SPECIFIC FEATURES OF VECTOR GRAPHICS.

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Annotation
This article provides information about the concept of vector graphics, its applications, vector graphics editors, their use and capabilities.

Keywords: vector graphics, computer graphics, line drawing, dot image, mathematical formula, Adobe artist, Corel Draw, Adobe Recorline, toolbar, object, graphic editor.

Vector images are a collection of geometric objects that are more complex in structure and have different shapes. Examples of such objects are right angles, circles, ellipses, polygons, intersections, and lines. One of the characteristic features of vector graphics is that it has control operators that allow you to change the appearance of each object. Unlike point images, vector images can have an arbitrary internal structure. The main element in vector graphics is the line.

At the heart of vector graphics is a mathematical idea of the properties of geometric figures. The mathematical foundations of vector graphics are points, straight lines, cross-sections, and second- and third-order curves. The point is defined by two numbers (x, y) in the plane. The straight line is defined by the equation $y = ax + b$, which has two parameters. If this straight line is bounded by two x1 and x2 coordinates on the x-axis, it defines the intersection. Examples of second-order curves are parabolas, hyperbolas, ellipses, and circles. This second-order curve equation is generally as follows:

$X2+a1y2+a2xy+a3x+a4y+a5=0$.

Working with vector images on a computer is much easier than working with dot images. Nowadays, applications that create vector images form the basis of machine graphics.

The concept of computer graphics now encompasses a wide range of fields, from simple graphics to the creation of a variety of images in real life, and even the creation of new projects related to the image with the help of software to decorate them. Computer graphics is a widely used software, and computer graphics is based on existing and newly created software. Working with computer graphics is becoming the most popular program in modern computer technology. Even professional artists and designers are now working in this direction.

Vector graphics editors

ADOBE ARTIST - this collection allows you to create, process and edit vector graphics. This is equivalent to an Adobe Photoshop editor: compatible with the same filters and effects, allowing you to combine the same filters and effects, such as CDR (COREL DRAW).

COREL DRAW is, of course, such a well-known graphics package that does not require funds to process vector graphics. The package in the package is almost no less than the graphics editors Adobe Photoshop and Adobe Picturator. In addition to processing vector graphics, the package includes a large collection of raster graphics tools (photo paint), font editor, as well as a state editor, as well as image creation (correlation).

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ADOBE RECORLINE is another product of Adobe that is designed to search for raster graphics (Translation) in a vector. It is a small but very useful and powerful product. It is very useful if you create web pages using vector graphics like Flash technology.

Corel Draw software and its capabilities

In the vector method of encoding, geometric abstracts such as geometric shapes, curves and straight lines, circles, squares, ellipses, partial images are stored in computer memory as mathematical-vertical formulas. For example, to encode a circle shape, it does not have to be in the form of individual pixels. Its radius, center point coordinates, and color will suffice to be remembered. For a rectangle, the length, location, and color of its sides must be memorized. Different shapes can be interpreted using mathematical formulas.

The working window of CorelDRAW 10 is similar to the window of other graphics editors. When you start CorelDRAW 10, the program's initial dialog box appears on the screen. It is also possible to cancel this mode in advance. This is done by removing the flag from the Show this Welcome Screen at startup bar. First, let's look at how to configure program operation. If the working window does not occupy the full screen, click the spread button in the program title. As a result, the working window is created in full screen, which makes it easier to work with CorelDRAW 10.

Let's get acquainted with the main elements of the working window of the CorelDRAW 10 vector graphics editor: window title, menu, toolbar. Like other programs running in the Windows environment, the window has a window title and menu at the top. In CorelDRAW 10, the ability to change the interface has been expanded.

COREL DRAW is a program for creating and editing new graphics for vector graphics running on the WINDOWS operating system. It can be used to design various graphic images, work on photomatics, images, and especially to edit compositions in artistic form. To launch the COREL DRAW editor, go to the COREL DRAW icon and press the "mouse" or ENTER key. This will open the COREL DRAW editor window, as with all Windows windows.

The basic technological principle of Corel Draw is to work with objects.

An object is a concept that allows you to perform various tasks. The user has to do all the work on the objects during the operation.

You can do the following with objects: A) Mark B) Delete C) Copy and paste. D) Mark multiple objects. E) Zoom in and out. F) Move the object. G) Remove the mark.

There are several ways to do this. We will stop at only one. To create objects, use the Toolbar in the left corner of the screen.

To select an object in a document, hover the mouse over the object and left-click once. As a result, the object is defined. You can define arbitrary objects using this method. To combine multiple objects, that is, to group, there are first, these objects are marked. To select all objects, the objects are selected one by one with the Shift key pressed on the keyboard.

On objects, however, more complex tasks can only be performed with Corel Draw. You can use the menu, keyboard, mouse, "Toolbar" to do this. It's up to the user to choose which method is best for them. Here are just a few of the most popular ones. To create objects in Corel Draw, as mentioned above, use the "Toolbar" on the right side of the window.

Let's go to the equipment in the toolbar. Because these devices not only create an object, or give the object interior and exterior colors, but using the additional capabilities of this equipment, we are able to perform different tasks on the selected objects. "Toolbar" consists of the following tools: (Pick Tool) - object selection. (Shape Tool-F10) - allows you to perform various tasks on the object (cut, erase, compress). This button contains additional buttons. (Hold down the left mouse button and the commands will be displayed, the desired one will be selected. The one inside the toolbar will be selected.)

(Zoom) - allows you to change the scale. However, this button has another additional function, which is that if button 2 is selected, this button allows us to change the position of the page on the screen. (left button pressed)

Using the row at the top of the window, you can perform various actions on the selected object.

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