**Project 2 - Three.js experience Self Eval and Documentation**

**A) Project Name**

3D Carnival

**B) Team Members**

Carl Milazzo, Jennifer Stanton

**C) Self-Eval of Project requirements #1-#5 from**

http://igm.rit.edu/~acjvks/courses/2014-spring/450/html/project-2.html

**Requirement #1 - Media Requirements**

Contains background music and a “whoosh” sound effect for tossing the ball in at the game stand.

Textures aside from pizza were made by Jen. (JPGs)

**Requirement #2 - Interaction Requirements**

**Camera:**

**i) user should be able to control the position of at least one camera**

Main camera is controllable with WASD and mouse.

**ii) control should be responsive and intuitive**

Typical first-person controls are used

**iii) the camera is constrained to certain positions**

Main camera is locked on y-axis and cannot walk off the edge of the plane.

**iv) the camera can be reset to a starting position**

R key to reset

**Widgets:**

**i) have at least 3 additional controls that allow the user to change aspects of the world such as lighting, camera**

K/L keys – speed of ferris wheel

I/O – change direction of light

P – plant a tree (we were having trouble thinking of ideas)

**3D Object Interactions:**

**i) The user can select a least 2 different objects in the world**

Mouse-clicks work for game stand, ferris wheel, and corn dog on the food stand.

**ii) The selected object should react and give feedback to the user**

Game stand and ferris wheel have camera changes. Corn dog changes position when player picks it up.

**iii)Selecting an object will cause it to change its behavior in some way**

Game stand begins game, ferris wheel begins ride, and player picks up corn dog.

**Requirement #3 - Usability**

**i) Teaching (see requirements)**

Instructions are on a park sign.

**ii) Feedback (see requirements)**

Points of interest are front-and-center, such as ferris wheel, game stand, and food stand. Ferris wheel and corn dog attract attention with animation.

**Requirement #4 - 3D Environment**

**i) List the built-in geometries you used**

Lots of spheres, cylinders, and boxes for the ferris wheel; avatar and corn dog capsules were made from a cylinder and two spheres; trees were made from spheres and cylinders; plane for the grass.

**ii) Did you utilize 3 textures?**

Grass texture, UV mapped textures on game stand and food stand, texture on pizza in the tent.

**iii) Does the lighting match the world theme?**

Has a day/night cycle because carnivals are fun to visit during the day and night!

**iv) Did you use fog or lens flare (optional)?**

No.

**v) Which geometry is custom?**

Game stand and food stand were made by Jen in Blender3D. Tent and pizza are from turbosquid.com.

**vi) Which 3 objects continually animate?**

Avatars (the red capsule people), ferris wheel, corn dog

**Requirement #5 - OOP and Coding Standards**

**- Be sure to document your two function constructors, and to comment your code**

Function constructors: Avatar and Tree

**D) Who worked on what part of the project (coding, graphics, AI, …)?**

Carl did math-based object creation with primitive geometries (ferris wheel, trees, capsules), camera control, widgets, and the corn dog. Jen made the day/night cycle, created models and UV-mapped their textures, implemented libraries, populated the scene with the red avatars and their behaviors, and coded the rigged ball-toss game.

**E) List all external resources (images, sounds, tutorials, 3D models, sample code …) and a link to where you got it from. Take credit here for whatever you made yourself.**

**Fair Warning: failing to declare that you used pieces of code you found (for example) on the Internet can lead to an Academic dishonesty charge and an F in the course.**

Libraries:

Threejs – Tween.js, OBJLoader.js

SoundJS

JQuery (for stats)

Art Assets:

Tent - <http://www.turbosquid.com/3d-models/tent-max-free/660727>

Pizza - <http://www.turbosquid.com/FullPreview/Index.cfm/ID/647184>

Wood texture for game stand and food stand - <https://cdn.tutsplus.com/psd/uploads/legacy/0495_Wood_Textures/03-free-wood-textures.jpg>

Sounds

Background music from incompetech.com

Ball-toss sound effect from soundbible.com

**F) Talk about the hard work the team did on this project. Discuss any challenges you overcame and any “above and beyond” work you did on the project. If you attempted something but didn’t quite get it working, talk about that too. List any extras (like multiple cameras) here.**

One of the biggest challenges that was never resolved was object-orienting the Three JS OBJLoader callback. The callback function has its own separate scope, so the only place we could store the loaded meshes were in global variables (or in object-literals that are part of the global app in the module pattern). This prevented us from using the loaded meshes in function constructors.

Carl put a lot of effort into the ferris wheel. Jen had to re-learn Blender3D to make models and found out the hard way that it doesn't triangulate faces by default. Both of us had to learn how to cut down on program lag. (We learned about merging geometries and we limited certain resources such as lights and shadows).

We used a total of three cameras. (Main, ferris wheel, ball-toss game).

**G) Give an overall grade for your project and justify it.**

A for

**H) Important! If there are any special instructions on how to navigate the world, or any limitations (ex. only runs on Firefox), or any tips on how to get through any levels and so on, discuss them here.**

Due to heavy geometry, the page may load slowly or possibly crash. Reloading tends to fix this. Must be able to do local XMLHTTPRequests for OBJLoader and SoundJS (so, FireFox with the fileuri option set to false works).

**Submission:**

Keep this in .docx format. If you don’t have Word, head over to the labs to fill this out.

Thanks for taking the time to fill this out - post this document with your project in mycourses.