

## **COMPUTER GRAPHICS**

In the 21st century more and more people use this technology in their everyday life. There are very few aspects of our lives which are not affected by computers. In many cases, the same is true about computer graphics. The topic of this paper is highly relevant because everywhere you look nowadays you can find computer graphics – at work, in video games, movies. It is highly applied in the sphere of medical research, different kinds of simulators, weather reports etc. Computer images are all around us. The aim of this paper is to highlight the application of computer graphics from the past until present.

“A picture is worth a thousand words” is a well-known saying which emphasizes the advantages and benefits of the visual presentation of our data.

Computer graphics are any types of images created with a help of computer. There is a vast amount of types of images a computer can create. Also, there are just as many ways of creating those images. Images created by computers can be very simple, or extremely complicated.

Scientists claim [1] that computer graphics can be broadly divided into two spheres:

- a) Non interactive Computer Graphics;
- b) Interactive Computer Graphics.

In Non-interactive computer graphics otherwise known as passive, the observer has no control over the image. Familiar examples of this type of computer graphics include the titles shown on TV and other forms of computer art.

Interactive Computer Graphics involves two ways of communication between a computer and a user. Interactive computer graphics affects our lives in a number of indirect ways. For example, it helps to train the pilots of our airplanes. We can create a flight simulator which may help the pilots to get trained not in a real aircraft but on the ground at the control of the flight simulator.

Nowadays computer graphics has numerous applications, some of which are listed below [3]:

- computer graphics user interfaces (GUIs) – a graphic, mouse-oriented paradigm which allows the user to interact with a computer;
- business presentation graphics;
- cartography – drawing maps;
- weather Maps – real-time mapping, symbolic representations;
- satellite imaging – geodesic images;
- photo enhancement – sharpening blurred photos;
- medical imaging – MRIs, CAT scans, etc. Non-invasive internal examination;
- engineering drawings – mechanical, electrical, civil, etc.
- typography;

- architecture – construction plans, exterior sketches - replacing the blueprints and hand drawings of the past;
- art – computers provide a new medium for artists.
- training – Flight simulators, computer aided instruction, etc.
- entertainment – movies and games.
- simulation and modeling – replacing physical modeling and enactments.

To understand the many issues of today's modern computer graphics, we should trace its development from the early beginning until present.

At first it was first created as a visualization tool for scientists and engineers in government and corporate research centers such as Bell Labs and Boeing in the 1950s. Later the tools would be developed at Universities in the 60s and 70s at places such as Ohio State University, MIT, University of Utah, Cornell, North Carolina and the New York Institute of Technology. In 1980 Turner Whitted published the article about creating realistic images which was the beginning of method of ray tracing. The early breakthroughs that took place in academic centers continued at research centers. These efforts broke first into broadcast video graphics and then major motion pictures. In 1989 the first character was created using 3D graphics in the studio Industrial Light & Magic. In 1993 dinosaurs in Jurassic Park became the first complete and detailed living organisms generated by digital technology [4]. Since then computer graphic researches have been developing in a fast pace all over the world, joined by the research and development departments of entertainment and production companies which are constantly redefining the cutting edge of computer graphic technology in order to present the world with a new synthetic digital reality.

Thus, the beginnings of computer graphics were related to the military industry, due to the very high cost of equipment. The development of new graphics techniques has forced the film industry requires realistic special effects. Currently, computer graphics is used in many areas of our life. It is constantly improving and offers us amazing prospective.

### **REFERENCES:**

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