

CSCI-4967: Three-Dimensional Computer Graphics
Class 8: September 27, 2004
Illumination and Shading

Today's Class

We will first wrap up our discussion of quaternions from last class.

1. Using quaternions for rotation: Transforming quaternions to rotation matrices and vice versa
2. Composition of rotations using quaternions
3. Interpolation of quaternions for smooth rotations

We will then move on to illumination and shading, and focus on a conceptual understanding of how lighting and shading are modeled.

1. Local and global illumination
2. Illumination: ambient, diffuse, specular, and emissive components
3. Shading: Flat shading, Goraud (smooth) shading, Phong shading

Reading

Chapter 10 through 10.3, Chapter 10.10, and Chapter 10.20 of Hearn and Baker.
Chapter 5 of the OpenGL red book.

Activity

Try Nate Robins' OpenGL *lightmaterial* and *lightposition* tutorials.

Next Class

Shading and illumination (continued).