Unit 5 Reading (due Thursday, February 14)

Please let the instructor know immediately if you have trouble accessing any of these materials. There is nothing to turn in for your reading, but you will be expected to be comfortable with these concepts for your quizzes.

Required Reading:

Bump and Environment Mapping:

These are additional topics on texturing not covered in the last set of readings.

Computer Graphics Through OpenGL **(https://www.safaribooksonline.com/library/view/computer-graphics-through/9781482258394/K24133_C013.xhtml)** - Read section 13.9 on bump mapping; Don't worry too much if you have trouble following the partial derivatives.

Environment Mapping, University of Tartu **(https://cglearn.codelight.eu/pub/computer-graphics/environment-mapping)**

WebGLFundamentals:

- **Cube Maps** **(https://webglfundamentals.org/webgl/lessons/webgl-cube-maps.html)**
- **Environment Maps (Reflections)** **(https://webglfundamentals.org/webgl/lessons/webgl-environment-maps.html)**

Hierarchical Modeling:

Introduction to Computer Graphics by David Eck, Section 2.4 (http://math.hws.edu/graphicsbook/c2/s4.html)

Required Viewing:

Gimbal Lock and Quaternions:

This is a topic that translates better through a visual medium instead of writing. I recommend doing the above reading on hierarchical modeling first.

Euler (Gimbal Lock) Explained **(https://www.youtube.com/watch?v=zc8b2Jo7mno)**

(https://www.youtube.com/watch?v=zc8b2Jo7mno)

Fantastic Quaternions - Numberphile **(https://www.youtube.com/watch?v=3BR8tK-LuB0)**

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