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(54) **SYSTEM AND METHOD FOR MONITORING A BABY'S VITAL SIGNS**

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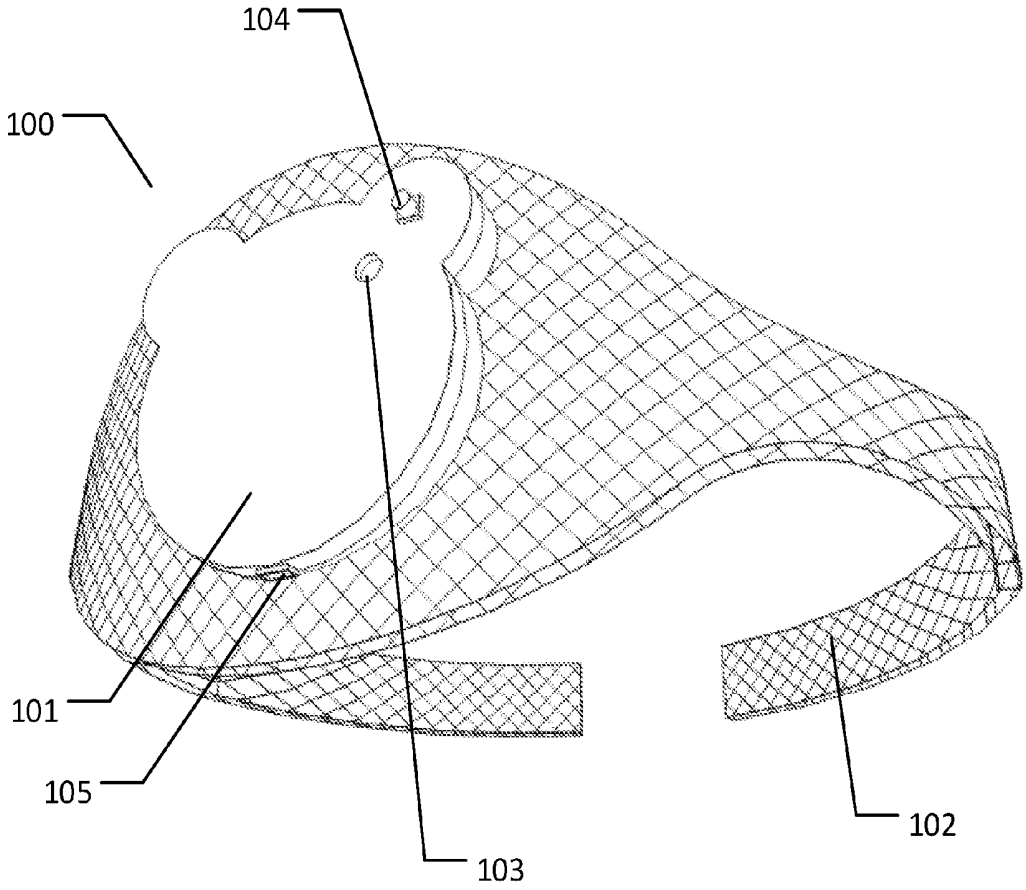
(57) **ABSTRACT**

A wearable monitoring device and method of use is disclosed. In one embodiment, the wearable monitoring device can have a casing and a strap. The casing can have a monitoring- device hardware that can have a sensor, the sensor capable of gathering data from a baby. The casing can further comprise a monitoring device processor that receives data from the monitoring-device hardware, and stores the data on a monitoring device memory, further wherein the data comprises a device identifier and vital signs information. The casing can also comprise a communication hardware capable of sending the data to an electronic device. The strap can be attachable to a part of the body of the baby, and the strap mounts to the casing.



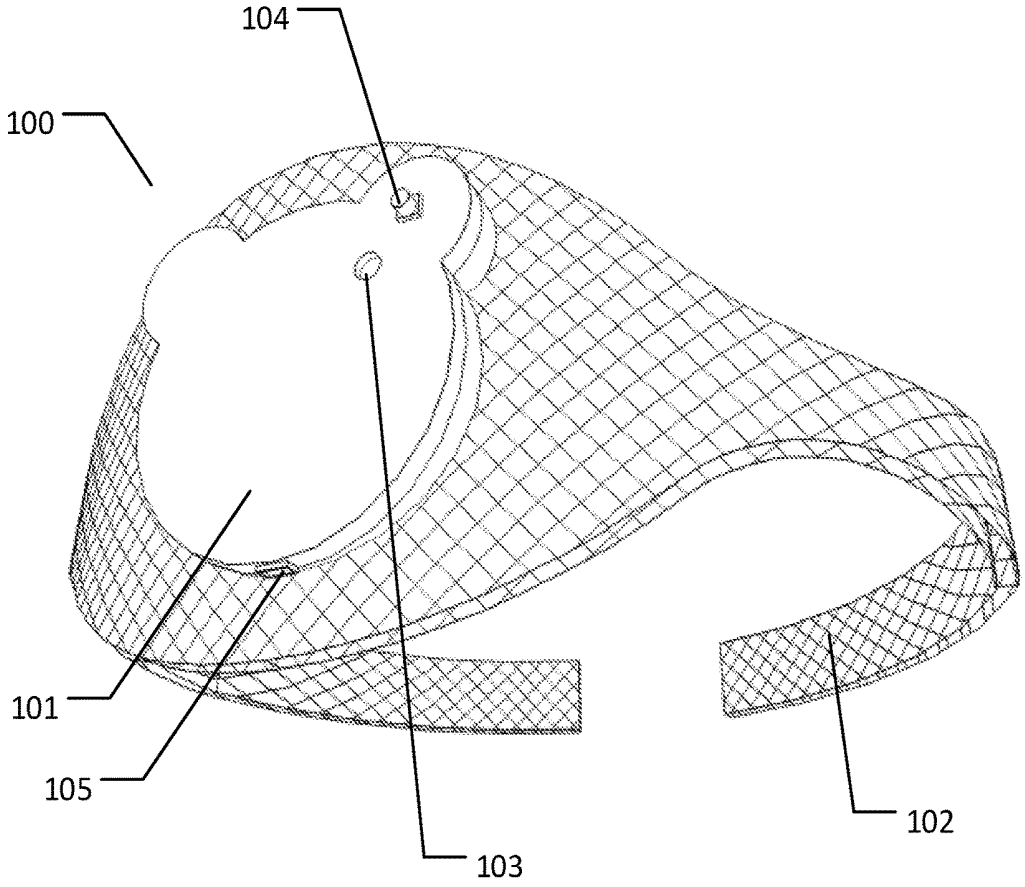


Fig. 1A

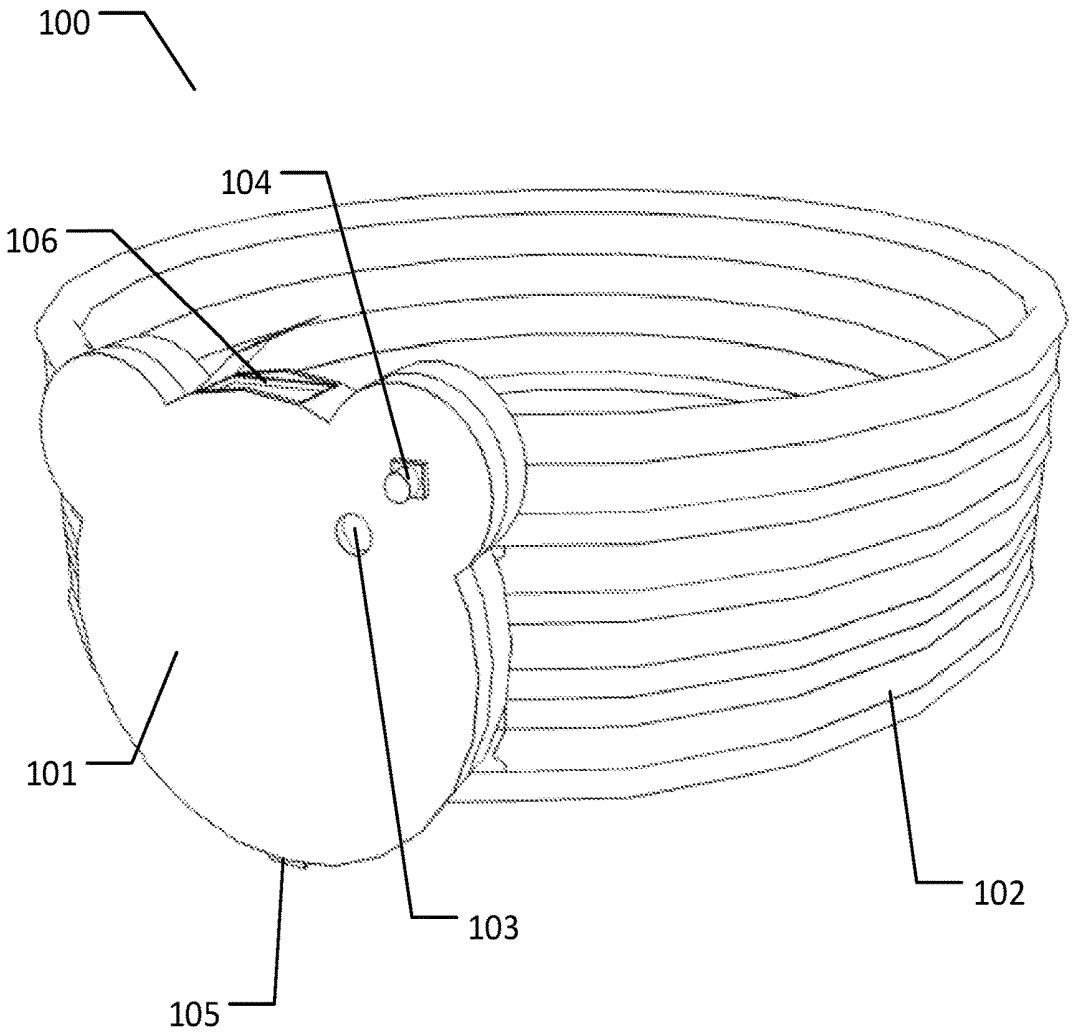


Fig. 1B

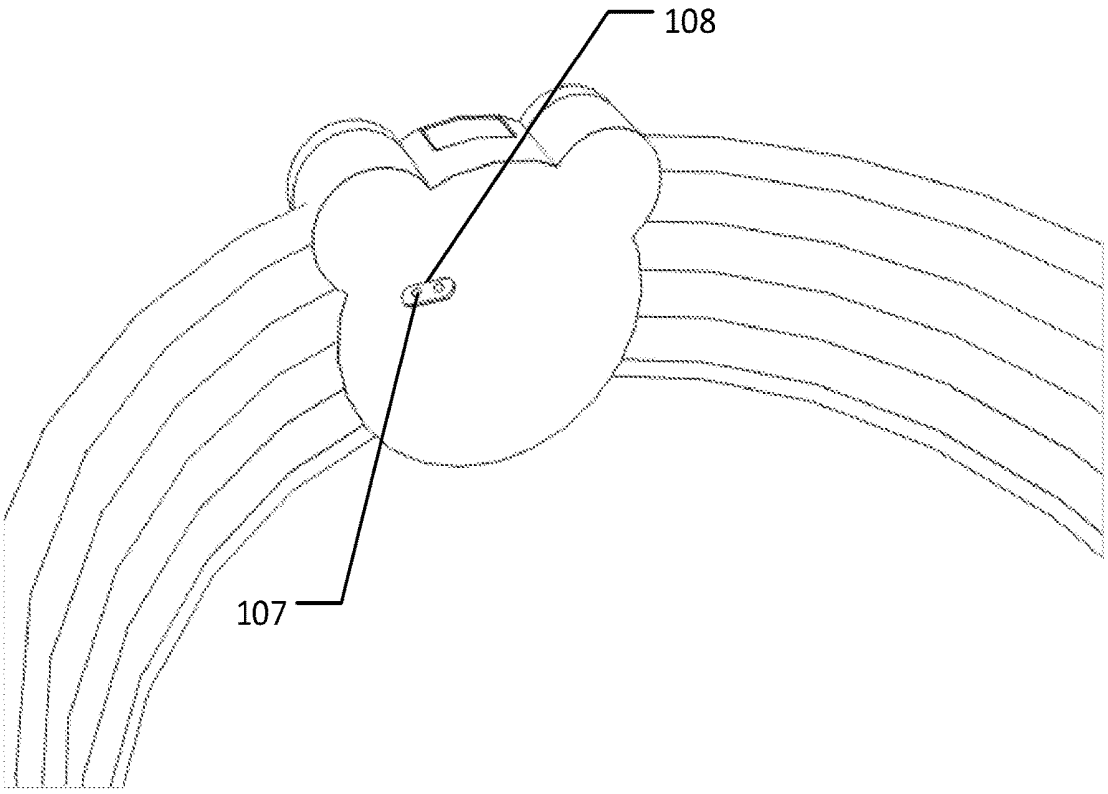


Fig. 1C

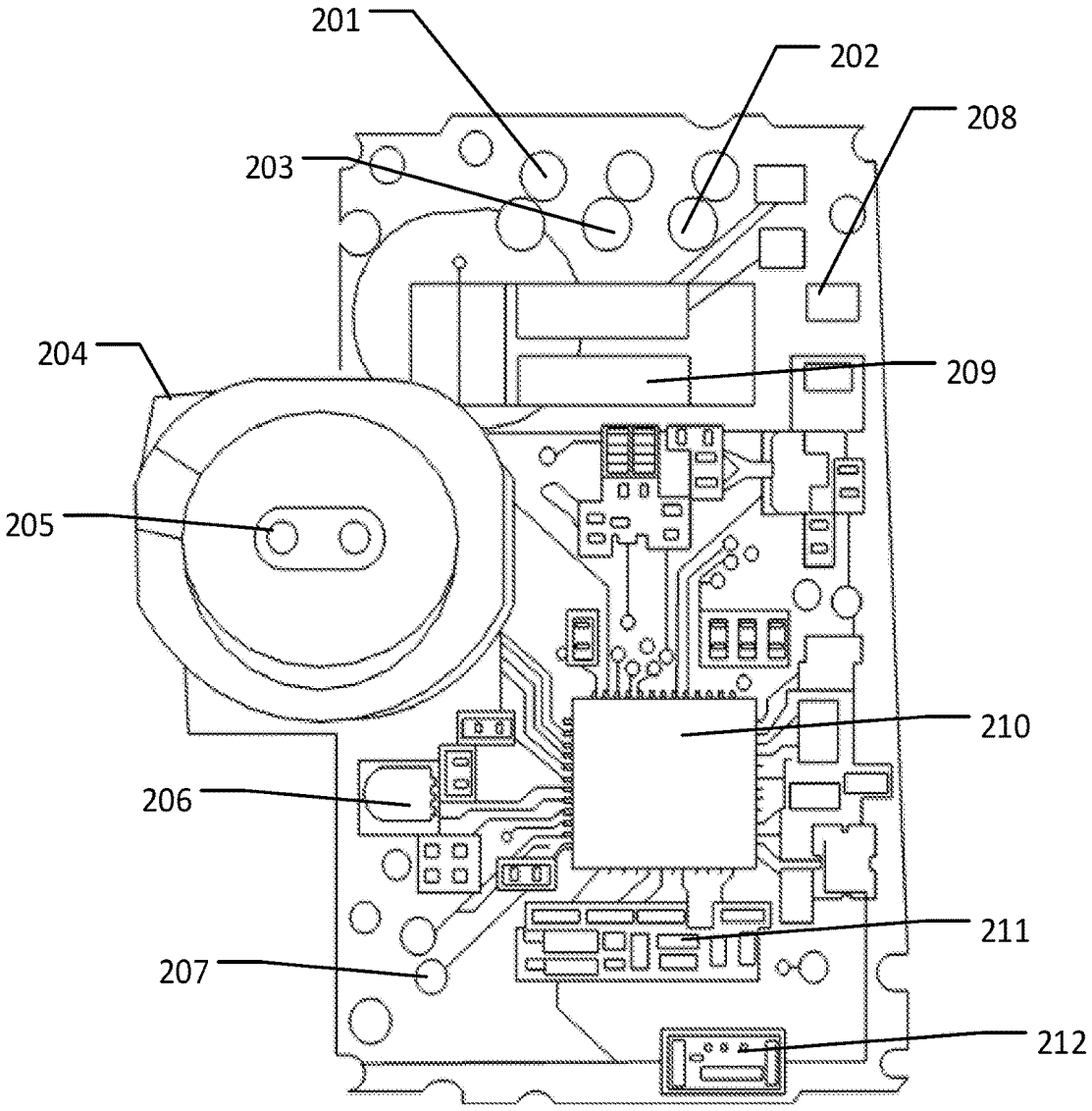


Fig. 2

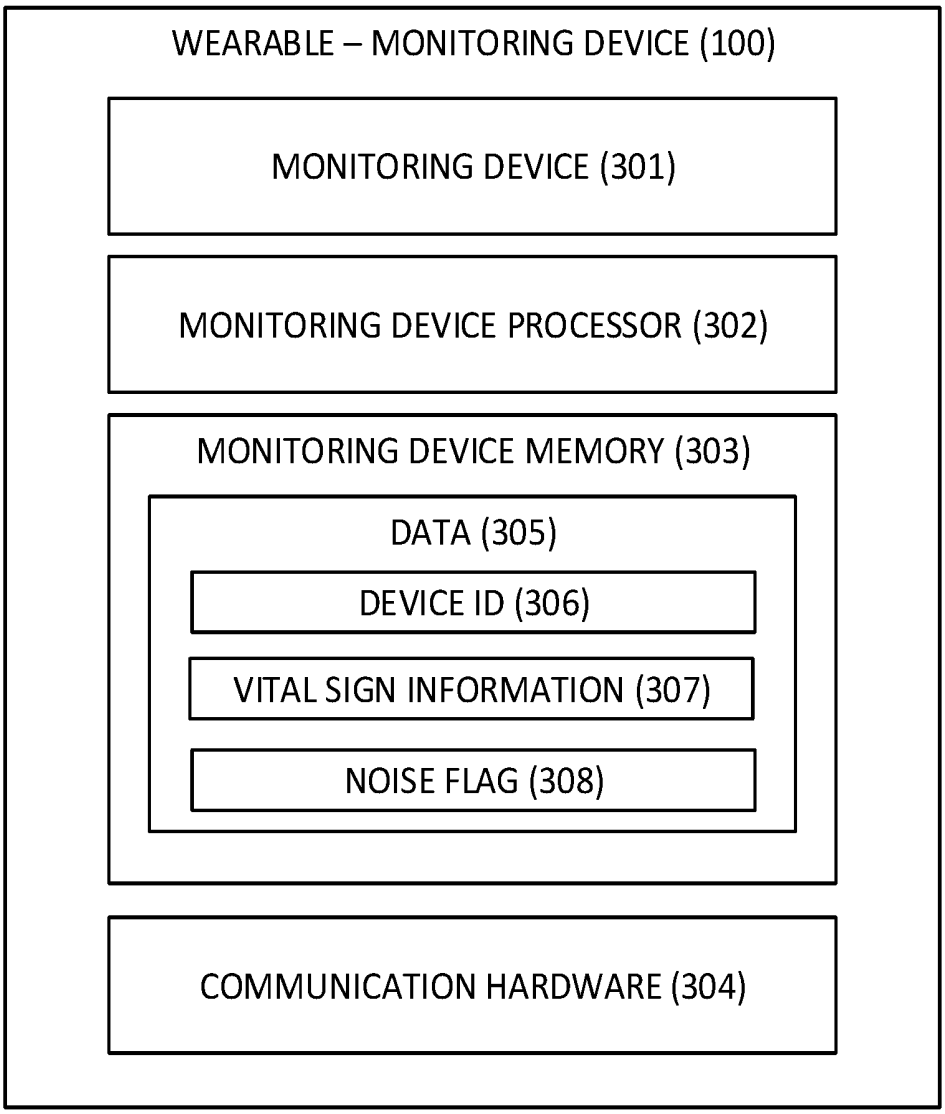

WEARABLE – MONITORING DEVICE (100)
MONITORING DEVICE (301)
MONITORING DEVICE PROCESSOR (302)
MONITORING DEVICE MEMORY (303)
DATA (305)
DEVICE ID (306)
VITAL SIGN INFORMATION (307)
NOISE FLAG (308)
COMMUNICATION HARDWARE (304)

Fig. 3

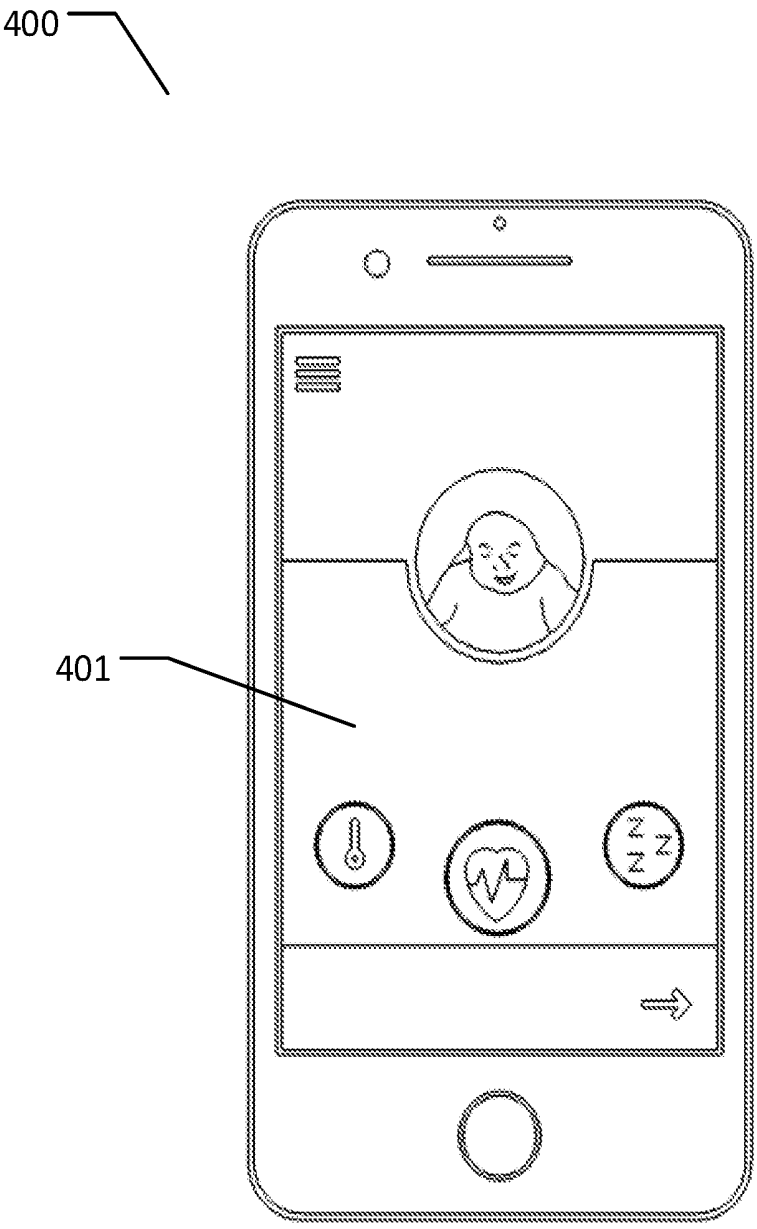


Fig. 4

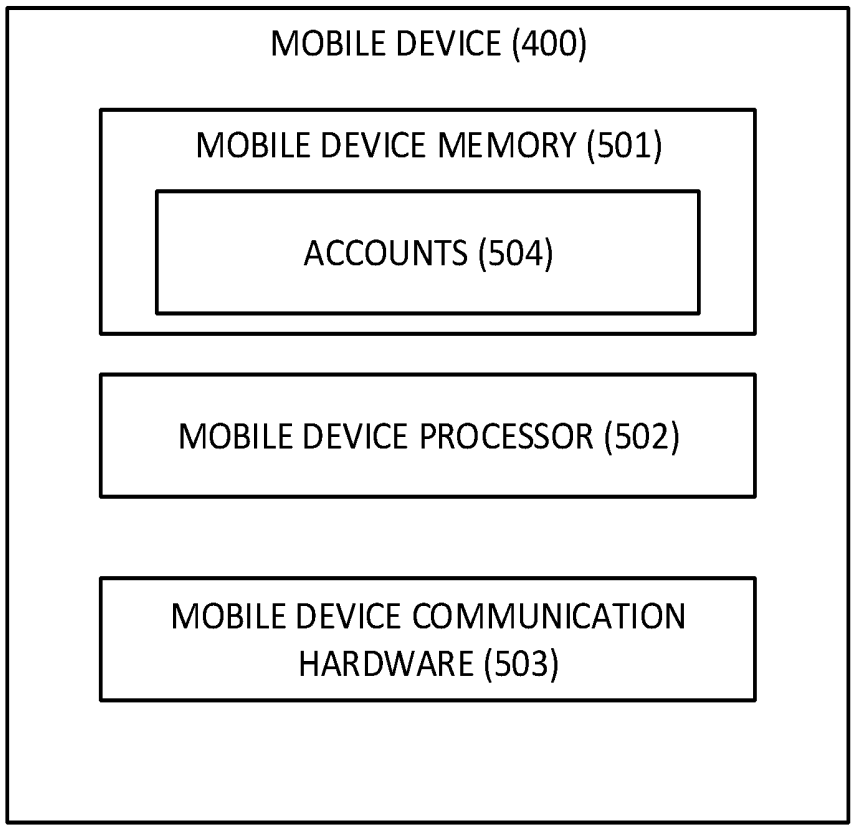

MOBILE DEVICE (400)
MOBILE DEVICE MEMORY (501)
ACCOUNTS (504)
MOBILE DEVICE PROCESSOR (502)
MOBILE DEVICE COMMUNICATION HARDWARE (503)

Fig. 5

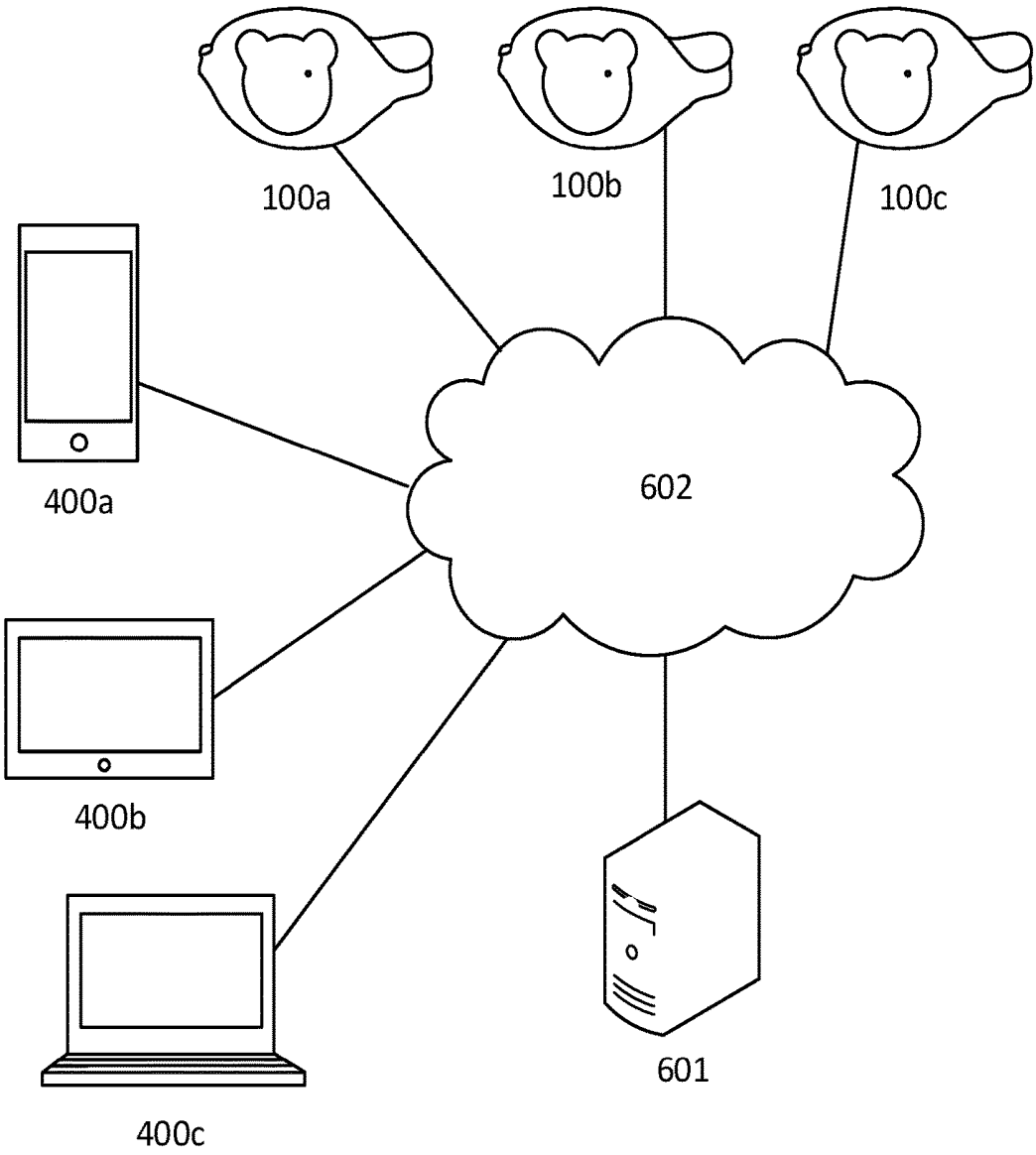


Fig. 6

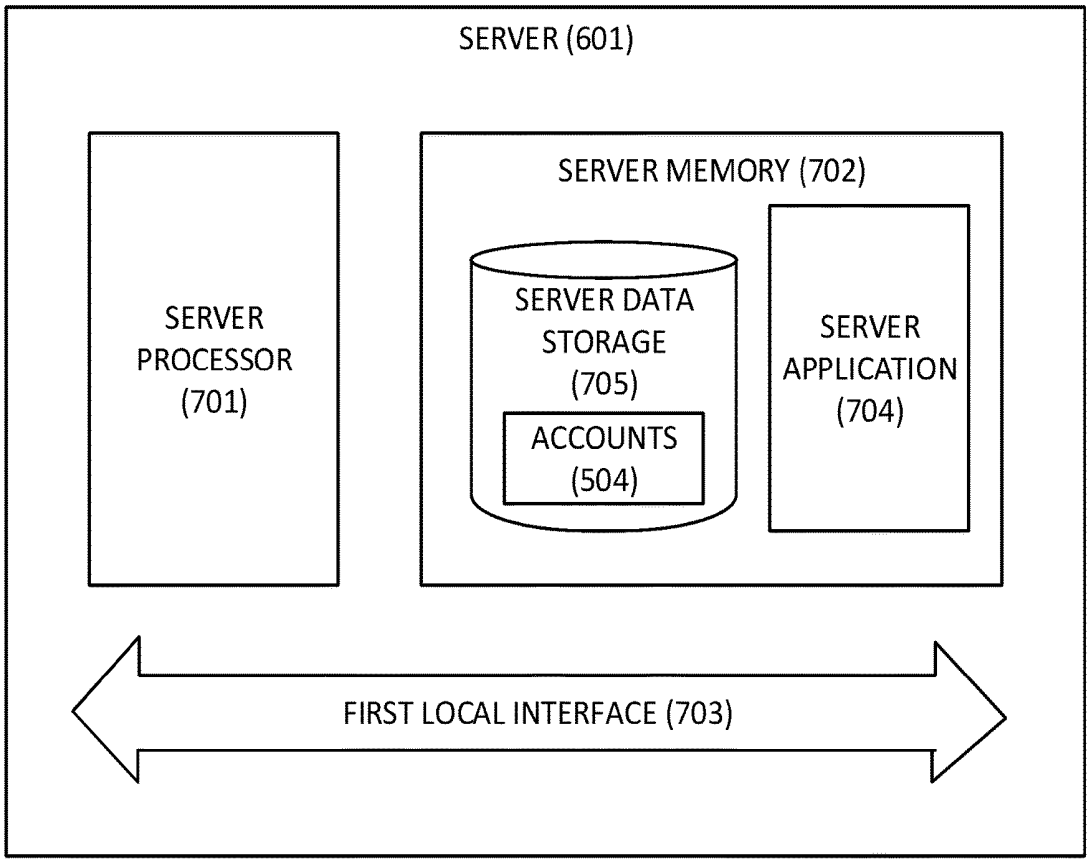

SERVER (601)
SERVER PROCESSOR (701)
SERVER MEMORY (702)
SERVER DATA STORAGE (705)
ACCOUNTS (504)
SERVER APPLICATION (704)
FIRST LOCAL INTERFACE (703)

Fig. 7

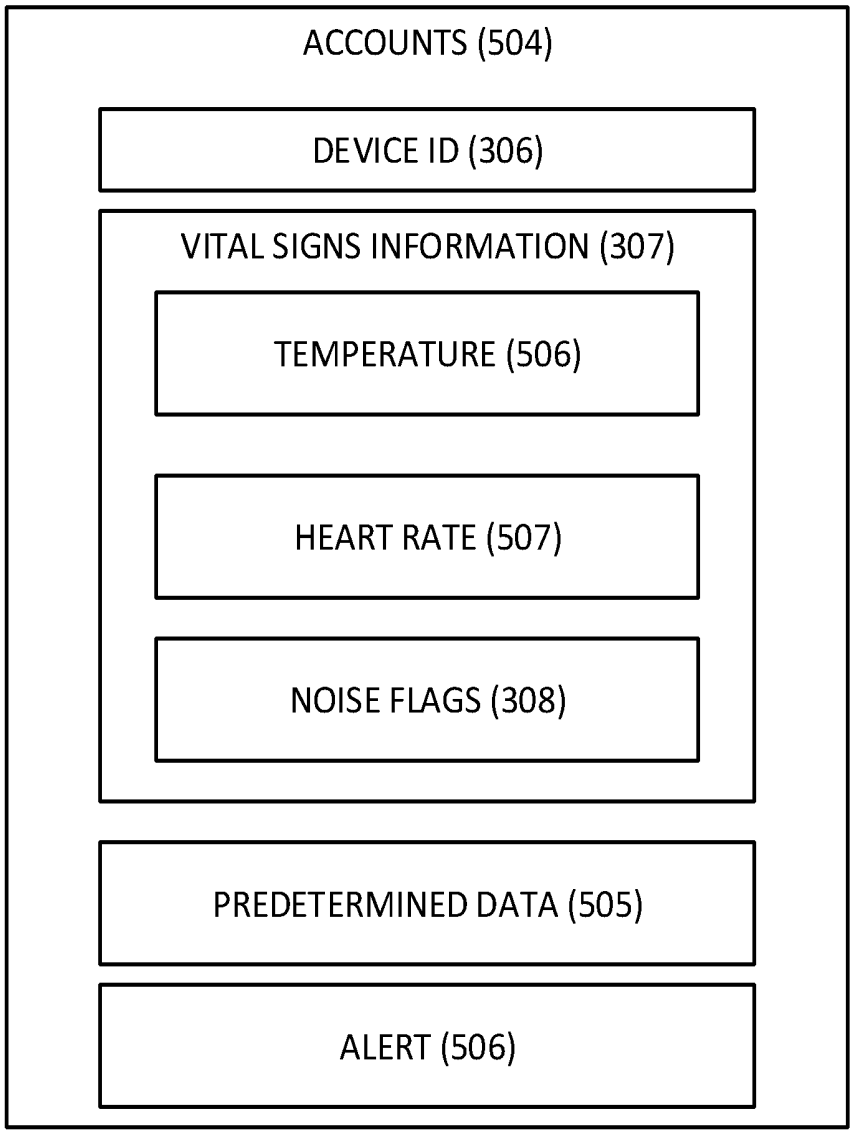

ACCOUNTS (504)
DEVICE ID (306)
VITAL SIGNS INFORMATION (307)
TEMPERATURE (506)
HEART RATE (507)
NOISE FLAGS (308)
PREDETERMINED DATA (505)
ALERT (506)

Fig. 8

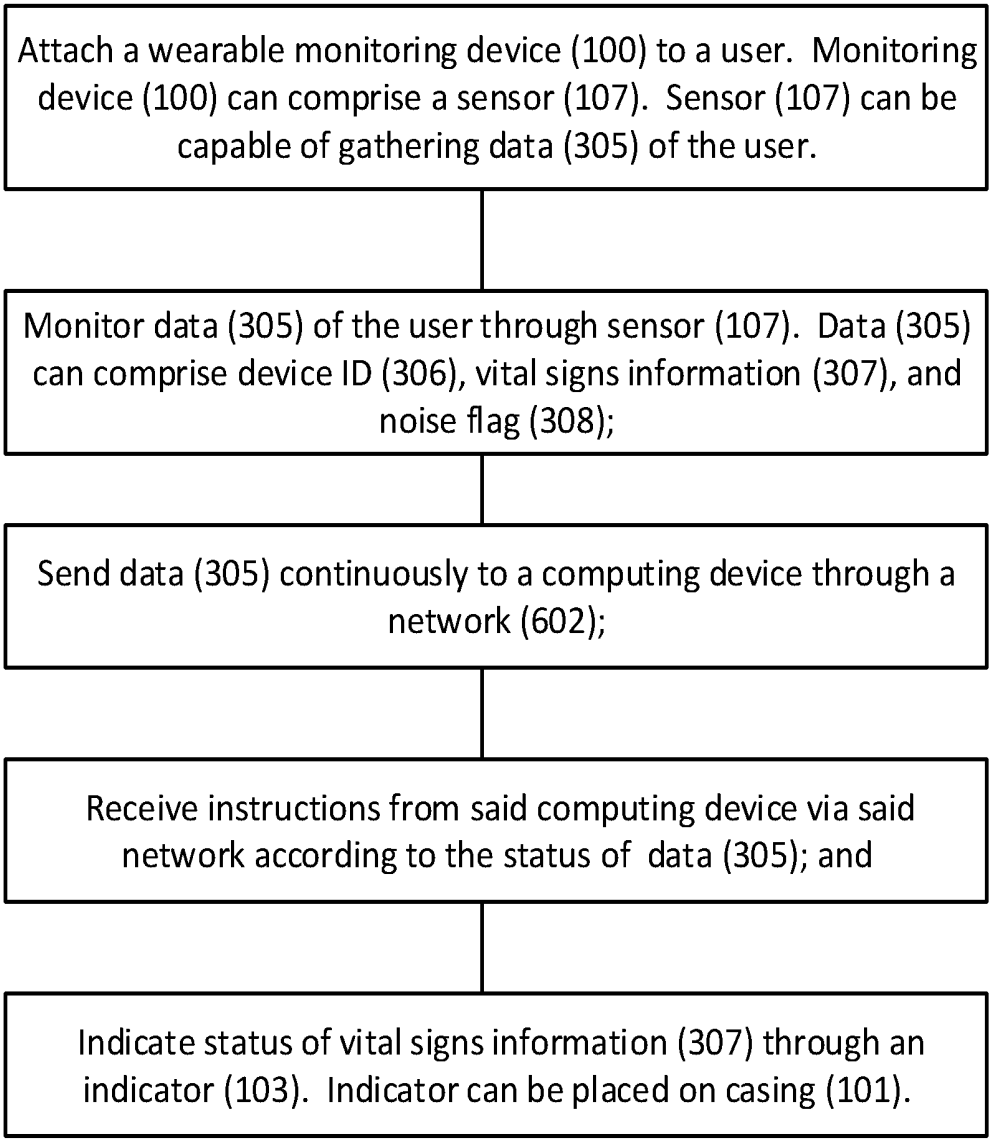

Attach a wearable monitoring device (100) to a user. Monitoring device (100) can comprise a sensor (107). Sensor (107) can be capable of gathering data (305) of the user.
Monitor data (305) of the user through sensor (107). Data (305) can comprise device ID (306), vital signs information (307), and noise flag (308);
Send data (305) continuously to a computing device through a network (602);
Receive instructions from said computing device via said network according to the status of data (305); and
Indicate status of vital signs information (307) through an indicator (103). Indicator can be placed on casing (101).

Fig. 9

SYSTEM AND METHOD FOR MONITORING A BABY'S VITAL SIGNS

BACKGROUND

[0001] This disclosure relates to a system and method for monitoring a baby's vitals.

[0002] Today, sudden infant death syndrome (SIDS) remains as one of the main causes of infant's death. SIDS is known as the sudden unexplained death of a child that is less than one year of age. It is also known that SIDS usually occurs during sleep, and that there is usually no noise produced or signs of struggle from the infant. Another frightening aspect of SIDS is that a seemingly healthy infant can still be susceptible to such syndrome. Thus, different measures and/or method is being followed to prevent this from happening. The most common methods involve traditional approaches such as putting an infant on its back when sleeping, avoiding loose blankets in the crib, using a pacifier at sleep time, and so on. Though the said methods can prevent infant's death, such methods can still be inadequate in monitoring an infant's breathing condition. Other methods include putting a baby monitor on a baby, which can include putting wearable devices on a baby to track baby's vitals. This method can be effective in monitoring the babies vital. However, monitoring devices usually comprise plastic materials that can crack or break into sharp pieces. The sharp pieces can accidentally cut a baby's skin or be lodged in the mouth of a child causing infection or possibly death. As such it would be useful to have an improved system and method for monitoring a baby's vitals.

SUMMARY

[0003] A wearable monitoring device is disclosed. In one embodiment, the wearable monitoring device can comprise a casing and a strap. The casing can comprise a monitoring-device hardware that can comprise a sensor, the sensor capable of gathering data from a baby. The casing can further comprise a monitoring device processor that receives data from the monitoring-device hardware, and stores the data on a monitoring device memory, further wherein the data comprises a device identifier and vital signs information. The casing can also comprise a communication hardware capable of sending the data to an electronic device. The strap can be attachable to a part of the body of the baby, and the strap mounts to the casing.

[0004] A method for monitoring a baby's vital signs is disclosed. The method can comprise comprising the steps of attaching a wearable monitoring device to a baby, the wearable monitoring device as described above. The method can further comprise the steps of monitoring the vital signs information of the user through the sensor, sending the data continuously to a computing device through a network, receiving status of the vital signs information from said computing device via said network; and indicating the status through an indicator, the indicator placed on the casing.

BRIEF DESCRIPTION OF THE DRAWINGS

[0005] FIG. **1**A illustrates a wearable monitoring device.

[0006] FIG. **1**B illustrates a slip-on embodiment of a wearable monitoring device.

[0007] FIG. **1**C illustrates an underside exterior of a monitoring device comprising a sensor.

[0008] FIG. **2** illustrates a non-limiting circuit board embodiment of a monitoring device.

[0009] FIG. **3** illustrates internal components of a wearable monitoring-device.

[0010] FIG. **4** illustrates an electronic mobile device showing a user's vital information.

[0011] FIG. **5** illustrates internal hardware of an electronic mobile device.

[0012] FIG. **6** illustrates a vital sign monitoring system.

[0013] FIG. **7** illustrates a schematic diagram of a server.

[0014] FIG. **8** illustrates a user account.

[0015] FIG. **9** illustrates an exemplary method for monitoring a baby's vitals using a monitoring device.

DETAILED DESCRIPTION

[0016] Described herein is a system and method for monitoring a baby's vitals. The following description is presented to enable any person skilled in the art to make and use the invention as claimed and is provided in the context of the particular examples discussed below, variations of which will be readily apparent to those skilled in the art. In the interest of clarity, not all features of an actual implementation are described in this specification. It will be appreciated that in the development of any such actual implementation (as in any development project), design decisions must be made to achieve the designers' specific goals (e.g., compliance with system- and business-related constraints), and that these goals will vary from one implementation to another. It will also be appreciated that such development effort might be complex and time-consuming, but would nevertheless be a routine undertaking for those of ordinary skill in the field of the appropriate art having the benefit of this disclosure. Accordingly, the claims appended hereto are not intended to be limited by the disclosed embodiments, but are to be accorded their widest scope consistent with the principles and features disclosed herein.

[0017] FIG. **1**A illustrates a wearable monitoring device **100**. Wearable monitoring device **100** can be any piece of object or accessories that can be worn and used to monitor vital signs of a baby. For purposes of this disclosure, vital signs that can be measured for an infant can include but are not limited to heart rate, and body temperature. Moreover, wearable monitoring device **100** can monitor noise surrounding the user which can indicate if the user is sleeping well, awake, or is being disturbed with unnecessary noise. Wearable monitoring device **100** can include but are not limited to socks, bracelets, and watch that can be worn to monitor the user's vital signs. In a preferred embodiment, wearable monitoring device **100** can be in a form of a bracelet as shown in FIG. **1**. In this embodiment, wearable monitoring device **100** can comprise a casing **101** and a strap **102**. Casing **101** can be an enclosure capable of housing and securing internal parts of wearable monitoring device **100**. Casing **101** can be made of durable material such as a rubber and can have variety of designs, shapes, and/or sizes. Strap **102** can adaptably wrap around the wrist of the baby. Moreover, strap **102** can be the predominant portion of wearable monitoring device **100** that can mount casing **101**. In one embodiment, strap **102** can comprise of durable materials that can include but is not limited to rubber, and/or fabric materials. In a preferred embodiment, strap **102** can be made of a toxic non-hypoallergenic, and soft material such as cotton. In one embodiment, casing **101** can attach to strap **102** through method that can include but is not limited

to adhesion, sewing, or fastening. In such embodiment, casing **101** and strap **102** can be a separate device. In another embodiment, casing **101** and strap **102** can be a unibody. Further, casing **101** can comprise an indicator **103**, a reset button **104**, and a charging port **105**. Indicator **103** can comprise light-emitting diode (LED). Indicator **103** can indicate that wearable monitoring device **100** is powered on. In one embodiment, indicator **103** can use different colors to indicate status of the user's vitals. In another embodiment, indicator **103** can use blinking lights to indicate status of the baby's vitals. Reset button **104** can be placed at the exterior surface of casing **101**. Reset button **104** can be actuated when there is a malfunction in the operations of monitoring device **100**. Charging port **105** can be used to recharge the battery of monitoring device **100**. Charging port **105** can be any type of standard mobile device charger, which can include but is not limited to a lightning port, or a USB (Universal Serial Bus) port. Some examples of USB port can include micro USB port, mini USB port, and Type A port.

[0018] FIG. **1**B illustrates a slip-on embodiment of wearable monitoring device **100**. In such embodiment, strap **102** can be made of slip-on fabric. Examples of slip-on fabric can include but are not limited to rubberized fabric, or elastic bands. Moreover, strap **102** can comprise a smooth exterior, to ensure that the baby can barely feel the device. Thus, irritability or discomfort on the baby can be prevented and markings on the baby's arm can be reduced. Further in one embodiment, monitoring device **100** can comprise a battery **106**. Battery **106** can provide power for the operation of monitoring device **100**. Moreover, battery **106** can be placed within casing **101**. This feature ensures that battery **106** is away from baby and not in contact with the baby's skin. In one embodiment, battery **106** can be removable from casing **101**. An example of, battery **106** can be a lithium-ion (li-ion) rechargeable battery. In another embodiment, battery **106** can be removable from casing **101**. In such embodiment, battery **106** can be replaced with a new battery.

[0019] FIG. **1**C illustrates an underside exterior of monitoring device **100** comprising a sensor **107**. As a non-limiting embodiment, sensor **107** can be a laser. Sensor **107** can be mounted within casing **101** and can be capable of scanning and monitoring user's vitals. In such embodiment, strap **102** can comprise an opening **108** to allow a portion of sensor **107** be in contact with the baby's skin.

[0020] FIG. **2** illustrates a non-limiting circuit board **200** embodiment of monitoring device **100**. Circuit board **200** can comprise a plurality of gold connectors. **201-203**. The gold connectors can be 5V DC in one embodiment. capacity heart rate sensor **204** comprising double laser lenses **205**, a blood pressure chip **206**, a SWSLK-130 **207**, one or more Bluetooth communication chips **208**, **212**, a heart rate chip **209**, a microprocessor **210**, and high connectivity sensors **211**.

[0021] FIG. **3** illustrates internal components of wearable monitoring-device **100** comprising a monitoring-device hardware **301**, a monitoring device processor **302** such as microprocessor **210**, a monitoring device memory **303**, and a communication hardware **304**. Monitoring-device hardware **301** can comprise different kinds of sensor **107** capable of monitoring the baby's vital status. Sensor **107** can include but is not limited to biosensor, temperature sensor, and/or noise monitoring sensor. As an exemplary embodiment, monitoring-device hardware **301** can include double laser lenses **205**. Data **305** can be collected from monitoring-device hardware **301** and can be sent to monitoring-device processor **302**. In one embodiment, data **305** can include a device identifier (ID) **306**, a vital signs information **307**, and a noise flag **308**. Device ID **306** can be a unique identification of wearable monitoring-device **100**, which can comprise of alphanumeric characters. Vital signs information **307** can include but is not limited to body temperature, heart rate, and child's sleeping condition. Noise flag **308** can be a flag that indicates the noise condition around monitoring device **100**. As such, when noise can be detected within the area of monitoring device **100** noise flag **308** can be flagged or marked. Monitoring-device processor **302** can be a device that performs executable functions on monitoring-device memory **303**. In one embodiment, monitoring-device processor **302** can send instructions to indicator **103**. As such, indicator **103** can light up and/or operate according to the instructions sent by monitoring-device processor **302**. Monitoring-device memory **303** can be a physical device used to store programs and/or data. Processes of monitoring-device processor **302** can include storing data **305** to monitoring-device memory **303**, and verifying data **305** is valid and conforms to preset standards. Communication hardware **304** can include a network transport processor for packetizing data, communication ports for wired communication, or an antenna for wireless communication. Further, data **305** can be sent to communication hardware **304** for communication over a network. In one embodiment, communication hardware **304** can allow transmitting and receiving communication with an electronic device via Bluetooth. In another embodiment, communication hardware **304** can allow wearable monitoring-device **100** to transmit and/or receive data to an electronic device through a wireless network connection.

[0022] FIG. **4** illustrates an electronic mobile device **400** showing user's vital information **307**. Electronic mobile device **400** can include, but is not limited to, a mobile phone, a laptop, a personal digital assistant (PDA), and/or a tablet. Electronic mobile device **400** can comprise a screen **401**. In one embodiment, electronic mobile device **400** can be programmed essentially for the function of displaying, receiving, and collecting information from wearable monitoring-device **100** through a network. In another embodiment, an application can be installed to an electronic mobile device **400** to perform the function of displaying, receiving, and collecting information from wearable monitoring-device **100**. In such embodiments, electronic mobile device **400** can display data **305** through screen **401**. As an example, a user information can be shown on screen **401**, which can include but is not limited to a child's profile such as name, picture, and/or age, a child's temperature, a child's heart rate, and a child's sleeping condition.

[0023] FIG. **5** illustrates internal hardware of electronic mobile device **400** comprising a mobile device memory **501**, a mobile device processor **502**, and mobile device communication hardware **503**. Data **305** from wearable monitoring-device **100** can be sent to electronic mobile device processor **502**. Mobile device processor **502** can perform processes on the data according to an application stored in mobile device memory **501**, as discussed further below. Processes can include storing collected data **305** to mobile device memory **501**, verifying collected data **305** conforms to preset standards or ensuring all required data has been gathered for information inquiry to be complete. Mobile device memory **501** can comprise one or more accounts **504**.

[0024] FIG. **6** illustrates a vital sign monitoring system comprising one or more wearable monitoring devices **100**, one or more electronic mobile devices **400**, and one or more servers **601** connected via a network **602**. Server **601** can represent at least one, but can be many servers, each connected to network **602**. Server **601** can be accessible to an individual or a group of individuals through a web browser application. Network **602** can be a local area network (LAN), a wide area network (WAN), a piconet, or a combination of LANs, WANs, or piconets. One illustrative LAN is a network within a single business. One illustrative WAN is the Internet. In the preferred embodiment, network **602** will comprise the Internet.

[0025] In one embodiment, data **305** from each monitoring device **100** can communicate with electronic mobile devices **400** through network **602**. In such embodiment, data **305** can be sent from each monitoring device **100** to each corresponding mobile device **400** via a Bluetooth. In another embodiment, data **305** can be sent from each monitoring device **100** to each corresponding mobile device **400** via a WIFI (wireless fidelity) connection. Further in another embodiment, each monitoring device **100** can send data **305** to server **601** through WIFI. In such embodiment, server **601** can receive and transfer data **305** to each corresponding mobile device **400**. In this embodiment, a first user can wear a first monitoring device **100***a* of one or more wearable monitoring devices **100**, a second user can wear a second monitoring device **100***b*, and so on. In such example embodiment, data **305** can be sent from first monitoring device **100***a* to a first mobile device **400***a* through network **602**.

[0026] FIG. **7** illustrates a schematic diagram of server **601** according to an embodiment of the present disclosure. Server **601** can comprise a server processor **701**, a server memory **702**, and a first local interface **703**. Server **601** can comprise a server processor **701**, and a first local interface **703**. First local interface **703** can be a program that controls a display for the user, which can allow user to view and/or interact with server **601**. Server **601** can be a processing unit that performs a set of instructions stored within server memory **702**. Server memory **702** can comprise a server application **604**, and a server data store **705**. Server application **704** can be a program providing logic for server **601**. Server data store **705** can be collections of data accessible through server application **704**. Server data store **705** can comprise accounts **504**. Further, server application **704** can perform functions such as adding, transferring, and retrieving information on server data store **705** using first local interface **703**.

[0027] Server **601** includes at least one processor circuit, for example, having server processor **701** and server memory **702**, both of which are coupled to first local interface **703**. To this end, the server **601** can comprise, for example, at least one server, computer or like device. First local interface **703** can comprise, for example, a data bus with an accompanying address/control bus or other bus structure as can be appreciated.

[0028] Both data and several components that are executable by server processor **701** are stored in server memory **702**. In particular, server application **704** and, potentially, other applications are stored in the server memory **702** and executable by server processor **701**. Also, server data store **705** and other data can be stored in server memory **702**. In addition, an operating system can be stored in server memory **702** and executable by server processor **701**.

[0029] Further, it is understood that there are other applications that can be stored in mobile device memory **501** and server memory **702** and executable by mobile device processor **502** and server processor **701**. Where any component discussed herein is implemented in the form of software, any one of a number of programming languages can be employed such as, for example, C, C++, C#, Objective C, Java, Java Script, Perl, PHP, Visual Basic, Python, Ruby, Delphi, Flash, or other programming languages.

[0030] A number of software components can be stored in mobile device memory **501** and server memory **702** and can be executable by mobile device processor **502** and server processor **701**. In this respect, the term "executable" can mean a program file that is in a form that can ultimately be run by mobile device processor **502** and server processor **701**. Examples of executable programs can include a compiled program that can be translated into machine code in a format that can be loaded into a random access portion of mobile device memory **501** and server memory **702** and run by mobile device processor **502** and server processor **701**, source code that can be expressed in proper format such as object code that is capable of being loaded into a random access portion of mobile device memory **501** and server memory **702** and executed by mobile device processor **502** and server processor **701**, or source code that can be interpreted by another executable program to generate instructions in a random access portion of mobile device memory **501** and server memory **702** to be executed by mobile device processor **502** and server processor **701**, etc. An executable program can be stored in any portion or component of mobile device memory **501** and server memory **702** including, for example, random access memory (RAM), read-only memory (ROM), hard drive, solid-state drive, USB flash drive, memory card, optical disc such as compact disc (CD) or digital versatile disc (DVD), floppy disk, magnetic tape, or other memory components.

[0031] FIG. **8** illustrates accounts **504** can comprise device ID **306**, vital signs information **307**, predetermined data **505**, and alert **506**. Accounts **504** can comprise information such as a child's name, sex, age, date of birth, and weight. Vital signs information **307** can comprise a real-time reading of a child's temperature **506**, a child's heart rate **507**, and noise flag **308**. Predetermined data **505** can be predetermined information of a child's normal vital signs that is according to age, time of the day, and/or weather condition. In one embodiment, alert **506** can be a sound notification. In another embodiment, alert **506** can be a message notification.

[0032] FIG. **9** illustrates an exemplary method for monitoring a user's vitals using monitoring device **100**. First, monitoring device **100** can be worn by or attached to a user. Once attached, sensor **107** can start monitoring vital signs information **307** of the user. Data **305** gathered through monitoring device **100** can be sent continuously to a computing device through network **602**. For purposes of this disclosure, computing device can be any machine capable of performing calculations automatically. A non-limiting example of computing device can comprise electronic device, **400**, and server **601**.

[0033] Computing device continuously receives data **305** in real time. As such, a computing device processor can compare vital signs information **307** with predetermined

data **505**. In scenario wherein one or more of user's vital signs information **307** can be outside the range of predetermined data **505**, alert **506** can be triggered on the computing device. Further in another scenario wherein noise can be detected by monitoring device **100**, noise flag **308** can be flagged that can indicate to the computing device that noise was detected at the location of monitoring device **100**. This can also indicate that the user is awake, or that there are noises around the user that can cause user to wake up. In such scenario, alert **506** can be triggered. In an embodiment, wherein the computing device is server **601**, server **601** can send instructions to electronic device **400** to indicate that alert **506** was triggered. Thus, alert notification can be displayed and/or sound notification can be played on electronic device **400**. In another embodiment, wherein the computing device is electronic device **400**, electronic device **400** can trigger alert **506**. Accordingly, the computing device can send instructions to monitoring device **100**. As such, indicator **103** on monitoring device **100** can operate according to the instructions received from the computing device. In a scenario, wherein vital signs information **307** can be within the range of predetermined data **505**, vital signs information **307** can be continuously monitored and alert **506** cannot be triggered. As an exemplary embodiment, when alert **506** was not triggered on the computing device, a green light on indicator **103** can be shown on monitoring device **100**. This can indicate that vital signs on the user are normal. As another example, when alert **506** were triggered on the computing device, a red light on indicator **103** can be displayed on monitoring device **100**. This can indicate that there's a problem on baby's vitals. In some embodiments, indicator **103** can use blinking lights to indicate a problem in a baby's vital. As an example, a steady light on indicator **103** can indicate that a problem has been detected with a baby's vital signs, and a blinking light on indicator **103** can indicate that vitals of the user are normal.

[0034] Mobile device memory **501** and server memory **702** can include both volatile and non- volatile memory and data storage components. Volatile components do not retain data values upon loss of power. Non-volatile components, on the other hand, retain data upon a loss of power. Thus, mobile device memory **501** and server memory **702** can comprise, for example, random access memory (RAM), read-only memory (ROM), hard disk drives, solid-state drives, USB flash drives, memory cards accessed via a memory card reader, floppy disks accessed via an associated floppy disk drive, optical discs accessed via an optical disc drive, magnetic tapes accessed via an appropriate tape drive, and/or other memory components, or a combination of any two or more of these memory components. In addition, the RAM can comprise, for example, static random-access memory (SRAM), dynamic random access memory (DRAM), or magnetic random access memory (MRAM) and other such devices. The ROM can comprise, for example, a programmable read-only memory (PROM), an erasable programmable read-only memory (EPROM), an electrically erasable programmable read-only memory (EEPROM), or other like memory device.

[0035] Also, mobile device processor **502** and server processor **701** can represent multiple processors. Likewise, mobile device processor **502** and server processor **701** can represent multiple memories that operate in parallel processing circuits, respectively. In such a case, first local interface **703** can be an appropriate network, including network **602** that facilitates communication between any two of the mobile device processor **502** and server processor **701**, between any mobile device processor **502** and server processor **701** and any of the mobile device memory **501** and server memory **702**, or between any two of the mobile device memory **501** and server memory **702**, etc. First local interface **703** can comprise additional systems designed to coordinate this communication, including, but not limited to, performing load balancing. Mobile device processor **502** and server processor **701** can be of electrical or of some other available construction.

[0036] Although server application **704**, and other various systems described herein can be embodied in software or code executed by general purpose hardware discussed above, server application **704** can also be embodied in dedicated hardware or a combination of software/general purpose hardware and dedicated hardware. If embodied in dedicated hardware, each server application **704** can be implemented as a circuit or state machine that employs a number of technologies. These technologies can include, but are not limited to, discrete logic circuits having logic gates for implementing various logic functions upon an application of one or more data signals, application specific integrated circuits having appropriate logic gates, or other components, etc. Such technologies are generally well known by those skilled in the art and, consequently, are not described in detail herein.

[0037] The flowchart of FIG. **9** shows the functionality and operation of an implementation of portions of server application **704**. If embodied in software, each block can represent a module, segment, or portion of code that comprises program instructions to implement the specified logical function(s). The program instructions can be embodied in the form of source code that comprises human-readable statements written in a programming language or machine code that comprises numerical instructions recognizable by a suitable execution system such as mobile device processor **502** in a computer system or other system. The machine code can be converted from the source code, etc. If embodied in hardware, each block can represent a circuit or a number of interconnected circuits to implement the specified logical function(s).

[0038] Although the flowchart of FIG. **9** show a specific order of execution, the order of execution can differ from what is depicted. For example, the order of execution of two or more blocks can be rearranged relative to the order shown. Also, two or more blocks shown in succession in flowchart of FIG. **9** can be executed concurrently or with partial concurrence. In addition, any number of counters, state variables, warning semaphores, or messages might be added to the logical flow described herein, for purposes of enhanced utility, accounting, performance measurement, or providing troubleshooting aids, etc. All such variations are within the scope of the present disclosure.

[0039] Also, any logic or application described herein that comprises software or code, including server application **704**, can be embodied in any computer-readable storage medium for use by or in connection with an instruction execution system such as, mobile device processor **502** and server processor **701** in a computer system or other system. The logic can comprise statements including instructions and declarations that can be fetched from the computer-readable storage medium and executed by the instruction execution system.

[0040] In the context of the present disclosure, a "computer-readable storage medium" can be any medium that can contain, store, or maintain the logic or application described herein for use by or in connection with the instruction execution system. The computer-readable storage medium can comprise any one of many physical media, such as electronic, magnetic, optical, electromagnetic, infrared, or semiconductor media. More specific examples of a suitable computer-readable storage medium can include, but are not limited to, magnetic tapes, magnetic floppy diskettes, magnetic hard drives, memory cards, solid-state drives, USB flash drives, or optical discs. Also, the computer-readable storage medium can be a random-access memory (RAM), including static random-access memory (SRAM), dynamic random-access memory (DRAM) or magnetic random-access memory (MRAM). In addition, the computer-readable storage medium can be a read-only memory (ROM), a programmable read-only memory (PROM), an erasable programmable read-only memory (EPROM), an electrically erasable programmable read-only memory (EEPROM), or other type of memory device.

[0041] It should be emphasized that the above-described embodiments of the present disclosure are merely possible examples of implementations set forth for a clear understanding of the principles of the disclosure. Many variations and modifications can be made to the above-described embodiment(s) without departing substantially from the spirit and principles of the disclosure. All such modifications and variations are intended to be included herein within the scope of this disclosure and protected by the following claims.

[0042] Various changes in the details of the illustrated operational methods are possible without departing from the scope of the following claims. Some embodiments may combine the activities described herein as being separate steps. Similarly, one or more of the described steps may be omitted, depending upon the specific operational environment the method is being implemented in. It is to be understood that the above description is intended to be illustrative, and not restrictive. For example, the above-described embodiments may be used in combination with each other. Many other embodiments will be apparent to those of skill in the art upon reviewing the above description. The scope of the invention should, therefore, be determined with reference to the appended claims, along with the full scope of equivalents to which such claims are entitled. In the appended claims, the terms "including" and "in which" are used as the plain-English equivalents of the respective terms "comprising" and "wherein."

1. A wearable monitoring device comprising
a casing that encloses
a monitoring-device hardware that comprises a sensor, said sensor capable of gathering data of a user;
a monitoring device processor that receives said data from said monitoring-device hardware, and stores said data on a monitoring device memory, further wherein said data comprises a device identifier and a vital signs information; and
a communication hardware capable of sending said data to an electronic device; and
a strap attachable to a part of the body of said user, further wherein said strap mounts said casing.

2. The wearable monitoring device of claim **1**, further comprising an indicator that indicates status of said data, further wherein said monitoring device processor sends instructions to said indicator according to said data gathered from said monitoring-device hardware.

3. The wearable monitoring device monitoring device of claim **1**, further comprising a reset button capable of resetting operations of said wearable monitoring device.

4. The wearable monitoring device monitoring device of claim **1**, further comprising a battery and a charging port, said battery and said charging port mounted on said casing.

5. The wearable monitoring device of claim **1**, wherein said sensor comprises a biosensor.

6. The wearable monitoring device of claim **1**, wherein said sensor comprises a temperature sensor.

7. The wearable monitoring device of claim **1**, wherein said sensor comprises a noise- monitoring sensor.

8. The wearable monitoring device of claim **1**, wherein said data gathered comprises body temperature.

9. The wearable monitoring device of claim **1**, said data gathered comprises heart rate.

10. The wearable monitoring device of claim **1**, wherein said data gathered comprises noise condition.

11. A method for monitoring a user's vitals comprising the steps of
attaching a wearable device to a user, said wearable device comprising
a casing that encloses
a monitoring-device hardware that comprises a sensor, said sensor capable of gathering data of a user;
a monitoring device processor that receives said data from said monitoring-device hardware, and stores said data on a monitoring device memory, further wherein said data comprises a device identifier and a vital signs information; and
a communication hardware capable of sending said data to an electronic device; and
a strap attachable to a part of the body of said user, further wherein said strap mounts said casing.
monitoring said vital signs information of said user through said sensor;
sending said data continuously to a computing device through a network;
receiving status of said vital signs information from said computing device via said network; and
indicating said status through an indicator, said indicator placed on said casing.

12. The method of claim **11** further comprising the steps of
comparing said vital signs information with a predetermined data by said computing device; and
sending said status by said computing device to said wearable monitoring device through said network.

13. The method of claim **12** further comprising the step of triggering an alert on said computing device when said vital signs information is outside the range of said predetermined data.

14. The method of claim **12** wherein said alert is a sound notification.

15. The method of claim **12** wherein said alert is a message notification.

16. The method of claim **12** wherein said wearable device further comprises a reset button, said reset button capable of resetting operations of said wearable device.

17. The method of claim **11** wherein said indicator comprises light-emitting diode LED lights.

18. The method of claim **11** wherein said computing device comprises an electronic device.

19. The method of claim **11** wherein said computing device comprises a server.

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摘要(译)

公开了一种可穿戴监视设备和使用方法。在一个实施例中，可穿戴监测设备可具有外壳和带子。外壳可以具有可以具有传感器的监视设备硬件，该传感器能够从婴儿收集数据。外壳还可以包括监视设备处理器，其从监视设备硬件接收数据，并将数据存储在监视设备存储器上，其中，数据包括设备标识符和生命体征信息。外壳还可以包括能够将数据发送到电子设备的通信硬件。带子可以连接到婴儿身体的一部分，并且带子安装到外壳上。