Fig. 24. This components introduction support information includes proposal information and introduction support information on various components that are in accordance with the diagnosis results.

[0034] <Management Screen 44>

As shown in Fig. 25, the management screens 44 include a login page 44-1, a management top screen 44-2, and a user top screen 44-3. The management top screen 44-2 is an example of a first management screen that is disclosed to a person having the first authority. This management top screen 44-2 is disclosed, for example, to the manager who has the first authority and displays one or more of creation, renewal, or deletion of the questionnaire 14 or the questions 16, an obtained score of the responses 18, user information, or a history of inquiry or the responses 18. A user settings list screen 44-4, an inquiry section settings list screen 44-5, and a customer settings list screen 44-6 are included in this management top screen 44-2.

The user top screen 44-3 is an example of a second management screen that is disclosed, for example, to the user who has the second authority differing from the first authority. One or more of user information or the history of inquiry or the responses 18 is displayed in this user top screen 44-3 and just the customer settings list screen 44-6 is linked thereto.

An export screen 44-41, a create new user settings screen 44-42, a user settings confirmation screen 44-43, a user settings renewal screen 44-44, and a user settings deletion confirmation screen 44-45 are linked to the user settings list screen 44-4. An export screen 44-51, an create new inquiry section settings screen 44-52, an inquiry section settings renewal screen 44-53, and a reply settings list screen 44-54 are linked to the inquiry section settings list screen

44-5. A create new reply settings screen 44-55 and a reply settings renewal screen 44-56 are linked to the reply settings list screen 44-54.

An export screen 44-61, a create new customer settings screen 44-62, a customer settings confirmation screen 44-63, a history list screen 44-64, and a customer settings renewal screen 44-65 are linked to the customer settings list screen 44-6. A memo screen 44-66, a service category screen 44-67, and an inquiry details screen 44-68 are linked to the history list screen 44-64.

[0035] <Processing Procedure for System Management>

In this system management, as shown in Fig. 26, a login screen is displayed (S601) and login information can be input from this login screen. Whether or not the login information is input is judged (S602) and if the login information is not input (NO in S602), this processing is ended. Also, even if login information is input (YES in S602), this processing is ended if the person inputting is not an admitted login subject (NO in S603).

If the person inputting is an admitted login subject (YES in S603), an access authority confirmation screen is displayed (S604) and the person is made to input access authority information (S605).

From the input access authority information, determination of manager or user is performed (S606) and in the case of the manager, the manager top screen 44-2 is displayed (S607), and in this management top screen, access by just the manager is allowed (S608). During this access, whether or not access is ended is monitored (S609) and if access is ended (YES in S609), changeover to logout is performed (S610).

[0036] In the case of the user in S606, the user top screen 44-3 is displayed (S611), and in this user top screen 44-3, access by the manager and the user is enabled (S612). During this access, whether or not access is ended is monitored (S613) and if access is ended (YES in S613), changeover to logout is performed (S614).

[0037] <Authentication Screen and Login Page>

In this processing, an authentication screen, shown in Fig.

27A, is displayed. A user name and password can be input from this authentication screen.

Input of a user ID and password and execution of login upon depression of a login icon can also be performed from the login page 44-1 shown in Fig. 27B.

[0038] <User Setting Processing>

User setting is an exclusive right of the manager. As shown in Fig. 28, in this processing procedure, from the management top screen 44-2 (S701), it is judged whether or not a user setting screen is to be displayed (S702), and if the user setting screen is to be displayed (YES in S702), the user setting screen is displayed (S703) and a user setting processing is performed (S704). In the user setting processing, whether or not changeover to the management top screen 44-2 is to be performed is monitored (S705) and if changeover to the management top screen 44-2 is not to be performed (NO in S705), the user setting processing can be continued. If changeover to the management top screen 44-2 is to be performed (YES in S705), transition to the management top screen 44-2 is performed (S701).

[0039] As shown in Fig. 29, in this processing, a customer settings icon, a user settings icon, and an inquiry section settings icon are displayed in the management top screen 44-2. When the user settings icon in this management top screen 44-2 is depressed, transition to the user settings list screen 44-4 shown in Fig. 30A is performed. User setting can be performed in this user settings list screen 44-4 and, as shown in Fig. 30B, in the user setting, setting regarding new registration of a user, issuing of a user ID·PASS, change of user information, granting of authority, deletion, or a search function, etc., can be performed.

For the new registration of user information, transition to the create new user settings screen 44-42 shown in Fig. 31A is performed by depressing a create new icon in the user settings list screen 44-4 (Fig. 30A). After the create new user settings, the user settings information can be confirmed by transition to the

user settings confirmation screen 44-43 shown in Fig. 31B.

For renewal of user information, a renewal icon of the applicable user name is depressed from the user settings list screen 44-4 (Fig. 30A) to transition to the user settings renewal screen 44-44, shown in Fig. 32A, and perform renewal of information.

If settings information of the user information is to be deleted, a delete icon of the applicable user name is depressed from the user settings list screen 44-4 (Fig. 30A) to transition to the user settings deletion confirmation screen 44-45, shown in Fig. 32B, and confirm deletion information.

[0040] <Setting Processing for Inquiry Information>

Setting of inquiry information is an exclusive right of the manager. As shown in Fig. 33, in this processing procedure, from the management top screen 44-2 (S801), it is judged whether or not the inquiry section settings list screen 44-5 is to be displayed (S802), and if the inquiry section settings list screen 44-5 is to be displayed (YES in 802), the inquiry section settings list screen 44-5 is displayed (S803) and a processing of setting inquiry information, such as creation, renewal, obtained score, etc., of the questions, is performed (S804). In the inquiry section processing, whether or not changeover to the management top screen 44-2 is to be performed is monitored (S805) and if changeover to the management top screen 44-2 is not to be performed (NO in S805), the inquiry information setting processing can be continued. If changeover to the management top screen 44-2 is to be performed (YES in S805), transition to the management top screen 44-2 is performed (S801).

[0041] As shown in Fig. 34A, in this processing, select icons, disclosed/not disclosed, inquiry item number, service category, inquiry item, and select icons for operation, etc., are disclosed in the inquiry section settings list screen 44-5. For operation, the items of renew, delete, and reply are set. As shown in Fig. 34B, in the processing in this inquiry section settings list screen 44-5, new creation, deletion, renewal, change of order, and service

selection of an inquiry item, disclosure setting of an inquiry item, new creation, deletion, and renewal of a reply, change of order of a reply, obtained score setting of a reply, disclosure setting of a reply, and a search function, etc., are set.

For the creation of a new inquiry, by depressing of a create new icon in the inquiry section settings list screen 44-5 (Fig. 34A), transition to the create new inquiry section settings screen 44-52, shown in Fig. 35A, is performed and input of new creation information is enabled. Transition from this create new inquiry section settings screen 44-52 to the inquiry section settings list screen 44-5 can be performed by a return icon, and also by the create new icon, transition to a new create new inquiry section settings screen 44-52 can be performed.

For the renewal of inquiry information, by depressing of a renew icon in the inquiry section settings list screen 44-5 (Fig. 34A), transition to the inquiry section settings renewal screen 44-53, shown in Fig. 35B, is performed to perform renewal of the inquiry information.

For reply setting, by depressing of a reply icon in the inquiry section settings list screen 44-5 (Fig. 34A), transition to the reply settings list screen 44-54, shown in Fig. 36A, is performed to perform setting of reply information of the inquiry.

For the creation of a new reply, by depressing of a create new icon in the reply settings list screen 44-54 (Fig. 36A), transition to the create new reply settings screen 44-55, shown in Fig. 36B, is performed and input of new creation information is enabled.

For the renewal of a reply, by depressing of a renew icon in the reply settings list screen 44-54 (Fig. 36A), transition to the reply settings renewal screen 44-56 is performed to perform renewal of the reply.

[0042] <Customer Setting Processing>

Both the manager and the user have the right for customer setting. As shown in Fig. 38, in this processing procedure, the user top screen 44-3 (Fig. 39) is displayed (S901) and it is judged whether

or not the customer setting is to be performed (S902). If the customer setting is to be performed (YES in S902), the customer settings list screen 44-6 is displayed (S903) and processing of customer information using this customer settings list screen 44-6 is enabled (S904). In this customer setting processing, whether or not changeover to the user top screen 44-3 is to be performed is judged (S905) and if changeover to the user top screen 44-3 is not to be performed (NO in S905), a return to S903 is performed, the display of the customer settings list screen 44-6 is maintained, and the customer setting processing can be continued. If changeover to the user top screen 44-3 is to be performed (YES in S905), transition to the user top screen 44-3 is performed (S906).

[0043] As shown in Fig. 39, in this processing, a customer settings icon is displayed in the user top screen 44-3, and by depressing of the customer settings icon, transition from the user top screen 44-3 to the customer settings list screen 44-6, shown in Fig. 40A, is performed and customer setting is enabled. As shown in Fig. 40B, this customer setting includes new registration, browsing of inquiry history, deletion of inquiry history, and entry of memo in inquiry history of a customer, change of registration information and deletion of registration of a customer, a search function, a sorting function, a link to the questionnaire, an inquiry history graph display function, an inquiry history details display function, a data export function, etc.

For the new registration of a customer, by depressing of a create new icon in the customer settings list screen 44-6 (Fig. 40A), transition to the create new customer settings screen 44-62, shown in Fig. 41A, is performed and input of a company name of the customer, etc., is enabled.

For the confirmation of customer settings information, transition from the create new customer settings screen 44-62 (Fig. 41A) to the customer settings confirmation screen 44-63 can be performed to enable confirmation of the settings information. The settings information can be renewed by depressing a renew icon in

the customer settings confirmation screen 44-63, and the settings information can be deleted by depressing a delete icon.

For the confirmation of the history information of a customer, a history icon in the customer settings list screen 44-6 (Fig. 40A) is depressed to transition from the customer settings list screen 44-6 to the history list screen 44-64, shown in Fig. 42. In this history list screen 44-64 are displayed the customer's name, the inquiry items and scores thereof, the service categories and scores thereof, the scores for the questions according to question number, etc.

By depressing a memo icon in the history list screen 44-64 (Fig. 42), transition to the memo screen 46-66, shown in Fig. 43A, can be performed to display information related to the history. By depressing an inquiry item and score icon in the history list screen 44-64 (Fig. 42), the service category screen 46-67, shown in Fig. 43B, is displayed, and by depressing an inquiry details icon in the history list screen 44-64 (Fig. 42), the inquiry details screen 46-68 of details and the scores, etc., of the inquiry, shown in Fig. 43C, is displayed.

Also, by depressing a renew icon in the customer settings list screen 44-6 (Fig. 40A), transition from the customer settings list screen 44-6 to the customer settings renewal screen 44-65, shown in Fig. 44, can be performed to enable renewal of the setting information.

[0044] <Effects of the Example>

The following effects are obtained by the example described above.

(1) By using this sales expansion assistance system 2, sales skills related to seals and seal handling of sales representatives can be improved.

(2) Information related to seals and seal handling, etc., can be provided accurately to customers and contributions can be made toward safe and secure seal handling.

[0045] [Other Embodiments]

(1) Although in the example described above, the diagnosis results are indicated in an identifying display using different colors in the top page screen 42-1 among the home screens 42, an identifying display, corresponding to the diagnosis results for the same customer, may also be performed for individual service information to provide information related to seals and seal handling.

(2) Although in the example described above, PCs and server devices were indicated as examples, the sales expansion assistance system can also be realized using portable information terminals, such as smartphones, etc.

[0046] As described above, most preferable embodiments, etc., of the present invention were described. The present invention is not restricted to the above description. Various modifications and changes are possible by a person skilled in the art based on the gist of the invention described in the Claims or disclosed in the Description of the Embodiments. Such modifications and changes are obviously included in the scope of the present invention.

Industrial Applicability

[0047] The present invention is useful in enabling information related to seals and seal handling to be provided in accordance with needs of customers and enabling sales expansion effects related to seals and seal handling to be improved through discovery of needs that are not recognized by the customers.

Reference Signs List

[0048] 2: sales expansion assistance system

4: information processing unit

6: storage

8: information presenting unit

10: database

10-1: question information database

10-2: contents information database

10-10: inquiry information database

10-11: response information database

10-12: service information database
10-13: customer information database
10-14: user information database
10-15: history information database
10-16: management database
12: display screen
12-1: inquiry screen
12-2: contents menu screen
12-3: contents information screen
14: questionnaire
16: question
18: response
20: contents menu
22: contents information
24, 24-1, 24-2: sales representative (user)
26: customer
26-1, 26-2: customer
28: personal computer (PC)
28-11, 28-12, …, 28-21, 28-22, …, 28-X: PC
30: display
32: server device
34: processor
36: storage
38: communication unit
40: program storage
42: home screen
42-1: top page screen
42-2: engagement icon
42-3: questionnaire icon
42-4: service information icon
42-11: pre-questionnaire-reply top page
42-12: diagnosis results top page
42-21, 42-22, 42-23, 42-24: engagement information screen
42-31, 42-32, …, 42-3N: questionnaire information screen

42-41, 42-42, 42-43, 42-44, …: service information screen
44: management screen
44-1: login page
44-2: management top screen
44-3: user top screen
44-4: user settings list screen
44-5: inquiry section settings list screen
44-6: customer settings list screen
44-12: user top page
44-41: export screen
44-42: create new user settings screen
44-43: user settings confirmation screen
44-44: user settings renewal screen
44-45: user settings deletion confirmation screen
44-51: export screen
44-52: create new inquiry section settings screen
44-53: inquiry section settings renewal screen
44-54: reply settings list screen
44-55: create new reply settings screen
44-56: reply settings renewal screen
44-61: export screen
44-62: create new customer settings screen
44-63: customer settings confirmation screen
44-64: history list screen
44-65: customer settings renewal screen
44-66: memo screen
44-67: service category screen
44-68: inquiry details screen

CLAIMS

[Claim 1] A sales expansion assistance system comprising:

an inquiry screen for displaying a questionnaire that includes one or more questions and inputting a response or responses to the one or more questions of the questionnaire;

a contents menu screen for displaying one or more contents menus and selecting one or more of the one or more contents menus;

a contents information screen for displaying contents information belonging to the one or more contents menus;

a storage that stores at least a question information database that stores question information presented in the questionnaire, and a contents information database that stores the contents information in association with the one or more contents menus; and

an information processing unit that collects and diagnoses a plurality of responses input in the inquiry screen, computes the one or more contents menus by using the diagnosis results, and searches for contents information belonging to the one or more contents menus.

[Claim 2] The sales expansion assistance system according to Claim 1, wherein the one or more questions included in the questionnaire include information related to seals, information related to seal handling or both of the information.

[Claim 3] The sales expansion assistance system according to Claim 1, further comprising: a guidance screen for displaying guidance information that guides to the inquiry screen and guiding to the inquiry screen by selection of the guidance information.

[Claim 4] The sales expansion assistance system according to Claim 3, further comprising: an information screen for displaying information that enables acquisition of the contents information desired by responding to a question or questions included in the questionnaire; and

wherein, after changing over to the information screen by selection of the guidance information displayed in the guidance screen, changeover from the information screen to the inquiry screen

is enabled.

[Claim 5] The sales expansion assistance system according to any one of Claim 1 to Claim 4, further comprising: an information processing terminal or an information display device that is connected wirelessly or by wire to the information processing unit and displays the inquiry screen, the contents menu screen, or the contents information screen.

[Claim 6] The sales expansion assistance system according to any one of Claim 1 to Claim 5, further comprising:

a first management screen that is disclosed to a person having a first authority and is for displaying one or more of creation, renewal, or deletion of the questionnaire or the one or more questions, an obtained score or obtained scores of the response or responses, user information, or a history of inquiry or the response or responses; or

a second management screen that is disclosed to a person having a second authority differing from the first authority and is for displaying one or more of customer information or the history of the inquiry or the response or responses; and

wherein a response database that stores the response or responses and the obtained score or obtained scores in association with the one or more questions, a user information database that stores the user information, a history information database that stores the history of the response or responses to the one or more questions, or a management database that registers a grantor of the second authority is stored in the storage, and

the information processing unit presents the first management screen or the second management screen in accordance with the first authority or the second authority and allows processing selected in accordance with the authority.

[Claim 7] The sales expansion assistance system according to any one of Claim 1 to Claim 6, wherein a score or scores corresponding to the response or responses to the question information is allocated in the question information database and

the information processing unit generates the diagnosis results that include a score extracted in accordance with a response input in the inquiry screen.

[Claim 8] A sales expansion assistance program that is to be executed by a computer and is for causing the computer to implement the functions comprising:

a function of generating an inquiry screen for displaying a questionnaire that includes one or more questions and inputting a response or responses to the one or more questions of the questionnaire,

a function of generating a contents menu screen for displaying one or more contents menus and selecting one or more of the one or more contents menus,

a function of generating a contents information screen for displaying contents information belonging to the one or more contents menus,

a function of storing, in a storage, at least a question information database that stores question information presented in the questionnaire, and a contents information database that stores the contents information in association with the one or more contents menus, and

a function of collecting and diagnosing a plurality of responses input in the inquiry screen, computing the one or more contents menus by using the diagnosis results, and searching for contents information belonging to the one or more contents menus.

[Claim 9] The sales expansion assistance program according to Claim 8, the functions further comprising:

a function of generating a first management screen that is disclosed to a person having a first authority and is for displaying one or more of creation, renewal, or deletion of the questionnaire or the one or more questions, an obtained score or obtained scores of the response or responses, user information, or a history of inquiry or the response or responses; or

a function of generating a second management screen that is

disclosed to a person having a second authority differing from the first authority and is for displaying one or more of customer information or the history of the inquiry or the response or responses; and comprising:

a function of storing, in the storage, a response database that stores the response or responses and the obtained score or obtained scores in association with the one or more questions, a user information database that stores the user information, a history information database that stores the history of the response or responses to the one or more questions, or a management database that registers a grantor of the second authority; and

a function of presenting the first management screen or the second management screen in accordance with the first authority or the second authority and allowing processing selected in accordance with the authority.

[Claim 10] A sales expansion assistance device comprising:

an information presenting unit that presents an inquiry screen for displaying a questionnaire that includes one or more questions and inputting a response or responses to the one or more questions of the questionnaire, a contents menu screen for displaying one or more contents menus and selecting one or more of the one or more contents menus, or a contents information screen for displaying contents information belonging to the one or more contents menus;

a storage that stores at least a question information database that stores question information presented in the questionnaire, and a contents information database that stores the contents information in association with the one or more contents menus; and

an information processing unit that collects and diagnoses a plurality of responses input in the inquiry screen, computes the one or more contents menus by using the diagnosis results, and searches for contents information belonging to the one or more contents menus.