GRAPHIC PROGRAMS USED IN THE LEARNING PROCESS, AS WELL AS THE CAPABILITIES OF AUTOCAD AND 3D MAX GRAPHICS PROGRAMS

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ГРАФИЧЕСКИЕ ПРОГРАММЫ, ИСПОЛЬЗУЕМЫЕ В ПРОЦЕССЕ ОБУЧЕНИЯ, А ТАКЖЕ ВОЗМОЖНОСТИ AUTOCAD И 3D MAX GRAPHICS

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ABSTRACT

This article provides theoretical information on the use of graphics programs in the educational system as well as the possibilities of AutoCAD and 3D MAX graphics programs.

АННОТАЦИЯ

В данной статье представлена теоретическая информация об использовании графического программного обеспечения в системе образования и возможностях графического программного обеспечения AutoCAD и 3D MAX.

Keyword: computer graphics, graphic software, autodesk, engineering, design, architecture.

Ключевые слова: компьютерная графика, графическое программное обеспечение, autodesk, инжиниринг, проектирование, архитектура.

Introduction. As we know computer graphics is studied as different sectors. Its directions and possibilities are so wide that it covers all areas as mentioned above. And the programs used in their teaching are different. Among them, Engineering Computer Graphics occupies a special place. The main issue of Engineering Computer Graphics is the expression from teaching the audience the knowledge, skills and skills necessary for them to perform their work freely on the computer by using practical and operational programs and ready-made Command packages, creating models of design and technological processes, automatic design of projects directly used in the production process using modern software tools.[1].

Below are a few computer programs that are used in practice in the teaching of computer graphics science (Figure 1).

All of these computer programs are used in different areas of the computer graphics industry. Currently, several improved options of these programs are being created, which are increasing the need for these graphical programs from day to day.

Another important aspect of computer graphics is that engineering is computer graphics, in which the design and modeling of engineering issues on the computer is carried out. Currently, it is more widely used in the field of architecture and engineering.

Библиографическое описание: Muminov B.K., Mamatqulov I.C. GRAPHIC PROGRAMS USED IN THE LEARNING PROCESS, AS WELL AS THE CAPABILITIES OF AutoCAD AND 3D MAX GRAPHICS PROGRAMS // Universum: технические науки : электрон. научн. журн. 2021. 11(92). URL: *https://7universum.com/ru/tech/archive/item/12534*

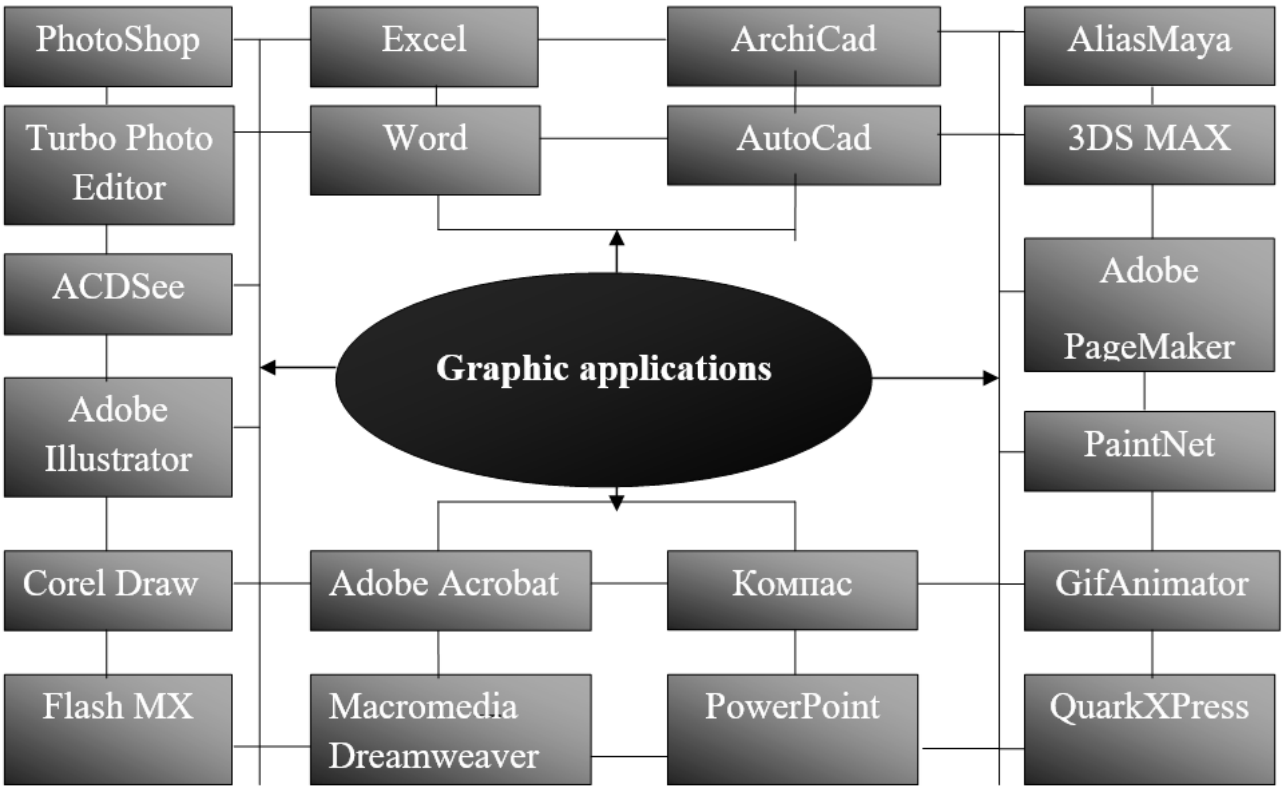

Figure 1. Graphical applications used

Literature review. Timur Rixsiboyev's textbook on 3D modeling, entitled Computer Graphics, provides the following basic and methodological information.[2] Further development of teaching of computer graphics in our country, analysis of its modern issues is an important requirement of the present day. This suggests that the research work carried out in the field is not yet sufficient. Therefore, the introduction of computer graphics science into a standard system, the scientific justification of the content coordination and pedagogical requirements, the creation of the technology of the formation of students ' knowledge and skills using the capabilities of graphic programs in the teaching of computer graphics science and the solution of the problems in this area are urgent [3].

Research Methodology. Autodesk's AutoCAD system is currently the international standard for automatic layering. Although it has been more than 20 years since the creation of the AutoCAD program, it still remains popular among the automatic design programs, since the AutoCAD program is an excellent and popular program, it performs the creation of any type of schemes and drawings with high accuracy and quality. It also helps to fully realize the creative possibilities of users of this program. For this reason, it is becoming common for millions of professionals, scientists, engineers and students to use the AutoCAD system in the fields of automation of their design work.[4] The main purpose of science is to realize the integration of all science fields in the field of computer technology and as a result of this, it is an expression from ensuring that future specialists can achieve practical results using the capabilities of various graphic programs.

The AutoCAD system was developed by the American firm Autodesk in the early 80s, when there were personal computers (PC XT without a soprosessor, PC AT). Versions that were not so strong in size at that time were interested in automating their work in the constructor and drawing. The tenth version of the system began to develop sufficiently. In it, it became possible to see the commands from the command line or through the drop-down and graphical menus of the screen. The thirteenth version of AutoCAD is available in two variants (MS DOS and Windows 95) or give the possibility to install ikkalas on a computer. The Fourteenth version is nothing more than a compact, high-speed version, adding updates to the thirteenth version. It was scheduled for Windows (Windows 95 or Windows NT) operating systems, which began to be installed on all personal computers. In 1999 year, the 15-th version of AutoCAD was created, which was given the number 2000. In this version, management and output to the plotter (imager) and to the printer were significantly improved in two-and three-dimensional modeling.

While the first variants of the system had two-dimensional drawing equipment, progress was made in the process of moving from version to version. As a result, AutoCAD has become a better electronic Kulman.

Conclusion. It is known to us that in the teaching of computer graphics science, we use a variety of graphic programs, in all of which there are opportunities for modeling graphic images. When students find it difficult to bring them to the eye during the execution of assignments on engineering graphics, that is, to spatial

imagination, by constructing it through a single view of the detailed drawing of Anasha, a relatively complete picture of this detail appears in them, and their interest in science increases. The possibility of modeling can be realized through various graphical programs.They all have their own characteristics.

For example: the possibility of solving engineering problems quickly and easily through the AutoCAD – graphics program; the ArchiCAD – program is a reliable program of architects, its application in the design of building structures; 3dMax, Corel Draw, Adobe Illustrator – is a vector three-dimensional and two-dimensional modeling program, the availability of the possibility of creating moving images, etc.programs can be cited as an example.[5] The selection of the most optimal of these graphic programs depending on the provision of subjects in the educational process, and the use of their capabilities as a pedagogical technology, not only further increases the interest of students in science, but also serves as the best tool for the formation of their knowledge and skills. LocationV. According to Matveeva's explanation: during the mastering of ready-made graphics, animasion and video-teaching materials, students perform an illustrative function of computer graphics. If they mastered the knowledge by drawing up a mathematical model of the object under study, the cognitive function of computer graphics is performed. The illustrative and cognitive functions of computer graphics differ conditionally. On the one hand, sometimes a simple graphic image can also lead to the birth of a new idea in the student or the opening of new edges in it. On the other hand, cognitive function is not always fully realized, for example, when the student reflects on the already known characteristics of the object under study, simply the illusory function is performed.

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