BIOLOGICAL INFORMATION MANAGEMENT SYSTEM, BIOLOGICAL INFORMATION MANAGEMENT METHOD AND BIOLOGICAL INFORMATION MANAGEMENT PROGRAM

FIELD OF THE INVENTION

The present invention relates to a biological information management system, a biological information management method and a biological information management program.

BACKGROUND OF THE INVENTION

There have been heretofore techniques for managing the health of patients at remote places using sensors attached to the patients for measuring their pulses and so on (JP-A-2002-224053).

However, the technique disclosed in JP-A-2002-224053 has problems as follows.

1) Biological information such as pulses measured by the measuring sensors and transmitted to a server increases a communication load on a network when a large number of patients or the like are managed. In addition, on the server side, a mass data storage device has to be prepared to manage the biological information of the patients (measured persons) individually.

2) Data such as pulses to be measured with a measuring sensor easy to attach to a patient's body can be dealt with as a management object of the system disclosed in JP-A-2002-224053, but data such as a urine

sugar value to be measured with a measuring sensor difficult to attach to the patient's body cannot be dealt with as a management object of the system.

SUMMARY OF THE INVENTION

To solve the foregoing problems, it is therefore an object of the invention to provide a biological information management system and so on, in which the health of measured persons at remote places can be managed easily.

In order to attain the foregoing objects, a biological information management system according to the invention includes a biological information measuring device attached to a body of a measured person and for measuring biological information of the measured person, a home server for accumulating the biological information and creating summary information showing a summary of the biological information; a center server for accumulating the summary information; and a terminal device for acquiring the summary information and the biological information. The biological information measuring device includes a wireless communication portion for making wireless communication with the home server, a biological information measuring portion for measuring biological information of the measured person, a storage portion for storing identification information of the measured person, and a biological information transmitting

portion for transmitting the measured biological information to the home server together with the identification information of the measured person read from the storage portion. The home server includes a wireless communication portion for making wireless communication with the biological information measuring device, a communication portion for making communication of various kinds of information via a network, a biological information storage portion for storing the biological information received from the biological information measuring device in accordance with the identification information of the measured person, a summary information creating portion for creating the summary information based on the biological information received from the biological information measuring device, a summary information transmitting portion for transmitting the created summary information to the center server via the network every predetermined time, and a biological information presenting portion for retrieving the biological information of the measured person from the biological information storage portion in accordance with a request from the center server, and transmitting the retrieved biological information to the center server. The center server includes a communication portion for making communication of various kinds of information via the network, a summary information storage portion for storing the summary information

received from the home server in accordance with the identification information of the measured person, a summary information presenting portion for retrieving the summary information of the measured person from the summary information storage portion in accordance with a request from the terminal device, and transmitting the retrieved summary information to the terminal device via the network, and a biological information acquiring portion for acquiring the biological information used to create the summary information, from the home server holding the biological information, via the network in accordance with a request from the terminal device, and transmitting the acquired biological information to the terminal device via the network.

Incidentally, other configurations will be described along embodiments which will be described later.

According to the invention, the home server creates summary information of biological information measured by the biological information measuring device, and transmits the summary information to the center server. Thus, the communication load on the network can be reduced.

In addition, on the center server side, the summary information of the biological information is accumulated. Accordingly, the capacity of storage media (such as hard disks) for storing the information

of measured persons can be reduced.

Further, biological information to be measured with a biological information measuring device difficult to attach to a patient's body, such as a urine sugar value measuring device, can be dealt with as a management object of the system.

BRIEF DESCRIPTION OF THE DRAWINGS

Fig. 1 is a diagram showing the outline of a biological information management system according to a first embodiment of the invention;

Fig. 2 is a block diagram showing the configuration of the biological information management system in Fig. 1;

Fig. 3 is a view showing a wristband type biological information measuring device by way of example;

Fig. 4 is a block diagram showing the configuration of a center server in Fig. 1;

Fig. 5 is a flow chart showing a procedure of the biological information management system in Fig. 1;

Fig. 6 is a flow chart showing the procedure of the biological information management system in Fig. 1;

Fig. 7 is a flow chart showing the procedure of the biological information management system in Fig. 1;

Fig. 8 is a diagram showing the outline of a

biological information management system according to a second embodiment of the invention;

Fig. 9 is a block diagram showing the configuration of the biological information management system in Fig. 8;

Fig. 10 is a flow chart showing a procedure of the biological information management system in Fig. 8;

Fig. 11 is a block diagram showing the configuration of a center server in a biological information management system according to a third embodiment of the invention;

Fig. 12 is a view showing display information created by a display information creating portion in Fig. 11 by way of example;

Fig. 13 is a diagram showing the configuration of a biological information management system according to a fourth embodiment of the invention;

Fig. 14 is a diagram showing the configuration of a center server in Fig. 13; and

Fig. 15 is a flow chart showing a procedure of the biological information management system in Fig. 13.

DESCRIPTION OF THE EMBODIMENTS

<First Embodiment>

Best modes (hereinafter referred to as

"embodiments") for carrying out a biological information management system etc. according to the invention will be described below in detail with reference to the drawings.

First, with reference to Fig. 1, description will be made about the outline of a first embodiment of the invention. Fig. 1 is a diagram showing the outline of a biological information management system according to the first embodiment of the invention.

The biological information management system according to the first embodiment includes a biological information measuring device 100 for measuring biological information such as a pulse of a measured person 1, a home server 200 for accumulating the biological information and creating summary information showing a summary of the biological information, a center server 500 for accumulating the summary information, a terminal device 700 for acquiring the summary information and the biological information, and a network 600 for connecting the home server 200, the center server 500 and the terminal device 700.

Incidentally, description will be made on the assumption that the biological information measuring device 100 and the home server 200 are in a living room 10 of the measured person 1.

The measured person 1 can be considered, for example, as a patient under home health care, an elderly person living alone, or the like. An

identifier 2 can be considered, for example, as a doctor, a family member of the measured person 1, or the like.

Each of the biological information measuring device 100 and the home server 200 has wireless communication means for transmitting and receiving various kinds of information by wireless communication.

Each of the home server 200, the center server 500 and the terminal device 700 is, for example, constituted by a PC (Personal Computer). The network 600 is, for example, the Internet or an IP network.

The biological information measuring device 100 is attached to the body of the measured person 1. The biological information measuring device 100 measures biological information (such as a pulse) of the measured person 1 and transmits the measured biological information to the home server 200 every predetermined time (e.g. every minute). The home server 200 receives the biological information and stores/accumulates the biological information in a biological information storage portion 231.

In addition, the home server 200 creates summary information showing the summary of the received biological information, and transmits the created summary information to the center server 500. The center server 500 receives the summary information transmitted from the home server 200, and stores/accumulates the summary information in a summary

information storage portion 541.

Receiving a request for acquisition of summary information of biological information of the measured person 1 from the terminal device 700 (identifier 2), the center server 500 retrieves the summary information from the summary information storage portion 541 storing the summary information, and transmits (presents) the retrieved summary information to the terminal device 700. Receiving a request for acquisition of biological information used to create the summary information from the terminal device 700, the center server 500 acquires the biological information from the home server 200 via the network 600, and transmits (presents) the acquired biological information to the terminal device 700.

In such a manner, the identifier 2 can read the biological information or the summary information of the measured person 1 and grasp the health condition of the measured person 1 even if the measured person 1 is at a remote place.

In addition, the biological information is accumulated in the home server 200, while the summary information of the biological information is accumulated in the center server 500. Accordingly, the disk capacity of storage media (hard disks or the like) for managing such biological information in the center server 500 can be made lower than that when the center server 500 itself accumulates the biological

information of individual measured persons 1.

Further, information to be transmitted to the center server 500 by the home server 200 is mainly summary information, and biological information itself may be transmitted in accordance with an acquisition request from the terminal device 700 (center server 500). Thus, the communication load on the network 600 can be reduced.

Next, each constituent part of the biological information management system according to this embodiment will be described in detail with reference to Fig. 2. Fig. 2 is a block diagram showing the configuration of the biological information management system in Fig. 1. Fig. 3 is a view showing a wristband type biological information measuring device by way of example.

First, the biological information measuring device 100 will be described.

(Biological Information Measuring Device)

The biological information measuring device 100 is means to be attached to the measured person 1 and for measuring biological information (such as a pulse) of the measured person 1 and transmitting the measured biological information to the home server 200 every predetermined time. The biological information measuring device 100 includes a wireless communication portion 110, a biological information measuring portion 120, a biological information transmitting portion 130,

a storage portion 140, a display control portion 150 and a response input control portion 160 as shown in Fig. 2.

The wireless communication portion 110 is means for making wireless communication with the home server 200. For example, the wireless communication portion 110 is constituted by a wireless antenna and a transmitter-receiver.

The biological information measuring portion 120 is means for measuring biological information of the measured person 1. The biological information is, for example, a pulse rate or the like. The biological information measuring portion 120 includes a biological sensor S (see Fig. 3) etc. The biological sensor S attached to a part of the body of the measured person 1, such as a wrist, measures a pulse or the like.

The biological sensor S may be a sensor for measuring the number of steps that the measured person 1 has walked, the blood pressure, the oxygen saturation in the blood, the body temperature, the breathing, the ocular movement, the brain waves, or the like, as well as the pulse.

The storage portion 140 is means for storing identification information (ID) for identifying the measured person 1, and temporarily storing the biological information measured by the biological information measuring portion 120.

The biological information transmitting

portion 130 is means for reading, from the storage portion 140, the identification information of the measured person 1 and the biological information of the measured person 1 measured by the biological information measuring portion 120, and transmitting the read information to the home server 200 via the wireless communication portion 110.

The biological information transmitting portion 130 may further include means for encrypting transmission data so as to assure security in transmitting/receiving the biological information.

The display control portion 150 is means for controlling information display (such as display of a message for urging the measured person 1 to take medicine) on a display portion M (see Fig. 3). The response input control portion 160 is means for accepting an input to a response input portion R (see Fig. 3).

Preferably, the biological information measuring device 100 has a shape easy to measure the biological information of the measured person 1 and easy to attach to the body of the measured person 1. For example, the biological information measuring device 100 can be considered as a wristband type.

For example, as shown in Fig. 3, the biological sensor S of the wristband type biological information measuring device 100 is mounted on the wrist side (inner side) of the measured person 1.

Thus, the biological information measuring portion 120 can measure a pulse or the like easily and correctly when the measured person 1 wears the biological information measuring device 100.

In addition, the biological information measuring device 100 includes the display portion M and the response input portion R as shown in Fig. 3. The display portion M displays a message from the identifier 2 received via the network 600 and the home server 200. The response input portion R accepts a response input from the measured person 1.

For example, the display portion M displays a message from the identifier 2 for urging the measured person 1 to take medicine, or some advice about health care from the identifier 2. When such information is displayed, the measured person 1 can confirm messages about health care from the identifier 2 visually and easily.

The display portion M may be constituted by a liquid crystal monitor, a lamp, a speaker, a vibrator, etc. so as to output an alarm such as light, sound, vibration, etc. for urging the measured person 1 to make a response input on the response input portion R, as well as the aforementioned messages.

The response input portion R is, for example, constituted by buttons etc. When the response input control portion 160 accepts a response input on the response input portion R from the measured person 1

(when a button is pushed), the response input control portion 160 delivers information about this response to the wireless communication portion 110 (see Fig. 2). The information is transmitted to the home server 200 through the wireless communication portion 110.

After that, the center server 500 receives, via the home server 200, the response from the measured person 1 input to the biological information measuring device 100, and stores/accumulates the received response. Thus, the identifier 2 can confirm whether the measured person 1 has taken directed medicines or not, whether the measured person 1 is alive or not, and so on. That is, the identifier 2 can use the terminal device 700 to read the response history of the measured person 1 accumulated in the center server 500. Thus, the identifier 2 can grasp whether the measured person 1 has responded to a message or not.

The biological information measuring device 100 may have any shape such as a pendant type or a ring type other than the wristband type if the shape is easy to measure the biological information of the measured person 1 and easy to attach to the body of the measured person 1.

The biological information measuring portion 120, the biological information transmitting portion 130, the display control portion 150 and the response input control portion 160 are implemented by a CPU (Central Processing Unit, not shown) by which a

biological information management program stored in the storage portion 140 is loaded onto a memory (not shown) and executed.

(Home Server)

Return to Fig. 2 to explain the home server 200.

The home server 200 is means for accumulating biological information transmitted from the biological information measuring device 100, and creating summary information of the biological information. The home server 200 includes a wireless communication portion 211, a communication portion 212, a summary information creating portion 220, a storage portion 230, a summary information transmitting portion 240 and a biological information presenting portion 250.

The wireless communication portion 211 is means for making wireless communication with the biological information measuring device 100. The wireless communication portion 211 is, for example, constituted by a wireless antenna and a transmitter-receiver.

The communication portion 212 is means for transmitting/receiving various kinds of information to/from the center server 500 and so on via the network 600.

The summary information creating portion 220 is means for creating summary information based on biological information received from the biological

information measuring device 100.

The summary information in this embodiment means information showing the summary of biological information. For example, when the biological information is information of a pulse rate per minute, the summary information may be considered as a one-hour average value of the pulse rate (pulses per minute) of the measured person 1 calculated on the basis of the biological information.

When the summary information creating portion 220 creates the summary information based on the biological information, the summary information creating portion 220 delivers the summary information to the summary information transmitting portion 240 (described later).

The storage portion 230 stores a biological information management program for managing the biological information in the home server 200, and includes a biological information storage portion 231 in a predetermined region of the storage portion 230. The biological information storage portion 231 is means for storing/accumulating biological information in accordance with identification information of each measured person 1 whenever the home server 200 receives the biological information from the biological information measuring device 100.

Incidentally, the storage portion 230 is, for example, constituted by a hard disk, or the like.

The following Table 1 shows biological information stored/accumulated in the biological information storage portion 231 by way of example.

As shown in Table 1, the biological information is information showing the date and time of acquisition of the biological information, the kind of the biological information and the measured value in accordance with the ID (identification information) of each measured person 1.

For example, Table 1 shows that an entry No. 1 of biological information of a measured person ID "aaa" is information acquired on "29/03/04 5:16", concerning "pulse rate" and having a measured value of "60.2 (pulses per minute)".

Incidentally, the information about date and time of acquisition of biological information may be date and time when the home server 200 receives the biological information, or may be date and time when the biological information measuring device 100 measures (acquires) the biological information.

Table 1 Biological Information

measured person ID (identification information): aaa

No.	date and time of acquisition	kind	measured value
1	29/03/04 5:16	pulse rate	60.2 (pulses per minute)
2	29/03/04 5:17	pulse rate	62.6 (pulses per minute)
3	29/03/04 5:17	blood pressure	130(mmHg)/90(mmHg)
4	29/03/04 5:18	pulse rate	61.3 (pulses per minute)
...	...	...	...
...	...	...	...

The summary information creating portion 220 reads the biological information stored in the biological information storage portion 231, and creates summary information.

For example, assume that the summary information creating portion 220 creates summary information of the pulse rate of the measured person ID "aaa" from 5:00 to 5:59 (for one hour) on 29 March 2004. In this event, of the biological information of the measured person ID "aaa" in Table 1, pieces of information of the pulse rate from 5:00 to 5:59 on 29 March 2004 ("60.2 (pulses per minute)" in No. 1, "62.6 (pulses per minute)" in No. 2, "61.3 (pulses per minute)" in No. 4, and so on) are extracted, and an average values thereof is calculated. The summary information creating portion 220 delivers the calculation result as summary information to the summary information transmitting portion 240.

Receiving the summary information from the summary information creating portion 220, the summary information transmitting portion 240 transmits the summary information to the center server 500 via the network 600 every predetermined time (e.g. every hour).

The biological information presenting portion 250 is means for retrieving biological information of the measured person 1 from the biological information storage portion 231 in accordance with a request from the center server 500, and transmits the retrieved biological information to the center server 500 via the network 600.

Here, the biological information presenting portion 250 retrieves the biological information using information about the identification information (ID) of the measured person 1, the kind of the biological information, the date and time of acquisition of the biological information, etc. as keys.

That is, when the center server 500 transmits a request to acquire biological information, the center server 500 transmits the acquisition request together with information for specifying the biological information, such as the ID of the measured person 1. When the home server 200 receives the acquisition request together with the information for specifying the biological information, the biological information presenting portion 250 retrieves the biological information from the biological information storage

portion 231 using the ID of the measured person 1 and so on as keys, and transmits the retrieved biological information to the center server 500.

The summary information creating portion 220, the summary information transmitting portion 240 and the biological information presenting portion 250 are implemented by a CPU (not shown) of the home server 200 by which a program stored in the storage portion 230 is loaded onto a memory (not shown) and executed.

The home server 200 may have a connection to display means 400 such as a TV monitor. That is, a message to be displayed on the display portion M (see Fig. 3) may be output to and displayed on the display means 400. When the message from the identifier 2 is output thus to the TV monitor or the like, the measured person 1 can confirm the message about health care from the identifier 2 easily, while the identifier 2 can take health care for the measured person 1 easily.

(Terminal Device)

The terminal device 700 is means for gaining access to the center server 500 via the network 600 so as to acquire biological information and summary information of the biological information.

For example, the terminal device 700 is constituted by a PC (Personal Computer), display means such as a monitor, and input means such as a mouse or a keyboard. Acquiring summary information from the center server 500, the terminal device 700 displays the

acquired summary information on the display means. In accordance with an information input from the input means, the terminal device 700 acquires biological information used to create the summary information, and displays the acquired biological information on the display means.

In Fig. 2, only one device/server is depicted as each of the biological information measuring device 100, the home server 200, the center server 500 and the terminal device 700. However, two or more devices/servers may be arranged. The same rule can also apply to any embodiment that will be described later.

(Center Server)

Next, the center server 500 will be described along Fig. 4 and, if necessary, with reference to Figs. 1 to 3. Fig. 4 is a block diagram showing the configuration of the center server in Fig. 1.

The center server 500 receives and accumulates summary information transmitted from the home server 200 via the network 600 (see Fig. 2), and presents (transmits) the summary information in accordance with a request from the terminal device 700. In addition, when the center server 500 receives an acquisition request of biological information from the terminal device 700, the center server 500 acquires the biological information from the home server 200 via the network 600, and presents (transmits) the acquired

biological information to the terminal device 700.

The center server 500 is constituted by a communication portion 510, a display information creating portion 520, a summary information presenting portion 530, a storage portion 540 and a biological information acquiring portion 550. In addition, the center server 500 may include an authentication portion 560.

The communication portion 510 is means for making communication to exchange various kinds of information with the home server 200 and the terminal device 700 via the network 600.

The display information creating portion 520 is means for creating summary information or biological information (display information) to be transmitted to the terminal device 700 in accordance with a request from the terminal device 700.

For example, the display information creating portion 520 creates information in which weekly summary information (biological information) of each measured person 1 has been graphed, or creates display information in which averages of blood pressure values, quantities of exercise, etc. of other measured persons 1 have been added to the graphed information.

Incidentally, assume that the averages of blood pressure values, quantities of exercise, etc. of other measured persons 1 are calculated based on summary information in the summary information storage

portion 541.

The storage portion 540 stores a biological information management program with which the center server 500 manages biological information. The storage portion 540 includes the summary information storage portion 541 in a predetermined region of the storage portion 540.

The summary information storage portion 541 is means for storing/accumulating summary information of biological information of each measured person 1 acquired from the home server 200 by the center server 500, in accordance with identification information of the measured person 1. The storage portion 540 is, for example, constituted by a hard disk or the like.

The following Table 2 shows summary information stored/accumulated in the summary information storage portion 541 by way of example.

As shown in Table 2, summary information is arranged by ID (identification information) of each measured person 1, and each entry of the summary information includes information indicating the period of the biological information based on which the summary information was created, information indicating the kind of the summary information, and information indicating a measured value.

For example, summary information in an entry No. 1 of an ID "aaa" of a measured person 1 is information about "pulse rate" created based on

biological information from "29/03/04 5:00" to " 29/03/04 5:59", and having a measured value (average value of the biological information) of "61.8 (pulses per minute).

Table 2 Summary Information

measured person ID (identification information): aaa

No	date and time	kind	measured value
1	29/03/04 5:00-5:59	pulse rate	61.8 (pulses per minute)
2	29/03/04 5:00-5:59	blood pressure	130(mmHg)/90(mmHg)
3	29/03/04 6:00-6:59	pulse rate	63.4 (pulses per minute)
...	...	...	...
...	...	...	...

The biological information acquiring portion 550 acquires biological information used to create summary information, from the home server 200 in accordance with a request from the terminal device 700. The biological information acquiring portion 550 transmits (presents) the acquired biological information to the terminal device 700 via the network 600.

For example, assume that the biological information acquiring portion 550 receives, from the identifier 2 (terminal device 700), a request to acquire biological information including information about the date and time of acquisition of the biological information ("29/03/04 5:00-5:59"), information about the kind of the biological information ("pulse rate"), information about the ID of

the measured person 1 ("aaa"), etc. In this event, the biological information acquiring portion 550 gains access to the home server 200 storing/accumulating the biological information of the measured person 1, via the network 600. The biological information acquiring portion 550 acquires biological information about the "pulse rate" of the ID "aaa" of the measured person 1 from "29/03/04 5:00" to "29/03/04 5:59" from the home server 200, and transmits the acquired biological information to the terminal device 700.

Incidentally, assume that the storage portion 540 of the center server 500 stores a table in which biological information (ID of the measured person 1 who is an owner of the biological information) retained in each home server 200 is shown in accordance with identification information (IP address or the like) of the home server 200. Referring to the table, the biological information acquiring portion 550 specifies the home server 200 from which biological information should be acquired.

When a request to acquire summary information is received via the communication portion 510, the authentication portion 560 determines whether the request comes from a predetermined identifier 2 (terminal device 700) or not. That is, the authentication portion 560 performs authentication upon a partner in communication, and delivers a result of the authentication to the summary information

presenting portion 530 or the biological information acquiring portion 550. The center server 500 presents summary information or biological information only after the request can be authenticated as an enquiry (request to acquire summary information) from the predetermined identifier 2.

In such a manner, the home server 200 creates summary information of biological information, and transmits the summary information to the center server 500. Thus, the communication load on the network 600 can be reduced in comparison with that when the home server 200 transmits the biological information successively.

In addition, the center server 500 accumulates information about each measured person 1 in the form of summary information (information whose data quantity is smaller than the total data quantity of biological information). Accordingly, the capacity of storage media (hard disks or the like) can be reduced in comparison with that when the biological information is accumulated as it is.

Assume that the display information creating portion 520, the summary information presenting portion 530, the biological information acquiring portion 550 and the authentication portion 560 are implemented by a CPU (not shown) by which a program stored in the storage portion 540 is loaded onto a memory (not shown) and executed.

(Procedure)

Next, the procedure of each constituent part of the biological information management system according to this embodiment will be described.

(Registration of Biological Information and Registration of Summary Information)

First, with reference to Fig. 5, description will be made about the storage (registration) procedure of biological information in the home server 200 and the storage (registration) procedure of summary information in the center server 500 (also see Figs. 1 to 4 if necessary). Fig. 5 is a flow chart showing the procedure (procedure of the biological information management program) of the biological information management system in Fig. 1.

Here, description will be made along an example in which the biological information measuring device 100 measures a pulse rate of a measured person 1.

First the biological information measuring device 100 begins to measure the pulse rate of the measured person 1 (Step S501). Here, the biological information measuring device 100 may begin to measure as soon as the measured person 1 wears the biological information measuring device 100 or as soon as a not-shown power switch of the biological information measuring device 100 is turned on.

When a predetermined time (e.g. one minute)

has passed since the biological information measuring device 100 began to measure ("YES" in Step S502), the biological information measuring device 100 transmits the pulse rate corresponding to the predetermined time and the ID of the measured person 1 to the home server 200 by wireless communication (Step S503).

Specifically, the biological information measuring portion 120 counts (aggregates) the pulse rate of the measured person 1 for the predetermined time. The biological information transmitting portion 130 transmits the data of the pulse rate counted by the biological information measuring portion 120, to the home server 200 via the wireless communication portion 110. In this event, in addition to the data of the pulse rate, the biological information transmitting portion 130 also transmits the ID of the measured person 1 read from the storage portion 140.

Receiving the data of the pulse rate and the ID of the measured person 1 from the biological information measuring device 100, the home server 200 stores the data of the pulse rate into the biological information storage portion 231 (Step S511).

When a predetermined time (e.g. one hour) has passed since the processing of Step S511 was started ("YES" in Step S512), the summary information creating portion 220 calculates an average pulse rate per minute of the measured person 1 (Step S513).

That is, the summary information creating

portion 220 creates summary information (average pulse rate per minute) of biological information of the measured person 1 based on the data of the pulse rate per minute for the predetermined time (one hour) received from the biological information measuring device 100. The summary information creating portion 220 delivers the summary information (average pulse rate per minute) to the summary information transmitting portion 240.

Receiving the summary information (average pulse rate per minute) of the measured person 1 from the summary information creating portion 220, the summary information transmitting portion 240 transmits the received summary information and the ID of the measured person 1 to the center server 500 via the communication portion 212 (Step S514). Receiving the summary information (average pulse rate per minute) via the communication portion 510, the center server 500 stores the received summary information into the summary information storage portion 541 (Step S521).

In such a manner, the home server 200 creates summary information of the measured person 1, and the center server 500 stores/accumulates the summary information.

(Presentation of Summary Information and Presentation of Biological Information)

Next, with reference to Figs. 6 and 7, description will be made about the procedure with which

the center server 500 presents the summary information to the terminal device 700 and the home server 200 presents the biological information to the terminal device 700 (also see Figs. 1 to 5 if necessary).

Figs. 6 and 7 are flow charts showing the procedure (procedure of the biological information management program) of the biological information management system in Fig. 1.

Assume that the center server 500 stores the user ID (ID) of the identifier 2 in the storage portion 230 in advance.

Accepting an input of an ID of the identifier 2 through input means such as a keyboard, the terminal device 700 transmits the ID to the center server 500 (Step S601). Next, the center server 500 receives the ID of the identifier 2, and uses the authentication portion 560 to determine (authenticate) whether the ID is identified as the ID of the identifier 2 or not (Step S602). Specifically, it is determined whether the received ID has been stored in the storage portion 230 or not.

Here, when the authentication portion 560 concludes that the ID transmitted in Step S601 is identified as the ID of the identifier 2 ("OK" in Step S602), a message of OK on authentication is transmitted to the terminal device 700 (Step S603).

Receiving the message of OK on authentication from the center server 500, the terminal device 700

displays a screen or the like on the display means to urge the measured person 1 to input his/her ID. Accepting the input of the ID of the measured person 1 through the input means such as a keyboard, the terminal device 700 transmits an acquisition request of summary information to the center server 500 (Step S604). Assume that the acquisition request of summary information at this time includes the ID of the measured person 1 input from the measured person 1.

On the other hand, when the authentication portion 560 concludes that the received ID is not identified as the ID of the identifier 2 ("NG" in Step S602), a message of NG on authentication is transmitted to the terminal device 700 (Step S611). Then, the process is terminated.

When the center server 500 receives the acquisition request of summary information transmitted from the terminal device 700 in Step S604, the center server 500 uses the summary information presenting portion 530 to retrieve the summary information of the measured person 1 from the summary information storage portion 541 (Step S605). Here, the summary information is retrieved, for example, using the ID of the measured person 1 or the like included in the acquisition request of the summary information as a key. The summary information presenting portion 530 transmits (presents) the retrieved summary information of the measured person 1 to the terminal device 700 (Step

S606).

Receiving the summary information of the measured person 1 from the center server 500, the terminal device 700 displays the received summary information on a monitor or the like (Step S607).

Next, description will be made along Fig. 7. The terminal device 700 accepts an input of information (e.g. information for specifying the date and time of acquisition (measuring) of information or the kind of the information) for specifying information to be displayed in detail, of the summary information displayed on the monitor or the like.

For example, assume that summary information as shown in Table 2 is displayed on the terminal device 700, and an input of information about the date and time of biological information ("29/03/04 5:00-5:59") and an input of information about the kind of the biological information ("pulse rate") are accepted from the input means. In this case, in order to make a request for the biological information fitted to these inputs, the terminal device 700 transmits the information about the date and time of the biological information, the information about the kind of the biological information, and the ID of the measured person 1 to the center server 500 (Step S701).

The information about the date and time of the biological information may be information for specifying the date and time, such as "29/03/04 5:00-

5:59", or may be information for specifying only the date, such as "29/03/04". Moreover, the information may specify a plurality of dates and times or a plurality of kinds.

Receiving the information for requesting the biological information from the terminal device 700, the center server 500 transfers the received information to the home server 200. That is, the center server 500 makes a request to the home server 200 for the biological information (Step S702).

When the home server 200 receives the information for requesting the biological information from the center server 500, the biological information presenting portion 250 retrieves the biological information from the biological information storage portion 231 based on the received information (Step S703). For example, the biological information presenting portion 250 retrieves the biological information from the biological information storage portion 231 using, as keys, the information about the date and time of the biological information ("29/03/04 5:00-5:59"), the information about the kind of the biological information ("pulse rate") and the ID of the measured person 1 included in the received information.

After retrieving the biological information, the biological information presenting portion 250 transmits the retrieved biological information to the center server 500 (Step S704).

Receiving the biological information from the home server 200, the biological information acquiring portion 550 of the center server 500 transmits the received biological information to the terminal device 700 (Step S705).

In this event, the biological information acquiring portion 550 of the center server 500 may transmit (transfer) the biological information received from the home server 200 as it is, or may transmit information processed into a form easy for the measured person 1 to understand, such as a graph showing the change of the pulse rate.

Receiving the biological information transmitted from the home server 200, the terminal device 700 displays the received biological information on the monitor or the like (Step S706). Then, the process is once terminated.

Since the center server 500 and the home server 200 perform the aforementioned processes, the identifier 2 can manage the health condition of the measured person 1 easily. That is, the identifier 2 can first grasp the summary of the health condition of the measured person 1 on the basis of summary information. Further, when the identifier 2 wants to confirm more detailed information (biological information of the measured person 1), the identifier 2 can read the biological information used to create the summary information.

<Second Embodiment>

Next, a second embodiment of the invention will be described with reference to Figs. 8 and 9 (also see Figs. 1 to 7 if necessary). Fig. 8 is a diagram showing the outline of a biological information management system according to the second embodiment of the invention. Fig. 9 is a block diagram showing the configuration of the biological information management system in Fig. 8.

First, with reference to Fig. 8, description will be made about the outline of the second embodiment of the invention. Incidentally, constituent parts similar to those in the first embodiment are denoted by the same reference numerals correspondingly, and description thereof will be omitted.

The second embodiment is characterized in that biological information measured by an installation type biological information measuring device 300 is acquired via the biological information measuring device 100 by the home server 200 of the biological information management system.

Specifically, the biological information management system is designed to further include the installation type biological information measuring device 300. In addition, the biological information measuring device 100 is designed to further include a communication control portion 170 (see Fig. 9).

The installation type biological information

measuring device 300 (see Fig. 9) is, for example, incorporated into a weighing machine, a sphygmomanometer or the like installed in the living room 10. The installation type biological information measuring device 300 has a wireless communication portion 310 for making wireless communication with the biological information measuring device 100.

The installation type biological information measuring device 300 uses a biological information measuring portion 320 to measure biological information of a measured person 1, and transmits the measured biological information to the biological information measuring device 100 by wireless communication. The biological information measuring device 100 transmits the biological information to the home server 200. That is, in this embodiment, the biological information of the measured person 1 is propagated from the installation type biological information measuring device 300 to the home server 200 through the biological information measuring device 100.

In such a manner, the installation type biological information measuring device 300 can transmit biological information to the home server 200 when the installation type biological information measuring device 300 is provided with communication means (the wireless communication portion 310) with the biological information measuring device 100. That is, biological information such as body weight or blood

pressure of the measured person 1 can be also managed by the home server 200.

The installation type biological information measuring device 300 may be connected to the home server 200 through a LAN (Local Area Network) so as to propagate biological information from the biological information measuring device 100 to the home server 200 through the installation type biological information measuring device 300.

(Installation Type Biological Information Measuring Device)

With reference to Fig. 9, detailed description will be made below about the installation type biological information measuring device 300 according to this embodiment.

As shown in Fig. 9, the installation type biological information measuring device 300 is designed to include the wireless communication portion 310, the biological information measuring portion 320 and a biological information transmitting portion 330.

The wireless communication portion 310 is means for making wireless communication with the biological information measuring device 100. The wireless communication portion 310 is, for example, constituted by a wireless antenna and a transmitter-receiver. Incidentally, the wireless communication may be infrared communication.

The biological information measuring portion

320 is means provided with a biological sensor S2 for measuring biological information such as body weight or blood pressure of the measured person 1. For example, the installation type biological information measuring device 300 may be incorporated in a toilet so that the body information measuring portion 320 can measure the urine sugar value or the like of the measured person 1.

The biological information transmitting portion 330 is means for transmitting the biological information measured by the biological information measuring portion 320, to the biological information measuring device 100 located within a predetermined range (e.g. within a radius of 0.5 m) from the biological information transmitting portion 330 (the installation type biological information measuring device 300) itself by wireless communication. Specifically, the biological information is transmitted while the range which radio waves from the wireless communication portion 310 can reach is set within the predetermined range.

Here, the biological information transmitting portion 330 is designed to transmit the biological information to the biological information measuring device 100 located within a predetermined range from the biological information transmitting portion 330 itself in order to reduce the following possibility. That is, when there is a plurality of measured persons 1 on the periphery of the installation type biological

information measuring device 300, biological information (measured data) of one measured person 1 may be transmitted to another measured person 1 (another biological information measuring device 100) accidentally.

Assume that the biological information to be transmitted by the biological information transmitting portion 330 includes not only the measured values of body weight, blood pressure, etc. but also information about the kind of biological information (body weight, blood pressure, etc.) as header information.

Assume that the biological information measuring portion 320 and the biological information transmitting portion 330 are implemented by a CPU (not shown) of the installation type biological information measuring device 300 by which a program stored in a memory (not shown) is executed.

(Biological Information Measuring Device)

Next, description will be made about the communication control portion 170 which is a characteristic constituent member of the biological information measuring device 100 according to this embodiment.

The communication control portion 170 is means for receiving biological information from the installation type biological information measuring device 300, and making the biological information transmitting portion 130 transmit (transfer) the

received biological information to the home server 200.

For example, when information of [systolic blood pressure (kind of biological information)] and [130 mmHg (measured value)] is acquired from the installation type biological information measuring device 300, the communication control portion 170 delivers the acquired information to the biological information transmitting portion 130. The communication control portion 170 makes the biological information transmitting portion 130 create information where an ID of the measured person 1 and information about the date and time of acquisition (date and time of measuring) are added to the information acquired from the installation type biological information measuring device 300, that is, information of [aaaa (ID of the measured person 1)], [23/02/04 13:49 (date and time of acquisition)], [systolic blood pressure (kind of biological information)] and [130 mmHg (measured value)], and transmit the created information to the home server 200.

In such a manner, when the blood pressure of the measured person 1 is measured by the installation type biological information measuring device 300, the blood pressure can be measured more correctly than when the blood pressure of the measured person 1 is measured by the wristband type biological information measuring device 100.

Incidentally, assume that the communication

control portion 170 is implemented by a CPU (not shown) of the biological information measuring device 100 executing a predetermined program stored in the storage portion 140.

(Procedure)

The procedure of the biological information management system according to this embodiment will be described below with reference to Fig. 10 (also see Figs. 1 to 9 if necessary). Fig. 10 is a flow chart showing the procedure (procedure of a biological information management program) of the biological information management system in Fig. 8.

First, the installation type biological information measuring device 300 uses the biological information measuring portion 320 to measure biological information such as body weight of the measured person 1 (Step S1001).

As for the timing for the installation type biological information measuring device 300 to measure the body weight as biological information, the installation type biological information measuring device 300 may begin to measure as soon as the biological sensor S2 detects a load. Alternatively, the installation type biological information measuring device 300 may begin to measure as soon as a sensor or the like (not shown) incorporated in the installation type biological information measuring device 300 detects that the measured person 1 comes within a

predetermined range.

Receiving the measured biological information, the biological information transmitting portion 330 transmits the received biological information to the biological information measuring device 100 via the wireless communication portion 310 (Step S1002).

In this event, the biological information transmitting portion 330 is designed to transmit the biological information to the biological information measuring device 100 located within a predetermined range from the installation type biological information measuring device 300.

In such a manner, even when there is a plurality of measured persons 1 on the periphery of the installation type biological information measuring device 300, it is possible to reduce the possibility that the installation type biological information measuring device 300 transmits biological information (measured data) of one measured person 1 to another measured person 1 (another biological information measuring device 100) accidentally.

For example, assume that a measured person 1a and a measured person 1b are near the installation type biological information measuring device 300. In this case, measured biological information of the measured person 1a can be prevented from being transmitted to the biological information measuring device 100

attached to the measured person 1b.

That is, the biological information measuring device 100 of the measured person 1b can be prevented from receiving the biological information of the measured person 1a and transmitting the home server 200 the received biological information added with the ID of the measured person 1b.

Receiving the biological information from the installation type biological information measuring device 300, the communication control portion 170 of the biological information measuring device 100 makes the biological information transmitting portion 130 create information in which the ID of the measured person 1 read from the storage portion 140 and a time stamp (date and time of acquisition) are added to the received biological information, and transmit the created information to the home server 200 via the wireless communication portion 110 (Step S1003).

Next, receiving the biological information including the ID of the measured person 1 from the biological information measuring device 100 via the wireless communication portion 211, the home server 200 stores the received biological information into the biological information storage portion 231 (Step S1004).

In such a manner, the home server 200 can acquire and manage biological information such as body weight or blood pressure difficult for the biological

information measuring device 100 to measure.

In this embodiment, the biological information transmitting portion 330 is designed to transmit biological information to the biological information measuring device 100 located within a predetermined range from the biological information transmitting portion 330 (installation type biological information measuring device 300) itself. However, the biological information transmitting portion 330 may be designed to transmit biological information to the biological information measuring device 100 which is the closest to the installation type biological information measuring device 300.

This embodiment has been described along the example in which the installation type biological information measuring device 300 is incorporated in a weighing machine or a sphygmomanometer. However, for example, the installation type biological information measuring device 300 may be incorporated in a toilet, a bathroom light switch, a door, bedding, or the like.

That is, the installation type biological information measuring device 300 is designed to acquire a life event of the measured person 1 as to whether the measured person 1 has used the toilet, whether the measured person 1 has used the bath, whether the measured person 1 has entered/left a predetermined room, whether the measured person 1 has got to bed, etc., and transmit the acquired life event to the home

server 200 (and the center server 500). In such a manner, the center server 500 can also deal with a life event (safety information) of the measured person 1 as a management object. That is, the identifier 2 can grasp the condition of the measured person 1 in more detail.

<Third Embodiment>

Next, a third embodiment of the invention will be described with reference to Figs. 11 and 12 (also see Figs. 1 to 10 if necessary). Fig. 11 is a block diagram showing the configuration of a center server in a biological information management system according to the third embodiment of the invention.

Incidentally, constituent parts similar to those in the aforementioned embodiments are denoted by the same reference numerals correspondingly, and description thereof will be omitted.

The third embodiment is characterized in that the center server 500 analyzes the health condition of the measured person 1 based on summary information stored in the summary information storage portion 541, and presents (transmits) a result of the analysis to the terminal device 700 (identifier 2).

Specifically, as shown in Fig. 11, the center server 500 is designed to further include a health advice database (DB) portion 542 and a health condition analyzing portion 570.

Incidentally, the overall configuration of

the system is similar to that in each of the aforementioned embodiments, and description thereof will be omitted.

The health advice database (DB) portion 542 is means for storing information indicating health advice for biological information (health condition) in accordance with each entry of summary information (biological information) of the measured person 1. The health condition analyzing portion 570 is means for retrieving health advice to be given to the measured person 1, from the health advice DB portion 542 based on summary information of the measured person 1.

The following Table 3 shows health advice stored in the health advice DB portion 542 by way of example.

Table 3 Health Advice

No	condition (summary information)	health advice
1	blood pressure beyond 130 mmHg	Blood pressure is high. Be careful not to have salty foods.
2	steps per day lower than 3,000	Quantity of exercise is low. Need to go for a walk in a sunny day.
...	...	...
...		...

As shown in Table 3, each entry of health advice is comprised of an item about a condition of summary information and an item about health advice for the condition.

For example, assume that the health condition

analyzing portion 570 regards the health condition of the measured person 1 as "steps per day lower than 3,000" based on summary information (information about the number of steps) of the measured person 1. In this case, the health condition analyzing portion 570 retrieves the health advice DB portion 542 and acquires health advice "Quantity of exercise is low. Need to go for a walk in a sunny day." Then, the health condition analyzing portion 570 delivers the acquired information to the display information creating portion 520.

Receiving the information of the health advice of the measured person 1 from the health condition analyzing portion 570, the display information creating portion 520 creates display information including the health advice.

Fig. 12 is a diagram showing display information created by the display information creating portion in Fig. 11 by way of example. For example, as shown in Fig. 12, the display information creating portion 520 creates display information in which a change in the number of steps (summary information) of the measured person 1 and an average number of steps of measured persons 1 (users of this system) calculated by the center server 500 are added to the health advice of the measured person 1 received from the health condition analyzing portion 570.

The center server 500 transmits the display information to the terminal device 700, and the

terminal device 700 displays the information on the monitor or the like. The identifier 2 reads the display information and grasps the health condition of the measured person 1 and the health advice to be given to the measured person 1.

Here, the display information may be transmitted from the center server 500 to the terminal device 700 whenever a predetermined time has passed or whenever there is an acquisition request of the information from the terminal device 700 (identifier 2).

Alternatively, the center server 500 may transmit the display information to the biological information measuring device 100 (measured person 1). That is, the display information may be displayed on the display portion M in the biological information measuring device 100 so that the measured person 1 can grasp his/her own health condition or receive the health advice easily.

<Fourth Embodiment>

Next, a fourth embodiment of the invention will be described with reference to Figs. 13 to 15 (also see Figs. 1 to 12 if necessary). Fig. 13 is a diagram showing the configuration of a biological information management system according to the fourth embodiment of the invention. Fig. 14 is a diagram showing the configuration of a center server in Fig. 13. Fig. 15 is a flow chart showing the procedure

(procedure of a biological information management program) of the biological information management system in Fig. 13.

Incidentally, constituent parts similar to those in the aforementioned embodiments are denoted by the same reference numerals correspondingly, and description thereof will be omitted.

The fourth embodiment is characterized in that the home server 200 transmits a message to the biological information measuring device 100 (measured person 1) every predetermined time, and the center server 500 stores a response thereto from the biological information measuring device 100 (measured person 1).

Specifically, as shown in Fig. 13, the home server 200 is designed to further include a message information storage portion 232 for storing a message to be transmitted to the biological information measuring device 100 (measured person 1) and the timing when the message should be transmitted, and a message transmitting portion 260 for transmitting the massage in accordance with information in the message information storage portion 232.

On the other hand, as shown in Fig. 14, the center server 500 is designed to further include a response history storage portion 543 for storing a response from the biological information measuring device 100 together with the date and time when the

response was input.

Incidentally, assume that the message transmitting portion 260 is implemented by a CPU (not shown) of the home server 200 by which a program stored in the storage portion 230 is loaded onto a memory (not shown) and executed.

Details of each constituent part will be described in the following procedure section.

(Procedure)

The procedure (procedure of a biological information management program) of the biological information management system according to this embodiment will be described with reference to Fig. 15 (also see Figs. 1 to 14 if necessary).

First, the terminal device 700 accepts an input of the contents of a message to the biological information measuring device 100 (measured person 1) and an input of a transmission schedule of the message through the input means (Step S1501).

For example, the contents of the message input here may be considered as a message to urge the measured person 1 to take medicine, such as "Time to take medicine for blood pressure", a message to urge the measured person 1 to measure biological information, such as "Time to measure your blood pressure with a sphygmomanometer", etc. On the other hand, for example, the transmission schedule may be considered as a schedule for specifying a transmission

interval, such as "every three hours", a schedule for specifying the date and time of transmission, such as "12 o'clock everyday (predetermined date and time)", etc.

The terminal device 700 transmits the input information to the home server 200. Receiving the transmitted information, the home server 200 stores the received information into the message information storage portion 232 (Step S1502).

Next, the message transmitting portion 260 of the home server 200 waits for the timing when the message should be transmitted to the biological information measuring device 100 (Step S1503). As soon as the transmission timing comes ("Yes" in Step S1503), the message transmitting portion 260 transmits the message to the biological information measuring device 100 (measured person 1) stored in the message information storage portion 232 (Step S1504).

Incidentally, assume that the transmission timing of the message transmission portion 260 is determined with reference to a timer (not shown) of the home server 200 and the information about the transmission schedule in the message information storage portion 232.

Receiving the message from the home server 200, the biological information measuring device 100 displays the received message on the display portion M (see Fig. 3) (Step S1505) so as to urge the measured

person 1 to take medicine or measure his/her blood pressure.

In such a manner, the measured person 1 can be prevented from forgetting to take medicine or measure the blood pressure. In addition, the identifier 2 can manage dosing (medication) for the measured person 1 or urge the measured person 1 to measure the blood pressure periodically. Thus, the compliance (drug compliance or the like) of the measured person 1 can be improved.

After that, the biological information measuring device 100 waits till a response from the measured person 1 is input into the response input portion R (see Fig. 3) (Step S 1506). Here, when there is a response input from the measured person 1 ("Yes" in Step S1506), the response is transmitted from the response input control portion 160 to the home server 200 (Step S1507). In this event, the response input control portion 160 transmits the home server 200 information in which information (time stamp) about the time when the response was input is added to the response input from the response input portion R. The home server 200 transmits (transfers) the response (response information) to the center server 500 (Step S1508).

Receiving the response (response information) transmitted from the biological information measuring device 100 via the home server 200, the center server

500 stores the received response information into the response history storage portion 543 (Step S1509). Then, the process is once terminated.

After that, when the center server 500 receives an acquisition (presentation) request of a response history from the terminal device 700, the center server 500 transmits the response history of the measured person 1 to the terminal device 700. That is, after the identifier 2 transmits a message to the measured person 1, the identifier 2 can confirm whether there has been a response thereto from the measured person 1 or not. In addition, when the measured person 1 is beforehand informed of the fact that the identifier 2 will confirm the response history of the measured person 1, it can be expected that the compliance of the measured person 1 is improved.

Although the response history is designed to be stored in the response history storage portion 543, it may be stored in a part of the summary information storage portion 541.

Alternatively, whenever the home server 200 transmits a message to the biological information measuring device 100, the transmission history till then may be stored in the home server 200 or the response history storage portion 543 of the center server 500. In such a manner, for example, the identifier 2 can check whether the measured person 1 has responded to the message transmitted by the

identifier 2 or not.

Although a message is transmitted from the message transmitting portion 260 to the biological information measuring device 100 at predetermined timing in the aforementioned embodiment, the message may be transmitted in accordance with a message transmission command input through the input means of the terminal device 700 by the identifier 2.

That is, for example, a message "Better to take medicine for blood pressure after a meal" input through the input means of the terminal device 700 by the identifier 2 may be transmitted from the center server 500 in accordance with a message transmission command (e.g. a click of a transmission button on the screen) input through the input means by the identifier 2.

<Other Embodiments>

The invention is not limited to the aforementioned embodiments, but may be modified without departing from the scope and spirit of the invention.

For example, the health condition analyzing portion 570 included in the center server 500 in the third embodiment may be designed to be included in the home server 200.

When a program serving as the health condition analyzing portion 570 in the home server 200 is added or corrected, the program may be transmitted to the home server 200 via the network 600 by the

center server 500.

That is, the home server 200 may have a function of downloading programs from the center server 500 via the network 600, or the center server 500 may have a function of distributing programs to the home server 200 via the network 600.

The biological information measuring device 100, the home server 200, the center server 500 and the terminal device 700 according to any one of the embodiments of the invention can be implemented by computers and programs, while the programs can be stored in computer-readable storage media (such as CD-ROMs) and provided by the storage media. Alternatively, the programs may be provided via a network.

The computer system herein includes software such as an OS (Operating System) and hardware such as peripheral devices.

CLAIMS:

1. A biological information management system comprising:

a biological information measuring device attached to a body of a measured person and for measuring biological information of said measured person;

a home server for accumulating said biological information and creating summary information indicating a summary of said biological information; and

a center server for accumulating said summary information;

said biological information measuring device including:

a wireless communication portion for making wireless communication with said home server;

a biological information measuring portion for measuring biological information of said measured person with a biological sensor; and

a biological information transmitting portion for transmitting said measured biological information to said home server via said wireless communication portion;

said home server including:

a wireless communication portion for making wireless communication with said biological information measuring device;

a communication portion for making communication of an information via a network;

a summary information creating portion for creating said summary information based on said biological information received from said biological information measuring device;

a summary information transmitting portion for transmitting said created summary information to said center server via said network; and

said center server including:

a communication portion for making communication of an information via said network;

a summary information storage portion for storing said summary information received from said home server.

2. A biological information management system according to Claim 1, further comprising:

an installation type biological information measuring device installed in a living room of said measured person and for making wireless communication with said biological information measuring device;

said installation type biological information measuring device including:

a wireless communication portion for making wireless communication with said biological information measuring device;

a biological information measuring portion for measuring biological information of said measured

person with a biological sensor; and

a biological information transmitting portion for transmitting said measured biological information to said biological information measuring device;

said biological information measuring device being designed to receive said biological information from said installation type biological information measuring device via said wireless communication portion of said biological information measuring device, and transmitting said biological information to said home server.

3. A biological information management method for use in a biological information management system including a biological information measuring device attached to a body of a measured person and for measuring biological information of said measured person, a home server for accumulating said biological information and creating summary information indicating a summary of said biological information, and a center server for accumulating said summary information, said method comprising the steps of:

measuring biological information of said measured person by said biological information measuring device; and

creating summary information of said biological information by said home server; and

transmitting said created summary information to said center server via a network;

storing said summary information in said center server.

4. A biological information management method according to Claim 3, said biological information management system further including an installation type biological information measuring device installed in a living room of said measured person and for making wireless communication with said biological information measuring device;

which comprises the steps of:

measuring biological information of said measured person by said installation type biological information measuring device;

transmitting said measured biological information of said measured person to said biological information measuring device by wireless communication.

5. A biological information management program for making a computer execute a biological information management method according to Claim 4.

6. A biological information management program for making a computer execute a biological information management method according to Claim 3.