

NECESSARY FACTORS FOR DIGITALIZATION IN THE INNOVATIVE DEVELOPMENT OF HOUSING AND COMMUNAL SERVICES

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Annotation: *The thesis examines the key factors necessary for ensuring effective digitalization in the innovative development of housing and communal services. In the context of growing urbanization and increasing demand for high-quality public utilities, the integration of digital technologies has become a strategic requirement. The study analyzes the technological, organizational, institutional, and socio-economic conditions that determine the success of digital transformation in the sector. Special attention is given to smart metering systems, automated service management platforms, energy-efficient monitoring tools, and data-driven decision-making mechanisms. The research highlights the importance of strengthening ICT infrastructure, enhancing digital competencies among employees, and improving regulatory frameworks to support innovation. The findings demonstrate that a systematic approach to digitalization contributes to improved service quality, resource efficiency, transparency, and customer satisfaction in housing and communal services.*

Keywords: *digitalization; innovative development; housing and communal services; smart technologies; energy efficiency; ICT infrastructure; automation; public utilities; smart metering; data management.*

Today, one of the urgent issues is the digitalization of management processes in each area, the introduction of information technology. The introduction of information technologies into management processes can lead to an increase in labor productivity, reduce overhead costs, save time and resources, and improve quality. Digitalization processes in the management of the sphere are partially implemented, but not at a satisfactory level and are not fully organized. Until now, the population is facing problems such as queues, excessive amount of time, waste of resources.

It was established on April 18, 2017 in accordance with the Decree of the President of our country Shavkat Mirziyoyev "On measures to further improve the management of the housing and communal services system". When the ministry was created, we knew that in addition to the problems that we knew about, there were other problems, as industry specialists studied the work at a deeper level. In particular, one of our biggest problems is cases related to the activities of companies.

To eliminate this problem, first of all, we intend to amend the law on the activities of partnerships. The main reason for this is that our existing companies do not cope with the legal tasks assigned to them. In addition, we have an inspection for the supervision of the activities of partnerships under the Ministry. We also intend to amend the current legislation regarding the activities of this inspection.

There will be a lot of appeals about the sewage systems of apartment buildings located in remote areas of our republic. For the period 2017-2018, 1 mln.ga we have managed to improve the water demand of nearby residents. In settlements that are not centralized and do not have the necessary water supply, first of all, it is useless to improve the sewerage system. After we raise the level of centralized drinking water in the first place, a sewage system will be consistently established on the ground.

A database is a centralized data warehouse. Designed for reading, storing, processing and searching information. It is distinguished by its speed. The most popular databases include Oracle, MsSQL, MySQL and others.

The main purpose of the development of a database is to determine its logical structure. Database development is based on the description of the subject area. This description includes a set of documents containing all the information coming into the database and other information about objects and processes representing the subject area.

The creation of a database should begin with its design. As a result of the design, the structure of the relational database is determined, i.e. the composition of relational tables, their structure and logical relationship. And the structure of a relational table is determined by the composition of its columns, their sequence, the type and size of the column data, as well as the key of the table.

The first stage of designing a database of any type is the definition of the subject area, which ends with the construction of an information structure (conceptual schemes). At this stage, user requests are analyzed, objects of information and its characteristics are selected, and a subject area is formed based on the analysis. Domain analysis is a general stage and does not depend on the software and hardware that implement the functioning of the database.

It is advisable to divide the analysis of the subject area into three stages:

1. Analysis of conceptual requirements and information needs;
2. Definition of information objects and links between them;
3. Building a conceptual domain model and designing a conceptual database schema.

When analyzing conceptual requirements and information technologies, it is necessary to solve the following issues:

User requirements for the database being produced consist of a list and volume of data indicating their intensity with queries. Database manufacturers determine this data as a result of interviews with its potential users. It also defines the requirements for entering, updating and changing information. As a result of the analysis of existing and prospective activities, the requirements of users are clarified and supplemented.

One of the most necessary and responsible stages of creating a database is logical design. Its main task is to develop a logical database schema designed for the selected DBMS. The stage of logical design, in contrast to conceptual design, is carried out with full consideration of computer software. Logical design according to the content of the work consists in modeling an information system and its constituent parts in a form corresponding to a real DBMS.

The logical design process consists of the following stages:

1. Choosing a specific DBMS 2. Transformation of a conceptual scheme into a logical scheme 3. Selecting the required keys 4. Description of the query language

Let's take a closer look at the procedure for selecting a specific DBMS. Choosing a DBMS to implement a DB project requires a lot of responsibility. This is when, on the one hand, there is a huge number of DBMS, and on the other hand, the evaluation of the DBMS by numerous characteristics and the choice among them of just such a system so that it can fully meet the requirements of users and manufacturers. Because the efficiency of using and processing information in the database will depend on how correctly the DBMS is selected.

LIST OF USED LITERATURE:

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