



Graphic Information Processing Technology and its Importance

Shirinboy Sharofovich Olimov, Dilfuza Islomovna Mamurova

Bukhara State University

Abstract: *The very rapid development of information and communication technologies and the means of their implementation predetermines the formation of the information society. Working with computer graphics in computer technology is becoming one of the most popular areas. Even professional artists and designers are engaged in this direction. It is important for any professional to get acquainted with computer graphics and their types, as well as to improve their skills.*

Key words: *Computer, engine, development, information technology, computer graphics, popular, artist, designer, specialist, video projector, Adobe Photoshop, Corel Draw, software*

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The very rapid development of modern information and communication technologies and the means of their implementation predetermines the formation of the information society. In such a society, the vast majority of people working in all spheres of human activity are engaged in the development, storage, processing of information and its highest form, the dissemination of knowledge. So, in order for today's students to become mature professionals who can meet the requirements of the time, to teach them the subjects of "Computer Graphics and Web Design", "Fundamentals of the Internet", etc. - is a requirement of the time.

Scientists of Higher and Secondary Special Education of the Republic of Uzbekistan A.A. Textbooks, manuals of Aripov, S.Gulamov, S.Kasimov, A.Abdukodirov, F.Zokirova, S.Rahmonkulova, A.Abduganiev, etc. scientific and pedagogical experiments and new advanced teachings of new pedagogical technologies.

One of the main tasks of higher education institutions is to train qualified specialists with in-depth theoretical knowledge and solid practical experience in their field. The quality of training of specialists must be constantly improved, taking into account the requirements of modern production, science and technology, as well as the prospects for their future development.

The key issue that needs to be addressed today is the pedagogical expediency of using information technology for teaching, which connects all the key functions of higher education institutions and defines approaches to professional development. In this regard, it is necessary to consider the creation of new forms of organization of the educational process, including the learning process, and the use of fundamentally new tools and technologies of teaching.

The new information and communication technology is characterized by the environment in which it is implemented and the components that make it up:

➤ technical environment (type of equipment used to solve basic problems);

- software environment (software package for anyone);
- subject environment (science, technology, the content of a specific subject area of knowledge);
- methodological environment (instructions, instructions for use, performance appraisal, etc.).

Computer technology as an effective method and tool of cognition that enhances human mental capacity is fundamental to the development of all areas of knowledge and activities and is aimed at changing human practice and life, penetration into all aspects of human activity, education Working with computer graphics is becoming one of the most popular areas in modern computer technology. Nowadays, even professional artists and designers are engaged in this direction.

Computer graphics is one of the most popular areas of computer use. No modern multimedia program can work without computer graphics.

Many editorial and publishing work in the editorial office and publishing houses is carried out through graphics programs. With the development of the Internet, graphics programs began to be widely used.

Computer Graphics - In Computer Management is the insertion, output, display, modification, and editing of graphic objects.

The use of computer graphics and animation tools can be divided into the following groups according to the field of application:

- computer graphics programs for printing;
- two-dimensional color image computer graphics;
- programs for presentations;
- two-dimensional and three-dimensional animation programs;
- video processing complexes;
- Software for scientific visualization.

Types of computer graphics, color models.

Currently, computer graphics are studied mainly in three types:

- raster graphics;
- vector graphics;
- fractal graphics.

The main difference between them is the way light passes through the display screen. They also differ from each other in that they are displayed on a monitor screen and printed on paper.

In vector devices with memorized electron-beam tubes, the light travels once along a given trajectory, and its trace is retained on the screen until the next command is given. The main element of vector graphics is the line. Vector graphics software is primarily designed to create images. Examples of vector graphics editors include Adobe Illustrator, Corel Draw, and Macromedia Flash. The images processed in these software tools consist of the coordinates of the points and the formulas of the lines and vectors passing through these points. Images created in vector graphics are used to create logos, illustrations and screensavers.

Vector graphics allow you to use fonts and simple geometric elements. In this case, the main element of the image is the line.

Raster (dot) graphics are flat geometric shapes represented by a set of dots (pixels) of the same size and cells. Many graphics editors designed to work with raster images are primarily designed for image processing. Examples of raster graphics editors are Adobe Photoshop and Paint.

Fractal graphics are computational graphics. The image is constructed based on the formula.

The formula is stored in computer memory, not the image. With its help you can get an infinite variety of images. Examples of software tools that work with fractal graphics include Math Cad, Math Lab, and Maple.

Graphic formats:

GIF (Graphics Interchange Format) is the most common graphic format on the Internet, the first to appear on the Internet. Most of the color images and backgrounds on the Internet are GIF files.

The JPEG (Joint Photographic Experts Group) graphic format is designed to use multi-color image files on a network and is the second most commonly used graphic format.

PNG graphics format is a specially designed compression format for placing images and graphics on Web pages and uses the Deflate compression algorithm.

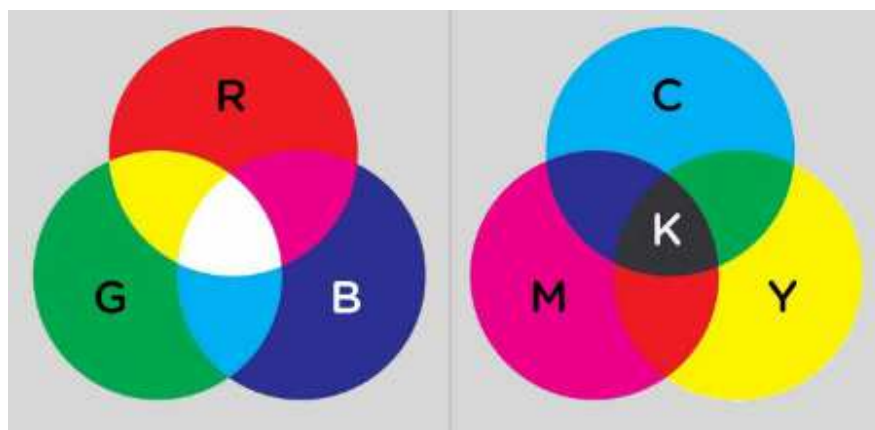
The TIF graphic format was developed by Aldus for Photo Style and stands for "tag image file". Although this graphic format is complex enough, its structure makes it easy to write data and has great potential for image expansion.

PCX graphics format is developed by Z soft and is used in Paintbrush, as well as Photo Finish. Although the structure of this graphic file is simple and the colors are limited by the size of the palette, it has been popular until recently.

The BMP graphics format was developed by Microsoft for the Windows operating system. It represents an extraordinarily simple structure and serves to explain the display of small pictograms.

Color models. Color models are a way to extract and display colors. The most widely used color models: RGB (red, blue, blue) are used to display images on monitors, CMYK (blue, purple, yellow, black) is used in printing. Also Bitmap (two colors), Grayscale (gray mode), Duotone, Indexed Color (indexed colors), Lab and Multichannel (multi-channel).

The name of the RGB model is derived from the initials of the primary colors R - red, G - green, and B - blue, and various other colors of the visible spectrum can be obtained by mixing these colors in proportions. The mixture of primary colors yields secondary blue (cyan), pink (magenta) and yellow (yellow) colors.



CMYK (blue, purple, yellow, black)

The image is saved in blue, purple, yellow and black, as well as in their appearance. Mainly used in image printing on printers.

Colors come from a mixture of blue (Cyan), pink (Magenta) and yellow (Yellow) colors. From their complete mixture, a black color is formed. The components of the model can take values from 0 to 100.

In short, there are many types of graphics programs, and they have a wide range of functions. Learning to design using software for young people working on any computer will give students the skills to learn the secrets of comprehensive development graphics programs, page creation, information processing and storage, graphic creation and document creation.

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