Health-Sensors.txt

by

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Question ? | Answer ! |

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Writer | Divya Agarwal, MCA 1st year

Editor | Jatin

Status | Review Complete

Plagiarism | Moderate 33% Because of Facts [Report

link](./plag_reports/plag_health_sensors.pdf)

Content | Different Health Sensors at CES

Verdict | Good Candidate.

HEALTH SENSORS

Featuring Sleep Sensors

The future of medical care and technology is increasingly intersecting.

At CES 2018, sleep was one of the major topics in fitness technology. Initially "health tech" was mostly centered on step counters, digital workout coaches, and heart-rate trackers, in the form of wearable technology like Fitbit, Garmin, and Apple watch which track sleep based on movement, heart rate, and breathing patterns. Smartwatches and fitness trackers have been using the principles of actigraphy: Monitoring your movements as you sleep with algorithms used to calculate your cycles. The less you move, the thinking goes, the deeper your sleep. But not everyone wants to sleep wearing a band. The new trend is to use "contactless" devices that can be placed near you or in your bed to track and monitor your sleep.

The lack of sleep has been associated with health issues such as high blood pressure, diabetes and increased risk of heart attacks.

CES, this year, was focused not only on tracking your sleep, but also on helping you to improve it.

Let's have a look at some of the products that were exhibited.

Nokia Sleep: This Wi-Fi-enabled mat is placed under your mattress and gathers all kinds of information about your sleep. It deploys sensors and a mobile app to track heart rate, breathing patterns, how long you sleep, how restful your sleep was and your snoring patterns. Algorithms make sense of the sensor data to give you a sleep score and it then gives you recommendations on how to improve your sleep. It also features IFTTT (If This Then That) integration (home automation) such as dimming lights when you go to bed, or turning up your thermostat when you get up.

Dreamlight sleep mask: It is a Bluetooth-connected sleep mask that covers your eyes and ears. It dims and illuminates light to match with your breathing and plays ambient sounds to block out the noise.

Somnox robot pillow: Somnox is a robot pillow that features an accelerometer, an audio sensor, and a carbon dioxide sensor. As you hold it to your chest when you're in bed, you can feel Somnox expand and contract as if it were breathing. This, in turn, helps you relax and regulate your breathing as you fall asleep.

SleepScore Max, from a startup called SleepScore labs, is also a contactless solution but employs a device that sits on a nightstand. The companion app asks some questions about alcohol and caffeine consumption to gain more insight into variables that can affect sleep. Then the device uses bio movement analysis to determine quantity and quality of sleep, as well as monitors the environmental factors like temperature. It aggregates that into a numerical sleep score as well as analysis of quality of sleep and phases. The company also aims to improve sleep patterns by recommending products around lighting, pillows, and sound therapy based on the individual's personal sleep data.

The next wave of sleep gadgets is expected to hit the market shortly and is likely to include more sophisticated sleep-trackers that can monitor brain activity. At present, the brainwave patterns are thought to be the best indicators of sleep patterns.

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ORIGINALITY REPORT

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SIMILARITY INDEX	INTERNET SOURCES	PUBLICATIONS	STUDENT PAPERS

PRIMARY SOURCES

1	www.cnet.com Internet Source	30%
2	Williams, Simon J., Catherine Coveney, and Robert Meadows. "'M-apping' sleep? Trends and transformations in the digital age", Sociology of Health & Illness, 2015. Publication	4%

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