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Assignment 2 Proposal

High-Level Description:

Our plan is to create a kind of space invaders video game where we would create spaceships and missiles to shoot at different meteors and aliens that come out. We would do this by using 3-D objects and keeping the camera still but using the keyboard to move the spaceship to where we wanted them to be. If we have enough time near the end, we'd also want to create an animation to show our spaceship flying off to a vanishing point on successful completion, or maybe running into a meteor on failure. We think this would be entertaining because while this is a game that has obviously been made before, we think that being able to build it from scratch using WebGL would be an innovative experience where we could build games we grew up playing, and customize it to our own heart's desire.

Implementation:

Using OpenGL, we hope to implement different aspects of input control, well-designed shapes using the different polygons to create this video game that has been around ever since we were kids. This would be impressive because all the parts that have to work out for everything to work, from making a well-made model for the spaceship, to randomly creating obstacles as well as creating the missiles to break these apart would take effort. Also, our project will implement the following technical requirements of collision detection and shader particle effects. We would use collisions from moving the spaceship and shooting missiles to see if the different objects would collide with one another, or even meteors and aliens colliding with the spaceship as well. We'd also implement shader particle effects, where we would create explosions from exploded meteors/aliens, and maybe even implementing them in the ending scenes with how the game turns out.

Division of Work:

Luke: Focus on mechanics of the game, figuring out collisions and how to make objects move and come out in a regular fashion.

Lewis: Creation of spaceship and meteors, making them look realistic and assisting Luke in the creation of the game.

Lucas: Focus on getting shader particle effects to work, understanding theory and how to represent them well when objects are destroyed/how to show them easily.

Michael: Putting each function together, assist whoever needs most help as time goes on, create ending scenes.

Challenges:

Some challenges we'll face will be putting together the game mechanics with the graphics. While the graphics and scenes will take time, making sure they all work together with the game mechanics already set will probably spend a lot of time bug fixing, and trying to make sure everything works as supposed to. Also, understanding how to implement collisions in

OpenGL and the shader particle effects will take time, as well as implementation. Simply creating the game and making sure to finish each piece by appropriate deadlines will itself be a challenge, making sure not to fall too far behind.