**Israel Anthony**

**IGME 202 Section 1**

**Final Project Documentation**

**Description of World:**

A group of terrorists gained access to powerful military gear and demolished a small city. Unfortunately for them, the attacks cost them all of their ammunition. Now there are dozens of terrorists running rampant in the streets with empty guns looking for a place to hide. In order to combat the terrorism, a trained military was sent in to eradicate the terrorist group. Each of the groups has a home base from which they send out troops. In between these two bases, there are the remains of the city that was destroyed by the terrorist attacks.

The organized military sent out a general with a platoon of troops following him to hunt down the remaining terrorists. There are also tanks running rounds around the map patrolling the area. Unlucky terrorists that don't look both ways before they cross the street will likely get trampled. In the skies there are helicopters gathering intel about the enemy's numbers.

When the soldiers/tanks tag the terrorists, they are eliminated. When the terrorists' numbers are dwindling, they send out more troops in order to stall the battle. If they regain too many numbers, the military begins to send out reinforcements as well. The military will not rest until they see the end of this terrorist group.

**Steering Behaviors:**

**Flocking:** The helicopters in the skies are flocking as they patrol the skies.

**Path Following:** Both the helicopters and the tanks are using path following to patrol effectively. The tanks' waypoints are the street corners and the helicopters have arbitrary waypoints scattered in the air at random heights.

**Leader Following:** The soldiers behind the military general are leader following to a position behind him. They are very disciplined soldiers and never pass their superior's position for as long as there are no active targets in the immediate vicinity.

**Characters’ response to other characters:**

The terrorists in the scene know that they are out of ammunition and cannot fight back. As a result, when they see the presence of a member of the opposing military, they run away as fast as they can. On the other hand, the military general is always searching for enemies nearby and he gives his soldiers command to attack when there are terrorists close by enough. The tanks in the scene know who is on their side and will avoid hitting friendly soldiers as best they can, even if it means veering off of the path a little.

**Resources used to guide steering algorithms:**

For guidance with programming the steering algorithms, I used Daniel Shiffman's Nature of Code (Chapter 6) and the class slides on myCourses.

**World Exploration:**

The world has various pre-established cameras that can be used to explore the world in more detail. Press 'C' to cycle between the camera views. The cameras included are:

* Camera 1: Overhead view
* Camera 2: Angled view of the whole scene from the left
* Camera 3: Angled view of the whole scene from the right
* Camera 4: Camera following the general and his soldiers
* Camera 5: Camera following the average position of the helicopters
* Camera 6: Camera following one of the tanks on the streets
* Camera 7: First person camera where the player may enter into the game and act as one of the soldiers in the military (colliding with terrorists will kill them)

**Other notes:**

The characters have a hard time deciding where they should go when obstacle avoidance is included, so I only included a small weight for large buildings. I tried to make up for this by using character controllers.

The AK47's lying all over the place are not poorly placed props, they're dropped by terrorists upon death. If you are having a hard time seeing who is in the military and who is a terrorist, the terrorists only hold AK47s while the military has snipers, SMGs, shotguns, and rifles.

Any audio that is used and not listed under 'Asset Resources' was recorded and edited by me.

**Asset Resources:**

* Helicopter Sounds
  + <http://soundbible.com/323-Military-Helicopter.html>
* Tank Sounds
  + <http://soundbible.com/1325-Tank.html>
* Death Noises
  + Scream: <http://soundbible.com/1791-Torture.html>
  + Bone Crushing: <http://soundbible.com/925-Bone-Crushing.html\>
* Simple Military - Cartoon War by Synty Studios
  + <http://u3d.as/fdT>