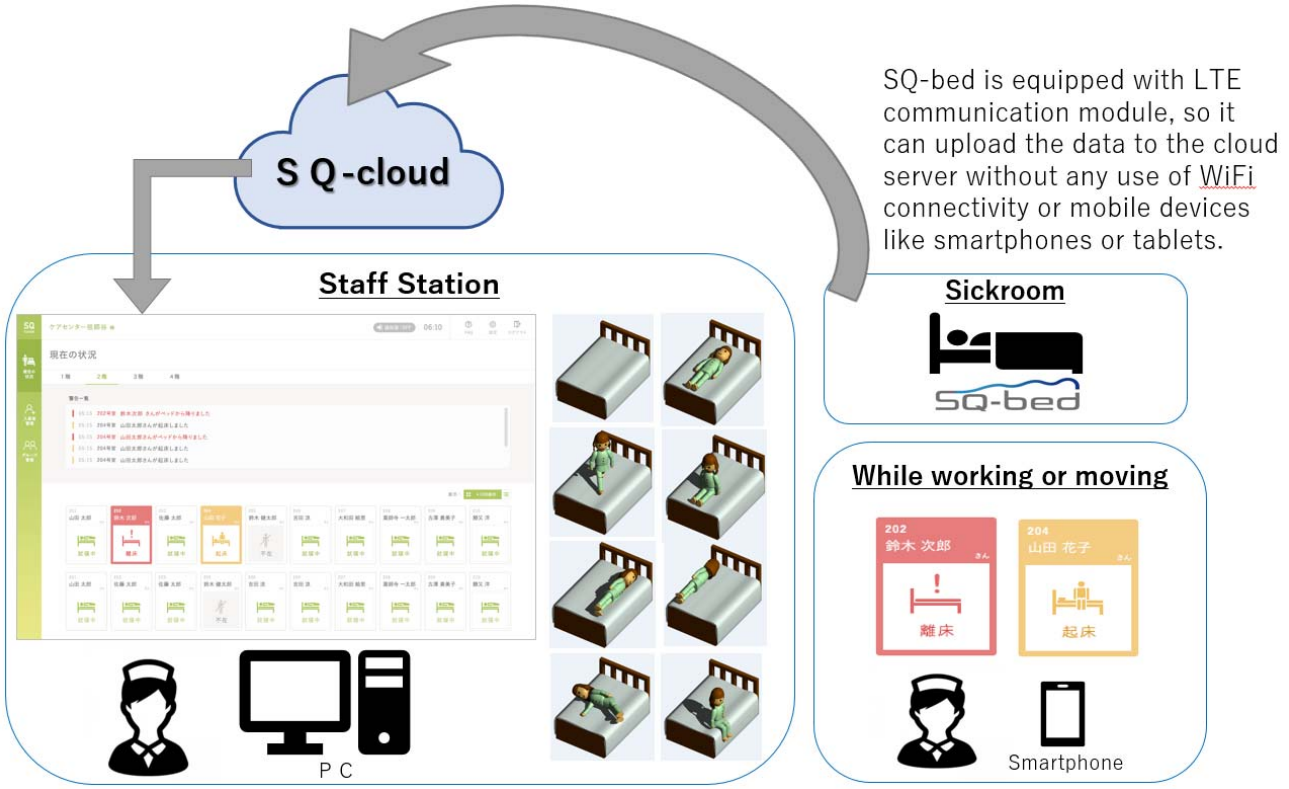
June 6, 2018

SQ-bed

The Bed Will Turn Into Nursing Robot That Measures The Space Above It! Position Sensing Pad That Prevents Bedsore & Protects The Patients From Accident.



The manufacturer of biometric sensing devices SIMPLEX QUANTUM Inc. (Headquarters: Minato-ku, Tokyo, CEO: Nanako Suzuki) will release a new sleeping position sensing device [SQ-bed], and its digital application [SQ-bed App].

[SQ-bed] obtains the sleep data through the built-in sensors inside the bed pad, and [SQ-bed App] analyzes the data, detecting the sleeping position of a person.

Monitoring The Bed & Sleeping Position

Monitoring the sleeping position and sleeping habits of patients in the hospitals and nursing facilities is important to prevent accidents. In fact, hospitals and nursing facilities consider sleep data as one of the most important data to obtain continuously for 24 hours.

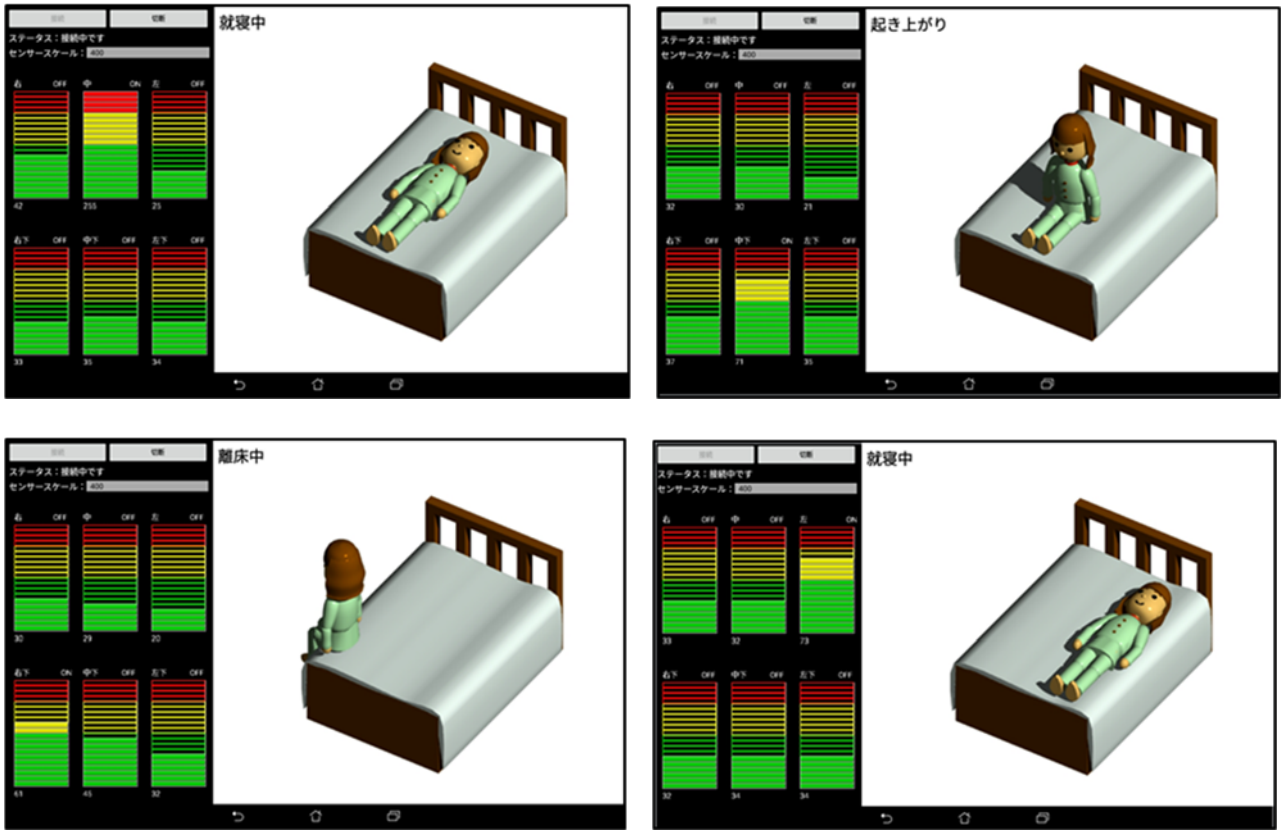
These days, hospitals and nursing facilities are paying more attention on this concern, as the numbers of

accident in these facilities are increasing since the numbers of nurses and caregivers who patrol are decreasing.

With the usage of SQ-bed and SQ-bed App, these facilities can monitor the sleeping position and the safety of the patients continuously for 24 hours. SQ-bed monitors the sleeping position by obtaining the position data of the body and its changes, and SQ-bed App displays the 3D graph of the changes of body position in real time. SQ-bed App will also measure the risk caused by changes in sleeping position and will send alerts if necessary.

Both SQ-bed and SQ-bed App can work as [Nursing Care Robot]※, protecting and helping the patients with its great features.

※We plan to register this device as a [Nursing Care Robot] that is covered by the nursing insurance in the near future.



For example, SQ-bed App will send alert to the nurse and caregiver to check the application display when the patient wakes up. In addition, SQ-bed app will also send [The patient tries to get out of the bed] alert after it detects the position of the patient, who is sitting on the side of the bed.

With these features, risk of accidents like falling off from bed can be reduced, especially when the hospitals and nursing facilities are short of nurses and caregivers.

Moreover, since this device and application measure the sleeping position, we can also prevent the bedsore, that is caused by the same sleeping position for a long time, by changing the sleeping position of the patients.

Detect The Bed Space with Sensors & AI Technology

The existing bed-monitoring devices come in several different types. The camera types record the body movement of the patients, and the sensor-type monitoring device measures the body movement of the patients.

In addition, most of these devices are not systematized yet, and the range and the accuracy of the detection are bias. The installation cost of these devices is also expensive, so it is difficult for small hospitals and nursing facilities to install these devices in their buildings.
Therefore, bed-monitoring system with broad detection range, high accuracy detection, and low cost installation fee is necessary these days.

SQ-bed is a bed pad with built in sensors on its entire part, so the detection range of SQ-bed is broad and not bias. In addition, since SQ-bed is a bed pad, the installation of the device is very easy; the nurse or caregiver should just cover the bed with SQ-bed.

The existing elements used for sensing are usually expensive, so usually the device has high installation cost, or the elements are only built-in few places only, causing the detection range to fall behind. However, since SQ-bed uses the newly developed low-cost sensing elements (patent pending), the sensors can be embedded into the entire part of the pad, and the installation cost of the device can be reduced as well.

The position data detected by SQ-bed from the entire part of the bed are analyzed with the AI Technology by SQ-bed App. Just like the graph, the measured data from now on will be stored into our cloud database [SQ-cloud], and nurses and caregivers can manage the data of each bed from the application.

In addition, since SQ-bed uses the LTE communication module, it will send the measured data directly to the cloud server or to other mobile devices without passing the application.

Nurses and caregivers can monitor the data while moving or working, and can respond to emergency situation occurred by receiving the alert.

Measuring Sleep Quality & Predicting Sign of Illnesses

The SQ-bed App is also equipped with an algorithm that measures the sleep quality from body movement, so the device and the app can be used as sleep solution for people in general.

For example, by monitoring the daily sleep quality; people can measure the best timing to ring the alarm clock.

In the future, we will connect this device with other biometric sensor devices like our ECG (electrocardiographic) sensing technology, to create a cloud health care database, which can be used as a base to perceive and manage the autonomic nerve balance and biological rhythm, creating a new system that detect the indication of illnesses.

The release date and price of SQ-bed and SQ-bed App is not decided yet, but we will announce them as soon as the device specifications are finalized.

■SIMPLEX QUANTUM Inc.
In addition to the electrocardiographic measurement technology, our company also developed advanced health care service, device, and solution that warn an individual about the stress level and risk of illness, measured from the balance of sympathetic nerve system and parasympathetic nerve system.
http://simplex-q.com/

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