



Ship Shooter Game Design Document

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1.0 Introduction

This document serves to detail the designs of a game called “Ship Shooter.”

2.0 Specifications

2.1 Concept

Ship Shooter is a top-down view shooting game. The player must fight his or her way through aerial combat, firing lasers at opponent airships, all while dodging their attacks.

2.2 Game Structure

The game is played on a standstill camera with a scrolling background. The background will be science fiction themed and may be planetary land or cities below. The ships and laser attacks are also science fiction themed.

2.3 Players

This game is intended to be played by one player on a standalone machine.

2.4 Action

The player will control his or her own airship to fight against the enemy horde. The player's primary attack is a rapid laser fire. Since there may be too many lasers on screen from enemies to avoid at certain times, the player has the abilities to dodge and be given invincibility frames for about one second. Depending on the feel of this after play testing, this may be given a cooldown.

2.5 Objective

The objective of this game is to fight your way out of the enemy ambush. The player will need to survive until the end of the level. Once the end is reached, the player's score is calculated base on how many enemy aircrafts were destroyed.

2.6 Graphics

Graphics are designed using Blender. Minimal animation will be used, if at all. There may be some animation for the dodging mechanism used by the player's airship or some other effect.

The background will be scrolling and will be 3d so that there is depth.

There will be a HUD on screen indicating the player's score and health.

3.0 Target System

Ship Shooter will be playable on PC and also exported as a WebGL build.

4.0 Development System

This game will be developed using Unity and C#.

5.0 Gameplay

5.1 World

The game is science fiction themed so it may be set on planets from a distant galaxy. The primary setting is in the air, hovering over the landscape of a planet, within the planet's atmosphere (not in space).

5.2 Enemy Ships

The enemy ships will be spawned outside of the camera view and then fly in from the top of the screen. These airships will be deployed automatically on a timed basis. More difficult ships will prolong the time until the next enemy ship is deployed onto the battlefield. Each ship will also have its own unique firing attack. This is explained in more detail below.

5.2.1 Ship Types

The difficulty is rated on a basis of 5 stars, with 5 being the most difficult.

Grunt

- Difficulty - ★
- Spawn Timer - Since grunt ships are weaker, the next ship will spawn very shortly after, possibly about one second.
- Attacks - The grunt ship will face towards the player and fire slow projectiles. These projectiles may be destroyed by the player's lasers.

Seeker

- Difficulty - ★★★★★
- Spawn Timer - These ships pose a greater threat than grunts. The spawn timer may be closer to about 7 - 10 seconds.
- Attacks - This ship will also face the player and fire projectiles which cannot be destroyed. Another potential concept is for the seeker to slowly move towards the player and explode when it gets close enough.

Multi-Fire Drone

- Difficulty - ★★★★★
- Spawn Timer - This ship is significantly more difficult to destroy compared to the others. The next ship will about 10 - 15 seconds after. motion around the y-axis, while firing projectiles from multiple firing points. These projectiles will be destroyable by the player's attacks.
- Attacks - This ship does not face the player like the others. Instead, it rotates in a clockwise

5.3 Controls

The game is played with a mouse and keyboard. The player's ship will rotate to face the mouse at all times. Basic left, right, up, and down movement is used with the WASD keys. The dodging mechanism is used by pressing the spacebar.

5.4 Player Specifications

The player begins with 100 health. Certain projectiles may do more damage to the player. These numbers will be determined after playtesting.

5.5 Other Game Objects

- Health Bubbles - Players can use health bubbles randomly spawned throughout the level to regain health. These may not be available in all level difficulties.
- Debris - There may be debris floating in the air which the player must also avoid or else they will receive damage.

5.6 Scoring

As previously mentioned, scoring is dependent on how many ships were destroyed. More difficult ships will reward increased points and bonus will be giving depending on how long the player went without taking any damage.

A player's score is saved upon completion of the level, whether it is a win or loss. If there are multiple levels, the player will have a limited number of lives before having to start back at level one, and resetting their score.