AGT documentation – Imtiaz Ali

I have made a 3d shooter zombie shooter game in which you are a player who has to pick up weapons in order to kill the zombies. There is an intro screen with the controls and the goal of the game. WASD is to move, q is to shoot, e is to melee. I have added a variety of objects into the game, such as lamps, ammo pack, medkits, buildings etc. The skybox was made using a website listed in the code itself, it has no seams and I believe it fits the theme of the game. The terrain is not stretched and creates a path effect on the ground, although it could’ve been better implemented to represent the street. There is a background track that plays and multiple synchronous audio queues that play when something happens in the game world. For example, if the player is hurt by the enemy, it plays a grunting sound, if an item is picked up it plays a sound for the type of item picked up, and also plays a sound when an enemy is hit or a gun is fired. There is a heads up display that shows the hp of the character and the ammo count that they have, this is incremented or decremented based on game play elements.

I have changes the camera to allow it to move freely around the player in the x and z axis but not the y axis, I found there was a problem doing this as the camera can sink into the ground. I have several mesh based objects, such as the projectiles, the buildings, and the lights. I currently have 2 different types of lights, one being the directional light source and the other being spot lights that have a yellow tint to imitate the effect of a street lamp. I have some special effects added in when an enemy is shot the enemy ‘explodes’ and dies, and when the melee attack is pressed there is a sphere to simulate an Area of effect attack around the player, although I found it is too slow in response to the actual attack.

I have used physics in the game to render the bullet shooting from the player along a fixed path, when this hits the enemy it is killed and the bullet carries on travelling across the path it was fired. The same is true for the melee attack, although this time it goes down into the ground with a large bounding box that increase the area of the attack to hit enemies easily. I have several NPCs that use the enemy class from the lecture that have the three states, idle, guard and chasing. Once in a certain distance of the enemy the enemy will stop and look at the player, facing their direction. It will then start to follow the player if they cross another distance and continue to do so until they hit the player, in which the explode where the player loses health points, or the player is out of range. The enemies only have 1 ‘life’ although a counter can be implemented to make them have more. There are 2 things to help you beat the game, the first is the knife, which you can pick up and attack with, this has unlimited uses. The second is the gun. The gun must also be picked up, but has an ammo count that is decremented when it is fired. Once the count reaches 0 you cannot use it anymore and must find an ammo box which restores ammo. You have a health counter that starts at 70 and is incremented when you pick up a medkit, this also adds a green hue to the screen to simulate that you have gained health. Similarly there is a red hue when you lose health.

The game runs almost 100% the way I want it to. There a few things wrong with the game that can be fixed. For example the bullet physics in my game mean that the bullet can go through building and enemies when usually this should not be the case. This can be fixed with collision detectors but I have not implemented it. Another example is the fact that my game world is small, it could be much larger although I was worried about the effects of lighting and file size adding different images and mapping them to the elements. The code could also use some improving when it comes to things such as efficiency. As of now the code has a lot of repetition which could be removed with the use of functions and such. I have removed a few incomplete features such as the sprinting, because there was an issue in which the animation would not switch and also the lack of special effects. I tried using GIF format files but they would not show in the game world, and could not find any TGA format files after searching for a while.