

SEPARATE CLASSIFICATION OF COMPUTER GRAPHICS

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This article focuses on the types of computer graphics, classification, main function and areas of application as well as computer graphics concepts.

Key words:

Custom explication, computer graphics, explication, ideographic explication, graphics, geometric explication, vector graphics, raster graphics, information, graphic representation, fractal graphics.

In accordance with the decree of the Cabinet of Ministers of the Republic of Uzbekistan “on measures for further development of computerization and introduction of information and communication technologies”[1]on the execution of the decree of the Cabinet of Ministers of the Republic of Uzbekistan № PF-3080 dated May 30, 2002, a lot of practical work is being carried out. Many projects are being implemented. And this, in turn, is the main criterion for the formation of knowledge and skills of the younger generation, raising their scientific potential.

Therefore, many researches and discoveries related to this field are being created in our country. Giving information a fresh look, their creation and analysis is one of the most pressing issues of today. Computer graphics has also penetrated all aspects of our lives and has become an integral part of various fields, and is now being studied as a specific field. Research in this area is rapidly developing and many positive results are achieved. As we live in the age of information technology, it is one of the issues that we are facing to create new opportunities for the user, to facilitate the creation of information processing technologies, to improve their quality.

Modern computer graphics are called computational graphics. Its basis is vector graphics. And on the basis of vector graphics lies a mathematical representation of the properties of geometrical figures. As we have already noted, the simplest object of vector graphics is the line. Therefore, on the basis of vector graphics, the idea of mathematical expression of a straight line lies. Below we will consider several views of the line.

Straight and curved line cuts (closed and open lines) constitute the main content of polygonal images, obtained by means of many jointing and splitting, skeleting, contour drawing, etc. It is enough to give as a rule the points in the curved sphere go away when solving some practical issues in the field of image processing, analysis and acquaintance, and for some it is necessary to give their mathematical expression. In the next method, the Giving of the image will be much more compact. A discrete curved line is constructed in two ways in a mathematical way, the construction of a curved line passing through given points leads to the question of interpretation, the construction of a pass through near the points. Usually both are called the construction of a curved line according to the given points or the description of curved lines.

Solving interpolation issues is lighter from a mathematical point of view, but in the process of solving many issues, it is more expedient to approximate, because the information being processed is distorted in the influence of interference. Determining the set of points used during the selection of one of these methods in an interactive (exposure and method of direct communication with the program) way and constructing a straight line passing near those points will serve them as a developer solution. Often in the construction of curved lines mathematical expression (function) makes the selection plays a decisive role. The very first thing that comes to mind when thinking about this is that even if there are many, usually their use in solving many of their issues does not give a good result. Common methods of constructing curved lines it is from methods that use different sectional-polynomial functions. Particular attention should also be paid to the selection of criteria for assessing the quality of approximation when addressing the issues of approximation. The distance from the point to the curve is a good criterion, but often requires a complex calculation. The main goal is to choose the most suitable path between desire and reality.

The interest in computer images is explained by the fact that they contain a very large amount of data storage: there is an opportunity to display images clearly, for their organization, special knowledge in the field of information technology is not required. The process of drawing up drawings that represent a rational imagination and a set of values is called charting, the result of which is called – charting. Graphics are divided into two elements: graphic appearance and exploitation[2].

Graphic appearance - is a collection of drawings, which are understood together with their interrelation.

Exploit - a set of conditional characters that reveal the essence of the graphic image. The graphic image can be in the form of a symbol, a geometrical figure.

Graphic exploitation is divided into three parts: geometrical, ideological and privatized.

Ideological exploitation - understand the meaning of conditional signs, figurehead, linear, background, breast meattiradi, these conditional signs give a clear meaning to the elements of the graph.

Geometrical exploitation is coordinate axes, scalars, massifs. With the help of them, the geometrical image acquires geometric properties, since with the help of these tools, the properties of the geometrical surfaces are used.

Currently, the areas of application of computer graphics have become much wider, that is, the possibilities of its wide application have emerged. As a result, computer graphics activities have become a tool for the work of professionals who are not related to programming and computer engineering. One of the new directions of computer graphics will be devoted to the development of the styles and themes of the formation of real images.

Computer graphics are divided into three types: rastrian (dotted or pixel) graphics, vector (object) graphics and Fractal graphics. They differ from each other in that they can be depicted on the monitor screen and printed on paper.

Restful graphics. On a rastrian graph, the image is formed using dots(on paper), pixels (dots are called so on the screen). Naturally, the greater the number of points (the denser they are placed), the more clearly the figure, shape, graphics, etc.based on it. In this regard, the concept of screen resolution is introduced, in which the number of points in the horizontal and vertical directions is of great importance, and it is called the screen resolution capacity.

Vector graphics. In vector graphics, a line is considered as the main element of the image. As a line, a straight line or a curved line can be obtained. In a rastrian graph, such lines are created with the help of points (RICS), while in a vector graph, when creating images, lines that are more general than points are used, and therefore, on the account, the images will have a more accurate view.

Fractal graphics is also a computational graphics, its difference from vector graphics is that no objects in it are stored in computer memory. Because the images are formed in equations or their systems. Therefore, in memory, equations are stored only. As a result of changing parameters related to equations, different images are formed.

Fractal graphics are used for automatic creation of images based on mathematical calculations. Therefore, as its basis, the programming method for creating images, shapes, images was chosen.

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