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IMPROVEMENT OF ACTIVITIES OF HOUSING AND UTILITIES IN THE REPUBLIC OF UZBEKISTAN

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Abstract:

Modern innovative development of society and economics reveals new, non-traditional directions of quality growth. One of the urgent ways to increase the efficiency of housing and communal services is the creation of "smart" cities and "smart" houses. Their implementation should be carried out progressively and on the basis of economic justifications.

Keywords: Information and communication technologies, digitalization, housing and communal services, quality of services, "smart" city, "smart" house.

The issues of increasing the quality of service in the housing and communal services sector are relevant. They are also constant attention from the government authorities and the top leadership of Uzbekistan [1]. These issues are considered by foreign authors [2]. In recent years, domestic authors have begun to devote their studies to the problems of housing and communal services.

The innovative development of society and the economy reveals new, non-traditional directions for increasing the quality and efficiency of activities in various areas, including the housing and communal services sector.

One of the ways to increase the efficiency of housing and communal services is the creation of "smart" cities and "smart houses", which are aimed at solving such important groups of tasks, which, in priority order, are as follows:

- ensuring the safety of the living environment;
-increase in living comfort;
- energy saving;
-new approaches to solving environmental problems.
-increasing infrastructure in the living area ;

The concept of creating a smart city, covering all its life support systems, makes it possible to manage them on the basis of modern information and communication technologies.

Of course, a "smart city" should be environmentally friendly, safe, open up wide opportunities and provide the most comfortable life.

Priority smart city sectors in need of smart modernization include public administration, city infrastructure, and the economy. The main directions of development of these sectors are presented in the table.

Table
The most important directions for the development of "smart city"

Innovative economy	**Urban infrastructure**	**Public administration**
Innovations in industry, clusters, city districts	Transport	Administrative services to citizens
Smart human potential: Education and employment	Energy/Utilities	Representative and direct democracy
Creation of knowledge-intensive companies	Environmental Protection/Safety	Citizen Services: Quality of Life

Note. Compiled by the author

An almost complete analogy takes place in the creation of "smart" houses. The basis for the intellectualization of housing of these technologies is also modern information and communication technologies. They are quite widely used in industrialized countries and, it should be noted that most of them are currently relatively expensive.

The "smart home" system includes the following main automation objects:

1. Lighting control;
2. Control of electric drives;
3. Climate control;
4. Management of the ventilation system;
5. Centralized systems management:
6. Home theater;

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7. Video surveillance systems;
8. OPS (security and fire alarm);
9. Control of loads and emergency conditions;
10. Management of engineering equipment from touch panels;
11. Management server.

A smart home is an intelligent control system that combines all equipment into a single complex that solves various tasks in the field of security, life support, entertainment and communication. Any smart home system consists of sensors through which information is received, and actuators.

Smart home system: needed to facilitate household management, as well as to expand its capabilities. This system is the most advanced home control technology. Provides control of household appliances and lighting in the house, and connection to the system of devices such as video phone, TV, surveillance cameras, air conditioner, etc. Allowing at any time from anywhere in your home (apartment) and also the world to establish a connection with your home, turn on or off the lighting, adjust the temperature in the house, and so on.

The best energy saving is provided by automatic light switches using infrared and electronic sensors. Electronic sensors measure the level of illumination of the room and, when the set value is reached, issue a command to turn the lighting on or off (light sensors), or directly "see" that a person has entered the room and turn on the light (motion sensors). The photosensitive element blocks the lighting from turning on when there is sufficient natural light. Since, unlike time relays, motion sensors turn on the light only for the time of the actual presence of a person in the room, and the cost of electricity for lighting can be reduced several times.

Like any technology, it has its advantages and disadvantages. One of the main advantages of intelligent buildings is the comfort they provide to their residents. Lighting control of the house and adjacent infrastructure allows you to create various options for light scenes, any combination, depending on the time of day and mood, at the touch of a button. The climate control system makes it possible at the same time in different rooms to recreate the conditions of different climatic zones. To do this, you just need to set the desired temperature on the touch control panel.

Another indisputable advantage of a "smart" home is the security system. Moreover, automation systems are thought out in such a way that they assume protection from any emergency. First, they provide intrusion protection through CCTV cameras, door automation, gates, shutters, burglar alarms. Secondly, there is practically no chance of a fire - an iron, tongs, or oven left on will be turned off in time, and in case of any fire or smoke, a fire alarm will go on. The system controls the consumption of water, electricity, heat. This is achieved through the most rational use.

The first and main disadvantage of a "smart home" is the high cost of equipment, its installation and maintenance. It should be noted that this aspect repeatedly overlaps with the costs the entire effect of saving energy resources, indicated in the advantages of "smart home" systems.

The second disadvantage is the need for a special place in the house to accommodate equipment. The equipment must work constantly, stably and not break, which means that an uninterruptible power supply and a stabilizer are needed. And, in the ideal case, a backup power source, which can be a generator running on gasoline or diesel fuel.

The implementation of the "smart home" system requires a complete replacement of all electrical wiring, the installation of all necessary "smart home" equipment, it is necessary to redo the plumbing, heating, air conditioning and ventilation systems, possibly replace windows and doors (if they open and close with electric drives) , install roller shutters and curtains with electric drive.

Without being based on detailed technical and economic calculations, we can confidently assert that the time has come to use these technologies in domestic practice. It seems logical that at the first stages it is necessary to provide for the use of those "smart" home technologies that ensure the safety of living. First of all, this refers to the safety of using natural gas (electricity) and fire safety. Perhaps already now it is necessary to make changes and additions to the existing building codes and regulations, providing for the use of the most simple modern systems of gas analyzers and other sensors.

At subsequent stages, for example, using data from [3], a more complete application of smart home technologies should be envisaged. At the same time, the widespread use of such technologies is already possible in elite class residential buildings. This would allow testing of these innovations in local conditions.

Thus, the housing and communal sector in modern conditions of economic modernization and growth in the level of urbanization is acquiring new qualities and significance. The growing complexity of operating the housing stock and utilities, the growing requirements for the quality of services provided to the population require an innovative approach, one of the directions of which is the creation of "smart cities" and "smart houses".

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