

CSCI-4967: Three-Dimensional Computer Graphics
Class 4: September 13, 2004
3D Geometric Transformations

Today's Class

1. 2D Geometric transformations: reflection, shearing
2. Coordinate system transformations
3. Homogeneous coordinates
4. 3D geometric transformations: translation, scaling, rotation
5. Some simple OpenGL examples: `double.cpp` (example 1-3 in red book), `basic3d.cpp` (attached)
6. Modeling and viewing transformations in OpenGL

Reading

Chapter 5, especially 5.5 through 5.18, of Hearn and Baker.
Chapter 3 of the OpenGL red book.

Activity

Try Nate Robins' OpenGL *Transformation* tutorial. Do you get the same image if you swap the rotation and translation operations?

Also try Nate Robins' *Projection* tutorial.

Next Class

3D projection transformations.