

# Afterburner

Version 0.0

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<b>Version History</b>	<b>4</b>
<b>Game Overview</b>	<b>5</b>
Concept	5
Feature Set	5
Genre	5
Theme	5
Target Audience	5
Game Flow	5
Project Scope	5
<b>Gameplay and Mechanics</b>	<b>6</b>
Gameplay	6
Progression	6
Mission Structure	6
Objectives	6
Mechanics	6
Player	6
Enemies	6
<b>Setting</b>	<b>8</b>
Story	8
Cut Scenes	8
Game World	8
<b>Maps</b>	<b>9</b>
Level 1: Algiers	9
Level 2: Bastogne	9
Level 3: Normandy	9
Boss 1: Bomber	9
Level 4: Honduras	9
Level 5: Los Angeles	9
Boss 2: Wingman	9
<b>Interface</b>	<b>10</b>
Movement	10
Start Screen/Cut Scenes	10
<b>AI</b>	<b>11</b>
Pathfinding	11
Player	11

Enemies	11
Power-up Objects	11
<b>Concept Art</b>	<b>12</b>
Aircraft	12
Player Aircraft (Multiple Options)	12
Enemy Aircraft (Multiple Options)	12
Power-Up Objects	12
Start Screen	12
Mission Cut Scene	12
Mission Failure Scene	12
High Score Table	12
Map Tilesets	12
Level 1	12
Level 2	12
Level 3	12
Level 4	12
Level 5	13
Boss 1	13
Boss 2	13
Endless Level	13
<b>Sound Design</b>	<b>14</b>
Thrusters	14
Machine Guns	14
Missiles	14
Aircraft destruction	14
Kill confirmed	14
Player aircraft destruction	14
Game Over	14
Power-Up pick-up	14
Background music	14

# Version History

0.0.1 - First Deliverable Set

**0.1.0 - Milestone Delivery #1**

0.1.1 - Second Deliverable Set

0.1.2 - Third Deliverable Set

**0.2.0 - Milestone Delivery #2**

0.2.1 - Fourth Deliverable Set

0.2.2 - Fifth Deliverable Set

**0.3.0 - Alpha Release**

0.3.1 - Sixth Deliverable Set

0.3.2 - Seventh Deliverable Set

**0.4.0 - Beta Release**

0.4.1 - Eighth Deliverable Set

0.4.2 - Ninth Deliverable Set

**1.0.0 - Final Release**

# Game Overview

## Concept

Afterburner is a 2D aerial shooter game, where the player controls a modern jet fighter and has to dogfight against enemy aircraft. The player earns points based on the number of aircraft they shoot down, and they can earn additional points by picking up in-game power-up objects. After the player has successfully completed all of the missions their score is displayed before the player is allowed to play again or exit the game.

## Feature Set

Shooting, Survival

## Genre

Action/Indie

## Theme

Modern (fictional world)

## Target Audience

Action/Combat game fans

## Game Flow

Players progress by eliminating enemies and completing levels. Completing levels successfully awards the player with points, while failing missions (and subsequently restarting them) takes points away. If the player fails three missions they lose the game.

## Project Scope

The game has five main levels and two boss levels. All of the levels have to be completed in subsequent order to beat the game.

# Gameplay and Mechanics

## Gameplay

### Progression

Players progress by completing levels or “missions”. If the player fails a level they have to replay it for a penalty before moving on. If they fail three levels they lose the game. A player has beaten the game when they have successfully completed each level in succession.

### Mission Structure

The player controls a single aircraft. During missions, enemies pop in from the sides or the top of the screen and must be shot down in order to progress.

### Objectives

The main objective is to eliminate all enemy combatants without getting shot down. The objective of the game is to complete every level in a single run without losing all of your lives.

## Mechanics

### Player

The player controls an aircraft of their choosing. This has no impact on gameplay and is entirely cosmetic. However, the player can equip different upgrades for their aircraft that are selected in a pre-mission screen. These upgrades include: rate of fire upgrades, allowing the player to shoot faster; damage upgrades, which allow the player to do more damage with their weapon of choice; ammunition upgrades, which allow the player to carry more missiles; and a tracking upgrade, which allows missiles to follow the nearest target. The player has limited missiles, but unlimited machine gun ammunition

#### **Player**

- 100 HP
- Moves side-to-side at the bottom of the screen
- Missile (base):           30 damage           0.33 rounds per second
- Machine gun (base):       3 damage           3 rounds per second

### Enemies

Enemies will be more or less the same for every level. They will all perform the same and do the same amount of damage to the player. If time allows, they will change appearance based on the map they appear in.

**Enemy**

- 30 HP
- Can appear from the sides or the top of the screen
- Missile:       20 damage       0.25 rounds per second
- Machine gun:   3 damage        2 rounds per second

# Setting

## Story

You are a fighter pilot tasked with taking out the insurgent enemy aircraft. Your militia is small, so it's up to you to defeat all of the opposing fighters single-handedly. Fortunately, your base will be able to provide you support during the fight and between missions. Shoot down all of the enemy planes to secure your country's safety and victory!

## Cut Scenes

Cut scenes will consist of information about the previous mission, upcoming mission, and an update on your current score.

## Game World

The game has a balance of authenticity, realism, and cartoons. The color palettes will feature a wide range of blues, browns, greys, and greens, to give the environment a realistic look. Muted colors will be heavily utilized.



# Maps

## Level 1: Algiers

The first level is set in a desert city with scarred buildings. There is debris from destroyed aircraft and vehicles scattered everywhere.

## Level 2: Bastogne

The second level is set in the ruins of Bastogne. Snow covers the landscape of trees, crater-marked streets, and ruined buildings.

## Level 3: Normandy

The third level will be set on the Atlantic coast next to the famous Omaha Beach from Operation Overlord, a.k.a. D-Day. There is nothing below you but the black, unforgiving sea.

## Boss 1: Bomber

Before leaving Normandy you have to shoot down an enemy heavy bomber, but watch out for the rear tracking turret!

## Level 4: Honduras

The fourth level takes place over the jungle, with various buildings and debris strewn throughout.

## Level 5: Los Angeles

The final level is over the beach next to Los Angeles. The enemy's fighters have made it to the United States, do your best to hold off the assault as long as possible until reinforcements arrive.

## Boss 2: Wingman

As your final mission, you have to shoot down your rogue wingman who has turned against you. He's equipped with state of the art laser technology. Be careful!

# Interface

## Movement

The player will control their aircraft by using the arrow keys/WASD keys. The space bar or shift keys will fire ammunition.

## Start Screen/Cut Scenes

The player will use the mouse to select any menu options.

# AI

## Pathfinding

### Player

The player will have full control of their aircraft. It will move across the screen using the arrow keys/WASD, moving left or right, up or down, or a combination of the two axes. The aircraft will not rotate 360 degrees.

### Enemies

Enemy aircraft will fly across the screen on a predetermined path.

## Power-up Objects

The game will randomly generate and drop power-up objects on the map. The player will have a limited amount of time to “pick them up” before they disappear.

# Concept Art

## Aircraft

Player Aircraft (Multiple Options)

Enemy Aircraft (Multiple Options)

Power-Up Objects

Start Screen

Mission Cut Scene

Mission Failure Scene

High Score Table

## Map Tilesets

Level 1

Level 2

Level 3

Level 4

Level 5

Boss 1

Boss 2

Endless Level

# **Sound Design**

Thrusters

Machine Guns

Missiles

Aircraft destruction

Kill confirmed

Player aircraft destruction

Game Over

Power-Up pick-up

Background music