

The Great Nebula Offensive!

By Michael Efseaff

Development Process

- The hardest challenge was developing the automated move system for the different enemy types and the random spawns
- Another hard aspect was making the second enemy type shoot in front of them (thanks prof. Boyd)
- Coroutines drive many of the aspects of my game like spawns, enemy shooting, and death animations
- Coroutines allowed me to spawn in a final boss after a specific amount of time

Game Mechanics

- Each enemy has a unique spawn time interval
- Each enemy fires randomly every instance of a fixed interval
- The player dies in one hit
- The boss spawns after a time interval
- The boss has a hidden health bar but when his attack upgrades a sound plays signifying he is low on health and in an enraged state
- Player is victorious upon defeat of the boss
- The game is fairly easy until the boss arrives

The Player

- The player can control the ship in the x-y plane freely
- The rate of fire of the player is dependent on how fast the player can press the spacebar
- Dies in one hit from any enemy



Enemy 1

- Spawns only at the top of the level
- Moves horizontally until they are off screen then the enemy is automatically destroyed
- Fires vertically downward
- Spawns at a fixed rate
- Fires at a random time within a set interval
- Meant to disrupt the player when hiding in areas other enemies can't reach
- Vulnerable to a stack of lined up shots because the range of their spawn is small



Enemy 2

- Spawns at a random position within the center portion of the level
- Moves in a sine function path
- When reaching the edge of the screen the enemy will turn around
- Spawns at a random rate in a fixed interval
- Fires at a random rate in a fixed interval
- Because they don't destroy on hitting the edge of the level if ignored they can overwhelm the player
- They are weak when traveling from the left to the right because they cannot shoot backwards at the player



Enemy 3 (boss)

- Spawns in after about a minute
- After reaching the level it will begin to pace vertically
- Shoots at a fixed rate
- Has 100 health
- When reaching 30 health the boss will enrage and begin firing more bullets
- The bosses large bullets can obscure the attacks of other enemies which can mess up the players tracking
- The boss cannot hit the top of the level or the bottom until the final phase so patience is important to win



Art, Music, Animations

- All sprites were provided by Prof. Boyd
- All sprites animate (besides enemy bullets)
- All enemies and the player explode upon death and play a sound
- Music was copyright free (I think) space music found on youtube
- Victory screen art was done completely by me in photoshop. (did not have time to finish the defeat screen art :()
- All bullets make sounds when fired (it is faint because it was quite annoying when it was too loud)
- “Level up” type sound played to signify Boss enrage

Thank you for a great year Prof.

Here is the win screen art I made
incase you never win!

