APPLIED INFORMATION SYSTEMS

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Abstract. *The article discusses practical information systems, their structure and main goals, areas of application. The principle of operation of the initial, mechanized, automated, automated types of information systems is disclosed.*

Key words: *information systems, information processing, system functions, information base, data transmission, computing operations.*

The term "system" means any object that is considered as a single, whole, and a set of various elements united in the interest of achieving the set goals. It is known that today various systems have been created and they differ from each other in terms of their composition and main purpose. The concept of system is widespread and used for many purposes. When applied to information systems, in most cases, a set of technical tools and programs is meant. Only the hardware part of a computer can be called a system. We can also consider many programs filled with document management and accounting book management processes to perform certain practical tasks as a system.

Each system consists of 4 main parts: - input - processing - output – feedback

The information system is an interrelated set of tools, methods and personnel used to collect, store, process and release information in order to achieve the set goals. Today's concept of a modern information system implies the use of personal computers as the main technical means of processing information.

The fields of application of information systems are different. Also, the features and peculiarities of each system are different. Among the many factors that determine the set of characteristics of a particular information system, three factors can be distinguished: the technical level of the system, the nature of the processed information, the purposes of using the information, that is, the range of tasks that this system is intended to help solve. According to the technical level, information systems are divided into the following systems:

- Initial;
- Mechanized;
- Automated;
- Automated.

In the early information systems, all information processing processes were performed manually. In such systems, simple selective devices are used to search for information. These devices are inexpensive and do not require highly qualified service personnel to operate them. In mechanized information systems, various mechanized tools are used for information processing and retrieval, among which computer punching machines are common. In mechanized information systems, punch cards are information carriers.

The following technical means of such mechanized systems include perforation machines. Each of them performs a certain task. Using a perforator, information is transferred from the original document to punched cards. The sorter places punched cards with common symbols in separate groups. It is used to store, process and search information in automated automated information systems, and to collect, prepare and transmit information on computers, as well as to perform operations related to the release of information to the consumer. These systems have wide functional capabilities and are able to store and process very large amounts of information. Here, the information carriers are the computer's memory devices.

Information systems are characterized by the following properties. Any information system is analyzed and managed based on the general principle of system organization. The information system has a dynamic appearance and is

considered a developing system. The product of the information system is also information. It is necessary to imagine the information system in the form of a human-computer system.

What results can be obtained using information systems in life. Obtaining optimal management options using mathematical methods and intellectual systems. Simplifying the tasks of workers as a result of system automation. To have the most accurate information. Saving information not on paper, but on magnetic or optical disks. Reducing product production costs. Creating convenience for users. The role of management structure in information systems Information system should perform the following for society and each organization:

1. The structure of the information system and the purpose of its use should correspond with the task facing the society and the enterprise. For example; in a commercial firm - a profitable business, in a state enterprise, it must perform social and political tasks.

2. The information system should be managed by a person and benefit based on the principles of social ethics.

3. Must deliver accurate, reliable and timely information to the client or systems.

Currently, various information systems for different purposes are successfully working, they are directed to satisfy the information requests of users. The unique feature of such systems is that the information found in accordance with the request is not used directly within the framework of the system, but is given to the user, who uses the received information for the purpose he needs.

An example of such an information-information system is the automated system of advance reservation of seats in airport and railway transport. These systems can be a typical example of operative systems. Because each reference to the system changes the current state of the information fund.

• The information-information system searches for the necessary information from the information stored in its information fund in accordance with the request. Search is one of the main operations in such systems, so they are also information

retrieval systems.

Often, these systems serve certain areas and are considered independent, that is, they have their own information fund, algorithm and software. Management systems can be integrated, built on the principle of a database. Such systems process the entire flow of information circulating in the enterprise and are directed to ensure its smooth and planned operation, using the resources of the enterprise rationally. With the help of technical means, only the automation of information operations is achieved.

Direct decision-making functions and other management operations are performed by the person himself. Therefore, management systems are usually directed to provide various information and reporting forms to separate services and enterprise management. Therefore, management systems perform the functions of information systems at the same time. In this system, requests are usually permanent and regulatory in nature. The information system performs these requests and provides a certain list of information forms as a result of regular (daily, weekly, etc.) processing of information about the status of controlled processes, as well as other types of requests. provides service.

Information stored in computing systems is used to solve tasks related to various computing operations. Such tasks include statistical reporting and analysis, weather and mine forecasting, diagnostics (diagnosing diseases, determining the causes of equipment failures). Information systems that work within the framework of automated design systems (ALT) can also be included in information-accounting systems. Automated design systems carry out calculations of various projects in instrument and mechanical engineering, radio electronics and shipbuilding, solve the tasks of optimization of parameters of elements, schemes, devices.

The functions of computing systems may also be characteristic of other types of information systems. Information-logical systems, unlike other systems, can provide information that has not been directly entered into the system before, but is developed based on the logical analysis, generalization, and data processing of existing information arrays in the system. Such systems can to a certain extent

replace the work of a specialist researcher and solve scientific research issues. They are sometimes called intelligent systems, because their development uses the principles of artificial intelligence theory.

Systems that can perform any arbitrary requests open up great opportunities for users. In order to form requests, the system must have the language of requests and the rules for their creation. The interaction of the user with the system is easier than the interaction of a person with a machine. In this case, the user will have the opportunity to read the received information and correct his question. It should be noted that any specific information system can be described by a set of features specific to the specified types of systems. At the same time, depending on the field of application of information systems, the system has its own characteristics.

Any automated information systems (AAT) work in an external environment, which is a source of input information for AAT and a consumer of output information. The information flow goes through several stages of processing within the AAT, from input to output. The largest stage of information processing is the collection, registration and preliminary processing of information, transmission from the source to the computer through the communication channel, transfer to machine carriers, creation and maintenance of information funds, processing in the machine and making it output. , transmission from a computer to a user over a communication channel, consists of converting it into a form suitable for the user to receive.

As a result of special checks, information that is not yet available in the information fund of the information system is selected. This prevents information duplication in the system. The elements of the initial information that need to be entered into the system are pre-processed, that is, they are brought to a specific form and format adopted by the system: they are written on special forms, entered into tables of the prescribed form, an annotation and bibliographic statement are made according to certain rules for documentary information, physical parameters are brought to a single system of units. Pre-processed and formatted information is, in most cases, recorded on paper.

Information from the information collection and preprocessing subsystem is provided in a form that is not suitable for direct input into a computer. The function of the input subsystem is to enter it into the computer, as well as to monitor the correct transfer of information and errors that occur. Modern computers often use display and communication channels connected to the computer through special network devices to enter information. The information entered into the computer is stored in the machine's memory and forms the information base of the information system. Various operations of processing the elements of the information fund: logical and arithmetic, sorting and searching, maintenance and correction operations are performed. As a result, the information fund is kept up-to-date, and output information is formed in accordance with the processing task. All operations on formation (structuring) and maintenance of information arrays, as well as information processing are performed under the control of a set of programs that are part of the information storage and processing subsystem.

The concept of "information" is usually used in cases where you want to emphasize the content of the message. But the computer that is the basis of AIST is not yet capable of understanding the meaning of the messages being processed. In relation to computers, the concept of "data" is often used, and it is said that the computer performs operations with the data provided in the machine. In this case, any set of characters, regardless of its content, is considered data. Information processing is the processing of information by giving it a certain meaning.

Therefore, from now on, we will use the concept of "information" only in cases where there is a need to emphasize the importance of its spiritual content or it is part of the word combinations that are widely used and established in Uzbek literature. The information extraction and representation subsystem (output system) provides the output of the answer to the given request, presenting it in a convenient form for the user to accept. The small system includes a set of programs that provide the necessary form of the message to be issued and technical means for recording (reflecting) the information to be issued. The response to the request can be issued using a clicker, a display, a graph, various dashboards and indicators. The interaction

of small systems was explained from the point of view that information sources and users are geographically located near the central computer. Existing information systems will be located at a distance. In such cases, communication with the central computer is carried out through a small communication system that includes a data channel and remote terminals (which are now computers themselves).

A remote terminal is an I/O device located at a distance from the host computer that precludes direct connection to it. The terminal is connected to the computer using a data transmission channel. Information obtained from the terminal can be directly entered into the computer. Personal computers, terminals, teletypewriters, special terminals and subscriber points are used as remote terminals. The small communication system also includes software that allows the terminals to communicate with the central computer and allow it to control the remote terminal.

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