3D Graphics Computation (Abstract)

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My research paper is about different approaches in rendering techniques. The main questions are:

- Which technology looks the most realistic?
- Where are the different rendering processes used in today's world?

To answer these questions, this research paper will give you a basic overview about different rendering techniques, in particular ray tracing and rasterization. Most of my research was done on the internet. In order to support the written, most of the explanations are supported with pictures from various online articles. There are also two little experiments to visualize the differences between these two technologies. Since ray tracing shoots multiple rays for every pixel of an image, it is a quite expensive process to collect all the information which is needed to create a realistic looking image. Rasterization draws the points of the objects, connects them with lines and colors every pixel within these lines, which is much faster than the calculations behind ray tracing. For this reason, rasterization is preferred for applications that need to in real-time, like video games or every other 3d software. On the other hand, ray tracing is always used in visual effects in movies, because of the realistic results and the fact that real-time rendering is not necessary.