

[Document Name] Description

[Title of the Invention] INFORMATION PROCESSING METHOD,
INFORMATION PROCESSING APPARATUS, AND PROGRAM.

[Technical Field]

5 [0001]

The present invention relates to an information processing
method, an information processing apparatus and a program.

[Background Art]

 [0002]

10 Various systems have been proposed that support patients
themselves or doctors and medical staff (hereinafter, referred to also
as "medical professionals") in charge of the patients in order to
improve or prevent lifestyle-related diseases. For example, Patent
Literature 1 discloses a lifestyle-related disease prevention
15 apparatus and the like that estimate the degree of progress of a
lifestyle-related disease based on the subject's biological information
and present the risk of the subject being affected with the
lifestyle-related disease or the risk of the lifestyle-related disease
that the subject is already affected with.

20 [Prior Art Literature]

[Patent Literature]

 [0003]

 [Patent Literature 1] Japanese Laid-Open Patent Publication
No. 2010-231308

25 [Summary of the Invention]

[Problem to be Solved by the Invention]

[0004]

However, the invention according to Patent Literature 1
merely performs diagnosis of lifestyle-related diseases and has not
5 achieved support for subjects' own efforts to improve or prevent
lifestyle-related diseases, that is, self-care, or support for medical
professionals who treat lifestyle-related disease patients.

[0005]

According to one aspect, an object is to provide an
10 information processing method and so on capable of appropriately
offering support associated with lifestyle-related diseases.

[Means for Solving the Problem]

[0006]

According to one aspect, an information processing method
15 causes a computer to execute the processing of: obtaining medical
interview information indicative of a user's answer to a medical
interview associated with a lifestyle-related disease; obtaining the
user's biological information; outputting recommendation
information on a guidance goal of self-management for improving or
20 preventing the lifestyle-related disease, based on the medical
interview information and the biological information; setting a task
behavior to be provided to the user, according to the guidance goal;
and outputting the task behavior to the user's terminal apparatus.

[Effects of the Invention]

25 [0007]

According to one aspect, support associated with lifestyle-related diseases can be appropriately offered.

[Brief Description of the Drawings]

[0008]

5 [Fig. 1] A schematic diagram showing a configuration example of a self-care system.

 [Fig. 2] A block diagram showing a configuration example of a server and a user terminal.

 [Fig. 3] A explanatory view showing an example of record
10 layouts of a user DB and a problem table.

 [Fig. 4] A explanatory view regarding goal setting processing at the time of the first medical examination.

 [Fig. 5] An explanatory view showing an example of a medical interview screen.

15 [Fig. 6] An explanatory view showing an example of a home screen.

 [Fig. 7A] An explanatory view showing an example of character display.

 [Fig. 7B] An explanatory view showing an example of
20 character display.

 [Fig. 8] An explanatory view showing an example of a log registration screen.

 [Fig. 9] An explanatory view showing an example of a log confirmation screen.

25 [Fig. 10A] An explanatory view showing an example of a try

setting screen.

[Fig. 10B] An explanatory view showing an example of the try setting screen.

[Fig. 11A] An explanatory view showing an example of a try
5 evaluation screen.

[Fig. 11B] An explanatory view showing an example of the try evaluation screen.

[Fig. 12] An explanatory view showing an example of a goal evaluation screen.

10 [Fig. 13] An explanatory view regarding goal setting processing at the time of re-examination.

[Fig. 14] A flowchart showing an example of the processing procedure executed by the self-care system.

[Fig. 15] A flowchart showing the processing procedure of a
15 recommendation processing subroutine.

[Fig. 16] A flowchart showing the processing procedure of a self-care subroutine.

[Mode for Carrying out the Invention]

[0009]

20 Hereinafter, the present invention will be described in detail based on the drawings showing an embodiment thereof.

(Embodiment)

Fig. 1 is a schematic diagram showing a configuration example of a self-care system. In the present embodiment, a
25 self-care system will be described that supports self-care of

lifestyle-related disease patients, specifically, diabetes patients.

The target users are not limited to diabetes patients but may be any of the lifestyle-related disease patients, persons working on the prevention of lifestyle-related diseases and persons working on

5 improvement in lifestyle. In the present embodiment,

lifestyle-related diseases are not specifically limited as long as they are diseases where lifestyle is considered to be deeply involved in the cause of development, and examples thereof include hyperlipidemia, high blood pressure and hyperuricemia in addition to diabetes. The

10 self-care system has an information processing apparatus 1, a user terminal 2 and a medical professional terminal 3. These apparatuses are connected to a network N such as the Internet.

[0010]

The information processing apparatus 1 is an information
15 processing apparatus capable of various kinds of information processing and information transmission and reception, and is, for example, a server apparatus or a personal computer. In the present embodiment, the information processing apparatus 1 is a server apparatus, and will be read as server 1 for the sake of brevity in the
20 description given below. The server 1 manages, for a user who is a diabetes patient who visits a hospital (medical institution) on a regular basis, biological information obtained through tests of the user's HbA1c (hemoglobin A1c), blood pressure, triglyceride and the like and medical interview information obtained through a medical
25 interview associated with diabetes with the user, and identifies a

problem for diabetes improvement from these pieces of data. The server 1 sets a goal for solving the identified problem and presents, to the user, a concrete task behavior (in the present embodiment, referred to as "try") for achieving the set goal. The user executes
5 the try presented by the server 1 to improve diabetes. By doing this, the server 1 supports the user's self-care.

[0011]

While description will be given on the assumption that the user is a patient having already been affected with a lifestyle-related
10 disease in the present embodiment, the user who is the target of the present system may be extended to general users working on the prevention of lifestyle-related diseases. That is, the user may be any person that is working on self-care for the improvement or prevention of a lifestyle-related disease and is not limited to a
15 patient.

[0012]

The user terminal 2 is a terminal apparatus used by the user using the present system, and is an information processing apparatus such as a smartphone, a personal computer or a tablet
20 terminal. The user terminal 2 is installed with an application program for implementing services related to the present system, and the user terminal 2 executes the application program to thereby perform the processing described later. The user terminal 2 accepts input of medical interview information or the like on a display
25 screen described later, transmits it to the server 1, receives

distribution of data such as the goal of self-care and a try, and displays it. The user executes the try displayed on the user terminal 2 to improve diabetes and inputs (records) information on the daily diet, exercise, medicine taking and the like to the user

5 terminal 2 as log data. The user terminal 2 transmits the log data and the like to the server 1, and stores information related to self-care in a database. The server 1 shares the log data and the like stored in the database with the hospital that the user visits, thereby not only supporting the user's own self-care but also

10 supporting increase in the work efficiency of the medical professional who examines the user.

[0013]

The medical professional terminal 3 is an information processing apparatus operated by doctors, staff and the like of the

15 hospital that the user visits, and is, for example, a personal computer. The medical professional terminal 3 receives the user's biological information, medical interview information, log data and the like from the server 1 and displays them, displays the user's problem identified by the server 1 from the biological information

20 and the like, and receives a guidance goal recommendation for solving the problem. The medical professional who actually examines the user determines the medical policy with reference to the recommendation presented by the server 1, and sets the goal provided to the user. The user works on the try in order to achieve

25 the goal approved by the medical professional finally.

[0014]

Fig. 2 is a block diagram showing a configuration example of the server 1 and the user terminal 2. The server 1 is provided with a control portion 11, a main storage portion 12, a communication
 5 portion 13, and an auxiliary storage portion 14.

The control portion 11 has one or more than one arithmetic processing unit such as a CPU (Central Processing Unit), an MPU (Micro-Processing Unit) or a GPU (Graphics Processing Unit), and reads a program P1 stored in the auxiliary storage portion 14 and
 10 executes it to thereby perform various kinds of information processing, control processing and the like associated with the server 1. The main storage portion 12 is a temporary storage area such as an SRAM (Static Random Access Memory), a DRAM (Dynamic Random Access Memory) or a flash memory, and
 15 temporarily stores data necessary for the control portion 11 to execute arithmetic processing. The communication portion 13 includes a processing circuit and the like for performing processing associated with communication, and performs information transmission and reception with the outside.

20 [0015]

The auxiliary storage portion 14 is a large capacity memory, a hard disk or the like, and stores the program P1 necessary for the control portion 11 to execute processing, and other data. Moreover, the auxiliary storage portion 14 stores a user DB 141 and a problem
 25 table 142. The user DB 141 is a database that stores information

on the user using the present system. The problem table 142 is a table that defines the problem for the improvement of diabetes.

[0016]

The auxiliary storage portion 14 may be an external storage
5 device connected to the server 1. Moreover, the server 1 may be a multicomputer formed of a plurality of computers, or may be a virtual machine virtually constructed by software.

[0017]

In the present embodiment, the structure of the server 1 is
10 not limited to the above-described one; for example, it may include a reading portion that reads information stored in a portable storage medium, an input portion that accepts an operation input and a display portion that displays an image.

[0018]

15 The user terminal 2 is provided with a control portion 21, a main storage portion 22, a communication portion 23, a display portion 24, an input portion 25, an image taking portion 26 and an auxiliary storage portion 27.

The control portion 21 has one or more than one arithmetic
20 processing unit such as a CPU or an MPU, and reads a program P2 stored in the auxiliary storage portion 27 and executes it to thereby perform various kinds of information processing, control processing and the like associated with the user terminal 2. The main storage portion 22 is a temporary storage area such as a RAM, and
25 temporarily stores data necessary for the control portion 21 to

execute arithmetic processing. The communication portion 23 includes an antenna, a processing circuit and the like for performing communication, and performs information transmission and reception with the outside. The display portion 24 is a display device such as a liquid crystal display or an organic EL (Electro Luminescence) display, and displays an image provided by the control portion 21. The input portion 25 is an operation interface such as a touch panel or a mechanical key, and inputs operation contents to the control portion 21. The image taking portion 26 is an image taking mechanism having an image taking element such as a CMOS (Complementary Metal-Oxide-Semiconductor) image sensor or a CCD (Charge Coupled Device) image sensor, and takes an image according to an operation input by the user. The auxiliary storage portion 27 is a non-volatile storage area such as a ROM (Read Only Memory), and stores the program P2 necessary for the control portion 21 to execute processing, and other data.

[0019]

Fig. 3 is an explanatory view showing an example of record layouts of the user DB 141 and the problem table 142. The user DB 141 includes a user ID column, a name column, a medical interview information column, a biological information column, a log data column and a self-care column. The user ID column stores the ID for identifying each user. The name column stores the name of each user in association with the user ID.

[0020]

The medical interview information column stores answer data of a medical interview with each user in association with the user ID. The medical interview is a medical questionnaire asking for, for example, the user's age, sex, personal medical history, height, weight, subjective symptom, dietary habit, exercise habit and smoking habit, and is a questionnaire as to the user's lifestyle habits. In the present embodiment, the medical interview information includes an answer to a questionnaire as to the behavior change level, an answer to the psychological burden associated with the medical treatment, personality type information and the like.

[0021]

The behavior change level is to evaluate the behavior change condition of the lifestyle, and is divided into five behavior change levels. It is considered that the more the stage advances, the more the behavior is changed and the more the lifestyle is improved. The server 1 provides a questionnaire to determine to which behavior change level the user belongs, and determines the behavior change level to which the user belongs according to the answer.

[0022]

The psychological burden associated with the medical treatment is based on a questionnaire for estimating the psychological burden on the patient working on the treatment for diabetes. Since it is necessary to work on dietary moderation, exercise, medication and the like for the treatment for diabetes and there is a risk that working on these increases the psychological

burden on the patient, the psychological burden on the user is estimated according to the answer to the questionnaire.

[0023]

The personality type information is information on the user's personality, especially, personality information related to the continuation of self-care. Specifically, classification is made into a plurality of personality types, and while examples of the personality types include, in continuing self-care, a type who becomes motivated when a concrete numerical goal is given and a type who becomes motivated by competing with others, the personality types are not limited thereto. While the personality type classification is made by an answer to a questionnaire for personality determination, data may be externally obtained.

[0024]

The biological information column stores biological information obtained through tests of the user's living body, in association with the user ID. For example, the biological information is the results of tests that the user had at a hospital. The biological information includes test values such as the HbA1c, the blood pressure (BP), the triglyceride (TG) and the cholesterol (Cho). The biological information is not limited to the above but may include, for example, the blood sugar value, the uric sugar value and the serum insulin concentration.

[0025]

The log data column stores the user's log data inputted to the

user terminal 2 in association with the user ID. The log data is data on the user's everyday life associated with self-care, and includes, for example, the meal menu, the performed exercise, the medicine taking status, the weight, blood pressure and blood sugar
 5 level measured at home, and physical condition changes. The log data is not limited to the above but may include any lifestyle information and the like, for example, the smoking status.

[0026]

The self-care column stores information on the self-care
 10 performed by the user, in association with the user ID. The information stored in the self-care column includes, for example, a goal of the self-care provided by a medical professional and information on a try registered to achieve the goal in addition to information on a medicine prescribed by a doctor.

15 [0027]

The problem table 142 includes a problem number column, a category column, a problem-specific goal column and a try column. The problem number column stores a number assigned to each of a plurality of problems considered as principal problems for diabetes
 20 patients. The category column stores the category to which each problem belongs, in association with the problem number. The problem-specific goal column stores a problem-specific goal in association with each problem number. The try column stores a task behavior (try) assigned to the user in order to achieve the
 25 problem-specific goal, in association with each problem number. In

the present embodiment, in the problem table 142, a plurality of tries may be stored for one goal so as to be associated therewith. In that case, the server 1 may assign, of the tries associated with the goal set for the user, one or more than one try to the user for
5 execution.

[0028]

Fig. 4 is an explanatory view regarding goal setting processing at the time of the first medical examination. In the following, an outline of the present embodiment will be described.

10 Fig. 4 conceptually shows the processing when treatment of diabetes is started, that is, the processing at the time of the first medical examination. While the following description is given on the premise that an application program according to the present service has already been installed on the user terminal 2 at the time
15 of the first medical examination for the sake of convenience, based on the premise that the present application is installed on the user terminal 2 after the first medical examination, input of the following medical interview information, biological information and the like may be performed on the hospital side (for example, the medical
20 professional terminal 3).

[0029]

At the time of the first medical examination, the user terminal 2 displays predetermined medical interview items regarding diabetes, and accepts input of answers from the user.

25 The medical interview is a medical questionnaire asking for lifestyle

habits such as the dietary habit, the exercise habit and the smoking habit in addition to basic items such as the age, the sex, the personal medical history and the family configuration, and the height and the weight for calculating the BMI (Body Mass Index).

5 [0030]

Fig. 5 is an explanatory view showing an example of a medical interview screen. Regarding the medical interview information, while there are not only cases where the user inputs it but also cases where a medical professional inputs it, in Fig. 5, assuming a case where the user inputs it, a medical interview screen asking for the user's ordinary meal amount is shown. On the medical interview screen of Fig. 5, sample images of three meals and the like are displayed, and accepts input of an answer as to comparison of the sample images with the user's meal amount. The user terminal 2 transfers the inputted answer to the server 1.

10 [0031]

The user terminal 2 displays a medical interview screen similar to that of Fig. 5 and accepts input of an answer to each of the predetermined medical interview items. When a medical interview associated with the dietary habit is performed, for example, the user terminal 2 accepts input of answers regarding the intake amounts and intake ratios of various nutrients such as carbohydrate, protein and fat, the number of meals per day, the eating speed and the like in addition to the amount of meal. The user terminal 2 similarly displays medical interview screens for the age, the sex, the personal

20 [0032]

25 [0033]

medical history, the family configuration, the BMI, the exercise habit, the smoking habit and the like and accepts input of answers. The user terminal 2 may also perform a medical interview associated with, for example, the sleeping habit in addition of the exercise habit, the smoking habit and the like and provide medical treatment guidance as described later.

[0032]

Returning to Fig. 4, in addition to accepting answers to the medical interview associated with diabetes as described above, the user terminal 2 displays a questionnaire as to the behavior change level, and accepts input of an answer to the questionnaire as to the behavior change level. The questionnaire as to the behavior change level is a questionnaire for determining, for each problem, the user's willingness to perform self-care.

[0033]

For example, the user terminal 2 displays a questionnaire for grasping the user's willingness to execute for each problem defined by the problem table 142, and accepts input of an answer in five levels. The answer obtained from the user corresponds to the above-mentioned behavior change level. The user terminal 2 displays a question, and accepts a selection input to select any of a plurality of answers to the question. The server 1 accepts input of an answer for each problem through the user terminal 2 to thereby determine to which behavior change level the user belongs for each problem.

[0034]

It is necessary only that the user terminal 2 is capable of determining the user's willingness to execute by a questionnaire (medical interview) and the contents of the questionnaire are not
5 limited to ones as to the behavior change level.

[0035]

Moreover, the user terminal 2 displays a question as to the psychological burden associated with the medical treatment, and accepts input of an answer to the question. The question as to the
10 psychological burden associated with the medical treatment is a questionnaire for estimating the user's psychological burden as described above. The user terminal 2 displays a question as to each of a plurality of matters associated with diabetes, and accepts input of an answer to each question. The server 1 determines the degree
15 of the user's psychological burden based on the answer to each question inputted through the user terminal 2.

[0036]

The user terminal 2 displays a questionnaire as to the personality type classification, and accepts input of an answer to the
20 questionnaire as to the personality type classification. The questionnaire as to the personality type classification is a questionnaire for determining the user's personality associated with continuation of self-care, and the server 1 determines the user's personality type based on the answer inputted for each
25 questionnaire through the user terminal 2. While the following

classification is cited as the classified personality type, the present invention is not specifically limited thereto:

a type who becomes motivated when turning consciousness to the achievement of a clear goal;

5 a type who becomes motivated when turning consciousness to not falling below a clear goal;

a type who becomes motivated when turning consciousness to winning against someone;

a type who becomes motivated when turning consciousness to
10 not losing against someone;

a type who becomes motivated when turning consciousness to his/her own growth; and

a type who becomes motivated when turning consciousness to his/her not declining.

15 [0037]

The server 1 obtains medical questionnaires and the contents of the answers to the questionnaires, that is, medical interview information inputted on the user terminal 2.

[0038]

20 Moreover, the server 1 obtains the results of the tests associated with the HbA1c, the blood pressure, the triglyceride and the like the user had at a hospital with respect to diabetes, that is, the user's biological information. For example, the user terminal 2 accepts a numerical input with respect to each test result and
25 transfers it to the server 1.

[0039]

The server 1 may obtain various kinds of biological information from a medical care system that manages patients' data on the hospital side instead of from the user terminal 2. Moreover, for example, the server 1 may obtain the user's biological information from an external test institution that tests biological information instead of a medical institution such as the hospital that the user visits. As described above, the biological information obtaining path does not specifically matter.

10 [0040]

Based on the medical interview information and the biological information obtained as described above, the server 1 identifies the user's problem associated with diabetes, selects a self-care goal for solving the problem and recommends it to the medical professional. In the following, as an example, a processing process of identifying a problem with the dietary habit and selecting a goal will be mainly described.

[0041]

First, the server 1 identifies a test value to which the medical professional should pay attention, from the test values (biological information) regarding the HbA1c, the blood pressure and the triglyceride. The test value identified here will be referred to as "attention requiring test value" below. For example, the server 1 compares test values such as the HbA1c, the blood pressure and the triglyceride with predetermined normal values to identify a test

20

25

value indicating an abnormal value.

[0042]

Then, the server 1 calculates the instructive nutrition amount that the medical professional should indicate to the user which amount is a meal nutrition amount suitable for the user, from the BMI, the age, the ordinary exercise amount, the personal medical history and the like included in the medical interview information in addition to the above-identified attention requiring test value. For example, the server 1 calculates the percentage of carbohydrate in the meal, the energy distributions of fat, protein, vegetables and the like other than carbohydrate, and the recommended values of the intake limit amounts of protein and salt in addition to the total meal amount (total number of calories).

[0043]

The server 1 outputs the above-identified attention requiring test value and the instructive nutrition amount to the medical professional terminal 3, and presents the attention requiring test value of the test results and the nutrition amount suitable for the user to the medical professional. For example, the server 1 outputs a registration screen conceptually shown in Fig. 4. The medical professional confirms and determines the attention requiring test value and the instructive nutrition amount as required on the registration screen.

[0044]

The server 1 compares the set instructive nutrition amount

and the medical interview result (medical interview information) regarding meals inputted through the medical interview screen on the user terminal 2, and identifies a problem with the user's dietary habit. For example, the server 1 compares the user's ordinary meal
5 amount estimated from the medical interview result shown in Fig. 5 as an example and the instructive nutrition amount (meal amount) set through the registration screen, and determines whether the user's meal amount is excessive or not. Likewise, the server 1 compares the set distributions of various nutrients and the medical
10 interview result, and determines whether the intake of each nutrient is excessive or not.

[0045]

The server 1 determines the presence or absence of a problem from the medical interview result also for the smoking habit and the
15 like. Then, with respect to each of the lifestyle habits such as the dietary habit, the exercise habit and the smoking habit, the server 1 outputs the identified user's problem to the medical professional terminal 3. For example, the server 1 generates and displays a "lifestyle habit summary" on a medical treatment guidance screen
20 shown in Fig. 4. In the lifestyle habit summary, problematic items are alert-displayed by color coding or the like, and presented to the medical professional. In Fig. 4, for convenience of illustration, the problematic items are shown in underlined bold text.

[0046]

25 Then, the server 1 determines the user's attitude toward

acceptance of the intervention in the treatment by the medical professional, that is, psychological state according to the user's answers to the psychological burden associated with the medical treatment. Specifically, the server 1 quantifies the user's

5 psychological state for the importance of self-care according to the user's answer to each question as to the psychological burden associated with the medical treatment. The server 1 compares the parameter of each quantified item with a predetermined threshold value to make a judgement.

10 [0047]

The server 1 outputs the above-described determination result to the medical professional terminal 3. For example, as shown in Fig. 4, the medical professional terminal 3 displays the judgement result in an "intervention acceptance state" box on the

15 medical treatment guidance screen. For example, the medical professional terminal 3 displays a method of psychological approach associated with the intervention in the treatment, a distributed booklet (shown as "designated medium" in Fig. 4) and the like as well as displays the judgement result regarding the user's

20 psychological state, and provides a recommendation to the medical professional with respect to the medical intervention method for the user.

[0048]

Further, the server 1 selects a self-care guidance goal to be

25 provided to the user according to the above-identified problems such

as the dietary habit, the exercise habit and the smoking habit, and outputs it to the medical professional terminal 3. For example, as shown in Fig. 4, the medical professional terminal 3 displays the self-care goal in a "recommended goal category" box.

5 [0049]

For example, referring to the problem table 142, the server 1 reads the self-care goal associated with the user's problem identified from the medical interview information and the biological information in the user DB 141. For example, when the total meal
10 amount is identified as the problem, "meal amount" is read as the goal. Then, referring the user's answer to the questionnaire as to the behavior change level, the server 1 determines the level (difficulty) of the goal to be provided to the user with respect to the problem. For example, the server 1 determines the user's behavior
15 change level in five levels according to the user's answer to the question. Then, the server 1 determines the level of the goal provided to the user according to the behavior change level.

[0050]

For each problem that the user has, the server 1 performs
20 determination from the answer to the questionnaire as to the behavior change level to determine the level of the goal provided to the user. Then, the server 1 outputs the goal associated with each of one or more than one problem that the user has which goal is an goal of the above-determined level, to the medical professional
25 terminal 3 as a candidate of the goal to be provided to the user, and

recommends the medical professional to provide the goal to the user. For simplicity, only the goal is shown and the level and the like are not shown in Fig. 4.

[0051]

5 The medical professional examines the user with reference to the lifestyle habit summary, intervention acceptance state and the like displayed on the medical treatment guidance screen. Then, the doctor and the medical professional, other than the doctor, having received an instruction from the doctor set (select) a self-care goal to
10 be provided to the user from the recommended self-care goal s. The medical professional may set a different goal according to his/her own judgement irrespective of the goal recommended by the server 1. Moreover, the number of set self-care goal s is not limited to one but may be more than one, and a modification by the medical
15 professional such as a modification of a quantitative goal level may be added. The server 1 registers the user's self-care goal set and inputted through the medical professional terminal 3 as described above, in the user DB 141 in association with the user ID.

[0052]

20 Moreover, the server 1 outputs a recommendation as to the treatment policy for diabetes to the medical professional terminal 3 in addition to the self-care goal, and presents it to the medical professional. The recommendation as to the treatment policy is, for example, a recommended proposal or a non-recommended proposal
25 as to a prescribed medicine such as the kind and prescription volume

of the medicine to be prescribed and the change and change timing of the medicine. For example, according to the values of the test values (biological information) such as the HbA1c and the weight, the server 1 determines the kind, prescription volume and the like of the prescribed medicine, generates a recommended prescribed medicine proposal and outputs it to the medical professional terminal 3.

[0053]

For example, the medical professional terminal 3 shifts to the non-illustrated medical treatment guidance screen to display the recommendation as to the treatment policy. The server 1 accepts setting input of the information on the prescribed medicine prescribed to the user through the user terminal 2, the medical professional terminal 3 and the like. The information on the prescribed medicine may include, for example, information such as the dosing time in addition to the kind, prescription volume and the like of the prescribed medicine. Moreover, the server 1 accepts the registration of the appointment day when the user has a medical examination (reexamination) next time in a similar way. The server 1 stores information such as the prescribed medicine and the appointment day in the user DB 141.

[0054]

As described above, at the time of the first medical examination, the server 1 analyzes the user's lifestyle habit problem, psychological state and the like from the medical interview

information and the biological information and presents them to the medical professional, and recommends the self-care goal and the treatment policy for diabetes. The server 1 accepts setting input of the self-care goal up to the time of the next medical examination,
 5 that is, the re-examination, from the medical professional who examined the user. The user performs the self-care to achieve the set goal. Specifically, as described below, the user executes a try according to the set goal for the achievement of the goal.

[0055]

10 While the medical professional who provides guidance on self-care sets the goal in the above, the user himself/herself may set the goal. Alternatively, the server 1 may automatically select a self-care goal.

[0056]

15 Fig. 6 is an explanatory view showing an example of a home screen. Fig. 6 shows an example of the home screen of an application program according to the present system which home screen is displayed by the user terminal 2. The contents of the processing on the user terminal 2 during the period from when the
 20 user has a medical examination at a hospital to when the user has the next examination (hereinafter, referred to as "self-care period") will be described in the following:

[0057]

The home screen includes a step number display box 41, a
 25 task confirmation button 42, an item obtaining button 43, a try

display box 44, a goal confirmation button 45, a log registration button 46 and a log confirmation button 47. The step number display box 41 is a display box that displays the number of steps counted by an acceleration sensor (not shown) or the like

5 incorporated in the user terminal 2. The task confirmation button 42 is an object for shifting to a log registration screen (see Fig. 8). The item obtaining button 43 is an object for receiving an item on the present application distributed according to the status of achievement of the goal, the try or the like by the user as described
10 later.

[0058]

The try display box 44 is a display box that displays a try (task behavior) set according to the goal provided to the user. The user terminal 2 displays the try (task behavior) to be executed by the
15 user in the try display box 44 on the home screen. The try is a concrete instruction provided to the user for the achievement of the self-care goal, and is a menu of the behavior which the user should work on as self-care on a daily basis. Describing based on the above-described example, when the user's goal is reduction in meal
20 amount, reviewing his/her own body shape or the like is provided as a try.

[0059]

The server 1 stores a plurality of tries in the problem table 142 in association with a single goal. According to the goal set at
25 the time of the first medical examination, the server 1 outputs a

plurality of tries associated with the goal on the problem table 142 as candidates to a try setting screen described later (see Fig. 10A).

The user terminal 2 accepts a selection input to select one or more than one try to be executed by the user, from among the try

5 candidates, and performs setting registration. The user terminal 2 displays the set try in the try display box 44.

[0060]

The try display box 44 includes a change button 441 or an evaluation button 442. The change button 441 is an object for

10 changing the setting of the try, and the evaluation button 442 is an object for performing self-evaluation as to the try achievement

status. In the present embodiment, the execution period of each try is set to one week. The change button 441 becomes active after one week from the setting of a try, and is changed to the evaluation

15 button 442. The try execution period is not limited to one week.

The execution period may be changed by the user, the medical professional or the like.

[0061]

When accepting an operation input to the change button 441,

20 the user terminal 2 shifts to the try setting screen (see Fig. 10A), and accepts setting input to change or add the try being executed.

Moreover, when accepting an operation input to the evaluation

button 442, the user terminal 2 shifts to a try evaluation screen (see Fig. 11A), and accepts input of self-evaluation by the user with

25 respect to the status of achievement of the executed try.

[0062]

The goal confirmation button 45 is an object to shift to the try setting screen (see Fig. 10A) for setting a try in addition to a display screen (not shown) to display the set self-care goal. The log

5 registration button 46 is an object for shifting to the log registration screen (see Fig. 8). The log confirmation button 47 is an object for shifting to the log confirmation screen (see Fig. 9).

[0063]

The user terminal 2 displays a predetermined character
10 object on the home screen as shown in Fig. 6 as well as displays the above-described various objects on the home screen. The character object is an example of an object displayed in order to continue self-care by the user, and presents advice, a supportive comment and the like on self-care to the user.

15 [0064]

Figs. 7A and 7B are explanatory views showing examples of character display. In Figs. 7A and 7B, a manner is shown in which performance display of the character is provided according to the achievement status of the goal, the try and the like, the log data
20 input status and the like.

[0065]

In the present application, a parameter related to the relationship between the user and the character such as the character's favorability rating for the user is set. This parameter
25 changes according to various pieces of information inputted to the

user terminal 2 with respect to self-care such as the later-described goal and try achievement status and log data input status. For example, when the user achieves the self-care goal, the parameter changes so that the evaluation by the character becomes high. On the other hand, for example, when the user has not inputted the log data that should be inputted, the parameter changes so that the evaluation by the character becomes low.

[0066]

The user terminal 2 controls the character and associated screen displays according to each parameter. The contents to be controlled include not only screen displays but also performances that can be provided on terminals such as sound reproduction as long as they are associated with the character. For example, as shown in Fig. 7A, when the user achieves the goal, the user terminal 2 provides a performance display where the character praises the user. Moreover, as shown in Fig. 7B, when the user has not inputted the log data, the user terminal 2 provides a performance display where the character scolds the user. Moreover, for example, the server 1 may increase or decrease the number of lines displayed in the balloon according to the parameter change.

[0067]

Moreover, the performance of the character (encouragement, lines and the like for achieving the goal) may be controlled in consideration of the information on the user's personality type among the medical interview information obtained from the user,

whereby a delivery method conforming to the user's personality and considered highly effective such as delivering in a positive way (praising) or delivering in a negative way (scolding) can be reflected in the character's lines.

5 [0068]

As the information on the user's personality type, the one obtained first may be used as it is, or the information may be re-obtained on a regular basis or may be used with the personality type being changed based on the user's reaction or evaluation.

10 [0069]

Moreover, the server 1 distributes items and the like on the present application associated with the character to the user terminal 2 according to the status of goal and try achievement by the user. The items are, for example, clothing items and room redecoration items for the character. The items are not limited thereto but may be, for example, additional characters. For example, the user terminal 2 obtains the item in response to an operation input to the item obtaining button 43 on the home screen of Fig. 6.

20 [0070]

As described above, the character performance, the item distribution and the like are performed according to the status of self-care. Thereby, the user not only monotonously perform self-care but can work on self-care in an enjoyable way, which can provide an incentive to continue self-care.

25

[0071]

While the character performance, the item distribution and the like are changed according to the try achievement status, the log data input status and the like in the above, the scenario base on
5 which the character acts may be changed. That is, it is necessary only that the operation related to the character is changeable according to the try achievement status and the like, and the processing contents thereof are not specifically limited.

[0072]

10 Fig. 8 is an explanatory view showing an example of the log registration screen. The user terminal 2 shifts to the log registration screen in response to an operation input to the task confirmation button 42 or the log registration button 46. The log registration screen is a screen for inputting various pieces of log data
15 associated with diabetes and is a screen for recording data related to the user's behavior and condition during the self-care period.

[0073]

For example, the log registration screen includes a meal tab 51, a medicine taking tab 52, an exercise tab 53 and a home
20 measurement tab 54. The user terminal 2 switches the screen in response to an operation input to each tab to accept registration of various pieces of log data. In the present embodiment, the user terminal 2 accepts, as log data, registration of seven kinds of information, the meal that the user took, the exercise that the user
25 performed, the status of taking of the prescribed medicine, the

weight, blood pressure and blood sugar level (HbA1c value) measured by the user himself/herself, and the physical condition.

[0074]

For example, when accepting registration with respect to
 5 meal, the user terminal 2 takes an image of a meal scene according to an image taking operation by the user, and uploads the taken image to the server 1. Moreover, the user terminal 2 accepts a text input of a meal menu, and uploads similarly. The server 1 stores the uploaded log data in the user DB 141 in association with the
 10 user ID.

[0075]

The log data is not limited to the above-mentioned information but may include other information such as the drinking amount, the smoking status, the triglyceride value and the
 15 cholesterol value. Moreover, for example, the log data is not limited to the manually inputted one but may be data that can be automatically obtained by the user terminal 2 such as the above-mentioned number of steps.

[0076]

20 Fig. 9 is an explanatory view showing an example of the log confirmation screen. The user terminal 2 shifts to the log confirmation screen in response to an operation input to the log confirmation button 47 on the home screen of Fig. 6. The log confirmation screen is a screen that displays, in an edited state, the
 25 log data inputted on the log registration screen and is a screen that

displays a summary showing the achievement of self-care by the user (achievement information).

[0077]

In Fig. 9, a log confirmation screen that displays the user's weight, exercise status and calorie intake is shown as an example of the log confirmation screen. The log confirmation screen of Fig. 9 displays a graph showing the time-series variations of the weight in the upper part, icons showing the most frequently performed exercises in the central part, and a graph showing the time-series variations of the calorie intake and the number of steps in the lower part. With reference to the log data stored in the user DB 141, the user terminal 2 displays the above-mentioned pieces of data as the summary.

[0078]

The user terminal 2 shifts to the log confirmation screen in response to an operation input from the user to display a summary for other log data. Although not shown, for example, the user terminal 2 displays a graph showing the time-series variations of a test value such as the HbA1c, the blood pressure or the triglyceride obtained through a test at the hospital in each month or a graph showing the breakdown of nutrients such as carbohydrate, protein and fat in the meal menu inputted on the log registration screen of Fig. 8. The display mode of the summary is not limited to a graph or an icon but may be, for example, a tabular form. Further, the display method of the log confirmation screen may be varied

according to the personality type. For example, the type who becomes motivated by competing with others, the ranking may be displayed, and for the type who becomes motivated when a concrete numerical target is given, the rate of accomplishment of the target value may be displayed. As described above, the user can review his/her behavior and condition by confirming the log data on the log confirmation screen, and can also obtain an incentive to continue the self-care.

[0079]

10 Figs. 10A and 10B are explanatory views showing an example of the try setting screen. When accepting an operation input to the goal confirmation button 45 or the change button 441 on the home screen, the user terminal 2 shifts to the try setting screen shown in Fig. 10A. The try setting screen is a screen for setting the try that
15 the user executes.

[0080]

The user terminal 2 performs communication with the server 1 and in the problem table 142, displays a plurality of tries associated with the goal provided to the user as candidates of the try
20 that the user executes, on the try setting screen. For example, when the user's goal is "meal amount", tries such as "Record meals", "Measure the weight" and "Record between-meal snacks" are displayed.

[0081]

25 The user terminal 2 accepts a selection input to select one or

more than one try that the user executes, from among the tries displayed on the try setting screen. After accepting the try selection input, the user terminal 2 shifts to the try setting screen of Fig. 10B where detailed condition setting can be accepted with respect to the selected try. For example, when not putting food near the user is set as a try, the user terminal 2 further accepts an input regarding where the place for food is changed to. By making it possible to set a try customized for each user as described above, the behavior that the user should actually perform is clarified, so that more appropriate self-care can be performed.

[0082]

Figs. 11A and 11B are explanatory views showing an example of the try evaluation screen. When accepting an operation input to the evaluation button 442 on the home screen, the user terminal 2 shifts to the try evaluation screen. The try evaluation screen is a screen for accepting input of the user's self-evaluation as to the try achievement status.

[0083]

For example, on the try evaluation screen of Fig. 11A, the user terminal 2 accepts input of self-evaluation as to whether the try is achieved or not, in a plurality levels. While input is accepted in two levels as to whether the try is achieved or not in Fig. 11A, the self-evaluation input may be accepted in three or more levels.

[0084]

Further, with respect to the try for which self-evaluation was

performed, that is, the executed try, the user terminal 2 accepts an input on the user's intention as to whether the user intends to continue the try or not. For example, after the self-evaluation of the achievement status for all the tries is completed, the user

5 terminal 2 shifts to the try evaluation screen of Fig. 11B. The user terminal 2 accepts an either-or selection input as to whether the user has an incentive to continue the try or not on the screen. It is to be noted that regarding the user's intention to continue the try, the input method is not limited to the either-or method.

10 [0085]

After the self-evaluation of the try is completed, the user terminal 2 changes the order of precedence based on the user's try achievement status, changes in parameters and the like, and reflects it to the next try setting.

15 [0086]

The user terminal 2 determines the order of precedence of the try candidates according to the try achievement status and the user's intention to continue, provides a recommendation, and accepts setting input of the try that the user executes. Thereby, the try that the user works on next is set, and the user works on the try. By performing try setting not only based merely on whether the try is achieved or unachieved but also by considering the user's intention, decline in the motivation for self-care can be prevented.

[0087]

25 As described above, the user records log data related to the

daily lifestyle habit on the user terminal 2, and executes the try
 displayed on the user terminal 2 to improve diabetes. In addition,
 according to the data of the prescribed medicine registered at the
 first medical examination, the user terminal 2 provides, at a
 5 predetermined time, a notification that the medicine should be
 taken. Then, as described below, the user inputs the degree of
 achievement as to whether the self-care goal is achieved or not,
 before the day of appointment of the next medical examination, and
 reviews self-care.

10 [0088]

Fig. 12 is an explanatory view showing an example of an goal
 evaluation screen. The goal evaluation screen is an input screen for
 the user to perform self-evaluation with respect to the self-care goal
 achievement status. For example, the user terminal 2 displays the
 15 goal evaluation screen a predetermined period (for example, several
 days) ahead of the appointment day of the re-examination, and
 accepts input of the user's self-evaluation as to what extent the goal
 is achieved during the one-month self-care period. For example, as
 shown in Fig. 12, the user terminal 2 accepts input of evaluation of
 20 the goal achievement degree in ten levels.

[0089]

Fig. 13 is an explanatory view regarding goal setting
 processing at the time of re-examination. Fig. 13 conceptually
 shows the processing at the time of re-examination. Based on Fig.
 25 13, an outline of the processing at the time of re-examination will be

described.

Before the appointment date, the user terminal 2 again performs a medical interview associated with diabetes with the user to obtain medical interview information again as well as accepts an
 5 input as to the goal achievement degree described with reference to Fig. 12. Although not shown, the user terminal 2 displays a medical interview screen similar to that of Fig. 5, and accepts input of an answer. On the user terminal 2, while a re-interview may be performed with respect to all the interview items such as the dietary
 10 habit, the exercise habit and the smoking habit as at the time of the first medical examination, to simplify the user's input work, a re-interview may be performed only with respect to the interview item associated with the problem identified at the time of the first medical examination.

15 [0090]

Moreover, the user terminal 2 displays a questionnaire as to the behavior change level with respect to the goal set at the previous time (at the time of the first medical examination), that is, the current goal. The user terminal 2 accepts input of an answer in five
 20 levels as at the time of the first medical examination.

[0091]

Moreover, the user terminal 2 displays a behavior change level questionnaire asking for another goal that the user wants to work on, in addition to the currently set goal. The user terminal 2
 25 accepts input of an answer as to another goal that the user wants to

work on, that is, another goal that the user is willing to execute.

[0092]

As described above, the user successively performs input of the log data, confirmation of the try, self-evaluation and the like during the self-care period, and performs input of the goal achievement degree and input of the medical interview information related to the re-examination before the appointment day of the re-examination. The pieces of information inputted on the user terminal 2 are transferred to the server 1 and stored in the user DB 141.

[0093]

The server 1 outputs the log data stored in the user DB 141, the medical interview information and the like to the medical professional terminal 3 a predetermined period ahead of the appointment day (for example, the day before the appointment day) so that the information related to the self-care is shared with the medical professional in advance. For example, the server 1 generates a summary like the log confirmation screen of Fig. 9 where the log data during the self-care period is summarized or the like, such as a graph or the like summarizing the weight and the calorie, and outputs it to the medical professional terminal 3. Moreover, the server 1 outputs the re-interview result and the like to the medical professional terminal 3. This enables the medical professional to grasp the user's current condition before the medical examination.

[0094]

On the appointment day, the user visits the hospital and has a re-examination. For example, as at the time of the first examination, the user has tests of the HbA1c, the blood pressure and
5 the like. As at the time of the first examination, the server 1 obtains the biological information at the time of the re-examination through the user terminal 2, the medical professional terminal 3 and the like.

[0095]

10 For example, the user may have tests beforehand at an external test institution or the like so that the server 1 obtains the biological information before the re-examination. This enables the biological information to be also shared with the hospital side.

[0096]

15 The server 1 identifies the user's problem based on the re-interview result (medical interview information) inputted beforehand on the user terminal 2 and the biological information or the like at the time of the re-examination, and outputs it to the medical professional terminal 3. Since concrete processing contents
20 are similar to those at the time of the first examination, detailed description of the problem identification method is omitted. The medical professional terminal 3 displays the problem identified from the re-interview result, the test result at the time of the re-examination and the like, in the "lifestyle habit summary" on the
25 medical treatment guidance screen.

[0097]

Moreover, the server 1 outputs, to the medical professional terminal 3, the achievement status of the goal and the try for which the user performed self-evaluation in addition to the
5 above-mentioned information. Specifically, as shown in Fig. 13, the medical professional terminal 3 displays, on the medical treatment guidance screen, the goal achievement degree inputted by the user and whether the try executed by the user is achieved or not in addition to the previous (at the time of the first medical
10 examination) goal and the behavior change level.

[0098]

Next, guidance goal re-setting processing will be described. In the present embodiment, the server 1 identifies the goal to be provided next according to the HbA1c value obtained through the
15 test at the time of the re-examination, the achievement degree of the previous goal for which the user performed self-evaluation, the level of the previously set goal, the willingness to execute the previous goal obtained as an answer of the re-interview, another goal that the user wants to work on and the like, and recommends it to the
20 medical professional. Specifically, the server 1 identifies one or more than one goal to be provided next according to the pieces of information, determines the order of precedence of each of the one or more than one goal, and presents it to the medical professional.

[0099]

25 Based on the biological information such as the HbA1c, the

self-care behavior goal achievement status, the try achievement status, the behavior change level, the medical interview result and other lifestyle information that can be obtained on the application, the server 1 provides the medical professional or the user with a
 5 recommendation as to whether the previously set goal is continued or renewed (changed), when it is renewed, including the order of precedence. The server 1 accepts, through the medical professional terminal 3 or the like, setting input of the goal that the user works on during the next self-care period. The medical professional and
 10 the user may follow the recommendation from the server 1 or may set a goal by themselves without following the recommendation.

[0100]

Moreover, the server 1 generates a recommendation as to the treatment policy for the user based on the biological information and
 15 the like obtained at the time of the re-examination, and outputs it to the medical professional terminal 3 again. Specifically, the server 1 determines the tendency toward improvement of diabetes based on the temporal change from the previous medical examination with respect to the test values such as the HbA1c and the weight, and
 20 recommends a treatment policy. For example, the server 1 determines the tendency toward improvement of diabetes according to the increase or decrease of each test value, generates a recommended plan and a non-recommended plan regarding the prescribed medicine such as whether the medicine to be prescribed
 25 should be changed or not, should be increased or not and the like

according to the determined improvement tendency, and outputs it to the medical professional terminal 3.

[0101]

From the above, by sharing the user's log data, re-interview
 5 result and the like beforehand at the time of re-examination,
 improvement in the efficiency of the medical professional's work
 associated with the routine medical examination of diabetes can be
 achieved. Moreover, by recommending the next self-care goal
 according to the variations in the HbA1c value from the previous
 10 time, the degree of achievement of the goal for which the user
 performed self-evaluation and the like, the medical professional can
 easily set an appropriate goal, which further improves the efficiency.

[0102]

Fig. 14 is a flowchart showing an example of the processing
 15 procedure executed by the self-care system. It is to be noted that
 the processing procedure executed by the self-care system is not
 limited to the flowchart shown in Fig. 14 and the flowchart shown in
 Fig. 14 is merely an example. Here, based on Fig. 14, the contents
 of the processing executed by the self-care system will be described.

20 The control portion 11 of the server 1 obtains, for example,
 through the user terminal 2, medical interview information obtained
 through a medical interview as to the lifestyle habit with the user
 (step S11). The medical interview information includes answers to
 a questionnaire as to the behavior change level and a questionnaire
 25 asking for the psychological burden associated with the medical

treatment in addition to answers to a general medical interview associated with diabetes such as the user's age, sex and personal medical history.

[0103]

5 The control portion 11 obtains the biological information obtained through tests of the user's living body (step S12). The biological information is, for example, test values obtained through the tests performed at the hospital and includes test values such as the HbA1c, the blood pressure and the triglyceride. The control
10 portion 11 executes a recommendation processing subroutine where based on the medical interview information obtained at step S11 and the biological information obtained at step S12, the problem with the user's lifestyle habit is identified and recommendation information on the self-care guidance goal and the treatment policy for the
15 lifestyle-related disease is generated and outputted to the medical professional terminal 3 (step S13). For example, the control portion 11 outputs a plurality of guidance goal candidates to the medical professional terminal 3 and presents them to the medical professional who provides self-care guidance. Moreover, the control
20 portion 11 generates a recommendation as to the prescribed medicine and the like based on the user's biological information and the like and presents it to the medical professional.

[0104]

 The control portion 11 accepts setting input to set the
25 guidance goal for the user through the medical professional terminal

3 (step S14). Specifically, the control portion 11 accepts a selection input from among the guidance goal candidates outputted in the above. The control portion 11 stores (registers) the set goal into the user DB 141.

5 [0105]

The control portion 11 outputs a try (task behavior) set according to the guidance goal set at step S14 to the user terminal 2, and executes a self-care subroutine to prompt the user to execute the try (step S15). The control portion 11 sets a self-care goal for the
10 user, and determines whether a predetermined period has elapsed from the start of the self-care or not (step S16). When determining that the predetermined period has not elapsed (S16: NO), the control portion 11 returns the process to step S15.

[0106]

15 When determining that the predetermined period has elapsed (S16: YES), the control portion 11 obtains the self-evaluation as to the achievement status of the guidance goal, the medical interview information on the re-interview related to the lifestyle habit, and the like through the user terminal 2 (step S17). The
20 medical interview information obtained at step S17 includes the willingness to execute the currently set guidance goal (behavior change level) and an answer to a questionnaire as to the behavior change level for determining the willingness to execute a goal other than the currently set guidance goal in addition to the contents of
25 the medical interview similar to that at step S11. The control

portion 11 outputs the summary of the log data during the self-care period obtained by the subroutine at step S15 (achievement information), the medical interview information on the re-interview obtained at step S17, and the like to the medical professional terminal 3 so as to be shared with the medical professional (step S18), and returns the process to step S12.

[0107]

Fig. 15 is a flowchart showing the processing procedure of the recommendation processing subroutine. Based on Fig. 15, the processing contents of the subroutine of step S13 will be described. From the biological information obtained at step S12, the control portion 11 of the server 1 identifies the test value (biological information) requiring attention indicative of an abnormal value deviating from a preset normal value (step S31). Based on the result of the medical interview associated with the dietary habit in addition to the identified test value requiring attention, the control portion 11 calculates nutrients of meals to be indicated to the user and outputs them to the medical professional terminal 3 to recommend them to the medical professional (step S32). For example, the control portion 11 calculates the meal amount (total amount), the energy distribution of the nutrients, and the like and outputs them to the medical professional terminal 3.

[0108]

The control portion 11 accepts setting input of the instructive nutrition amount through the medical professional terminal 3 (step

S33). Based on the instructive nutrition amount set at step S33, the result of the medical interview associated with the exercise habit and the smoking habit included in the medical interview information, and the like, the control portion 11 identifies the user's
 5 problem associated with diabetes (step S34).

[0109]

Based on the result of the answer to the questionnaire for determining the user's willingness to execute self-care (medical interview information), the control portion 11 determines the level
 10 (difficulty) of the guidance goal provided to the user (step S35). For example, the control portion 11 determines the behavior change level (willingness to execute) to which the user belongs from the result of the answer to the questionnaire as to the behavior change level and determines the level of the guidance goal according to the
 15 determined behavior change level. The control portion 11 outputs, to the medical professional terminal 3, recommendation information on the guidance goal of the level determined at step S35 which guidance goal conforms to the problem identified at step S34 and the treatment policy according to the test values (biological information)
 20 such as the HbA1c and the weight, and recommends it to the medical professional (step S36). The control portion 11 returns the subroutine.

[0110]

Fig. 16 is a flowchart showing the processing procedure of the
 25 self-care subroutine. Based on Fig. 16, the processing contents of

the subroutine of step S15 will be described.

The control portion 21 of the user terminal 2 accepts setting input of the character that guides the user to various pieces of information on self-care (step S51). For example, the control
5 portion 21 accepts setting input with respect to the character's appearance, personality, costume and the like. When the setting has already been made, the control portion 21 skips step S51.

When the user does not specifically want to make setting, the setting may be skipped.

10 [0111]

The control portion 21 displays a home screen including the try (task behavior) according to the guidance goal (step S52). The home screen includes the log registration button 46 for shifting to the log registration screen, and the like in addition to one or more
15 than one try that the user should currently execute. The control portion 21 displays various pieces of information on the home screen, and displays the character set at step S51 to present advice and encouraging comments through the character.

[0112]

20 The control portion 21 shifts to the log registration screen, and accepts input of the log data (recording information) associated with the user's behavior or condition during the self-care period (step S53). The log data is a record relating to the meals, the exercise, the medicine taking status and the like, and is the user's
25 self-management record associated with diabetes. The control

portion 21 transmits the inputted log data to the server 1 and stores it into the user DB 141.

[0113]

The control portion 21 displays, as candidates, the tries
5 associated with the guidance goal provided to the user (step S54).
The control portion 21 accepts selection input to select a try to be
executed from among the displayed tries (step S55).

[0114]

The control portion 21 shifts to the log confirmation screen,
10 and displays the summary of the log data showing the achievement
of the self-care (achievement information) (step S56). For example,
the control portion 21 displays a graph summarizing various pieces
of log data and the like.

[0115]

15 The control portion 21 accepts input of the user's
self-evaluation with respect to the achievement status of the try
being executed (step S57). The control portion 21 performs try
re-setting processing in which candidates of the try to be worked on
next are displayed according to the try achievement status inputted
20 at step S57 and accepting selection input from the user to set the
next try (step S58). The control portion 21 returns the subroutine.

[0116]

While the present embodiment is described on the
assumption that the user (patient) is guided (diagnosed) by a
25 medical professional, determination may be made including whether

the guidance by a medical professional is necessary or not. For example, when no test value requiring attention (abnormal value) is extracted from the user's biological information, the server 1 determines that no guidance by a medical professional is necessary.

- 5 In this case, the server 1 notifies the user terminal 2 and the medical professional terminal 3 that no guidance is necessary. This enables filtering to pick up users to be preferentially treated, which reduces burden on both.

[0117]

- 10 From the above, according to the present embodiment, a guidance goal of self-care is determined based on the medical interview information and the biological information, and a concrete task behavior (try) for achieving the guidance goal is presented to the user. Thereby, the user working on self-care (self-management)
- 15 for improving or preventing the lifestyle-related disease can be supported.

[0118]

- Moreover, according to the present embodiment, the user is made to select a try to be actually performed from among a plurality
- 20 of try candidates. Preferably, the user is made to set details of the selected try and define the concrete behavior contents. The user can select a try according to his/her own intention.

[0119]

- Moreover, according to the present embodiment, the next try
- 25 is set according to self-evaluation as to whether the try is achieved

or not, the try achievement status. Preferably, the order of precedence of a plurality of try candidates is determined, and the tries are recommended to the user in the order of precedence for the user to select. By selecting the next try according to whether the
5 try is achieved or not, appropriate self-care can be executed.

[0120]

Moreover, according to the present embodiment, the next try is set in consideration of not only whether the try is achieved or not but also the user's own intention to continue. Thereby, the user's
10 own intention can be appropriately considered.

[0121]

Moreover, according to the present embodiment, re-interview is performed after a predetermined period has elapsed from when a guidance goal was set and the user started to work on self-care such
15 as before the appointment day of the re-examination. By setting the next goal based on the result of the re-interview and the biological information obtained by re-testing the user's living body, the server 1 can continuously support the execution of self-care.

[0122]

Moreover, according to the present embodiment, the user is
20 made to perform self-evaluation of the goal achievement status (achievement degree), and the next goal is set according to the user's self-evaluation. Thereby, the next goal can be appropriately set such as whether to continue the same goal or whether to perform a
25 goal for a similar problem in consideration of the sense of

achievement of the user himself/herself working on self-care.

[0123]

Moreover, according to the present embodiment, when candidates of the next guidance goal is recommended at the time of re-examination, goal s are recommended with the order of precedence assigned thereto. Thereby, the medical professional can easily determine what guidance should be provided to the user, so that the work efficiency of the medical professional can be improved.

[0124]

Moreover, according to the present embodiment, the user is made to record log data (recording information) with respect to the user's behavior or condition during the self-care period, and a summary (achievement information) where the log data is summarized or the like is generated and presented to the user and so on. Thereby, the history of self-care can be appropriately managed, and the transition of self-care can be easily grasped.

[0125]

Moreover, according to the present embodiment, the summary is shared with the medical professional after a predetermined period has elapsed from when a guidance goal was set and the user started to work on self-care like before the appointment day of re-examination. Thereby, the time during which the medical professional himself/herself performs a medical interview and the like at a medical institution is reduced, so that the work efficiency of the medical professional can be improved.

[0126]

Moreover, according to the present embodiment, when input related to the goal and try achievement status and the log data is accepted on the present application, the display of the character is controlled according to the contents of the input, and advice, encouraging comments and the like are presented to the user. Thereby, an incentive to continue self-care can be provided to the user.

[0127]

It should be considered that the embodiment disclosed herein is illustrative in all aspects and is not limitative. The scope of the present invention is indicated not by the meaning described above but by the claims, and all changes that fall within the meaning and scope equivalent to the claims are to be embraced.

[Description of Reference Numerals]

[0128]

	1 Server (information processing apparatus)
	11 Control portion
	12 Main storage portion
20	13 Communication portion
	14 Auxiliary storage portion
	P1 Program
	141 User DB
	142 Problem table
25	2 User terminal

	21 Control portion
	22 Main storage portion
	23 Communication portion
	24 Display portion
5	25 Input portion
	26 Image taking portion
	27 Auxiliary storage portion
	P2 Program
	3 Medical professional terminal

[Document Name] Claims

[Claim 1]

An information processing method causing a computer to execute processing of:

obtaining medical interview information indicative of a user's answer to a medical interview associated with a lifestyle-related disease;

obtaining the user's biological information;

outputting recommendation information on a guidance goal of self-management for improving or preventing the lifestyle-related disease, based on the medical interview information and the biological information;

setting a task behavior to be provided to the user, according to the guidance goal; and

outputting the task behavior to the user's terminal apparatus.

[Claim 2]

The information processing method according to claim 1, wherein a plurality of candidates of the task behavior to be provided to the user are outputted to the terminal apparatus according to the guidance goal, and

a selection input to select the task behavior to be performed by the user from among the candidates of the task behavior is accepted through the terminal apparatus.

[Claim 3]

The information processing method according to claim 1 or 2,
wherein information on a status of achievement of the task
behavior is obtained through the terminal apparatus, and
the task behavior to be provided to the user next is set
according to the status of achievement of the task behavior.

[Claim 4]

The information processing method according to claim 3,
wherein the information on the status of achievement of the
task behavior and information indicative of whether the user has an
intention to continue the task behavior or not are obtained through
the terminal apparatus, and
the task behavior to be provided next is set according to the
status of achievement of the task behavior and the intention to
continue.

[Claim 5]

The information processing method according to any one of
claims 1 to 4,
wherein the medical interview information includes a
medical interview item for determining a willingness to execute the
self-management,
a difficulty of the guidance goal is determined based on the

willingness to execute determined from the medical interview information, and

the task behavior is set according to the determined difficulty of the guidance goal.

[Claim 6]

The information processing method according to any one of claims 1 to 5,

wherein the medical interview information indicative of the user's answer to a re-interview is obtained after a predetermined period has elapsed from when the guidance goal is set,

the biological information is obtained again, and

the recommendation information is outputted again based on the medical interview information and the biological information.

[Claim 7]

The information processing method according to claim 6,

wherein after the predetermined period has elapsed, the user's self-evaluation as to the condition of achievement of the guidance goal is obtained through the terminal apparatus, and

the recommendation information is outputted again according to the obtained self-evaluation.

[Claim 8]

The information processing method according to claim 6 or 7,

wherein based on the medical interview information and the biological information, the recommendation information indicative of one or more than one candidate of the guidance goal is outputted to a medical professional who provides guidance on the self-management,

setting input of the guidance goal is accepted from the medical professional,

an order of precedence of each of the one or more than one candidate of the guidance goal is determined based on the medical interview information and the biological information obtained after the predetermined period has elapsed, and

according to the determined order of precedence, the recommendation information indicative of the one or more than one candidate of the guidance goal is outputted to the medical professional.

[Claim 9]

The information processing method according to any one of claims 1 to 8,

wherein recording information recording the user's behavior or condition is obtained through the terminal apparatus,

achievement information indicative of achievement of the self-management is generated based on the recording information, and

the generated achievement information is outputted.

[Claim 10]

The information processing method according to any one of claims 1 to 9,

wherein the recommendation information on the guidance goal and a treatment policy for the lifestyle-related disease is outputted based on the medical interview information and the biological information.

[Claim 11]

An information processing apparatus comprising:

a first obtaining portion that obtains medical interview information indicative of a user's answer to a medical interview associated with a lifestyle-related disease;

a second obtaining portion that obtains the user's biological information;

a first output portion that outputs recommendation information on a guidance goal of self-management for improving or preventing the lifestyle-related disease, based on the medical interview information and the biological information;

a setting portion that sets a task behavior to be provided to the user, according to the guidance goal; and

a second output portion that outputs the task behavior to the user's terminal apparatus.

[Claim 12]

A program causing a computer to execute processing of accepting, from a user, input of medical interview information which is an answer to a medical interview associated with a lifestyle-related disease;

outputting the inputted medial interview information, obtaining a task behavior set based on the medical interview information which task behavior is provided in order to improve or prevent the lifestyle-related disease, and displaying the obtained task behavior on a display portion.

[Claim 13]

The program according to claim 12, wherein input of information related to self-management for improving or preventing the lifestyle-related disease is accepted from the user, and

a preset object is displayed according to the information related to the self-management.

[Claim 14]

The program according to claim 13, wherein information indicative of a status of achievement of the task behavior is outputted,

the task behavior re-set according to the status of achievement of the task behavior is obtained, and

the re-set task behavior is displayed.

[Claim 15]

The program according to claim 13 or 14,

wherein the information related to the self-management is recording information recording the user's behavior or condition, and

the display of the object is controlled according to an input status of the recording information.