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TECHNOLOGIES FOR CREATING COMPUTER GRAPHICS AND COMPUTER ANIMATION

The computer graphics requirements in our society increase every day. It can be seen everywhere: on the billboards, on TV and internet (advertisements, movies, and cartoons, etc.). The computer graphics and animation are applied in such fields as industry, science, marketing, publishing, journalism and others. But the most popular spheres of using computer graphics and animation are television, education and art.

The aim of this paper is to research the basic concepts of computer graphics and computer animation; to consider the role of computer graphics and animation in the modern world, to analyze their future contribution in educational and scientific branches.

Computer graphics is a discipline that studies and develops tools and methods for creating and converting graphical objects by means of computer [1].

It is divided into:

- 2D – graphics (allow objects to be drawn on an X-Y scale as if they were drawn on paper);
- 3D – graphics (allow objects to be created on an X-Y-Z scale (width, height, depth). Objects can be rotated and viewed from all angles).

The main tasks of computer graphics are:

- entering computer information, which has a graphical form or defines that form;
- processing, optimization, storage media, security, transmission of this information by local and global networks;
- output from computer in graphical form.

Computer animation is a rapid display of pictures, which causes the holistic visual perception [2]. Fast change of pictures (a sequence of frames) creates the illusion of motion, which is closely related to nature of human eye (the retina can hold image for a while, before it takes a new image).

Technologies for creating computer graphics and animation consist of methods of creating, editing, processing, saving graphics with interfaces.

Many companies and businesses today cannot live without such technologies. They use them for good advertising, as it encourages potential customers to buy their products or services. But graphics and animation can be implemented in nearly all fields of human activities, including science and art. Every contemporary

educational program or a text book contains elements of computer graphics. Many artists use computer technology for instant fixation of images and ideas, gaining a wide range of opportunities to create individual creative style. Computer technology also can be used in portrait graphics, posters, applied graphics, design, and more. Every modern cartoon is done by means of computer technology. This work is very painstaking and time consuming as it has many stages (modeling the characters, creating background, rendering, etc.). It becomes a popular theme at numerous festivals and other events taking place in different countries around the world.

In conclusion, it can be said that modern computer technologies play an important role in the modern world and have unlimited plans for new researches in development of computer graphics and animation to meet the demands of contemporary scientific and business world.

LITERATURE

1. Авсеев Г. Информатика. Базовый курс/ Г. Авсеев, С.В. Симонович, В.И. Мураховский, С.И. Бобровский. – СПб.: Питер, 2000. – 640 с.
2. Євсєєв О.С. Комп'ютерна анімація: навчальний посібник/О.С. Євсєєв. – Х.: Вид. ХНЕУ ім. С. Кузнеця, 2014. – 152 с.