

CSCI-4961/6961: 3D Computer Graphics

Class 11: October 5, 2006

Visible Surface Detection

Today's Class

After completing our discussion of shading, we will consider the task of *visible surface detection*, also known as hidden surface elimination.

1. Back face culling
2. Z-buffer algorithm
3. Scan line techniques
4. Depth sorting (Painter's algorithm)
5. Binary space partition trees
6. Octrees
7. Ray casting

Reading

Chapter 9 of Hearn and Baker, and Chapter 10 (on depth buffers) of OpenGL Red book.

Activity

Read <http://www.bluesnews.com/abrash/chap64.shtml> for a description of the use of BSP trees in Quake, and <http://www.bluesnews.com/abrash/> for articles on Quake.

Next Class

Spline curves.