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PERSONAL COMPUTER SOFTWARE.

Matchonov Akmal

Teacher of public health technical college named after
Republic No. 1 Abu Ali Ibn Sina

Annotation: Personal computer software is a set of programs that help users perform various tasks. This software includes operating systems, office programs, multimedia applications, security programs, Internet browsers, games and many other applications. When creating software for personal computers, the main consideration is user convenience, efficiency and security.

Key words: computer, application, program, hardware, equipment, device, technique.

Modern computers include two complex interconnected and interacting elements. These are hardware and software.

Hardware is, first of all, the main technical components of the computer and additional (peripheral) devices. Software is the second most important part of the computer, which includes a set of programs that process information and documents necessary for using the computer. Without software, any computer would be like a piece of iron.

There is a connection between the hardware and software of a computer, and this connection is called an interface. The connection between different technical parts of a computer is a hardware interface, the connection between programs is a software interface, and the connection between hardware parts and programs is called a hardware-software interface.

When it comes to personal computers, it is necessary to consider a third participant in working with a computer system, that is, a person (user). A person interacts with both the hardware and software of a computer. The interaction of a person with a program and a program with a person is called a user interface.

Now let's get acquainted with computer software. All software can be classified into three categories:

- system software;
- application software;
- hardware tools of programming technology.

Hardware tools of programming technology are tools consisting of a set of special programs used in the process of developing new programs. These tools serve as hardware tools of the programmer, that is, they are designed to develop (including automatically), store and implement programs.

System software

System software is a set of programs that ensure the operation of a computer and computer networks. System software (TS) is mainly aimed at:

ensuring the reliable and efficient operation of a computer and computer network;



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organizing the operation of the hardware part of a computer and computer network and performing preventive maintenance.

System software consists of two components - the main (base) software and auxiliary (service) software. If the main software is supplied with the computer, the service software can be purchased separately, additionally.

Core software is the minimum set of programs that make a computer work.

They include:

- operating system (OS);
- network operating system.

Auxiliary (service) software includes programs that expand the capabilities of the main software and make the user's working environment (interface) more convenient. These are diagnostic, computer performance enhancing, antivirus, network support, and other programs.

This program, which starts when the computer is turned on, manages the computer and its resources (RAM, disk space, etc.), organizes communication between the user and the computer, and launches other programs (application programs) for execution.

The operating system provides a convenient interface (interface) for the user and application programs with computer devices.

The capabilities of the operating system are expanded by control programs, known as drivers. These programs help control the operation of the computer's input and output devices (keyboard, mouse, printers, etc.). Drivers allow you to connect new devices to the computer or use existing devices in a non-standard way.

Nowadays, there are many operating systems: For example,

- UNIX;
- MS DOS;
- OS/2;
- WINDOWS
- MacOs
- iOS

The first personal computers did not have operating systems. When the computer was connected to the network, the processor would access permanent memory. They would have a special program written in a simple programming language, for example, BASIC or a similar language, that is, it would understand it and work with the program written in it. It would take a few hours to learn the commands of this language, and then it would be possible to enter simple programs into the computer and work with them. When a tape recorder was connected to the computer, it was possible to load a foreign program. For this, only one LOAD command was enough. With the connection of disk drives to the computer, the need for operating systems arose. The disk drive differed from the tape recorder in that it could be freely accessed.

An operating system was developed that allowed programs on the disk to be loaded only by name, and it was called the Disk Operations System (DOT).



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The disk operations system could not only load files from the disk, but also write files from memory to the disk, prevent two files from falling into the same sector, delete files when necessary, and copy files from one disk to another. In general, the disk operating system saved the user from having to keep a lot of records on separate sheets of paper, simplified working with disk drives, and significantly reduced the number of errors.

The further development of operating systems went hand in hand with the development of hardware. With the advent of new disk drives for floppy disks, operating systems also changed. With the creation of hard disks, it became possible to store not dozens, but hundreds, or even thousands of files on them. Because of this, misunderstandings began to arise in the names of files. At that time, disk operating systems also became more complex. They included tools for dividing disks into directories and servicing these directories (moving and copying files between directories, sorting files, etc.). Thus, a file structure appeared on disks. The task of organizing and servicing it was assigned to the operating system. As hard disks became larger, the operating system also learned to divide them into several logical disks.

Each new operating system of this era not only made better and more efficient use of the computer's RAM, but also could work with powerful, fast processors.

From 1981 to 1995, the main operating system for IBM PC computers was MSDOS. During these years, it went through several stages of development up to version 22 of MS DOS. MS DOS served as an "intermediary" between the user and the computer's hardware. At the same time, it was closer to the computer than to a person. Many tasks related to computer repair and maintenance were also performed in MS DOS. An operating system consisting of a set of special programs that ensure the operation of computers connected to the network, both individually and together, is called a network operating system. This operating system provides services such as, among other things, the exchange, storage, processing, and transmission of data within the network.

The main software is supplemented by a set of service programs that are additionally installed. Such programs are often called utilities.

Utilities are programs designed to perform additional operations when processing data or to service a computer (diagnostics, testing hardware and software, optimizing disk usage, etc.).

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