US 20140350865A1

(19) **United States**

(12) **Patent Application Publication**

(10) **Pub. No.: US 2014/0350865 A1**

(43) **Pub. Date: Nov. 27, 2014**

MIYATA

(54) **CONTENT INFORMATION OUTPUT**

(71) Applicant: **Nec Biglobe, Ltd.**, Tokyo (JP)

(72) Inventor: **Michitaro MIYATA**, Tokyo (JP)

(73) Assignee: **Nec Biglobe, Ltd.**, Tokyo (JP)

(21) Appl. No.: **14/263,004**

(22) Filed: **Apr. 28, 2014**

(30) **Foreign Application Priority Data**

May 27, 2013 (JP) 2013-110624

Publication Classification

(51) **Int. Cl.**

A61B 5/00 (2006.01)

A61B 5/024 (2006.01)

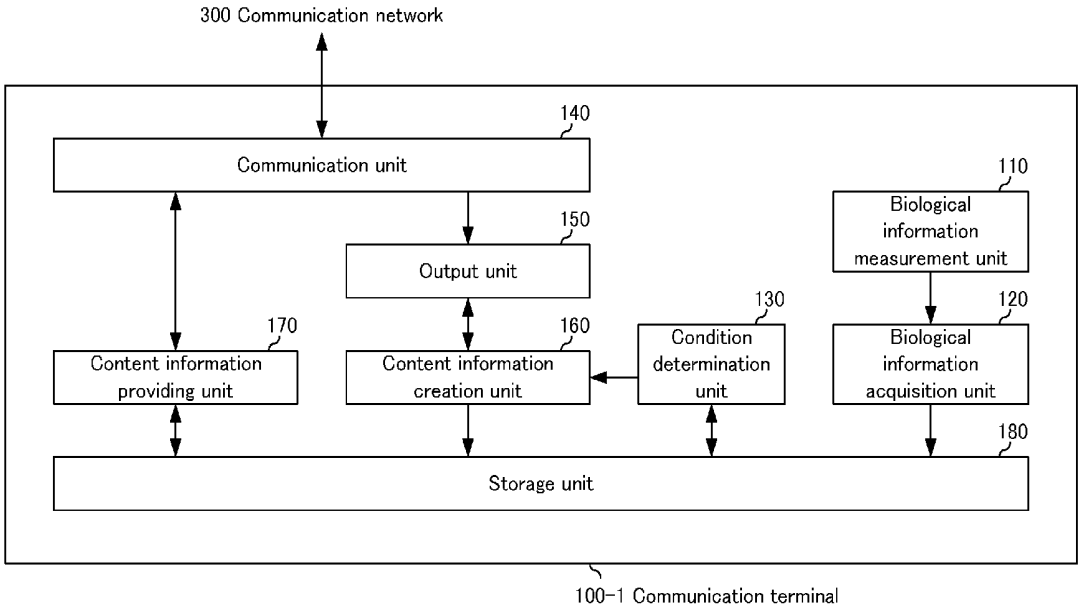
(52) **U.S. Cl.**

CPC ***A61B 5/7282*** (2013.01); ***A61B 5/024*** (2013.01); ***A61B 5/742*** (2013.01); ***A61B 5/741*** (2013.01); ***A61B 5/7475*** (2013.01); ***A61B 5/681*** (2013.01)

USPC **702/19**

(57) **ABSTRACT**

A communication terminal obtains biological information. The communication terminal determines whether the obtained biological information satisfies preset conditions. When it is determined that the biological information satisfies preset conditions, the communication terminal creates content information indicating the contents of the output information. The communication terminal then provides the created content information to other communication terminals.



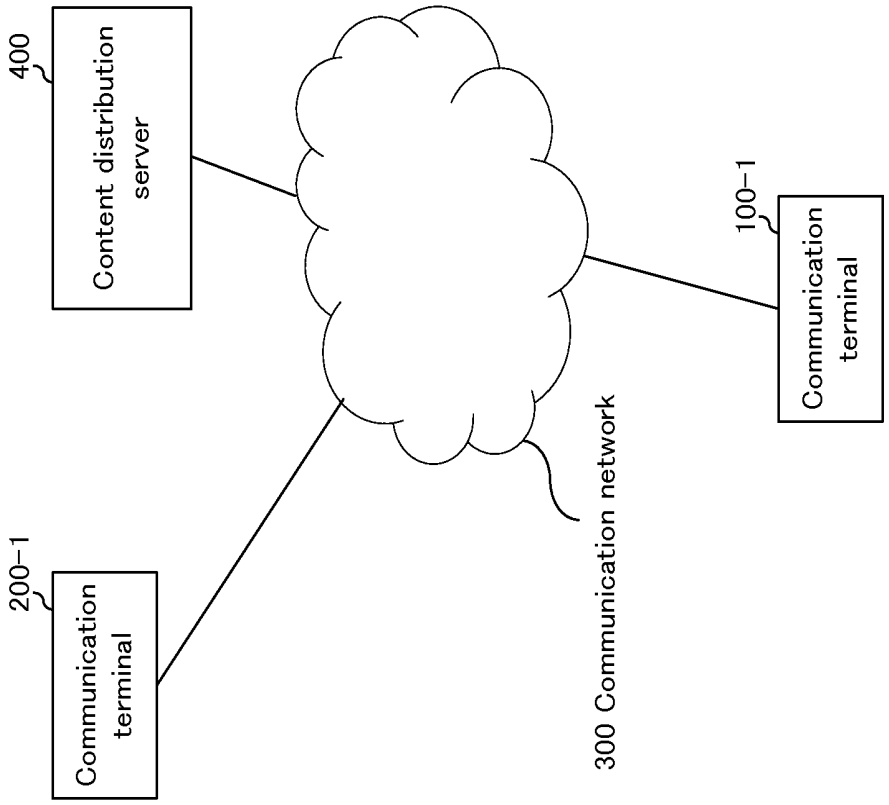

400
Content distribution server
100-1
Communication terminal
200-1
Communication terminal
300 Communication network

Fig.1

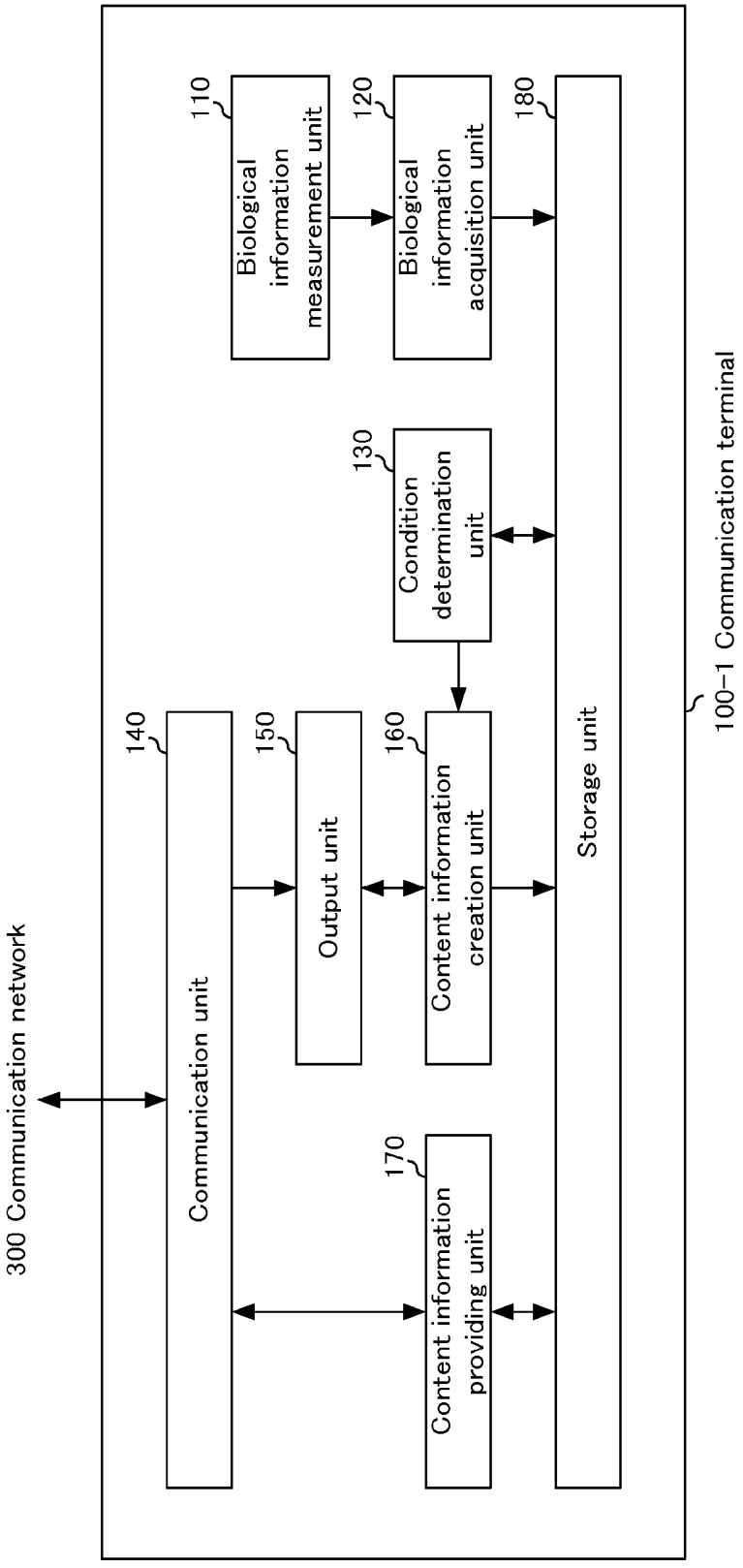

110
Biological information measurement unit
120
Biological information acquisition unit
180
130
Condition determination unit
140
Communication unit
150
Output unit
160
Content information creation unit
Storage unit
170
Content information providing unit
300 Communication network
100-1 Communication terminal

Fig.2

Fig.3

Biological information name	Measured value
Pulse rate	120

Fig.4

Biological information name	Threshold value
Pulse rate	110
Heart rate	110
Amount of perspiration	10(cc)

Fig.5

Content data name	Determination time	Content information
Capture 1.jpg	12:34:56	aaa01
Capture 2.jpg	13:34:45	bbb02

Fig.6

Biological information name	Threshold value	Elapsed time
Pulse rate	110	5 minutes
Heart rate	110	5 minutes
Amount of perspiration	10(cc)	5 minutes

Fig.7

Content data name	Determination start time	Determination end time	Determination time	Viewer identifier
Capture 1.jpg	12:34:56	12:45:56	11:00	aaa01
Capture 2.jpg	13:34:45	13:44:45	10:00	bbb02

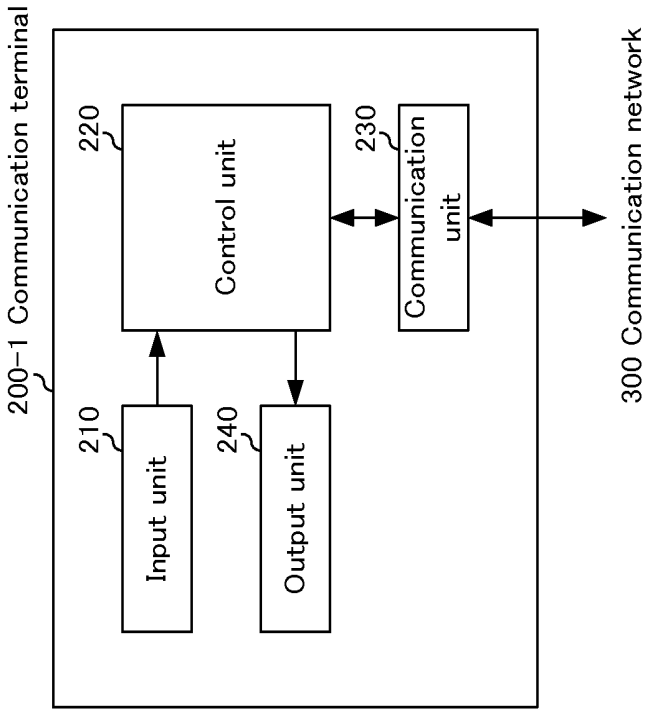

200-1 Communication terminal
220
Control unit
230
Communication unit
300 Communication network
210
Input unit
240
Output unit

Fig.8

Fig.9

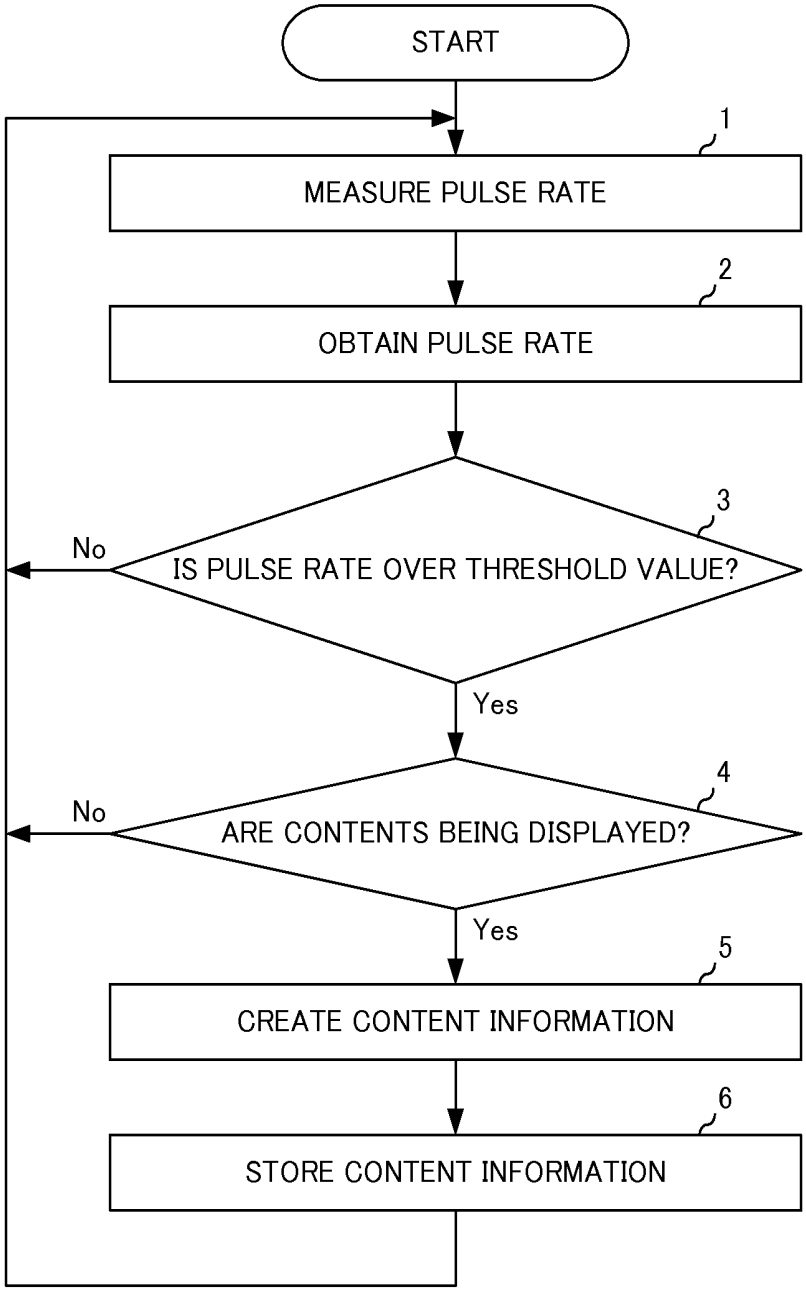

START
1
MEASURE PULSE RATE
2
OBTAIN PULSE RATE
3
IS PULSE RATE OVER THRESHOLD VALUE?
No
Yes
4
ARE CONTENTS BEING DISPLAYED?
No
Yes
5
CREATE CONTENT INFORMATION
6
STORE CONTENT INFORMATION

Fig.10

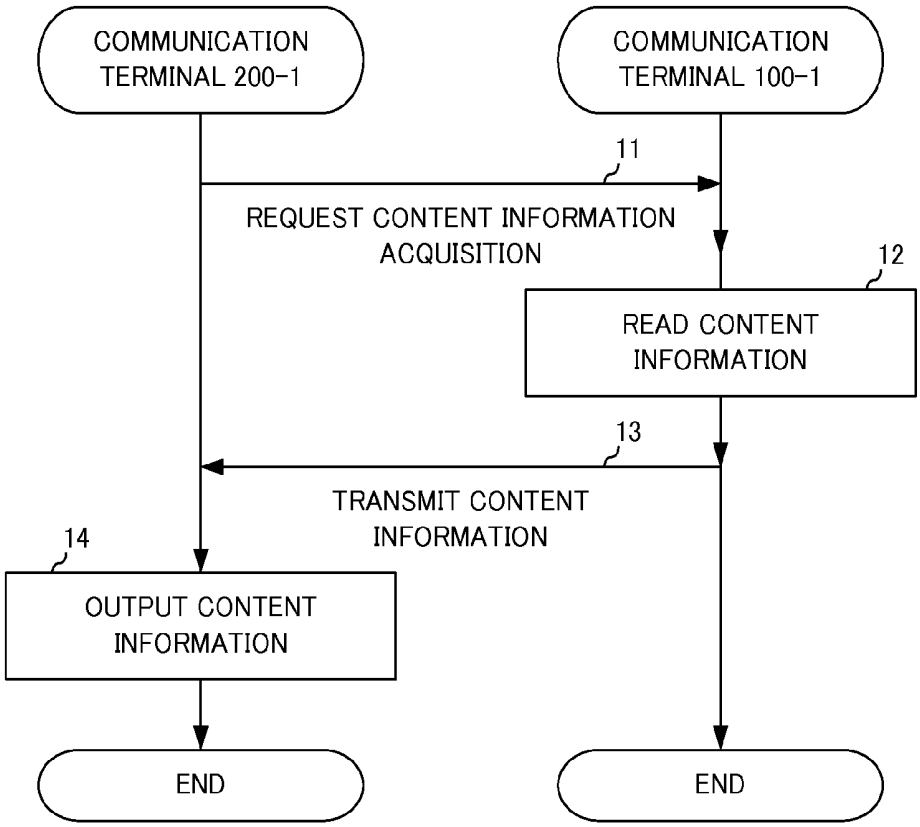
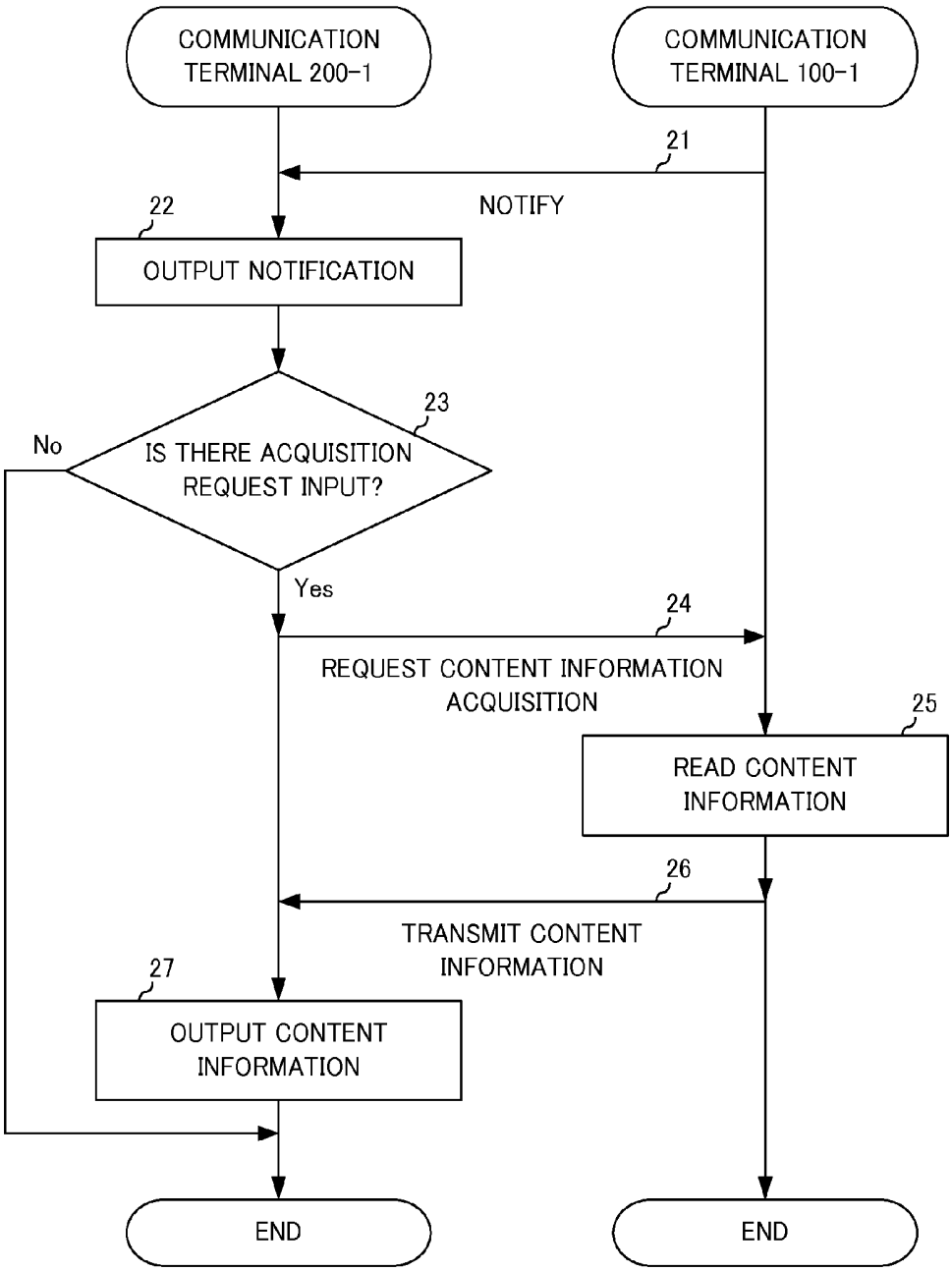

COMMUNICATION TERMINAL 200-1
COMMUNICATION TERMINAL 100-1
11
REQUEST CONTENT INFORMATION ACQUISITION
12
READ CONTENT INFORMATION
13
TRANSMIT CONTENT INFORMATION
14
OUTPUT CONTENT INFORMATION
END
END

Fig.11


COMMUNICATION TERMINAL 200-1
COMMUNICATION TERMINAL 100-1
21
NOTIFY
22
OUTPUT NOTIFICATION
23
IS THERE ACQUISITION REQUEST INPUT?
No
Yes
24
REQUEST CONTENT INFORMATION ACQUISITION
25
READ CONTENT INFORMATION
26
TRANSMIT CONTENT INFORMATION
27
OUTPUT CONTENT INFORMATION
END
END

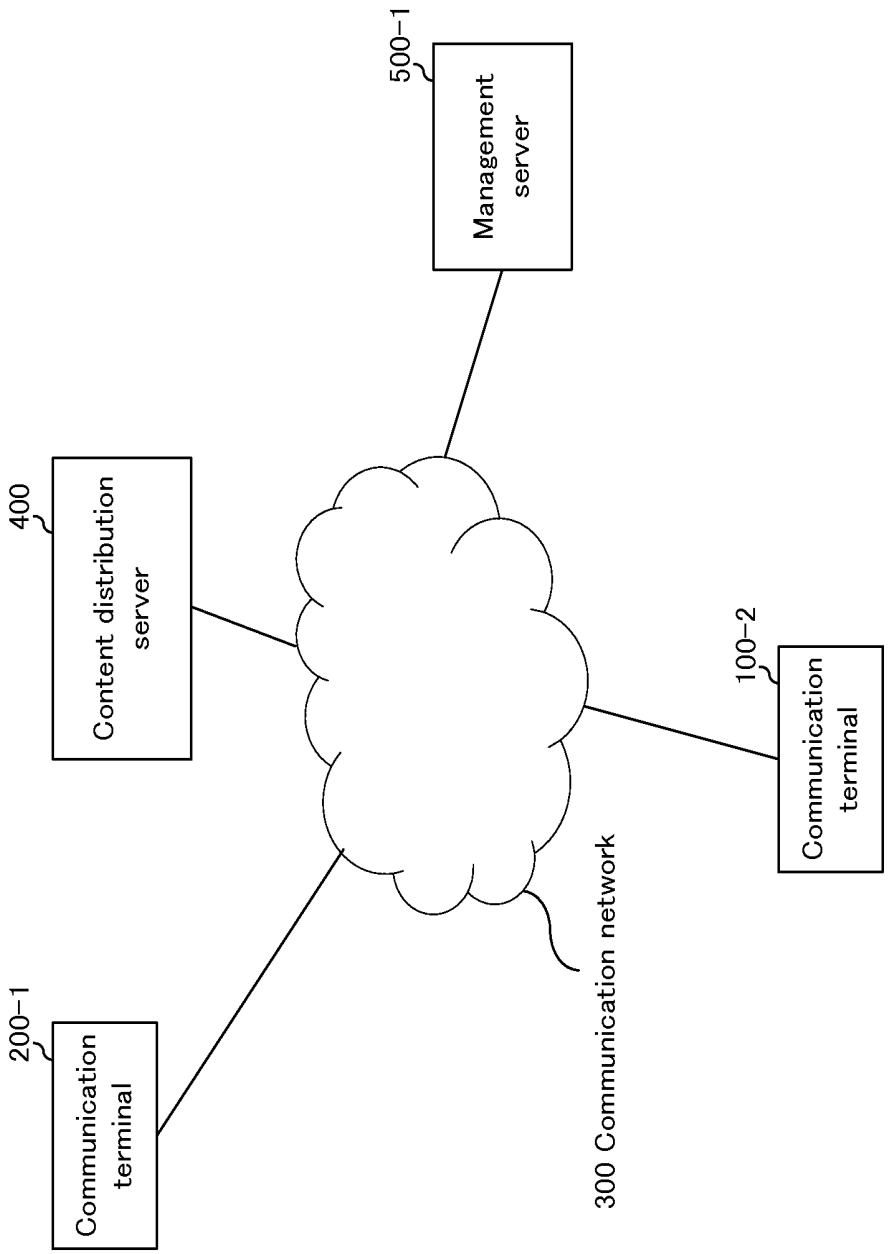

500-1
Management server
400
Content distribution server
100-2
Communication terminal
200-1
Communication terminal
300 Communication network

Fig.12

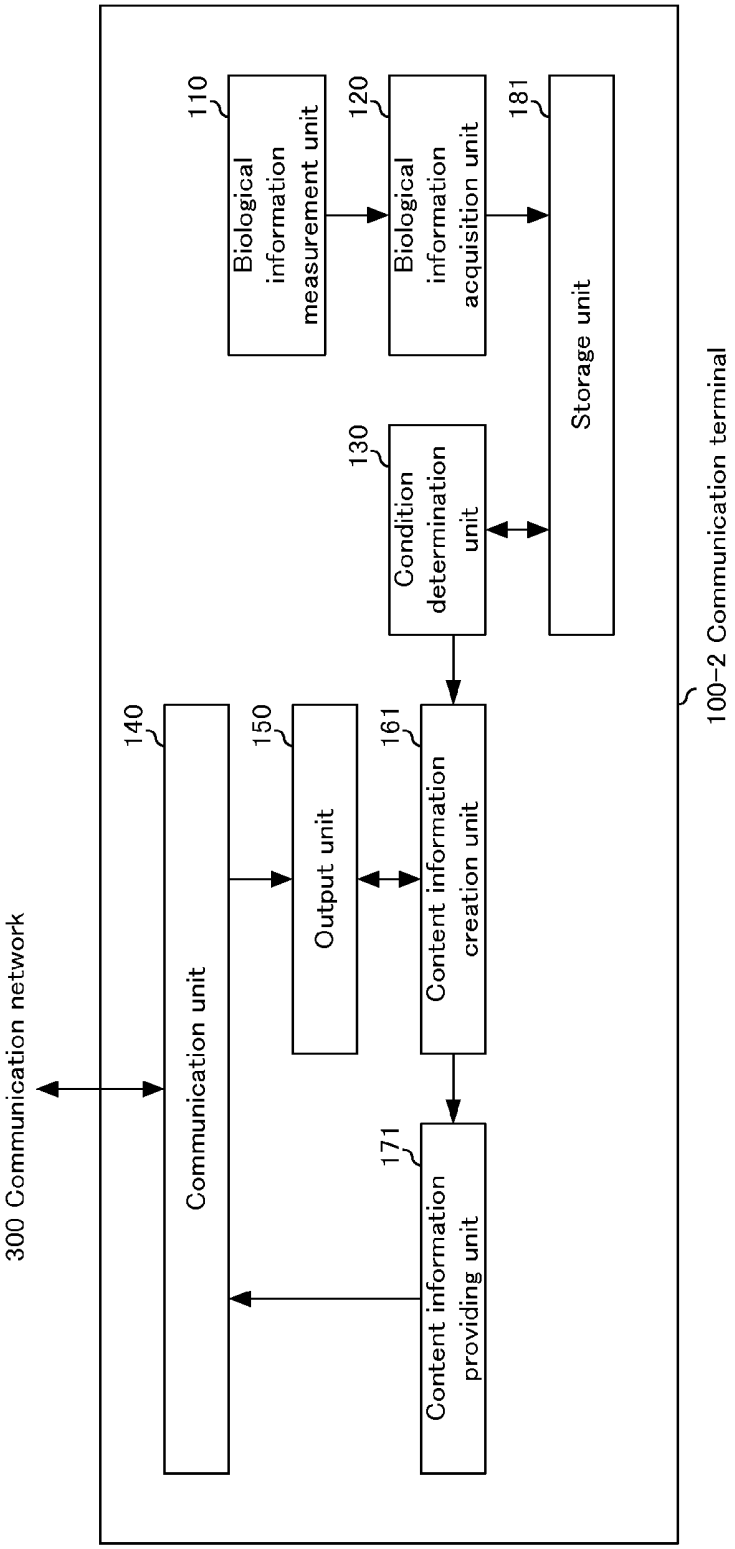

110
Biological information measurement unit
120
Biological information acquisition unit
181
Storage unit
130
Condition determination unit
140
Communication unit
150
Output unit
161
Content information creation unit
171
Content information providing unit
300 Communication network
100-2 Communication terminal

Fig.13

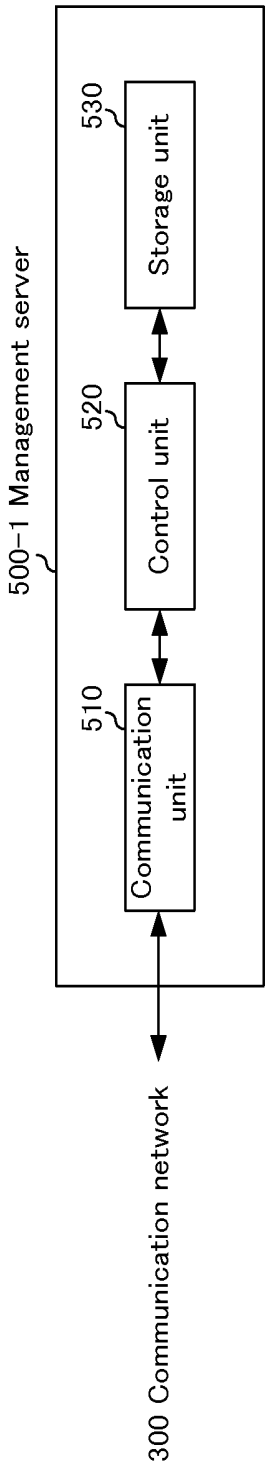

500-1 Management server
510
Communication unit
520
Control unit
530
Storage unit
300 Communication network

Fig.14

Fig.15

Viewer identifier	Checker identifier	Checker contact information
aaa01	AAA01	AAA@mail.**.jp
bbb01	BBB01	BBB@mail.**.jp
ccc01	CCC01	CCC@mail.**.jp
・ ・ ・	・ ・ ・	・ ・ ・

Fig.16

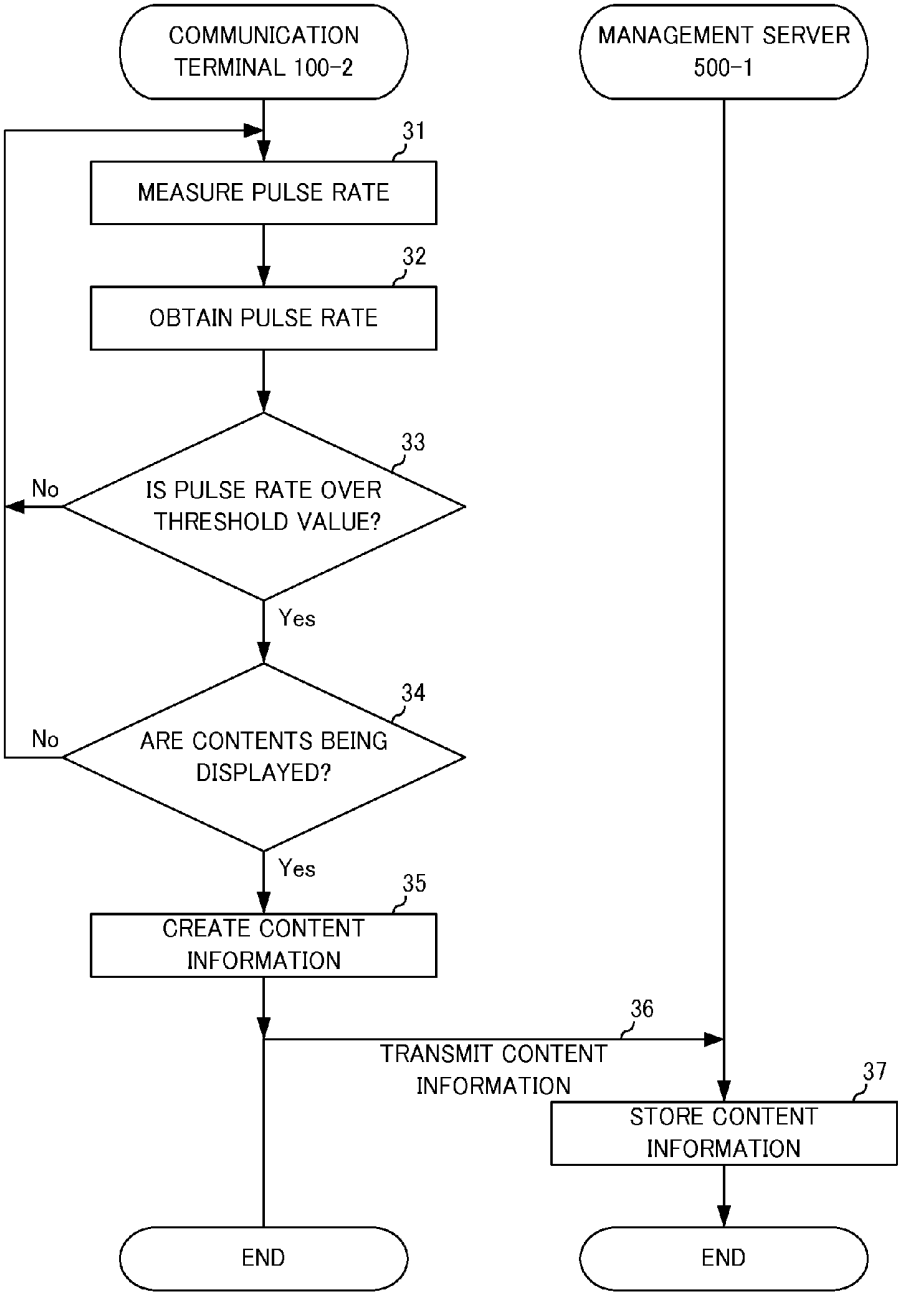
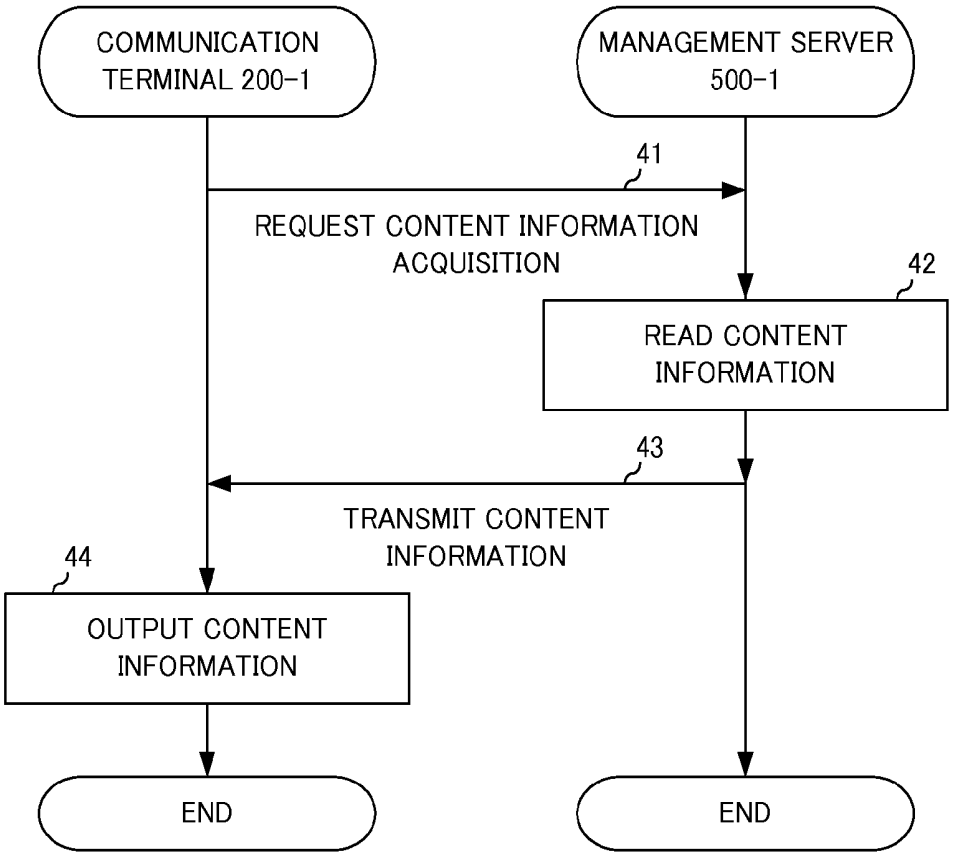

COMMUNICATION TERMINAL 100-2
MANAGEMENT SERVER 500-1
31
MEASURE PULSE RATE
32
OBTAIN PULSE RATE
33
IS PULSE RATE OVER THRESHOLD VALUE?
No
Yes
34
ARE CONTENTS BEING DISPLAYED?
No
Yes
35
CREATE CONTENT INFORMATION
36
TRANSMIT CONTENT INFORMATION
37
STORE CONTENT INFORMATION
END
END

Fig.17


COMMUNICATION TERMINAL 200-1
MANAGEMENT SERVER 500-1
41
REQUEST CONTENT INFORMATION ACQUISITION
42
READ CONTENT INFORMATION
43
TRANSMIT CONTENT INFORMATION
44
OUTPUT CONTENT INFORMATION
END
END

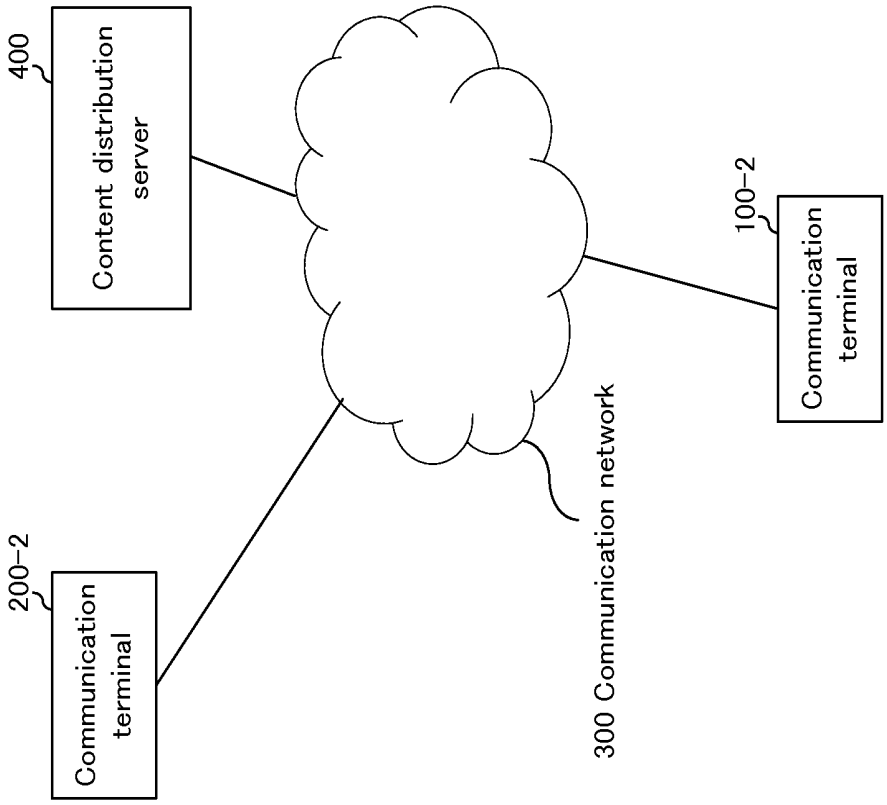

400
Content distribution server
100-2
Communication terminal
200-2
Communication terminal
300 Communication network

Fig.18

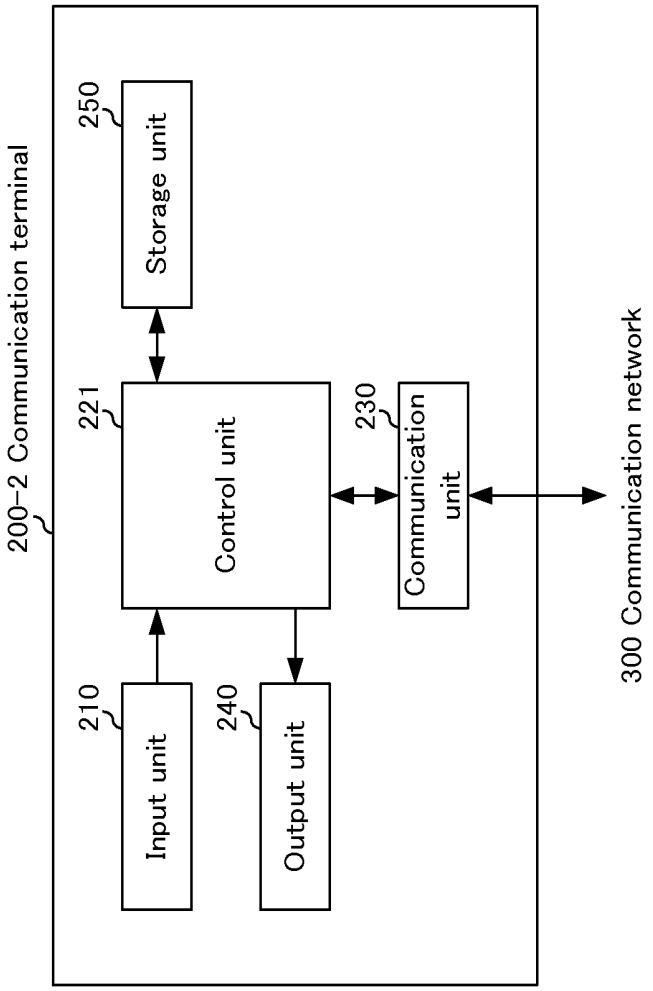

200-2 Communication terminal
250
Storage unit
221
Control unit
230
Communication unit
210
Input unit
240
Output unit
300 Communication network

Fig.19

Fig.20

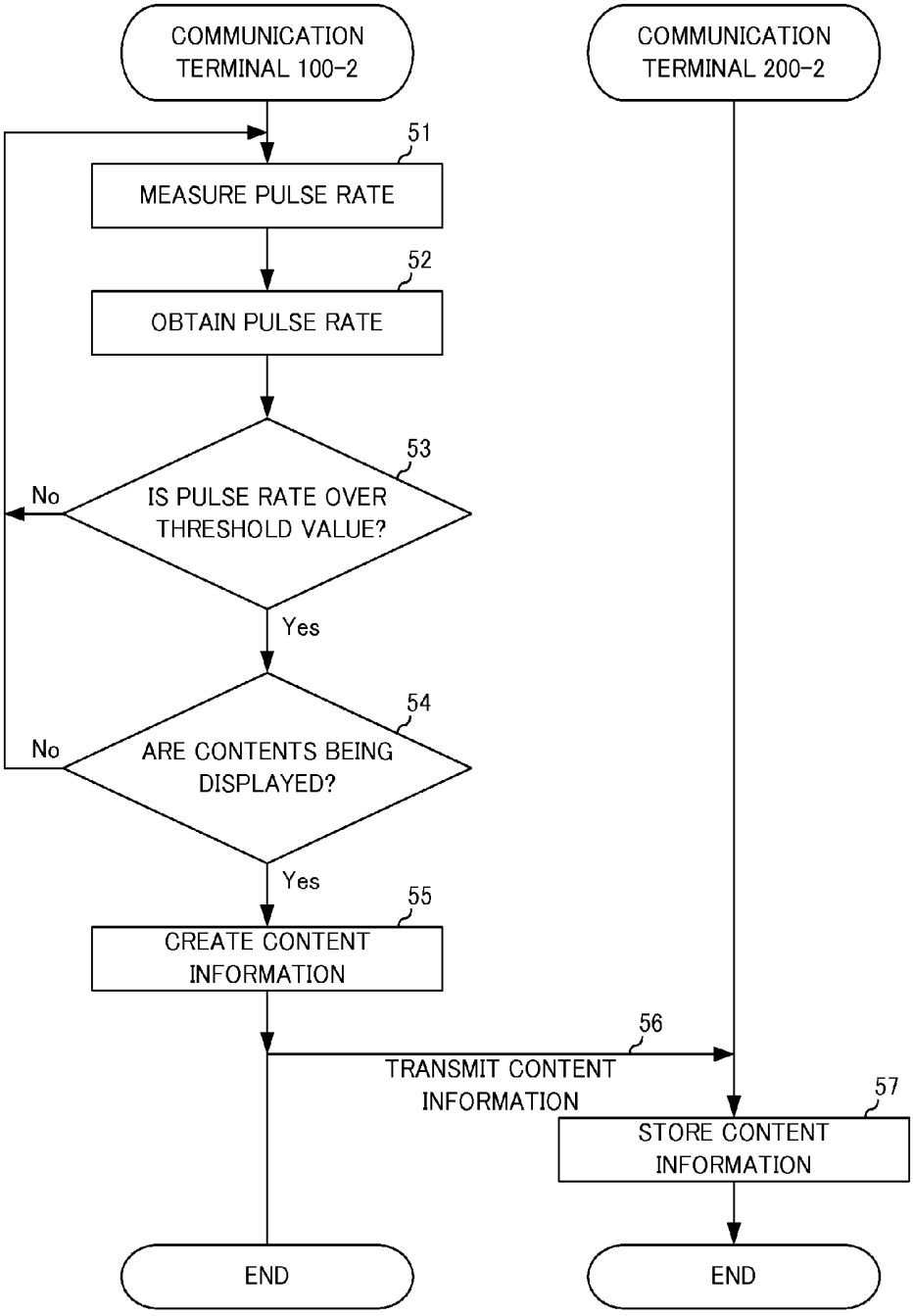
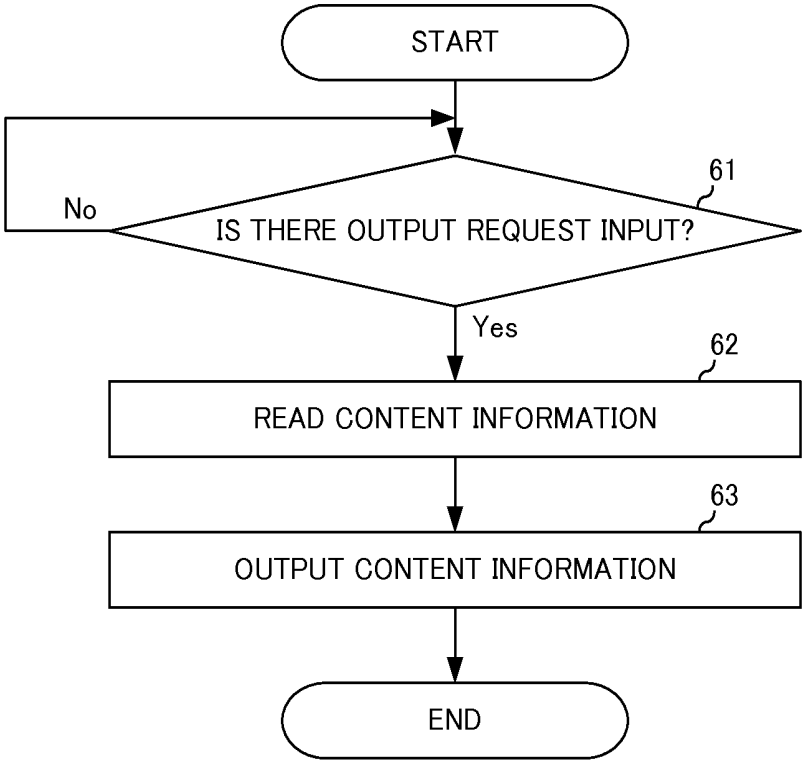

COMMUNICATION TERMINAL 100-2
COMMUNICATION TERMINAL 200-2
51
MEASURE PULSE RATE
52
OBTAIN PULSE RATE
53
IS PULSE RATE OVER THRESHOLD VALUE?
No
Yes
54
ARE CONTENTS BEING DISPLAYED?
No
Yes
55
CREATE CONTENT INFORMATION
56
TRANSMIT CONTENT INFORMATION
57
STORE CONTENT INFORMATION
END
END

Fig.21


START
61
No
IS THERE OUTPUT REQUEST INPUT?
Yes
62
READ CONTENT INFORMATION
63
OUTPUT CONTENT INFORMATION
END

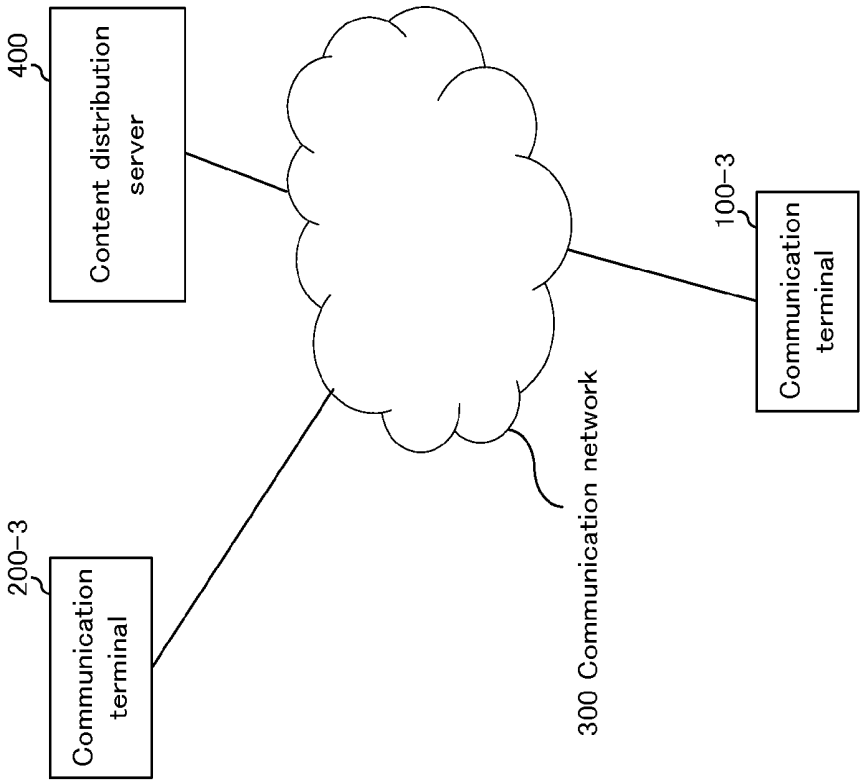

400
Content distribution server
100-3
Communication terminal
200-3
Communication terminal
300 Communication network

Fig.22

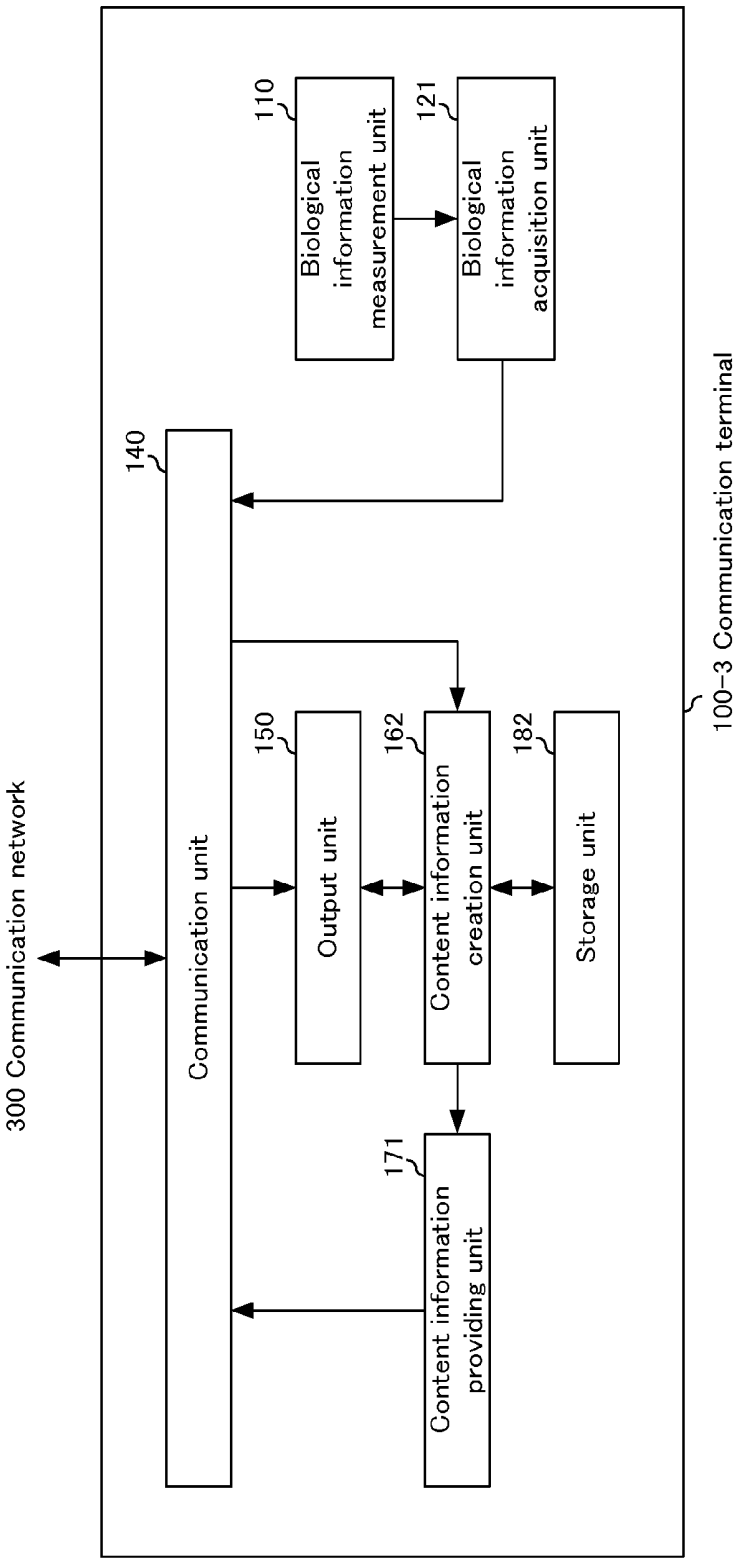

300 Communication network
Communication unit
140
Biological information measurement unit
110
Biological information acquisition unit
121
Output unit
150
Content information creation unit
162
Storage unit
182
Content information providing unit
171
100-3 Communication terminal

Fig.23

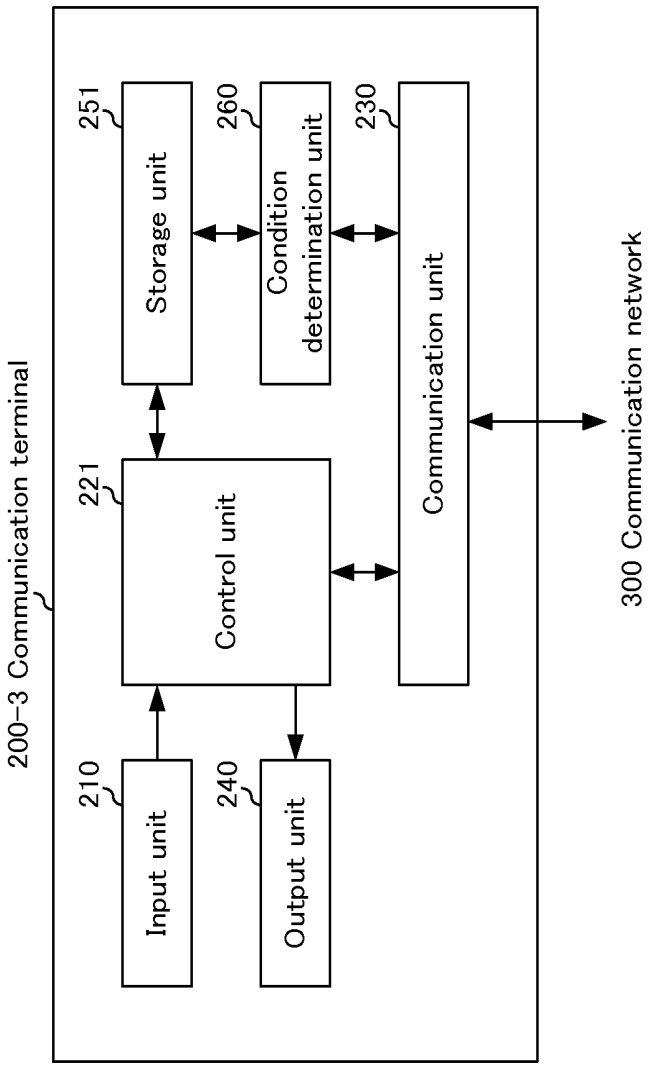

200-3 Communication terminal
251
Storage unit
260
Condition determination unit
230
Communication unit
221
Control unit
210
Input unit
240
Output unit
300 Communication network

Fig.24

Fig.25

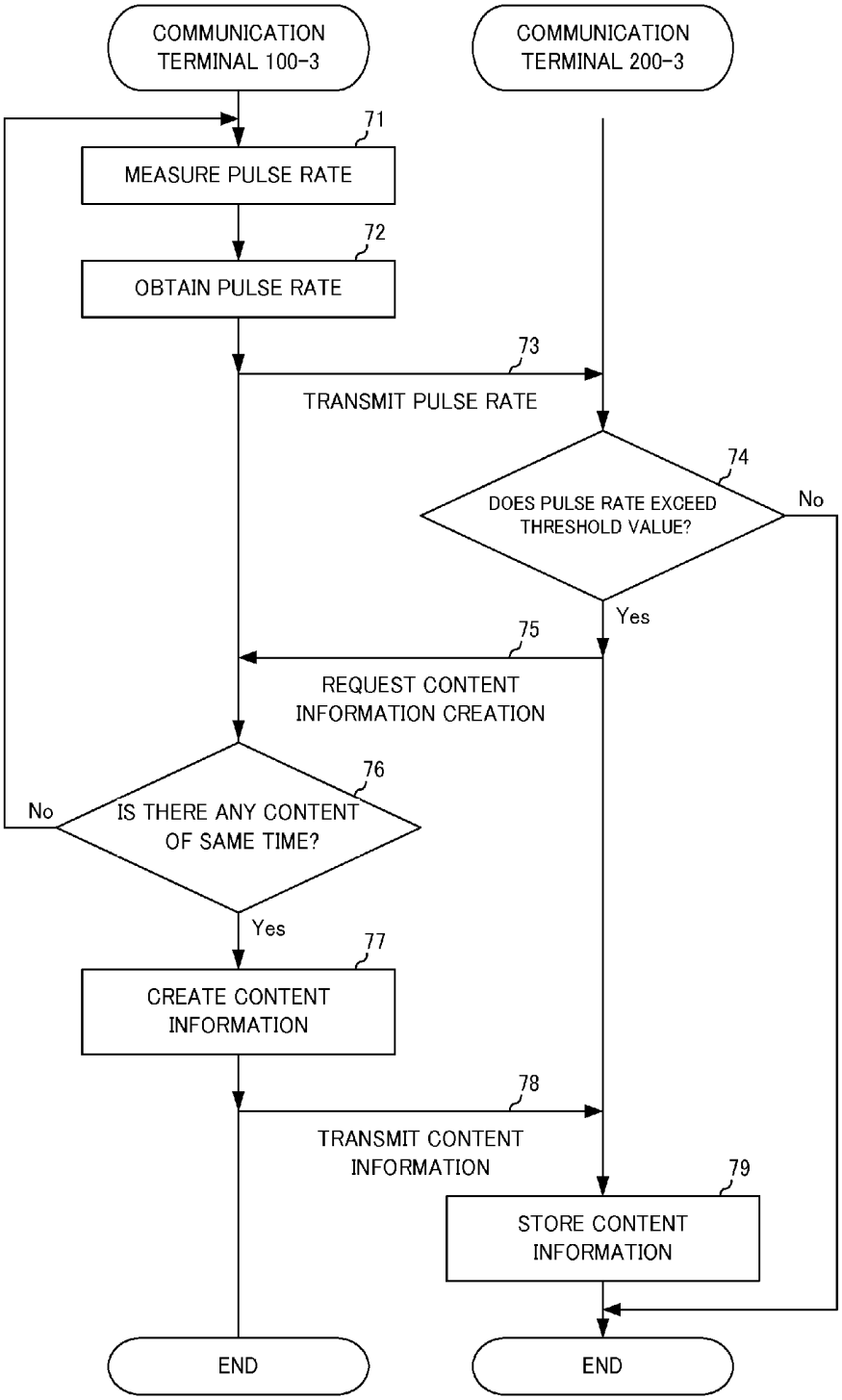
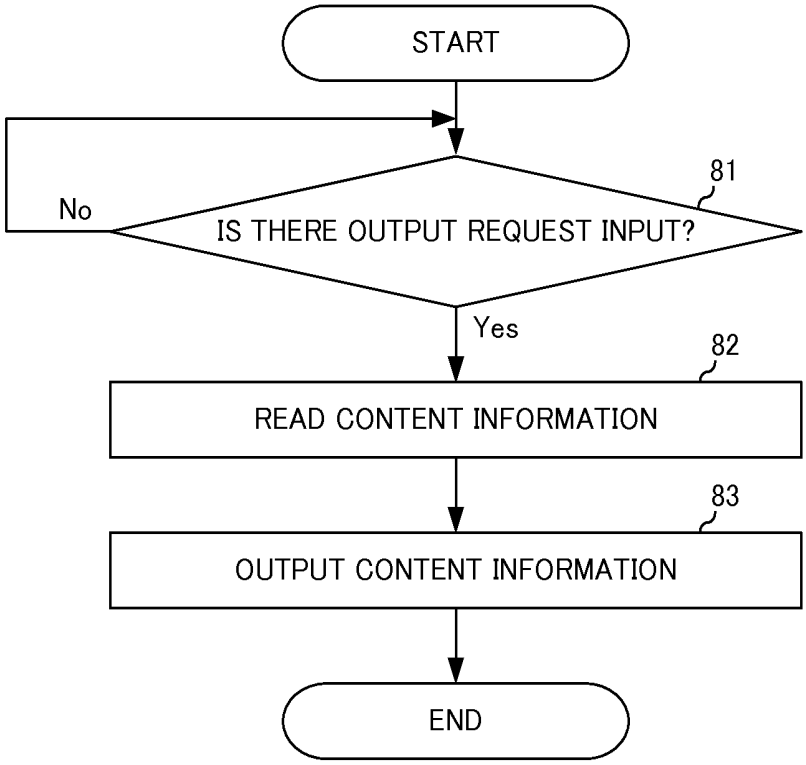

COMMUNICATION TERMINAL 100-3
COMMUNICATION TERMINAL 200-3
71
MEASURE PULSE RATE
72
OBTAIN PULSE RATE
73
TRANSMIT PULSE RATE
74
DOES PULSE RATE EXCEED THRESHOLD VALUE?
No
Yes
75
REQUEST CONTENT INFORMATION CREATION
76
No
IS THERE ANY CONTENT OF SAME TIME?
Yes
77
CREATE CONTENT INFORMATION
78
TRANSMIT CONTENT INFORMATION
79
STORE CONTENT INFORMATION
END
END

Fig.26


START
81
No
IS THERE OUTPUT REQUEST INPUT?
Yes
82
READ CONTENT INFORMATION
83
OUTPUT CONTENT INFORMATION
END

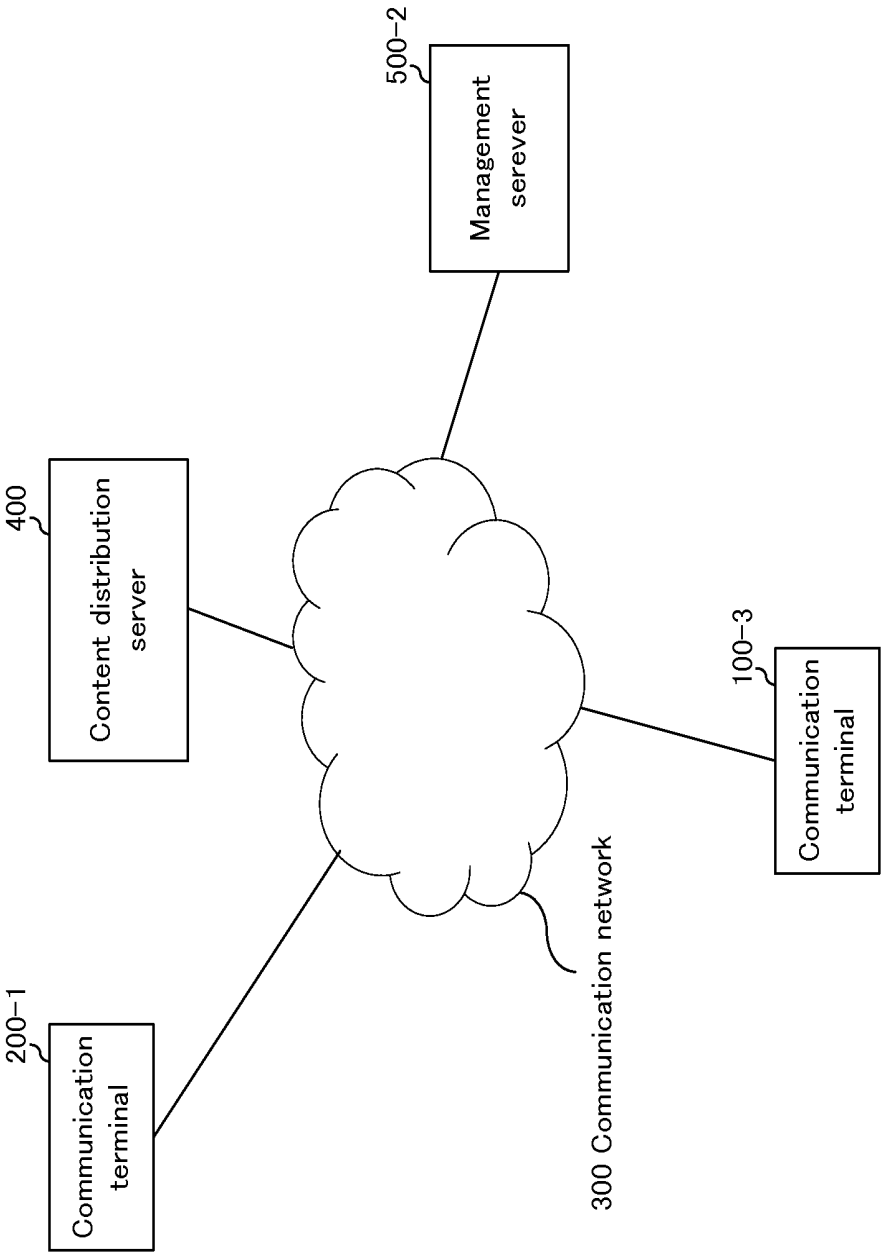

500-2
Management serever
400
Content distribution server
100-3
Communication terminal
300 Communication network
200-1
Communication terminal

Fig.27

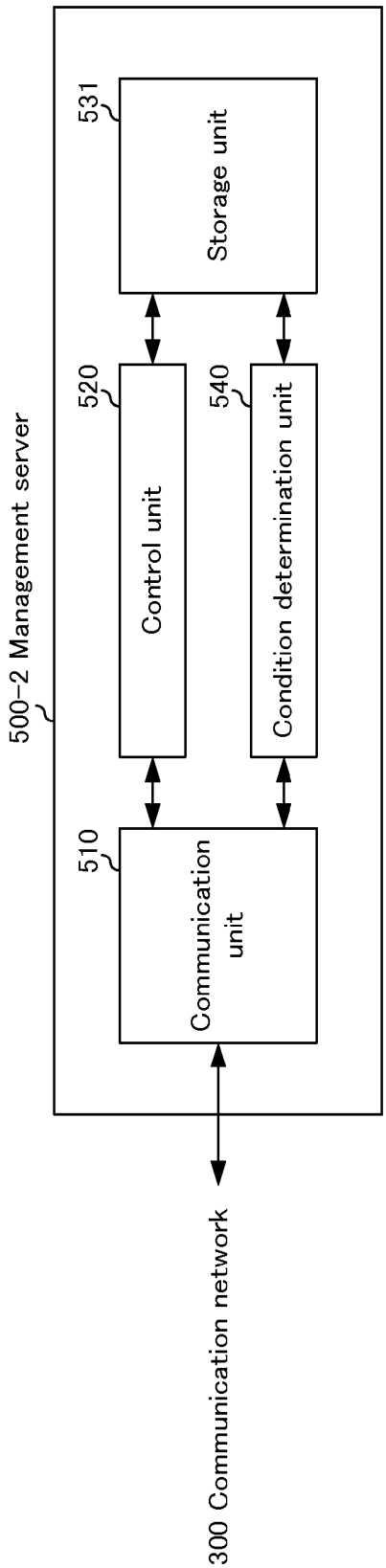

500-2 Management server
531
Storage unit
520
Control unit
540
Condition determination unit
510
Communication unit
300 Communication network

Fig.28

Fig.29

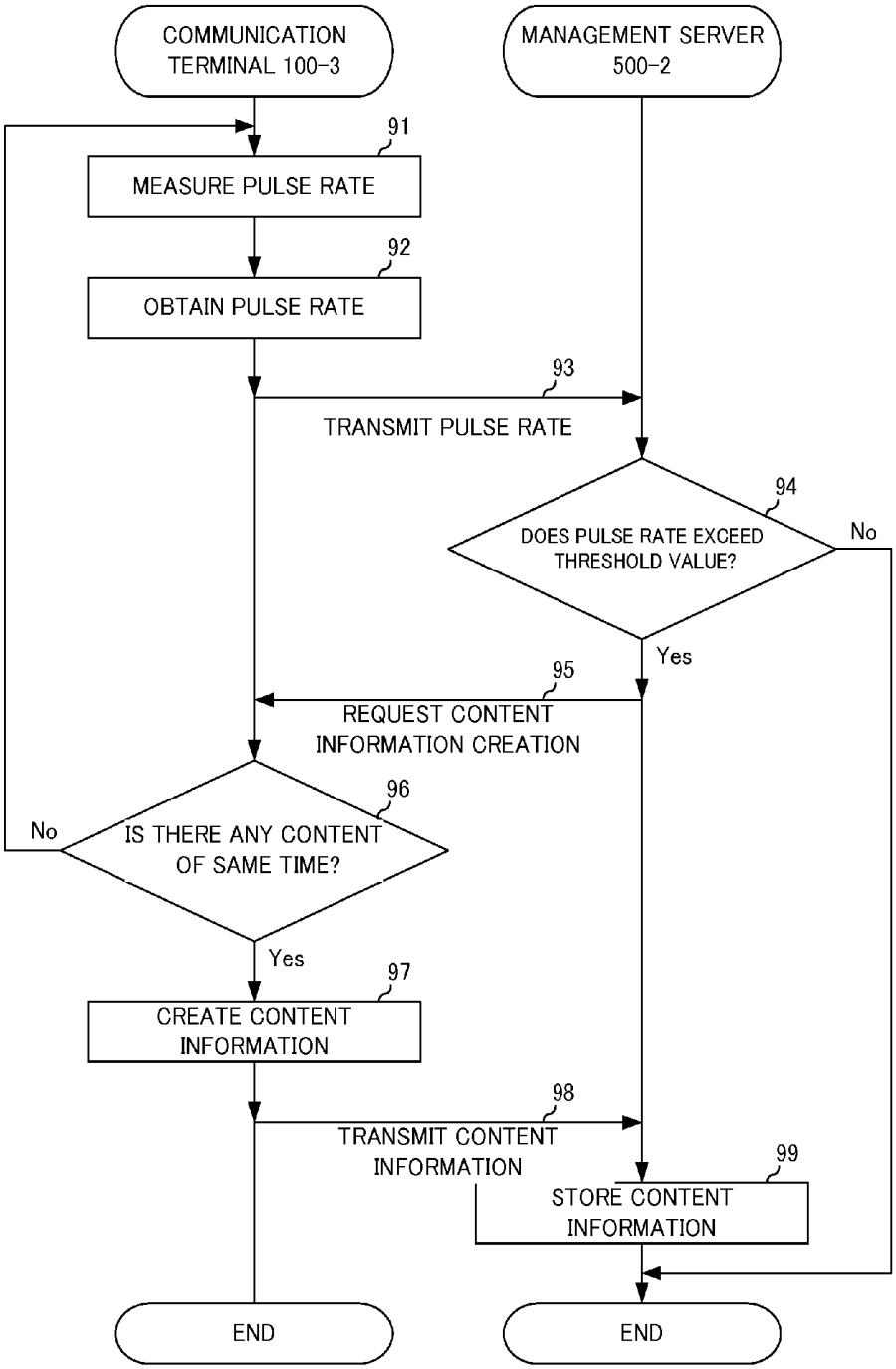
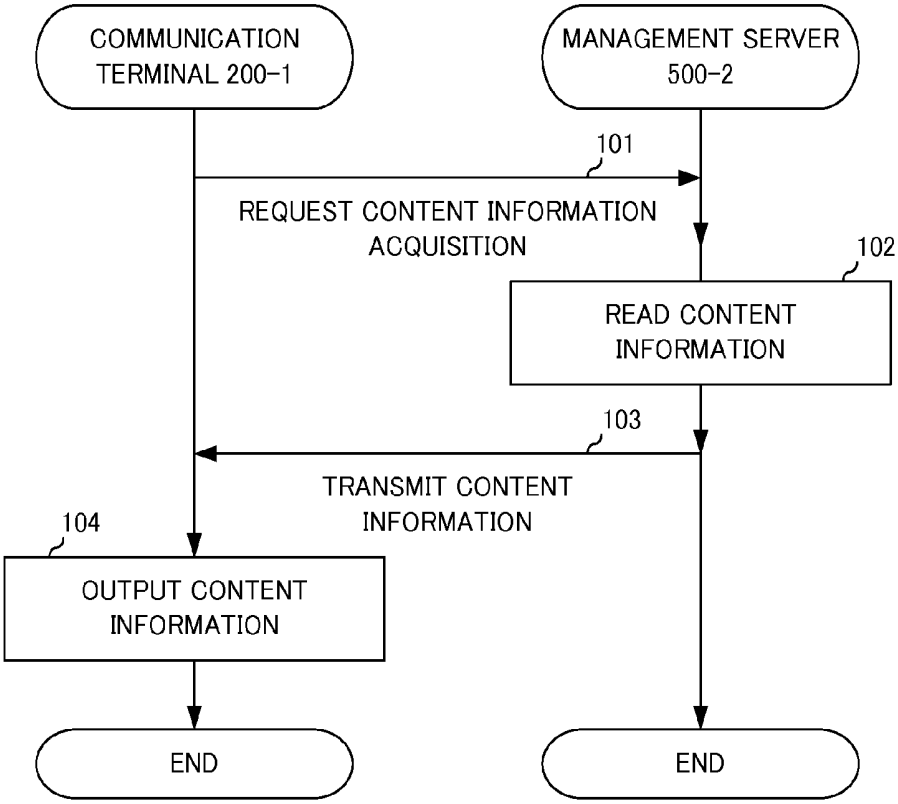

COMMUNICATION TERMINAL 100-3
MANAGEMENT SERVER 500-2
91
MEASURE PULSE RATE
92
OBTAIN PULSE RATE
93
TRANSMIT PULSE RATE
94
DOES PULSE RATE EXCEED THRESHOLD VALUE?
No
Yes
95
REQUEST CONTENT INFORMATION CREATION
96
No
IS THERE ANY CONTENT OF SAME TIME?
Yes
97
CREATE CONTENT INFORMATION
98
TRANSMIT CONTENT INFORMATION
99
STORE CONTENT INFORMATION
END
END

Fig.30


COMMUNICATION TERMINAL 200-1
MANAGEMENT SERVER 500-2
101
REQUEST CONTENT INFORMATION ACQUISITION
102
READ CONTENT INFORMATION
103
TRANSMIT CONTENT INFORMATION
104
OUTPUT CONTENT INFORMATION
END
END

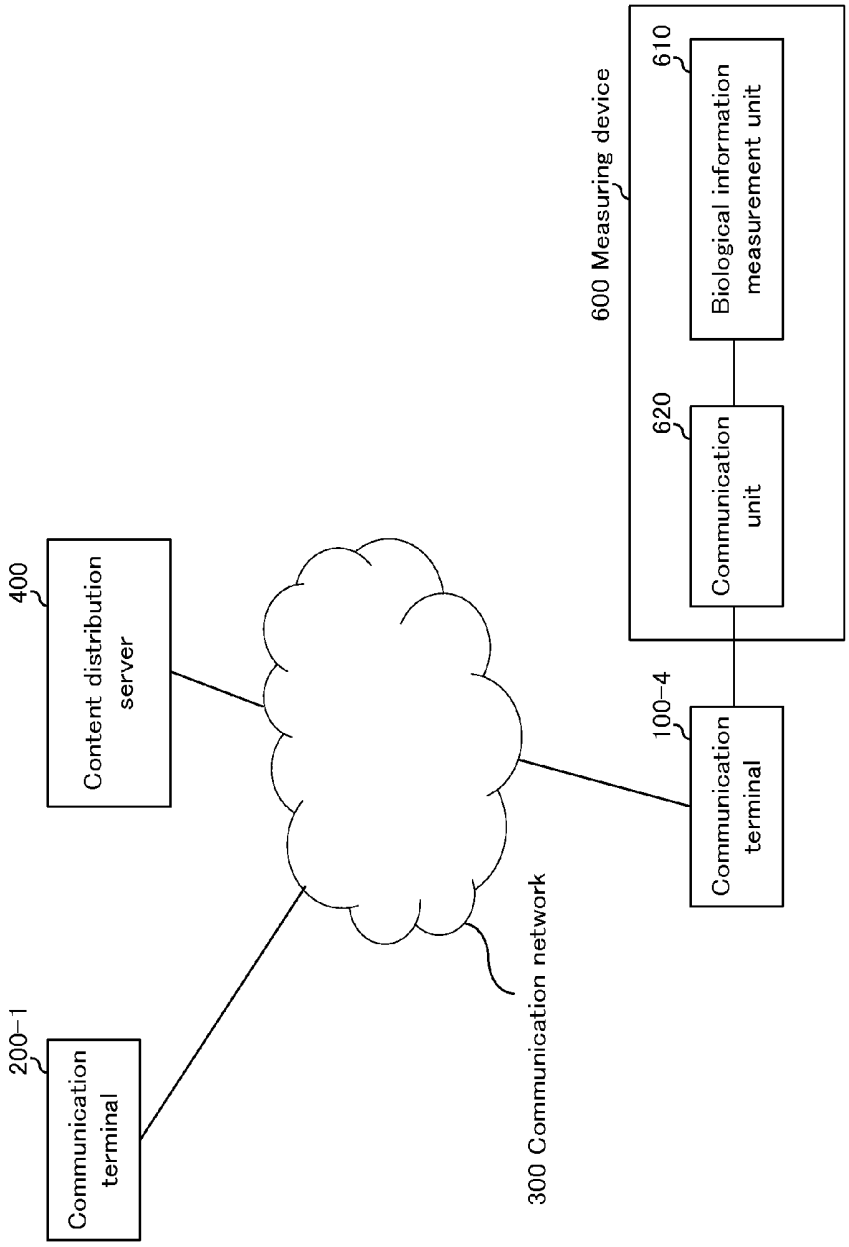

600 Measuring device
610
Biological information measurement unit
620
Communication unit
100-4
Communication terminal
400
Content distribution server
200-1
Communication terminal
300 Communication network

Fig.31

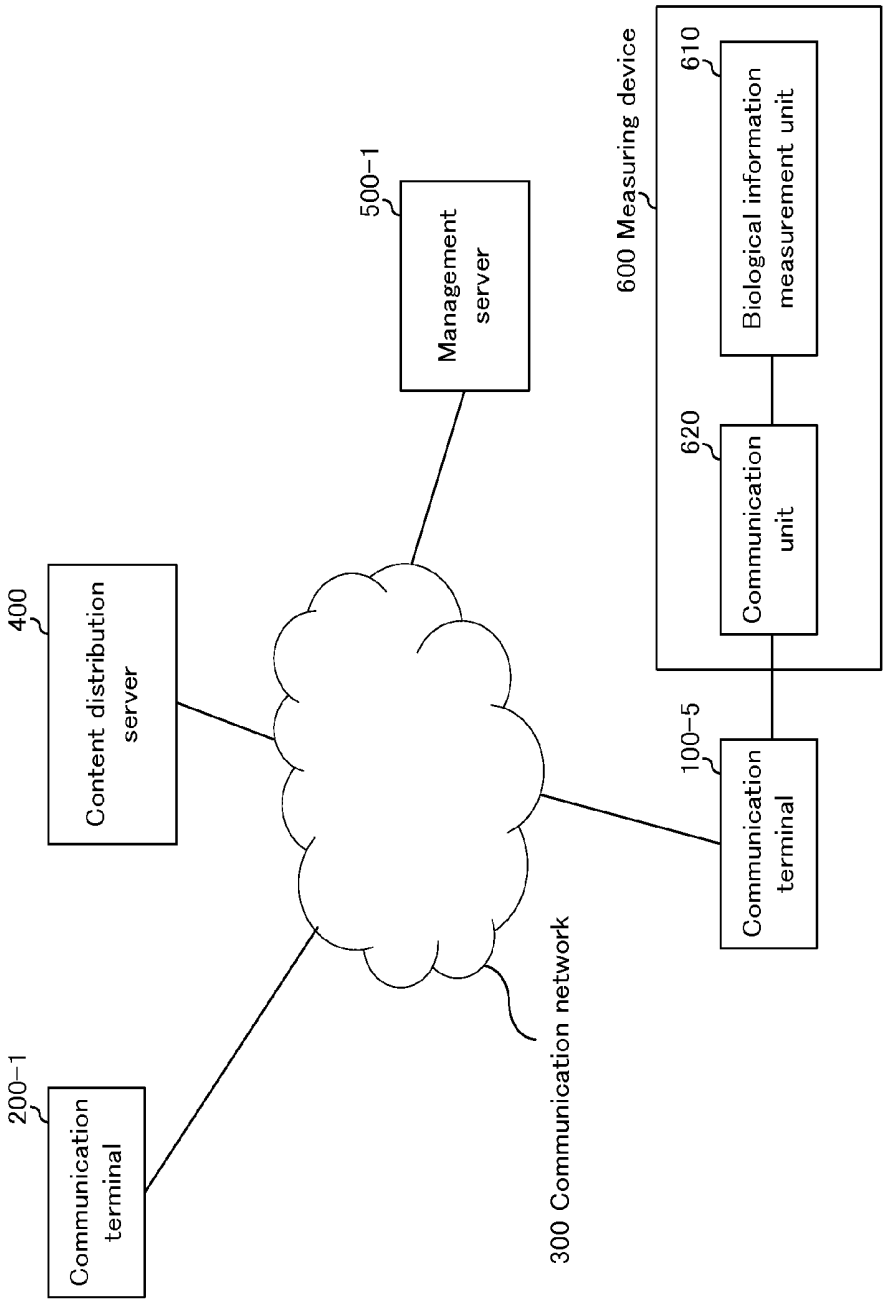

Communication terminal
200-1
Content distribution server
400
Management server
500-1
300 Communication network
Communication terminal
100-5
600 Measuring device
Communication unit
620
Biological information measurement unit
610

Fig.32

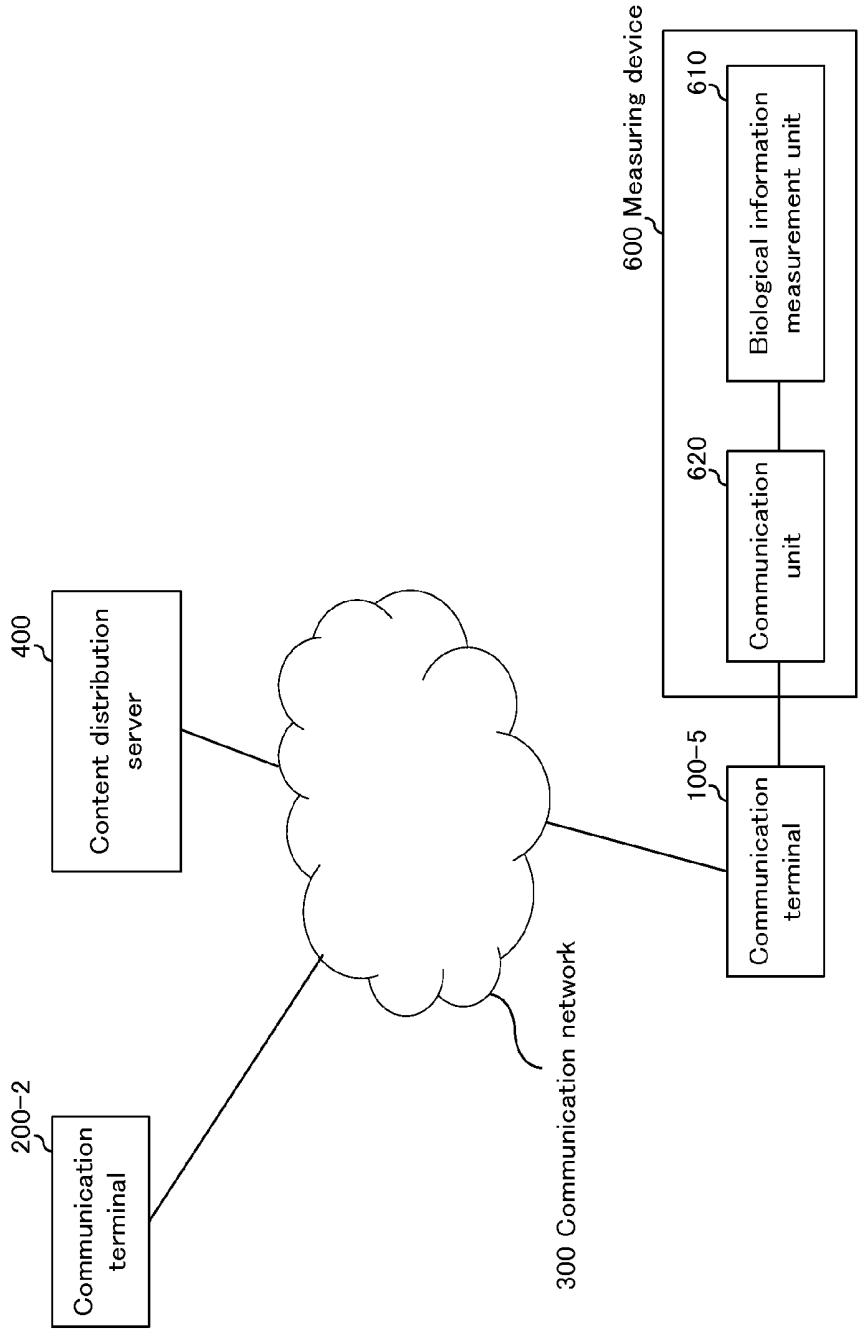

600 Measuring device
610
Biological information measurement unit
620
Communication unit
100-5
Communication terminal
400
Content distribution server
200-2
Communication terminal
300 Communication network

Fig.33

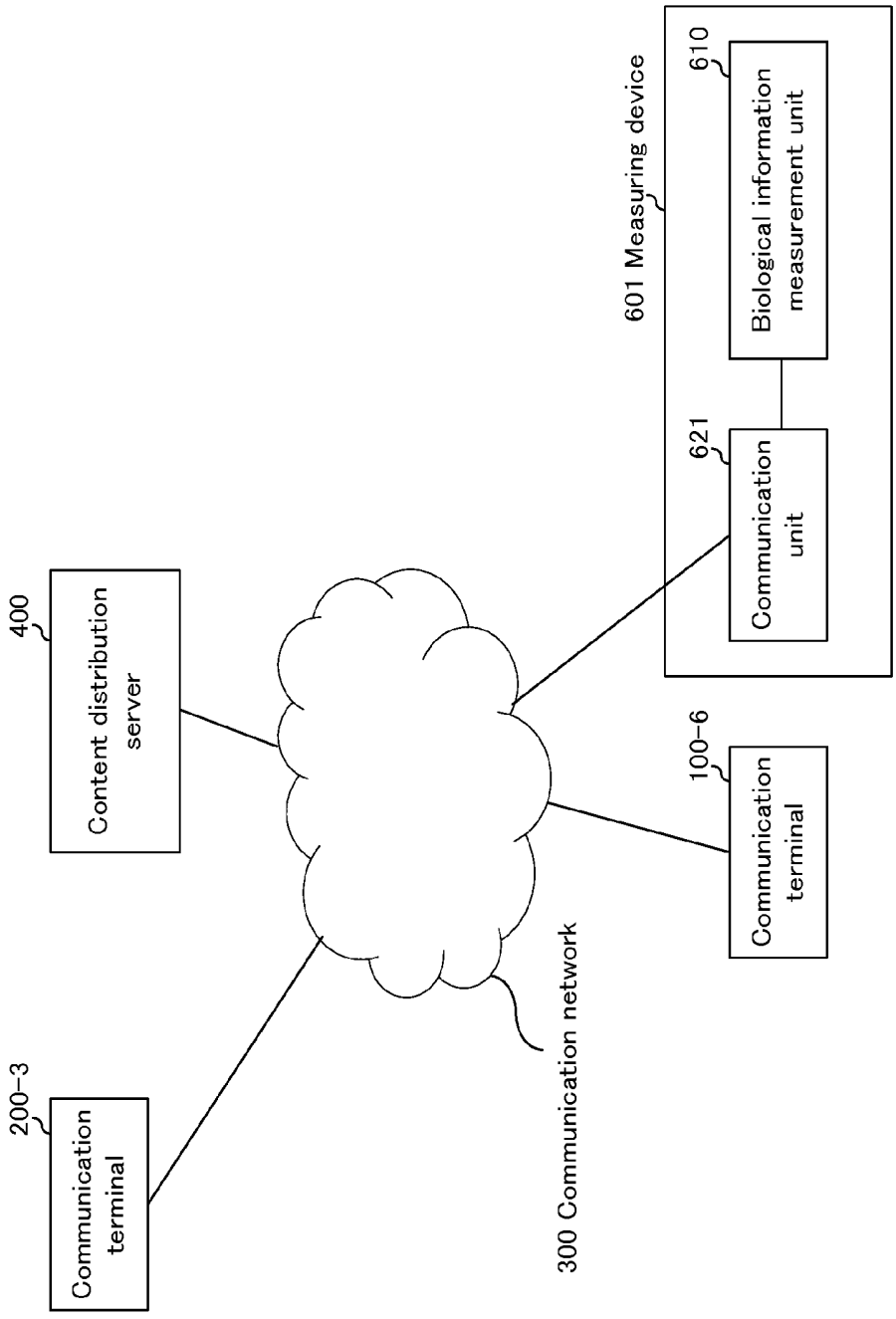
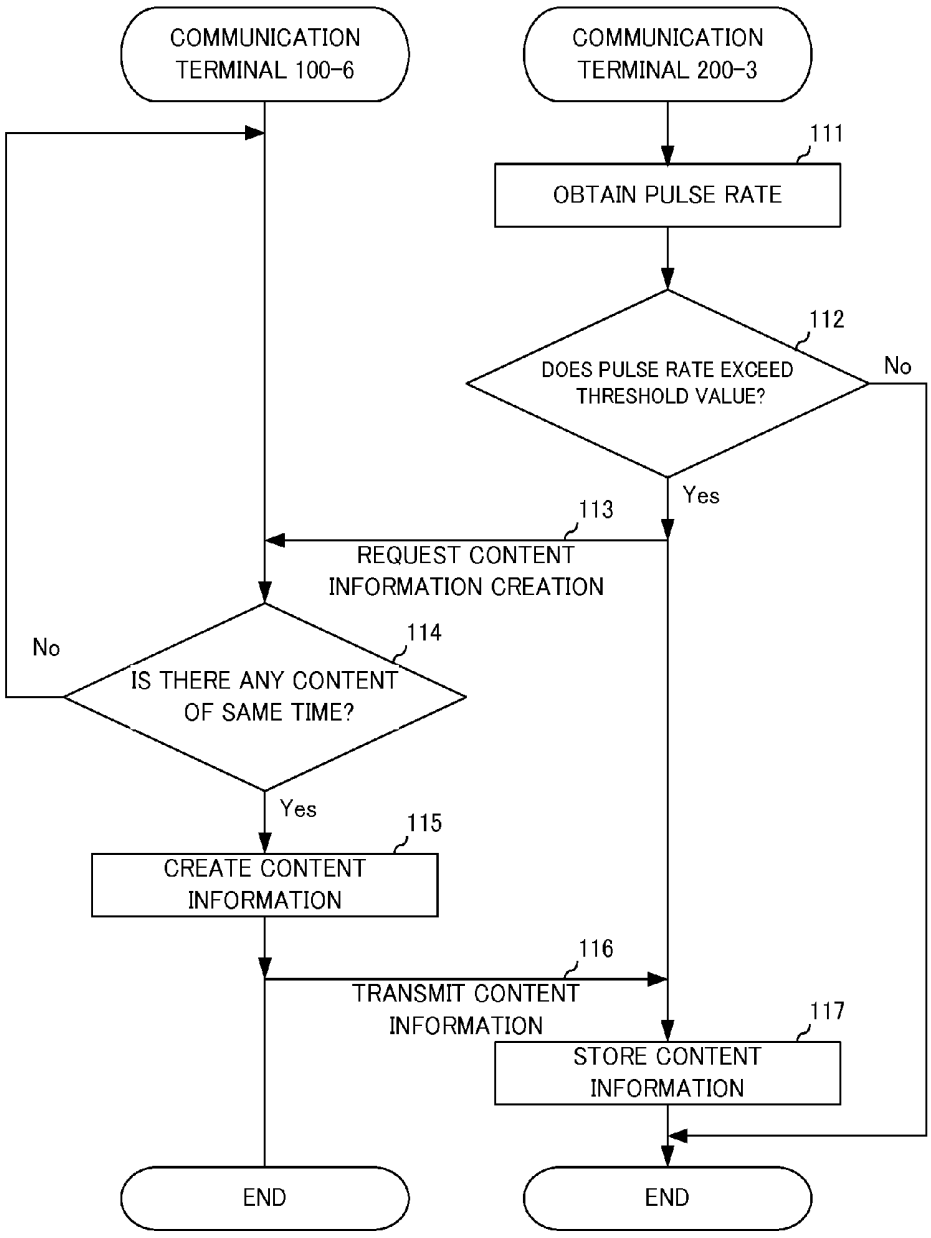

400
Content distribution server
200-3
Communication terminal
300 Communication network
601 Measuring device
610
Biological information measurement unit
621
Communication unit
100-6
Communication terminal

Fig.34

Fig.35


COMMUNICATION TERMINAL 100-6
COMMUNICATION TERMINAL 200-3
111
OBTAIN PULSE RATE
112
DOES PULSE RATE EXCEED THRESHOLD VALUE?
No
Yes
113
REQUEST CONTENT INFORMATION CREATION
No
114
IS THERE ANY CONTENT OF SAME TIME?
Yes
115
CREATE CONTENT INFORMATION
116
TRANSMIT CONTENT INFORMATION
117
STORE CONTENT INFORMATION
END
END

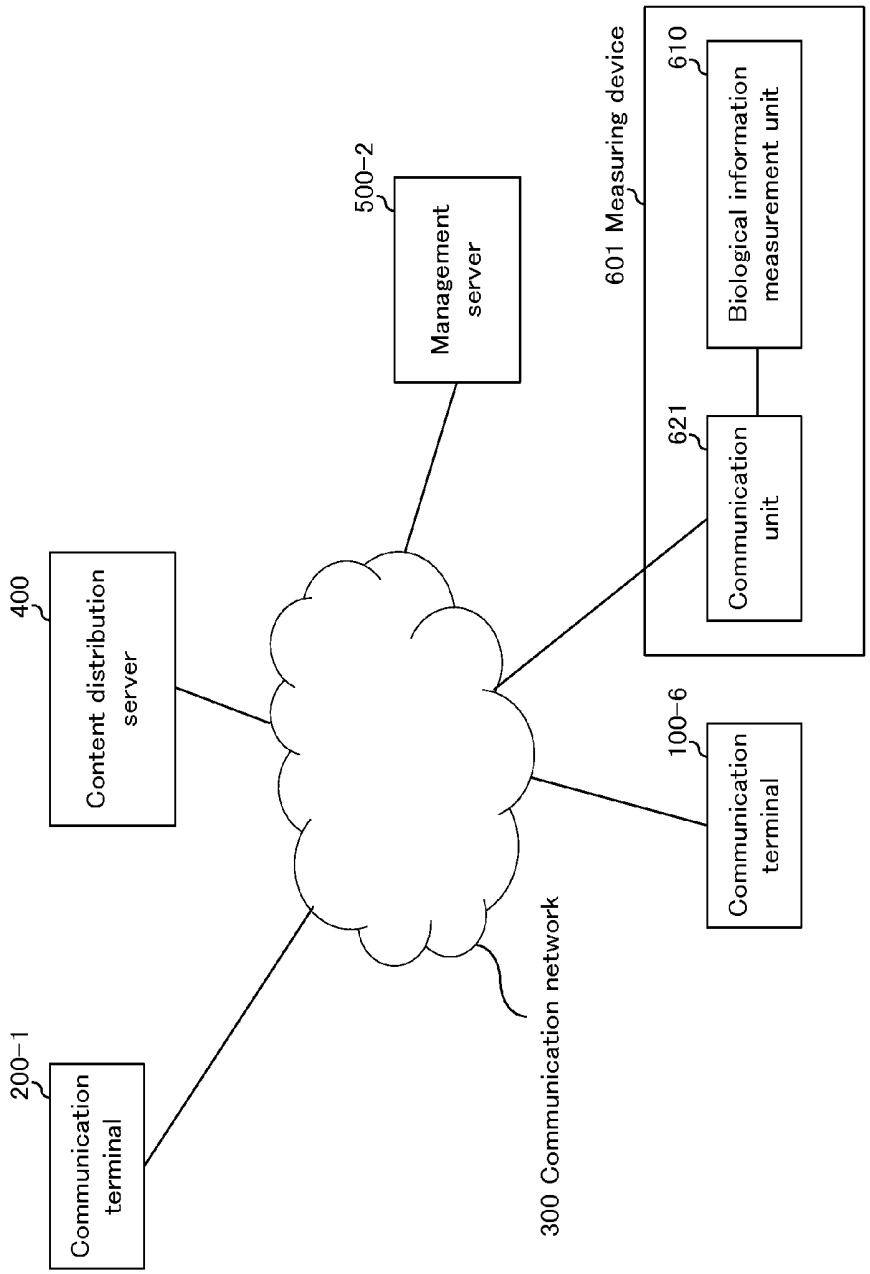
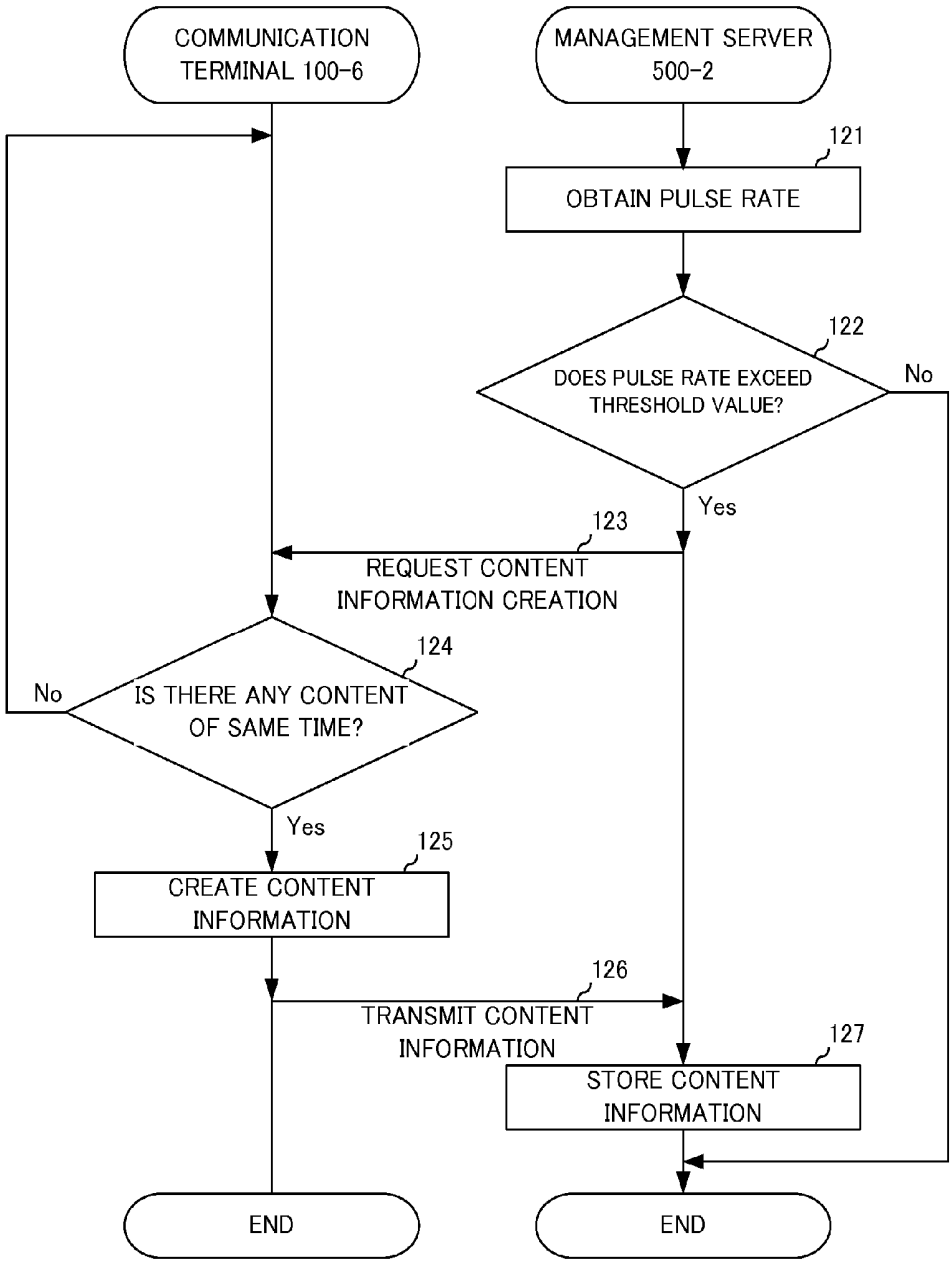

200-1
Communication terminal
400
Content distribution server
500-2
Management server
601 Measuring device
610
Biological information measurement unit
621
Communication unit
100-6
Communication terminal
300 Communication network

Fig.36

Fig.37


COMMUNICATION TERMINAL 100-6
MANAGEMENT SERVER 500-2
121
OBTAIN PULSE RATE
122
DOES PULSE RATE EXCEED THRESHOLD VALUE?
No
Yes
123
REQUEST CONTENT INFORMATION CREATION
124
No
IS THERE ANY CONTENT OF SAME TIME?
Yes
125
CREATE CONTENT INFORMATION
126
TRANSMIT CONTENT INFORMATION
127
STORE CONTENT INFORMATION
END
END

CONTENT INFORMATION OUTPUT

[0001] This application is based upon and claims the benefit of priority from Japanese Patent Application No. 2013-110624 filed on May 27, 2013, the content of which is incorporated by reference.

TECHNICAL FIELD

[0002] The present invention relates to an information processing system for performing information processing, an information processing terminal, an information processing method, and a program.

BACKGROUND ART

[0003] Recently, on a communication network, there is information considered unnecessary for maintaining healthy life such as distribution of contents unsuitable for children to view or electronic mail describing malicious contents. When a child views such information, the child finds it hard to report it to his parents, and the parents are not aware of such a situation. Thus, the parents cannot prevent the child from accessing such information.

[0004] Under these circumstances, a technology for placing restrictions on sites other than those registered beforehand by a person in parental authority or the like of a child to deny access to the child has been invented (e.g., refer to Patent Literature 1).

CITATION LIST

Patent Literature

[0005] Patent Literature 1: JP2003-186842A

SUMMARY OF INVENTION

Technical Problem

[0006] Such a technology has a problem of time and labor necessary for registration. The technology also has a problem, i.e., when inappropriate information is present in a part of even the registered sites, the parents cannot prevent the child from accessing such information.

[0007] It is therefore an object of the present invention to provide an information processing system, an information processing terminal, an information processing method, and a program that can solve the aforementioned problems.

Solution to Problem

[0008] According to the present invention, there is provided an information processing system including:

[0009] a biological information measurement unit that measures biological information;

[0010] a first information processing terminal that includes a first output unit configured to output information, and a biological information acquisition unit configured to acquire the biological information measured by the biological information measurement unit from the biological information measurement unit;

[0011] a second information processing terminal; and

[0012] a condition determination unit that determines whether or not the biological information acquired by the biological information acquisition unit satisfies preset conditions.

[0013] In this case, the first information processing terminal includes a content information creation unit configured to create, when the condition determination unit determines that the biological information satisfies the conditions, content information indicating contents of the information output from the first output unit; and

[0014] a content information providing unit that provides the content information created by the content information creation unit to the second information processing terminal.

[0015] The second information processing terminal includes a second output unit configured to output information indicated by the content information provided from the content information providing unit.

[0016] According to the present invention, there is provided an information processing terminal including:

[0017] an output unit that outputs information;

[0018] a biological information acquisition unit that acquires biological information;

[0019] a condition determination unit that determines whether or not the biological information acquired by the biological information acquisition unit satisfies preset conditions;

[0020] a content information creation unit that creates, when the condition determination unit determines that the biological information satisfies the conditions, content information indicating contents of the information output from the output unit; and

[0021] a content information providing unit that provides the content information created by the content information creation unit.

[0022] According to the present invention, there is provided an information processing method including:

[0023] processing for outputting information;

[0024] processing for acquiring biological information;

[0025] processing for determining whether the acquired biological information satisfies preset conditions;

[0026] processing for creating, when the biological information satisfies the conditions, content information indicating contents of the output information; and

[0027] processing for providing the created content information.

[0028] According to the present invention, there is provided a program for causing a computer to execute:

[0029] a procedure for outputting information;

[0030] a procedure for acquiring biological information;

[0031] a procedure for determining whether or not the acquired biological information satisfies preset conditions;

[0032] a procedure for creating, when the biological information satisfies the conditions, content information indicating contents of the output information; and

[0033] a procedure for providing the created content information.

Advantageous Effects of Invention

[0034] As described above, according to the present invention, a user can know that inappropriate information has been output.

[0035] The above and other objects, features, and advantages of the present invention will become apparent from the following description with reference to the accompanying drawings which illustrate an example of the present invention.

BRIEF DESCRIPTION OF DRAWINGS

[0036] FIG. **1** is a diagram showing an information processing system according to the first embodiment of the present invention;

[0037] FIG. **2** is a diagram showing an example of the internal configuration of a communication terminal operated by a viewer shown in FIG. **1**;

[0038] FIG. **3** is a diagram showing an example of a biological information table stored in a storage unit shown in FIG. **2**;

[0039] FIG. **4** is a diagram showing an example of a threshold value table stored in the storage unit shown in FIG. **2**;

[0040] FIG. **5** is a diagram showing an example of a content information table stored in the storage unit shown in FIG. **2**;

[0041] FIG. **6** is a diagram showing an example of the threshold value table stored in the storage unit **180** shown in FIG. **2**, where time information is added;

[0042] FIG. **7** is a diagram showing an example of the content information table stored in the storage unit **180** shown in FIG. **2**, where time information is added;

[0043] FIG. **8** is a diagram showing an example of the internal configuration of the communication terminal operated by a checker shown in FIG. **1**;

[0044] FIG. **9** is a flowchart illustrating an example of processing to create content information in the communication terminal operated by the viewer shown in FIG. **1**;

[0045] FIG. **10** is a sequential diagram illustrating an example of processing when content information is requested from the communication terminal operated by the checker shown in FIG. **1**;

[0046] FIG. **11** is a sequential diagram illustrating another example of processing when the content information is requested from the communication terminal operated by the checker shown in FIG. **1**;

[0047] FIG. **12** is a diagram showing an information processing system according to the second embodiment of the present invention;

[0048] FIG. **13** is a diagram showing an example of the internal configuration of a communication terminal operated by a viewer shown in FIG. **12**;

[0049] FIG. **14** is a diagram showing an example of the internal configuration of a management server shown in FIG. **12**;

[0050] FIG. **15** is a diagram showing an example of a user related table stored in a storage unit shown in FIG. **14**;

[0051] FIG. **16** is a sequential diagram illustrating an example of processing to create content information in the communication terminal operated by the viewer and the management server shown in FIG. **12**;

[0052] FIG. **17** is a sequential diagram illustrating another example of processing when content information is requested from the communication terminal operated by a checker shown in FIG. **12**;

[0053] FIG. **18** is a diagram showing an information processing system according to the third embodiment of the present invention;

[0054] FIG. **19** is a diagram showing an example of the internal configuration of a communication terminal operated by a checker shown in FIG. **18**;

[0055] FIG. **20** is a sequential diagram illustrating an example of processing to create content information in the communication terminal operated by a viewer shown in FIG. **18**;

[0056] FIG. **21** is a flowchart illustrating an example of processing to output the content information in the communication terminal operated by the checker shown in FIG. **18**;

[0057] FIG. **22** is a diagram showing an information processing system according to the fourth embodiment of the present invention;

[0058] FIG. **23** is a diagram showing an example of the internal configuration of a communication terminal operated by a viewer shown in FIG. **22**;

[0059] FIG. **24** is a diagram showing an example of the internal configuration of a communication terminal operated by a checker shown in FIG. **22**;

[0060] FIG. **25** is a sequential diagram illustrating an example of processing to create content information in the communication terminal shown in FIG. **22**;

[0061] FIG. **26** is a flowchart illustrating an example of processing to output the content information in the communication terminal operated by the checker shown in FIG. **22**;

[0062] FIG. **27** is a diagram showing an information processing system according to the fifth embodiment of the present invention;

[0063] FIG. **28** is a diagram showing an example of the internal configuration of a management server shown in FIG. **27**;

[0064] FIG. **29** is a sequential diagram illustrating an example of processing to create content information in a communication terminal operated by a viewer and the management server shown in FIG. **27**;

[0065] FIG. **30** is a sequential diagram illustrating an example of processing to output the content information in the management server and the communication terminal operated by a checker shown in FIG. **27**;

[0066] FIG. **31** is a diagram showing an information processing system according to the sixth embodiment of the present invention;

[0067] FIG. **32** is a diagram showing an information processing system according to the seventh embodiment of the present invention;

[0068] FIG. **33** is a diagram showing an information processing system according to the eighth embodiment of the present invention;

[0069] FIG. **34** is a diagram showing an information processing system according to the ninth embodiment of the present invention;

[0070] FIG. **35** is a sequential diagram illustrating an example of processing to create content information in a communication terminal shown in FIG. **34**;

[0071] FIG. **36** is a diagram showing an information processing system according to the tenth embodiment of the present invention; and

[0072] FIG. **37** is a sequential diagram illustrating an example of processing to create content information in a communication terminal operated by a viewer and a management server shown in FIG. **36**.

EXEMPLARY EMBODIMENTS

[0073] Hereinafter, the embodiments of the present invention will be described with reference to the drawings.

First Embodiment

[0074] FIG. **1** shows an information processing system according to the first embodiment of the present invention, where communication terminals **100-1** and **200-1** and content

distribution server **400** can communicate with each other via communication network **300**. In the exemplary embodiment shown in FIG. **1**, one communication terminal **100-1**, one communication terminal **200-1**, and one content distribution server **400** are shown. However, there are no restrictions on the number of terminals and servers thereof.

[0075] Communication terminal **100-1** is a first information processing terminal operated by a content viewing monitoring subject (hereinafter, referred to as viewer) such as a child or a student (pupil).

[0076] Communication terminal **100-1** shown in FIG. **1** includes, as shown in FIG. **2**, biological information measurement unit **110**, biological information acquisition unit **120**, condition determination unit **130**, communication unit **140**, output unit **150**, content information creation unit **160**, content information providing unit **170**, and storage unit **180**. FIG. **2** shows an example of the main components, according to the embodiment, from among the components arranged in communication terminal **100-1** shown in FIG. **1**.

[0077] Biological information measurement unit **110** measures the biological information of a user operating communication unit **100-1**. The reason the biological information is measured is because the present invention uses a change in biological information such as a pulse rate during viewing and listening when the user who is operating communication terminal **100-1**, and who is a content viewer, views abnormal contents. The biological information measured by biological information measurement unit **110** is the physiological information of the user easily changed according to a stimulus from the outside, such as the pulse rate, the heart rate, the amount of perspiration, the brain wave, the vocal print (voice tone), or the amount of secreted adrenaline of the user operating communication terminal **100-1**.

[0078] One example will be described as a method for measuring such biological information by using biological information measurement unit **110**. For example, when the pulse rate is used as biological information, and a pulse rate per 60 seconds is a measured value, biological information measurement unit **110** detects the pulse rate of the viewer for 60 seconds from the start of measurement, and transmits the pulse fate detected during the period to biological information acquisition unit **120**. Then, biological information acquisition unit **120** sets the acquired pulse rate as a measured value. In the present invention, to facilitate specifying of the place of contents viewed by the viewer, biological information measurement unit **110** can detect the pulse rate of the viewer for a predetermined short period (e.g., 5 seconds) or a predetermined pulse rate (e.g., 5 rates) from the start of measurement, and transmit the pulse rate detected during the period or time to biological information acquisition unit **120**. Then, biological information acquisition unit **120** can predict a pulse rate per 60 seconds from the acquired pulse rate or time, and set the predicted pulse rate per 60 seconds as a measured value. Biological information measurement unit **110** can directly transmit the waveform data of a pulse rate to biological information acquisition unit **120** after the start of detecting the pulse rate of the viewer. Biological information acquisition unit **120** can temporarily store the acquired waveform data for a predetermined period (e.g., 5 minutes), and calculate a pulse rate per 60 seconds by using past (e.g., 5 second or 60 second before) waveform data at predetermined timing (e.g., interval of 5 seconds or 5 rates) to set the pulse rate as a measured value. However, the method for measuring the biological information by biological information measurement unit **110** can be a general method implemented at a medical institution.

[0079] The timing for measuring the biological information by biological information measurement unit **110**, which may be timing for starting the measurement or timing for transmitting the biological information to biological information acquisition unit **120** depending on the method for measuring the biological information, can be timing that uses a preset period or the transition of a display screen. However, when elapsed time is used for determination at condition determination unit **130** described below, the timing (period) for measuring the biological information by biological information measurement unit **110**, which is shorter than the elapsed time, must be used. According to the method for measuring the biological information, the timing for starting detection of the biological information from the viewer and the timing for starting measurement of the biological information detected by biological information measurement unit **110** can be simultaneous, or the measurement can be started at preset timing after the detection of the biological information.

[0080] Biological information measurement unit **110** is attached to viewer operating communication terminal **100-1** to measure the biological information. The shape of communication terminal **100-1** including biological information measurement unit **110** is a wristwatch type, a wristband type, or a glove type where a attaching unit such as a belt, a wristband, or a glove is fixed to the casing of communication terminal **100-1**, and the casing is attached to the viewer. For example, when the shape of communication terminal **100-1** is a wristwatch type, biological information measurement unit **110** is disposed on communication terminal **100-1**'s casing side that is next to the skin of the viewer. It is only necessary for biological information measurement unit **110** to be formed into a shape suitable for measuring the biological information that is a measuring target.

[0081] Biological information measurement unit **110** can include a sensor for detecting whether it is attached to the viewer, and measure the biological information only when the measurement unit is attached to the viewer. Biological information measurement unit **110** can include a switch that can be set to validate or invalidate a measurement function from the outside, and can measure the biological information only when the switch is set to validate the measurement function. Biological information measurement unit **110** can measure the biological information only when output unit **150** outputs (displays) contents.

[0082] Biological information acquisition unit **120** acquires the biological information measured by biological information measurement unit **110**. Biological information acquisition unit **120** writes the acquired biological information in storage unit **180**. Biological information acquisition unit **120** can calculate a measured value from the acquired biological information by using a predetermined calculation method, and then write the measured value in storage unit **180**. If biological information has been written in storage unit **180**, biological information acquisition unit **120** can write the acquired biological information over it, or add the acquired biological information in association with time.

[0083] Condition determination unit **130** determines whether the biological information stored in storage unit **180** satisfies preset conditions. The conditions have been stored beforehand in storage unit **180**. When the biological information stored in storage unit **180** exceeds a preset threshold

value, condition determination unit **130** determines that the biological information satisfies the conditions. Condition determination unit **130** can determine that the biological information satisfies the conditions when a state where the biological information stored in storage unit **180** exceeds the preset threshold value continues for a predetermined time.

[0084] Biological information acquisition unit **120** can not write all pieces of acquired biological information in storage unit **180** but only those determined to satisfy the conditions by condition determination unit **130** in storage unit **180**.

[0085] Communication unit **140** has a communication interface function for performing communication with communication network **300**.

[0086] Output unit **150** outputs information (first output unit). For example, output unit **150** can output information in the form of displaying the information, or as a voice. Contents output from output unit **150** can be temporarily stored in storage unit **180** for a predetermined time (e.g., time from measurement start of biological information to the end or 5 minutes).

[0087] Content information creation unit **160** creates content information indicating the contents of the information output from output unit **150** when condition determination unit **130** determines that the biological information satisfies the conditions. The content information is a capture screen capturing a screen currently displayed by output unit **150**, the main text information of electronic mail currently displayed by output unit **150**, the file and the file name of moving image data currently displayed by output unit **150**, the file and the file name of some still image data among the moving image data currently displayed by output unit **150**, or information indicating the URL (Uniform Resources Locator) of a site connected to acquire the screen currently displayed by output unit **150**. In communication terminal **200-1**, based on the content information, the contents that have been viewed by the viewer by operating communication terminal **100-1** can be recognized. Content information creation unit **160** writes the created content information in storage unit **180**. If the contents output from output unit **150** have been temporarily stored in storage unit **180** for a predetermined time, content information creation unit **160** can create content information from all or some of the temporarily stored contents, and then write the content information in storage unit **180**.

[0088] Content information providing unit **170** provides (transmits), by using communication unit **140**, the content information stored in storage unit **180** to communication terminal **200-1** via communication network **300**. Content information providing unit **170** can store the transmission history of content information to communication terminal **200-1**, but can not transfer any content information that have been transmitted to communication terminal **100-1**. The content information provided (transmitted) to communication terminal **200-1** by content information providing unit **170** can be limited to content information created during a predetermined period and stored.

[0089] Storage unit **180** stores information such as the preset threshold value, the biological information written by biological information acquisition unit **120**, or the content information written by content information creation unit **160**.

[0090] In the biological information table stored in storage unit **180** shown in FIG. **2**, as shown in FIG. **3**, a biological information name and a measured value are associated with each other. The biological information name is information indicating the type of biological information measured by biological information measurement unit **110**. The measured value is a value using the biological information measured by biological information measurement unit **110**. In the biological information table, a viewer identifier indicating the viewer of the measured value is stored in association.

[0091] In the threshold value table stored in storage unit **180** shown in FIG. **2**, as shown in FIG. **4**, a biological information name and a threshold value are associated with each other. The threshold value is information used as a reference for determination at condition determination unit **130**. For example, when the threshold value table shown in FIG. **4** is stored in storage unit **180** and the biological information table shown in FIG. **3** is stored in storage unit **180**, a pulse rate "120" stored in the biological information table exceeds the pulse rate threshold value "110" stored in the threshold value table. Thus, condition determination unit **130** determines that the biological information satisfies the conditions.

[0092] In the content information table stored in storage unit **180** shown in FIG. **2**, as shown in FIG. **5**, a content data name, determination time, a content information associated with a viewer identifier are stored. The determination time is information indicating the time of determining satisfaction of the conditions by condition determination unit **130**. The content data name is information (e.g., file name) indicating capture screen information capturing a screen output (displayed) by output unit **150**. The viewer identifier is the identification information of a viewer operating communication terminal **100-1** at the determined time. The content information can be information including no viewer identifier. When a plurality of users uses communication terminal **100-1**, viewer identifiers input by the respective users to log in by using communication terminal **100-1** can be added to the content information.

[0093] Time information can be added to the threshold value table, and an example will be described below.

[0094] In the threshold value table to which time information has been added and which has been stored in storage unit **180** shown in FIG. **2**, as shown in FIG. **6**, elapsed time is associated in addition to the biological information name and the threshold value. For example, when the threshold value table shown in FIG. **6** is stored in storage unit **180**, condition determination unit **130** determines that the biological information satisfies the conditions if a state where a pulse rate stored in the biological information table exceeds a pulse rate threshold value stored in the threshold value table continues for 5 minutes or longer.

[0095] Time information indicating determination of satisfying of the conditions by condition determination unit **130** can be added to the content information table, and an example will be described below.

[0096] In the content information table to which time information has been added and which has been stored in storage unit **180** shown in FIG. **2**, as shown in FIG. **7**, content information that associates a content data name, determination start time, determination end time, determination time, and a viewer identifier with one another is stored. The determination start time is information indicating the time of a change from a state where condition determination unit **130** determines that the biological information does not satisfy the conditions to a state where it determines that the biological information satisfies the conditions. The determination end time is information indicating the time of a change from a state where condition determination unit **130** determines that the biological information satisfies the conditions to a state

where it determines that the biological information does not satisfy the conditions. The determination time indicates time from the determination start time to the determination end time. The determination time is used when condition determination unit **130** executes determination by using the elapsed time.

[0097] Communication terminal **200-1** is a second information processing terminal operated by a monitor (hereinafter, referred to as checker) such as parents or a teacher monitoring contents viewed by communication terminal **100-1**.

[0098] Communication terminal **200-1** shown in FIG. **1** includes, as shown in FIG. **8**, input unit **210**, control unit **220**, communication unit **230**, and output unit **240**. FIG. **8** shows an example of the main components according to the embodiment among the components arranged in communication terminal **200-1** shown in FIG. **1**.

[0099] Input unit **210** receives information input from the outside. Input unit **210** can be configured by hardware such as an input key button using a predetermined key or a touch panel.

[0100] Control unit **220** requests, by using communication unit **230**, after input unit **210** has received a predetermined input, communication terminal **100-1** to acquire content information via communication network **300**. Control unit **220** causes, after the content information has been provided (transmitted) from communication terminal **100-1** via communication network **300**, output unit **240** to output information indicated by the content information.

[0101] Communication unit **230** has a communication interface function for performing communication with communication network **300**.

[0102] Output unit **240** outputs information according to an instruction from control unit **220** (second output unit). For example, output unit **240** can output information in the form of displaying information, or as a voice.

[0103] Content distribution server **400** is a server that distributes contents to communication terminal **100-1**. The contents include one from among a still image or a moving image, a multimedia content similar to an application, electronic mail or a novel, a comment on an electronic bulletin board and a text content similar to a message of a message exchange service. The contents distributed by content distribution server **400** can be downloaded from communication terminal **100-1**. If the content information is URL or the like, and that contents that have been viewed by the viewer cannot be recognized based only on the content information at communication terminal **200-1**, content distribution server **400** can be accessed from communication terminal **200-1** by using the content information, and the contents can be redistributed or downloaded from content distribution server **400**.

[0104] Hereinafter, an information processing method in the embodiment shown in FIG. **1** will be described. First, the processing to create content information at communication terminal **100-1** shown in FIG. **1** will be described referring to FIG. **9**. An example where biological information is a pulse rate will be described. An example where output unit **150** outputs content by displaying the content will be described.

[0105] First, in step **1**, biological information measurement unit **110** attached to the viewer operating communication terminal **100-1** measures the pulse rate of the viewer by a predetermined measurement method and at predetermined timing. In step **2**, biological information acquisition unit **120** acquires the pulse rate measured by biological information measurement unit **110** from biological information measurement unit **110**. Then, biological information acquisition unit **120** writes and stores the acquired pulse rate in the biological information table of storage unit **180** after calculation, if necessary.

[0106] In step **3**, condition determination unit **130** determines whether the pulse rate stored in the biological information table of storage unit **180** exceeds the threshold value preset in the threshold value table of storage unit **180**. When condition determination unit **130** determines that the pulse rate stored in the biological information table of storage unit **180** exceeds the threshold value preset in the threshold value table of storage unit **180**, in step **4**, content information creation unit **160** determines whether output unit **150** is displaying the contents.

[0107] When content information creation unit **160** determines that output unit **150** is displaying the contents, in step **5**, content information creation unit **160** creates content information indicating the contents being displayed, and in step **6**, writes and stores the content information in the content information table of storage unit **180**.

[0108] On the other hand, when condition determination unit **130** determines that the pulse rate stored in the biological information table of storage unit **180** does not exceed the threshold value preset in the threshold value table of storage unit **180** in step **3**, or content information creation unit **160** determines that output unit **150** is not displaying the contents in step **4**, the processing of step **1** is executed at next timing.

[0109] In step **1**, whether or not output unit **150** is displaying the contents is determined. When content information creation unit **160** determines that output unit **150** is displaying the contents, the pulse rate of the viewer can be measured. In this case, in steps **2**, **3**, and **5** (not step **4**), when condition determination unit **130** determines that the pulse rate stored in the biological information table of storage unit **180** exceeds the threshold value preset in the threshold value table of storage unit **180**, content information creation unit **160** only needs to create content information indicating that the contents are being displayed.

[0110] For example, in the case of biological information needing certain measurement time of a pulse rate or a heat rate or detected data, the continuously measured biological information is acquired, and then the process can be divided into preprocessing for writing the acquired biological information as the continuous data of a predetermined period of time (e.g., waveform data) in storage unit **180** by biological information acquisition unit **120** after step **2** and post-processing for determining whether biological information satisfies the conditions by using the continuous data of the biological information written in storage unit **180** after step **3**. In this case, when condition determination unit **130** determines that the threshold value is not exceeded in step **3**, or content information creation unit **160** determines that the contents are not being displayed in step **4**, the processing of step **3** is executed at next timing after step **6**. The post-processing can be executed at a predetermined timing different from that of the preprocessing.

[0111] Next, processing when content information is requested from communication terminal **200-1** shown in FIG. **1** will be described referring to FIG. **10**.

[0112] After input unit **210** of communication terminal **200-1** has received a predetermined input, in step **11**, control unit **220** requests acquisition of content information to communication terminal **100-1** via communication network **300** by using communication unit **230**. For this request, a request

signal enabling recognition of the request to acquire content information at communication terminal **100-1** can be used.

[0113] After a request has been made to acquire content information from communication terminal **200-1**, in step **12**, content information providing unit **170** reads the content information stored in the content information table of storage unit **180**. Then, in step **13**, content information providing unit **170** transmits the read content information to communication terminal **200-1** via communication network **300** by using communication unit **140**.

[0114] After communication unit **230** has received the content information transmitted from communication terminal **100-1**, in step **14**, control unit **220** outputs information indicated by the content information from output unit **240**. This information can be a capture screen when the content information includes the capture screen itself, or a URL when the content information includes the URL of a content distribution site.

[0115] After communication terminal **100-1** has created the content information, its message can be notified to communication terminal **200-1**. An example of processing in this case will be described by referring to FIG. **11**.

[0116] After content information creation unit **160** of communication terminal **100-1** has created content information and written it in storage unit **180**, in step **21**, content information providing unit **170** issues a predetermined notification to communication terminal **200-1** by using communication unit **140**. This notification can be any type as long as communication terminal **200-1** can recognize the creation of the content information by using, e.g., electronic mail. After communication unit **230** of communication terminal **200-1** has received notification from communication terminal **100-1**, in step **22**, control unit **220** outputs its message from output unit **240**. For example, control unit **220** displays a message indicating creation of the content information on display unit **240**.

[0117] Then, in step **23**, control unit **220** determines whether input unit **210** of communication terminal **200-1** has received a predetermined input. When control unit **220** determines that input unit **210** of communication terminal **200-1** has received the predetermined input, in step **24**, control unit **220** requests acquisition of content information to communication terminal **100-1** via communication network **300** by using communication unit **230**.

[0118] After the acquisition of the content information has been requested from communication terminal **200-1**, in step **25**, content information providing unit **170** reads the content information stored in the content information table of storage unit **180**. Then, in step **26**, content information providing unit **170** transmits the read content information to communication terminal **200-1** via communication network **300** by using communication unit **140**.

[0119] After communication unit **230** has received the content information transmitted from communication terminal **100-1**, in step **27**, control unit **220** outputs information indicated by the content information from output unit **240**.

Second Embodiment

[0120] FIG. **12** shows an information processing system according to the second embodiment of the present invention, where communication terminals **100-2** and **200-1**, content distribution server **400**, and management server **500-1** can communicate with one another via communication network **300**. In the exemplary embodiment shown in FIG. **12**, one communication terminal **100-2**, one communication terminal **200-1**, and one content distribution server **400** are shown. However, there are no restrictions on the numbers thereof. In the second embodiment, content information created by communication terminal **100-2** is stored by management server **500-1**.

[0121] Communication terminal **200-1** and content distribution server **400** are similar to those shown in FIG. **1**.

[0122] Communication terminal **100-2** is a first information processing terminal operated by a viewer.

[0123] Communication terminal **100-2** shown in FIG. **12** includes, as shown in FIG. **13**, biological information measurement unit **110**, biological information acquisition unit **120**, condition determination unit **130**, communication unit **140**, output unit **150**, content information creation unit **161**, content information providing unit **171**, and storage unit **181**. FIG. **13** shows an example of main components according to the embodiment among the components arranged in communication terminal **100-2** shown in FIG. **12**.

[0124] Biological information measurement unit **110**, biological information acquisition unit **120**, condition determination unit **130**, communication unit **140**, output unit **150** are similar to those shown in FIG. **2**.

[0125] Content information creation unit **161** creates content information as in the case of content information creation unit **160** shown in FIG. **2**. However, content information creation unit **161** outputs the created content information to content information providing unit **170** different from the case of content information creation unit **160** that writes the created content information in the storage unit.

[0126] Content information providing unit **171** transmits, by using communication unit **140**, the content information output from content information creation unit **161** to management server **500-1** via communication network **300**.

[0127] Storage unit **181** does not store a content information table among pieces of information stored in storage unit **180** shown in FIG. **2** (while storing others including biological information table and threshold value table).

[0128] Management server **500-1** stores the content information transmitted from communication terminal **100-2**. When content information is requested from communication terminal **200-1**, management server **500-1** transmits the stored content information to communication terminal **200-1** via communication network **300**.

[0129] Management server **500-1** shown in FIG. **12** includes, as shown in FIG. **14**, communication unit **510**, control unit **520**, and storage unit **530**. FIG. **14** shows an example of the main components, according to the embodiment, from among the components arranged in management server **500-1** shown in FIG. **12**.

[0130] Communication unit **510** has a communication interface function for performing communication with communication network **300**.

[0131] Control unit **520** writes and stores the content information transmitted from communication terminal **100-2** in storage unit **530**. Control unit **520** provides (transmits) the content information stored in storage unit **530** to communication terminal **200-1** via communication network **300** by using communication unit **510**. Accordingly, control unit **520** plays the role of content providing unit **170** according to the first embodiment.

[0132] Storage unit **530** stores the content information written by control unit **520**. Details on the content information stored in storage unit **530** are similar in content to the content

information table stored in storage unit **180** according to the first embodiment. Storage unit **530** stores correspondence between a preset viewer and a preset checker as a user related table.

[0133] In the user related table stored in storage unit **530** shown in FIG. **14**, as shown in FIG. **15**, a viewer identifier, a checker identifier, and checker contact information are stored in association. The viewer identifier is identification information capable of identifying a viewer. The checker identifier is identification information capable of identifying a checker. The checker contact information is address information used when the content information is transmitted to the checker. Accordingly, correspondence is set between the viewer and the checker in storage unit **530** and, when the content information is requested from the checker, control unit **520** can identify content information about which viewer will be transmitted to the checker by referring to the correspondence. For example, when content information is requested from the checker of a checker identifier of "AAA01", control unit **520** recognizes that the content information of a viewer identifier "aaa01" associated with the checker identifier "AAA01" in the user related table stored in storage unit **530** should be transmitted.

[0134] Hereinafter, an information processing method in the embodiment shown in FIG. **12** will be described. First, the processing to create content information at communication terminal **100-2** and management server **500-1** shown in FIG. **12** will be described by referring to FIG. **16**. An example where biological information is a pulse rate will be described. An example where output unit **150** outputs content by displaying the content will be described.

[0135] First, in step **31**, biological information measurement unit **110** attached to the viewer operating communication terminal **100-2** measures the pulse rate of the viewer at a predetermined timing. In step **32**, biological information acquisition unit **120** acquires the pulse rate measured by biological information measurement unit **110** from biological information measurement unit **110**. Then, biological information acquisition unit **120** writes and stores the acquired pulse rate in the biological information table of storage unit **181**.

[0136] In step **33**, condition determination unit **130** determines whether the pulse rate stored in the biological information table of storage unit **181** exceeds the threshold value preset in the threshold value table of storage unit **181**. When condition determination unit **130** determines that the pulse rate stored in the biological information table of storage unit **181** exceeds the threshold value preset in the threshold value table of storage unit **181**, in step **34**, content information creation unit **161** determines whether output unit **150** is displaying the contents.

[0137] When content information creation unit **161** determines that output unit **150** is displaying the contents, in step **35**, content information creation unit **160** creates content information indicating the contents that are being displayed to output it to content information providing unit **171**. Then, in step **36**, content information providing unit **171** transmits the content information output from content creation unit **161** to management server **500-1** via communication network **300** by using communication unit **140**. At this time, content information providing unit **171** includes a viewer identifier in the content information to transmit the content information to management server **500-1**.

[0138] After communication unit **510** of management server **500-1** has received the content information transmitted from communication terminal **100-2**, in step **37**, control unit **520** writes and stores the content information received by communication unit **510** in storage unit **150**.

[0139] On the other hand, when condition determination unit **130** determines that the pulse rate stored in the biological information table of storage unit **181** does not exceed the threshold value preset in the threshold value table of storage unit **181** in step **33**, or when content information creation unit **161** determines that output unit **150** is not displaying the contents in step **34**, the processing of step **31** is executed at the next timing.

[0140] Next, processing when content information is requested from communication terminal **200-1** shown in FIG. **12** will be described referring to FIG. **17**.

[0141] After input unit **210** of communication terminal **200-1** has received a predetermined input, in step **41**, control unit **220** requests acquisition of content information to management server **500-1** via communication network **300** by using communication unit **230**. For this request, a request signal enabling recognition of the request to acquire content information at management sever **500-1** can be used. The request signal includes a checker identifier.

[0142] After a request has been made to acquire content information from communication terminal **200-1**, control unit **520** reads a viewer identifier associated with the checker identifier included in the request signal from the user related table stored in storage unit **530**. Then, in step **42**, control unit **520** reads the content information associated with the read viewer identifier from storage unit **530**. Then, in step **43**, control unit **520** transmits the read content information to communication terminal **200-1** via communication network **300** by using communication unit **510**.

[0143] After communication unit **230** has received the content information transmitted from management sever **500-1**, in step **44**, control unit **220** outputs information indicated by the content information from output unit **240**. This information can be a capture screen when the content information includes the capture screen itself, or a URL when the content information includes the URL of a content distribution site.

[0144] After management sever **500-1** has received the content information transmitted from communication terminal **100-2**, its message can be notified to communication terminal **200-1**. An address used for the notification can be the electronic mail address of the checker contact information stored in the user related table of storage unit **530**. The processing of communication terminal **200-1** when the notification is received is similar to that described above referring to the sequential diagram of FIG. **11** (processing of communication terminal **100-1** is processing of management server **500-1**).

[0145] Others can be similar to those of the first embodiment.

Third Embodiment

[0146] FIG. **18** shows an information processing system according to the third embodiment of the present invention, where communication terminals **100-2** and **200-2** and content distribution server **400** can communicate with one another via communication network **300**. In the exemplary embodiment shown in FIG. **18**, one communication terminal **100-2**, one communication terminal **200-2**, and one content distribution server **400** are shown. However, there are no restrictions on

the numbers thereof. In the third embodiment, content information created by communication terminal **100-2** is stored by communication terminal **200-2**.

[0147] Communication terminal **100-2** and content distribution server **400** are similar to those shown in FIG. **12**. However, communication terminal **100-2** transmits created content information not to management server **500-1** shown in FIG. **12** but to communication terminal **200-2**.

[0148] Communication terminal **200-2** is a second information processing terminal operated by a checker.

[0149] Communication terminal **200-2** shown in FIG. **18** includes, as shown in FIG. **19**, input unit **210**, control unit **221**, communication unit **230**, output unit **240**, and storage unit **250**. FIG. **19** shows an example of main components, according to the embodiment, from among the components arranged in communication terminal **200-2** shown in FIG. **18**.

[0150] Input unit **210**, communication unit **230**, and output unit **240** are similar to those shown in FIG. **8**.

[0151] Control unit **221** has, in addition to the function of control unit **220** shown in FIG. **8**, a function for writing and storing the content information transmitted from communication terminal **100-2**. After input unit **210** has received a predetermined input by a checker's operation, control unit **221** reads the content information stored in storage unit **250**, and outputs information indicated by the read content information from output unit **240**.

[0152] Storage unit **250** stores the content information written by control unit **221**.

[0153] Hereinafter, an information processing method in the embodiment shown in FIG. **18** will be described. First, the processing to create content information at communication terminal **100-2** shown in FIG. **12** will be described by referring to FIG. **20**. An example where biological information is a pulse rate will be described. An example where output unit **150** outputs contents by displaying will be described.

[0154] First, in step **51**, biological information measurement unit **110** attached to a viewer who is operating communication terminal **100-2** measures the pulse rate of the viewer at predetermined timing. In step **52**, biological information acquisition unit **120** acquires the pulse rate measured by biological information measurement unit **110** from biological information measurement unit **110**. Then, biological information acquisition unit **120** writes and stores the acquired pulse rate in the biological information table of storage unit **181**.

[0155] In step **53**, condition determination unit **130** determines whether the pulse rate stored in the biological information table of storage unit **181** exceeds the threshold value preset in the threshold value table of storage unit **181**. When condition determination unit **130** determines that the pulse rate stored in the biological information table of storage unit **181** exceeds the threshold value preset in the threshold value table of storage unit **181**, in step **54**, content information creation unit **161** determines whether output unit **150** is displaying the contents.

[0156] When content information creation unit **161** determines that output unit **150** is displaying the contents, in step **55**, content information creation unit **160** creates content information indicating the contents that are being displayed to output it to content information providing unit **171**. Then, in step **56**, content information providing unit **171** transmits the content information output from content creation unit **161** to communication terminal **200-2** via communication network **300** by using communication unit **140**.

[0157] After communication unit **230** of communication terminal **200-2** has received the content information transmitted from communication terminal **100-2**, in step **57**, control unit **221** writes and stores the content information received by communication unit **230** in storage unit **250**.

[0158] On the other hand, when condition determination unit **130** determines that the pulse rate stored in the biological information table of storage unit **181** does not exceed the threshold value preset in the threshold value table of storage unit **181** in step **53**, or when content information creation unit **161** determines that output unit **150** is not displaying the contents in step **54**, the processing of step **51** is executed at the next timing.

[0159] Next, output processing in communication terminal **200-2** shown in FIG. **18** will be described by referring to FIG. **21**.

[0160] First, in step **61**, control unit **221** determines whether outputting of content information has been requested from outside communication terminal **200-2**. Control unit **221** executes this determination by determining whether input unit **210** has received a predetermined input for requesting the outputting of the content information. When control unit **221** determines that the outputting of content information has been requested from outside communication terminal **200-2**, in step **62**, control unit **221** reads content information stored in storage unit **250**. Then, in step **63**, control unit **221** outputs information indicated by the read content information from output unit **240**. This information can be a capture screen when the content information includes the capture screen itself, or a URL when the content information includes the URL of a content distribution site.

Fourth Embodiment

[0161] FIG. **22** shows an information processing system according to the fourth embodiment of the present invention, where communication terminals **100-3** and **200-3** and content distribution server **400** can communicate with one another via communication network **300**. In the exemplary embodiment shown in FIG. **22**, one communication terminal **100-3**, one communication terminal **200-3**, and one content distribution server **400** are shown. However, there are no restrictions on the number of terminals and servers thereof. In the fourth embodiment, communication terminal **200-3** determines whether measured content information satisfies conditions.

[0162] Content distribution server **400** is similar to that shown in FIG. **1**.

[0163] Communication terminal **100-3** is a first information processing terminal operated by a viewer.

[0164] Communication terminal **100-3** shown in FIG. **22** includes, as shown in FIG. **23**, biological information measurement unit **110**, biological information acquisition unit **121**, communication unit **140**, output unit **150**, content information creation unit **162**, content information providing unit **171**, and storage unit **182**. FIG. **23** shows an example of main components, according to the embodiment, from among the components arranged in communication terminal **100-3** shown in FIG. **22**.

[0165] Biological information measurement unit **110**, communication unit **140**, output unit **150** are similar to those shown in FIG. **2**. Content information providing unit **171** is similar to that shown in FIG. **13**.

[0166] Biological information acquisition unit **121** acquires biological information measured by biological information measurement unit **110**. Biological information

acquisition unit **120** transmits the acquired biological information to communication terminal **200-3** via communication network **300** by using communication unit **140**.

[0167] Content information creation unit **162** creates content information after the creation of the content information has bas been requested from communication terminal **200-3**. A transmission delay (time lag) is generated in communication between the point of time when biological information satisfying predetermined conditions is measured and the point of time when the measured biological information is transmitted to communication terminal **200-3**, communication terminal **200-3** determines whether the biological information satisfies the conditions, and the request of the creation of the content information transmitted from communication terminal **200-3** is received. Because of this transmission delay, if content information indicating the contents of information that are output from output unit **150** is created when the creation request of the content information is received, there is a possibility that content information that is different in content from information output from output unit **150** when the measured biological information satisfies the conditions will be created.

[0168] Accordingly, biological information acquisition unit **121** also acquires measurement time when it acquires the biological information measured by biological information measurement unit **110**, and transmits it to communication terminal **200-3**. When it is determined that the biological information satisfies the conditions, communication terminal **200-3** transmits the measurement time received with the biological information to communication terminal **100-3** together with the creation request of content information. Content information creation unit **162** stores, for example, contents output from output unit **150** together with output time in storage unit **182** for several minutes. When it receives the request to create the content information from communication terminal **200-3**, content information creation unit **162** reads the contents stored in storage unit **180** together with the output time similar to the measurement time simultaneously received with the request from storage unit **180**, and creates content information based on the read contents.

[0169] Content information creation unit **162** outputs the created content information to content information providing unit **171**.

[0170] Storage unit **182** stores the contents output from output unit **150** together with the output time for a predetermined time. However, storage unit **182** stores neither a biological information table nor a threshold value table.

[0171] Communication terminal **200-3** is a second information processing terminal operated by a checker.

[0172] Communication terminal **200-3** shown in FIG. **22** includes, as shown in FIG. **24**, input unit **210**, control unit **221**, communication unit **230**, output unit **240**, storage unit **251**, and condition determination unit **260**. FIG. **24** shows an example of main components, according to the embodiment, from among the components arranged in communication terminal **200-3** shown in FIG. **22**.

[0173] Input unit **210**, communication unit **230**, and output unit **240** are similar to those shown in FIG. **8**. Control unit **221** is similar to that shown in FIG. **19**.

[0174] Storage unit **251** stores a threshold value used as a reference by condition determination unit **260** beforehand. The storage form of the threshold value can be similar to the threshold value table form shown in FIG. **4** or FIG. **6**. Storage unit **251** stores the content information written by control unit **221**.

[0175] Condition determination unit **260** determines whether the biological information transmitted from communication terminal **100-3** satisfies conditions stored in storage unit **251**. When the biological information transmitted from communication terminal **100-3** exceeds the threshold value stored in storage unit **251**, condition determination unit **260** determines that the biological information satisfies the conditions. When a state where the biological information transmitted from communication terminal **100-3** exceeds the threshold value stored in storage unit **251** continues for a predetermined time, condition determination unit **260** can determine that the biological information satisfies the conditions. After determinating that the biological information satisfies the conditions, condition determination unit **260** requests the creation of content information to communication terminal **100-3** via communication network **300** by using communication unit **230**. For this request, a request signal enabling recognition of the request to create the content information at communication terminal **100-3** can be used. The request signal includes the measurement time received together with the biological information.

[0176] Hereinafter, an information processing method in the embodiment shown in FIG. **22** will be described. First, the processing to create content information at communication terminals **100-3** and **20-3** shown in FIG. **22** will be described referring to FIG. **25**. An example where biological information is a pulse rate will be described. An example where output unit **150** outputs contents by displaying will be described.

[0177] First, content information creation unit **162** writes contents that are being displayed by output unit **150** in storage unit **182** in association with the output time. For the writing timing, a predetermined period or time can be used. Storage unit **182** deletes the contents after a predetermined time has elapsed from the writing of the contents. The contents written in storage unit **182** by content information creation unit **162** indicate the contents that are being displayed by output unit **150**, or the contents themselves. Any information can be used as long as it enables creation of content information.

[0178] In step **71**, biological information measurement unit **110** attached to a viewer who is operating communication terminal **100-3** measures the pulse rate of the viewer at a predetermined timing. In step **72**, biological information acquisition unit **121** acquires the pulse rate measured by biological information measurement unit **110** from biological information measurement unit **110**. At this time, biological information acquisition unit **121** also acquires the measurement time of the pulse rate by biological information measurement unit **110**. Then, in step **73**, biological information acquisition unit **121** transmits the acquired pulse rate to communication terminal **200-3** via communication network **300** by using communication unit **140**. At this time, biological information acquisition unit **121** also transmits the measurement time to communication terminal **200-3** together with the acquired pulse rate.

[0179] After communication unit **230** of communication terminal **200-3** has received the pulse rate and the measurement time transmitted from communication terminal **100-3**, in step **74**, condition determination unit **260** determines whether the pulse rate received by communication unit **230** exceeds a threshold value preset in the threshold value table of

storage unit **251**. When condition determination unit **260** determines that the pulse rate received by communication unit **230** exceeds the threshold value preset in the threshold value table of storage unit **251**, in step **75**, condition determination unit **260** requests the creation of content information to communication terminal **100-3** via communication network **300** by using communication unit **230**. At this time, condition determination unit **260** also transmits the measurement time transmitted from transmission terminal **100-3** to communication terminal **100-3**. On the other hand, when condition determination unit **260** determines that the pulse rate received by communication unit **230** does not exceed the threshold value preset in the threshold value table of storage unit **251**, the processing is ended.

[0180] Then, after communication unit **140** of communication terminal **100-3** has received the request to create the content information from communication terminal **200-3**, in step **76**, content information creation unit **162** determines whether the contents of the output time similar to the measurement time received together with the request has been stored in storage unit **182**.

[0181] When content information creation unit **162** determines that the contents of the output time same as the measurement time have been stored in storage unit **182**, content information creation unit **162** reads the contents from storage unit **182**. Then, in step **77**, content information creation unit **162** creates content information based on the read contents to output it to content information providing unit **171**. In step **78**, content information providing unit **171** transmits the content information output from content information creation unit **162** to communication terminal **200-3** via communication network **300** by using communication unit **140**.

[0182] After communication unit **230** of communication terminal **200-3** has received the content information transmitted from communication terminal **100-3**, in step **79**, control unit **221** writes and stores the content information received by communication unit **230** in storage unit **251**.

[0183] On the other hand, when content information creation unit **162** determines that the contents of the output time similar to the measurement time has not been stored in storage unit **182** in step **76**, the processing of step **71** is executed at the next timing.

[0184] Depending on the measurement timing of the biological information and the output timing of the contents, the measurement time and the output time do not necessarily match each other. Accordingly, by securing a certain margin, content information creation unit **162** can search for the contents of the output time included in several seconds or several minutes before or after the measurement time transmitted from communication terminal **200-3** in storage unit **182**.

[0185] Next, the processing to output content information at communication terminal **200-3** shown in FIG. **22** will be described referring to FIG. **26**.

[0186] First, in step **81**, control unit **221** determines whether outputting of content information has been requested from outside communication terminal **200-3**. Control unit **221** executes this determination by determining whether input unit **210** has received a predetermined input for requesting outputting of the content information. When control unit **221** determines that outputting of content information has been requested from outside communication terminal **200-2**, in step **82**, control unit **221** reads content information stored in storage unit **251**. Then, in step **83**, control unit **221** outputs information indicated by the read content information from output unit **240**. This information can be a capture screen when the content information includes the capture screen itself, or a URL when the content information includes the URL of a content distribution site.

[0187] As in the case of the second embodiment, communication terminal **100-3** can transmit the created content information to management server **500-1**, and management server **500-1** can store the content information. In this case, after the contents information has been received from communication terminal **100-3**, management server **500-1** can store the content information, and read the content information when the content information is requested from communication terminal **200-3** to transmit it to communication terminal **200-3**. After the content information has been received from communication terminal **100-3**, management server **500-1** can notify its message to communication terminal **200-3**.

[0188] Other processes can be similar to those of the first embodiment.

Fifth Embodiment

[0189] FIG. **27** shows an information processing system according to the fifth embodiment of the present invention, where communication terminals **100-3** and **200-1**, content distribution server **400**, and management server **500-2** can communicate with one another via communication network **300**. In the exemplary embodiment shown in FIG. **27**, one communication terminal **100-3**, one communication terminal **200-1**, and one content distribution server **400** are shown. However, there are no restrictions on the numbers thereof. In the fifth embodiment, management server **500-2** determines whether measured biological information satisfies conditions.

[0190] Communication terminal **200-1** and content distribution server **400** are similar to those shown in FIG. **1**. Communication terminal **100-3** is similar to that shown in FIG. **22**. However, biological information acquisition unit **121** of communication terminal **100-3** transmits biological information acquired from biological information measurement unit **110** to management server **500-2** via communication network **300** by using communication terminal **140**. Content information creation unit **162** of communication terminal **100-3** creates content information after the creation of content information has been requested from management server **500-2**. Content information providing unit **172** transmits the content information to management server **500-2** via communication network **300** by using communication terminal **140**.

[0191] Management server **500-2** determines whether biological information transmitted from communication terminal **100-3** satisfies conditions, and requests the creation of content information to communication terminal **100-3** when the biological information satisfies the conditions. Management server **500-2** stores the content information transmitted from communication terminal **100-3**. When content information is requested from communication terminal **200-1**, management server **500-2** transmits the stored content information to communication terminal **200-1** via communication network **300**.

[0192] Management server **500-2** shown in FIG. **27** includes, as shown in FIG. **28**, communication unit **510**, control unit **520**, storage unit **530**, and condition determination unit **540**. FIG. **28** shows an example of the main compo-

nents, according to the embodiment, from among the components arranged in management server **500-2** shown in FIG. **27**.

[0193] Communication unit **510** and control unit **520** are similar to those shown in FIG. **14**.

[0194] Storage unit **531** stores content information written by control unit **520**. Details on the content information stored in storage unit **531** are similar in content to the content information table stored in storage unit **180** according to the first embodiment. Storage unit **531** stores correspondence between a preset viewer and a preset checker as a user related table. The user related table is similar to that shown in FIG. **15**. Storage unit **531** stores a threshold value used as a reference for making a determination by condition determination unit **540** beforehand. The storage form of the threshold value can be similar to the threshold value table shown in FIG. **4** or FIG. **6**.

[0195] Condition determination unit **540** determines whether the biological information transmitted from communication terminal **100-3** satisfies the conditions stored in storage unit **531**. When the biological information transmitted from communication terminal **100-3** satisfies the threshold value stored in storage unit **531**, condition determination unit **130** determines that the biological information satisfies the conditions. Condition determination unit **130** can determine that the biological information satisfies the conditions when a state where the biological information transmitted from communication terminal **100-3** satisfies the threshold value stored in storage unit **531** continues for a predetermined time. When it is determined that the biological information satisfies the conditions, condition determination unit **540** requests the creation of content information to communication terminal **100-3** via communication network **300** by using communication unit **510**. For this request, a request signal enabling recognition of the request to acquire of the content information at communication terminal **100-3** can be used. The request signal includes measurement time received together with the biological information.

[0196] Hereinafter, an information processing method in the embodiment shown in FIG. **27** will be described. First, the processing to create content information at communication terminal **100-3** and management server **500-2** shown in FIG. **27** will be described referring to FIG. **29**. An example where biological information is a pulse rate will be described. An example where output unit **150** outputs contents by displaying will be described.

[0197] First, content information creation unit **162** writes contents that are being displayed by output unit **150** in storage unit **182** in association with the output time. For the writing timing, a predetermined period or time can be used. Storage unit **182** deletes the contents after a predetermined time has elapsed from the writing of the contents. The contents written in storage unit **182** by content information creation unit **162** indicate the contents that are being displayed by output unit **150**, or the contents themselves. Any information can be used as long as it enables creation of content information.

[0198] In step **91**, biological information measurement unit **110** attached to a viewer who is operating communication terminal **100-3** measures the pulse rate of the viewer at a predetermined timing. In step **92**, biological information acquisition unit **121** acquires the pulse rate measured by biological information measurement unit **110** from biological information measurement unit **110**. At this time, biological information acquisition unit **121** also acquires the measurement time of the pulse rate by biological information measurement unit **110**. Then, in step **93**, biological information acquisition unit **121** transmits the acquired pulse rate to management server **500-2** via communication network **300** by using communication unit **140**. At this time, biological information acquisition unit **121** also transmits the measurement time to management server **500-2** together with the acquired pulse rate.

[0199] After communication unit **510** of management server **500-2** has received the pulse rate and the measurement time transmitted from communication terminal **100-3**, in step **94**, condition determination unit **540** determines whether the pulse rate received by communication unit **510** exceeds a threshold value preset in the threshold value table of storage unit **531**. When condition determination unit **540** determines that the pulse rate received by communication unit **510** exceeds the threshold value preset in the threshold value table of storage unit **531**, in step **95**, condition determination unit **540** requests the creation of content information to communication terminal **100-3** via communication network **300** by using communication unit **510**. At this time, condition determination unit **540** also transmits the measurement time transmitted from transmission terminal **100-3** to communication terminal **100-3**. On the other hand, when condition determination unit **540** determines that the pulse rate received by communication unit **510** does not exceed the threshold value preset in the threshold value table of storage unit **531**, the processing is ended.

[0200] Then, after communication unit **140** of communication terminal **100-3** has received the request to create the content information from management server **500-2**, in step **96**, content information creation unit **162** determines whether the contents of the output time similar to the measurement time received together with the request have been stored in storage unit **182**.

[0201] When content information creation unit **162** determines that the contents of the output time similar to the measurement time have been stored in storage unit **182**, content information creation unit **162** reads the contents from storage unit **182**. Then, in step **97**, content information creation unit **162** creates content information based on the read contents to output it to content information providing unit **171**. In step **98**, content information providing unit **171** transmits the content information output from content information creation unit **162** to management server **500-2** via communication network **300** by using communication unit **140**.

[0202] After communication unit **510** of management server **500-2** has received the content information transmitted from communication terminal **100-3**, in step **99**, control unit **520** writes and stores the content information received by communication unit **510** in storage unit **531**. After the content information has been received from communication terminal **100-3**, management server **500-2** can notify its message to communication terminal **200-3** by using a checker identifier (checker contact information) associated with a viewer identifier included in the content information.

[0203] On the other hand, when content information creation unit **162** determines that the contents of the output time similar to the measurement time have not been stored in storage unit **182** in step **96**, the processing of step **91** is executed at next timing.

[0204] Depending on the measurement timing of the biological information and the output timing of the contents, the measurement time and the output time do not necessarily

match each other. Accordingly, by securing a certain margin, content information creation unit **162** can search for the content of the output time that is included in a period of several seconds or several minutes before or after the measurement time transmitted from communication terminal **200-3** in storage unit **182**.

[0205] Next, the output processing of content information in management server **500-2** and communication terminal **200-1** shown in FIG. **27** will be described referring to FIG. **30**.

[0206] After input unit **210** of communication terminal **200-1** has received a predetermined input, in step **101**, control unit **220** requests acquisition of content information to management server **500-2** via communication network **300** by using communication unit **230**. For this request, a request signal enabling recognition of the request to acquire the content information at management server **500-2** is used. The request signal includes a checker identifier.

[0207] After a request has been made to acquire content information from communication terminal **200-1**, control unit **520** reads a viewer identifier associated with the checker identifier included in the request signal from the user related table stored in storage unit **531**. Then, in step **102**, control unit **520** reads the content information associated with the read viewer identifier from storage unit **531**. Then, in step **103**, control unit **520** transmits the read content information to communication terminal **200-1** via communication network **300** by using communication unit **510**.

[0208] After communication unit **230** has received the content information transmitted from management server **500-2**, in step **104**, control unit **220** outputs information indicated by the content information from output unit **240**. This information can be a capture screen when the content information includes the capture screen itself, or a URL when the content information includes the URL of a content distribution site.

[0209] Other processes can be similar to those of the first embodiment.

[0210] Hereinafter, an embodiment where biological information measurement unit **110** according to the first to fifth embodiments is disposed physically separately from the communication terminal of the viewer will be described.

Sixth Embodiment

[0211] FIG. **31** shows an information processing system where biological information measurement unit **110** disposed in communication terminal **100-1** according to the first embodiment is disposed in measuring device **600** separated as biological information measurement unit **610** into communication unit **620** and communication terminal **100-4** according to the sixth embodiment of the present invention.

[0212] Communication terminal **200-1** and content distribution server **400** are similar to those shown in FIG. **1**.

[0213] Measuring device **600**, which has a structure that is attachable to a viewer, transmits the biological information of the viewer measured by biological information measurement unit **610** to communication terminal **100-4** by using communication unit **620**. For example, measuring device **600** has a seal structure that is attachable to the vicinity of a breast or a structure such as a thermometer type, a wristband type, or a wristwatch type. When the shape of communication terminal **100-4** is a wristwatch type or a wristband type, measuring device **600** can be disposed on the side of the attachable part of the belt or the wristband that is next to the skin fixed to the casing of communication terminal **100-4**. A communication method between communication unit **620** and communication terminal **100-4** is not limited to, for example, wireless communication such as short-distance wireless communication, but can be wired communication.

[0214] Communication terminal **100-4** is configured by removing biological information measurement unit **110** from the components of communication terminal **100-1** according to the first embodiment. Biological information acquisition unit **120** of communication terminal **100-4** acquires biological information transmitted from measuring device **600**. Communication terminal **100-4** includes a communication unit that acquires (receives) the biological information transmitted from measuring device **600**. Processing after communication terminal **100-4** has acquired the biological information is similar to that according to the first embodiment.

Seventh Embodiment

[0215] FIG. **32** shows an information processing system where biological information measurement unit **110** disposed in communication terminal **100-2** according to the second embodiment is disposed in measuring device **600** separated as biological information measurement unit **610** into communication unit **620** and communication terminal **100-5** according to the seventh embodiment of the present invention.

[0216] Communication terminal **200-1** and content distribution server **400** are similar to those shown in FIG. **12**.

[0217] Measuring device **600** is similar to that shown in FIG. **31**. A communication method between communication unit **620** and communication terminal **100-5** is not limited to, for example, wireless communication such as short-distance wireless communication, but can be wired communication.

[0218] Communication terminal **100-5** is configured by removing biological information measurement unit **110** from the components of communication terminal **100-2** according to the second embodiment. Biological information acquisition unit **120** of communication terminal **100-5** acquires biological information transmitted from measuring device **600**. Communication terminal **100-5** includes a communication unit that acquires (receives) the biological information transmitted from measuring device **600**. Processing after communication terminal **100-5** has acquired the biological information is similar to that according to the second embodiment.

Eighth Embodiment

[0219] FIG. **33** shows an information processing system where biological information measurement unit **110** disposed in communication terminal **100-2** according to the third embodiment is disposed in measuring device **600** separated as biological information measurement unit **610** into communication unit **620** and communication terminal **100-5** according to the eighth embodiment of the present invention.

[0220] Communication terminal **200-2** and content distribution server **400** are similar to those shown in FIG. **18**.

[0221] Measuring device **600** is similar to that shown in FIG. **32**.

[0222] Communication terminal **100-5** is configured by removing biological information measurement unit **110** from the components of communication terminal **100-2** according to the third embodiment. Biological information acquisition unit **120** of communication terminal **100-5** acquires biological information transmitted from measuring device **600**. Communication terminal **100-5** includes a communication unit that acquires (receives) the biological information transmitted from measuring device **600**. Processing after commu-

nication terminal **100-5** has acquired the biological information is similar to that according to the third embodiment.

Ninth Embodiment

[0223] FIG. **34** shows an information processing system where biological information measurement unit **110** disposed in communication terminal **100-3** according to the fourth embodiment is disposed in measuring device **601** separated as biological information measurement unit **610** into communication unit **621** and communication terminal **100-6** according to the ninth embodiment of the present invention.

[0224] Communication terminal **200-3** and content distribution server **400** are similar to those shown in FIG. **22**.

[0225] Measuring device **601**, which has a structure that is attachable to a viewer, transmits the biological information of the viewer measured by biological information measurement unit **610** to communication terminal **200-3** via communication network **300** by using communication unit **621**. For example, measuring device **600** has a seal structure that is attachable to the vicinity of a breast or a structure such as a thermometer type, a wristband type, or a wristwatch type. When communication unit **621** transmits the biological information to communication network **300**, the biological information can be transmitted via communication unit **140** of communication terminal **100-6**.

[0226] Communication terminal **100-6** is configured by removing biological information measurement unit **110** and biological information acquisition unit **121** from the components of communication terminal **100-3** according to the fourth embodiment.

[0227] Hereinafter, an information processing method in the embodiment shown in FIG. **34** will be described. First, the processing to create content information at communication terminals **100-6** and **200-3** shown in FIG. **34** will be described referring to FIG. **35**. An example where biological information is a pulse rate will be described. An example where output unit **150** outputs content, by displaying the content will be described.

[0228] First, content information creation unit **162** writes contents that are being displayed by output unit **150** in storage unit **182** in association with the output time. For the writing timing, a predetermined period or time can be used. Storage unit **182** deletes the contents after a predetermined time has elapsed from the writing of the contents. The contents written in storage unit **182** by content information creation unit **162** indicate the contents that are being displayed by output unit **150**, or the contents themselves. Any information can be used as long as it enables creation of content information.

[0229] Biological information measurement unit **610** of measuring device **601** attached to a viewer who is operating communication terminal **100-6** measures the pulse rate of the viewer at a predetermined timing. Then, biological information measurement unit **610** transmits the measured pulse rate together with the measurement time of the pulse rate to communication terminal **200-3** via communication network **300** by using communication unit **621**. After communication unit **230** of communication terminal **200-3** has received the pulse rate transmitted from measuring device **601**, in step **111**, condition determination unit **260** acquires the pulse rate received by communication unit **230**. At this time, condition determination unit **260** also acquires the measurement time received simultaneously with the pulse rate.

[0230] In step **112**, condition determination unit **260** determines whether the acquired pulse rate exceeds a threshold value preset in the threshold value table of storage unit **251**. When condition determination unit **260** determines that the acquired pulse rate exceeds the threshold value preset in the threshold value table of storage unit **251**, in step **113**, condition determination unit **260** requests the creation of content information to communication terminal **100-6** via communication network **300** by using communication unit **230**. At this time, condition determination unit **260** also transmits the measurement time received together with the pulse rate to communication terminal **100-3**. On the other hand, when condition determination unit **260** determines that the pulse rate received by communication unit **230** does not exceed the threshold value preset in the threshold value table of storage unit **251**, the processing is ended.

[0231] Then, after communication unit **140** of communication terminal **100-6** has received the request to create content information from communication terminal **200-3**, in step **114**, content information creation unit **162** determines whether the contents of the output time similar to the measurement time received together with the request have been stored in storage unit **182**.

[0232] When content information creation unit **162** determines that the contents of the output time similar to the measurement time have been stored in storage unit **182**, content information creation unit **162** reads the contents from storage unit **182**. Then, in step **115**, content information creation unit **162** creates content information based on the read contents to output the content information to content information providing unit **171**. In step **116**, content information providing unit **171** transmits the content information output from content information creation unit **162** to communication terminal **200-3** via communication network **300** by using communication unit **140**.

[0233] After communication unit **230** of communication terminal **200-3** has received the content information transmitted from communication terminal **100-6**, in step **117**, control unit **221** writes and stores the content information received by communication unit **230** in storage unit **251**.

[0234] On the other hand, when content information creation unit **162** determines that the contents of the output time similar to the measurement time have not been stored in storage unit **182** in step **114**, content information creation unit **162** waits for transmission of the request to create content information from communication terminal **200-3**.

[0235] Depending on the measurement timing of the biological information and the output timing of the contents, the measurement time and the output time do not necessarily match each other. Accordingly, by securing a certain margin, content information creation unit **162** can search for the content of the output time that is included in a period of several seconds or several minutes before or after the measurement time transmitted from communication terminal **200-3** in storage unit **182**.

[0236] Processing for outputting the content information after the content information has been stored in storage unit **251** of communication terminal **200-3** is similar to that of the fourth embodiment.

Tenth Embodiment

[0237] FIG. **36** shows an information processing system where biological information measurement unit **110** disposed in communication terminal **100-3** according to the fifth embodiment is disposed in measuring device **601** separated as biological information measurement unit **610** into communi-

cation unit **621** and communication terminal **100-6** according to the tenth embodiment of the present invention.

[0238] Communication terminal **200-1** and content distribution server **400** are similar to those shown in FIG. **27**.

[0239] Measuring device **601**, which has a structure that is attachable to a viewer, transmits the biological information of the viewer measured by biological information measurement unit **610** to management server **500-2** via communication network **300** by using communication unit **621**. For example, measuring device **600** has a seal structure that is attachable to the vicinity of a breast or a structure such as a thermometer type, a wristband type, or a wristwatch type. When communication unit **621** transmits the biological information to communication network **300**, the biological information can be transmitted via communication unit **140** of communication terminal **100-6**.

[0240] Communication terminal **100-6** is configured by removing biological information measurement unit **110** and biological information acquisition unit **121** from the components of communication terminal **100-3** according to the fifth embodiment.

[0241] Hereinafter, an information processing method in the embodiment shown in FIG. **36** will be described. First, the processing to create content information at communication terminal **100-6** and management server **500-2** shown in FIG. **36** will be described referring to FIG. **37**. An example where biological information is a pulse rate will be described. An example where output unit **150** outputs content by displaying the content will be described.

[0242] First, content information creation unit **162** writes contents that are being displayed by output unit **150** in storage unit **182** in association with the output time. For the writing timing, a predetermined period or time can be used. Storage unit **182** deletes the contents after a predetermined time has elapsed from the writing of the contents. The contents written in storage unit **182** by content information creation unit **162** indicate the contents that are being displayed by output unit **150**, or the contents themselves. Any information can be used as long as it enables creation of content information.

[0243] Biological information measurement unit **610** of measuring device **601** attached to a viewer who is operating communication terminal **100-6** measures the pulse rate of the viewer at predetermined timing. Then, biological information measurement unit **610** transmits the measured pulse rate together with the measurement time of the pulse rate to management server **500-2** via communication network **300** by using communication unit **621**. After communication unit **510** of management server **500-2** has received the pulse rate transmitted from measuring device **601**, in step **121**, condition determination unit **540** acquires the pulse rate received by communication unit **510**. At this time, condition determination unit **540** also acquires the measurement time received simultaneously with the pulse rate.

[0244] In step **122**, condition determination unit **540** determines whether the acquired pulse rate exceeds a threshold value preset in the threshold value table of storage unit **531**. When condition determination unit **540** determines that the acquired pulse rate exceeds the threshold value preset in the threshold value table of storage unit **531**, in step **123**, condition determination unit **540** makes a request to create content information to communication terminal **100-6** via communication network **300** by using communication unit **510**. At this time, condition determination unit **540** also transmits the measurement time received together with the pulse rate to communication terminal **100-6**. On the other hand, when condition determination unit **540** determines that the pulse rate received by communication unit **510** does not exceed the threshold value preset in the threshold value table of storage unit **531**, the processing is ended.

[0245] Then, after communication unit **140** of communication terminal **100-6** has received the request to create content information from management server **500-2**, in step **124**, content information creation unit **162** determines whether the contents of the output time similar to the measurement time received together with the request have been stored in storage unit **182**.

[0246] When content information creation unit **162** determines that the contents of the output time similar to the measurement time have been stored in storage unit **182**, content information creation unit **162** reads the contents from storage unit **182**. Then, in step **125**, content information creation unit **162** creates content information based on the read contents to output the content information to content information providing unit **171**. In step **126**, content information providing unit **171** transmits the content information output from content information creation unit **162** to management server **500-2** via communication network **300** by using communication unit **140**.

[0247] After communication unit **510** of management server **500-2** has received the content information transmitted from communication terminal **100-6**, in step **127**, control unit **520** writes and stores the content information received by communication unit **510** in storage unit **531**.

[0248] On the other hand, when content information creation unit **162** determines that the contents of the output time similar to the measurement time have not been stored in storage unit **182** in step **124**, content information creation unit **162** waits for transmission of the request to create content information from management server **500-2**.

[0249] Depending on the measurement timing of the biological information and the output timing of the contents, the measurement time and the output time do not necessarily match each other. Accordingly, by securing a certain margin, content information creation unit **162** can search for the content of the output time that is included in a period of several seconds or several minutes before or after the measurement time transmitted from communication terminal **200-3** in storage unit **182**.

[0250] Processing for outputting the content information after the content information has been stored in storage unit **531** of management server **500-2** is similar to that of the fifth embodiment.

[0251] As described above, according to the present invention, the biological information of the viewer is measured and, when the measured biological information satisfies the preset conditions, the contents viewed by the viewer are notified to the checker. Thus, the checker can know that information inappropriate to the viewer has been output.

[0252] Communication terminals **100-1** to **100-6** and **200-1** to **200-3**, which are electronic devices such as mobile phones, mobile terminals, tablet or notebook PCs (Personal Computers), smartphones, PDAs (Personal Digital Assistants), game machines, digital cameras, or electronic books, have content output functions and communication functions.

[0253] The processing performed by each component included in each of communication terminals **100-1** to **100-6** and **200-1** to **200-3** and management servers **500-1** and **500-2** can be executed by a logical circuit created according to each

purpose. A computer program (hereinafter, referred to as program) describing processing contents as procedures can be recorded in a recording medium readable by each of communication terminals **100-1** to **100-6** and **200-1** to **200-3** and management servers **500-1** and **500-2**. Then, the program recorded in the recording medium can be read by each of communication terminals **100-1** to **100-6** and **200-1** to **200-3** and management servers **500-1** and **500-2** to be executed. The recording medium readable by each of communication terminals **100-1** to **100-6** and **200-1** to **200-3** and management servers **500-1** and **500-2** is a movable recording medium such as a floppy (registered trademark) disk, a magneto-optical disk, a DVD, or a CD, or a memory such as a ROM or a RAM, or a HDD included in each of communication terminals **100-1** to **100-6** and **200-1** to **200-3** and management servers **500-1** and **500-2**. The program recorded in the recording medium is read by a CPU (not shown) disposed in each of communication terminals **100-1** to **100-6** and **200-1** to **200-3** and management servers **500-1** and **500-2**, and the same processing as that described above is performed under CPU control. In this case, the CPU operates as a computer that executes the program read from the recording medium where the program has been recorded.

[0254] Some or all of the aforementioned embodiments can be described as in appendixes below, but not limited to these.

[0255] [Appendix 1]

[0256] An information processing system including:

[0257] a biological information measurement unit that measures biological information;

[0258] a first information processing terminal that includes a first output unit configured to output information, and a biological information acquisition unit configured to acquire the biological information measured by the biological information measurement unit from the biological information measurement unit;

[0259] a second information processing terminal; and

[0260] a condition determination unit that determines whether or not the biological information acquired by the biological information acquisition unit satisfies preset conditions.

[0261] In this case, the first information processing terminal includes a content information creation unit configured to create, when the condition determination unit determines that the biological information satisfies the conditions, content information indicating contents of the information output from the first output unit; and

[0262] a content information providing unit that provides the content information created by the content information creation unit to the second information processing terminal, wherein:

[0263] the second information processing terminal includes a second output unit configured to output information indicated by the content information provided from the content information providing unit.

[0264] [Appendix 2]

[0265] The information processing system according to Appendix 1, characterized in that:

[0266] the biological information measurement unit measures, when a pulse rate or a heart rate of a user who is operating the first information processing terminal is used as the biological information, the biological information with a predetermined short period or a predetermined rate shorter than a measuring period of a pulse rate or a heart rate used for determination; and

[0267] the biological information acquisition unit predicts the biological information in the measuring period used for the determination from the biological information acquired from the biological information measurement unit.

[0268] [Appendix 3]

[0269] The information processing system according to Appendix 1 or 2, characterized in that the condition determination unit determines that the biological information satisfies the conditions when the biological information exceeds a preset threshold value.

[0270] [Appendix 4]

[0271] The information processing system according to Appendix 1 or 2, characterized in that the condition determination unit determines that the biological information satisfies the conditions when a state where the biological information exceeds a preset threshold value continues for a predetermined time or more.

[0272] [Appendix 5]

[0273] The information processing system according to any one of Appendixes 1 to 4, further including a storage unit that stores the content information created by the content information creation unit, characterized in that the content information providing unit reads, after a request for the content information has been received from the second information processing terminal, the content information stored in the storage unit to provide the information to the second information processing terminal.

[0274] [Appendix 6]

[0275] The information processing system according to any one of Appendixes 1 to 4, characterized in that:

[0276] the second information processing terminal includes a storage unit configured to store the content information provided from the content information providing unit; and

[0277] the second output unit reads, after a request to output content information has been received from outside the second information processing terminal, the content information stored in the storage unit to output the information.

[0278] [Appendix 7]

[0279] The information processing system according to any one of Appendixes 1 to 6, characterized in that the first information processing terminal includes at least one of the biological information measurement unit and the condition determination unit.

[0280] [Appendix 8]

[0281] The information processing system according to any one of Appendixes 1 to 7, characterized in that the first output unit displays the information.

[0282] [Appendix 9]

[0283] The information processing system according to any one of Appendixes 1 to 8, characterized in that the first output unit outputs the information as a voice.

[0284] [Appendix 10]

[0285] An information processing terminal including:

[0286] an output unit that outputs information;

[0287] a biological information acquisition unit that acquires biological information;

[0288] a condition determination unit that determines whether or not the biological information acquired by the biological information acquisition unit satisfies preset conditions;

[0289] a content information creation unit that creates, when the condition determination unit determines that the

biological information satisfies the conditions, content information indicating contents of the information output from the output unit; and

[0290] a content information providing unit that provides the content information created by the content information creation unit.

[0291] [Appendix 11]

[0292] The information processing terminal according to Appendix 10, further including:

[0293] a casing that includes the output unit, the biological information acquisition unit, the condition determination unit, the content information creation unit, and the content information providing unit; and

[0294] an attaching unit added to the casing to attach the casing to a user,

[0295] the information processing terminal being a wristwatch type or a wristband type that includes a biological information measurement unit for measuring the biological information disposed on the casing side or the attaching unit's side that is next to the skin of the user.

[0296] [Appendix 12]

[0297] An information processing method including:

[0298] processing for outputting information;

[0299] processing for acquiring biological information;

[0300] processing for determining whether or not the acquired biological information satisfies preset conditions;

[0301] processing for creating, when the biological information satisfies the conditions, content information indicating contents of the output information; and

[0302] processing for providing the created content information.

[0303] [Appendix 13]

[0304] A program for causing a computer to execute:

[0305] a procedure for outputting information;

[0306] a procedure for acquiring biological information;

[0307] a procedure for determining whether the acquired biological information satisfies preset conditions;

[0308] a procedure for creating, when the biological information satisfies the conditions, content information indicating contents of the output information; and

[0309] a procedure for providing the created content information.

[0310] While the invention has been particularly shown and described with reference to exemplary embodiments thereof, the invention is not limited to these embodiments. It will be understood by those of ordinary skill in the art that various changes in form and details may be made therein without departing from the spirit and scope of the present invention as defined by the claims.

1. An information processing system comprising:

a biological information measurement unit that measures biological information;

a first information processing terminal that includes a first output unit configured to output information, and a biological information acquisition unit configured to acquire the biological information measured by the biological information measurement unit from the biological information measurement unit;

a second information processing terminal; and

a condition determination unit that determines whether or not the biological information acquired by the biological information acquisition unit satisfies preset conditions, wherein:

the first information processing terminal includes a content information creation unit configured to create, when the condition determination unit determines that the biological information satisfies the conditions, content information indicating contents of the information output from the first output unit; and

a content information providing unit that provides the content information created by the content information creation unit to the second information processing terminal, wherein:

the second information processing terminal includes a second output unit configured to output information indicated by the content information provided from the content information providing unit.

2. The information processing system according to claim **1**, wherein:

the biological information measurement unit measures, when a pulse rate or a heart rate of a user who is operating the first information processing terminal is used as the biological information, the biological information with a predetermined short period or a predetermined rate shorter than a measuring period of a pulse rate or a heart rate used for determination; and

the biological information acquisition unit predicts the biological information in the measuring period used for the determination from the biological information acquired from the biological information measurement unit.

3. The information processing system according to claim **1**, wherein the condition determination unit determines that the biological information satisfies the conditions when the biological information exceeds a preset threshold value.

4. The information processing system according to claim **1**, wherein the condition determination unit determines that the biological information satisfies the conditions when a state where the biological information exceeds a preset threshold value continues for a predetermined time or more.

5. The information processing system according to claim **1**, further comprising a storage unit that stores the content information created by the content information creation unit,

wherein the content information providing unit reads, after a request for the content information has been received from the second information processing terminal, the content information stored in the storage unit to provide the information to the second information processing terminal.

6. The information processing system according to claim **1**, wherein:

the second information processing terminal includes a storage unit configured to store the content information provided from the content information providing unit; and

the second output unit reads, after a request to output content information has been received from outside the second information processing terminal, the content information stored in the storage unit to output the information.

7. The information processing system according to claim **1**, wherein the first information processing terminal includes at least one of the biological information measurement unit and the condition determination unit.

8. The information processing system according to claim **1**, wherein the first output unit displays the information.

9. The information processing system according to claim **1**, wherein the first output unit outputs the information as a voice.

10. An information processing terminal comprising:

an output unit that outputs information;

a biological information acquisition unit that acquires biological information;

a condition determination unit that determines whether or not the biological information acquired by the biological information acquisition unit satisfies preset conditions;

a content information creation unit that creates, when the condition determination unit determines that the biological information satisfies the conditions, content information indicating contents of the information output from the output unit; and

a content information providing unit that provides the content information created by the content information creation unit.

11. The information processing terminal according to claim **10**, further comprising:

a casing that includes the output unit, the biological information acquisition unit, the condition determination unit, the content information creation unit, and the content information providing unit; and

an attaching unit added to the casing to attach the casing to a user,

the information processing terminal being a wristwatch type or a wristband type that includes a biological information measurement unit for measuring the biological information disposed on the casing side or the attaching unit's side that is next to the skin of the user.

12. An information processing method comprising:

processing for outputting information;

processing for acquiring biological information;

processing for determining whether or not the acquired biological information satisfies preset conditions;

processing for creating, when the biological information satisfies the conditions, content information indicating contents of the output information; and

processing for providing the created content information.

* * * * *

专利名称(译)	内容信息输出		
公开(公告)号	US20140350865A1	公开(公告)日	2014-11-27
申请号	US14/263004	申请日	2014-04-28
[标]申请(专利权)人(译)	比葛露股份有限公司		
申请(专利权)人(译)	NEC BIGLOBE.，LTD.		
当前申请(专利权)人(译)	NEC BIGLOBE.，LTD.		
[标]发明人	MIYATA MICHITARO		
发明人	MIYATA, MICHITARO		
IPC分类号	A61B5/024 A61B5/00		
CPC分类号	A61B5/7282 A61B5/024 A61B5/681 A61B5/741 A61B5/7475 A61B5/742 A61B5/0006 G06K9/0053		
优先权	2013110624 2013-05-27 JP		
外部链接	Espacenet USPTO		

摘要(译)

通信终端获得生物信息。通信终端确定所获得的生物信息是否满足预设条件。当确定生物信息满足预设条件时，通信终端创建指示输出信息的内容的内容信息。然后，通信终端将创建的内容信息提供给其他通信终端。