



СЕВАСТОПОЛЬСКИЙ
ГОСУДАРСТВЕННЫЙ
УНИВЕРСИТЕТ

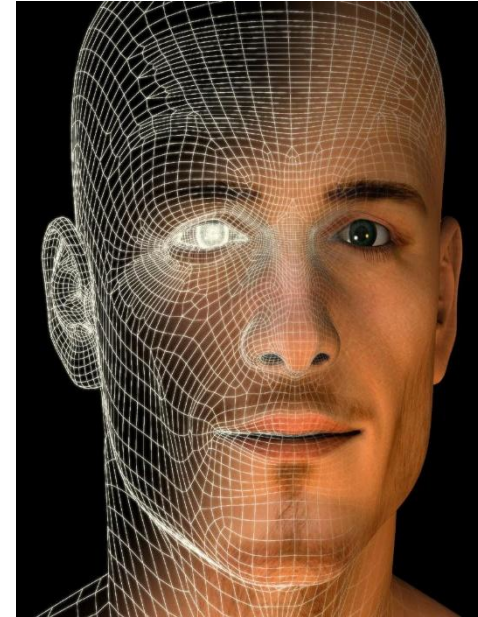
GRAPHICS AND DESIGN

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Computer graphics

are graphics created using computers and, more generally, the representation and manipulation of pictorial data by a computer.

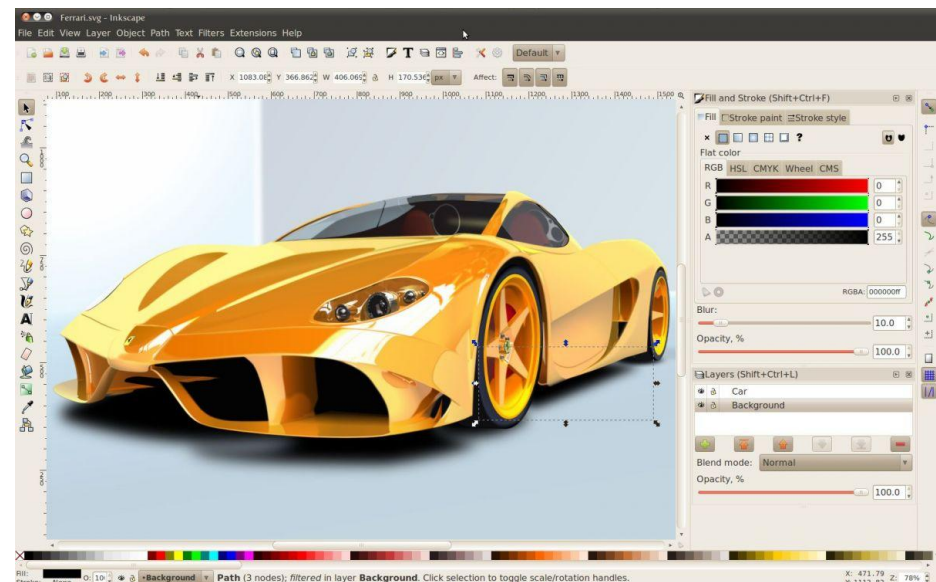
Developments in computer graphics have had a profound impact on many types of media and have revolutionized the animation and video game industry.



Computer graphics

In computer graphics, graphics software or image editing software is a program or collection of programs that enable a person to manipulate visual images on a computer.

Computer graphics can be classified into two distinct categories: raster graphics and vector graphics.



Raster graphics

A raster graphics image or bitmap is a data structure representing a generally rectangular grid of pixels, or points of color, viewable via a monitor, paper, or other display medium. Raster images are stored in image files with varying formats.

A bitmap is technically characterized by the width and height of the image in pixels and by the number of bits per pixel(color depth, which determines the number of colors it can represent).

Raster graphics are resolution dependent. They cannot scale up to an arbitrary resolution without loss of apparent quality.



Vector graphics

Is the use of geometrical primitives such as points, lines, curves, and shapes or polygon(s), which are all based on mathematical equations, to represent images in computer graphics.

the quality of the image is only determined by the resolution of the display, and the file size of vector data generating the image stays the same.



Types of graphics software

There are different types of graphics software.

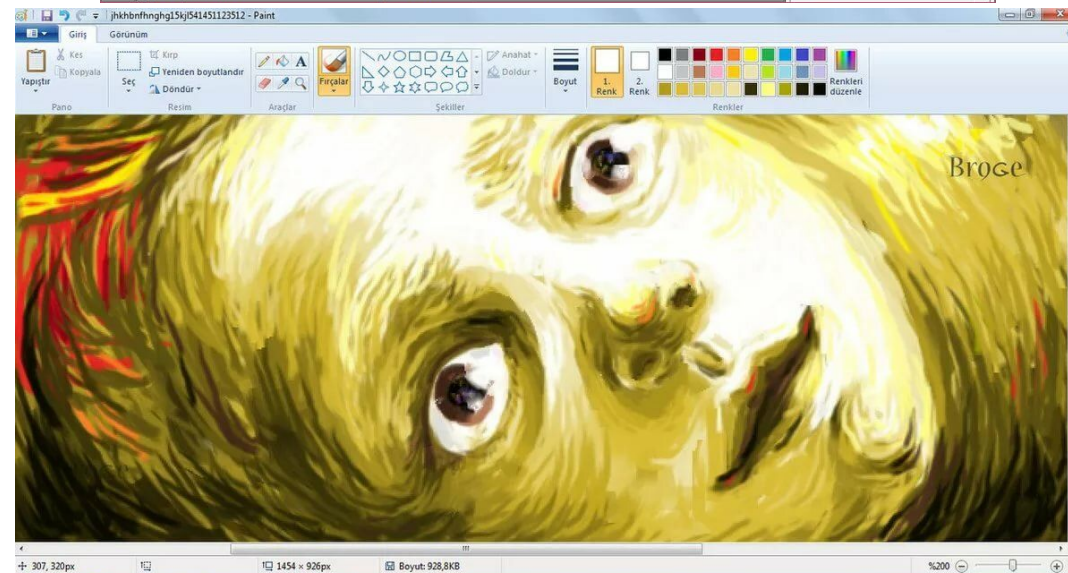
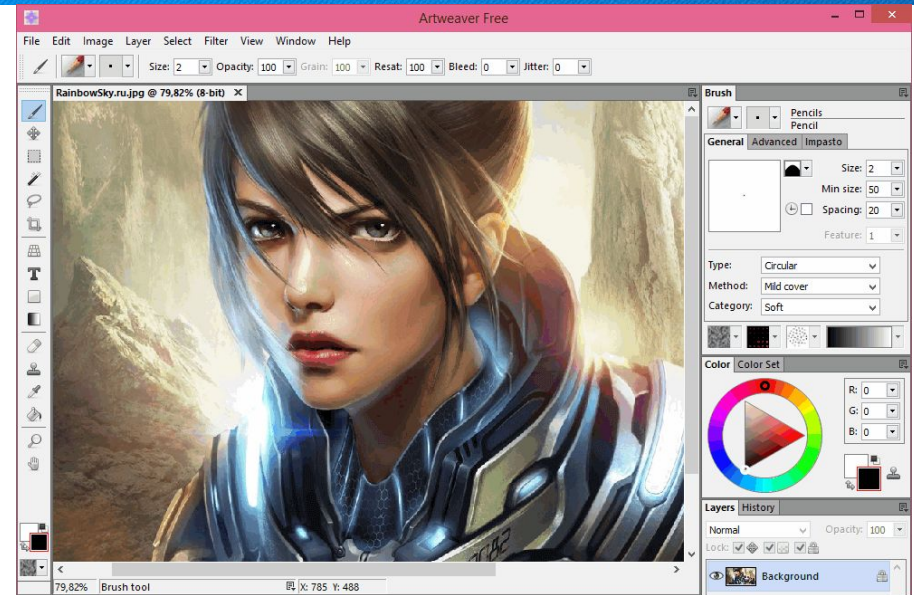
Image manipulation programs let you edit your favourite images. In digital editing, photographs are usually taken with a digital camera and input directly into a computer.

Image editing software gives an opportunity to add different effects, or filters and warp an image until the desired result is achieved.



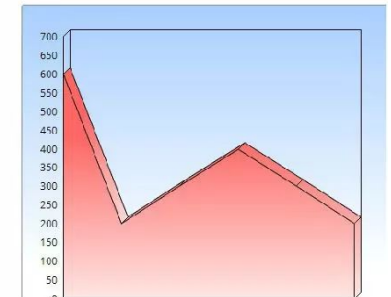
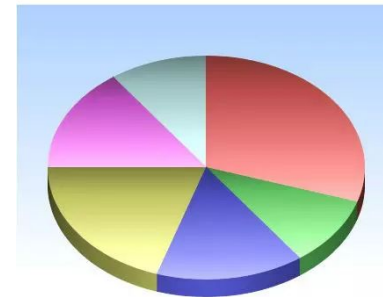
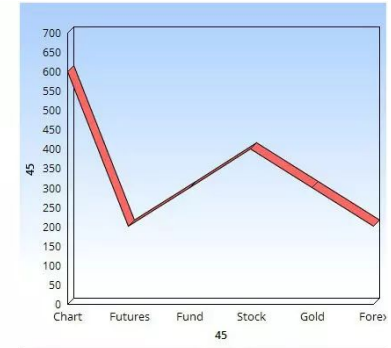
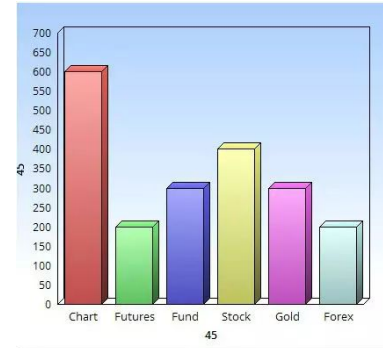
Types of graphics software

Painting and drawing programs, also called illustration packages, offer facilities for freehand drawing, with a wide choice of pens and brushes, colours and patterns. One example is Windows Paint.



Types of graphics software

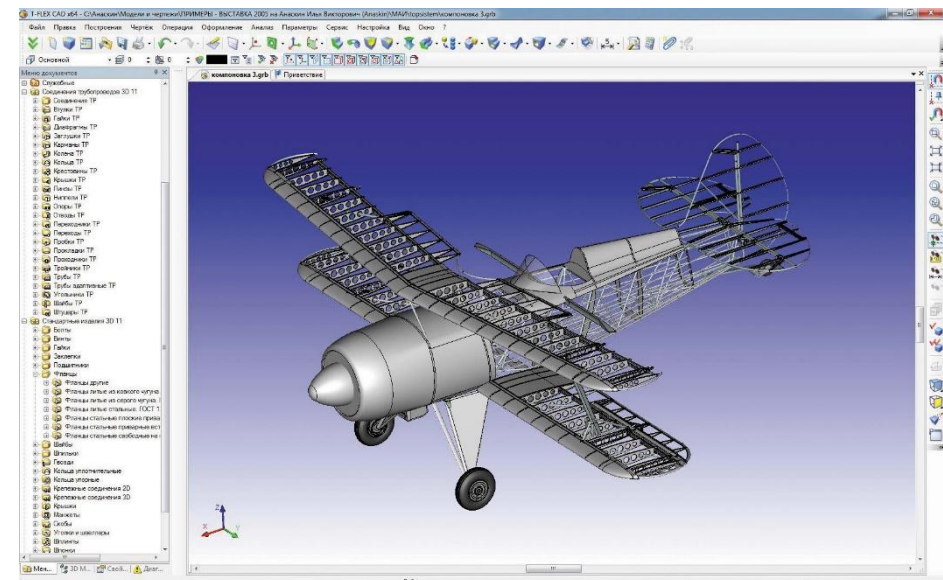
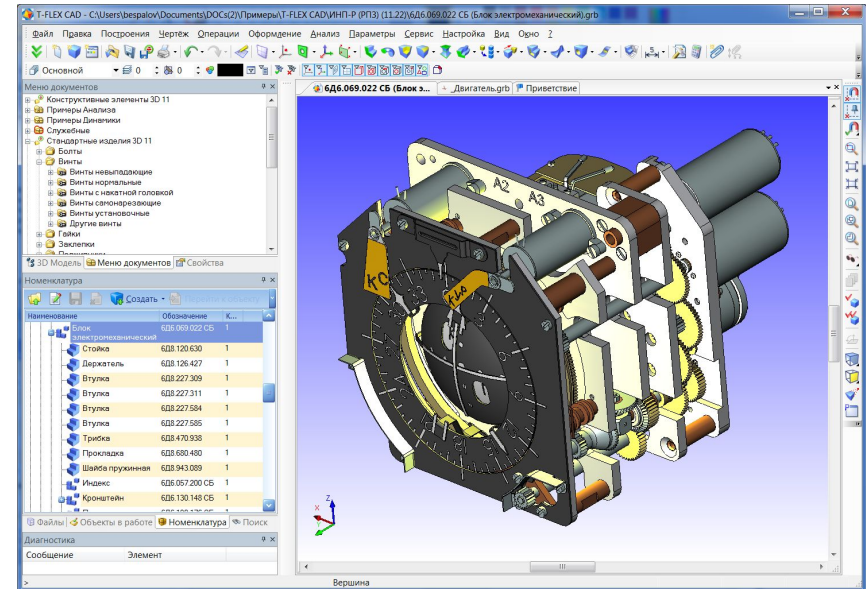
Business graphics programs, also called presentation software, let you create pie charts, bar charts and line graphs of all kinds for slide shows and reports. You can import data from a database or spreadsheet to generate the graphs.



Types of graphics software

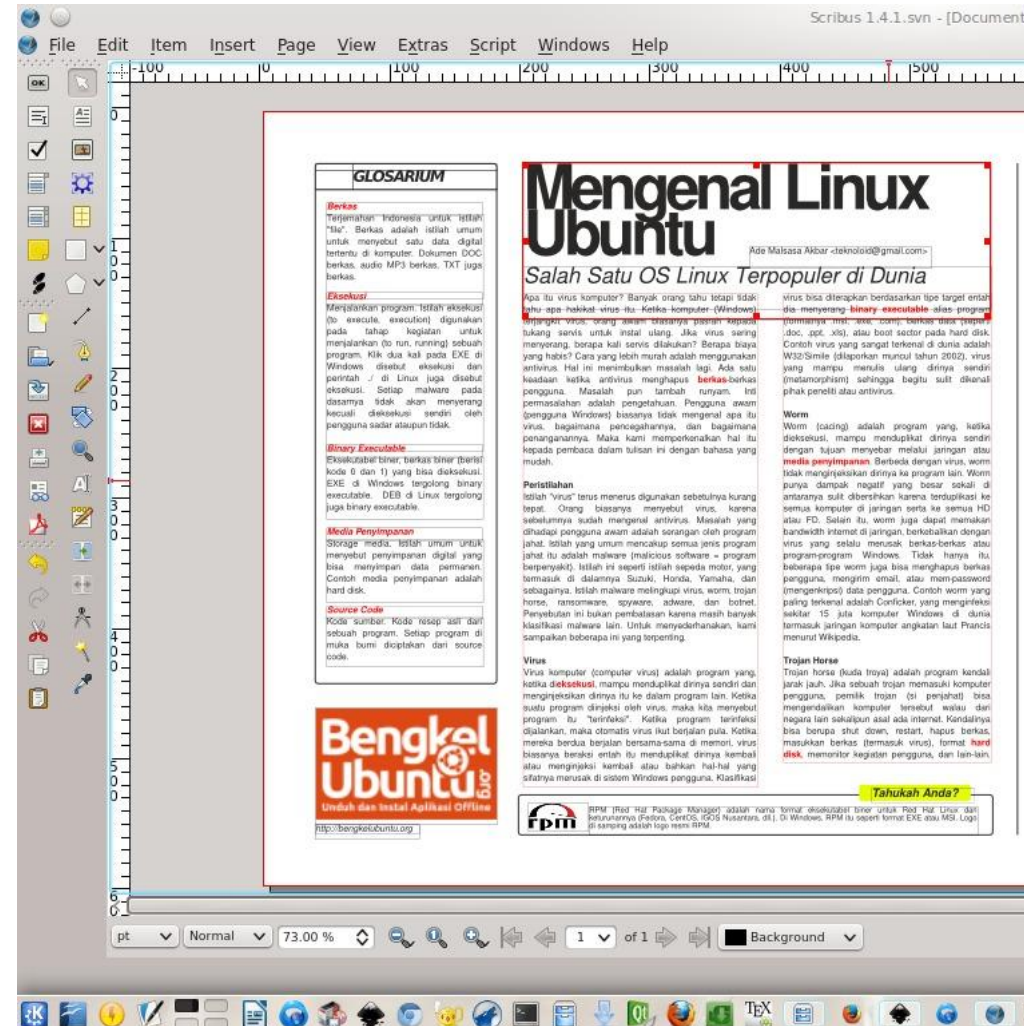
Computer-aided design (CAD) is the use of computer technology for the design of objects, real or virtual. CAD often involves more than just shapes. As in the manual drafting of technical and engineering drawings, the output of CAD often must convey also symbolic information such as materials, processes, dimensions, and tolerances, according to application-specific conventions.

CAD may be used to design curves and figures in two-dimensional ("2D") space; or curves, surfaces, or solids in three-dimensional ("3D") objects.



Types of graphics software

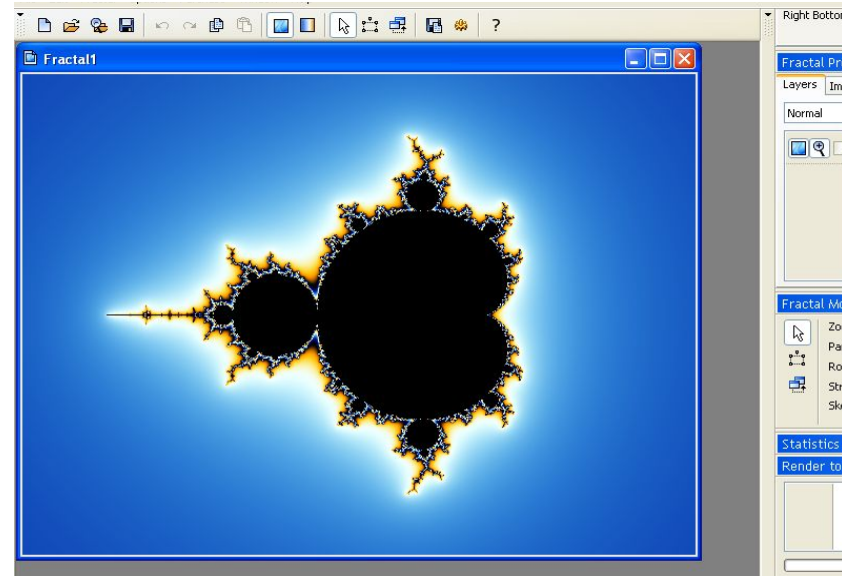
Desktop publishing (DTP) is based around a page layout program, which lets you import text from a word processor, clip-art (ready-made pictures) from graphics packages, and images from scanners or cameras, and arrange them all on a page. It is used to design and publish books, newspapers, posters, advertisements, etc.



Types of graphics software. Digital Art

More generally the term digital artist is used to describe an artist who makes use of digital technologies in the production of art.

Digital art, or computer art, is done with applets that use mathematical formulae to create beautiful bright shapes called fractals. A fractal is a geometrical figure with special properties. Fractals can also be used to model real objects like clouds, coastlines or landscapes.



Types of graphics software. Digital Art

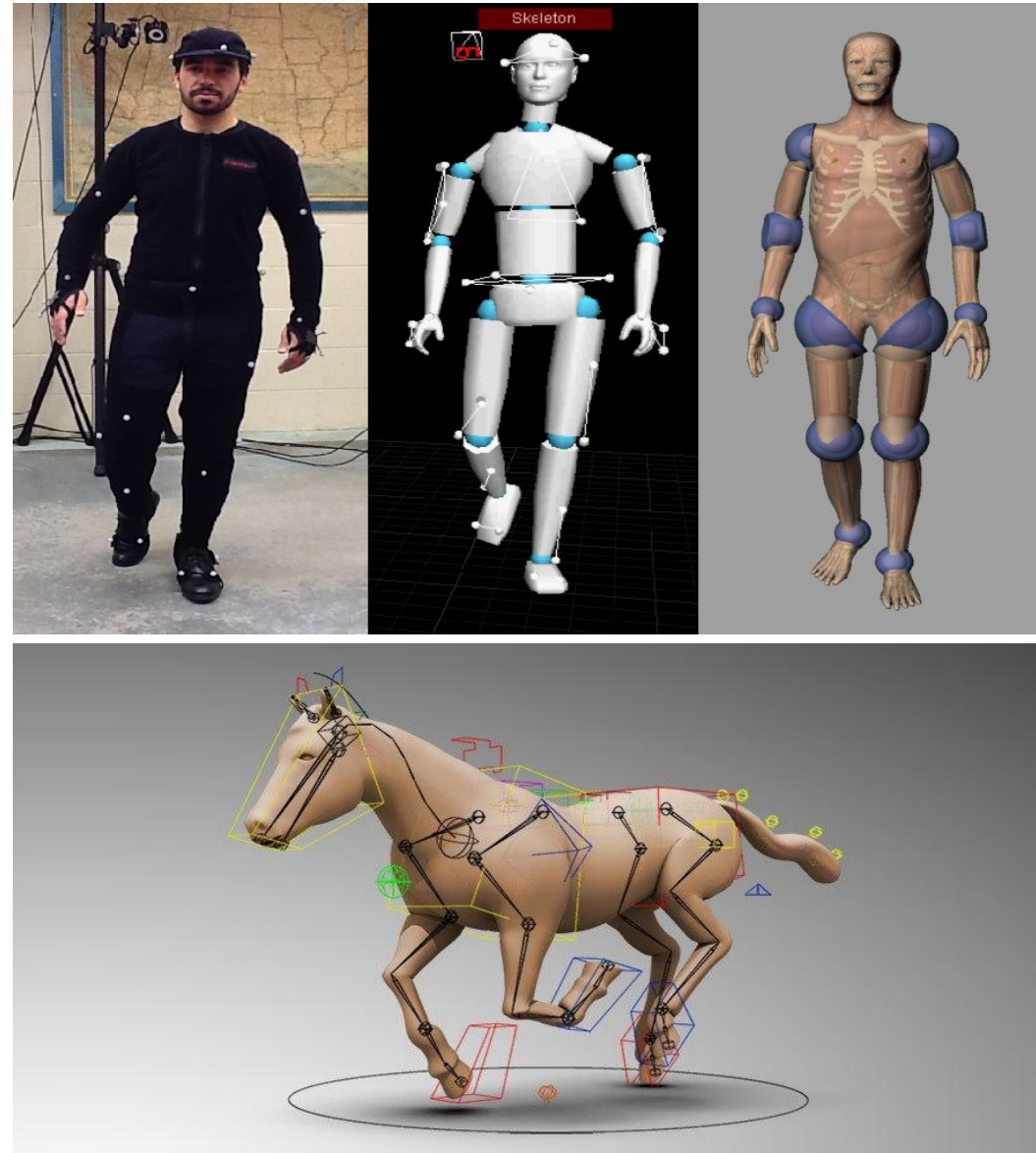
Computer animation (or CGI animation) is the art of creating moving images with the use of computers. It is a subfield of computer graphics and animation.

Sometimes the target of the animation is the computer itself, but sometimes the target is another medium, such as film. It is also referred to as CGI , especially when used in films.



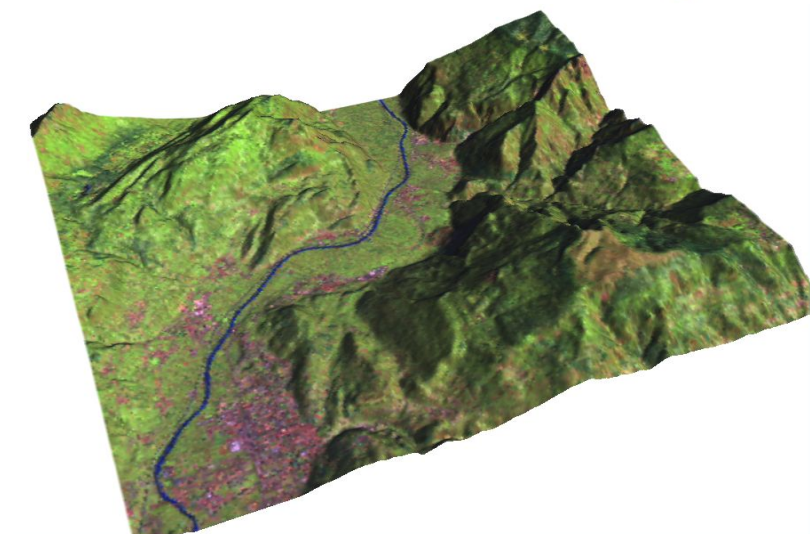
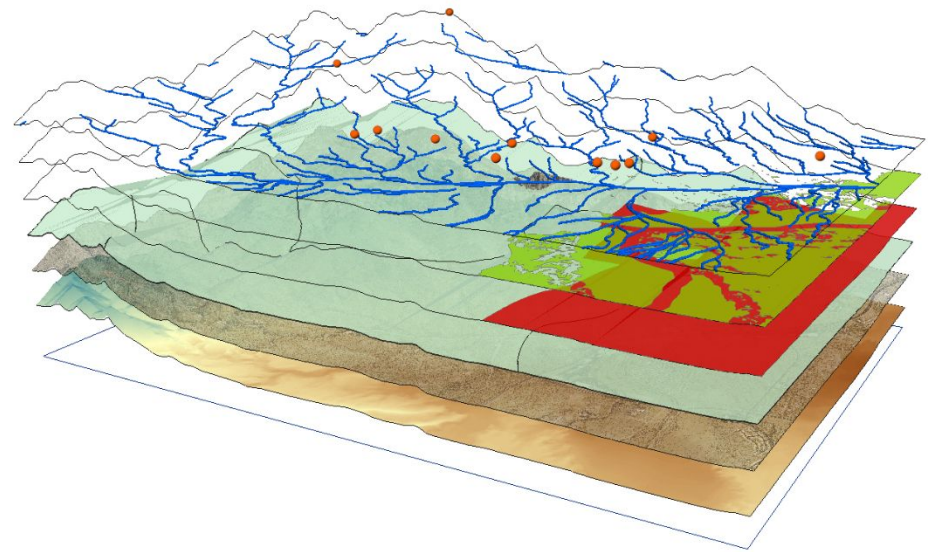
Types of graphics software. Digital Art

To create the illusion of movement, an image is displayed on the computer screen and repeatedly replaced by a new image that is similar to the previous image, but advanced slightly in the time domain (usually at a rate of 24 or 30 frames/second). Each image in a sequence of images is called a 'frame'. This technique is identical to how the illusion of movement is achieved with television and motion pictures.



Types of graphics software. Digital Art

Geographic information system (GIS), or geographical information system captures, stores, analyzes, manages, and presents data that is linked to location. Technically, a GIS is a system which includes mapping software and its application to remote sensing, land surveying, aerial photography, mathematics, photogrammetry, geography, and tools that can be implemented with GIS software.



THANKS FOR YOUR
ATTENTION