



**STUDIOS**

# Aero Wars

Will you survive?

You Won't.

# Table Of Contents

<b>Page 3</b>	<b>-----</b>	<b>Design History</b>
<b>Page 4</b>	<b>-----</b>	<b>Philosophy</b>
<b>Page 4</b>	<b>-----</b>	<b>Common Questions</b>
<b>Page 5</b>	<b>-----</b>	<b>Features</b>
<b>Page 6</b>	<b>-----</b>	<b>Rendering Systems</b>
<b>Page 6</b>	<b>-----</b>	<b>Camera</b>
<b>Page 6</b>	<b>-----</b>	<b>Game Engine</b>
<b>Page 7</b>	<b>-----</b>	<b>The World Layout</b>
<b>Page 8</b>	<b>-----</b>	<b>User Interface</b>
<b>Page 8</b>	<b>-----</b>	<b>Weapons Details</b>

# **Design History**

## **Version 1.0**

Initial release. No changes have been updated since.

# Game Overview

## Philosophy

### Philosophical point #1

The main aim of this game is entertain the user when they have nothing else to do. The game itself is not trying to compete with major titles like Subway Surfers or Temple Run. I simply wanted my game to be fun and something the user can play when they have nothing else to do.

### Philosophical point #2

I believe that when a game is created, it should be kept in mind that there are users out there who still use phones from 2010 and may not have the latest and greatest software or hardware. That is why I optimized the game to run on most Windows phone devices and on android phones which are running android 2.3 or above

## Common Questions

### What is the game?

Aero Wars is a 3D space shooter game. The ultimate goal of this game is survive as much as you can. The supplies are limited therefore you have to collect the health/ammunition pack while you're playing.

### Why create this game?

I have a passion for 3D shooters, also I believe it perfectly matches the theme "Endless Runner";

### Where does the game take place?

The game take place space. You are flying your spaceship and enemies are there to destroy you as usual. Your are provided with limited resources to use therefore you will have to continually fly as much as you can by killing maximum number of enemies.

### What do I control?

The player will control his/her spaceship.

### How many characters do I control?

You only control one character.

### What is the main focus?

The main focus of this game is to survive as long as possible.

### What's different?

There are many Space shooters game from very complex to simple. (This game Aero Wars) is a simple yet challenging. Better graphics and sounds track are integrated.

# Feature Set

## General Features

3D Graphics  
2D Graphics  
Sound  
Ammunition / Health pack  
Score Board  
Google Play Games Services ( Android only – available on 1.1 )

## Gameplay

The gameplay of Aero Wars is quite different from other infinite runners. The game adapts 3D and 2D elements to make the gameplay experience unique. This way, the game can be light enough to run on most devices and also look good. Visual effects like explosions and smoke add gist of realism to the game. Audio effects are also included to make the game more fun for the user.

## **Rendering System**

### **Overview**

Aero Wars uses a very unique rendering system. The primary rendering system is 3D but there are some elements of the game which are rendered in 2D. To make the game light and be able to run on majority of the devices, Most of the assets have already been pre rendered using external rendering tools to reduce the load for the game engine. This was done to optimize the game to the max level and make the game compatible with low-end smartphones.

### **2D/3D Rendering**

Three different rendering softwares were used to render and make all of the assets. Trimble Sketchup 2015 was used as the primary 3D modelling tool. Spaceships were created using this.

VRay 2.0 was used to render the sketchup models to achieve maximum resolution of 4K. 2D assets have extremely high resolution.

Finally, Unity came into play. It merely had to display the pre rendered assets. Unity's rendering system was the glue which held 2D and 3D rendered sprites and models together.

## **Camera**

### **Overview**

The camera stays in the fixed position.

## **Game Engine**

### **Overview**

The game engine used was Unity 4.6. Unity's interface, customizability and pre made tools made making a game quick and easy.

### **Game Engine Detail #1**

The best feature about unity is that it is able to export the game to all kinds of platforms – from Command line (headless) Linux to Xbox One.

### **Collision Detection**

Unity's little features like Ray Casting, colliders make detecting collision simple yet powerful. The possibilities with Unity's built in collision detectors are endless

# **The World Layout**

## **Overview**

The entire game is composed of 5 different scenes. Each scene handles different aspect of the game, like the menu scene handles all the GUI side of the game while the Play scene handles the game itself. Enemies spawn randomly and move towards the player. The camera is in a fixed position so it can't see the enemies spawning

## **Enemies and Monsters**

There is only one type of enemy. Other spaceships which are trying to take you down. You must blast or dodge your way through them.

# User Interface

## Overview

The user interface is simple and self-explanatory. The UI is programmed so, it scales itself to adjust properly with the screen.

## User Interface Detail #1 – Main Menu

Main menu is very simple. It has got a beautiful backdrop with the following elements:

- New Game
- Score
- Mute Sound
- How To Play
- Quit

## User Interface Detail #2 Leaderboard

A different scene that shows user's high score

# Weapons

## Overview

- Bullets

## Weapons Details #1 – Bullets

You are equipped with limited bullets / Health when you spawn. Random supplies pack are spawned throughout the scene.

# Musical Scores and Sound Effects

## Overview

There are plenty of sound effects in the game.

- Collision / Explosion sound
- Shooting sound
- Background music
- Power ups sound