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Dr. Wolff

CSCI 412: Graphics - Spring 2018

Final Project Proposal

The Tragic Adventure of Cedric Diggory

Detailed Description (overview) of what we plan to do:

We plan to implement a “dungeon-walker” style maze based upon the climactic maze scene from *Harry Potter and the Goblet of Fire*. The user plays as a first-person Cedric Diggory (looking through his eyes, as the camera) walking through the maze to find the Triwizard Cup. He must navigate the maze using either the keys WASD or the arrow keys. The journey will be treacherous, however: if he steps on certain parts of the path (noted as “danger spots”), the whole maze will abruptly change shape around him! He will be guided by a Lumos light, which is a flashlight-style light to guide his way, in addition to the moon and stars up above. Once the player reaches the cup (which will have a glow), the world will start spinning around them (because the cup is a portkey!) and Lord Voldemort's face will flash across the screen, because this is the last, tragic adventure of Cedric Diggory.

Weekly plan of action including specific goals for each week. Include specific tasks for each member:

- Week 1, 4/30:

- Emma's Tasks:

- finish HTML

- Basic world rendering

- Natalie's Tasks:

- Set up/draw basic moon

- Both Tasks (meeting 4/30, and 5/2 ):

- Sketch out base mazes (all three, how to access)

- each danger spot, map is changed to a different one of a set

predesigned

- Select all textures that will be needed for the end project.

- Week 2, 5/7:

- Emma's Tasks:

- Implement Cedric’s movement

- Implement lumos lighting

- Test cubeMap structures but ultimately decided to just use a background image

to allow better lighting

- Natalie's Tasks:

- Implement first maze - using 2D arrays, drawing cubes

- Both Tasks:

- Decide how many danger spots to put in each map, and make them the same

for all maps

- Week 3, 5/14:

- Emma’s Tasks:

- Implement textures on all objects/shapes/maze.

- Spinny feature with the triwizard cup

- jump to Voldemort feature at appropriate time

- Natalie’s Tasks:

- Implement the other two mazes and be able to switch between the two. Develop algorithm and necessary functions to do that (see images attached for final algorithm)

- Implement the Triwizard Cup

Both Tasks:

* Work on spinny feature and Voldemort feature algorithms
* Debugging

What specific features will be completed at the end of stage 1?

We aim to have our basic world ready to go: one walkable maze with proper moon, stars and Lumos mode for lighting, such that Cedric can walk around the maze aimlessly. Movements for Cedric (right, left, forward, back, turning around) are implemented and our camera mouse controls so that Cedric can look around.

A list of references that you will consult for understanding the needed techniques:

General JavaScript:

*The Principles of Object-Oriented JavaScript* by Nicholas C. Zakas

General texture mapping, world building:

Previous 412 assignments & slides

Cube Map References:

-<http://antongerdelan.net/opengl/cubemaps.html>

Collision Detection:

-<https://developer.mozilla.org/en-US/docs/Games/Tutorials/2D_Breakout_game_pure_JavaScript/Collision_detection>

- Specific project help: Dr. Wolff

Special Thanks and Other Credits

Harry Potter and the Goblet of Fire (copyright 2005 by J.K. Rowling, Warner Brothers Pictures). Note: We do not own Harry Potter, Cedric Diggory, Lord Voldemort, or the Triwizard Cup. Images used belong to Warner Bros.

Thanks to Dr. Wolff for helping us think through algorithms!