

SPRITES VERSUS POLYGONS IN VIDEO GAMING

Homework 3

Sprites versus Polygons in Video Gaming

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Introduction

"The number of transistors on a chip will double approximately every two years." This famous statement was predicted by Gordon Moore, Intel's Co-founder, popularly known as Moore's Law. These words express how computer hardware performance including video game consoles has rapidly evolved. Actually, one of the most played game consoles in the earliest days of video game industry Nintendo Entertainment System's CPU clock speed was 1.7897725 MHz. Surprisingly; its random access memory was 2k bytes (Yasuhide Hino, 1989). Now days, for example, Xbox360 released in 2005 has a 3.2 GHz CPU and a 512 MB main memory (Cesar A. Berardini, 2005).

With the evolution of computer hardware, 3D polygon based games became a mainstream naturally. In addition, voxel based sculpting method and volume rendering which take more processing power than polygon-surface model are gradually are gradually spreading recently.

Since 2D is like pictorial art and 3D is like engraving, it is difficult to make a simple comparison between them; however, I believe 3D polygons will never be replaced with all of 2D sprites.

The Features of Sprites

At Game Developers Conference in 2007, Konami producer Koji Igarashi mentioned "2D games will never die." He stated 2D games are better for the point that timing, or predicting movement of game elements and responding appropriately; distance, or using on-screen information to determine the relative locations of game elements; positioning, finding an advantageous location for the player's character; and direction, which is simply where the player faces and acts (Jeremy Parish, 2007).

Of course, 2D sprites can often be monotonous expressions, but because of their simple animations and camera views, they are easier to play and make than 3D games. Also sprites can run on limited computer resources relatively, so they are compatible with a lot of low-performance consoles including not only legacy ones but also mobile devices.

The Features of Polygons

Examples of advantages of 3D polygons are more realistic, impressive, and advanced animations. However, because of their complicated development process, 3D games take longer to make and they usually are more expensive.

The Features of Voxel Sculpting

Ukraine based PILGWAY, which developed and published voxel sculpting software 3D-Coat, says "Voxel sculpting allows you sculpt without any topological constraints and create complex details out of thin air! You can dynamically change your sculpture, fundamentally, without worrying about topology. This approach gives you an absolute feeling of freedom in

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sculpting. It is not based on surface deformation but on volume building and filling" on its website.

Conclusion

Depending on game genres, video games should be created by using both 2D and 3D. For instance, story-driven games such as RPGs are suited for 3D. By contrast, action games such as fighting games are suited for 2D.

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