

IX Всеукраїнська студентська науково - технічна конференція "ПРИРОДНИЧІ ТА ГУМАНІТАРНІ НАУКИ. АКТУАЛЬНІ ПИТАННЯ"

УДК 004.9

Калиниченко Б.Л., Гулка Ю.І. – ст. гр. СБ-21

Тернопільський національний технічний університет імені Івана Пулюя

ІНТЕРНЕТ РЕЧЕЙ

Науковий керівник: Петришина Л.Й.

Hulka Y., Kalynychenko B.

Ternopil Ivan Pul'uj National Technical University

THE INTERNET OF THINGS (IOT)

Supervisor: Petryshyna L.

Ключові слова: мережа, інтернет, мобільні пристрої.

Keywords: network, Internet, mobile devices.

The article is devoted to the problem of IoT, which is of great interest not only for students, but for everybody who has the Internet access.

At present we cannot imagine our life without such things as portable computing units as laptops, smartphones, tablets or Internet. Some of us may have several of such devices. This caused new kind of problem. We had to solve how to communicate between all these devices. To solve this problem mankind created new concept of network - Internet of Things (IoT).

IoT may connect both physical and logical objects as devices, buildings, vehicles and other staff embedded with electronics, sensors and software which collect and exchange data between them. Basically these devices are based on the x86 CPUs or ARM SoCs for energy efficiency and low cost. Experts predict that by 2020 the number of IoT devices will consist of almost 50 billion.

This technology may help you in a large number of different situations, for example doctor can monitor condition of your health with smartwatch sensors, can keep track of you need buy due information from the fridge. Home appliance manufacturers are also working in smart devices direction. Few last years at Consumer Electronics Show was represented a large number of appliances (refrigerators, televisions, washing machines) which can be connected to the Internet.

Main problem of IoT is that such network will always generate a lot of information which may contain some private data about you, in particular may know owner exact location, access to such information can help attackers to commit a crime. To solve this security breaches a great number of engineers trying to create encrypted end-to-end connection between devices. Absence of standards for the protection of IoT networks somehow slow implementation in everyday life.