A toilet seat has a health monitoring system, including a seat body and two pin joint bases fixed on the rear part of the closestool's upper edge. The seat body has one pin joint axle on both sides of the rear part. Both pin joint axles are connected into the pin joint holes of pin joint bases. The seat body has a weighing sensor for measuring your weight, an inductor chip for detecting physical constitution on its upper surface and one displaying and processing device in front. The output signals from the weighing sensor and the inductor chip are respectively inputted into the displaying and processing device. The gap between the pin joint axle and the pin joint hole is moveable, when weighing, the gap is greater than the distance that the seat body moves downwardly along the measuring sensors.
ONE TYPE OF TOILET SEAT HAVING A HEALTH MONITORING SYSTEM

FIELD OF THE INVENTION

[0001] This invention relates to one type of seat device in the washroom, and more particularly, to one type of toilet seat having a health monitoring system.

BACKGROUND OF THE INVENTION

[0002] Closestool is a commonly used toilet device in our washroom. It allows people to sit and feel more comfortable while relieving nature and thus is particularly suitable for elderly, fat and fragile people and kids. The toilet seat is a part of the Closestool. Traditional toilet seat features rather limited functions as it only works to provide a sitting place for users to relieve nature.

[0003] On the other hand, they usually measure their weight and physical constitution to know about their health conditions. Although the introduction of electronic scales for measurement of weight and physical constitution and other measuring devices has provided a good way for that purpose, they are still unavailable in most families. Thus people still have to take the trouble of taking off shoes and socks to measure their physical constitution. Moreover, even families that have such electronic scales will not use them frequently and they occupy some spaces in the apartment as well. For that reason, these measuring devices are inconvenient for use and their utility is substantially reduced.

SUMMARY OF THE INVENTION

[0004] This invention aims to overcome the disadvantages of current technologies by offering a toilet seat having a health monitoring system, so that people can conveniently and frequently measure their weight and physical constitution while relieving nature.

[0005] The technical project adopted by this invention is as follows: one type of toilet seat having a health monitoring system, including seat body and two pin joint bases fixed on the rear part of the closestool’s upper edge. The seat body has one pin joint axle on both sides of the rear part. Both two pin joint axles are connected into the pin joint holes of pin joint bases. Weighing Sensor is provided on the lower surface of the toilet seat body for measuring weight; the toilet seat body is equipped with one displaying and processing device. The output signals from the Weighing Sensor are inputted into the displaying and processing device. The gap between the pin joint axle and the pin joint hole is moveable, when weighing, the said gap is greater than the distance that the seat body move downwardly along the weighing sensor.

[0006] The above mentioned displaying and processing device includes one wireless signal transmitter installed in the seat body and one signal receiving and display device installed in other object apart from the seat body. The Weighing Sensor’s output signals are inputted into the wireless signal transmitter; the above mentioned signal receiver and display device includes wireless signal receiver and the LCD Display. The output signals from wireless signal receiver are inputted into the LCD Display.

[0007] The upper surface of the above mentioned seat body is also having inductor chip for detecting physical constitution whose output signals are inputted into the displaying and processing device.

[0008] The above mentioned displaying and processing device includes one central processing unit, one LCD Display and one button device installed in the seat body. The button device is connected to the central processing unit; the output signals of the Weighing Sensor and inductor chip are respectively inputted into the central processing unit; the output signals from the central processing unit are inputted into the LCD Display.

[0009] The above mentioned displaying and processing device includes one wireless signal transmitter installed inside the seat body and one signal receiving and displaying device installed in other object apart from the seat body. Output signals from the Weighing Sensor and inductor chip are inputted into the wireless signal transmitter; the above mentioned signal receiving and displaying device includes wireless signal receiver, central processing unit, LCD Display and button device; the button device is connected to the central processing unit; output signals of wireless signal receiver are inputted into the central processing unit and the output signals of the central processing unit are inputted into the LCD Display.

[0010] There are four units of the abovementioned Weighing Sensors that are symmetrically distributed on both sides of the lower surface of the seat body.

[0011] There are two or more units of the abovementioned inductor chips that are symmetrically distributed on both sides of the upper part of the seat body.

[0012] When assembly, the gap between the pin joint axles and the pin joint hole must be greater than the distance that seat body moves downwardly along weighing sensor, this can ensure the weight of body press on the weighing sensor, preventing the seat body from contacting with the pin joint base to cause the distortion of weighing data.

[0013] This invention offers two display modes. In the first mode, the displaying and processing device is fully integrated into the seat body and thus no components will be lost. A display panel and some corresponding key pads are provided in the front and upper of the seat body and the key pads are for input of personal information. In the second mode, a separate external display device is provided. The display device can be hand held for the convenience of use and observation. In this way, there will be a box-type signal receiving and displaying device that is installed with key pad and display panel.

[0014] This invention brings the following advantages: the installation of electronic measuring sensor or other health monitoring system in the existing toilet seat, the gap between the pin joint axles and pin joint hole is moveable, the gap must be greater than the distance that seat body moves downwardly along weighing sensor, this can ensure the veracity of measuring data. It enables convenient and frequent measurement of weight and physical constitution when a person is relieving nature. Meanwhile, the functions of toilet seat are highly diversified and the use frequency of measuring device increases accordingly.

[0015] The other technical project of the present invention is to design the seat body to two layers structure; the sensors are set between the two layers; the detailed structure: the
toilet seat having a health monitoring system, includes toilet seat body and pin joint bases fixed on the rear part of the closestool's upper edge. The toilet seat body has one pin joint hole on both sides of the rear part. Both two pin joint holes are connected into the pin joint axes of pin joint bases. The said toilet seat body has two layer, the weighing Sensor and other measuring sensors of monitoring devices are set between the two layers, the output signals from measuring Sensors are inputted into the displaying and processing device.

[0016] The said toilet seat having a health monitoring system includes the displaying and processing device, the said the displaying and processing device includes one wireless signal transmitter installed inside the toilet seat body and one signal receiving and displaying device installed in other object apart from the seat body. The output signals from the measuring Sensors are inputted into the wireless signal transmitter; the above mentioned signal receiving and displaying device includes wireless signal receiver, central processing unit, button device and display device, the output signals of wireless signal receiver and button device are inputted into the central processing unit and the output signals of the central processing unit are inputted into the Display device.

[0017] The said toilet seat having a health monitoring system, the said upper surface of the above mentioned toilet seat body is also having an inductor chip for detecting physical constitution whose output signals are inputted into the displaying and processing device.

[0018] The said structure, ensure the weight of body directly press on the upper layer of the seat body, the pressure transfers to the lower layer and to the Closestool by Weighing Sensor, so the connection between the seat body and the closestool is unnecessary to be changed, the lower layer of the seat body can be connected to the pin joint base fixed on the rear part of the toilet seat, or other means, which can prevent the weight from transferring to the closestool directly without Weighing Sensor.

[0019] The present invention is to put the Weighing Sensor and other detecting sensors in the seat body, it is very convenient for people to measure their physical constitution, especially to oldster who has heart and blood vessel illness, many people are dead on the morning for abnormal of heartbeat or rise of blood pressure while relieving nature, if measuring the physical constitution at this point and giving the alarm, the accidents will be reduced greatly.

[0020] The third technical project of the present invention is: the toilet seat having a health monitoring system, includes a toilet seat body, a cover of the toilet seat and pin joint bases fixed on the rear part of closestool's upper edge. The cover of toilet seat has one pin joint hole on both sides of the rear part. Both two pin joint holes are connected into the pin joint axes of pin joint bases. The gap between the pin joint axle and the pin joint hole is moveable, when weighing, the said gap is greater than the distance that the cover of the toilet seat move downwardly along the weighing sensor; the weighing Sensor and other measuring sensors of monitoring devices are set in the cover of the toilet seat, the output signals from measuring Sensors are inputted into the displaying and processing device.

[0021] The said toilet seat having a health monitoring system also includes the displaying and processing device, the said the displaying and processing device includes one wireless signal transmitter installed inside the toilet seat and one signal receiving and displaying device installed in other object apart from the toilet seat. The output signals from the measuring Sensors are inputted into the wireless signal transmitter; the above mentioned signal receiving and displaying device includes wireless signal receiver, central processing unit, button device and display device, the output signals of wireless signal receiver and button device are inputted into the central processing unit and the output signals of the central processing unit are inputted into the Display device.

[0022] The said toilet seat having a health monitoring system, the upper surface of the above mentioned cover of toilet seat is also having an inductor chip for detecting physical constitution whose output signals are inputted into the displaying and processing device.

[0023] The present design of the structure, the gap between the pin joint axes and pin joint hole must be greater than the distance that cover of toilet seat moves downwardly along weighing sensor, this can ensure the weight of body press on the weighing sensor, preventing the cover of toilet seat from contacting with the pin joint base to cause the distortion of weighing data. When measuring, the cover of the toilet seat is unnecessary to be opened, people can sit on the cover of the toilet seat directly, the weight of body is transferred to the measuring sensors.

BRIEF DESCRIPTION OF THE DRAWINGS

[0024] The present invention will be further explained with reference to the drawings and embodiments; the present invention, i.e. toilet seat having a health monitoring system, will not be restricted by the embodiments.

[0025] FIG. 1 is the structure drawing of this invention in the first embodiment.

[0026] FIG. 2 is the structure drawing of this invention in the second embodiment.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

[0027] The embodiment 1, referring to FIG. 1, the present invention, one type of toilet seat having a health monitoring system, including the seat body 1 and the two pin joint bases 2 fixed on the rear part of the toilet seat's upper edge; the bottom of the pin joint base 2 is fixed to the main body of Closestool, the pin joint base 2 is connected with the cover of toilet seat 10 by the way of pin joint.

[0028] The seat body 1 has one pin joint axle 11 on both sides of the rear part. Both two pin joint axles 11 are connected into the pin joint holes 21 of pin joint bases 2. Weighing Sensor 31 is provided on the lower surface of the toilet seat body for measuring weight; the Inductor chip 32 for detecting physical constitution on the upper surface of the seat body 1, the front portion on the upper surface of toilet seat body 1 is equipped with one displaying and processing device 33; The output signals from the Weighing Sensor 31 and the Inductor chip 32 are inputted into the displaying and processing device 33. The gap 20 between the pin joint axle 11 and the pin joint hole 21 is moveable, when weighing, the said gap 20 is greater than the distance that the seat body 1 move downwardly along the weighing sensor 31.
There are four units of Weighing Sensors 31 that are symmetrically distributed on both sides of the lower surface of the seat body 1. There are two or more units of inductor chips 32 that are symmetrically distributed on both sides of the upper part of the seat body 1. The displaying and processing device 33 includes the central processing unit which is installed in the front portion of the seat body 1. LCD display, button device, the button device is connected to the central processing unit, output signals from weighing sensor 31 and the inductor chips 32 are respectively inputted into the central processing unit, the output from the central processing unit is inputted into the LCD display.

When assembly, the gap between the pin joint axes 11 and pin joint hole 21 must be greater than the distance that seat body 1 moves downwardly along the weighing sensor 31, this can ensure the weight of body press on the weighing sensor 31, preventing the seat body 1 from contacting with the pin joint base 2 to cause the distortion of weighing data.

When using, the seat body 1 must be put on the main body of the closestool, the seat body 1 is supported by the Weighing Sensor 31, the pin joint axes 11 of the seat body 1 are connected into pin joint holes 21, the pin joint axes 11 are not in contact with the lower wall of the pin joint holes 21, there is a gap 20 between the pin joint axes 11 and pin joint holes 21, the seat body 1 will be loaded when a person sits thereon, the seat body 1 will move a little distance downwardly. Because the gap 20 between the pin joint axes 11 and pin joint holes 21 is greater than the distance that seat body 1 moves downwardly, and the pin joint axes 11 is not in contact with the lower wall of the pin joint holes 21, the pin joint axes 11 are still connected with the pin joint holes 21, so the weight of person is sensed by the weighing sensor 31, ensuring the veracity. Upon sensing the human load, the Weighing Sensors 31 will turn the pressure signals into electric signals of weight and transmit such electric signals to the displaying and processing device 33 for data display of weight. At the same time, the person’s body is in contact with the inductor chip 32 to form a circuit and electric signals of physical constitution test are created and transmitted into the displaying and processing device 33. The central processing unit equipped with displaying and processing function will then perform a comprehensive analysis of physical constitution with reference to the personal information input by the button device and data of measured weight of that person. The processed physical constitution status is finally displayed on the Display.

The embodiment 2, referring to FIG. 2, the present invention, one type of toilet seat having a health monitoring system, including the seat body 1 and the two pin joint bases 2 fixed on the rear part of the toilet seat’s upper edge;

The difference compared with the embodiments 1 is: the displaying and processing device includes one wireless signal transmitter 331 installed inside the toilet seat body 1 and one signal receiving and displaying device 332 installed in other object apart from the seat body 1. The output signals from the Weighing Sensor 31 and inductor chip 32 are respectively inputted into the wireless signal transmitter 331; the signal receiver and display device 332 includes wireless signal receiver, central processing unit, LCD Display and button device. The button device is connected to the central processing unit; output signals of wireless signal receiver are inputted into the central processing unit and the output signals of the central processing unit are inputted into the LCD display.

The two display means of the above mentioned embodiments, 1 the displaying and processing device 33 is installed on the seat body 1, the advantage is that they forms a complete unit and their components will not be lost, so there are the display and the button device on the front portion of the seat body 1, the button device is used to input personal information; 2 the display works by receiving the wireless signal the advantage is that the display unit can be held in hand, it is convenient for using and watching, so there is a box-shaped signal receiving and displaying device 332, and the buttons and display are installed on the signal receiving and displaying device 332.

The foregoing embodiments are for a further description of The toilet seat having a health monitoring system and the embodiments do not limit the scope of the present invention. The technical essence of this invention is to combine existing electronic scale, Body fat & Water Scale or other health monitoring systems with a toilet seat. The equivalent change and the modify based on the technical essence of the present invention, are belong to the scope of the present invention.

1. A toilet seat is provided having a health monitoring system, comprising a toilet seat body and two pin joint bases fixed on a rear part of a closestool’s upper edge, said toilet seat body has one pin joint axle on both sides of the rear part, both two pin joint axes are connected into the pin joint holes of pin joint bases, wherein a weighing sensor is provided on the lower surface of the toilet seat body for measuring weight; the toilet seat body is equipped with one displaying and processing device; the signals from the weighing sensor are inputted into the displaying and processing device, the gap between the pin joint axle and the pin joint hole is moveable, when weighing, the said gap is greater than the distance that the seat body moves downwardly along the weighing sensors.

2. The toilet seat having a health monitoring system claimed in claim 1, wherein the aforesaid displaying and processing device includes one wireless signal transmitter installed in the toilet seat body and one signal receiving and displaying device installed in other object apart from the seat body; said output signals of said weighing sensor are inputted into the wireless signal transmitter; the above-mentioned signal receiver and display device includes a wireless signal receiver and an LCD display; said output signals from said wireless signal receiver are inputted into the LCD display.

3. The toilet seat having a health monitoring system claimed in claim 1, wherein the upper surface of the above-mentioned toilet seat body also has an inductor chip for detecting physical constitution whose output signals are inputted into the displaying and processing device.

4. The toilet seat having a health monitoring system claimed in claim 3, wherein the above-mentioned displaying and processing device includes one central processing unit, one LCD display and one button device installed in the toilet seat body, said button device is connected with the central processing unit; the output signals of the weighing sensor and inductor chip are respectively inputted into the central processing unit; the output signals from the central processing unit are inputted into the LCD Display.

5. The toilet seat having a health monitoring system claimed in claim 3, wherein the above above-mentioned
The displaying and processing device includes one wireless signal transmitter installed inside the toilet seat body and one signal receiving and displaying device installed in another object apart from the seat body, said output signals from the weighing sensor and the inductor chip are respectively inputted into the wireless signal transmitter; the above-mentioned signal receiving and displaying device includes a wireless signal receiver, a central processing unit, an LCD display and a button device, said button device is connected to the central processing unit; output signals of wireless signal receiver are inputted into the central processing unit and the output signals of the central processing unit are inputted into the LCD display.

The toilet seat having a health monitoring system claimed in claim 1, further including four units of the above-mentioned weighing sensors that are symmetrically distributed on both sides of the lower surface of the seat body.

The toilet seat having a health monitoring system claimed in claim 3, further including two or more units of the above-mentioned inductor chip that are symmetrically distributed on both sides of the upper surface of the seat body.

A toilet seat having a health monitoring system, comprises a toilet seat body, and pin joint bases fixed on the rear part of a closestool's upper edge, said toilet seat body has one pin joint hole on both sides of the rear part, both said two pin joint holes are connected into the pin joint axles of pin joint bases, wherein the measuring sensors are set between the two layers, the said measuring sensors includes weighing sensors and other measuring sensors of health monitoring devices, the output signals from measuring sensors are inputted into the displaying and processing device, the gap between the pin joint axles and the pin joint hole is movable, when weighing, the said gap is greater than the distance that the cover of the toilet seat move downwardly along the weighing sensor;

The toilet seat having a health monitoring system claimed in claim 8, wherein said displaying and processing device includes one wireless signal transmitter installed inside the toilet seat body and one signal receiving and displaying device installed in another object apart from the seat body, said output signals from the measuring sensors are inputted into the wireless signal transmitter; the above-mentioned signal receiving and displaying device includes a wireless signal receiver, a central processing unit, a button device and a display device, the output signals of the wireless signal receiver and the button device are inputted into the central processing unit and the output signals of the central processing unit are inputted into the display device.

The toilet seat having a health monitoring system claimed in claim 8, wherein the upper surface of the above-mentioned toilet seat body also includes an inductor chip for detecting physical constitution whose output signals are inputted into the displaying and processing device.

The toilet seat having a health monitoring system claimed in claim 8, further including an alarm device, which can give an alarm when detecting an abnormal signal from blood pressure and heart.

A toilet seat having a health monitoring system, comprises a seat body, a cover of the toilet seat and pin joint bases fixed on a rear part of a closestool's upper edge, said cover of the toilet seat has one pin joint hole on both sides of the rear part, both said two pin joint holes are connected into the pin joint axles of pin joint bases, wherein the measuring sensors are set in a cover of the toilet seat, said measuring sensors includes weighing sensors and other measuring sensors of health monitoring devices, the output signals from measuring sensors are inputted into the displaying and processing device, the gap between the pin joint axles and the pin joint hole is movable, when weighing, the said gap is greater than the distance that the cover of the toilet seat move downwardly along the weighing sensor;

The toilet seat having a health monitoring system claimed in claim 12, wherein said displaying and processing device includes one wireless signal transmitter installed inside the toilet seat and one signal receiving and displaying device installed in another object apart from the toilet seat, said output signals from the measuring sensors are inputted into the wireless signal transmitter; the above-mentioned signal receiving and displaying device includes a wireless signal receiver, a central processing unit, a button device and a display device, the output signals of the wireless signal receiver and the button device are inputted into the central processing unit and the output signals of the central processing unit are inputted into the display device.

The toilet seat having a health monitoring system claimed in claim 12, wherein an upper surface of the above-mentioned cover of toilet seat is also having an inductor chip for detecting physical constitution whose output signals are inputted into the displaying and processing device.