Project Specification

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Aiming for grade E.

1 Background

Having good models and textures is not all it takes to make a 3D rendering of a game feel realistic. There are a number of ways in which computer graphics can be used in games to make a world less static and become more dynamic. Particle systems can be used to create dynamic visual effects to simulate fire, smoke, dust, and much more. Having objects emit light is another way to make an object feel like a part of the world when the light interacts with other objects.

2 Problem

In *Animation Track Lab 3* we end up with a Unity scene that is functional and playable. The problem is to make the scene from *Animation Track Lab 3* be more dynamic and feel more alive by adding particle effects, lighting effects, and a little physics to models.

3 Implementation

Firstly, the tanks are driving on sand which is malleable and dusty. So we will add particle effects simulating sand clouds where the tanks are driving, as well as them leaving tracks in the sand. For the dust, we will use Unity's particle systems. For the tire tracks, we will evaluate using particles set to horizontal billboard rendering or decals.

Next, we want to improve the feel of firing the weapons. This includes adding a particle system emitting smoke from the turret's barrel, to create the illusion that the shell is fired from within the gun and not just instantiated at the end of it. We will also use Unity's physics system to make the tank experience a

force in the opposite direction of the fired shell. Particles will also be added to the turret for the secondary gun.

Lastly, we want to have the explosion from the shell and the laser of the secondary gun emit light into the world and we will test methods to achieve this.

4 Blog

`https://emir-catir-and-robin-claesson.github.io/DH2323-Project-Blog/`