COMPUTER GRAPHICS - A MODERN DIRECTION OF THE PEDAGOGICAL EDUCATIONAL PROCESS

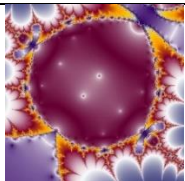Bagbekova Laylo Kadirbergenovna

TSPU after named Nizami.

Today, with the development of the computer industry, its various directions are emerging. Computer graphics is one of them.

In our daily lives, computer graphics are used in various books, notebooks and magazine covers, advertising banners on the sidewalks and on the roofs of buildings, various movies, clips, shows and beautiful images on the Internet. we can see.

Computer graphics - these models and images are created using a computer is a direction that can be made, stored and processed.

This means that a computer can represent a variety of information in the form of pictures, drawings and shapes.

Types of computer graphics

	Rastr	Vector	Fractal	Three-dimensional
Description				

In raster graphics, images consist of a set of colored dots. Hence, the main element of raster graphics is the point. These dots are called pixels. The greater the number of dots in an image, the higher the quality and brightness of the created image, shape, drawing, etc.

Advantages:

- be able to save any image;

- image quality;

- almost all devices can work with it.

Disadvantages:

- the need for a large amount of memory to store the image created in raster graphics;

- requires a lot of work to edit raster images;

- decreased image quality when zooming in or out;

Vector images are a collection of geometric objects that are more complex in structure and have different shapes. Examples of such objects are rectangles, circles, ellipses, polygons, sections, and lines. In vector graphics, the main element of the image is the line.

Vector graphics are widely used in the creation of drawings, animations.

Advantages:

- No matter how much you resize the image, its quality does not change at all;

- Editing vector images does not require much effort and time;

- Vector graphics take up less memory if raster objects are not used in the image.

Disadvantages:

- vector images appear artificial;

- Colors are less complex than raster graphics.

Fractals are forms that consist of similar parts.

Fractal graphics are commonly used to model and analyze various processes, and to create a variety of interesting applications, especially game applications.

Advantages:

- the ability to create fantastic images in fractal graphics;

- can be used in modeling real events and processes;

- Ability to create a variety of software and video games.

Disadvantages:

- knowledge of different programming languages (C, Delphi, Pascal, etc.) in fractal graphics is required;

- the difficulty of predicting the result, because the fractal graphics work exactly in the programming process;

The field that studies how to create three-dimensional objects in a virtual entity is called three-dimensional (3D) graphics. We usually think of three-dimensional graphics as movies and animations. However, along with a variety of animations from three-dimensional graphics, computer games, cartoons,

commercials, engineering projects, computer object modeling, architecture, videos, creating virtual reality, and even creating street posters also widely used.

Advantages:

- easy to create projects in engineering and architecture in three-dimensional graphics;

- allows you to see the created objects from all sides;

- has a great ability to make animated videos;

Disadvantages:

- requires a lot of memory to create an image in three-dimensional graphics;

- requires a lot of time and effort to edit three-dimensional images;

- requires high quality computer performance;

- high CPU speed;

- Images created in three-dimensional graphics can be printed only on special 3D printers.

Computer graphics is divided into the following areas:

1. **Scientific graphics.** Used to describe scientific research and its results

2. **Commercial graphics.** It helps to show economic indicators and processes clearly.

3. **Design graphics.** Provides simplification, improvement, acceleration and automation of design work in economics, engineering, construction and other fields.

4. **Animated graphics** – the movement of created models in different views

5. **Illustrative graphics.** Used for decoration in various areas of service.

6. **Artistic graphics.** Widely used in the creation of works of art.

7.   Demonstration graphics – serves to create a machine image of documents such as text, diagrams, sketches and prepare it for presentation

8.   Engineering graphics – such graphics are widely used in the automation of drawing, design and construction work

In computer graphics, special software allows you to draw on a computer screen with a mouse, that is, to create, edit, and move images, just as you would draw a picture on a sheet of white paper with a pen or pencil. These programs are drawing programs or graphic editors that control the elements of an image. The rapid development of computer graphics and the updating of its hardware and software require constant improvement of this course, the constant study of new directions in this field.

In conclusion, the function of computer graphics is to effectively and meaningfully represent art and visual expression to the user and to process an object from a moving world. With the help of computer graphics, it is easy to understand the computer and interact with it to create a fantastic image.

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"FILOLOGIYA VA TILLARNI O'QITISH" TA'LIM YO'NALISHI TALABALARNI RAQAMLI TEXNOLOGIYALARDAN FOYDALANISH KO'NIKMALARINI RIVOJLANTIRISH METODIKASI

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Ta'limda axborot texnologiyalari" fanida to'ldirilgan reallik texnologiyasini o'rganish obyekti va o'qitish vositasi sifatida qo'llanilishi ushbu fanni o'qitishning metodik tizimini takomillashtirish imkonini beradi.

To'ldirilagn reallik texnologiyasining o'ziga xos xususiyatlarini tahlil qilish, ta'lim tizimida, xususan, "Ta'limda axborot texnologiyalari" fanida qo'llanilishning to'rtta usulini aniqlash imkonini beradi. Ushbu usullarni "Ta'limda axborot texnologiyalari" fani amaliy mashg'ulotlarning ma'lum bir mavzular doirasida ko'rib chiqamiz.

1. Virtual obyektlarni real obyektlar bilan almashtirish usuli.

Bu usul ikkita bosqichga ajratilgan. Birinchi bosqichda talabalar berilgan topshiriqni bajarish uchun to'ldirilgan reallik texnologiyasiga murojaat qilishadi, ya'ni virtual obyektlarni vizual siljitish orqali amalga oshiriladi. Ikkinchi bosqichda esa, talabalarning amaliy ko'nikmalarin rivojlantirish maqsadida berilgan topshiriqni real obyektlar asosida bajarishadi.