



Improvement of the "Smart HCS" Platform in the Housing and Communal Services Department (On the Example of Shakhrisabz District)

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ABSTRACT

This article presents information about the multifunctional integrated platform "Smart housing and communal services" (smart housing and communal services), designed for management companies and manufacturers, about mobile applications interconnected with the system, web applications, online dispatch services, online payments.

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Introduction. The smart housing and communal services platform is, in fact, a special system, the main task of which is full control over the automatic functioning of housing and communal services. The system has such capabilities as full control over the operation of equipment, timely receipt of data from all meters, ensuring full-fledged work of personnel and housing and communal services facilities, prevention of accidents.

Analysis of the literature on the topic. E.I.Ruzina, D.V. stand out from foreign scientists on the

problems of improving organizational and economic mechanisms for the introduction of information technologies in the digitization of housing and communal services management. It found its expression in the scientific works of Kuzmin, David D. Edwards, Chris Anderson, Erik Brynjolfsson, David A. Tis, Maria Johnsen and others.

In addition, Ekaterina Dmitrieva, M.Yu. Smirnov, V.S.Ziyatdinov, I.V.Voronin, T.A.Zolotareva, Olga Kovaleva, I.V. In the scientific works of Yakovleva and others from a number of scientists-economists of the CIS countries. Special attention is paid to the issues of innovative development of agricultural sectors, the formation of an innovation system.

The issue of introducing information technologies into the digitalization of housing and communal services management and measures to improve its economic efficiency was discussed at a meeting of the Presidium of the State Council of the Republic of Uzbekistan. This was reflected in Mirziyoyev's decisions and reports. Also, this issue was considered by scientists-economists of the republic, in particular, Sh.X.Mukhitdinov, T.A.Khasanova, D. Sh. Mirzhalieva, N.Q.Jo in Raeva, G.B.Ernazarov, D.A.Berdieva, M. S. Mamatkulov, S.B. Noticed in the scientific works of Bobokulov et al.

Research methodology. As a result of the conducted scientific research, changes in the broad development of the introduction of information technologies in the digitalization of housing and communal services management, improving the efficiency of the use of information technologies were studied, scientific conclusions and proposals for the broad development of the introduction of information technologies in the public utilities for the future were developed.

Analysis and results. The Internet has introduced many technical devices (sensors, sensors, controllers) into people's lives, which has made it possible to increase the efficiency of housing and communal services. As the main goals of the "smart housing and communal services", we can say the following:

- ✓ adequate use of energy and water resources, prevention of excessive waste;
- ✓ automation of counters;
- ✓ facilitate the work of housing and communal services workers;
- ✓ minimizing errors caused by the "human" factor;
- ✓ quality control of utilities through special service systems;
- ✓ increasing the level of efficiency of device management.

Experts say that smart housing and communal services should reduce the monthly payments of the population for the use of utilities. This direction is actively developing and developing from year to year. A number of studies are being conducted in different cities of the Russian Federation to launch a test version of the system. Today, such large companies as "Vega", "Matrix", "Betar", are engaged in the development of devices to provide a system of smart housing and utilities in the country.

Smart housing and communal services have their own characteristics. It has three main levels:

- ✓ Local-location of counters-houses, apartments.
- ✓ Data Collection layer-Smart meters use wired and wireless technologies to transmit information: Wi-Fi, PLC, NB-IoT, LPWAN, LoRaWAN, etc.
- ✓ The level of data processing and analysis-the final results of calculations can be obtained by the User in the personal account after preliminary registration.

Users can access a number of data, in the form of tables, graphs, by logging in through their personal

account. In addition, the system allows you to predict electricity and gas consumption, informs about changes in utility tariffs, warns of possible emergencies.

Also, the intelligent system of housing and communal services manages apartment buildings, monitors the security of internal communications, provides online reception and execution of applications, performs tasks such as calculation and planning, receiving reports.

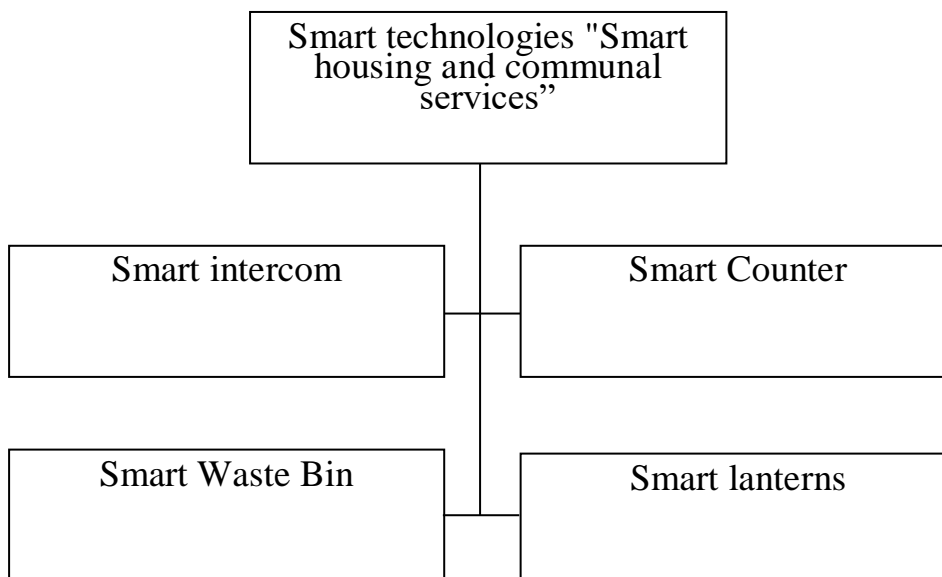


Figure 1. Intelligent technologies of the intelligent system of housing and communal services.

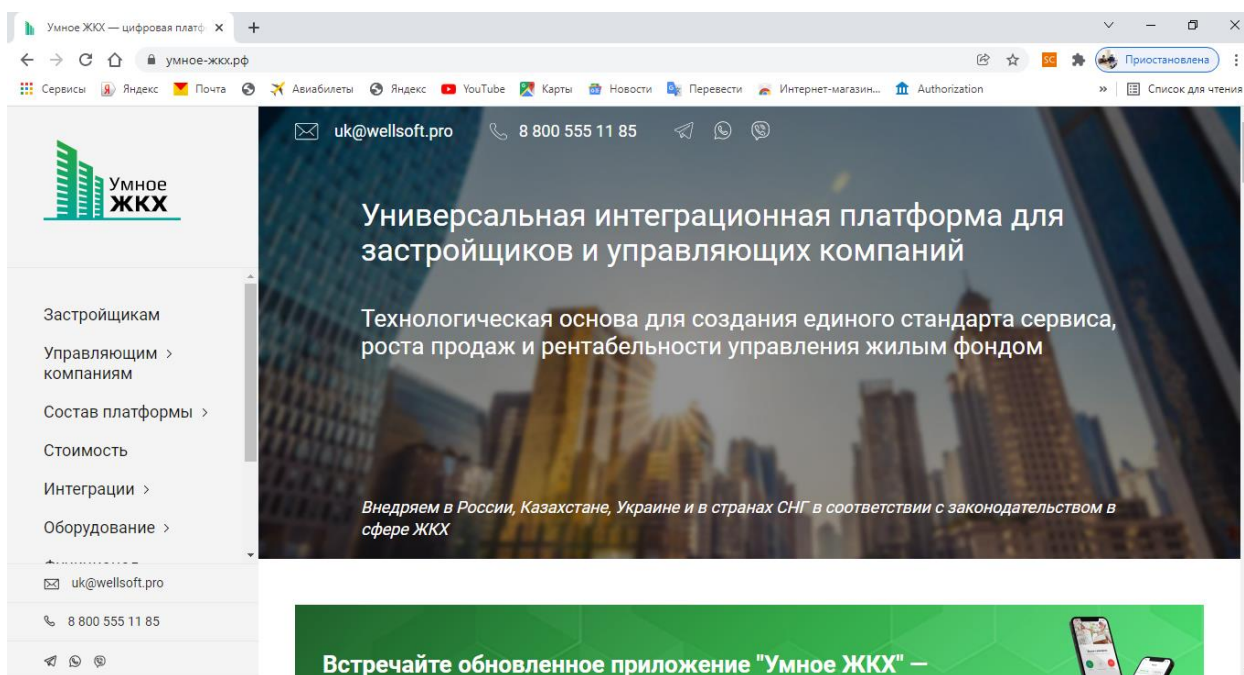


Figure 2. <https://умное-жкх.рф> – user interface of the platform.

The user interface of the platform is designed in the form of a website with 9 interactive services, such as a menu, a news section, a section of platform functions, a section of platform components, a section for connecting equipment, sending surveys.

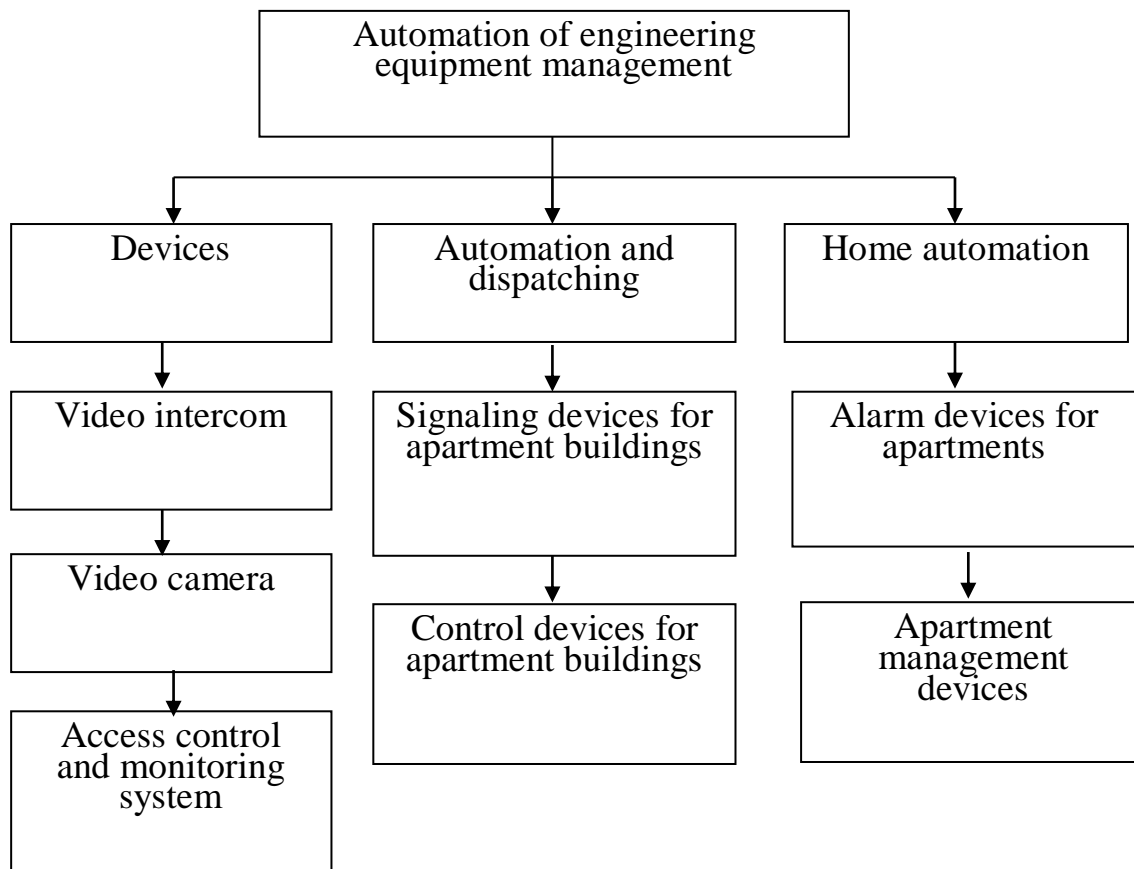


Figure 3. Scheme of automation of engineering equipment.

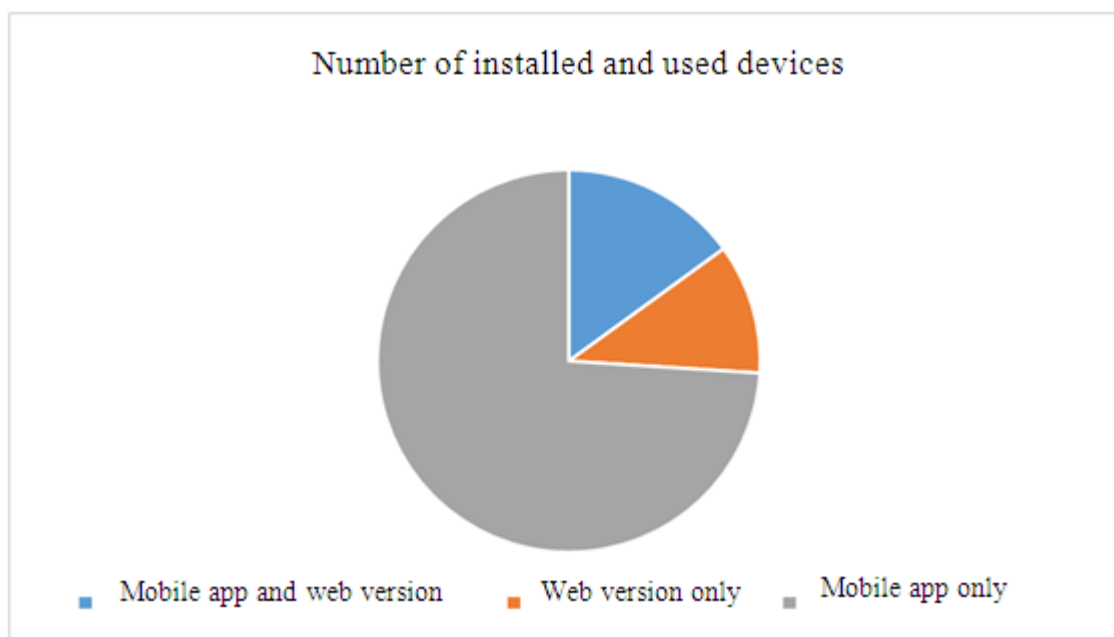


Figure 3. "Smart housing and communal services" - statistics of users using the smart housing and communal services platform.

Conclusions and suggestions. Thus, we see that the Smart Housing and Communal Services platform developed for management companies has created affordable opportunities for the population. The work on digitalization of the housing and communal services sector has been positively organized. In addition, opportunities were created such as saving resources, preventing excessive costs, saving time, reducing distance, performing tasks such as sending data in real time, processing, online payments, transparent management of the industry, emergency dispatching services.

List of used literature:

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