**Project Requirements**

**Must**

Enemy AI

Player Movement - The player character must be able to move according to user inputs

Gameplay loop (unlimited/ hp/ time limit or other options) - The game session must be determined by a value such as time or player health

Player Attack - The player must be able to perform a basic shooting attack

Player Abilities - The player must be able to use abilities that interact with the game in a unique manner

Enemy Types - There must be different variations of enemies with different stats

Stats for Players/Enemies (hp damage etc.) - Both player and enemy characters must have stats such as health and attack

User Interface (Hud, GUI)

Collision Damage - Game characters must take/deal damage upon colliding with another character or object

Title Screen

Boss Enemies - Strong enemy characters must appear occasionally

**Should**

Sound effects/ Music

Options Menu

Rebind key binding’s ability

Difficulty Settings and Difficulty Scaling

Upgrades people upgrades - Player must be able to obtain upgrades to their abilities

**Could**

Quick Load times - Loading screens are less than a second

Player Score Tracker - There must be score value that the player can see

Additional effects (Particles, Screen shake, etc.)

Frictionless movement

Player Ship Types - Player must be able to select from different ship types before starting a

game session - Different ship types must have unique stats

**User Stories/ Use Cases:**

**Statement**: *As a user, I want to be able to open the game and adjust the settings inside of the application.*

**Criteria**: *When I open the game, the game will layout several choices, when I click the options menu, the options menu will display with all its choices and an apply button to confirm the choices.*

**Statement**: *As a player, I want to be able to pause the game at any time during gameplay, and restart the level, adjust settings, exit the game, or continue playing.*

**Criteria**: *If the esc key or key the user assigns to menu is pressed, then the game will pause and allow the user to select from the several above functions and to wait until it receives a response from the player*

**Statement**: *As a player, whenever I take down an enemy, destroy an obstacle, or pick up a bonus/powerup; I should be able to see my score change live.*

**Criteria**: *With the completion of either of the three actions, then the score display will increment by the decided point value of that action and stay at that value until another of the three actions occurs or the player restarts the game.*

**Statement**: *As a player, whenever I press the fire button, my weapons should make some indication that they have fired and if they hit the enemy, then the enemy should react to being hit as well; as well as vice versa*

**Criteria**: *In either of the above situations, a visual and sound effect will occur from the firing entity, with a bullet sprite traveling from that entity to whatever is in the firing path, with whatever entity being hit by that bullet, making a visual and sound effect occur, potentially causing the display of the hit entity’s health to change if it does have health*

**Statement**: *As a player, when I run into an enemy with my ship, there should be a feeling of significant impact rather than awkwardly phasing through.*

**Criteria**: *When two entities collide in the game, a sound effect will occur, damage will be calculated for both entities, and the movement of both entities will be altered accordingly.*