General Information About the Engineering Computer Graphics Software AutoCAD

Rashidov Furqat

Assistant of the Department of "Fine Arts and Technological Education" at UzFinPI, Uzbekistan

Abstract: Today, computer literacy has become an important sign of culture, and in the future, it will become a necessity for everyone, wherever they work, in whatever field they work. At present, AutoCAD software is considered the most common automatic design system package for personal computers, and this article discusses AutoCAD graphics software.

Keywords: AutoCad, graphics, drawing, technology, program, modern, interface, model.

Introduction: It is difficult to imagine our rapidly developing century without modern information technologies. Therefore, we can say that the creation of everything from modern technical devices to small and large buildings and structures is initially carried out using computer graphics programs. In this process, three-dimensional computer modeling tools are attracting the attention of users—and this is certainly no coincidence. Their use ensures high-quality execution of design work and allows users to create drawings quickly, accurately, and in high quality, with the ability to print them out.

This article discusses the use of AutoCAD, a universal graphical system environment for computer modeling in design. The AutoCAD system was developed by Autodesk and is intended for convenient use by a wide range of users during the design process.

AutoCAD is software for "computer-aided design" (CAD) and project development using commercial computers. Autodesk first released AutoCAD in December 1982 as a desktop application running on microcomputers with built-in graphics controllers. Before the introduction of AutoCAD, most commercial CAD programs ran on

mainframes or minicomputers, with each CAD operator working at a separate graphics terminal. Today, AutoCAD is also available as a mobile and web application.

AutoCAD is used in industry by architects, project managers, engineers, graphic designers, urban planners, and other specialists. By 1994, it was supported by 750 training centers worldwide. Initially based on a program called InteractCAD, it was later also known as MicroCAD in early Autodesk documentation. The AutoCAD software was created by Michael Riddle, co-founder of Autodesk and a developer at Marinchip Software Partners.

By March 1986, AutoCAD had become the most widely used CAD software in the world and was recognized as Autodesk's most important product. The 2022 version of AutoCAD became the 36th major release for Windows. AutoCAD can operate in both standalone mode and on local networks.

To ensure proper functioning of AutoCAD versions released after 2000, your personal computer must meet the following minimum requirements:

• Pentium 133 processor

• 32 MB RAM

• 400–750 MB hard disk space

• 640x480 VGA display

For the latest 2022 version of AutoCAD, your personal computer must meet the following requirements:

• 2.5–2.9 GHz processor (minimum)

• 8 GB RAM

• 16 GB hard disk space

• 1920x1080 True Color display

If your computer meets the requirements listed above, you will be able to install and activate the software.

Information technology tools are mastered to carry out certain tasks consciously and systematically. Without understanding basic computer operations, one cannot fully grasp computer graphics. Therefore, one must first study the subject of informatics. The next requirement depends on the specific graphics program to be learned. Since AutoCAD is related to the creation of drawings, it also requires knowledge of technical drawing, geometry, and the theoretical basis of descriptive geometry, which are considered exact sciences.

AutoCAD offers powerful graphical capabilities and can handle both simple and complex tasks. Notably, it is closely related to exact sciences and can be regarded as a logical continuation of them.

AutoCAD Interface. When we open AutoCAD installed on our personal computer, the interface window includes all the elements of the program and enables us to work within it (see Figure 1.1). When launching AutoCAD for the first time (starting from the 2009 version), the standard AutoCAD workspace is "Drafting and Annotation." The ribbon interface presents tool panels grouped by functional categories and organized into thematic tabs. This workspace is primarily intended for working with 2D drawings and project documentation.

AutoCAD also offers several graphic workspaces (desktops). The program provides several predefined workspaces, including:

1. 3D Basics
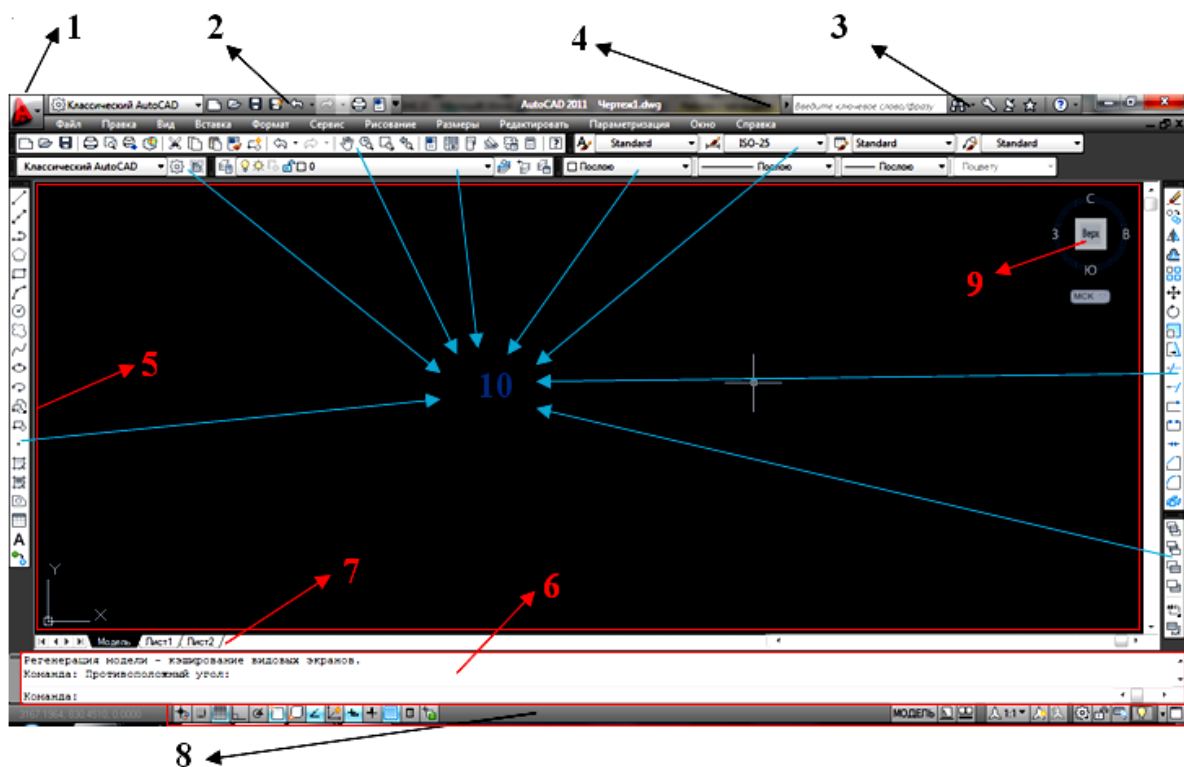
2. 3D Modeling

3. AutoCAD Classic

User Interface

Figure 1.1. Main elements of the classic AutoCAD program interface window

1. Application menu	1. Application Menu
2. Quick access toolbar	2. Quick Access Toolbar
3. InfoCenter	3. InfoCenter
4. Open menu	4. Drop-down Menu
5. Workspace	5. Workspace
6. Command line	6. Command Line
7. "Model" and "Layout" tabs	7. "Model" and "Layout" Tabs
8. Status bar	8. Status Bar
9. ViewCube	9. ViewCube
10. Toolbar	10. Tool Palette

CONCLUSIONS

Nowadays, one of the most important characteristics of any software is its ability to be used in conjunction with other programs. For this reason, the AutoCAD system offers great capabilities, including the ability to export its products to the 3D Studio system, enabling

the animation of three-dimensional models. Files developed in the AutoCAD system are compatible with any Microsoft Office software. Therefore, the increasing number of users of this program is inevitable and beneficial.

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