

CSCI-4962: Three-Dimensional Computer Graphics
Class 21: November 7, 2002
Visible Surface Detection

Today's Class

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 8.8 of the Angel textbook.

Chapter 10 (on depth buffers) of the OpenGL red book.

Activity

See <http://tech-report.com/etc/2002q3/nextgen-gpus/> and <http://tech-report.com/reviews/2001q2/geforce3/> for descriptions of next-generation GPUs and vertex and pixel shaders

Next Class

Ray tracing (see POV-Ray ray tracer at www.povray.org).