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Fina Project Proposal

Objective

You are a hostile alien race, trapped on earth with 1 spaceship at your disposal. You must destroy the human population and their cities while resupplying your ship for prolonged flight. With your trusty *Space Harpoon*, you can hook buildings, vehicles, and people and drag them into your ship for supplies, or just drag them over the ground for massive damage. The ship will have limited supply of fuel and limited health, where if one runs out its game over.

Technical Constraints

Hierarchy and Transformation: The little people on the ground will be walking around, oblivious to the malevolent beings hovering overhead. The vehicles on the ground will either be driving around and the tanks will be shooting at your spaceship.

Primitive Attributes: The objects will have unique color schemes and they will be shaded.

Complexity of Transforms: One of the ships strongest defenses is a mysterious forcefield that exists around it. This forcefield can grab things within range, things that will then orbit around it and act as a defensive shield. This shield will move with the ship and interact with the environment. The *Space Harpoon* will be a long chain of rectangles/ovals that will bend and fold like a snake and interact with the environment through collisions.

Pre-defined Animation: The mysterious forcefield that orbits the objects around the spaceship and the little humans walking on the ground will be animated.

Multiple Views:

Main View – This will display the current location of the ship along with most of the scene of the city. The screen will pan with the spaceships movements. Upon reaching the edge of the map, the spaceship will be unable to go past the edge of the screen.

Small View – This view will act as the minimap, displaying the entire level and as much detail about it as it can. This is identical to the main view, but will show all of the level.

Audio Support: Samples of audio in the game include screams of humans being killed and the crumbling of buildings. A happy tune will be playing in the background to help lighten the mood.

Suspend/Resume/Reset: The application will support these three states. Users will be able to pause and resume the game, and reset it. Changing the level of difficulty will also reset the game.

Game Object Interaction

Spaceship – The spaceship will be able to fly around and crash into buildings, people, and vehicles. Crashing into buildings will have the effect of destroying them (blowing up or knocking over), but colliding with objects smaller than spaceship will result in the objects being caught in the forcefield and start rotating around the ship.

Space Harpoon – The *Space Harpoon* will be launched with the left mouse button and be able to collide with every object, lodging itself in it. If the object is smaller than the ship, the *Space Harpoon* will be able to be retracted (right mouse button) into the spaceship along with the object. Objects not retracted (like a building) will be able to be toppled and/or dragged along the ground.

People/Vehicles – These objects will move along the ground in predefined paths, looping through their animations. These can only collide with the spaceship or its *Space Harpoon*, at which point they will be trapped in the forcefield or hooked and killed. Once part of the forcefield, and thus the spaceship, these objects will be able to collide with everything else just like the spaceship

Buildings – These will be static objects acting as obstacles for the spaceship. They can interact only with the spaceship and its harpoon until they are hooked, and then they will be able to interact with everything else.

View/Controller Pair

MainView Controller – The user will be allowed to move the spaceship with the arrow keys in all direction. Also, the use of the mouse left/right buttons will be used to shoot/retract the *space harpoon*. The space button will be used for thrusters.

SmallView Controller – The small view will allow the user to quickly teleport via the level by clicking anywhere in the minimap.