CS 559: Spring 2013, Project 3

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README:

Instructions:

C – Toggle bird’s eye view

W – Toggle wireframe

X – Close program

P – Pause

S – Toggle shadows

A – Toggle axes

N – Toggle normal

Bonus Features:

Load Screen

Gooch Shading

Noise Shaders on Sphere

Noise Shader on Floor

Dynamic Shadows

Problems we had:

Getting Nick’s computer to initially work was tough. It turns out that how shaders were implemented initially (passing a struct as a uniform block) was the problem, even though Nate’s and the lab’s computers could run the program. The latest driver on his Nvidia card caused this problem. It was found by debugging like mad, until it was found that the shader was getting garbage data.

Conversely, attempts to use subroutines in the shaders were stymied by Nate’s graphics card, which despite allegedly having support for the feature (ARB\_shader\_subroutine) did not correctly handle subroutines. This would have been made use of in dynamic shadows – in the final version, a simple Boolean is used instead.

Implementing Box2D was troublesome at first. We kept getting very odd orbiting effects. We pinpointed the problem down, and it happened to be that even though the physical and graphical objects lined up, the physical sphere (created first), was created at some offset to the origin within Box2D.

Freetype was attempted to be implemented late in the game, due to a misinterpretation of the project requirements. In the end, we could not get the version of Freetype we were using (code by NeHe productions) to work with our project once we began actually rendering the game world; thus, text in-game is rendered using FreeGLUT’s text functions.

Libraries we used: freeglut, glm, devil, libnoise, box2d, and an attempt at freetype