

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

security on your personal computers. But not only computers, portable devices such as smartphones, tablets, laptops all are at risk. Intel, AMD, ARM-based processors are vulnerable. Millions of devices around the world that are in our pocket became useless cause this weakness. Any web-site around the net could use this exploit very easily. Quite enough execute JavaScript file on html page to read data from memory. For example, when you are entering your email password hacker could steal it. It is completely untraceable intrusion. There does not exist any log file to check a violation. Its not critical if it is email account, but nowadays cashless payments and internet banking also are in common and that's the significant problem.

Look around IT-services in the internet. Think about how they are working.

Every website, application, database is stored on a cloud-serviced machine. They are running on powerful machines that are referred as servers. This mainframe computer has two steps of configuration. First is hypervisor, software which provides simultaneously perform of different operating systems on the same host computer. Second one is same operating systems. It means that fixing of such systems is long-termed process and could result in cash and time expenses for the owners. Not to mention that any restricted data could be stolen and used in illegal purposes.

Obviously, leadership IT companies released patch which, divides kernels memory in such way that intruder could not access it. Such update was related to Windows, Linux and Macintosh. But at what cost? Such updates slows computers computational performance up to thirty percent, which results in a question, do we need the rapidly growing clock rate, or vast amount of cores, which are imperfect? Maybe we should put the processor development race slower and make them safer? The decision remains for IT community.

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## **UKRAINE ALSO HAS WELL-KNOWN ECONOMISTS**

In everyday life and at the university, we often recall famous foreign economists but do not forget that there are also many prominent economists in Ukraine who have contributed not only to the territory of their own country, but also abroad. Unfortunately, our economists were known only to the foreign economic community. It is because the Ukrainian people for a very long time did not have statehood and entered the Soviet Union and interested in the works of Ukrainian economists were strictly forbidden. But in our time, with the development of technology, it is easy for us to get any information, and I want to prove that Ukraine also has well-known economists.

Slutsky Yevgeny Evgenievich (1880 – 1948) – an economist mathematician who was the first in Ukraine to apply mathematical methods to economic science. The author of many economic works, the most famous of them is “Making random causes as a source of cyclical processes”. However, the major in achievements in the economy are the discovery of a new direction-praxeology and in the practice of modeling