

Possibilities of Computer Graphics and Functions

Ibragimov Rustam Quadratovich, Muhammadiyeva Zarifa Lutfullaevna

Department of Fine Arts and Engineering Graphics, Karshi State University, Karshi City, Uzbekistan

ABSTRACT

The importance of computer graphics technology today is enormous. Computer graphics allows you to quickly and efficiently prepare drawings, diagrams, drawings and other images. The rapid development in each area is based on the high capabilities of computer graphics. Computer graphics is also a powerful tool that slowly increases the productivity of mental labor.

KEYWORDS: *Computer graphics, technology, vector object, three dimensions*

INTRODUCTION

Today, the achievements of our country in world economic development have had a positive impact on us, of course, our country, which has a rich cultural history, is gaining a worthy place in the world community. The efforts of the head of state to develop small and medium-sized businesses, the opportunities created for entrepreneurs are leading to the rapid development of economic growth.

The penetration of computer technology in various areas of human activity requires modern professionals to have the skills to effectively use computer technology in their fields.

Due to the rapid development of modern technology, the application of advanced technologies in manufacturing, construction and other fields, designers and designers are required to prepare graphic images depicting a new product project in a very short time. The potential of computer graphics in the preparation of graphic images in a short time, the evaluation of product quality and its features in the form of a sketch is enormous. Nowadays, it is difficult to imagine the activities of many industries, such as trade enterprises, accounting, accounting of products and materials, office work in enterprises and organizations, research activities, medicine, telecommunications, education, without computer technology.

It is well known that computer graphics is a powerful tool that slowly increases labor productivity, including mental labor productivity. In recent years, due to the rapid expansion of the possibilities of computer graphics and its widespread use in design, computer graphics began to be widely studied in the educational process of various educational institutions.

With the help of computer graphics tools it is possible to clearly demonstrate the achievements of computer technology in terms of time and work quality when performing labor-intensive graphical operations. Computer graphics allows you to quickly and efficiently prepare schematics, drawings and other images.

Computer graphics tools are also widely used in training and control programs of automated learning systems. It is

impossible to create and display various graphic images (animated, moving three-dimensional, etc.) in e-textbooks, which have become very popular in recent years, without the help of computers, and their importance in the educational process remains clear.

It is no exaggeration to say that the main content and essence of the changes taking place in the film industry today, the increasingly complex techniques and technologies of the citizens of our independent country are achieving new achievements. In this regard, it is the newest and most important network in the film industry, and the tasks and challenges facing the three-dimensional animation direction are huge.

We intend to assess the role and potential of this science in society by analyzing the essence of computer graphics in terms of its current state and prospects of all the changes taking place in the life of our society.

DISCUSSION:

General information about computer graphics

Computer graphics has firmly entered our lives. It is worth noting that commercials and clips created with a creative approach have an impact. But a clip created on the basis of computer graphics can amaze the mind, except for emotions. Advertising can be called successful advertising only if a person can click on the most delicate threads of consciousness and emotions and see himself in the place of the protagonist of advertising. If a brand can see itself as a buyer of goods, or a user of services, that clip is considered successful, which is a guarantee of success. Computer or mechanical graphics is a part of human activity that has its own problems and peculiarities. At the same time, computer graphics will be a tool designed for design, construction and scientific, educational base on the basis of a combination of analytical and applied programming of human activity, descriptive geometry, mathematical calculations and similar academic disciplines. Mathematicians could not even imagine that their very complex ideas could be demonstrated and drawn by a machine. Computer graphics, which is an integral part of world technology, is emerging along with exposure. Previously, the beginning was a "vector" drawing, that is, the point was calculated on the screen or on paper. For example, a graphic view of a circle, straight line, or other more complex drawing.

Advances in computer engineering and technology have made it possible to create a structure of drawing objects. To clarify this issue, we need to understand the word "graphic object" - that is, the object of drawing.

A graphic object is the drawing itself or part of it. Depending on the type of computer drawing (raster drawing) - pixels or splines, and (in vector drawing) - vector objects - circles, squares, straight lines, curves, etc.

RESULT:

The information appears in the form of a graph on the monitor it was on a large computer set up for scientific and military research in the mid-1950s. An interface that has become the standard for all applications, from operating systems. Data plot programming is a key part of computer software. There is a special department in computer science, which studies the creation and processing of computer drawings, hardware and programming complexes. It encompasses all kinds of images that a person can imagine and perceive, be it a hox monitor or a movie screen, paper, film, fabric, and so on.

Transformation of information into visual form (visualization) is used in various areas of human activity. For example, in medicine (computer tomography), scientific research (creation of visual forms of substances, vector fields, etc.), modeling of fabrics and clothing, design research. Depending on the method of organizing the images - they are divided into raster or vector drawings.

In contrast, in the three-dimensional, that is, in the virtual field, there is a direction that studies the image, which can show the object, the image in all directions. Three-dimensional imaging includes both vector and raster directions. When it comes to color, it has the concepts of black and white and color graphics. When adapting to the specialty, it is divided into the following sections: engineering drawings, scientific graphics, Web graphics, computer tomography and others. Based on the combination of computer, television and film technology, a new territory has emerged, namely computer graphics and animation.

In the early computers, they were not able to work with drawings, but they were able to receive and process drawings. In the first matrix computers, it was only possible to see the shape of the pattern.

In 1963, American scientist Ivan Sutherland created a software hardware complex and named it *Sketchpad*. He used a digital pen to draw dots, lines, and circles on the screen. Primitive actions: copying, moving, and so on. In fact, it was the first vector editor available from a computer. It can also be called the first graphical interface of the program, even though it was in fact before this concept emerged.

In the mid-60s, computer graphics appeared in manufacturing industries. Under the leadership of T. Mofett and N. Taylor, the first electronic drawing machine was developed by Itek. In 1964, General Motors, along with IBM, introduced the DAC-1 automated design system.

In 1968, a group led by NN Konstantinov created a model of a mathematical movement of a cat on a computer. The

BESM-4 machine program drew a cartoon called "Kitten" by solving the differential equations, and it was a big step for its time. The drawing was drawn on paper using an alphanumeric printer. A huge breakthrough for computer graphics came with the ability to maintain this shape and then display it on the screen.

Computer graphics began to be widely used, especially in artistic decorations. Using the simplest graphic editors, it will be possible to create images of two-dimensional objects. More sophisticated editors use many special effects. Even people who are far from artistic decoration can create simple pictures very quickly. Currently, exhibitions of works of art are being organized. Although most works are created by hand, their sketches are created in computer graphics. Such graphics packages include: Painter (Fractal Design), Adobe Photoshop (Adobe Systems Inc.), Adobe Illustrator (Adobe Systems Inc.), CorelDRAW (Corel Corp.). Computers are becoming an ideal tool for creating animated products. The labor of the multipliers became easier, and their labor began to take on a creative character. Computer graphics in particular are being used very effectively in creating three-dimensional animated videos.

CONCLUSION:

The application of computer graphics is evolving. However, computer graphics are being used intensively in book graphics and polygraphic decorations. Computer graphics methods are widely used in industry. For example, designers who define the appearance of newly produced goods use wordless computer graphics in their work. In business, computer graphics tools are used in two ways: in the corporate style of the firm and in advertising. Modern media organize their work mainly on the basis of computer graphics.

In cinematography, computer graphics are widely used in animation work. Faster computer graphics than other industries are being used intensively in computer games. Computer graphics are used effectively, especially when creating Web pages, because the level of attractiveness of the page is very important.

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