

ensure that only a limited number of determined users will be able to use the data. For such purposes, the data, to be transferred over unsafe network areas, is the subject of encryption. Modern algorithms ensure that the encoding requires an incredible computation power over a lifetime long period to be hacked. However, continuous advances in increasing calculating capacities put traditional encryption techniques under threat of rapid obsolescence.

In conclusion, the importance of computer security concerns should not be underestimated under any circumstances, as they play vital role from a single individual to the human society as a whole in the modern world of computerization.

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THE INFLUENCE OF FITNESS TRACKERS ON HEALTH

Healthy lifestyle trends lead on youth becoming popular even in other age categories. Fitness trackers and smartwatches often can be found as synonyms to modern healthcare. These small wearable devices can track your steps per day, sleep hours and measure your heart rate. Usually, they send received data to the smartphone or show them on small built-in display. However, healthy gadgets have more advances to a user. Most of the trackers provide an alarm clock and can send notifications from your phone in case you could miss a message or call.

In 2015 Fitbit (one of the popular fitness trackers) helped Connecticut Police to arrest a man who killed his wife. Police officers analyzed data from the tracker that showed woman activity. It revealed woman was walking for some time after she was killed. Her husband told that she was shot by a home invader almost hour earlier that day. Police also used data from computers and smartphones to discover more inconsistency in man words.

This story has become widely publicized, raising a wave of questions regarding the privacy policy information and the benefits of fitness trackers.

The study by The Lancet Diabetes & Endocrinology conducted in Singapore took random 800 people, aged 21-65 with full-time job divided into 4 groups. Researchers measured their physical activity and weight, blood pressure, the body's ability to use oxygen (called cardiorespiratory fitness) and their quality of life, based on their own perception. All stimulus than test subjects had at the beginning were dropped and around 40% of people stopped wearing the bracelet. Control group was paid in cash for extra exercising and at first, it seemed to work, but when money bonuses stopped so did the improvements. By the end of research, 10% of people were wearing trackers. The only smart gear group had small improvements. Nevertheless, there was not identified evidence of any real advances in health.

The study of American Journal of Preventive Medicine among older woman did not prove that fitness trackers did not cause subjects to work out more, as well as the

trackers, are useless tools. In September of 2016 Journal of the American Medical done another research with the result of the group without wearable trackers lost around 13 pounds on average when fitness trackers group in average lost 7.7 pounds.

Such results can be caused by several reasons, one of them, in the opinion of one of the researchers John M. Jakcic, PhD, that trackers give a false feeling of safety and progress when subjects did their daily task, or become too desperate to do daily normative as they were too far from it. Jakkic says, "There is probably a time and place for wearables, and ther is so much more we need to learn about them". He strongly sure that people need to continue on long-term success, like eating well and exercising.

Health profit of fitness trackers being discussed widely the same as the profit of smartphone pedometers and smartwatches. Nevertheless, they can be helpful to collect a different kind of statistics. Last year Stanford research based on daily steps amount. The most active are Hong Kong, China, Ukraine, Japan and Russia. Researchers found that there are even more ways to use such statistics for analyzing.

Fitness trackers can be used as additional notifier if smartphone notifications usually missed, or to track steps per day, or to measure heartbeat exercise in more safe way, but they can not make people lose weight or motivate enough for that.

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VULNERABILITY IN PROCESSORS

Nowadays, computers deeply penetrated in our life. Can you even imagine a single day without your smartphone? Technical progress is developing extremely fast. Many types of hardware have passed a lot of improvements. For example graphics processing unit or the heart of computer – central processing unit.

Modern processors can perform above fifty gigaflops. It was achieved in diverse ways such as separation it on a few cores, and the clear efficient architecture, which is the set of attributes and characteristics, inherent to any specific processor family. But it is not the only way to develop such type of hardware. Also there are computational algorithms that help to optimize computers operations by preloading frequently or urgency used information into a cache. This is extremely small area of memory that is valuable because of its proximity to the processor. It is much faster than random access memory, that's why it is one of the most important computers hardware part. But is it safe? Could you just look through cache to extract data from it? That is the weakest spot of modern processors. As it turned out data requested by processor are resetting not always. Since they are storing in cache, the Meltdown security vulnerability allows to get unauthorized access to the computer memory including processors core memory. Another Spectre vulnerability exploits the multitasking feature of operating system allowing to break into your system and read your applications memory.

So what does it mean for us, regular users? It could change completely all view of