US 20190091073A1

(19) **United States**

(12) **Patent Application Publication** (10) **Pub. No.: US 2019/0091073 A1**

WEN et al. (43) **Pub. Date: Mar. 28, 2019**

(54) **DIAPER CARE SYSTEM AND METHOD FOR MULTIPLE USERS**

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(21) Appl. No.: **15/896,217**

(22) Filed: **Feb. 14, 2018**

(30) **Foreign Application Priority Data**

Sep. 28, 2017 (TW) 106133440

Publication Classification

(51) **Int. Cl.**

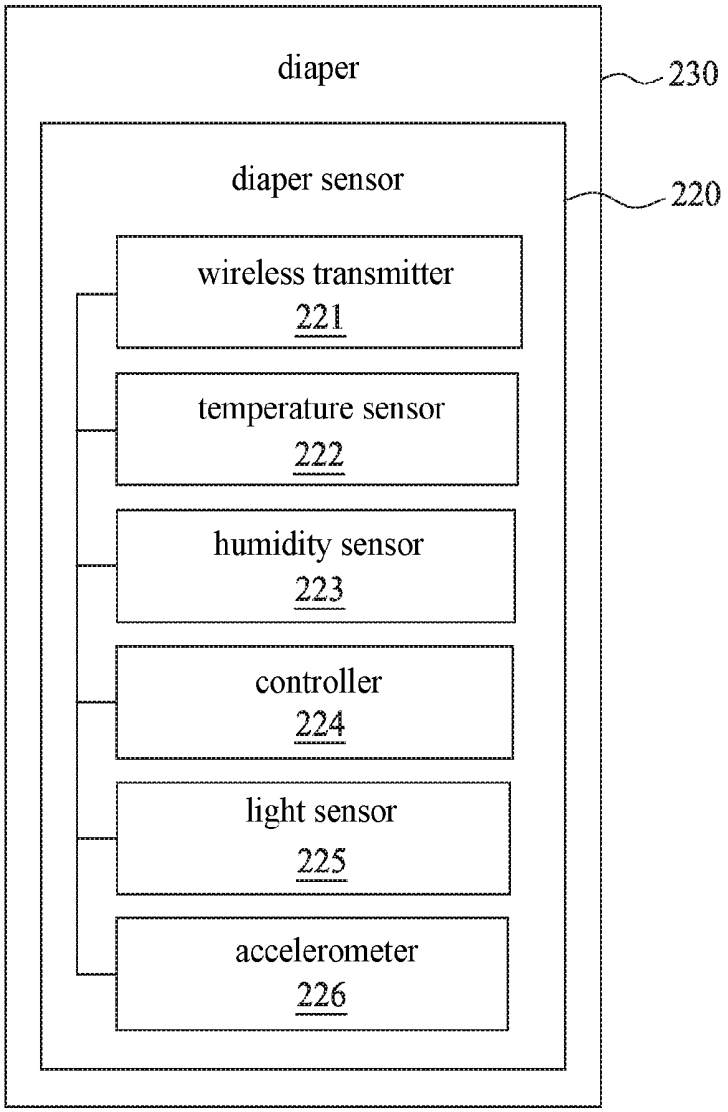
A61F 13/42	(2006.01)
A61B 5/00	(2006.01)
A61F 13/49	(2006.01)

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

CPC ***A61F 13/42*** (2013.01); *A61B 5/0022* (2013.01); ***A61F 13/49*** (2013.01); ***A61B 5/7465*** (2013.01)

(57) **ABSTRACT**

The present disclosure provides diaper care system and method. In this method, diaper sensors senses and transmits usage parameters of diapers to a server; when it is determined that one of the diapers needs to be replaced, the server monitors the change in the usage parameter of the corresponding diaper sensor, and determines whether this diaper which needs to be replaced has been replaced or not.



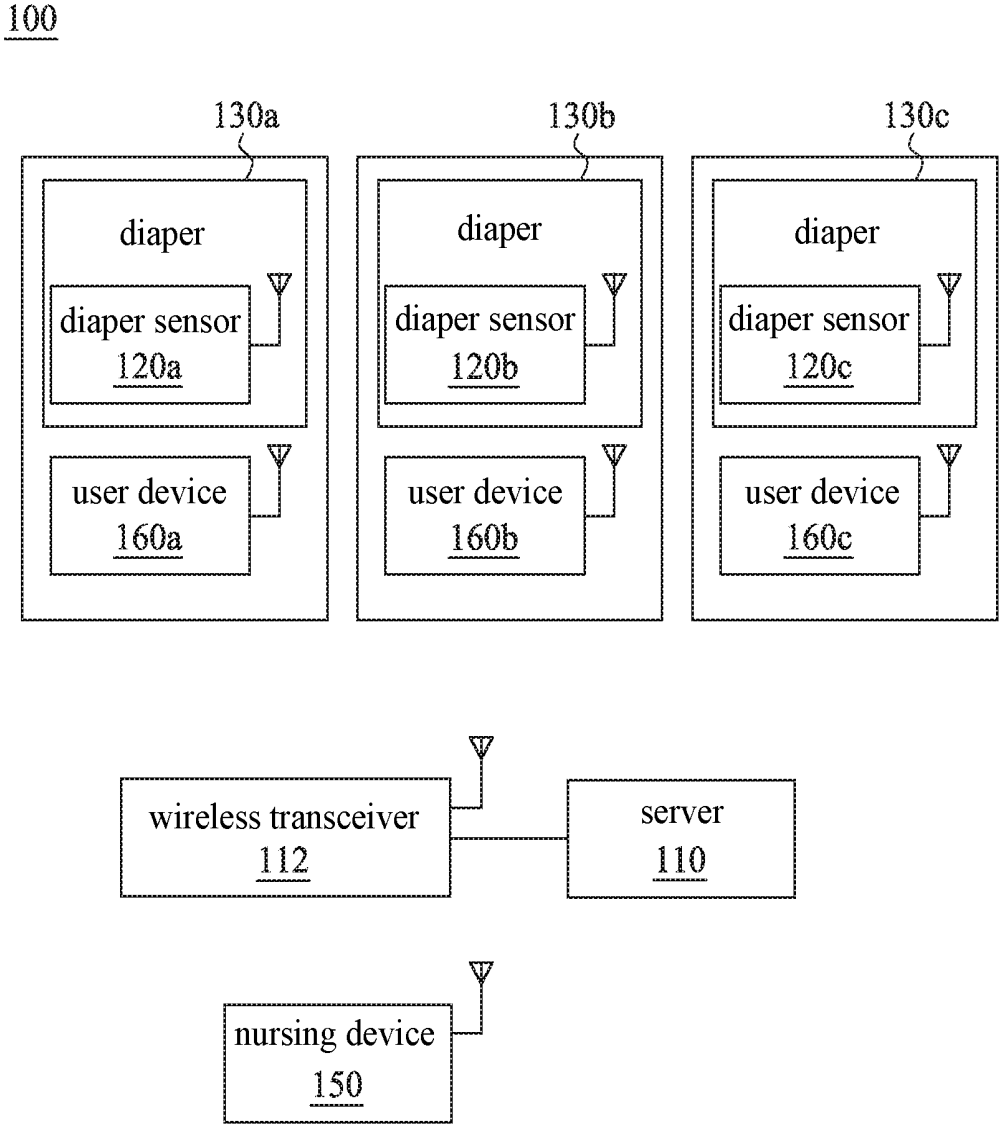

100
130a
130b
130c
diaper
diaper sensor
120a
user device
160a
diaper
diaper sensor
120b
user device
160b
diaper
diaper sensor
120c
user device
160c
wireless transceiver
112
server
110
nursing device
150

Fig. 1

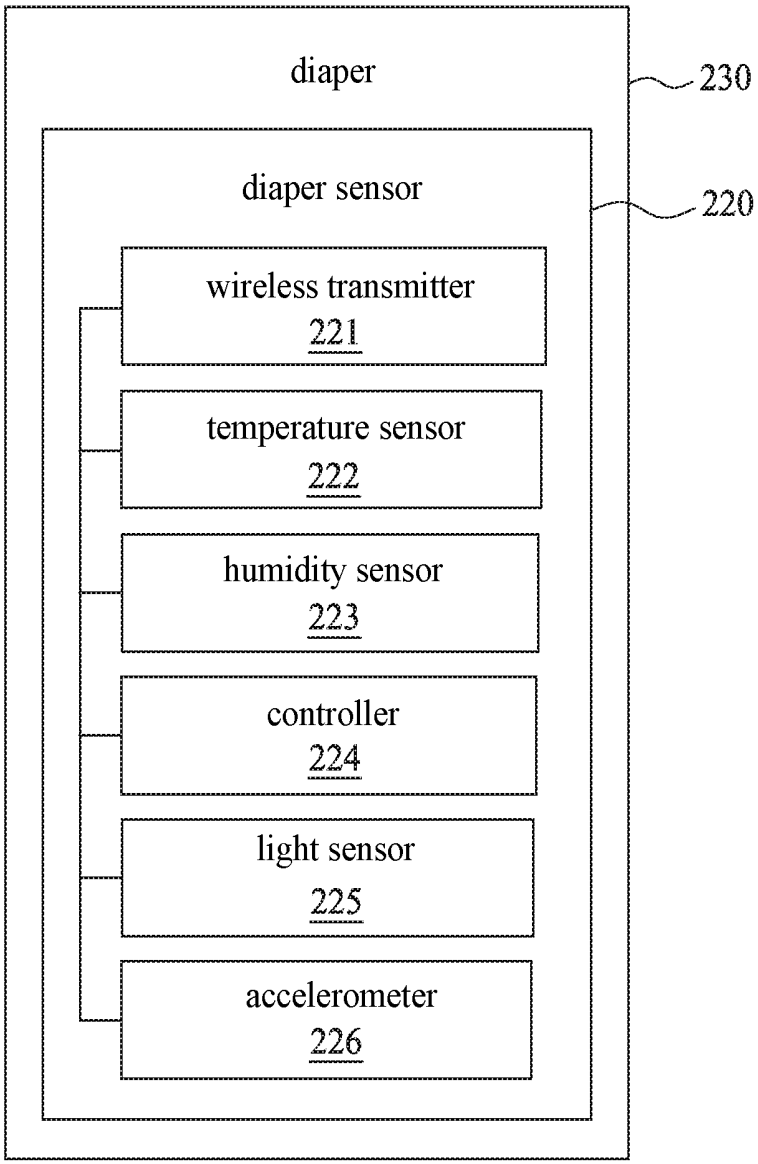

diaper
230
diaper sensor
220
wireless transmitter
221
temperature sensor
222
humidity sensor
223
controller
224
light sensor
225
accelerometer
226

Fig. 2

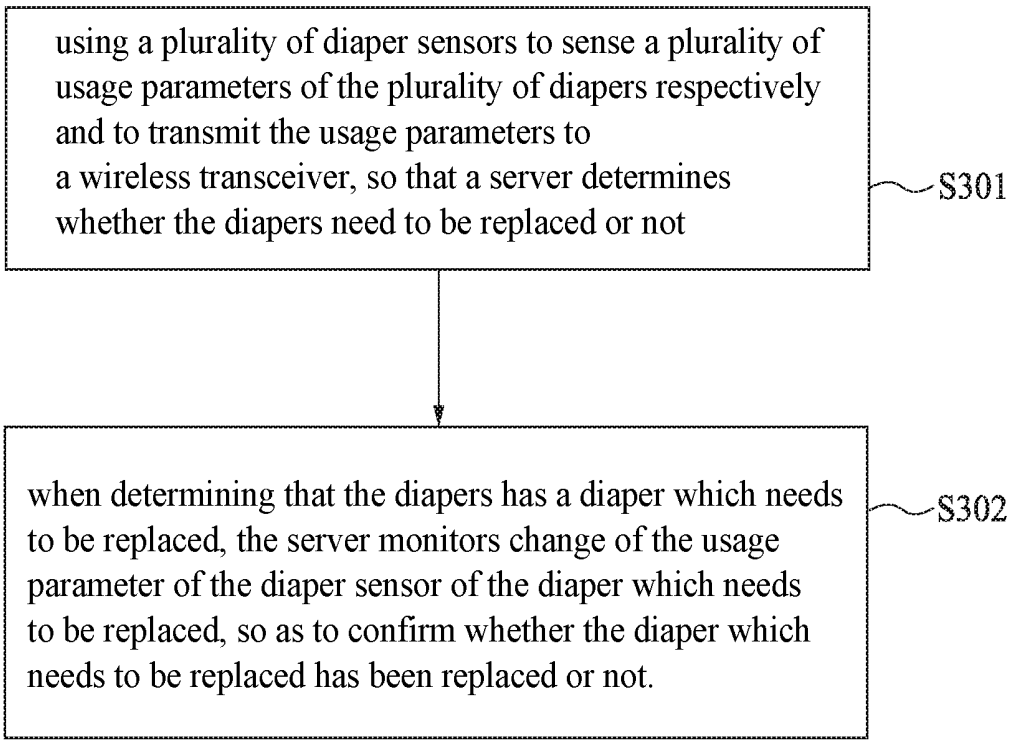

using a plurality of diaper sensors to sense a plurality of usage parameters of the plurality of diapers respectively and to transmit the usage parameters to a wireless transceiver, so that a server determines whether the diapers need to be replaced or not
S301
when determining that the diapers has a diaper which needs to be replaced, the server monitors change of the usage parameter of the diaper sensor of the diaper which needs to be replaced, so as to confirm whether the diaper which needs to be replaced has been replaced or not.
S302

Fig. 3

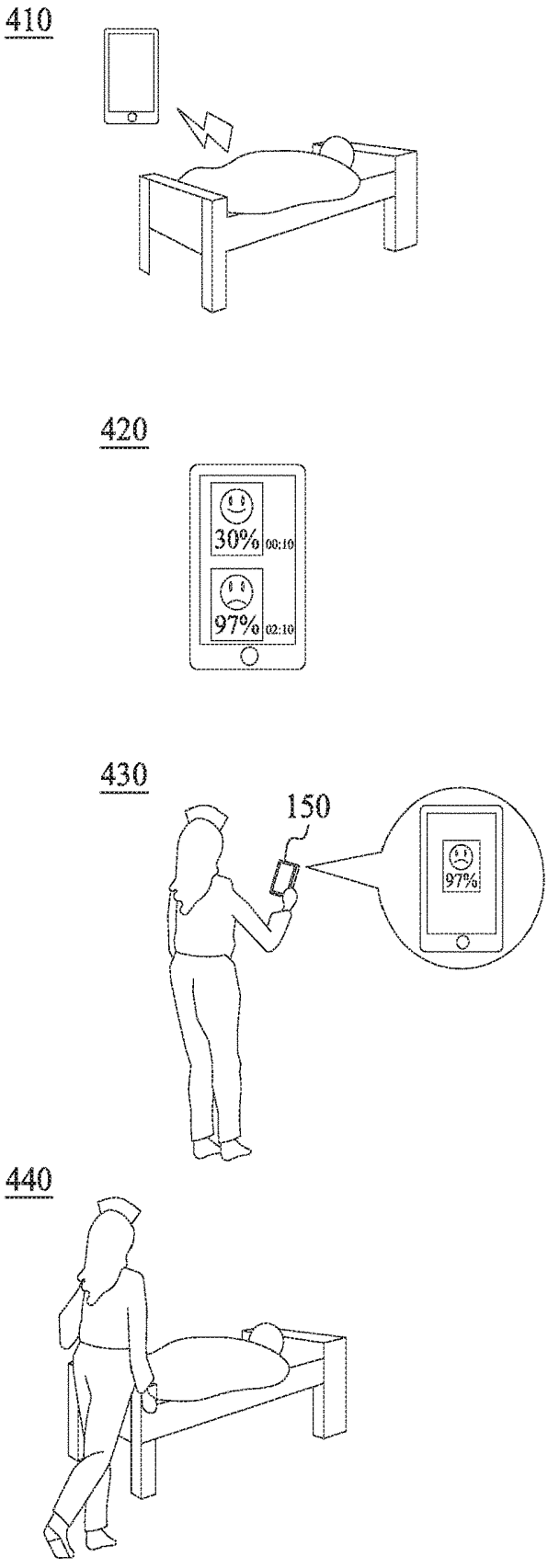
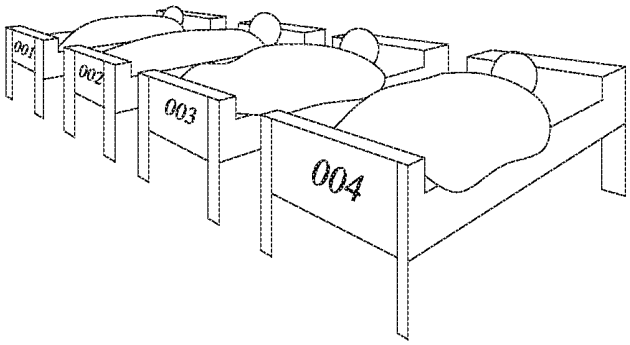


Fig. 4

510



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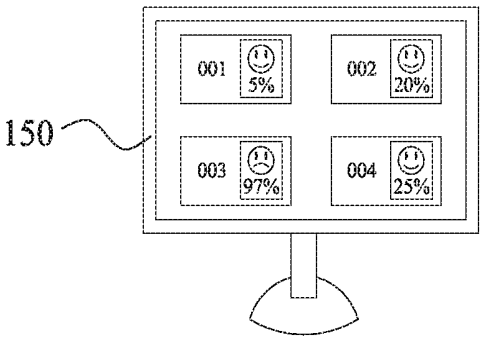

530

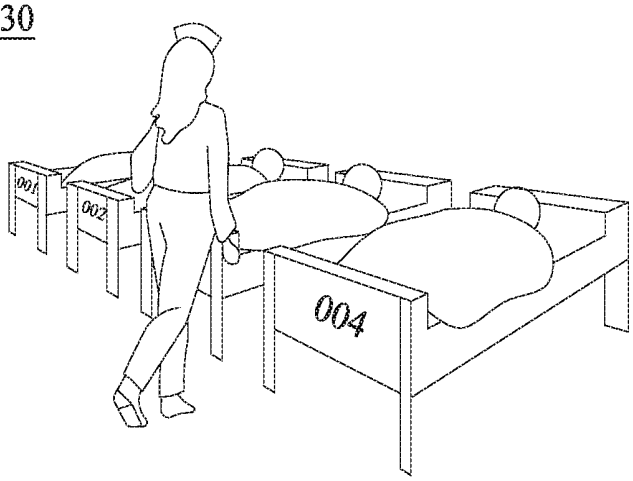

Fig. 5

DIAPER CARE SYSTEM AND METHOD FOR MULTIPLE USERS

RELATED APPLICATIONS

[0001] This application claims priority to Taiwan Patent Application No. 106133440, filed Sep. 28, 2017, the entirety of which is herein incorporated by reference.

BACKGROUND

Field of Invention

[0002] The present invention relates to diaper care systems and methods for multiple users.

Description of Related Art

[0003] A diaper or a nappy is a type of underwear that allows the wearer to defecate or urinate without the use of a toilet, by absorbing or containing waste products to prevent soiling of outer clothing or the external environment. Failure to change a diaper on a sufficiently regular basis can result in skin problems around the area covered by the diaper. Diapers using a very strong polymer as an absorber, and some can absorb up to 50 times its own weight of water.

[0004] However, in general care centers, diaper wearers (e.g., infants, patients, and maimed people) usually cannot directly contact with caregivers, and often have helplessness if they need to change diapers after urination.

SUMMARY

[0005] The following presents a simplified summary of the disclosure in order to provide a basic understanding to the reader. This summary is not an extensive overview of the disclosure and it does not identify key/critical elements of the present invention or delineate the scope of the present invention. Its sole purpose is to present some concepts disclosed herein in a simplified form as a prelude to the more detailed description that is presented later.

[0006] In one or more various aspects, the present disclosure is directed to diaper care systems and methods for multiple users.

[0007] An embodiment of the present disclosure is related to a diaper care system including a wireless transceiver, a server and a plurality of diaper sensors. The server is electrically connected to the wireless transceiver. The plurality of diaper sensors are configured to sense a plurality of usage parameters of the plurality of diapers respectively and to transmit the usage parameters to the wireless transceiver, so that the server determines whether the diapers need to be replaced or not, and when the diapers has a diaper which needs to be replaced as determined, the server monitors change of the usage parameter of the diaper sensor of the diaper which needs to be replaced, so as to confirm whether the diaper which needs to be replaced has been replaced or not.

[0008] In one embodiment, the diaper care system further includes a nursing device. The nursing device is configured to receive information on the diaper which needs to be replaced from the server, wherein after the nursing device sends a change completion signal to the server, the server is triggered to monitor the change of the usage parameter of the diaper sensor of the diaper which needs to be replaced, so as to confirm whether the diaper which needs to be replaced has been replaced or not.

[0009] In one embodiment, the diaper care system further includes a user device. The user device is configured to send a user experience message to the wireless transceiver, so that the server collects a time point of determining the diaper which needs to be replaced, another time point of confirming that the diaper which needs to be replaced has been changed, and the user experience information, so as to calculate a care quality score.

[0010] In one embodiment, the diaper sensor further includes a wireless transmitter, a temperature sensor, a humidity sensor and a controller. The temperature sensor is configured to sense a temperature value. The humidity sensor is configured to sense a humidity value. The controller is configured to incorporate the temperature value and the humidity value into the usage parameter so as to transmit the usage parameter to the wireless transceiver through the wireless transmitter, wherein when the temperature value and the humidity value are replaced to fall within a predetermined temperature range and a preset humidity range respectively, the server confirms that the diaper which needs to be replaced has been changed.

[0011] In one embodiment, the diaper sensor further includes a wireless transmitter, a light sensor and a controller. The light sensor is configured to sense a light wavelength. The controller is configured to incorporate the light wavelength into the usage parameter so as to transmit the usage parameter to the wireless transceiver through the wireless transmitter, wherein when the light wavelength falls within a preset spectral range, the server confirms that the diaper which needs to be replaced has been changed.

[0012] In one embodiment, the diaper sensor further includes a wireless transmitter, an accelerometer and a controller. The accelerometer is configured to sense an acceleration change. The controller is configured to incorporate the acceleration change into the usage parameter so as to transmit the usage parameter to the wireless transceiver through the wireless transmitter, wherein when the acceleration change exceeds a preset inertia range, the server confirms that the diaper which needs to be replaced has been changed.

[0013] In one embodiment, when the server determines that the diaper which needs to be replaced has not been replaced over a preset period of time, the server performs a warning function.

[0014] Another embodiment of the present disclosure is related to a diaper care method including steps of: (A) using a plurality of diaper sensors to sense a plurality of usage parameters of the plurality of diapers respectively and to transmit the usage parameters to a wireless transceiver, so that a server determines whether the diapers need to be replaced or not, wherein the server is electrically connected to the wireless transceiver; and (B) when determining that the diapers has a diaper which needs to be replaced, the server monitors change of the usage parameter of the diaper sensor of the diaper which needs to be replaced, so as to confirm whether the diaper which needs to be replaced has been replaced or not.

[0015] In one embodiment, the diaper care method further includes: using a nursing device to receive information on the diaper which needs to be replaced from the server, wherein after the nursing device sends a change completion

signal to the server, the server is triggered to monitor the change of the usage parameter of the diaper sensor of the diaper which needs to be replaced, so as to confirm whether the diaper which needs to be replaced has been replaced or not.

[0016] In one embodiment, the diaper care method further includes: using a user device to send a user experience message to the wireless transceiver, so that the server collects a time point of determining the diaper which needs to be replaced, another time point of confirming that the diaper which needs to be replaced has been changed, and the user experience information, so as to calculate a care quality score.

[0017] In one embodiment, the usage parameter of the diaper which needs to be replaced comprises a temperature value sensed by a temperature sensor of the diaper sensor and a humidity value sensed by a humidity sensor of the diaper sensor, and step (B) includes: when the temperature value and the humidity value are replaced to fall within a predetermined temperature range and a preset humidity range respectively, the server confirms that the diaper which needs to be replaced has been changed.

[0018] In one embodiment, the usage parameter of the diaper which needs to be replaced comprises a light wavelength sensed by a light sensor of the diaper sensor, and step (B) includes: when the light wavelength falls within a preset spectral range, the server confirms that the diaper which needs to be replaced has been changed.

[0019] In one embodiment, the usage parameter of the diaper which needs to be replaced comprises an acceleration change sensed by an accelerometer of the diaper sensor, and step (B) includes: when the acceleration change exceeds a preset inertia range, the server confirms that the diaper which needs to be replaced has been changed.

[0020] In one embodiment, the diaper care method further includes: when the server determines that the diaper which needs to be replaced has not been replaced over a preset period of time, performing a warning function.

[0021] Technical advantages are generally achieved, by embodiments of the present invention. The present invention realizes the automatic monitoring mechanism of the multi-users diaper care and enhances the diaper wearing experience of the users.

[0022] Many of the attendant features will be more readily appreciated, as the same becomes better understood by reference to the following detailed description considered in connection with the accompanying drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

[0023] The invention can be more fully understood by reading the following detailed description of the embodiment, with reference made to the accompanying drawings as follows:

[0024] FIG. **1** is a block diagram of a diaper care system for multiple users according to some embodiments of the present disclosure;

[0025] FIG. **2** is a block diagram of a diaper sensor according to some embodiments of the present disclosure;

[0026] FIG. **3** is a flow chart of a diaper care method for multiple users according to some embodiments of the present disclosure;

[0027] FIG. **4** is a schematic diagram of changing a diaper after urination according to some embodiments of the present disclosure; and

[0028] FIG. **5** is a schematic diagram of diaper care for multiple users according to some embodiments of the present disclosure.

DETAILED DESCRIPTION

[0029] Reference will now be made in detail to the present embodiments of the invention, examples of which are illustrated in the accompanying drawings. Wherever possible, the same reference numbers are used in the drawings and the description to refer to the same or like parts.

[0030] As used in the description herein and throughout the claims that follow, the meaning of "a", "an", and "the" includes reference to the plural unless the context clearly dictates otherwise. Also, as used in the description herein and throughout the claims that follow, the terms "comprise or comprising", "include or including", "have or having", "contain or containing" and the like are to be understood to be open-ended, i.e., to mean including but not limited to. As used in the description herein and throughout the claims that follow, the meaning of "in" includes "in" and "on" unless the context clearly dictates otherwise.

[0031] It will be understood that, although the terms first, second, etc. may be used herein to describe various elements, these elements should not be limited by these terms. These terms are only used to distinguish one element from another. For example, a first element could be termed a second element, and, similarly, a second element could be termed a first element, without departing from the scope of the embodiments. As used herein, the term "and/or" includes any and all combinations of one or more of the associated listed items.

[0032] It will be understood that when an element is referred to as being "connected" or "coupled" to another element, it can be directly connected or coupled to the other element or intervening elements may be present. In contrast, when an element is referred to as being "directly connected" or "directly coupled" to another element, there are no intervening elements present.

[0033] Unless otherwise defined, all terms (including technical and scientific terms) used herein have the same meaning as commonly understood by one of ordinary skill in the art to which example embodiments belong. It will be further understood that terms, such as those defined in commonly used dictionaries, should be interpreted as having a meaning that is consistent with their meaning in the context of the relevant art and will not be interpreted in an idealized or overly formal sense unless expressly so defined herein.

[0034] FIG. **1** is a block diagram of a diaper care system **100** for multiple users according to some embodiments of the present disclosure. As shown in FIG. **1**, the diaper care system **100** includes a wireless transceiver **112**, a server **110** and a plurality of diaper sensors **120***a*, **120***b* and **120***c*. The server **110** is electrically connected to the wireless transceiver **112**. The wireless transceiver **112** can wirelessly communicate with the diaper sensors **120***a*, **120***b* and **120***c*. The diaper sensors **120***a*, **120***b* and **120***c* are detachably attached to the diaper **130***a*, **130***b* and **130***c* by means of a devil felt, a fastener, an adhesive, or the like, but the present invention is not limited thereto.

[0035] For example, server **110** may be a computer of a care station, the wireless transceiver **112** may be a Wi-Fi device, a Bluetooth device, or other wireless communication device, and the diapers **130***a*, **130***b* and **130***c* may be worn by various users (e.g., elderly under).

[0036] In use, the plurality of diaper sensors **120***a*, **120***b* and **120***c* are configured to sense a plurality of usage parameters of the plurality of diapers **130***a*, **130***b* and **130***c* respectively and to transmit the usage parameters to the wireless transceiver **112**, so that the server **110** determines whether the diapers **130***a*, **130***b* and **130***c* need to be replaced or not, and when the diapers **130***a*, **130***b* and **130***c* has a diaper (e.g., diaper **130***b*) which needs to be replaced as determined, the server **110** monitors change of the usage parameter of the diaper sensor of the diaper **130***b* which needs to be replaced, so as to confirm whether the diaper **130***b* which needs to be replaced has been replaced or not.

[0037] In FIG. **1**, the nursing device **150** may be used by a nurse. For example, the nursing device **150** may be a cell phone, a tablet, or similar electronic device. The nursing device **150** may receive a warning signal from the server **110** and notify the user with an interface, which may be an App, a webpage, a chat-bot, messages in textual pictures, voice-bot to provide messages by voice and so on.

[0038] In use, the nursing device **150** is configured to receive information on the diaper **130***b* which needs to be replaced from the server **110**. After the nursing device **150** sends a change completion signal to the server **110**, the server **110** is triggered to monitor the change of the usage parameter of the diaper sensor **120***b* of the diaper **130***b* which needs to be replaced, so as to confirm whether the diaper **130***b* which needs to be replaced has been replaced or not. This manner can avoid mistakenly believing that the replacement is complete while nurses do not replace the diaper **130***b* with a new diaper.

[0039] When the server **110** determines that the diaper **130***b* to be changed is not replaced, the reminder message about the diaper **130***b* which needs to be replaced is sent to the nursing device **150** via the wireless transceiver **112**. After the nurse has replaced the diaper **130***b* with the new diaper, he or she attaches the diaper sensor **120***b* to the new diaper.

[0040] In FIG. **1**, the user devices **160***a*, **160***b* and **160***c* can be used by various users (e.g., elderly people). For example, the user devices **160***a*, **160***b* and **160***c* may be cell phones, tablets, or similar electronic devices. The user devices **160***a*, **160***b*, and **160***c* can receive an alert signal from the server **110** and alert the user with an interface, which may be a web page, a chat-bot, a text message, a voice-bot to provide messages by voice and so on.

[0041] In use, for an instance of user device **160***b*, the user device **160***b* is configured to send a user experience message (e.g., satisfaction index, urging replacement and so on) to the wireless transceiver **112**, so that the server **110** can collect a time point of determining the diaper **130***b* which needs to be replaced, another time point of confirming that the diaper **130***b* has been changed, and the user experience information, so as to calculate a care quality score.

[0042] For example, when the duration from the time point of determining the diaper **130***b* which needs to be replaced to the time point of confirming that the diaper **130***b* has been changed is shorter, the satisfaction index is higher. When receiving the urge replacement, the server **110** decreases the care quality score. When the satisfaction index is higher than a predetermined standard, the server **110** increases the care quality score.

[0043] In practice, the server **110** may calculate performance scores of nurses based on the care quality scores. On the other hand, the server **110** may also send the information about the diaper wearer to the mobile application (APP) of the mobile device of his or her family member.

[0044] When the server **110** determines that the diaper (e.g., diaper **130***a*) which needs to be replaced has not been replaced over a preset period of time, this situation represents that the correct position where the diaper sensor **120***a* is not attached or dropped, or the diaper wearers body has a condition; therefore the server **110** performs a warning function. For example, the server **110** transmits the warning message about the diaper **130***a* to the nursing device **150** through the wireless transceiver **112**, so that the nurse can process the warning message. It should be noted that the preset period of time may be determined by the system administrator, or the server **110** may estimate the preset period for each diaper wearer according to the historical wetting interval data of each diaper wearer.

[0045] For a more complete understanding of the diaper sensor, referring FIGS. **1-2**, FIG. **2** is a block diagram of a diaper sensor **220** according to some embodiments of the present disclosure. It should be noted that the diaper sensor **220** may be adapted to any of the diaper sensors **120***a*, **120***b* and **120***c* as described above; accordingly, the diaper **230** may be adapted to the corresponding one of the diapers **130***a*, **130***b* and **130***c* as described above.

[0046] In FIG. **2**, the diaper sensor further includes a wireless transmitter **221**, a temperature sensor **222**, a humidity sensor **223**, a controller **224**, a light sensor **225** and an accelerometer **226**. In structure, the controller **224** is electrically connected to the wireless transmitter **221**, the temperature sensor **222**, the humidity sensor **223**, the light sensor **225** and the accelerometer **226**.

[0047] In practice, the wireless transmitter **221** may include a Bluetooth module or other short-distance transmission module. The temperature sensor **222** may be an electronic component that converts temperature into electronic data. The humidity sensor **223** may be a resistive or capacitive hygrometer. The controller **224** may be a microcontroller or other circuit. The light sensor **225** may be a CCD or CMOS light sensor. The accelerometer **226** may be a gravity sensor.

[0048] In use, the temperature sensor **222** is configured to sense a temperature value of the diaper **230**. The humidity sensor **223** is configured to sense a humidity value of the diaper **230**. The controller **224** is configured to incorporate the temperature value and the humidity value into the usage parameter so as to transmit the usage parameter to the server **110**. Accordingly, the server **110** is based on changes in temperature and humidity of the diaper **230** over time, so as to determine whether the diaper **230** needs to be replaced or not, by predicting the amount of urine and the amount and the hardness of feces.

[0049] In one embodiment, the controller **224** is configured to incorporate the temperature value and the humidity value into the usage parameter so as to transmit the usage parameter to the wireless transceiver **112** through the wireless transmitter **221**. When the temperature value and the humidity value are replaced to fall within a predetermined temperature range (e.g., normal body temperature range) and a preset humidity range (e.g., atmospheric humidity range) respectively, the server **110** confirms that the diaper which needs to be replaced has been changed.

[0050] In another embodiment, the light sensor **225** is configured to sense a light wavelength. The controller **224** is configured to incorporate the light wavelength into the usage

parameter so as to transmit the usage parameter to the wireless transceiver through the wireless transmitter. When the light wavelength falls within a preset spectral range (e.g., a color range of the new diaper), the server **110** confirms that the diaper which needs to be replaced has been changed.

[0051] In yet another embodiment, the accelerometer **226** is configured to sense an acceleration change. The controller **224** is configured to incorporate the acceleration change into the usage parameter so as to transmit the usage parameter to the wireless transceiver through the wireless transmitter, wherein when the acceleration change exceeds a preset inertia range (e.g., a user's general range of physical activity acceleration), the server confirms that the diaper which needs to be replaced has been changed.

[0052] For a more complete understanding of a diaper care method performed by the diaper care system **100**, referring FIG. **3**, FIG. **3** is a flow chart of the diaper care method **300** according to an embodiment of the present invention. As shown in FIG. **3**, the diaper care method **300** includes operations S**301** and S**302**. However, as could be appreciated by persons having ordinary skill in the art, for the steps described in the present embodiment, the sequence in which these steps is performed, unless explicitly stated otherwise, can be altered depending on actual needs; in certain cases, all or some of these steps can be performed concurrently.

[0053] In operation S**301**, a plurality of diaper sensors are used **120***a*, **120***b* and **120***c* to sense a plurality of usage parameters of the plurality of diapers **130***a*, **130***b* and **130***c* respectively and to transmit the usage parameters to a wireless transceiver **112**, so that a server **110** determines whether the diapers **130***a*, **130***b* and **130***c* need to be replaced or not, wherein the server **110** is electrically connected to the wireless transceiver **112**.

[0054] In operation S**302**, when determining that the diapers **130***a*, **130***b* and **130***c* has a diaper **130***b* which needs to be replaced, the server **110** monitors change of the usage parameter of the diaper sensor **120***b* of the diaper **130***b* which needs to be replaced, so as to confirm whether the diaper **130***b* which needs to be replaced has been replaced or not.

[0055] In the diaper care method **300**, a nursing device **150** is used to receive information on the diaper **130***b* which needs to be replaced from the server **110**. After the nursing device **150** sends a change completion signal to the server **110**, the server **110** is triggered to monitor the change of the usage parameter of the diaper sensor **120***b* of the diaper **130***b* which needs to be replaced, so as to confirm whether the diaper **130***b* which needs to be replaced has been replaced or not.

[0056] In the diaper care method **300**, user devices **160***a*, **160***b* and **160***c* are used to send a user experience messages to the wireless transceiver **112**, so that the server **110** collects a time point of determining the diaper which needs to be replaced, another time point of confirming that the diaper which needs to be replaced has been changed, and the user experience information, so as to calculate a care quality score.

[0057] In the diaper care method **300**, when the server **110** determines that the diaper (e.g., diaper **130***a*) which needs to be replaced has not been replaced over a preset period of time, this situation represents that the correct position where the diaper sensor **120***a* is not attached or dropped, or the diaper wearers body has a condition; therefore the server **110** performs a warning function.

[0058] In one embodiment, the usage parameter of the diaper which needs to be replaced comprises a temperature value sensed by a temperature sensor **222** of the diaper sensor **220** and a humidity value sensed by a humidity sensor **223** of the diaper sensor **220**, and operation S**302** includes: when the temperature value and the humidity value are replaced to fall within a predetermined temperature range (e.g., normal body temperature range) and a preset humidity range (e.g., atmospheric humidity range) respectively, the server confirms that the diaper which needs to be replaced has been changed.

[0059] Alternatively or additionally, in one embodiment, the usage parameter of the diaper which needs to be replaced comprises a light wavelength sensed by a light sensor of the diaper sensor, and operation S**302** includes: when the light wavelength falls within a preset spectral range (e.g., a color range of the new diaper), the server confirms that the diaper which needs to be replaced has been changed.

[0060] Alternatively or additionally, in one embodiment, the usage parameter of the diaper which needs to be replaced comprises an acceleration change sensed by an accelerometer of the diaper sensor, and operation S**302** includes: when the acceleration change exceeds a preset inertia range (e.g., a user's general range of physical activity acceleration), the server confirms that the diaper which needs to be replaced has been changed.

[0061] FIG. **4** is a schematic diagram of changing a diaper after urination according to some embodiments of the present disclosure. As shown in FIG. **4**, in step **410**, the diaper wearer excretes urine. In step **420**, the diaper wearer gradually perceives that the diaper needs to be replaced. In step **430**, the nurse receives the information of the diaper to be replaced through the nursing device **150**. In step **440**, the nurse helps the diaper wearer to change the diaper.

[0062] FIG. **5** is a schematic diagram of diaper care for multiple users according to some embodiments of the present disclosure. As shown in FIG. **5**, in step **510**, people wear diapers. In step **520**, the nursing device **150** presents the information of the diaper which needs to be changed. In step **530**, the nurse helps the diaper wearers to change the diaper.

[0063] In view of above, the present invention realizes the automatic monitoring mechanism of the multi-users diaper care and enhances the diaper wearing experience of the users.

[0064] It will be apparent to those skilled in the art that various modifications and variations can be made to the structure of the present invention without departing from the scope or spirit of the invention. In view of the foregoing, it is intended that the present invention cover modifications and variations of this invention provided they fall within the scope of the following claims.

What is claimed is:

1. A diaper care system, comprising:

a wireless transceiver;

a server electrically connected to the wireless transceiver; and

a plurality of diaper sensors configured to sense a plurality of usage parameters of the plurality of diapers respectively and to transmit the usage parameters to the wireless transceiver, so that the server determines whether the diapers need to be replaced or not, and when the diapers has a diaper which needs to be replaced as determined, the server monitors change of the usage parameter of the diaper sensor of the diaper

which needs to be replaced, so as to confirm whether the diaper which needs to be replaced has been replaced or not.

2. The diaper care system of claim **1**, further comprising:

a nursing device configured to receive information on the diaper which needs to be replaced from the server, wherein after the nursing device sends a change completion signal to the server, the server is triggered to monitor the change of the usage parameter of the diaper sensor of the diaper which needs to be replaced, so as to confirm whether the diaper which needs to be replaced has been replaced or not.

3. The diaper care system of claim **1**, further comprising:

a user device configured to send a user experience message to the wireless transceiver, so that the server collects a time point of determining the diaper which needs to be replaced, another time point of confirming that the diaper which needs to be replaced has been changed, and the user experience information, so as to calculate a care quality score.

4. The diaper care system of claim **1**, wherein the diaper sensor comprises:

a wireless transmitter;

a temperature sensor configured to sense a temperature value;

a humidity sensor configured to sense a humidity value; and

a controller configured to incorporate the temperature value and the humidity value into the usage parameter so as to transmit the usage parameter to the wireless transceiver through the wireless transmitter, wherein when the temperature value and the humidity value are replaced to fall within a predetermined temperature range and a preset humidity range respectively, the server confirms that the diaper which needs to be replaced has been changed.

5. The diaper care system of claim **1**, wherein the diaper sensor comprises:

a wireless transmitter;

a light sensor configured to sense a light wavelength; and

a controller configured to incorporate the light wavelength into the usage parameter so as to transmit the usage parameter to the wireless transceiver through the wireless transmitter, wherein when the light wavelength falls within a preset spectral range, the server confirms that the diaper which needs to be replaced has been changed.

6. The diaper care system of claim **1**, wherein the diaper sensor comprises:

a wireless transmitter;

an accelerometer configured to sense an acceleration change; and

a controller configured to incorporate the acceleration change into the usage parameter so as to transmit the usage parameter to the wireless transceiver through the wireless transmitter, wherein when the acceleration change exceeds a preset inertia range, the server confirms that the diaper which needs to be replaced has been changed.

7. The diaper care system of claim **1**, wherein when the server determines that the diaper which needs to be replaced has not been replaced over a preset period of time, the server performs a warning function.

8. A diaper care method, comprising steps of:

(A) using a plurality of diaper sensors to sense a plurality of usage parameters of the plurality of diapers respectively and to transmit the usage parameters to a wireless transceiver, so that a server determines whether the diapers need to be replaced or not, wherein the server is electrically connected to the wireless transceiver; and

(B) when determining that the diapers has a diaper which needs to be replaced, the server monitors change of the usage parameter of the diaper sensor of the diaper which needs to be replaced, so as to confirm whether the diaper which needs to be replaced has been replaced or not.

9. The diaper care method of claim **8**, further comprising:

using a nursing device to receive information on the diaper which needs to be replaced from the server, wherein after the nursing device sends a change completion signal to the server, the server is triggered to monitor the change of the usage parameter of the diaper sensor of the diaper which needs to be replaced, so as to confirm whether the diaper which needs to be replaced has been replaced or not.

10. The diaper care method of claim **8**, further comprising:

using a user device to send a user experience message to the wireless transceiver, so that the server collects a time point of determining the diaper which needs to be replaced, another time point of confirming that the diaper which needs to be replaced has been changed, and the user experience information, so as to calculate a care quality score.

11. The diaper care method of claim **8**, wherein the usage parameter of the diaper which needs to be replaced comprises a temperature value sensed by a temperature sensor of the diaper sensor and a humidity value sensed by a humidity sensor of the diaper sensor, and step (B) comprises:

when the temperature value and the humidity value are replaced to fall within a predetermined temperature range and a preset humidity range respectively, the server confirms that the diaper which needs to be replaced has been changed.

12. The diaper care method of claim **8**, wherein the usage parameter of the diaper which needs to be replaced comprises a light wavelength sensed by a light sensor of the diaper sensor, and step (B) comprises:

when the light wavelength falls within a preset spectral range, the server confirms that the diaper which needs to be replaced has been changed.

13. The diaper care method of claim **8**, wherein the usage parameter of the diaper which needs to be replaced comprises an acceleration change sensed by an accelerometer of the diaper sensor, and step (B) comprises:

when the acceleration change exceeds a preset inertia range, the server confirms that the diaper which needs to be replaced has been changed.

14. The diaper care method of claim **8**, further comprising:

when the server determines that the diaper which needs to be replaced has not been replaced over a preset period of time, performing a warning function.

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专利名称(译)	用于多个用户的尿布护理系统和方法		
公开(公告)号	US20190091073A1	公开(公告)日	2019-03-28
申请号	US15/896217	申请日	2018-02-14
[标]申请(专利权)人(译)	瀚荃股份有限公司		
申请(专利权)人(译)	瀚荃股份有限公司		
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IPC分类号	A61F13/42 A61B5/00 A61F13/49		
CPC分类号	A61F13/42 A61B5/7465 A61F13/49 A61B5/0022 A61B5/01 A61B5/207 A61B5/6808 A61B2562/0219 A61F2013/424		
优先权	106133440 2017-09-28 TW		
外部链接	Espacenet USPTO		

摘要(译)

本公开提供了尿布护理系统和方法。在该方法中，尿布传感器感测尿布的使用参数并将其传送到服务器;当确定需要更换其中一个尿布时，服务器监控相应尿布传感器的使用参数的变化，并确定是否更换了需要更换的尿布。