**AI**

Basic waypoint logic

I helped create the basic waypoint function that is given to the enemy AI ships, so that the enemy ships will fly through each waypoint.

Basic enemy spawn points

I helped create the basic spawn point function that will release the enemy ships

Created logic for enemy ships to fly in a circle

I helped create the basic function that creates waypoints that forms a circle for the enemy ships to fly through

Created logic for enemy ships to fly to their assigned positions

I helped create the basic function that is assigned to each enemy ship when they are released from their spawn points, which is a final waypoint that the enemy ships will fly to.

**Save text file**

Creates new text file if the file doesn’t exist

When saving, the program will check if the file exists first, before storing information into the file. However when the file doesn’t exist, a file is created on the spot, and store the information into it.

Save game information into text file, like shop upgrades and high scores and is able to retrieve saved information

The program is able to store a lot of different information, and is also able to retrieve the information from the file.

**Encrypt text file**

All information on text file is encrypted can only be read inside the program

Whenever the file is being saved, it will be encrypted first, before being stored into the file

Encrypted using base64, credit to René Nyffenegger

Credits to René Nyffenegger, for his base64.h and base64.cpp files at this website [**http://www.adp-gmbh.ch/cpp/common/base64.html**](http://www.adp-gmbh.ch/cpp/common/base64.html)

**Particles**

Able to create particles

Particles are created on certain events in the program, such as enemy ships being destroyed.

Each particle have its own lifespan and will disappear over time

Particles are given random lifespans, and fade out over its own lifespan.