CS 352 Project 8 – A Three-D WebGL Game

Due Monday, May 5

In this final project for the semester, you will work in pairs to create a 3D game. There are two different environments for approaching this problem – using WebGL/Three.js or Unity3D. The game can be of any sort that meets the requirements below. Some ideas include 3D versions of games like asteroids, breakout, frogger, or tetris, a maze or first-person game, a flying or driving race game, or a 3D interface for a board game such as Mankalah or Quoridor.

At least some of the modeling and texture mapping of the environment and objects in the game should be done in a 3D modeling program. Sketchup is easy to learn and will do the job, but if you are familiar with another program like Blender or 3D Studio Max you may use it. You are free to use models of objects and textures you find elsewhere on the Internet, but you should make at least one of your own models. Bear in mind too that if you use a copyrighted model or texture you find elsewhere and you don’t have permission to redistribute it, you won’t be able to legally put your game on the Internet. Fortunately, there are many sources of good free models on the Internet.

If you are interested in Graphics programming, write your program in WebGL and Three.js. You may optionally create a game in the commercial game engine Unity3D, but I’m not able to provide support for that option.

Since games are so varied, it would be difficult to come up with a suitable list of requirements for every project. I’ll look at the overall complexity, attractiveness, difficulty level, and playability of the game in grading.

Here are some things that I’ll be looking for. You don’t need all of them to get full credit, but they add to the potential score.

- read at least one object from a file
- use texture mapping
- use a skybox or environment mapping
- create an object or environment with texture mapping in a modeling program
- animated character
- support camera motion and object motion
- multiplayer over the network
- look nice and play a game reasonably well.

A paragraph describing the game you hope to implement and your plan for implementation is due Monday, April 20. A preliminary “gray box” version of your game, showing game play but not necessarily final art or functionality, is due Friday, May 1. The game is due Monday, May 11, before class. We’ll view the games in class on that day.

This program counts as much as three of the previous programs. Initial paragraph is worth 5% and preliminary version is worth 10%. 
CS 352 Project 8: 3D Game
Grading Sheet

Names _____________________________ Date turned in _____ Late? _____

Parts of the program you didn’t get to work:

What parts of this game did you model?

Comments on this assignment:

----------------------------------- For grader’s use -----------------------------------

3D Game, WebGL/Three.js or Unity 3D, compiles and runs (150) _____

Initial paragraph (15) _____

Preliminary version (Gray box) (30) _____

Custom modeling/texture mapping of something (15) _____

Three of these features (30):
  • Skybox or environment map
  • Camera and object motion
  • Animated character
  • Physics (gravity, collision detection, etc)
  • Picking
  • Multiplayer/networking
  • Non-standard shaders

Overall complexity, attractiveness, difficulty, playability (30) _____

Programming style, submission process (30) _____