

CSCI-4967: Three-Dimensional Computer Graphics

Class 22: November 15, 2004

Texture Mapping 3, Fractals

Announcements

- Homework 5 is due on Monday, November 22.
- Project 4 is due by 11:59:59pm on Monday, December 6.
- Final Exam is on Thursday, December 9 at 9:00am–noon. If you have a schedule conflict with this time, please send me email before Wednesday, Nov 17.

Today's Class

We will complete our discussion of texture mapping techniques.

1. 3D texture mapping, and Procedural texturing

We will then look at *fractals* for modeling natural (and some unnatural) objects.

1. Fractal objects
2. Deterministic self-similar fractals (see `sierpinski2d.cpp` and `sierpinski3d.cpp`)
3. Fractal dimension
4. Statistical self-similarity, and Midpoint subdivision for terrain generation

Reading

Chapters 10.17–10.18, 10.13, and 10.21 and Chapters 8.23–8.24 (Fractals) of Hearn and Baker.

Activity

For more information on procedural texturing, see <http://www.noisemachine.com/talk1/> and http://freespace.virgin.net/hugo.elias/models/m_perlin.htm .

Play with the MarbleApplet at <http://graphics.lcs.mit.edu/~legakis/MarbleApplet/marbleapplet.html>

Next Class

Fractals (Chapter 8.23–8.24 of H & B).