Unit 6 Reading (due Thursday, February 21)

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:

Ray Tracing:

Scratchapixel 2.0: Introduction to Ray Tracing (https://www.scratchapixel.com/lessons/3d-basic-rendering/introduction-to-ray-tracing)

Scratchapixel 2.0: Ray Tracing Algorithm in a Nutshell (https://www.scratchapixel.com/lessons/3d-basic-rendering/introduction-to-ray-tracing/raytracing-algorithm-in-a-nutshell)

Scratchapixel 2.0: Implementing the Raytracing Algorithm (https://www.scratchapixel.com/lessons/3d-basic-rendering/introduction-to-ray-tracing/implementing-the-raytracing-algorithm)

Scratchapixel 2.0: Adding Reflection and Refraction (https://www.scratchapixel.com/lessons/3d-basic-rendering/introduction-to-ray-tracing/adding-reflection-and-refraction)

Fractals:

The Nature of Code: Chapter 8 (https://natureofcode.com/book/chapter-8-fractals/) - Please read through the end of section 8.5. This text uses **Processing** (https://processing.org/), which is built on top of Java. Even if you've never seen Processing before, the examples should be pretty self-explanatory.

Particle Systems:

The Nature of Code: Chapter 4 (https://natureofcode.com/book/chapter-4-particle-systems/) - Please read through the end of section 4.5.

Required Viewing:

Parametric Curves and Surfaces:

Parametric Curves (https://www.khanacademy.org/math/multivariable-calculus/thinking-about-multivariable-function/visualizing-vector-valued-functions/v/parametric-curves)

Parametric Surfaces (https://www.khanacademy.org/math/multivariable-calculus/thinking-about-multivariable-function/visualizing-vector-valued-functions/v/parametric-surfaces)

These very brief videos just give you an overview of some of these terms without going into much mathematical detail.

Bezier Curves (https://www.khanacademy.org/partner-content/pixar/animate/ball/v/animation3)

CG101: What is NURBS Modeling? (https://www.youtube.com/watch?v=m9U_XmnHQMU)

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