Colby Jeffries and Tommy Bacher

CS300 Project 3

Colby and I brainstormed the idea for the project and both agreed to use the bikeman from our previous project. I worked on the blender models and figuring out how to use the object loader to get the blender models to work in openGL. Colby set up the initial play area and got the initial commands. We collaborated on how to get the bounding boxes working and how to keep the user from leaving the play area. Colby did the animation to allow the tree to fall and the steering wheel to move, and I modeled the tree and the steering wheel.

We discovered a few interesting things in this project. First was getting textures working in glm, which was not initially straight forward. We discovered that glm supports texture coordinates, but we were unsure how to generate them for our Blender objects. We discovered that unwrapping the objects generated the coordinates. We then enabled the texture before calling glm draw, resulting in textures on our models.

Generally speaking, this project is put together with glue and duct tape. The animations, graphics, and game logic are all intertwined. For example, animation stages and checks are done based on the current position of objects (trees fall when their angle is less that 90, and that angle is set to 89 when a tree is hit, etc). The end result is something that works really well, but is not very reusable. An interesting side effect of doing things this way is that we can replace any of the objects with other models, and it will still work entirely as intended (Try pressing t).

Also, this project is the first time we have run into performance issues. Currently, the default amount of trees and bikers runs fine, but increasing the amount leads to slow downs. I realize that I can only expect so much from the CPU, but there are definitely some improvements that could be made. Our various animation checks and position updates could be more efficient, and of course, so could our models.