

# Geometrysaurs Museum Readme

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## 1 Repository

The repository for this project is currently located at:

<https://github.com/gbbofh/CSE-389-OpenGL-Final-Project>

## 2 Changes

The entire code-base has been mostly rewritten, due to difficulties in integrating the Open Asset Importer. This new code-base provides two classes, Mesh and Model, which are used to load and render 3D meshes from WaveFront Object Files. With this integration, it does away with the WaveFront Loader which we wrote earlier this semester. This is much to our benefit, as the custom loader came with a great deal of bugs that would often break the renderer.

These classes provide support for surface normals, UV maps, and vertex positions; however UV maps are currently not implemented in the shader. That is, texture mapping is currently not functional. Instead, colour is rendered by passing the vertex normal to the fragment shader. This has the added effect of just being kind of pretty.

Additionally, support for lighting has been added – however the effects are hard to notice. Currently there exists both ambient lighting, as well as a single directional light source which is rendered via the fragment shader.

We currently load four models to be rendered:

**The Room** Not to be confused with the Tommy Wiseau film of the same name  
– this room is the museum floorplan, where the user can walk around

**Jerry** Jerry is a large, friendly tyrannosaurus

**Randall** Randy is a tall sauropod. He eats leaves. It's all he does.

**Bob** Bob is a parasaurolophus. He Yeets. All. The. Time. Nobody likes a Bob.

We have also included a short video demonstrating the models that have been loaded, as well as our first person camera.

### 3 Images

Here we have images of the models that we loaded into our application. In addition to showing them as they were created in Blender 3D, we also include a brief picture of them being rendered by our application.

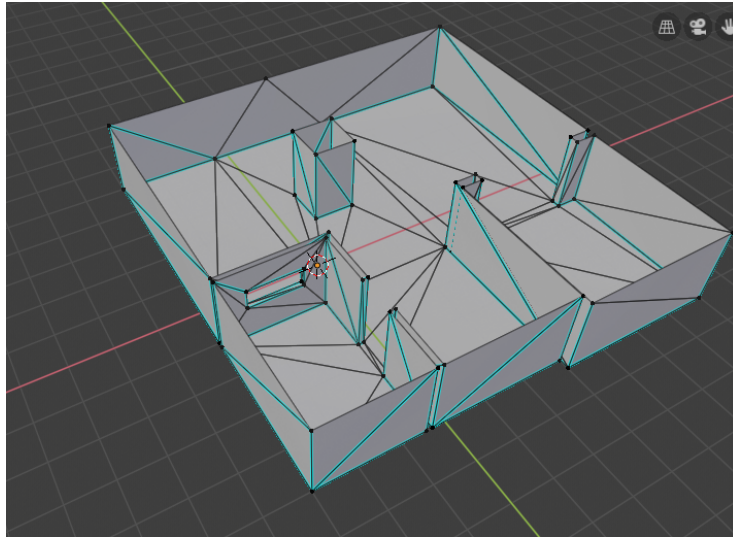


Figure 1: The Room

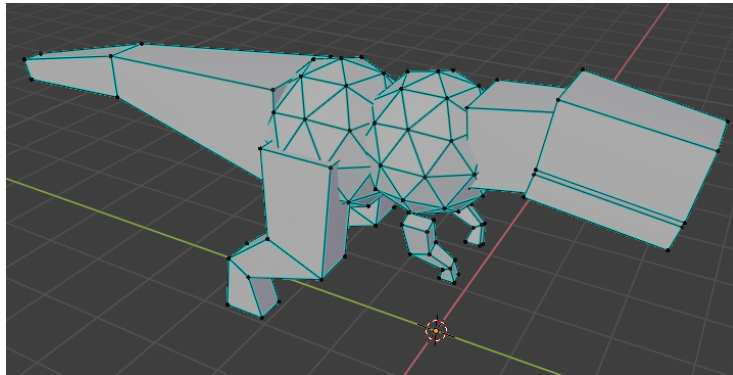


Figure 2: Jerry

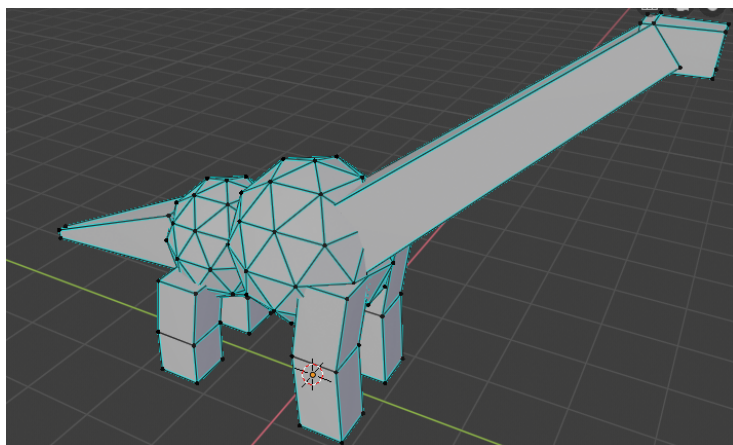


Figure 3: Bob

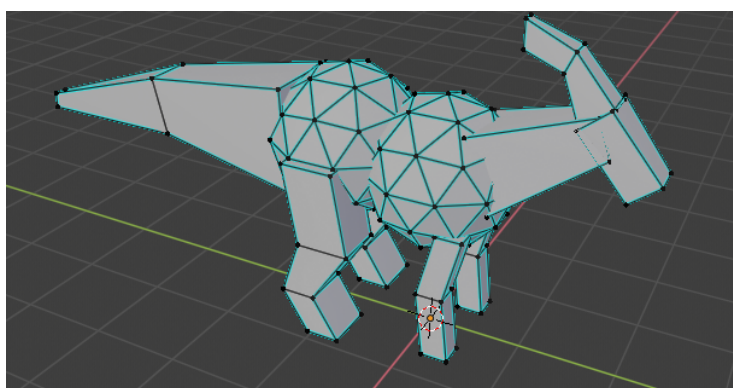


Figure 4: Randall

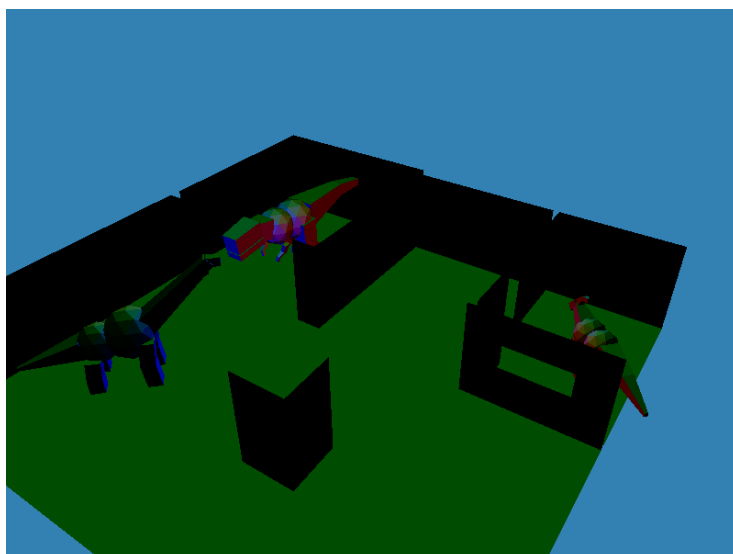


Figure 5: Render