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COMPUTER GRAPHICS

Computer graphics is the discipline of generating images with the aid of computers. Today, computer graphics is a core technology in digital photography, film, video games, cell phone and computer displays, and many specialized applications. A great deal of specialized hardware and software has been developed, with the displays of most devices being driven by computer graphics hardware. It is a vast and recently developed area of computer science. The phrase was coined in 1960 by computer graphics researchers Verne Hudson and William Fetter of Boeing. It is often abbreviated as CG, or typically in the context of film as CGI. Computer graphics is responsible for displaying art and image data effectively and meaningfully to the consumer. It is also used for processing image data received from the physical world. Computer graphics development has had a significant impact on many types of media and has revolutionized animation, movies, advertising, video games, and graphic design in general.

The term computer graphics has been used in a broad sense to describe "almost everything on computers that is not text or sound". Typically, the term computer graphics refers to several different things:

- the representation and manipulation of image data by a computer
- the various technologies used to create and manipulate images
- the sub-field of computer science which studies methods for digitally synthesizing and manipulating visual content, see study of computer graphics

Today, computer graphics is widespread. Such imagery is found in and on television, newspapers, weather reports, and in a variety of medical investigations and surgical procedures. A well-constructed graph can present complex statistics in a form that is easier to understand and interpret. In the media "such graphs are used to illustrate papers, reports, theses", and other presentation material. Today, computer graphics is widespread. Such imagery is found in and on television, newspapers, weather reports, and in a variety of medical investigations and surgical procedures. A well-constructed graph can present complex statistics in a form that is easier to understand and interpret. In the media "such graphs are used to illustrate papers, reports, theses", and other presentation material.

The study of computer graphics is a sub-field of computer science which studies methods for digitally synthesizing and manipulating visual content. Although the term often refers to three-dimensional computer graphics, it also encompasses two-dimensional graphics and image processing. As an academic discipline, computer graphics studies the manipulation of visual and geometric information using computational techniques. It focuses on the mathematical and computational foundations of image generation and processing rather than purely aesthetic issues. Computer graphics is often differentiated from the field of visualization, although the two fields have many similarities.

R. E. Filimonov

Language supervisor: Yu. S. Mosina

Dnipro National University of Railway Transport named after Academician V. Lazarian

NEW OPPORTUNITIES IN 3D PRINTING

3D printing is becoming one of the most exciting advancements of the 21st century. It is a method of printing by such materials as plastic or metal; in a way of deposited one onto another to produce a three dimensional object. With computer design and a printer filled with one of