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IOT COMPONENTS INTEGRATION INTO HUMAN LIFE

Y.I. Rudyk, PhD, associated professor
Lviv State University of Life Safety,
S.V. Solyonyj, PhD, associated professor
Saint Petersburg State University of Aerospace Instrumentation

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Different automation systems are not combined into one local network. Various automated user workstations (AWS) are also used. Fire alarms (FS) are never combined into one local network with third-party building automation systems, such as ventilation, heating point, cold supply, although the latter directly depend on the correct operation of the FS, since these are all disconnected systems in case of fire. Integration of one system into another occurs only at the hardware level by collecting signals and assigning them critical response levels.

IoT devices, basically, transmit to the network all data about the position of the system, this is due to the fact that the end user wants to observe in real time everything that happens in the building (house, office, apartment). All systems are integrated into one network, including fire alarm, security system, video surveillance, automation systems of all building systems. The main risk in the implementation of the project is assigned directly to the contractor, since the maintenance of the IoT systems remains the integrators involved in the execution of all work [1].

While most IoT applications focus on connecting distributed sensors and equipment, setting up lighting systems differs from most classic approaches to setting up IoT applications, as it requires extensive local communication between end nodes in office environments, with a group deterministic response to user requests [2-5].

According to the norms and standards, there are limits on the permissible levels of distortion in the networks supplying computers and data processing systems. In some cases, they are expressed as a percentage of the nominal voltage (for a computer computer equipment, they are 5%) or in the form of the ratio of the peak voltage to the rms value (CDC = 1.41 ± 0.1) [4].

To cope with the specific requirements of the lighting control system, a group communication mechanism has been developed that operates independently of the underlying IoT fabric (LWM2M in the case of a pilot implementation). This mechanism, based on CoAP multicast over IPv6, supports the multicast model by offering authentication and authorization for multicast communications.

This mechanism is one of the cornerstones as it does not depend on a central server or Internet connection. As such, it provides independent "always on" communication for vital lighting functions. Its lightweight multicast operation supports lighting performance and synchronization requirements, especially in a cramped wireless environment [4].

Conclusion. At the moment, it is safe to say that people have mastered computer technology a long time ago. Today, we transfer data between different points on the planet with high speed and accuracy, thanks to high-quality Internet coverage. The development of robotics is definitely worth noting. People create different robots to solve specific tasks. In connection with these events, we can say that the era of Industry 4.0, or "Smart Factory", is coming. This term means almost complete automation of industrial enterprises in various countries. Thanks to the capabilities of cyber-physical systems, robotic systems and software, it is possible to build a unified product life cycle control system (PLC - systems). Thus, the main goal of modern activity in this matter is to introduce this system into the industry.

At the initial stage, specialists will be faced with the task of introducing a product labeling system within enterprises and automating the process of updating information in the database via the Internet. Various tags can be used to accomplish this task, but it is better to use QR codes or RFID tags. Depending on the production site, the marking method may differ, it can also be combined. Using universal scanners, information can be updated automatically. The introduction of various robotic systems into the production process, which will speed up production processes and eliminate the human factor, requires a study of the world market of Industry 4.0. Based on the above, the second main task can be formulated - this is the unification of cyber-physical, robotic and PLC systems into one single product control system in production and beyond.

Assessment of compliance with the level of safety at the local level, use or application of high-risk facilities that may pose a threat to consumers, is entrusted by the legislation of Ukraine to the owners or suppliers and is mandatory for implementation.

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