Fig. 1

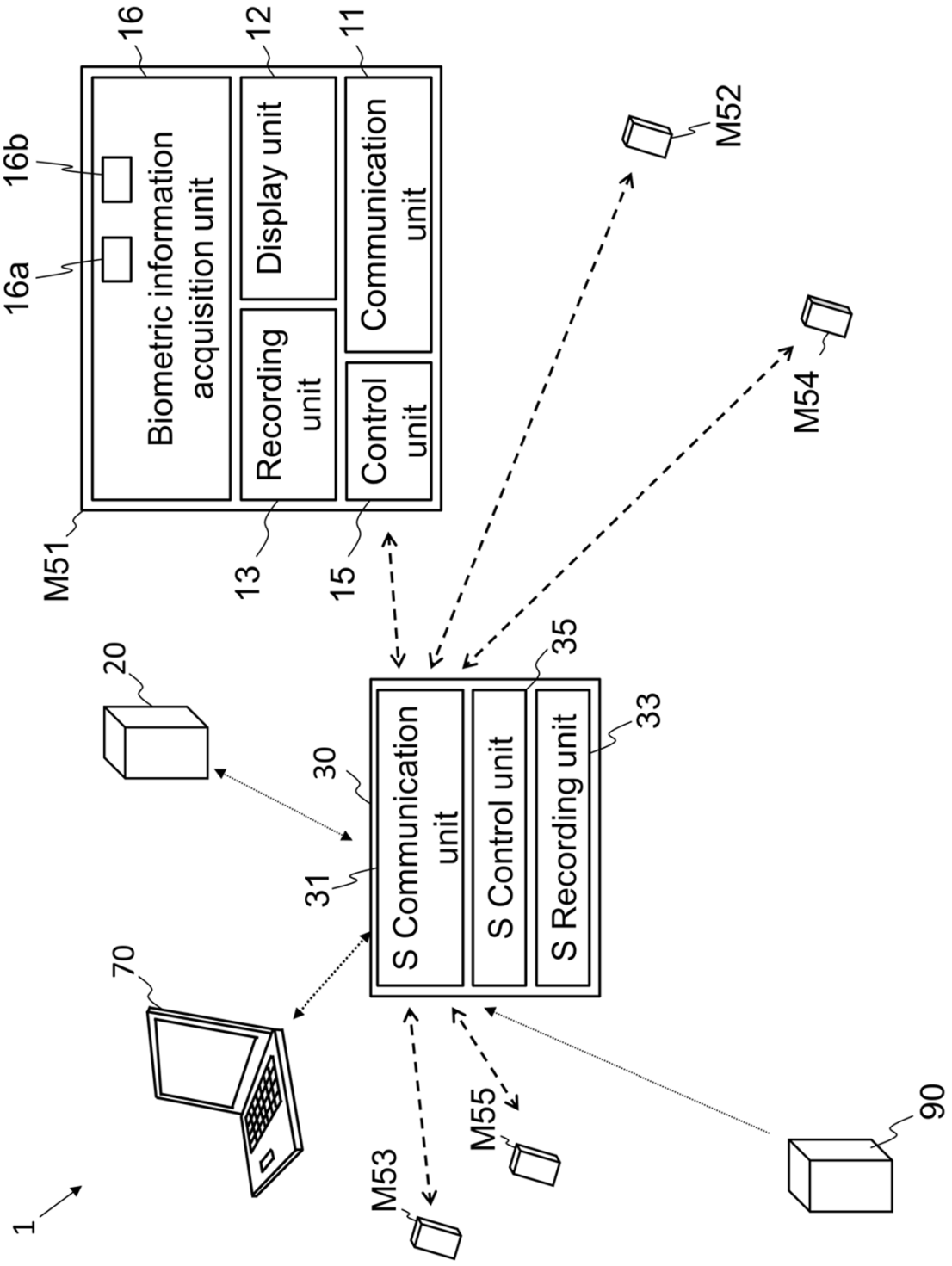

16
12
11
16b
16a
Biometric information acquisition unit
Display unit
Communication unit
Recording unit
Control unit
M51
13
15
M52
M54
20
30
31
35
33
S Communication unit
S Control unit
S Recording unit
70
M53
M55
90
1

Fig. 2

User name	User ID	User mark	Communication terminal name	Position information			Safety type parameter sp
				Longitude and Latitude	Area name	Date and time of positioning	
. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .
Papa Taro	11		51st communication terminal M51	N35.6609843 E139.7473301	2-4 Shiba Park 3-chome, Minato-ku, Tokyo	2016-08-03 08:50	0
Hanako	12		52nd communication terminal M52	N35.6336995 E139.8753787	3-1-1 Maihama 3-chome, Urayasu City, Chiba Prefecture	2016-08-03 08:46	0
Susumu	13		53rd communication terminal M53	N33.5981174 E130.451062	3-40 Airport Mae 3-chome, Hakata-ku, Fukuoka City, Fukuoka Prefecture	2016-08-03 08:45	0
. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .
Grandpa	23		54th communication terminal M54	N35.022953 E138.479664	3 Ninomaru-cho, Shimizu-ku, Shizuoka City, Shizuoka Prefecture	2016-08-03 08:12	1
Grandma	24		55th communication terminal M55	N34.321207 E134.045112	1 Kamino-cho, Takamatsu City, Kagawa Prefecture	2016-08-03 08:27	1
. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .

Fig. 3

User name	User ID	Normal range			Biometric information					Biometric information parameter rp
		Body temperature	Pulse	Blood pressure	Body temperature	Pulse	Blood pressure	Measurement date and time	Activity	
⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮
Grandpa	23	36.0 - 37.8 degrees	70 - 80 beats per minute	Equal to or less than 130mmHg Equal to less than 80mmHg	35.5 degrees	70 beats per minute	132mmHg /100mmHg	2016-08-03 08:00:00	Presence	1
					36.0 degrees	75 beats per minute	128mmHg /98mmHg	2016-08-03 07:30:00	Presence	
					37.5 degrees	80 beats per minute	125mmHg /96mmHg	2016-08-03 07:00:00	Absence	
					37.5 degrees	78 beats per minute	123mmHG /94mmHg	2016-08-03 06:30:00	Absence	
					⋮	⋮	⋮	⋮	⋮	
Grandma	24	35.5 - 37.0 degrees	70 - 90 beats per minute	Equal to or less than 120mmHg Equal to or less than 90mmHg	36.2 degrees	80 beats per minute	110mmHg /95mmHg	2016-08-03 08:00:00	Presence	0
					⋮	⋮	⋮	⋮	⋮	
⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮

Fig. 4

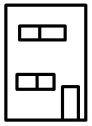
Group name	Group ID	Group mark	User ID	User name	Detail level of position information to be disclosed	
					During normal time dp1	During disaster dp2
・ ・ ・	・ ・ ・	・ ・ ・	・ ・ ・	・ ・ ・	・ ・ ・	・ ・ ・
Tanaka Family	G001		11	Papa	2	3
			12	Hanako	1	3
			13	Susumu	2	3
Parent's Home	G002		23	Grandpa	3	3
			24	Grandma	3	3
			11	Taro	1	3
・ ・ ・	・ ・ ・	・ ・ ・	・ ・ ・	・ ・ ・	・ ・ ・	・ ・ ・

Fig. 5

Institution name	Jurisdiction	Location
・ ・ ・	・ ・ ・	・ ・ ・
Shimizu Police Station 054-□○□○-×△×△	Within Radius of ●●m from center of Latitude 35.027°N and Longitude 138.462°E	1-35 Tennominami, Shimizu-ku, Shizuoka-City, Shizuoka Prefecture
Shimizu Fire Department 054-○△○△-○△○△	All of Shimizu-ku, Shizuoka-City, Shizuoka Prefecture	6-8 Higashimagari-cho, Shimizu-ku, Shizuoka-City, Shizuoka Prefecture
・ ・ ・	・ ・ ・	・ ・ ・

Fig. 6

User name	User ID	Phone number	Phone number and name of Neighbor	Phone number and name of care manager
・ ・ ・	・ ・ ・	・ ・ ・	・ ・ ・	・ ・ ・
Papa Taro	11	0 8 0 – ● △ □ × – ● △ □ ×	Absence	Absence
Hanako	12	0 9 0 – ● ● □ □ – □ □ □ □	0 9 0 - ● ● ● ● – × × × × Mx. Yamada	Absence
Susumu	13	0 9 0 – × × × × – × × × ×	0 9 0 – ● ● ● ● – × × × × Mx. Yamada	Absence
・ ・ ・	・ ・ ・	・ ・ ・	・ ・ ・	・ ・ ・
Grandpa	23	0 9 0 – △ △ △ △ – ○ ● ○ ●	0 8 0 – △ △ ● ● – × × ○ ○ Mx. Suzuki	0 9 0 – □ □ ■ ■ – ● ● △ △ Mx. Kato
Grandma	24	0 9 0 – × × △ ○ – ○ △ ○ △	0 8 0 – × × △ △ – ○ ○ ● ● Mx. Sato	0 9 0 – × × ○ ● – ■ □ □ ■ Mx. Takagi
・ ・ ・	・ ・ ・	・ ・ ・	・ ・ ・	・ ・ ・

Fig. 7

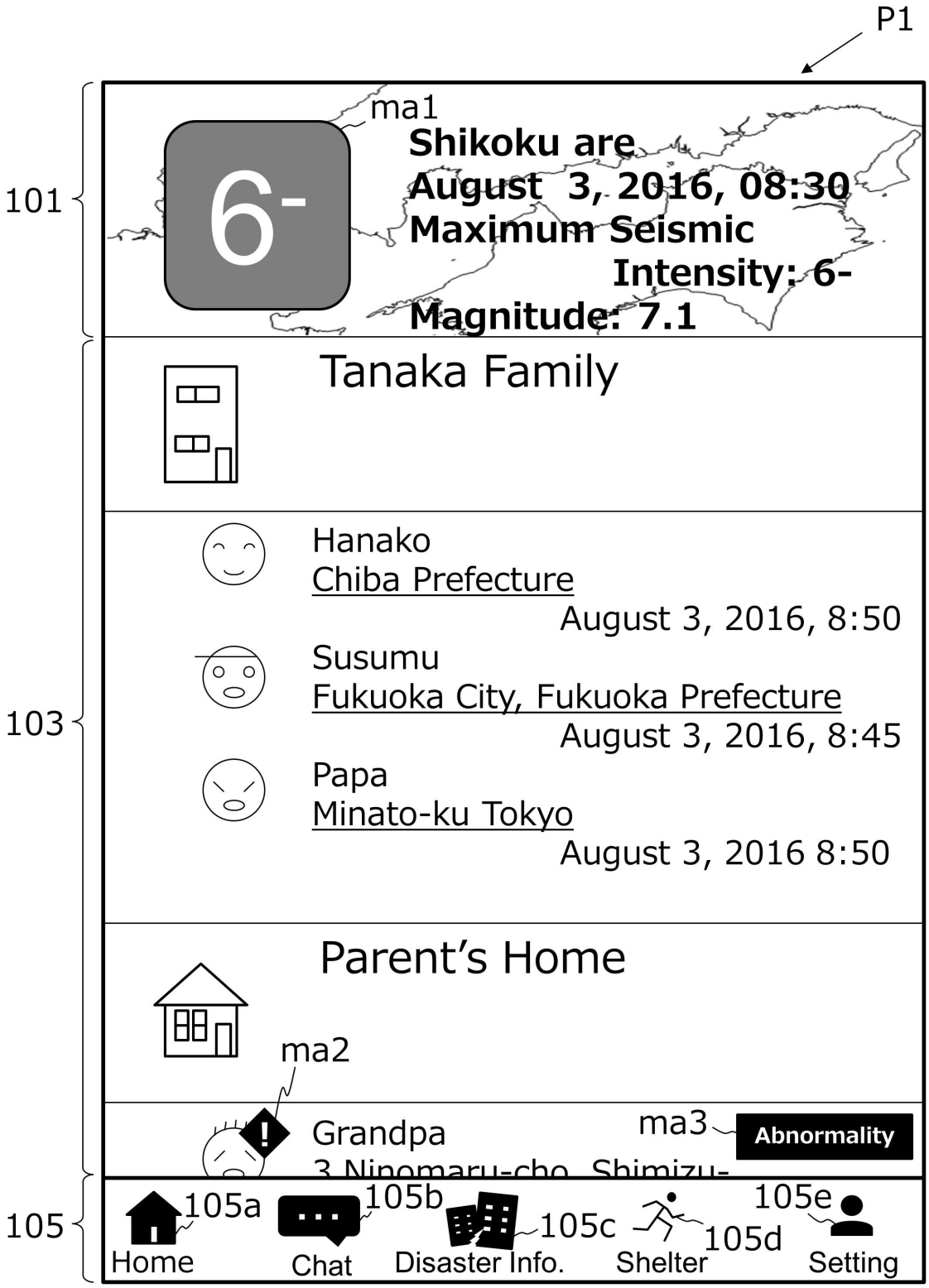

P1
101
ma1
6-
Shikoku are
August 3, 2016, 08:30
Maximum Seismic
Intensity: 6-
Magnitude: 7.1
Tanaka Family
103
Hanako
Chiba Prefecture
August 3, 2016, 8:50
Susumu
Fukuoka City, Fukuoka Prefecture
August 3, 2016, 8:45
Papa
Minato-ku Tokyo
August 3, 2016 8:50
Parent's Home
ma2
Grandpa
ma3
Abnormality
105
105a
105b
105c
105d
105e
Home
Chat
Disaster Info.
Shelter
Setting

Fig. 8

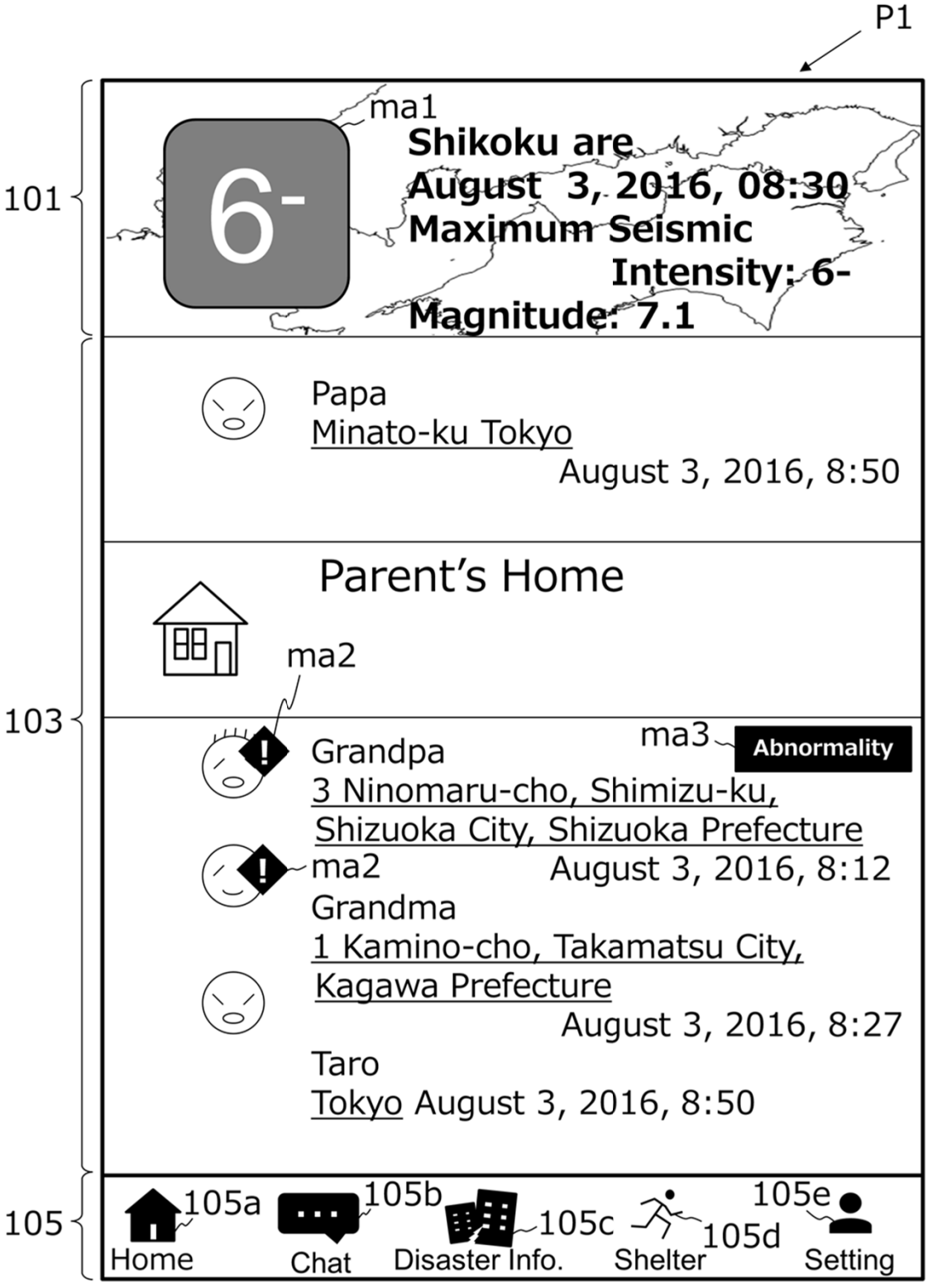

P1
101
ma1
6-
Shikoku are
August 3, 2016, 08:30
Maximum Seismic
Intensity: 6-
Magnitude: 7.1
Papa
Minato-ku Tokyo
August 3, 2016, 8:50
Parent's Home
ma2
103
ma3
Abnormality
Grandpa
3 Ninomaru-cho, Shimizu-ku,
Shizuoka City, Shizuoka Prefecture
ma2
August 3, 2016, 8:12
Grandma
1 Kamino-cho, Takamatsu City,
Kagawa Prefecture
August 3, 2016, 8:27
Taro
Tokyo August 3, 2016, 8:50
105
105a
Home
105b
Chat
105c
Disaster Info.
105d
Shelter
105e
Setting

Fig. 9

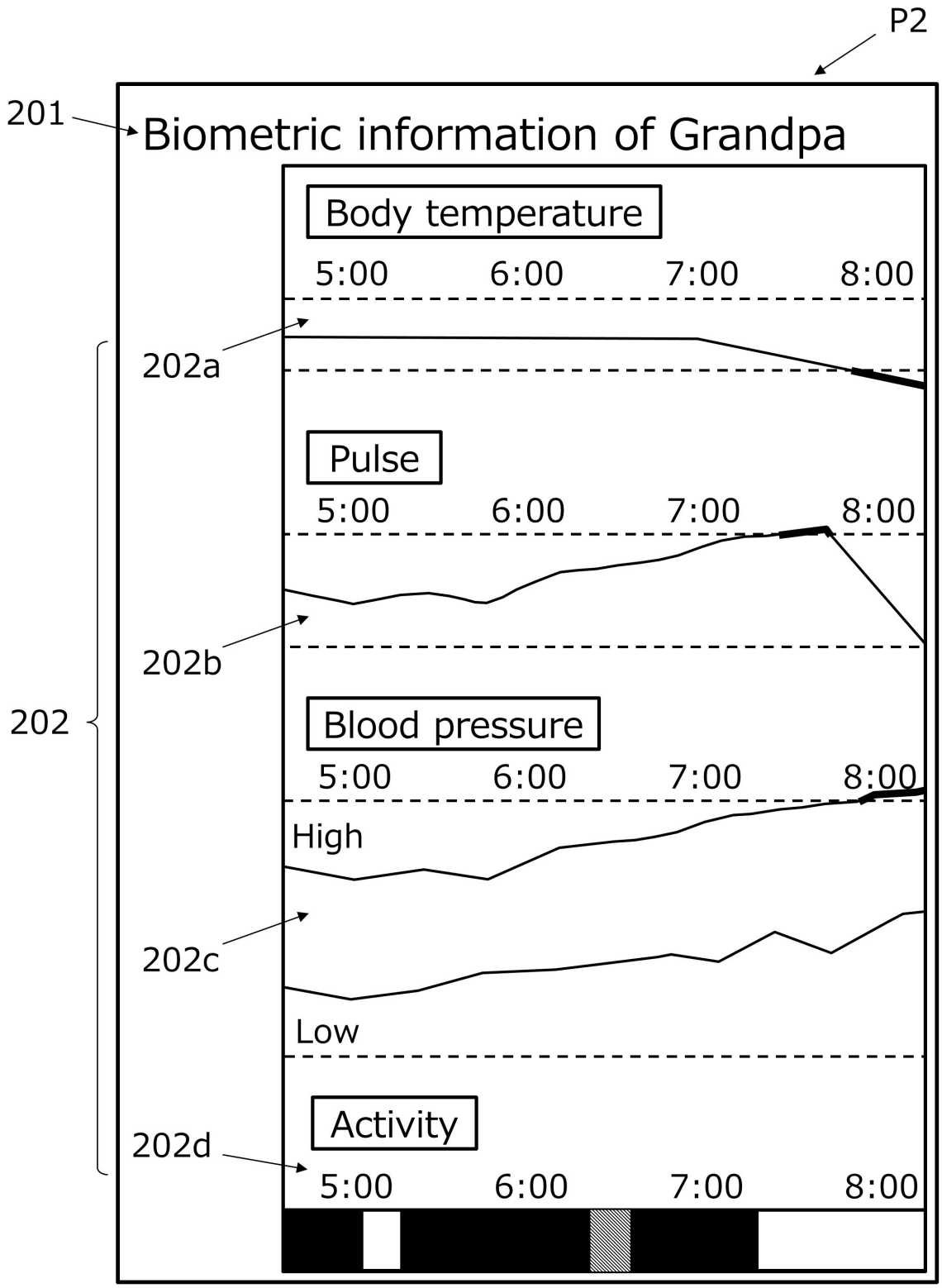

P2
201
Biometric information of Grandpa
Body temperature
5:00
6:00
7:00
8:00
202a
Pulse
5:00
6:00
7:00
8:00
202b
202
Blood pressure
5:00
6:00
7:00
8:00
High
202c
Low
Activity
202d
5:00
6:00
7:00
8:00

Fig. 10

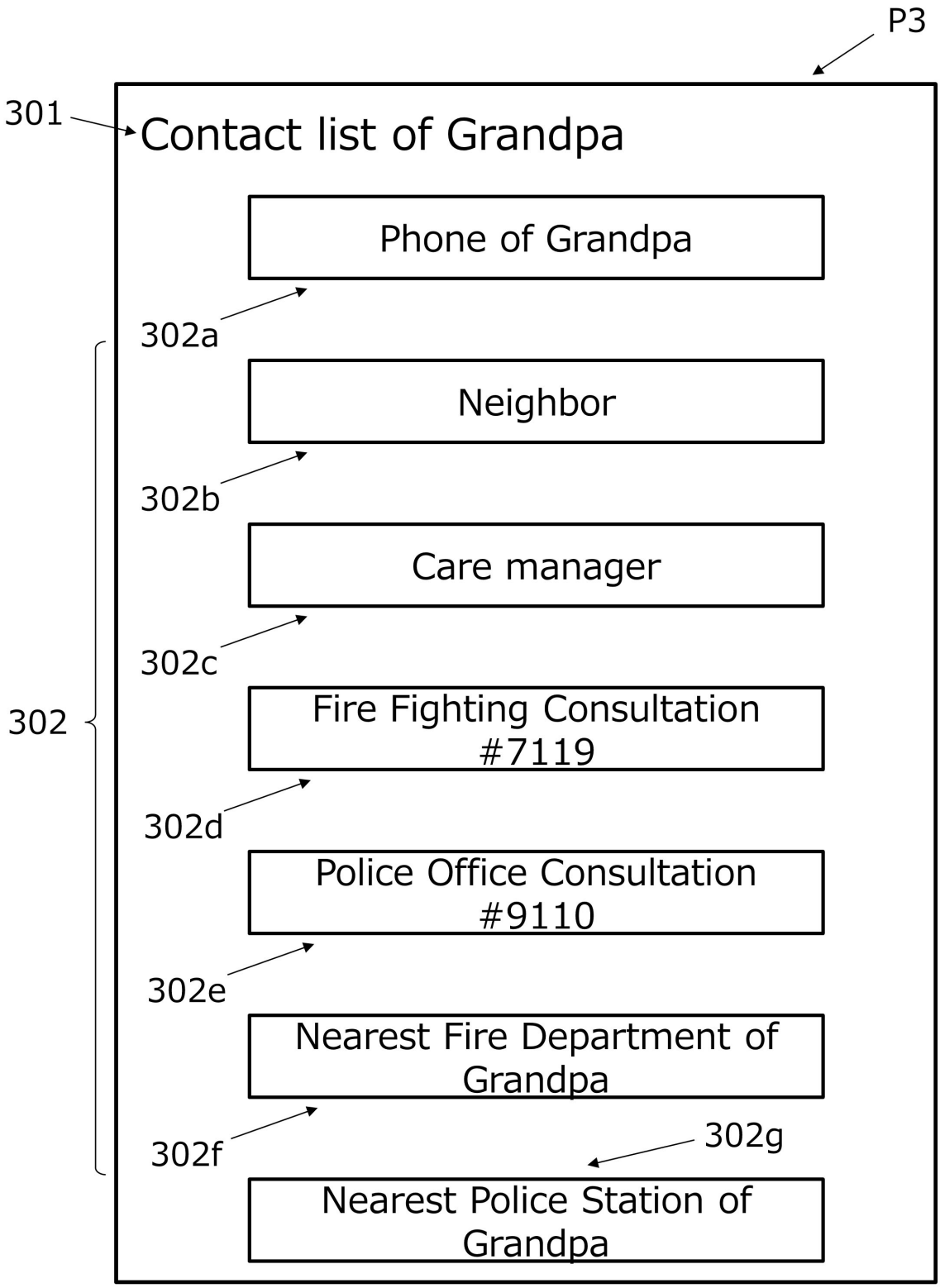

P3
301
Contact list of Grandpa
Phone of Grandpa
302a
Neighbor
302b
Care manager
302c
302
Fire Fighting Consultation #7119
302d
Police Office Consultation #9110
302e
Nearest Fire Department of Grandpa
302f
302g
Nearest Police Station of Grandpa

Fig. 11

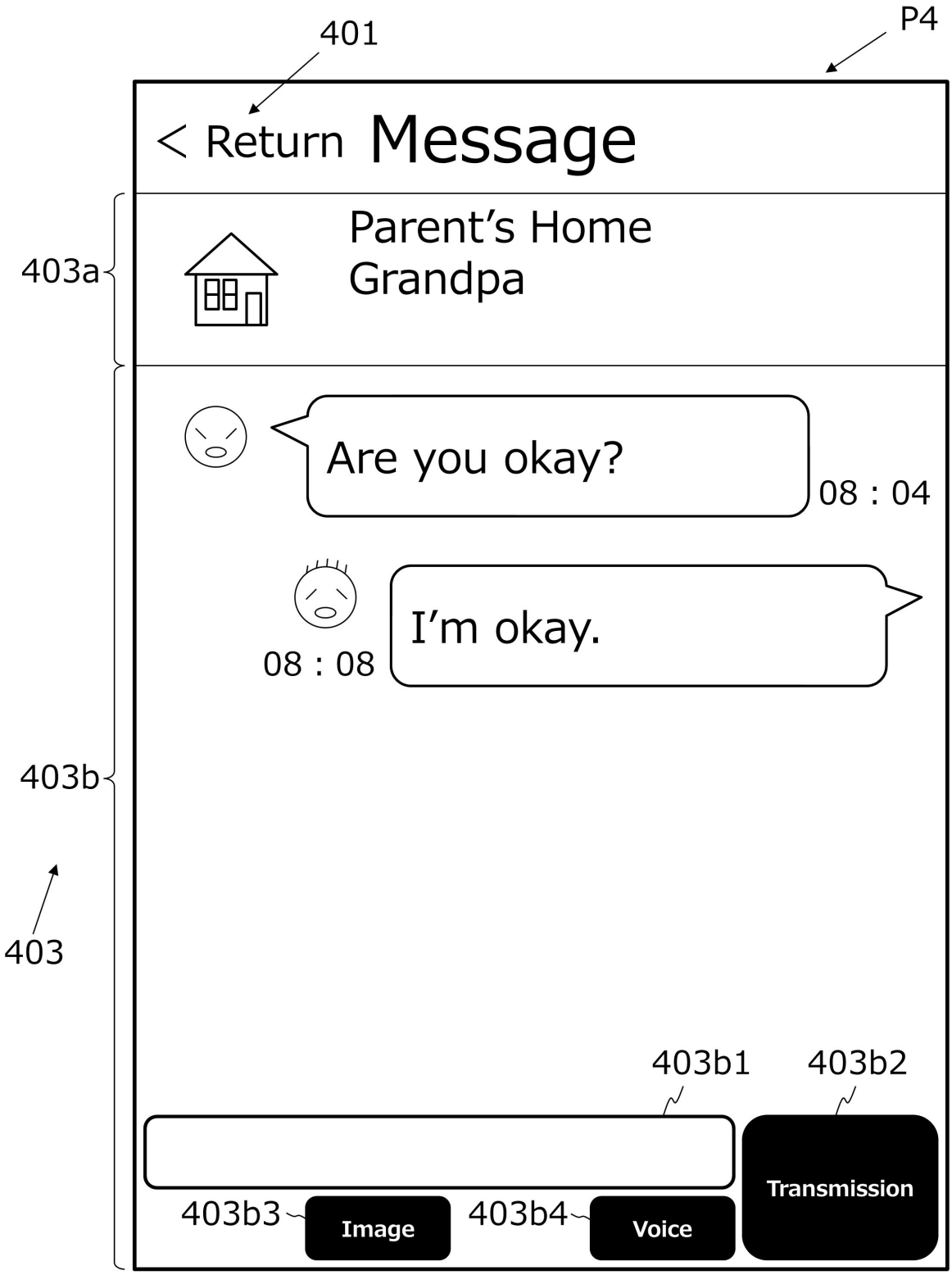

401
P4
< Return
Message
403a
Parent's Home
Grandpa
Are you okay?
08 : 04
I'm okay.
08 : 08
403b
403
403b1
403b2
Transmission
403b3
Image
403b4
Voice

Fig. 12

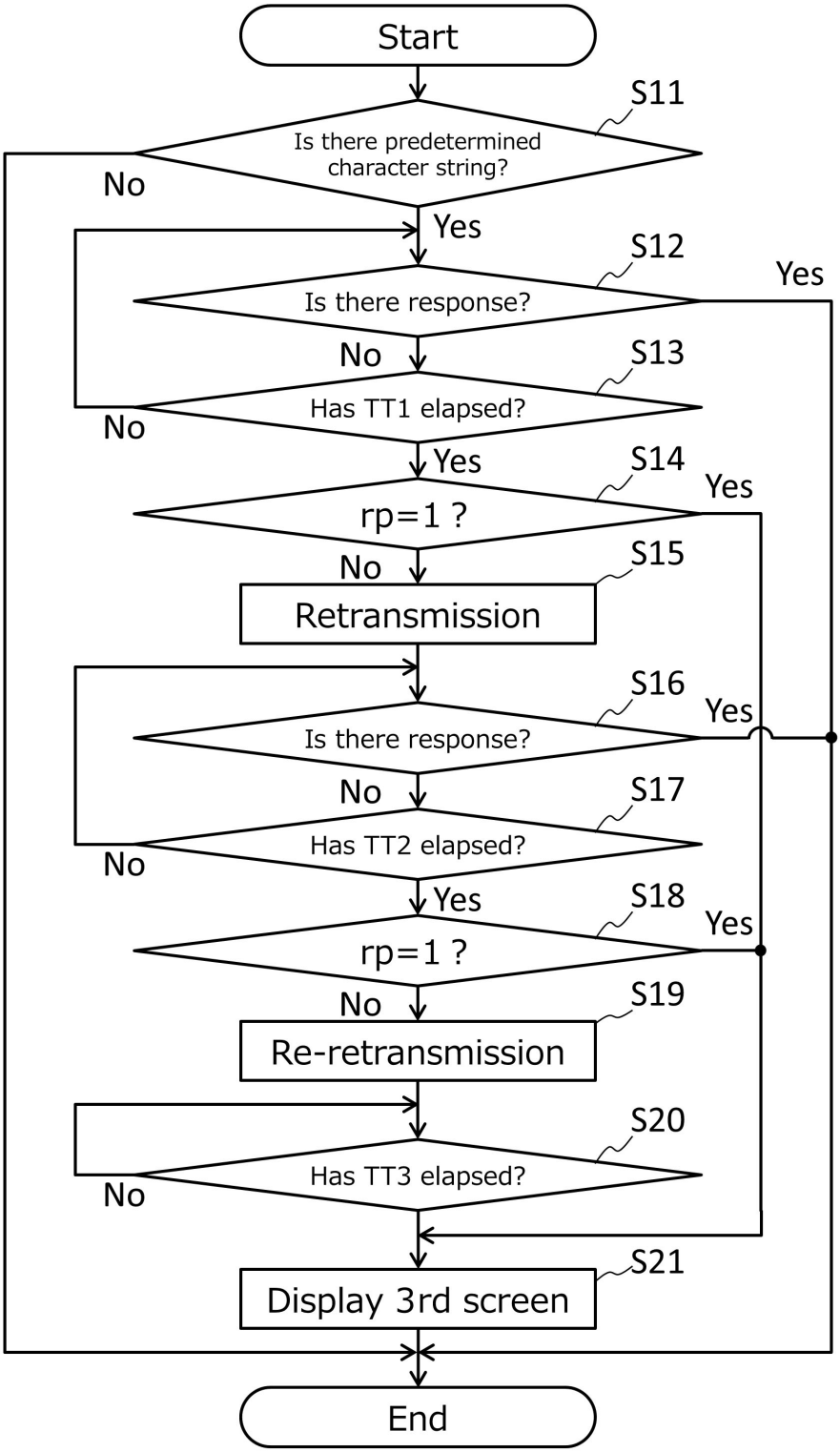

Start
S11
Is there predetermined character string?
No
Yes
S12
Is there response?
Yes
No
S13
Has TT1 elapsed?
No
Yes
S14
rp=1 ?
Yes
No
S15
Retransmission
S16
Is there response?
Yes
No
S17
Has TT2 elapsed?
No
Yes
S18
rp=1 ?
Yes
No
S19
Re-retransmission
S20
Has TT3 elapsed?
No
S21
Display 3rd screen
End

Fig. 13

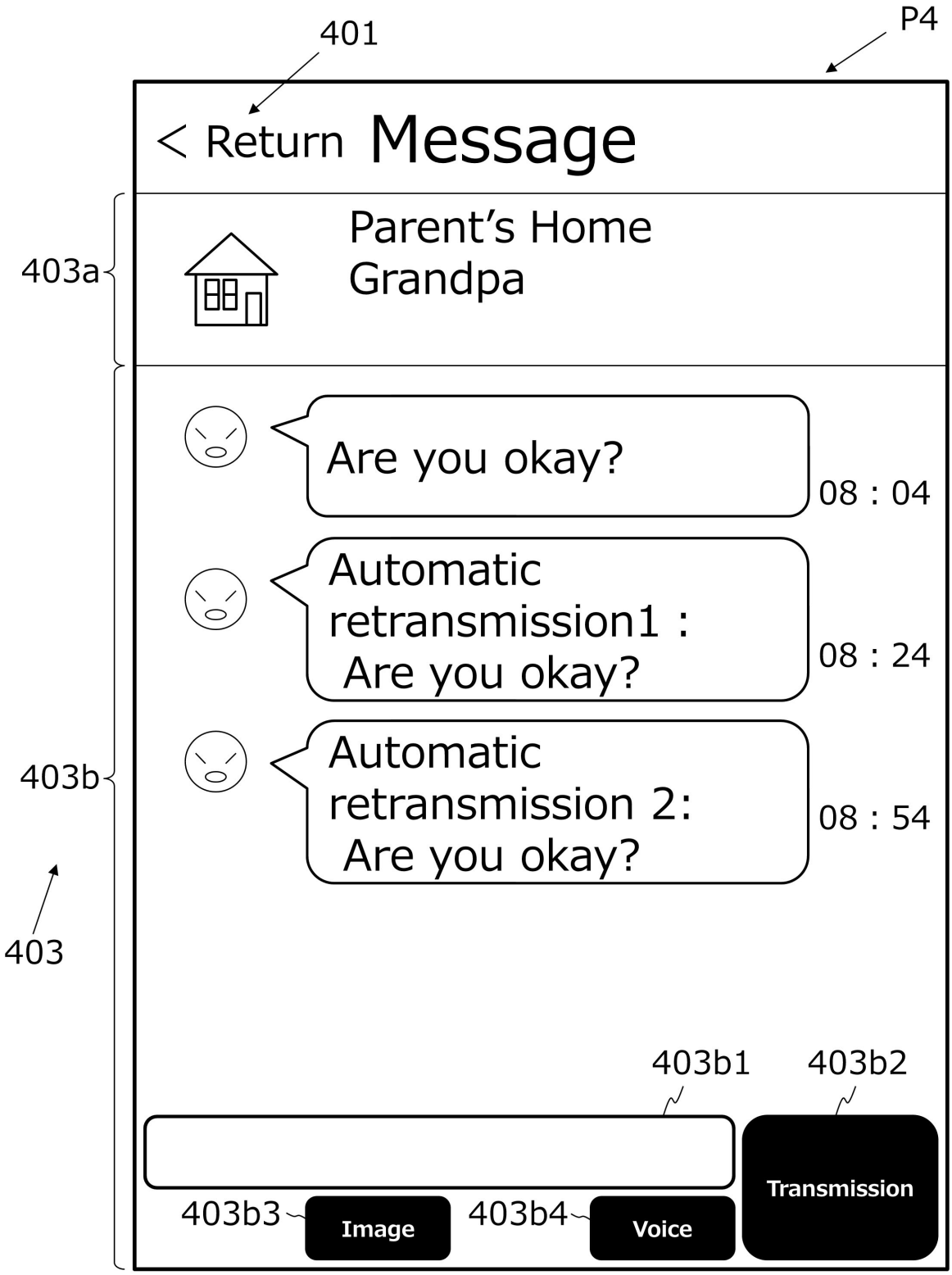

P4
401
< Return Message
403a
Parent's Home
Grandpa
Are you okay?
08 : 04
Automatic retransmission1 : Are you okay?
08 : 24
Automatic retransmission 2: Are you okay?
08 : 54
403b
403
403b1
403b2
Transmission
403b3
Image
403b4
Voice

Fig. 14

From user of 51st communication terminal M51 to Mx. Susuki

Message has been transmitted from 51st communication terminal M51 to 54th communication terminal M54, but there has been no response from user of 54th communication terminal M54. Abnormalities have not been detected in biometric information.

Fig. 15

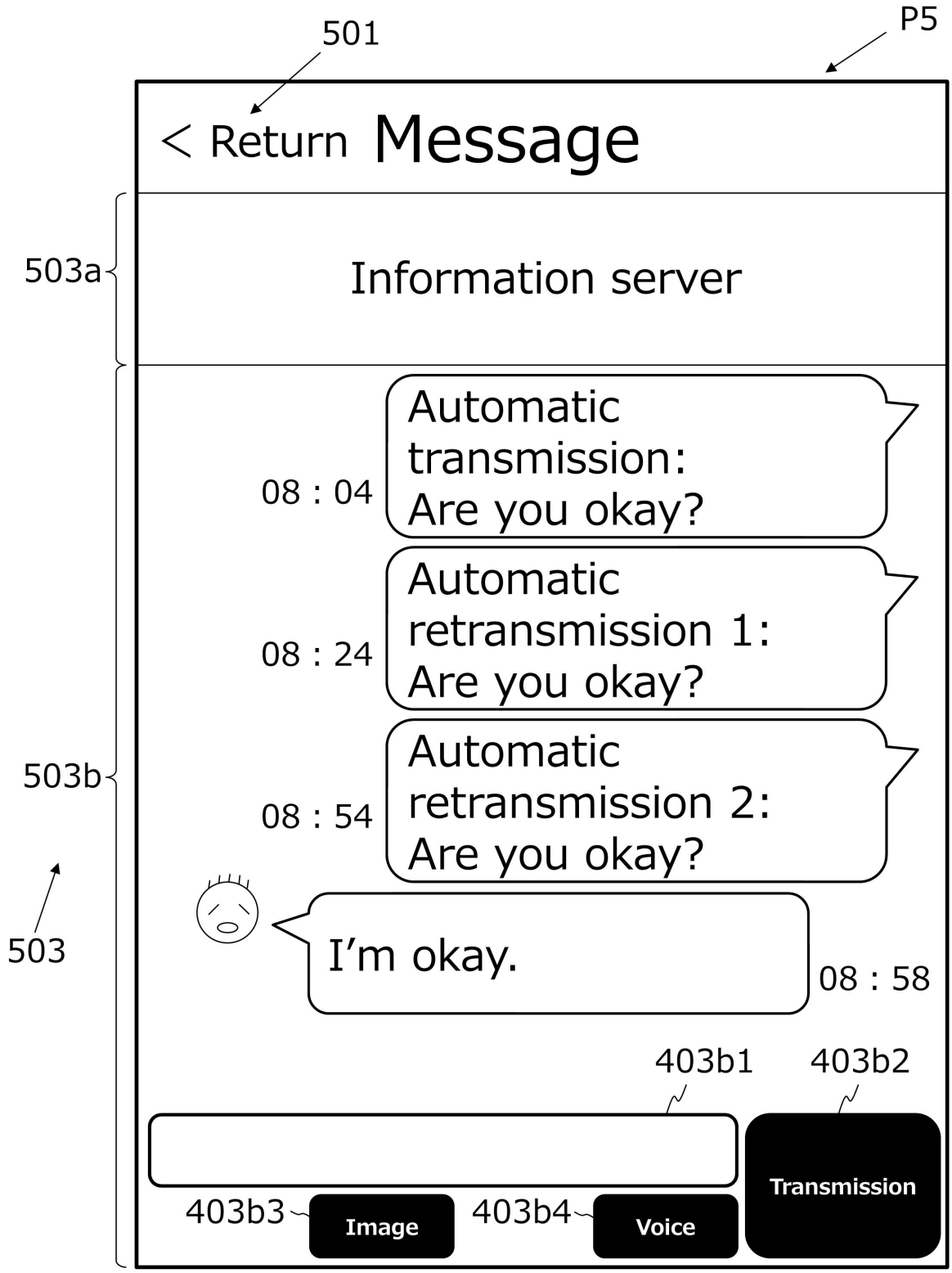

501
P5
< Return Message
503a
Information server
503b
503
08 : 04
Automatic transmission: Are you okay?
08 : 24
Automatic retransmission 1: Are you okay?
08 : 54
Automatic retransmission 2: Are you okay?
I'm okay.
08 : 58
403b1
403b2
Transmission
403b3
Image
403b4
Voice

Fig. 16

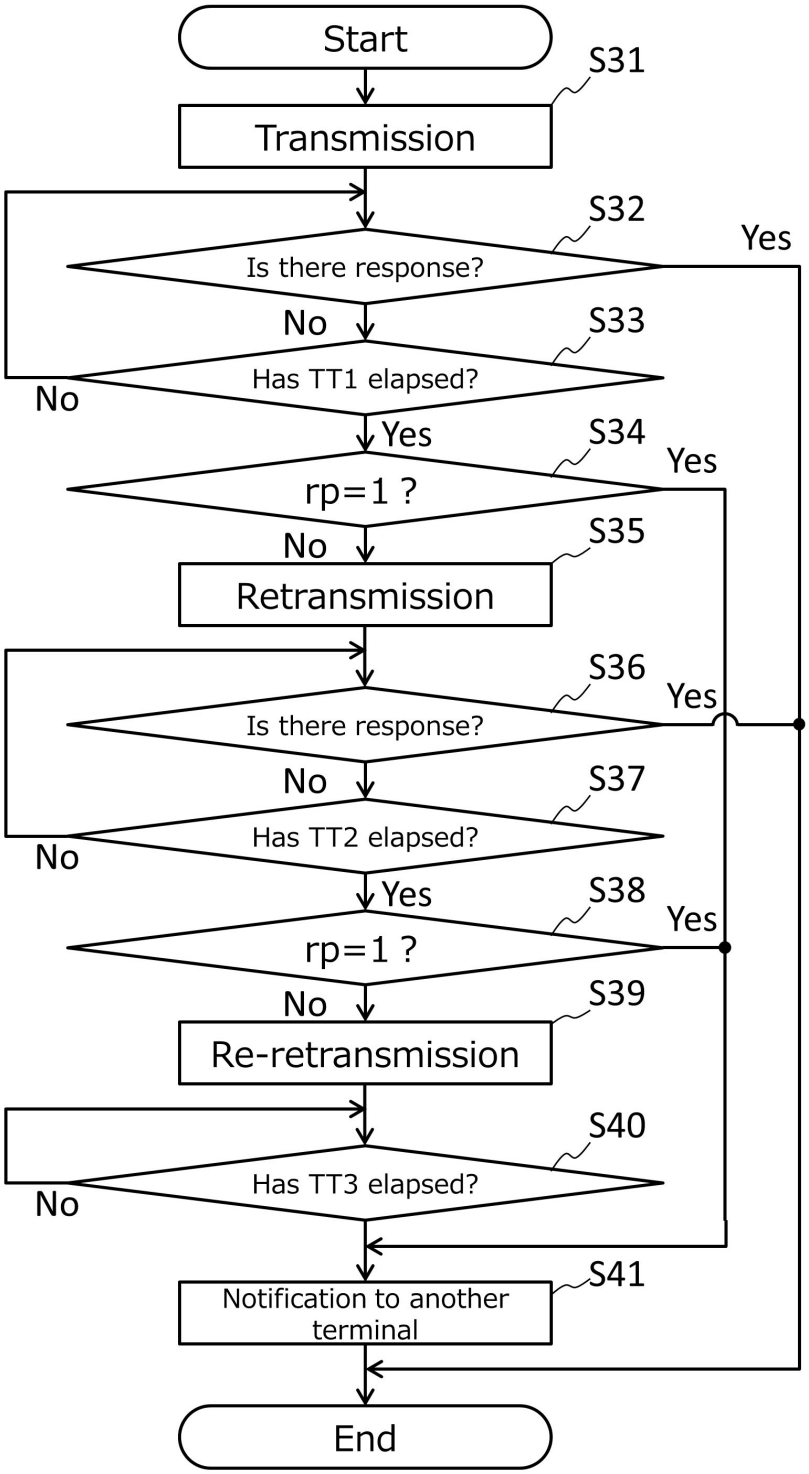
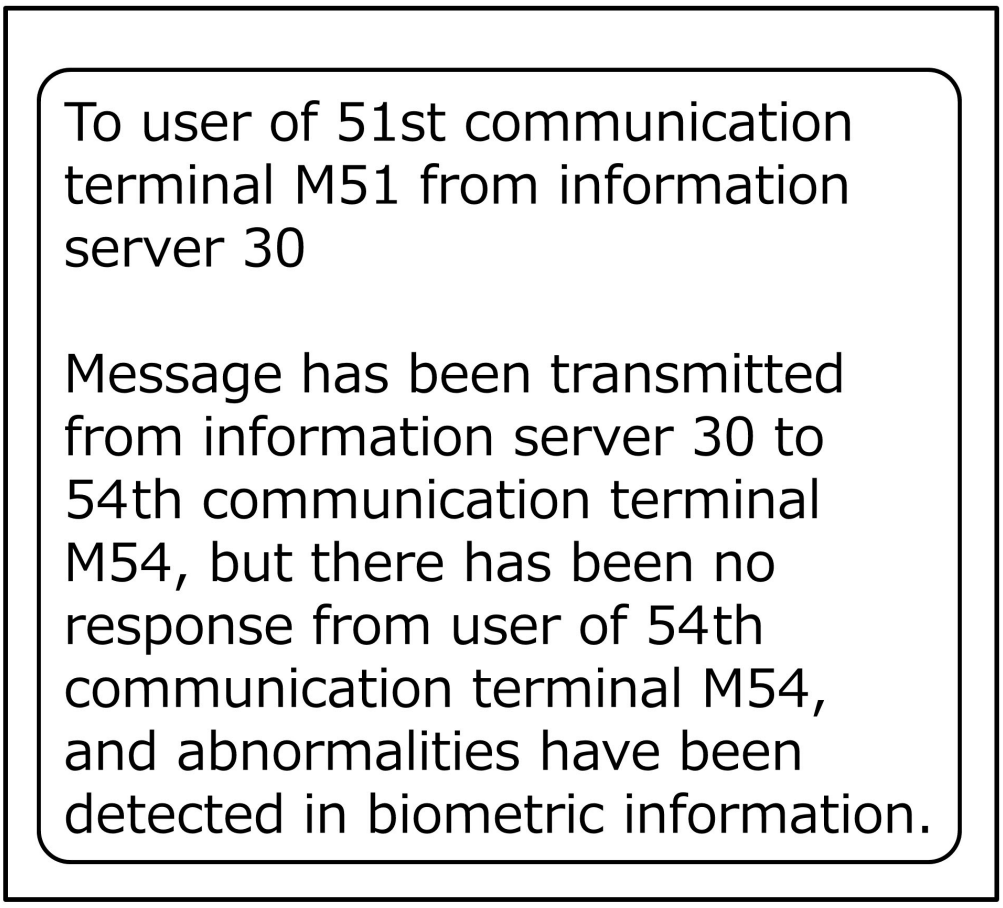

Start
S31
Transmission
S32
Is there response?
Yes
No
S33
Has TT1 elapsed?
No
Yes
S34
rp=1 ?
Yes
No
S35
Retransmission
S36
Is there response?
Yes
No
S37
Has TT2 elapsed?
No
Yes
S38
rp=1 ?
Yes
No
S39
Re-retransmission
S40
Has TT3 elapsed?
No
S41
Notification to another terminal
End

Fig. 17


To user of 51st communication terminal M51 from information server 30
Message has been transmitted from information server 30 to 54th communication terminal M54, but there has been no response from user of 54th communication terminal M54, and abnormalities have been detected in biometric information.