

CSCI-4967: Three-Dimensional Computer Graphics
Class 18: November 1, 2004
Visible Surface Detection

Announcements

- HW 4 is due on Thursday, November 4.
- Project 3 is due by 11:59:59pm on Friday, November 12.

Today's Class

After completing our discussion of ray tracing, 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

Texture mapping (Chapter 10 of H&B and Chapter 9 of the Red book)