- Overall pretty good
- Needs work on enablement
  → "preferred" → How?
- Some aspects missing

Class grade A-
practice ready ~ B+/B

A SYSTEM A METHOD TO

PROVIDE PROGRAM INSTRUCTION FOR AN ELECTRONIC DEVICE

How about "Electronic Device System & Method"?

CROSS-REFERENCE TO RELATED APPLICATIONS

[0001] [Not Applicable][List Related Applications]

eliminate if not used

Examples:

[The present application is a continuation of Application No. XX/XXX,XXX, filed XXXXX, entitled " XXXXX", which is hereby incorporated by reference in its entirety.]

[The present application claims the benefit of U.S. Provisional Application No. 62/XXX,XXX, filed XXXXX, entitled "XXXXXX", which is hereby incorporated by reference in its entirety.]

Drawings - Font & text too small
- Do NOT print on used paper
- Too light for PTO
- Conceptually very good

NOT Graded

BACKGROUND OF THE INVENTION

[0002] The present invention generally relates to a [invention]. More particularly, the present invention relates to a [invention, more specifically – but NOT PON].

[0003] [general background]

[0004] [describe prior art]

[0005] [DO NOT INCLUDE ANY OF – long felt need, anything relating to your invention or the motivation for making your invention.]

Not Needed

BRIEF SUMMARY OF THE INVENTION

[0006] One or more of the embodiments of the present invention provide [describe invention as claimed]

CENTER

BRIEF DESCRIPTION OF THE DRAWINGS

[0007] FIG. 1 illustrates a system to provide program instructions for an electronic device according to an embodiment of the present invention.

[0008] FIG. 2 illustrates a user interface for providing user input regarding a plurality of communication applications as user preference information.

[0009] FIG. 3 illustrates a user interface for providing a user input for making additional communication applications made available in user preference information.

[0010] FIG. 4 illustrates a flowchart of a method to provide process instructions according to an embodiment of the present invention

[0011] FIG. 5 illustrates a user interface as an alternative embodiment of providing the process instructions according to an embodiment of the present invention.

[0012] FIG. 6 illustrates a user interface as an alternative embodiment of providing the process instructions according to an embodiment of the present invention.

[0013] FIG. 7 illustrates a user interface as an alternative embodiment of providing the process instructions according to an embodiment of the present invention.

[0014] FIG. 8 illustrates a user interface as an alternative embodiment of inputting user preference for the process instructions according to an embodiment of the present invention.

[0015] FIG. 9 illustrates a user interface as an alternative embodiment of inputting user preference for the process instructions according to an embodiment of the present invention.

[0016] FIG. 10 illustrates a possible embodiment of the search screen interface for inputting user preference.

[0017] FIG. 11 illustrates a flowchart of an embodiment of a process for detecting user voice communication and determining whether to allow those calls while the user's HRV values are below the threshold HRV value.

[0018] FIG. 12 illustrates a flowchart as an embodiment of a process for determining whether to provide an alternative display before a user engages in an activity.

[0019] FIG. 13 illustrates an alternative embodiment for a system for providing program instructions for an electronic device including a user mobile device that also functions as a fitness-monitoring device.

[0020] FIG. 14 illustrates another embodiment of a system for providing program instructions to an electronic device based on a user's HRV values.

TMB for over all

DETAILED DESCRIPTION OF THE INVENTION

Need Better Name - Too abstract

[0021] Figure 1 illustrates a system to provide program instructions for an electronic device 100 according to an embodiment of the present invention. The system to provide program instructions for an electronic device 100 includes a fitness-monitoring device 101 and a user mobile device 150. The fitness device includes a heartbeat sensor 105, a central processing unit (CPU) 110, a data storage unit 120, a heartbeat monitor 121, a heart rate calculator 122, and a digital signal transmitter 130. The heartbeat sensor 105 includes an analogue–to–digital converter (ADC) 106. The CPU 110 includes a system clock 111.

[0022] The mobile device 150 includes a digital signal transceiver 151, a network controller 190, an audio output component 152, a visual output component 153, a central processing unit (CPU) 160, a data storage unit 170. The CPU 160 includes a system clock 161. The data storage unit 170 includes picture files 171, audio files 172, contact information 173, user preference information 174, process instructions 174, and system applications 180. The system applications 180 include an email application 181, a voice communication application 182, an instant message application 183, an Internet browser application 184, and a video communication application 185. The network controller 190 includes a Wi-Fi network component 191, a cellular network component 192, and a Bluetooth network component 193.

Hmm. not quite. You are labeling it as a physical component & it is not. Memory should be on which it is stored & not a physical component, so it could be "E-mail application memory" if desired

[0023] In the fitness-monitoring device 101, the heartbeat sensor 105 is electronically coupled to the ADC 106. The heartbeat sensor 105 is electronically connected to the CPU 110. The CPU 110 is electronically connected to the data storage unit 120, and provides

instructions to the heartbeat sensor 105, the heartbeat monitor 121, the heart rate calculator 122, and the digital signal transmitter 130. Moreover, the CPU 110 is in communication with the system clock 111.

[0024] In the user mobile device 150, the digital signal transceiver 151, the audio output component 152, the visual output component 153, the data storage unit 170, and the network controller 190 are electronically connected to the CPU 160. The CPU 160 is electronically coupled with the system clock 161. The data storage unit 170 is electronically in communication with the picture files 171, the audio files 172, the contact information 173, the user preference information 174, the process instructions 175, and the system applications 180. The system applications 180 is in electronic communication with the email application 181, a voice communication application 182, an instant message application 183, an Internet browser application 184, and a video communication application 185. The network controller 190 is electronically connected with the Wi-Fi network component 191, the cellular network component 192, and the Bluetooth network component 193.

Could be "systems applications" memory includes email application memory...

see, what is future at place not work.

[0025] The picture files 171, the audio files 172, the contact information 173, the user preference information 174, and process instructions 175 are retrievable + storable / accessible ~~in electronic communication with~~ the CPU 160 and the system applications 180. The email application 181, the voice communication application 182, the instant message application 183, the Internet browse application 184, and the video communication application 185 are in electronic communication with the CPU 160 and the system applications 180. Likewise, the Wi-Fi network component 191, the cellular network component 192, and the Bluetooth network

component 193 are also in electronic communication with the CPU 160 and the system applications 180.

[0026] In operation, a user heartbeat data is transferred from the heartbeat sensor 105 to the digital signal transmitter 130 in a series of steps. First, the user's heartbeats detected by the heartbeat sensor 105 is transmitted to the ADC 106. Then the ADC 106 converts the analog heartbeat data to a digital heartbeat data, and transmits the heartbeat data to the heartbeat monitor 121. Once the heartbeat data is received, the heartbeat monitor 121 stores the heartbeat data in the data storage unit 120. The heart rate calculator 122 then accesses the heartbeat data from the data storage unit 120 to generate user heart rate data. Once generated, the user heart rate data is stored in the data storage unit 120. Next, the CPU 110 transmits the user's heart rate data from the data storage unit 120 to the signal transmitter 130. Then the signal transmitter 130 transmits the heart rate data to the digital signal transceiver 151 of the user mobile device 150.

[0027] Once the digital signal transceiver 151 of the user mobile device 150 receives the user heart rate data from the digital signal transmitter 130 of the fitness-monitoring device 101, the CPU 160 stores the user heart rate data in the data storage unit 170. The CPU 160 then accesses the user heart rate data from the data storage unit 170 and calculates user HRV values using the user heart rate data. The CPU 160 then stores the user HRV values in the data storage unit 170. After storing the user HRV values in the data storage unit 170, the CPU 160 compares the user's HRV value to a predetermined HRV threshold value stored in the data storage unit 170. This process of the digital signal transceiver 151 of the user mobile device 150 receiving the user heart rate data from the

digital signal transmitter 130 of the fitness-monitoring device 101, the CPU 160 storing the user heart rate data in the data storage unit 170, the CPU 160 calculating the user HRV values using the heart rate data stored in the data storage unit 170, the CPU 160 storing the user HRV values in the data storage unit 170, and the CPU 160 comparing the user HRV values to the predetermined HRV threshold value occurs continuously. Repeatedly (non-critical)

[0028] When the CPU 160 determines that the user HRV values are below the predetermined HRV threshold value, it stores the user HRV values in the data storage unit 170. Afterwards, the CPU 160 also determines at what time the user's HRV value was below the threshold HRV value by using the system clock 162. The CPU 160 then also stores the time information denoting when the user's HRV values were below the predetermined HRV threshold value. Afterwards, the CPU 160 provides process instructions 175 for the system applications 180. However, when the user HRV value are not below the predetermined HRV threshold value, the CPU 160 continues to calculate the user's HRV values and compares them to the predetermined HRV threshold value. Also the CPU 160 stores neither the user's HRV values nor the time information when the user's HRV values are below the predetermined HRV threshold value. Moreover, the CPU 160 does provide the process instructions 175 for the system applications 180.

where did this come from? Is it good or bad to be below?

when?

what instructions? not further described below

alone?

[0029] In one of the embodiments, the process instructions 175 for the system applications 180 terminates and prevents all communication applications such as the email application 181, the voice communication application 182, the instant message application 183, the Internet browse application 184, and the video communication application 185 from initiating or operating. In another embodiment, the process

How? "when activation signal received..."

See - this doesn't work as a non-functional defined term

instructions 175 will access at least one of the picture files 171, and display at least one picture on a screen of the user mobile device via the visual output component 153. In another embodiment, the process instruction will access at least one of the audio files 172, and generate music from the user mobile device via the audio output component 152.

[0030] In one of the embodiments, the CPU 160 provides process instructions 175 for the system applications 180 to terminate the email application 181 when the user HRV values are below the predetermined threshold HRV value. Moreover, the CPU 160 will prevent the email application 181 from initiating when the user HRV values are below the predetermined threshold HRV value. Any incoming or outgoing emails will be prevented. However, the user can provide user preference information 174 to determine whether to prevent just incoming emails, outgoing emails, both, or nothing. For example, if the user preference 174 indicates that only incoming emails are to be prevented, then while the user HRV values are below the HRV threshold value, only incoming emails will be prevented. On the other hand, if the user preference indicates that neither incoming nor outgoing emails are to be prevented, then both modes of email communication will be available while the user HRV values are below the HRV threshold.

[0031] Figure 2 illustrates a user interface 200 for providing a user input regarding a plurality of communication applications as user preference information. A user can provide user input via sliding buttons 230 located directly to the right of different communication modes for each communication applications. If the user wishes to have

additional communication applications to be available in the user interface 200, the user can press a button 220, to access a user interface 240.

[0032] Figure 3 illustrates a user interface 240 for providing a user input for adding additional communication applications made available in the user interface 200. As shown in the figure, a user may toggle sliding buttons 250 to add additional communication applications such as Facebook and Snapchat. Once user input has been made, the user can press a button 260 to confirm the user input and add those additional communication applications.

See above

[0033] In one of the embodiments, the CPU 160 provides process instructions 175 for the system applications 180 to terminate the voice communication application 182 when the user HRV values are below the predetermined threshold HRV value. Moreover, the CPU 160 will prevent the voice communication application 182 from initiating when the user HRV values are below the predetermined threshold HRV value. Any incoming or outgoing voice communications will be prevented. However, the user can provide user preference information 174 to determine whether to prevent just incoming voice communications, outgoing voice communications, both, or nothing. For example, if the user preference 174 indicates that only outgoing voice communications are to be prevented, then while the user HRV values are below the HRV threshold value, only outgoing voice communications will be prevented. On the other hand, if the user preference indicates that neither incoming nor outgoing voice communications are to be prevented, then both modes of voice communications will be available while the user HRV values are below the HRV threshold.

How? — Intuition command for pre-selected voice applications will be ignored

[0034] In one of the embodiments, the CPU 160 provides process instructions 175 for the system applications 180 to terminate the instant message application 183 when the user HRV values are below the predetermined threshold HRV value. Moreover, the CPU 160 will prevent the instant message application 183 from initiating when the user HRV values are below the predetermined threshold HRV value. Any incoming or outgoing instant message communications will be prevented. However, the user can provide user preference information 174 to determine whether to prevent just incoming instant message communications, outgoing instant message communications, both, or nothing. For example, if the user preference 174 indicates that only outgoing instant message communications are to be prevented, then while the user HRV values are below the HRV threshold value, only outgoing instant message communications will be prevented. On the other hand, if the user preference indicates that incoming instant message communications are to be prevented, then only incoming instant message communications will be available while the user HRV values are below the HRV threshold.

[0035] In one of the embodiments, the CPU 160 provides process instructions 175 for the system applications 180 to terminate the Internet browser application 184 when the user HRV values are below the predetermined threshold HRV value. Moreover, the CPU 160 will prevent the Internet browser application 184 from initiating when the user HRV values are below the predetermined threshold HRV value. However, the user can provide user preference information 174 to determine whether to prevent the Internet browser application at all. For example, if the user preference 174 indicates that the Internet browser application 184 will not be prevented, the user will be able to operate the Internet

browser application 184, even when the user HRV values are below the HRV threshold value.

[0036] In one of the embodiments, the CPU 160 provides process instructions 175 for the system applications 180 to terminate the video communication application 185 when the user HRV values are below the predetermined threshold HRV value. Moreover, the CPU 160 will prevent the video communication application 185 from initiating when the user HRV values are below the predetermined threshold HRV value. Any incoming or outgoing video communication will be prevented. However, the user can provide user preference information 174 to determine whether to prevent just incoming video communication, outgoing video communications, both, or nothing. For example, if the user preference 174 indicates that only incoming video communications are to be prevented, then while the user HRV values are below the HRV threshold value, only incoming video communications will be prevented. On the other hand, if the user preference indicates that neither incoming nor outgoing video communications are to be prevented, then both modes of video communications will be available while the user HRV values are below the HRV threshold.

where does this come from? – stored in memory

[0037] In another alternative embodiments, a warning is provided a predetermined time before communication applications are terminated. For example, if the predetermined time is ten seconds, a warning will be displayed on the screen ten seconds before the CPU 160 terminating any operating communication applications. The predetermined time can be changed in the user preference information 174 of the data storage unit 170. Furthermore, the predetermined time can be turned off or set at zero seconds. In that case,

OK

by a user using an interface?

whenever the user HRV values are below the predetermined HRV threshold value, there will be no warning provided to the user before the CPU 160 terminates any operating communication applications.

[0038] In another alternative embodiment, the user can change the predetermined HRV threshold value to any value. However, when the HRV threshold value is set too high or above the normal HRV value for the user, the CPU 160 will likely terminate and prevent any operating communication applications very often. The opposite will likely hold true when the HRV threshold value is set much lower than the normal HRV value for the user.

[0039] In another alternative embodiment, the user will be able to specify what times of the day the CPU 160 will be able to terminate and prevent communication applications such as the email application 181, voice communication application 182, the instant message application 183, the Internet browser application 184, and the video communication application 185. For example, assume that a user indicates that the CPU 160 cannot terminate and prevent communication applications between 1pm and 5pm. In that case, regardless how low the user HRV value is compared to the HRV threshold value, between 1pm and 5pm, the CPU 160 will not provide the process instructions 174 to communication applications of the system applications 180 to terminate and prevent them from operating or initiating.

[0040] Figure 4 illustrates a flowchart 300 of a method to provide process instructions 174 according to an embodiment of the present invention. First, at step 305, a user heart rate data is received, and the user's HRV values are calculated. Next, the process proceeds

where where

to step 310 where a determination is made as to whether the user HRV value is below the predetermined HRV threshold value. If the user HRV value is not below the predetermined HRV threshold value, then the process proceeds back to step 305 and awaits the receipt of additional heart rate data and user HRV value. However, if at step 310 the user HRV value is below the predetermined HRV threshold value, then the process proceeds to step 315. At step 315, the time at which the user HRV value dropped below the predetermined HRV threshold value is stored in the data storage unit 170.

[0041] Next, the process proceeds from step 315 to step 320 at which a determination is made whether there are any communication applications—such as email application 181, voice call, the instant messaging application 183, the Internet browsing application 184, and the video communication application 185 in Figure 1—in operation. If there are no communication applications running, then the process proceeds to step 323. However, if at step 320 there are communication applications running, then the process proceeds to step 321 instead. At step 321, a warning is given to the user and the process proceeds to step 323. At step 322, any communication application running is terminated and the process proceeds to step 323. At step 323, and any communication application is prevented from initializing. Next, the process proceeds to step 325 where the system process instructions 174 are executed. At step 330, the user's heart rate data and HRV are received and calculated, respectively.

[0042] At step 331, a determination is made as to whether the user's HRV value has gone above the predetermined HRV threshold value since executing at least one of the system process instructions. If the user's HRV value has gone above the predetermined HRV

threshold value since, then the process proceeds to step 335. On the other hand, if at step 331 the user's HRV value has not gone above the predetermined HRV threshold value, then the process proceeds to step 332. At step 332, a determination is made as to whether the predetermined period of time has elapsed since executing at least one of the system process instructions. If the predetermined period of time has not passed since executing at least one of the system process instructions, then the process proceeds to step 333. However if, at step 332, the predetermined period of time has passed since, then the process proceeds to step 335. At step 333, a determination is made as to whether the user has pressed an "Abort" button on the screen of the mobile device. If the user has not pressed the "Abort" button, then the process proceeds back to step 330 where the user heart rate data and HRV values are being received and calculated, respectively. However, if at step 333 the user has aborted the prevention, then the process proceeds to step 335. At step 335, the process instructions provided to the system applications at step 325 are no longer provided. Next, the process proceeds back to step 305, where the user's heart rate data is received and the user HRV values calculated.

[0043] FIG 5 illustrates a user interface as an alternative embodiment of the process instructions 174 according to an embodiment of the present invention. The process instructions 174 provided at step 325 displays a picture on the screen of the user mobile device 150. The user can predetermine which picture will be displayed on the screen when the user HRV value is below the HRV threshold value. The picture may be a still picture or a moving picture such as GIF file. Moreover, multiple pictures may be displayed on the screen at the same time or a set of pictures can be shown one at a time in a specific or random order.

How? – Retrieves it from 171 + displays
How? – selection is stored in 174 + retrieved by CPU when activated

[0044] FIG 6 illustrates a user interface as an alternative embodiment of the process instructions 174 according to an embodiment of the present invention. The process instructions 174 provided at step 325 plays an audio file from the user mobile device. The user can specify which audio file or audio files to be played when the user HRV values drop below the HRV threshold value. In addition, the user can specify what order the selected audio files will be played when the user HRV values drop below the HRV threshold value. Once an audio file starts to play because the user HRV dropped below the HRV threshold value, the user will be able to control the volume of the music played, fast forward or go back to a specific part of the music being played or skip to next or previous music played on the playlist.

DO alone = SA

[0045] FIG 7 illustrates a user interface as an alternative embodiment of the process instructions 175 according to an embodiment of the present invention. In an alternative embodiment of the process shown in Figure 6, instead of displaying at least one picture on the screen or playing at least one audio file, a de-stressing application such as virtual zen garden can be displayed. Depending on the user's predetermined preference, an audio file can be played while the de-stressing application is displayed on the screen.

[0046] FIG. 8 illustrates a user interface as an alternative embodiment of inputting user preference for the process instructions 175 according to an embodiment of the present invention. A user interface 350 is provided for configuring which process instructions are initiated when the user's HRV values are below the predetermined HRV threshold value. In the user interface 350, a list of possible process operations 351 such as displaying at least one picture, or playing at least one audio file, is displayed. For each of the possible

SA

process operations 351, corresponding sliding buttons 352 are displayed to the right of the corresponding process operations 351. At the bottom of the user interface 350, a button 353 is available for the user. Upon pressing the button 353, the user is directed to another user interface 356.

[0047] FIG. 9 illustrates a user interface as an alternative embodiment of inputting user preference for the process instructions 175 according to an embodiment of the present invention. When the user presses on the sliding buttons 352, an area is generated under the corresponding process operations 351 and the corresponding sliding buttons 352 as shown in FIG. 9. The user interface shown in FIG. 9 includes two new elements: a text box 354 displaying the name of the file and a search box 355. For example, the text box 354 may display "Corgi.jpg" as a name of the picture file to be displayed on the user mobile device screen when the user's HRV values are below the predetermined HRV threshold value. The user can press the search box 355 to open a search screen 357 that allows the user to search and select a picture file to be displayed on the user mobile device screen. Figure 10 illustrates a possible embodiment of the search screen interface 357 for inputting user preference. The search screen interface 357 allows the user to browse and select a picture file from a list of available picture files. The user then can either select a picture file by clicking on a picture file and a button 359 or close the search window 357 by clicking a button 358.

[0048] Another alternative embodiment of the flowchart 300 may have steps 331, 332, and 333 in different orders. For example, instead of checking first whether the user's HRV value is above the predetermined HRV threshold, the process can check first

whether the predetermined time has elapsed. Likewise, instead of checking first whether the user's HRV value is above the predetermined HRV threshold, the process can check first whether the use has pressed the "Abort" button displayed on the screen of the mobile device. In addition, another embodiment of the flowchart 300 may not include all of the steps 331, 332, and 333.

[0049] In an alternative embodiment shown in FIG. 2, users can access a communication application control setting interface 200 to individually allow or disallow any of the inbound or outbound communications for the email application 181, the voice communication application 182, the instant message application 183, the Internet browser application 184, and the voice communication application. In communication application control setting interface 200, a user can touch a plurality of buttons 230 to determine whether a given communication application, for example, inbound voice calls, will be allowed or disallowed when the user's HRV value is less than the predetermined HRV threshold value stored in the data storage unit 170 of the user mobile device 150. For example, the user, as shown in FIG. 3, touches the "Allow/Disallow" buttons 230 to allow inbound voice calls, outbound E-mails, and Internet browsing. When the user's HRV values falls below the predetermined HRV threshold value 175, the system process instructions 175 will neither terminate or prevent inbound voice communication, outbound E-mails, and Internet browsing. Those means of communication will be allowed while other applications and methods of communication will be terminated and prevented. The user can touch the buttons 230 to change the communication control preferences, which will be saved in the data storage unit 170. Furthermore, the user can add other communicative methods to be controlled by touching a button 220. When the

user touches the button 220, a user interface 240 showing a list of communication applications—such as Twitter, Facebook, Instagram, and others—becomes available to the user.

[0050] FIG 3 shows the user interface 240 displaying a list of communication applications that can be added to the user's communication application control preferences. The user interface 240 generates a list of communication applications based on the communication applications installed in the data storage device of the user mobile device. For example, when Facebook is installed in the user mobile device 150, but KakaoTalk is not, then Facebook will be available in the list of communication applications while KakaoTalk will not. After the user interface 240 becomes available, the user can touch a button 260 to select at least one of the listed communication applications. After selections have been made, the user can touch a "Confirm" button at the bottom of the screen to confirm the selections. Once the user confirms the selections, the communication applications selected by the user becomes available in the user interface 240.

Stored in 174 for later retrieval + use

[0051] FIG. 11 illustrates a flowchart 400 of an embodiment of a process for detecting user voice communication and determining whether to allow those calls while the user's HRV values are below the threshold HRV value. First, at step 405, a voice communication is detected by while the user's HRV value is below the predetermined HRV threshold value stored in the data storage unit 170. Then the process proceeds to step 410 where a determination is made as to whether the process instructions 174 have terminated and prevented initiation the voice communication application 182 of the

system application 180. If, at step 410 the communications applications have not been terminated and are not being prevented from initializing, then the process proceeds to step 430, where the detected voice communication is allowed. If, at step 410, the processing instructions 174 have terminated and preventing initiation of the communication applications in the user mobile device 150, then the process proceeds to step 415.

[0052] At step 415, a determination is made as to whether the user is in voice communication with one of the predetermined contacts that the user is allowed have either inbound or outbound voice communication with via the voice communication application 182. If the user is in voice communication with one of the predetermined contacts, then the process proceeds to step 420. If, at step 415, the user is voice communication with a person who is not one of the predetermined contacts, then the process proceeds to step 430, where the detected voice communication is allowed. At step 420, a determination is made as to whether the user, while the user's HRV value is below the predetermined HRV threshold value, has made the maximum number of voice communications to the predetermined contacts the user is allowed to have voice communication with. If, at step 420, the user, before step 405, has not met the predetermined maximum daily allowable voice communications with the predetermined contacts, then the process proceeds to step 430, were the voice communication detected at step 405 is allowed. If the user, before step 405, has had the predetermined maximum daily allowable voice communications with the predetermined contacts, then the process proceeds to step 425 and the voice communication detected at step 405 is not allowed.

From who?

what is "allowed" in technical terms?

From step 425, the process proceeds to step 335 where the voice communication application 182 is prevented from receiving inbound calls and making outbound calls.

How?

[0053] In an alternative embodiment, the process described in FIG 11 can instead detect other means of communications and determine whether to allow those means of communications while the user's HRV value is below the threshold HRV value. Those other means of communication can include but not limited to: inbound and outbound instant messages, inbound and outbound emails, inbound and outbound Google video communications, inbound and outbound Skype messages, inbound and outbound Skype video communications, Facebook notifications, Twitter notifications, Snapchat notifications, Instagram notifications, inbound and outbound KakaoTalk messages, inbound and outbound Link messages.

U666

[0054] In another alternative embodiment, the process can detect which Internet websites a user is attempting to access and determine whether to allow the user to access those websites. In this embodiment, the user has a predetermined list of at least one Internet website that the user is allowed to access while the user's HRV value is below the threshold HRV value. For example, if the website ESPN.com is in the user's predetermined list of Internet websites, then the user can access the website ESPN.com even though the user's HRV value is below the predetermined HRV threshold value. However, if the website ESPN.com is not in the user's predetermined list of Internet websites, then the user cannot access the website ESPN.com while the HRV value is below the predetermined HRV threshold value.

From where? How does it work

[0055] In another alternative embodiment, the process can detect which audio files a user is attempting to play and determine whether to allow the user to play those audio files. In this embodiment, the user has a predetermined list of least one audio file that the user is allowed to access while the user's HRV value is below the threshold HRV value. For example, if audio files "Welcome to the Jungle" and "Thriller" are in the user's predetermined list of audio files, then the user can play "Welcome to the Jungle" and "Thriller" even though the user's HRV value is below the threshold. However, if the audio files "Welcome to the Jungle" and "Thriller" are not in the user's predetermined list of audio files, then the user cannot play those two audio files while the user's HRV value is below the predetermined HRV threshold value.

[0056] In another alternative embodiment, the process can detect and analyze audio files a user is attempting to play and determine whether to allow the user to play those audio files based on the name of the artist or composer. In this embodiment, the user has a predetermined list of artists and composers whose music the user is allowed to play while the user's HRV value is below the threshold HRV value. For example, if "Michael Jackson" and "Antonio Vivaldi" are among the artists and composers in the user's predetermined list and "Eminem" is not, then the user can play "Smooth Criminal," by Michael Jackson and "The Four Seasons: Spring" by Antonio Vivaldi even though the user's HRV value is below the threshold. On the other hand, the user cannot play "Lose Yourself" by Eminem while the user's HRV value is below the predetermined HRV threshold value since "Enimem" is not in the user's predetermined list of artists and composers.

Interesting!

[0057] In another alternative embodiment, the process can detect names of video files a user is attempting to play and determine whether to allow the user to play those audio files based on the names of the video files. In this embodiment, the user has a predetermined list of names of the video files the user is allowed to play while the user's HRV value is below the threshold HRV value. For example, if video files "Serenity" and "Star Wars: Episode IV" are among the names of video files in the user's predetermined list and "Fast & Furious" is not, then the user can play "Serenity" and "Star Wars: Episode IV" even though the user's HRV value is below the predetermined HRV threshold value. On the other hand, the user cannot play "Fast & Furious" while the user's HRV value is below the predetermined HRV threshold value since "Fast & Furious" is not in the user's predetermined list of names of video files.

SA

[0058] In another alternative embodiment, the process can detect titles of YouTube videos a user is attempting to access, and determine whether to allow the user to play those YouTube videos based on their titles. In this embodiment, the user has a predetermined list of titles of YouTube videos the user is allowed to access while the user's HRV value is below the threshold HRV value. For example, if YouTube video titled "Kobe Bryant Career Highlights" is among the YouTube video titles in the user's predetermined list and "Asian Guy Sings 'Touch My Body'" is not, then the user can access YouTube video titled "Kobe Bryant Career Highlights" even though the user's HRV value is below the predetermined HRV threshold value. On the other hand, the user cannot access YouTube video "Asian Guy Sings 'Touch My Body'" while the user's HRV value is below the predetermined HRV threshold value since it is not in the user's predetermined list of names of YouTube videos.

URLS ?

[0059] FIG. 12 illustrates a flowchart 500 as an embodiment of a process for determining whether to provide an alternative display before a user engages in an activity. First, at step 505, user HRV values are calculated and monitored. Next, at step 510, an incoming voice call from "Horrible Boss" is detected. At step 511, user pre-activity HRV value—before answering the voice call—is calculated and stored. After the user has accepted the voice call from "Horrible Boss" at step 512, the user terminates the call at step 513. Then the process proceeds to step 514 where the user post-activity HRV value is calculated and stored. At step 515, an HRV impact value for the voice call with "Horrible Boss" is calculated by subtracting the user's post-activity HRV value calculated at step 514 from the user's pre-activity HRV value calculated at step 511. At step 520, a determination is made as to where there is a sufficient number of HRV impact values—for having a voice call with "Horrible Boss"—calculated at the step 514. If, at step 520, there is a sufficient number of HRV impact values, then the process proceeds to step 525. If, at 520, there is not a sufficient number of HRV impact values, then the process proceeds back to step 505, repeating the process again until there is a sufficient number of HRV impact value. At step 525 an estimated HRV impact for having a voice call with "Horrible Boss" is calculated by taking an average of the plurality of HRV impact values for voice calls with "Horrible Boss."

what is this?

?? need a number - arbitrary

stored?

[0060] After calculating the estimated HRV impact for having a voice call with "Horrible Boss" at step 525, the process then proceeds to step 530, where the process awaits for an incoming voice call. At step 531, incoming call from "Horrible Boss" is again detected. Next, at step 535, a pre-activity HRV value of the user is calculated. At step 540, a determination is made as to whether the pre-activity HRV value of the user minus the

estimated HRV impact for having a voice call with "Horrible Boss" is less than a predetermined HRV threshold value. If, at step 540, the pre-activity HRV value of the user minus the estimated HRV impact for having a voice call with "Horrible Boss" is less than a predetermined HRV threshold value, then the process proceeds to step 541, where an alternate display is not displayed to the user. If, at step 540, the pre-activity HRV value of the user minus the estimated HRV impact for having a voice call with "Horrible Boss" is not less than a predetermined HRV threshold value, then the process proceeds to step 542, where the alternative display is displayed to the user.

[0061] Regardless of whether the alternative display is displayed to the user, the process proceeds to step 545 where a determination is made as to whether the use answers the incoming voice call from "Horrible Boss." If, at step 545, the user does not answer the incoming voice call, the process proceeds back to step 531, where the process awaits for an incoming voice call from "Horrible Boss." If, at step 545, the user does answer the incoming voice call from "Horrible Boss", the process proceeds to step 546. At step 546, the voice call with "Horrible Boss" is terminated. At step 547, the user's post-activity HRV value is calculated. Next, at step 550, HRV impact for having the voice call with "Horrible Boss," detected at step 531, is calculated. At step 551, the HRV impact is stored and used for calculating a new estimated HRV impact for having a voice call with "Horrible Boss." Next, the process proceeds from step 551 back to step 530, where the process awaits for an incoming voice call from "Horrible Boss."

Not User — Device

[0062] FIG. 13 illustrates an alternative embodiment for a system 800 for providing program instructions for an electronic device including a user mobile device 805 that also

included in a single structure?

functions as a fitness-monitoring device. Instead of having a fitness monitor and a user mobile device separately, the two devices in this embodiment are combined together. The user mobile device includes a hear rate module 805, a CPU 810, a network controller 840, an audio output component 850, a visual output component 860, a data storage unit 820, and system applications 830. The heart rate module 805 includes a heartbeat sensor 806, an ADC 807, a heartbeat monitor 808, and a heart rate calculator 809. The CPU 810 includes a system clock 811. The data storage unit 820 includes picture files 821, audio files 822, contact information 823, user preference information 824, and process instructions 825. The system applications 830 include an email application 831, a voice communications application 832, an instant message application 833, an Internet browser application 834, and a video communication application 835.

[0063] In the user mobile device, the heart rate module 805 is electronically connected to the CPU 810. The heart rate module 805 is electronically connected to the heartbeat sensor 806, the heartbeat monitor 807, and the heart rate calculator 808. The heartbeat sensor 806 is electronically coupled to the ADC 807. The heartbeat monitor 808 and heart rate calculator is in electronic communication with the CPU 810. The network controller 840 is electronically connected to the CPU 810. The network controller 840 is electronically connected to the Wi-Fi network component 841, the cellular network component 842, and the Bluetooth network component 843. The audio output component 825 and the visual output component 826 are electronically connected to the CPU 810. Moreover, the data storage unit 820 is electronically connected to the CPU 810. The CPU is electronically coupled to the system clock 811.

[0064] The data storage unit 820 is electronically in communication with the picture files 821, the audio files 822, the contact information 823, the user preference information 824, the process instructions 825, and the system applications 830. The system applications 830 of the user mobile device 800 are electronically in communication with the email application 831, the voice communication application 832, the instant message application 833, the Internet browser application 834, and the video communication application. Moreover, the system applications 830 are responsive to the system processing instructions 825. The picture files 821 of the data storage unit 820 are responsive to the system applications 830, the system processing instructions 825, and the visual output component 860. The audio files 822 of the data storage unit 820 are responsive to the system application 830, the system processing instructions 825, and the audio output component 850. The contract information 823 of the data storage unit 820 is responsive to the system application 830 and the system processing instructions 825. The system process instructions 825 are electronically in communication with the heart rate module 805, the system applications 830, the network controller 840, the audio output component 850, and the visual output component 860.

[0065] In operation, the heartbeat sensor 806 detects user heartbeats and sends the user heartbeat data to the ADC 807. Then the ADC 807 converts the user analog heartbeat data to digital heartbeat data. Then the ADC 807 transmits the user's digital heartbeat data to the heartbeat monitor 808. Once the heartbeat monitor 808 receives the user digital heart rate data, it stores the data in the data storage unit 820. The heart rate calculator 809 then accesses the user digital heartbeat data from the data storage unit 820 to calculate the user's heart rate.

[0066] Once the user's heart rate is calculated, the CPU 810 collects the user digital heart rate data from the heart rate calculator 809 and stores the user digital heart rate data in the data storage unit 820. The CPU 810 accesses the user digital heart rate data from the data storage unit 820 and use the user digital hear rate data to calculate the user HRV values. After the user HRV values are calculated, the CPU 810 then stores the HRV values in the data storage unit 820. After the user's HRV values are stored in the data storage unit 820, The CPU 810 then compares the user HRV values to a predetermined HRV threshold value. This process of the heartbeat sensor 806 sensing the user heartbeats, the ADC 807 converting the user analog heartbeat data to digital heartbeat data, the CPU 810 storing the user digital heart rate data in the data storage unit 820, the CPU 810 calculating the user HRV values using the digital heart rate data stored in the data storage unit 820, the CPU 810 storing the user HRV values in the data storage unit 820, and comparing the user HRV values to the predetermined HRV threshold value occurs continuously. 5A

[0067] When the CPU 810 determines that the user HRV values are below the predetermined HRV threshold value, it determines at what time the user HRV values were below the threshold HRV value by using the system clock 811. The CPU 810 then stores the time when the user HRV values below the predetermined HRV threshold value in the data storage unit 820. The CPU 810 then initiates at least one of predetermined process instructions from the system process instructions 825 to provide instructions for the system applications 830.

[0068] However, when the user HRV values are not below the predetermined HRV threshold value, the CPU 810 continues to monitor the user HRV values in the data

storage unit 820 and compare them to the predetermined HRV threshold value. When the user HRV values are not below the predetermined HRV threshold value, CPU 810 stores neither the user HRV values below the predetermined threshold HRV value nor the time information when the user's HRV values were below the predetermined HRV threshold value. Moreover, while the user's HRV values are above the predetermined threshold value, the CPU 810 does not initiate at least one of predetermined process instructions from the system process instruction 825 to provide instructions to the system applications 830.

[0069] FIG. 14 illustrates another embodiment 900 of a system for providing program instructions to an electronic device based on a user's HRV values. This embodiment includes a fitness-monitoring device 901, a user mobile device 920, and a user computing device 950. The fitness-monitoring device 901 includes a heartbeat sensor 902, a heartbeat monitor 904, a heart rate calculator 905, a digital signal transmitter 906, a CPU 910, and a data storage unit 920. The heartbeat sensor 902 includes an ADC 903. The CPU 910 includes a system clock 911. The user mobile device 920 includes a digital signal transceiver 921, a network controller 935, a CPU 930, a data storage unit 935, and system applications 940. The network controller 925 includes a Wi-Fi network component 926, a Bluetooth network component 928, and a cellular network component 927. The CPU 930 includes a system clock 931. The data storage unit 940 includes process instructions 941 and system applications 935.

[0070] The user computing device 950 includes a digital signal transceiver 951, a network controller 955, audio output component 990, a visual output component 991, a

CPU 960, a data storage unit 970, and system applications 980. The network controller includes a Wi-Fi network component 956, a cellular network component, and a Bluetooth network component 958. The CPU includes a system clock 961. The data storage unit 970 includes picture files 971, audio files 972, contract information 973, user preference information 974, and process instructions 975. The system applications 982 include an email application 981, a voice communication application 982, an instant message application 983, an Internet browser application 984, and a video communication application 985.

[0071] In the fitness-monitoring device 901, the heartbeat sensor 902 is electronically coupled to the ADC 903. The heartbeat sensor 902 is electronically connected to the CPU 910. The CPU 910 is electronically connected to and in electronic communication with the heartbeat sensor 902, the heartbeat monitor 904, the heart rate calculator 905, the digital signal transmitter 906, and the data storage unit 915. The CPU 910 is also in electronic communication with the system clock 911. In the user mobile device 920, the digital signal transceiver 921 is electronically connected to the CPU 930. The CPU 930 is electronically connected to and in electronic communication with the network controller 925, the data storage unit 940, and the system applications 935. The CPU 930 is electronically coupled to the system clock 931. The data storage unit 940 is in electronic communication with the process instructions 941. The system applications 935 are also in electronic communication with the process instructions 941. The Wi-Fi network component 925, and cellular network component 926, and the Bluetooth network component 927 are electronically connected to the network controller 925.

[0072] In the user computing device 950, the CPU 960 is electronically connected to and in electronic communication with the digital signal transceiver 951, the network controller 955, the audio output component 990, the visual output component 991, the process instructions 975 of the data storage unit 970, the data storage unit 970, and the system applications 980. The CPU 960 is also in electronic communication with the system clock 961. The data storage unit 970 is in electronic communication with the picture files 971, the audio files 972, conract information 973, user preference information 974, and process instructions 975. The system applications 980 are in electronic communication with the email application 981, the voice communication application 982, the instant message application 983, the Internet browser application 984, and the video communication application 985.

[0073] In the fitness-monitoring device 901, the user heartbeat data is transmitted to the digital signal transmitter 906 in a number of steps. First, the heartbeat sensor 902 detects the user's heartbeats and transmits the user analog heartbeat data to the ADC 903. Once the heartbeat monitor 904 receives the user digital heartbeat data, the CPU 910 stores the user digital heartbeat data in the data storage unit 915. Then the CPU 910 initiates the heart rate calculator 905 to calculate the user heart rate data from the user digital heartbeat data stored in the data storage unit 915. Once the heart rate calculator 905 outputs the user heart rate data, the CPU 910 transmits the data to the digital signal transmitter 906. Once the digital signal transmitter 906 receives the user heart rate data, it transmits the data to the digital signal transceiver 921 of the user mobile device 920.

[0074] In the user mobile device 920, once the digital signal transceiver 921 receives the user heart rate data, the CPU 930 of the user mobile device 920 first stores the user heart rate data in the data storage unit 940. Then the CPU 930 calculates the user HRV values using the user heart rate data from the data storage unit 940. After the CPU 960 calculates the user HRV values, it compares the user HRV values to the predetermined HRV threshold value. Next, the CPU 960 determines whether the user HRV values are below the predetermined HRV threshold value. When the CPU 960 determines that the user HRV values are not below the predetermined HRV threshold value, it continues to receive user heart rate data and calculate/monitor user HRV values. When the CPU 960 determines that the user's HRV values are below the predetermined threshold value, it transmits a notification regarding user HRV value to the user computing device 950 via the digital signal transceiver 921.

[0075] When the digital signal transceiver 951 of the user computing device 950 receives the notification sent by the CPU 930 of the user mobile device 920, regarding the user HRV values being lower than the predetermined HRV threshold value, the CPU 960 of the user computing device 950 provides the process instructions 975 for the user computing device 950.

[0076] In an alternative embodiment, the user computing device 950 maybe a laptop computer, a desktop computer, a electronic tablet such as iPad by Apple. In another alternative embodiment, the user computing device 950 may receive the notification of the user HRV values being less than the predetermined threshold value via a Wi-Fi

Need more about this - the earlier stuff is pretty much the same, this is the special stuff

network component 956, a cellular network component 956, or the Bluetooth network component 957.

[0077]

[0078] [Validate invention – remind the reader of the shortcomings of the prior art that you pointed out in the Background section and explicitly explain how your invention corrects the defects in the prior art]

NOT GRANTED FOR THIS ASSMT

[0079] While particular elements, embodiments, and applications of the present invention have been shown and described, it is understood that the invention is not limited thereto because modifications may be made by those skilled in the art, particularly in light of the foregoing teaching. It is therefore contemplated by the appended claims to cover such modifications and incorporate those features which come within the spirit and scope of the invention.

– Did you Do – Browsemaster
– Extended Stress Break
– Social

— Heartbeat monitoring system?
— Device control system?

CLAIMS

Vague

1. A system to provide process instructions, the system comprising:

at least one electronic data storage unit, wherein said at least one electronic data storage unit storing process instructions;

at least one sensory output component in electronic communication with the process instructions stored in said electronic data storage unit;

at least one digital signal transceiver in electronic communication with the processor of the electronic device;

a plurality of network components in electronic communication with the processor of the electronic device, enabling wireless communication for the said electronic device;

wherein the at least one processor is configured to:

receive user heart rate data from an electronic apparatus capable of monitoring heartbeats and collecting heart rate data comprising at least three heart rate data points;

store said heart rate data in the at least one electronic data storage unit;

calculate user Heart Rate Variability (HRV) values using said heart rate data;

store said HRV values in the at least one electronic data storage unit; and

provide the process instructions when said user HRV values are less than a predetermined HRV threshold value.

2. A system of claim 1, wherein the process instructions are configured to:

prevent communication applications installed in the electronic device from initializing;

terminate said applications;

initiate at least one preset applications installed in the electronic device;

initiating at least one audio files, stored in the data storage unit of the electronic device, with the at least one auditory output component; and

initiating at least one image files, stored in the data storage unit of the electronic device, with the at least one visual output component.

3. A system of claim 2, wherein the at least one audio files and the at least one image files are provided by the user and stored in the data storage unit of the electronic device.

4. A system of claim 1, wherein the at least one electronic data storage stores user preferences for providing process instructions to communication applications installed in the electronic device.

5. A system of claim 4, wherein the user preferences

checking the user preference to identify which communication applications and which communication modes are to be prevented and terminated;

identifying the user's preferred length of time for preventing and terminating communication applications and communication modes;

6. A system of claim 1, wherein the at least one sensory output component includes a visual output component capable of generating a visual display, and an audio output component capable of generating sounds.

7. A system of claim 1, wherein the electronic apparatus and the electronic device may be a fitness-monitoring apparatus, such as FitBit, and a personal mobile device, such as iPhone.

8. A system of claim 1, wherein the plurality of network components include at least one of:

a Wi-Fi network component allowing the electronic device to communicate wirelessly via a Wi-Fi communication, a cellular network component allowing the electronic device to communicate wirelessly via cellular communication, a Bluetooth network component allowing the electronic deice to communicate wirelessly via a Bluetooth communication.

9. A method to provide process instructions, the method comprising:

collecting user heart rate data with a monitoring apparatus;

transmitting said user heart rate data from the monitoring apparatus to an electronic device;

storing the user heart rate data in a data storage unit in the electronic device;

calculating the user HRV values using said user heart rate data;

storing the user HRV values in the data storage unit in the electronic device;

determining when the user HRV values are less than a predetermined HRV threshold value; and

triggering a computer processor of the electronic device to provide the process instructions when the user's HRV values are less than the predetermined HRV threshold value.

10. A method of claim 9, wherein the monitoring apparatus may be a fitness-monitoring device and the electronic device may be a mobile device.

11. A method of claim 9, wherein determining when the user HRV values are below the predetermined HRV threshold value further including:

retrieving the user HRV values from the data storage unit in the second electronic device;

comparing the user HRV values to the predetermined HRV threshold value stored in the data storage unit in the second electronic device;

storing user HRV values in the data storage device in the user's mobile device when the user's HRV values are below said HRV threshold value; and

storing time information regarding when the user HRV values were less than the predetermined threshold HRV value.

12. A method of claim 9, wherein the at least one of the program instructions is configured to perform functions including, but not limited to:

terminating applications installed in the electronic device;

preventing said applications from initializing;

initiate at least one applications installed in the electronic device;

initiating at least one of audio files, stored in the data storage unit of the electronic device, with the at least one auditory output component; and

initiating at least one of image files, stored in the data storage unit of the electronic device, with the at least one visual output component.

13. A method to prevent communication application operation, the method comprising:

storing user preference information in a data storage unit in an electronic device, the user preference information including communication application operation preferences;

collecting user heart rate data with a monitoring device, the user heart rate data including at least three heart rate data points;

storing said user heart rate data in the data storage unit in the electronic device;

calculating user HRV values from said user heart rate data;

storing said user HRV values in said data storage unit;

determining when said user HRV values are less than a predetermined HRV threshold value;

preventing, while the user HRV values are less than the predetermined HRV threshold value, a first communication application operation on the electronic device when said communication application operation does not match the user preference information; and

allowing, while the user HRV values are less than the predetermined HRV threshold value, a second communication application operation on the electronic device when said communication application operation matches the user preference information.

14. A method of claim 13, wherein the monitoring device and electronic device may be a fitness-monitoring device and a mobile device, respectively.

15. A method of claim 13, wherein the communication application operation is configured to use the following communication applications:

an email application, a voice communication application, an instant message application, a video communication application, and Internet browser application.

16. A method of claim 13, further comprising:

tracking the number of the second communication application operation;

allowing the second communication application operation when the maximum number of the second communication application operation allowed per day has not been met;

preventing the second communication application operation when the maximum number of the second communication application operation allowed per day has been met; and

preventing all communication application operation when the maximum number of the second communication application operation allowed per day has been met.

17. A method of claim 16, wherein the maximum number of the second communication application operation allowed per day is included in the user preference information stored in the data storage unit in the electronic device.

18. A method of claim 13, wherein determining when the user's HRV value is below the predetermined HRV threshold value further including:

retrieving the user's HRV values from the data storage in the user's electronic device;

comparing the user's said HRV values to the predetermined HRV threshold value;

storing the user's HRV values in the data storage device in the user's mobile device when the user's HRV values are below said threshold HRV value; and

storing the times at which the user's HRV values were below the predetermined threshold HRV value.

19. A method to provide an alternate display for an electronic device, the method comprising:

storing a predetermined HRV threshold value and user heart rate data in a data storage unit of an electronic device;

detecting a plurality of a specific activity on the electronic device;

determining user's pre-activity HRV values and the user's post-activity HRV values for each of the specific activity using heart rate data;

calculating HRV impacts of each of the plurality of the specific activity on the electronic device, HRV impacts calculated by subtracting the post-activity HRV value from the user's pre-activity HRV value for each of the specific activity;

calculating an average specific-activity HRV impact using said HRV impacts;

storing said average HRV impact in the data storage unit in the electronic device;

detecting the specific activity on the electronic device;

determining the user's pre-activity HRV value before said specific activity was detected;

providing an alternate display for the electronic device when the user's said pre-activity HRV value minus said specific-activity average HRV impact is less then the predetermined HRV threshold value; and

providing no alternative display for the electronic device when said the user's said pre-activity HRV value minus said specific-activity average HRV impact is not less then the predetermined HRV threshold value.

20. A method of claim 19, wherein the specific user activity on the electronic device may include the following, but not limited to:

receiving an incoming call, making an outgoing call, receiving an incoming instant message, sending an instant message, receiving an incoming video call, making an outgoing video call, receiving an incoming E-mail, accessing an E-mail, drafting an E-mail, sending an E-mail, browsing on an Internet browser application, playing an audio file, playing a video file, and initializing any of the installed applications on the electronic device.

ABSTRACT

NOT GIVEN

A [method and/or system] is provided which [describe invention as claimed]

0987

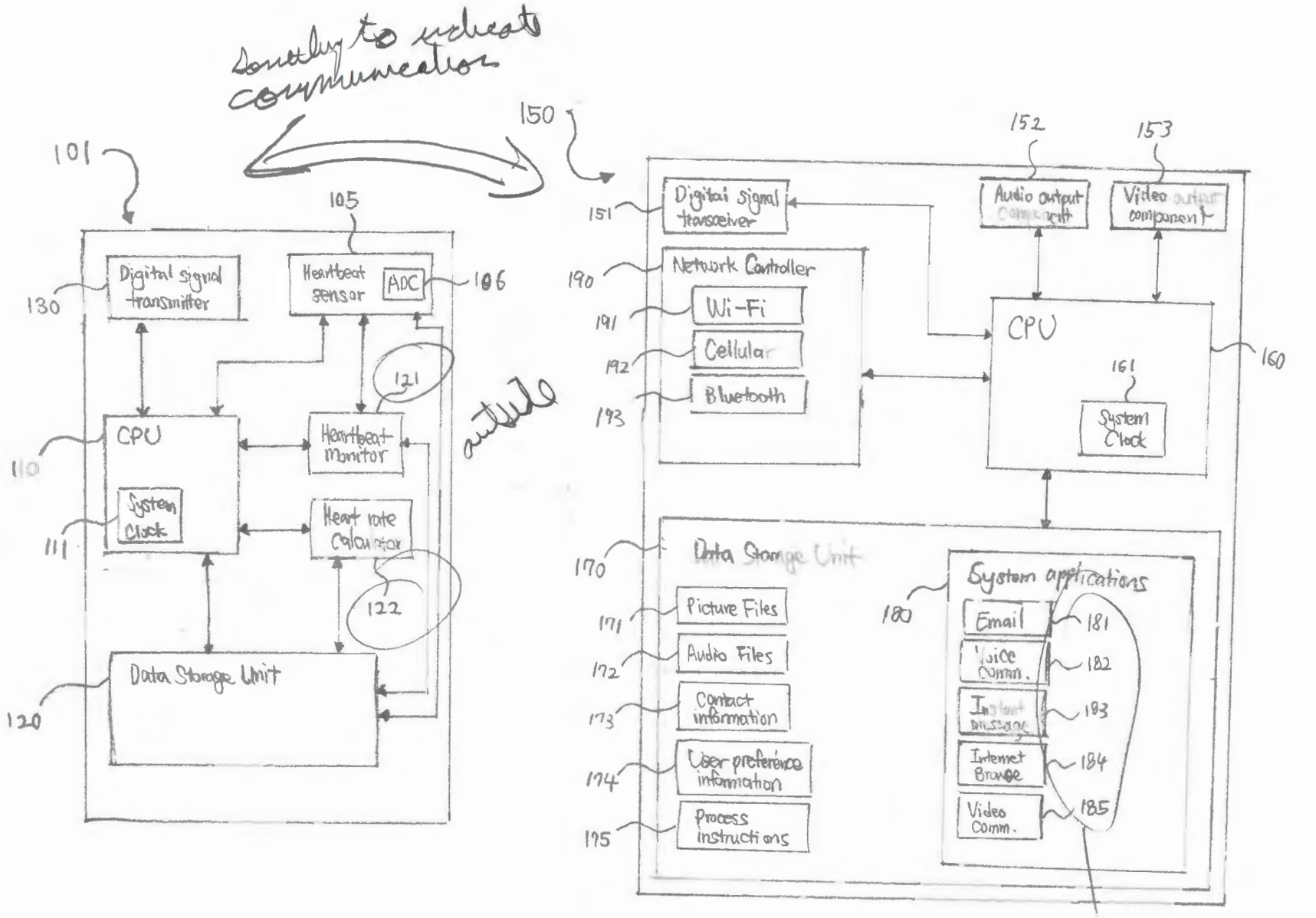

Fig. 1

move outside
- Repeat for all Figures

0987

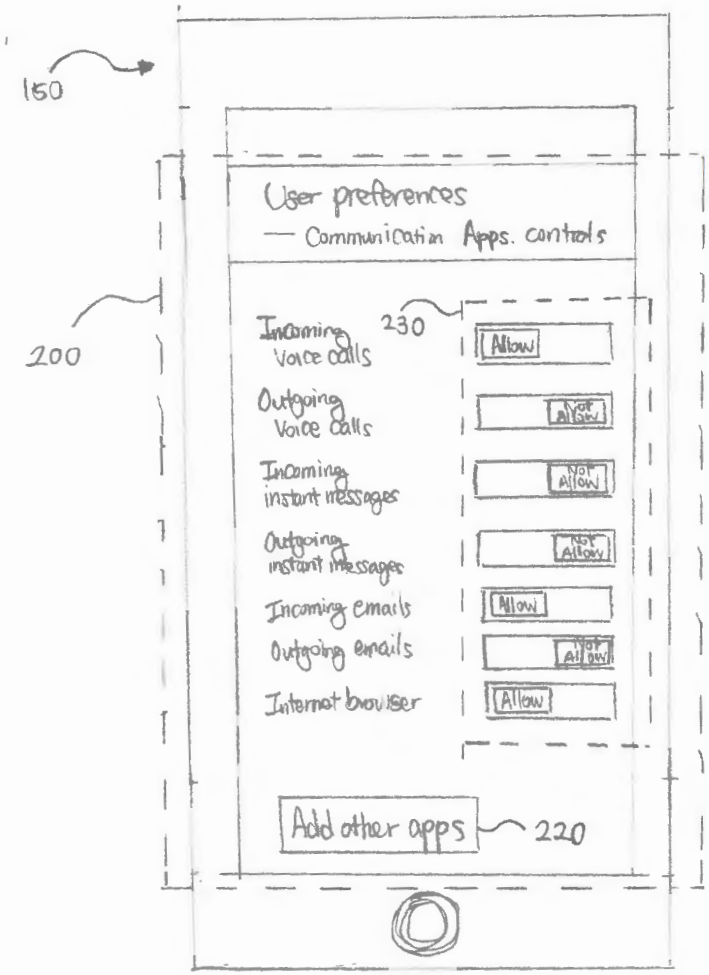

Fig. 2

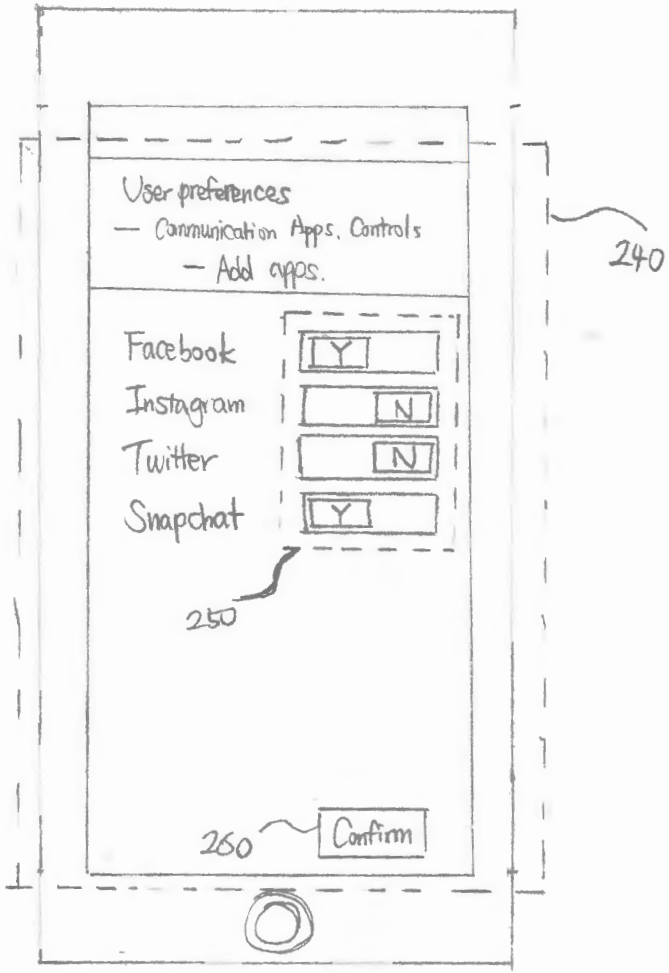

Fig. 3

0987

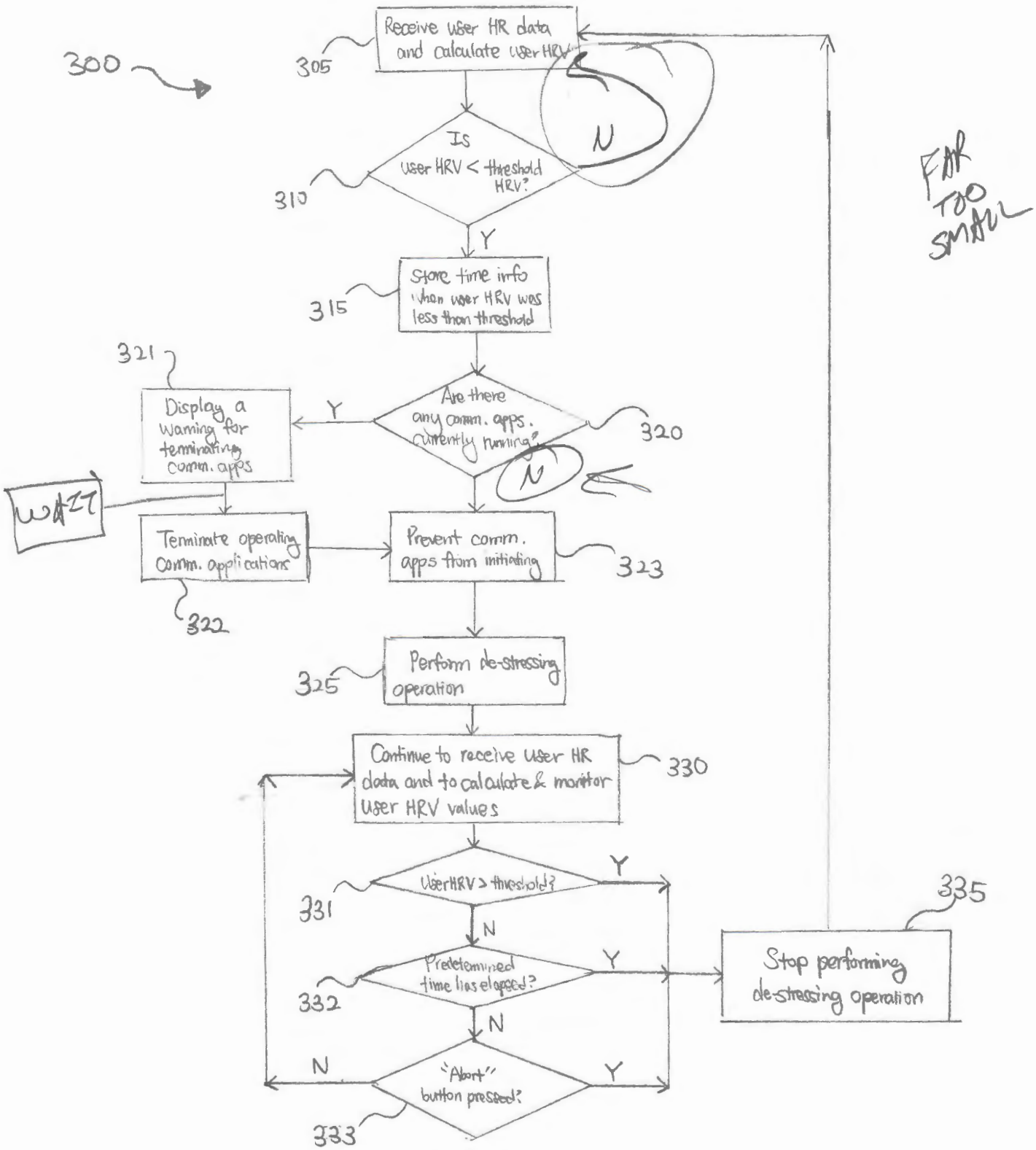
300
305
Receive user HR data and calculate user HRV
310
Is user HRV < threshold HRV?
N
Y
FAR TOO SMALL
315
Store time info when user HRV was less than threshold
320
Are there any comm. apps. currently running?
Y
N
321
Display a warning for terminating comm. apps
WAIT
322
Terminate operating comm. applications
323
Prevent comm. apps from initiating
325
Perform de-stressing operation
330
Continue to receive user HR data and to calculate & monitor user HRV values
331
User HRV > threshold?
Y
N
332
Predetermined time has elapsed?
Y
N
333
"Abort" button pressed?
N
Y
335
Stop performing de-stressing operation

Fig. 4

0987

Fig. 5

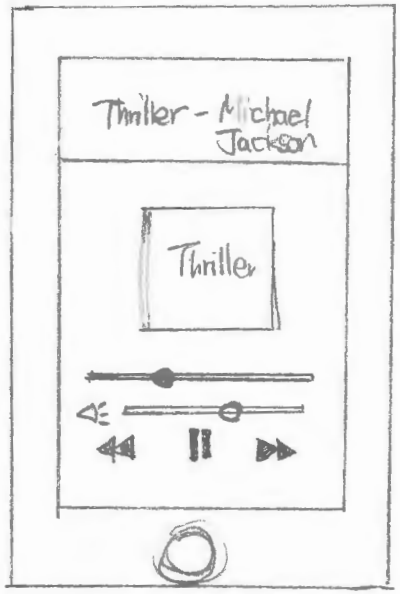

Fig. 6

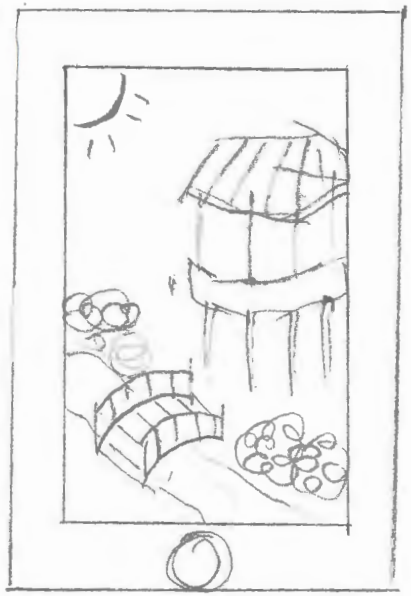

Fig. 7

0987

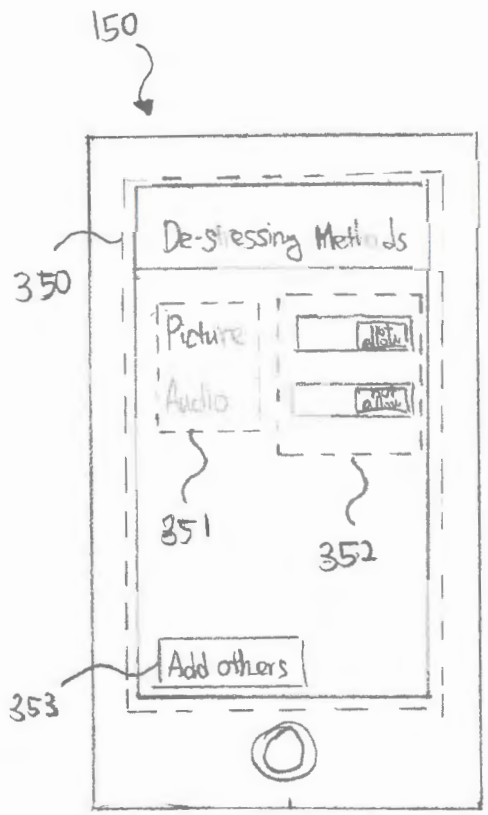

Fig. 8

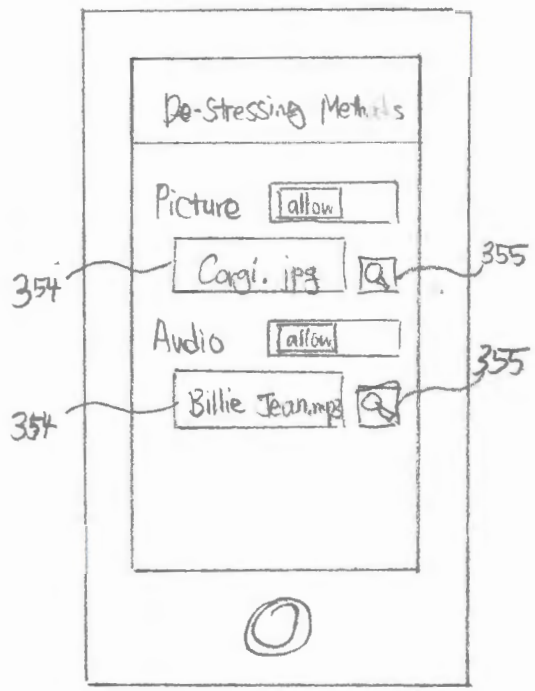

Fig. 9

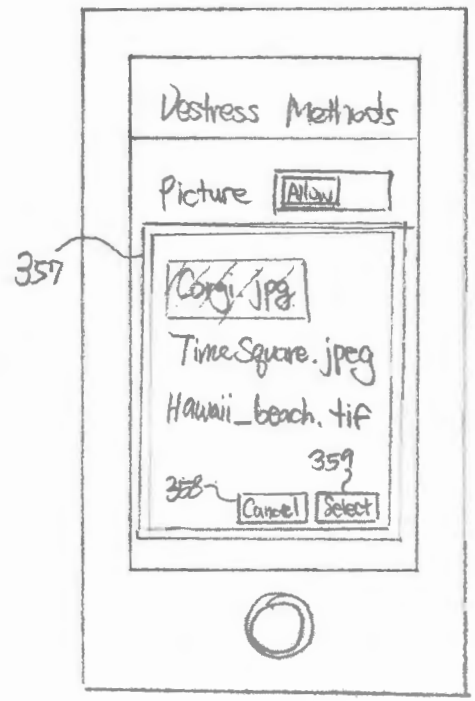

Fig. 10

0987

[redacted]

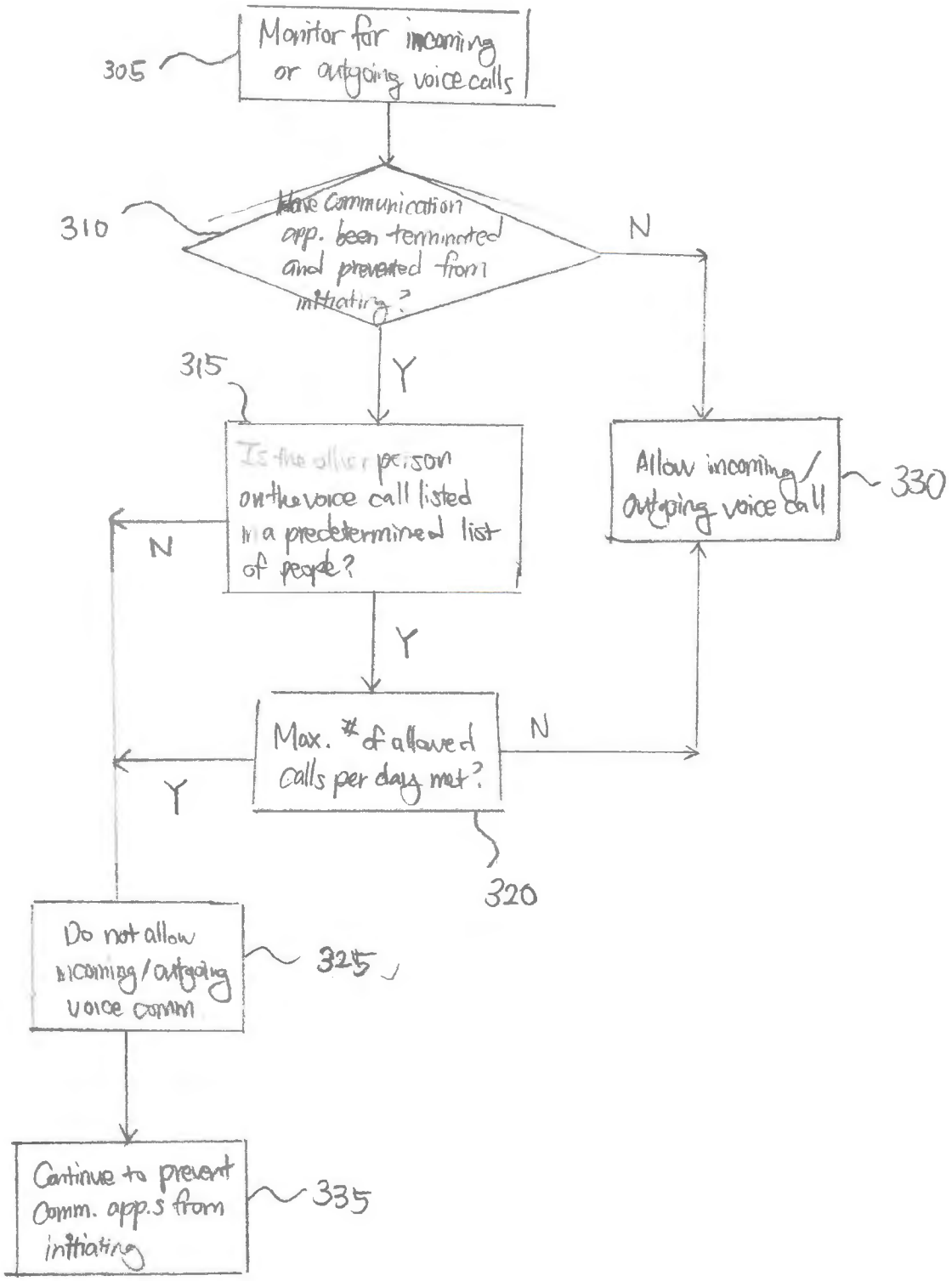

Fig. 11

0987

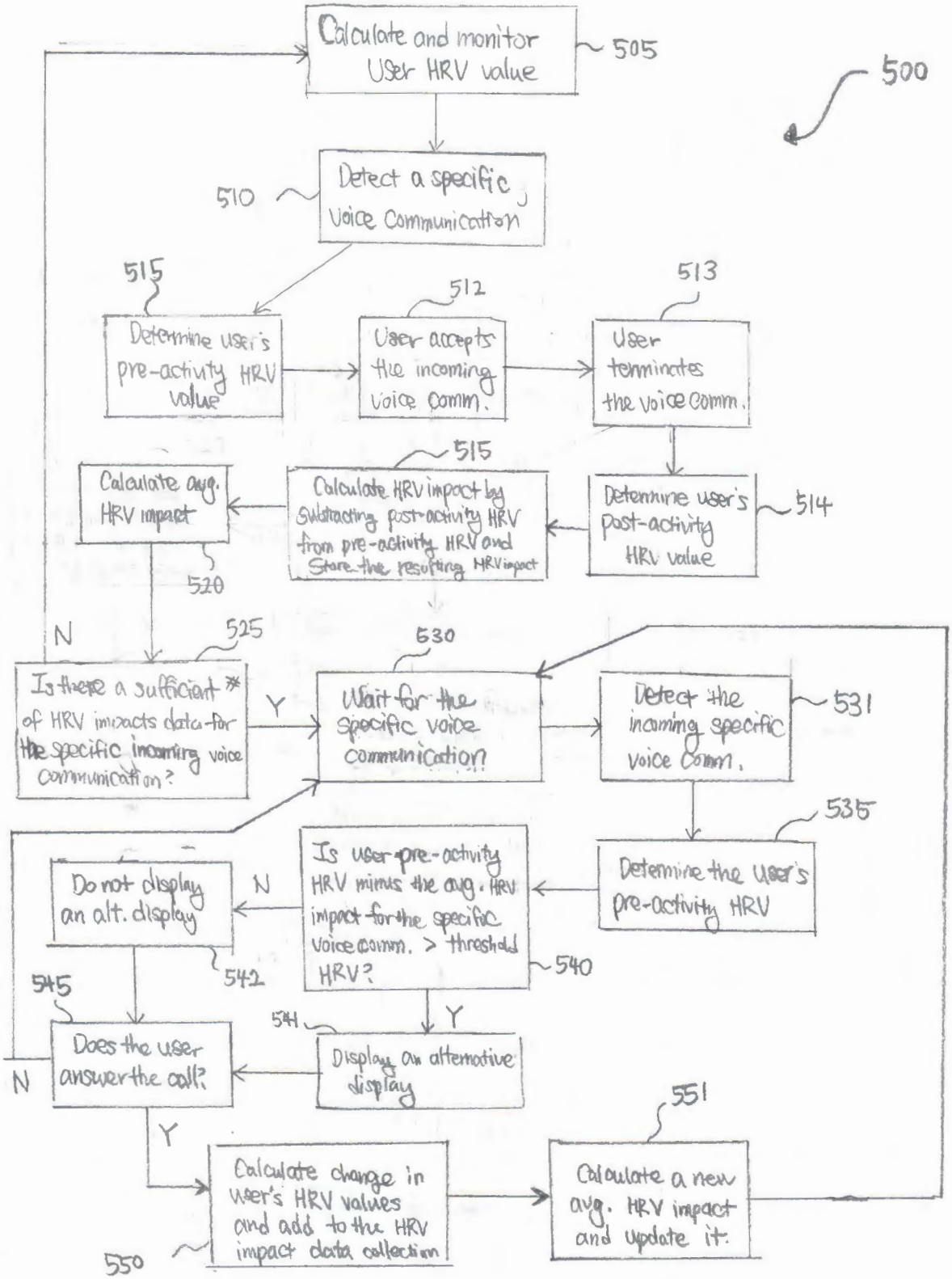
500
Calculate and monitor User HRV value
505
Detect a specific Voice Communication
510
Determine user's pre-activity HRV value
515
User accepts the incoming voice comm.
512
User terminates the voice comm.
513
Determine user's post-activity HRV value
514
Calculate HRV impact by subtracting post-activity HRV from pre-activity HRV and store the resulting HRV impact
515
Calculate avg. HRV impact
520
Is there a sufficient # of HRV impacts data for the specific incoming voice communication?
525
N
Y
Wait for the specific voice communication?
530
Detect the incoming specific voice comm.
531
Determine the user's pre-activity HRV
535
Is user pre-activity HRV minus the avg. HRV impact for the specific voice comm. > threshold HRV?
540
N
Do not display an alt. display
542
Y
Display an alternative display
544
Does the user answer the call?
545
N
Y
Calculate change in user's HRV values and add to the HRV impact data collection
550
Calculate a new avg. HRV impact and update it.
551

Fig. 12

0987

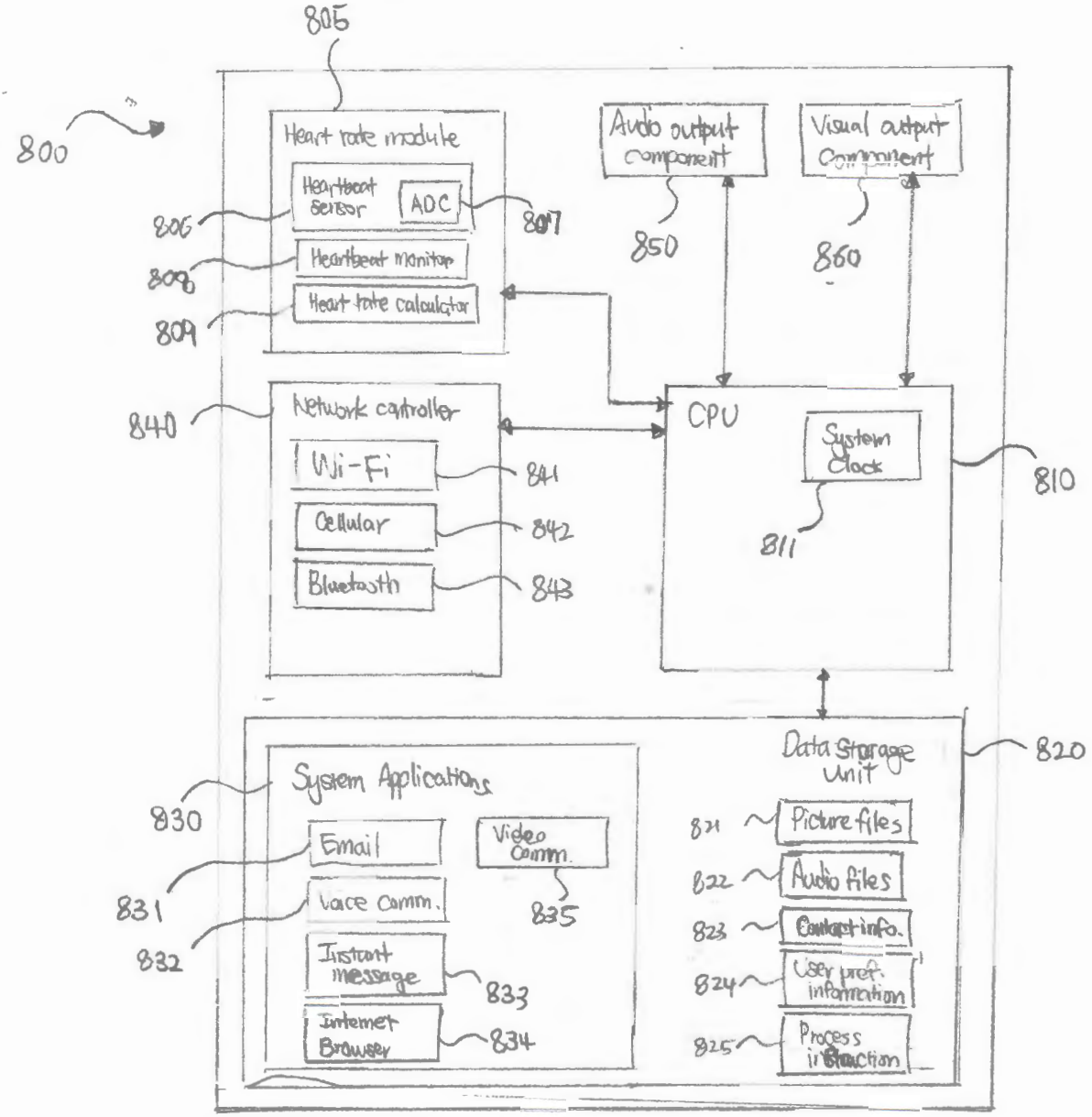
800
805
Heart rate module
Heartbeat sensor
ADC
806
807
Heartbeat monitor
808
Heart rate calculator
809
Audio output component
850
Visual output component
860
Network controller
840
Wi-Fi
841
Cellular
842
Bluetooth
843
CPU
System Clock
811
810
Data Storage Unit
820
System Applications
830
Email
831
Video Comm.
835
Voice Comm.
832
Instant message
833
Internet Browser
834
821
Picture files
822
Audio files
823
Contact info.
824
User pref. information
825
Process instruction

Fig. 13

0987

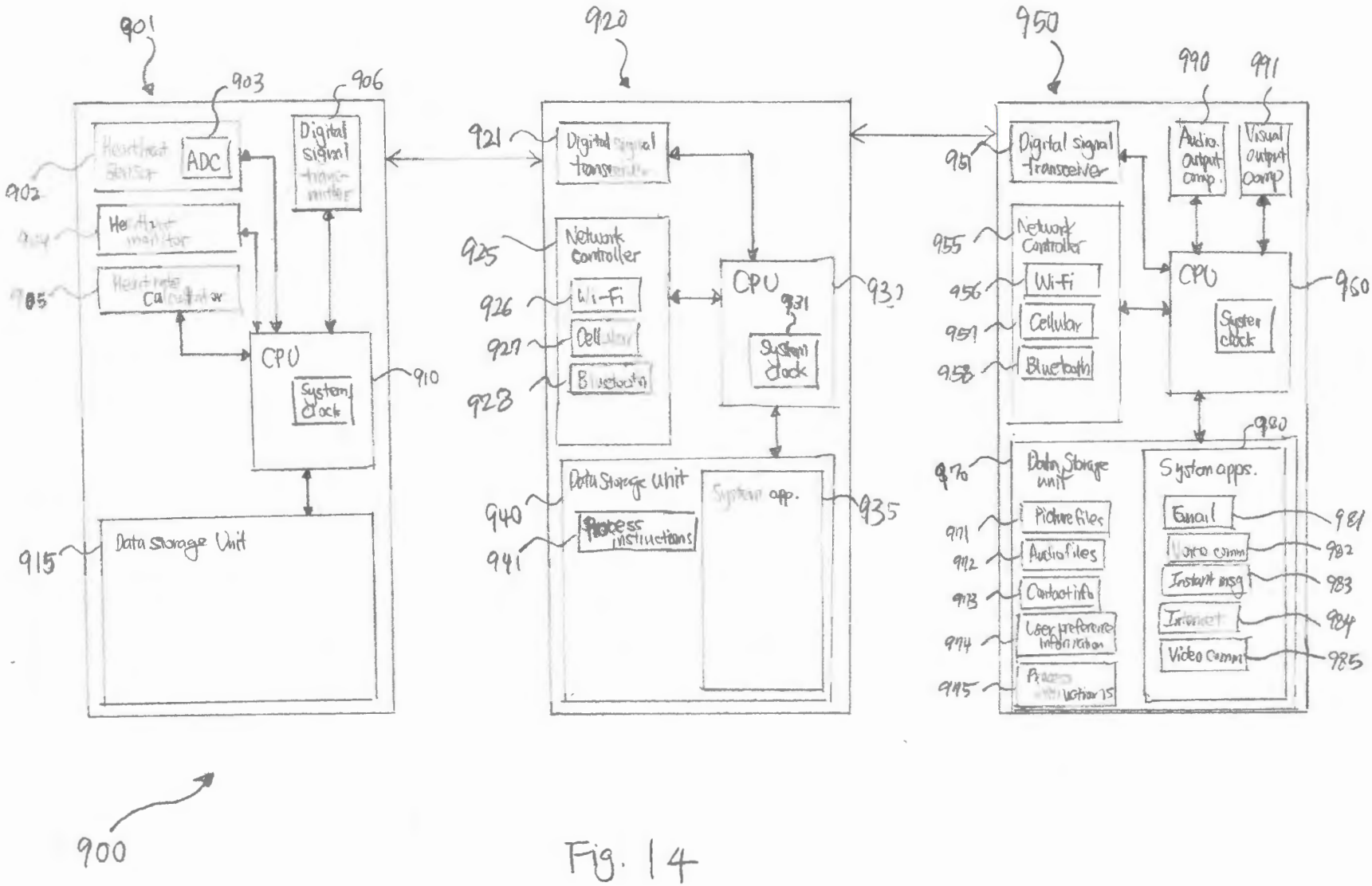
901
903
906
Heartbeat Sensor
ADC
Digital signal transmitter
902
Heart rate monitor
905
Heart rate Calculator
CPU
System clock
910
Data Storage Unit
915
920
921
Digital signal transceiver
925
Network Controller
926
Wi-Fi
927
Cellular
928
Bluetooth
CPU
931
System clock
930
Data Storage Unit
940
Process instructions
941
System app.
935
950
951
Digital signal transceiver
990
Audio output comp.
991
Visual output comp
955
Network Controller
956
Wi-Fi
957
Cellular
958
Bluetooth
CPU
960
System clock
980
970
Data Storage unit
Picture files
971
Audio files
972
Contact info
973
User preference information
974
Process instructions
975
System apps.
Email
981
Voice comm
982
Instant msg
983
Internet
984
Video Comm
985
900

Fig. 14