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| ­ | **Wings Over Avalon** |
| **November 2, 2018** | **Game Design Document** *v1.00* |
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# Table of Contents

[1.0 Table of Contents 2](#_Toc528922312)

[2.0 Change Log 4](#_Toc528922313)

[3.0 Executive Summary 5](#_Toc528922314)

[3.1 Description 5](#_Toc528922315)

[3.2 Features 5](#_Toc528922316)

[3.3 Project Goals 5](#_Toc528922317)

[3.4 Gameplay Overview 5](#_Toc528922318)

[3.5 First 5 Minutes 6](#_Toc528922319)

[3.6 Story 6](#_Toc528922320)

[4.0 HUD 7](#_Toc528922321)

[4.1 Informational HUD Elements 7](#_Toc528922322)

[4.2 Interactive HUD Elements 7](#_Toc528922323)

[4.3 Animations and Transitions 7](#_Toc528922324)

[4.4 Screen Layering 8](#_Toc528922325)

[4.5 In-Game Visual Feedback 8](#_Toc528922326)

[5.0 Gameplay 8](#_Toc528922327)

[5.1 Intro Scene 9](#_Toc528922329)

[5.2 Character Interactions 9](#_Toc528922330)

[5.3 Special Features 9](#_Toc528922331)

[5.4 Aircraft and Weapon Purchasing 9](#_Toc528922332)

[5.5 Levels and Missions (can be a new section if VERY detailed) 9](#_Toc528922333)

[5.6 Mission Completion Overview Chart 10](#_Toc528922334)

[5.7 Ace Encounters 14](#_Toc528922335)

[5.8 Weapons 14](#_Toc528922336)

[5.9 Armor 14](#_Toc528922337)

[5.10 Difficulty Settings and Handling 14](#_Toc528922338)

[5.11 Scoring 14](#_Toc528922339)

[5.12 (Achievements) 15](#_Toc528922340)

[5.13 Other Trackable Stats 16](#_Toc528922341)

[6.0 Game Progression 16](#_Toc528922342)

[6.1 Campaign 16](#_Toc528922343)

[6.2 Campaign Mission Progression 17](#_Toc528922344)

[6.3 Endless Mode 17](#_Toc528922345)

[7.0 UNLOCKABLES 18](#_Toc528922346)

[7.1 Unlockables per Mission 19](#_Toc528922347)

[8.0 Front End 20](#_Toc528922348)

[8.1 Menu Flow 20](#_Toc528922349)

[8.2 Saving and Resuming 21](#_Toc528922350)

[8.3 Help Screens 21](#_Toc528922351)

[8.4 Endless Mode Leaderboards 21](#_Toc528922352)

[9.0 Content 22](#_Toc528922353)

[9.1 Character Animations 22](#_Toc528922354)

[9.2 NPC List 22](#_Toc528922355)

[9.3 SFX Assets 23](#_Toc528922356)

[9.4 Levels 23](#_Toc528922357)

[10.0 Controls 23](#_Toc528922358)

[10.2 Controls Overview – Expert 23](#_Toc528922359)

[11.0 Appendix 24](#_Toc528922360)

[11.1 Text 24](#_Toc528922361)

[11.2 Audio 24](#_Toc528922362)

[11.3 Game Screens Overview 25](#_Toc528922363)

[11.4 Marketing 26](#_Toc528922364)

# Change Log

|  |  |  |  |
| --- | --- | --- | --- |
| Version | Changes | Changed By | Date |
| *1.00* | *Document filled out* | *Darren Roy* | *2nd Nov,2018* |
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# Executive Summary

## Description

Take control of a turncoat pilot on a mission of redemption. Champion his rise from traitor to hero as he excels through the ranks and proves his detractors wrong. Will good triumph over evil, or will Razorback fail to accomplish his dreams of a world without hate? Only you can truly decide.

## Features

* Non-linear story allows for multiple different gameplay paths to be explored, each with their own individual stories to tell.
* Each gameplay path features a hard moral choice the player has to make which will greatly affect the outcome of the war.
* A very broad spectrum of aircraft and weapons means there’s an aircraft for virtually everyone.
* Ranked online gameplay to determine who the strongest aces really are.\*

\*proposed feature, may not be in final release

## Project Goals

The overall project goal is to develop this air combat simulation/action game and put it out onto the market. If executed successfully this game could breathe new life into the genre with its unique story and decision-making system.

### License Integrity

We are borrowing IP from a number of different aircraft manufacturers, including: Boeing, Sukhoi Design Bureau, and Lockheed Martin. All of the different IP’s borrowed/licensed will be for aircraft to be used in the game.

### Visual Treatment

The visual style of this game will need to be as realistic as possible so that everything feels as real as possible. Cutscenes will need to be highly detailed and finely tuned. Aircraft models will need to be as precise as possible.

## Gameplay Overview

The gameplay of Wings Over Avalon is fairly standard to what most expect from an air combat simulation/action game, but with the twist of the player choosing their combat specialization. The player can choose to focus on air-to-ground attacks, air-to-air attacks, or a healthy mixture of both. This means the gameplay will differ greatly between each of the three storylines, making each play through feel fresh.

### Player Objectives

1. The player is trying to re-establish their name and win the war against Virenis in the process.
2. The player also wants to realize their dream of a world without hate, which they believe can be done by defeating the nation of Virenis in battle.

### Game Modes

**Story Mode:**

Wings Over Avalon features a non-linear story which branches based on the decisions of the player. Each mode progresses through the rise from traitor to hero, with their own nuances and missions during said rise. The story then ends in one of two outcomes: The player succeeding and Avalon winning the war, or the player failing and Avalon losing the war.

**Top Gun Mode:**

In Top Gun mode the player fights against endless waves of enemy aircraft, with an enemy ace squadron appearing every 10 waves. The player is given unlimited ammunition and choice of any aircraft in the game (aside from secret aircraft) regardless of whether they’ve been purchased in the campaign or not.

## First 5 Minutes

During the first five minutes the player experiences a cutscene in which they learn about Razorback, and about the war. After the completion of the cutscene the gameplay begins, the player taking control of Razorback’s F4 Phantom. The player is chased into Avalonian airspace by a Virenis Hunting Squadron, the 31st Tactical Hunting Squadron of the Virenis Royal Air Force: Shroud Team. The player and Shroud team then encounter an Avalonian squadron, the 14th Tactical Fighter Wing of the Avalonian Air Defense Force: Prowler Team. The first mission ends with the annihilation of Shroud team, and with Prowler team successfully guiding Razorback to a nearby airbase.

## Story

“An intense, action-packed story of a pilot sick to death of war who is willing to do whatever he can to bring peace to the world.”

# HUD

(gameplay screen, mock-up)

## Informational HUD Elements

Minimap

Aircraft damage levels

Weapons information

Speed

Altitude

Pitch

Compass heading

Time remaining

## Interactive HUD Elements

Weapon Toggle

Choices:

### Choice System

The choice system allows the player to make gameplay-altering decisions during some missions. The options will appear on the lower-middle segment of the screen as indicated, and can be chosen via the on-screen button prompts.

* **Choosing an Option:** Choosing an option will result in the gameplay being altered accordingly. If using a controller options can be chosen by pushing the D-Pad in the appropriate direction. If using a keyboard options can be chosen by pressing the correlated button.

## Animations and Transitions

Animations involving the aircraft will need to be as smooth and refined as possible, and jaggedness will take away from the realistic looking movement of the airplanes. Transitions will be done by fading the screen to black. If a transition happens during a mission (e.g. a mid-mission cutscene) it will happen instantaneously

### Loading Screen

Whenever the player launches the game or starts a missions the loading screen appears.

* The loading screen features either mission information, or if just launching the game it features overall game information. (Player kill count, time played, etc.)
* The loading bar is located at the bottom left-hand corner of the screen and is animated by having three dots in a line which cycle as the game loads.

**Transitions**

The transitions utilized will give cutscenes time to load while not detracting too much from the gameplay. The screen fades out and the cutscene begins. Most mid-mission cutscenes will start instantaneous, with a small warning to the player beforehand.

### Main Menu Animations:

* Every button will change colour slightly and get bigger when hovered over.
* In the background there will be a looping animation of an aircraft in flight. It will need to be an appealing colour that won’t detract or distract the player from the main menu.

### Mission Select Screen Animations:

* Much like the main menu, currently highlighted missions will have their name enlarged and the colour changed slightly so the player can identify their choice.

## Screen Layering

The main gameplay screens will need to have two layers, the on-screen HUD and the terrain/sky/enemy units.

## In-Game Visual Feedback

During gameplay there will be numerous method of visual feedback: There will be an on-screen display saying whether or not a player’s shot (bullets, missiles, or special weapons) either: hit, missed, or destroyed. Also if the player is hit the screen will shake violently and the damage indicator will go up. The HUD will also change colour if an enemy aircraft is locked onto the player.

* **Gameplay Feedback:**
  + If locked on the target will change from green to red.
  + If an enemy is locked onto you the HUD will change colour.
* **Successful or Failed Actions**
  + Successful hits will be indicated by a ‘HIT’ message.
  + Successful target destruction will be indicated by a ‘DESTROYED’ message.
  + Missing your shot will trigger a ‘MISS’ message.
  + Mission Failure will trigger a ‘MISSION FAILED’ message.
  + Mission Success will trigger a ‘MISSION CLEAR’ message.
* **Scoring Feedback:**
  + Point value for each individual craft will be displayed in the scoring box, if appropriate to the level.
  + Destroying a craft or object will add it’s point value to the score.

# Gameplay

The gameplay will consist of numerous missions which the player embarks on as Razorback. They may choose the aircraft they’re using, if they have purchased it with the in-game currency. The flight mechanics will need to be highly tuned to the real aircraft, which means research will have to be done on each individual aircraft. The missile and lock-on mechanics will also need a good deal of fine tuning so that they end up being accurate.

## Intro Scene

The intro sequence for Wings Over Avalon would introduce the player to the story.

### Details.

The opening cutscene shows Razorback sitting in a barracks with a voice over monologue, narrated by Razorback himself. He talks about his choice to flee Virenis before the start of the upcoming war. The intro sequence then sees him stealthily make his way to the only aircraft he can manage to sneak out in, an F4 Phantom. The cutscene ends with him taking off as alarms start going off and a hunting squadron, Shroud Team, is scrambled.

## Character Interactions

* The only direct character interaction is during cutscenes, however the numerous radio messages that are heard during missions help to set the tone of the game. They go from ones of disgust to ones of admiration as he transitions from traitor to war hero.
* In cutscenes his fellow officers tend to act neutral towards him for the most part, as they’re expressly told to leave their feelings about him at the door and focus on the job.

## Special Features

* The main special feature of the game is the decision making system embedded into the story which allows there to multiple gameplay paths.

## Aircraft and Weapon Purchasing

* As you progress through the game new aircraft are unlocked and made available for purchase with the money you earn from missions. Once you’ve purchased an aircraft you may purchase any number of its special weapons.

## Levels and Missions (can be a new section if VERY detailed)

* Levels are considered to be the different areas of the world. There are three main levels:
  + Virenis: Virenis as a continent is considered a level, all of the terrain on Virenis will be similar unless affected by the player.
    - Airspace JL4: Airspace JL4 is a mid-sized chunk of unmonitored airspace over Virenis, near the border. It is often referred to as ‘The Cornerstone’, as it is the main airspace pilots use to test themselves. Any aircraft seen flying into The Cornerstone is considered free game by the opposing faction, a fact recognized by both military parties.
  + Avalon: Avalon is also considered a level. Like Virenis the terrain will mostly be similar unless otherwise affected by the player.
* Missions: Wings Over Avalon will have 63 missions total, 27 missions for each story path with the first 8 and the last mission shared between all paths.

## Mission Completion Overview Chart

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | **Success** | **Failure** | **Not completed** | **Special Feature?** | **Upgrades?** | **Other Elements** |
| **in time** |
| **Mission 1** | | | | | | |
| An Angel on Broken Wings | The destruction of Shroud Team and the safe landing at the designated airbase. | Crashing; getting shot down; or failing to land will all result in mission failure. | If the mission is not completed in time it will also result in mission failure. | The first appearance of a named squadron in Wings Over Avalon. | Following the completion of the mission the player will be able to purchase a J35J Drakken. | The first appearance of Prowler Team. |
| **Mission 8** | | | | | | |
| The Cornerstone | The successful navigation and 10 minute survival inside airspace JL4. Then a successful tactical retreat upon the arrival of Tachyon team. | Crashing; getting shot down; or failing to retreat will all result in mission failure. | If the player does not retreat in time they will fail the mission. | The first true Ace Squadron to appear. | Upon the successful completion of this mission the player unlocks the ability to purchase the Typhoon. | The first appearance of enemy ace squadron Tachyon team. |
| **Mission 12 A** | | | | | | |
| Sleep Paralysis | The successful destruction of the Virenis Night Convoy and their Air Protection that are working their way through Avalonian territory. |  | If the Night Convoy is not destroyed before it can escape out of your flight range then it will trigger a mission failure. | A mixture of both air-to-air and air-to-ground skill is required to successfully complete the mission. | Upon the successful completion of the mission the MIG-29 becomes available for purchase. |  |
|  | The first real establishment of multirole dominance by Razorback and Arrowhead. |
| Crashing; or getting shot down results in mission failure. |  |
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| **Mission 12 B** |  |  |  |  |  |  |
| Aces At War | The successful penetration and destruction of all aircraft within airspace JL4 by Razorback and Arrowhead – Viper Team. | Crashing; or getting shot down results in mission failure. | Failing to destroy all targets within the time limit will trigger a mission failure. | High-pace combat means there’s never a dull moment in this mission. | Upon the completion of the mission the FA-18 Super Hornet becomes available for purchase. | The first real establishment of aerial dominance by Razorback and Arrowhead. |
| **Mission 12 C** |  |  |  |  |  |  |
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| Operation: Foxhound | The successful destruction of Fort Foxhound, Virenis’ primary fort. | Crashing; or getting shot down results in mission failure. | Failure to destroy the base within the time limit will trigger mission failure. | Careful maneuverability and flight skills will be required in order to survive and destroy Fort Foxhound. | Upon the completion of the mission the A10-A Thunderbolt becomes available for purchase. | The first real establishment of air-to-ground dominance by Razorback and Arrowhead. |
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| **Mission 15 A** |  |  |  |  |  |  |
| Swallow’s Tail | The successful destruction of the Virenis Tactical Radar services for the North-Eastern quarter of the country, and the kills of the 5493rd Tactical Fighter Wing: Gulf Team | Crashing; or getting shot down results in mission failure. | Failure to destroy the radar services, Gulf team, or both of the above within the time constraints results in mission failure. | A delicate balance of quick maneuvers and precise aircraft control will be require to complete the mission. | When the mission is completed the Su-27 will be available for purchase. | Further establishment of Viper team’s multirole superiority. |
| **Mission 15 B** |  |  |  |  |  |  |
| Flight 89 | Safely escort Air Avalon Flight 89 to the nearest air force base before Tachyon Team or the other air forces deployed can destroy the plane and kill the military officers onboard. Viper team then has to shoot down Tachyon Team. | Crashing; getting shot down; or allowing Flight 89 to be shot down results in mission failure. | Failure to shoot down Tachyon Team within the time limit will result in mission failure. | Spatial awareness is critical during this mission. You have to make sure to prioritize closer targets first. | Upon completion of the mission the F22 Raptor will become available for purchase. | Further establishment of Viper team’s aerial superiority, and the destruction of Tachyon Team. |
| **Mission 15 C** |  |  |  |  |  |  |
| Operation: Rolling Thunder | The successful destruction of the 82nd Tank Battalion of the Virenis Royal Army. | Crashing; or getting shot down results in mission failure. | Failure to destroy the tank battalion within the time limit will result in mission failure. | Precision flying will be necessary to avoid the driving waves of tank fire. | Upon the completion of the mission the F-4 Phantom II will be unlocked. | Further establishment of Viper team’s air-to-ground superiority. |
| **Mission 21 A** |  |  |  |  |  |  |
| Wings Over Avalon | The successful interception and destruction of the 912th Bomber division of the Virenis Royal Air Force, as well as the tanks they drop from their bomb bays. | Crashing; or getting shot down results in mission failure. | Failure to destroy all units within the time limit will result in mission failure. | Quick thinking and careful special weapon selection will aid the player in completing the mission. | Upon completion of the mission the F16 Fighting Falcon will become available for purchase. | The only mission in the game in which you are scrambled for an intercept. |
| **Mission 21 B** |  |  |  |  |  |  |
| Skies Unknown | Mission success is achieved by cementing Viper Team’s dominance over JL4, and then safely retreating upon the arrival of the KOR-872 Phoenix as it decimates other units in its path. | Crashing; or getting shot down results in mission failure. | If the player fails to destroy all of the units within the allotted time they will fail the mission. | Time and missile management will play a big role in this mission. | Upon completion of the mission the Su-37 Terminator will become available for purchase. | The entrance of the first, and only, original aircraft in Wings Over Avalon. |
| **Mission 21 C** |  |  |  |  |  |  |
| Operation: Danger Line | The siege, and destruction, of the Danger Line, the front line of defense of the capital city of Virenis, Ashborne. Among the notable units to be destroyed are the 98th Tank Battalion of the Virenis Royal Army, and the 43rd Anti-Air Defense Divison of the Virenis Royal Army. | Crashing; or getting shot down results in mission failure. | If the play fails to destroy all of the units in the Danger Line within the time limit they will fail the mission. | Missile and special weapon management will be key. Wingman management will also be very important. | Upon completion of this mission the F35 Lightning will become available for purchase. | The only mission in the game to feature the destruction of two named enemy formations. |
| **Mission 27** |  |  |  |  |  |  |
| **Razor’s Edge** | Following the death of Arrowhead in mission 26 Razorback now has to finish the job alone. Successfully destroy the experimental aircraft KOR-872 Phoenix and put an end to the war.  Only playable by path C if they choose ‘no’ for the moral choice in mission 26. | Crashing; or getting shot down results in mission failure. | There is no penalty for failing to complete the mission within the time limit, as there is no time limit. | To best the Phoenix the player will have to put to good use all of the skills they’ve learned and acquired throughout the other missions. | Upon completion of the mission the KOR-872 Phoenix will become available for purchase. | To win the war against Virenis. |

## Ace Encounters

* ‘Ace Encounters’ are Wings Over Avalon’s form of boss battles. For the air-to-ground playpath there are no ‘Ace Encounters’, but there are ‘Elite Formation’ encounters, i.e. an elite tank battalion. There are three different elite squadrons encountered by Path A, four by Path B, and one by Path C (Shroud Team, mission one) and four elite formations.

## Weapons

* Each aircraft have four different special weapons available, and the purchase of an aircraft also comes with its default special weapon. Special weapons vary based on the purpose of an aircraft (ex. A fighter made for air-to-air missions won’t have more than one air-to-ground weapon, if any at all.)

## Armor

* Each aircraft has a different armor rating, which affects how much damage it can absorb. Generally fighters have a very low armor rating, requiring 1-2 missiles to shoot down, depending on difficulty. Multirole have a mid-armor rating, but generally follow fighters with 1-2 missiles to shoot it down. Attackers have a high armor rating, generally requiring 2-3 missiles to shoot down depending on difficulty.

## Difficulty Settings and Handling

The game gets more and more difficult because of the strength and volume of enemies faced. The further you progress the stronger the aces get, and the more non-target enemies appear in the level.

### Career Mode Difficulty Curve

As modes go the difficulty curves upward both during gameplay and during difficulty selection. During gameplay the curve rises to peak at mission 27. During difficulty selection the modes get exponentially harder: Beginner, Easy, Normal, Hard, Ace, Ace of Legend.

### Endless Mode Difficulty Curve

In endless mode the difficulty rises on a constant curve for nine levels, then spikes on the 10th level, that sets ace encounter. The constant curve then resumes from the ace encounter for the next 9, rinse and repeat.

### Data Balancing Considerations

* Harder modes will not be available off the bat, so the play shouldn’t be able to get in over their head off the bat.
* With the constant increase it allows the player to adapt rather than get caught off guard by a difficulty spike.
* Endless mode is supposed to get difficult fast, as it’s supposed to be the ultimate test for the player to see just how good they are.

## Scoring

The scoring system works on a by-unit basis. Different units have different values, usually depending on difficulty to destroy or whether or not they’re a target.

All scoring variables adhere to the ‘global norm’, which is broken down in section 5.11.1.

### Scoring System:

Air Units:

All Aces: 400 points per unit.

All other named aircraft: 300 points per unit.

Large aircraft (E767s, C130s, etc.): 200 points per unit.

All other miscellaneous aircraft: 80 points per unit, 120 if a target.

Ground Units:

Elite Formation units: 250 points per unit.

Large units (pillboxes, fortress towers, grounded aircraft, etc.): 150 points per unit.

Miscellaneous ground units: 80 points per unit, 120 if a target.

## (Achievements)

* The game will mostly have achievements centered around kills and unlockables. There will be many milestone achievements for both of these.

### Achievements Earned Screen

Achievements will appear in the same location a ‘destroyed’, ‘miss’, or ‘hit’ notification would, with an aircraft and emblem and the name underneath.

### (Achievements) List

|  |  |  |  |
| --- | --- | --- | --- |
| Achievement | Description | Handle | Category |
|  |  |  |  |
| Kill Confirmed | Shoot down your first aircraft. | First Blood | Kills |
| Kill Count: I | Shoot down 5 aircraft. | Kill Count: 5 | Kills |
| Kill Count: II | Shoot down 15 aircraft. | Kill Count: 15 | Kills |
| Kill Count: III | Shoot down 30 aircraft. | Kill Count: 30 | Kills |
| Kill Count: IV | Shoot down 75 aircraft. | Kill Count: 75 | Kills |
| Kill Count V | Shoot down 150 aircraft. | Kill Count: 150 | Kills |
| Aircraft Purchased | Purchase your first aircraft. | Aircraft Purchased | Unlockables |
| Aircraft Accumulator | Purchase 5 aircraft. | Aircraft Collector: 5 | Unlockables |
| Aircraft Purchaser | Purchase 10 aircraft. | Aircraft Collector: 10 | Unlockables |
| Aircraft Collector | Purchase 15 aircraft. | Aircraft Collector: 15 | Unlockables |
| Aircraft Connoisseur | Purchase all aircraft. | Aircraft Collector: Complete | Unlockables |
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## Other Trackable Stats

|  |
| --- |
| Other Tracked Stats: |
| Kills: X=Current Kill Total |
| Hit percentage: X=% of time missiles hit. |
| Campaign Completion: Overall campaign completion %. |
| Time played: Time spent in game. |
| Online matches played: Number of matches played online. |
| Online matches won: Number of matches won online. |

# Game Progression

## Campaign

The campaign mode features three prominent paths: Multirole, Air-to-Air, Air-to-Ground. The player’s choices in missions 1-8 decide which path the player will end up taking from mission 9 onwards.

### Campaign Progression Flow (Flowchart)

### Flowchart Element 1

* Mission 8 split: Depending on the choices of the player in missions 1-8 they will be placed on one of three story paths. If they favored air-to-ground they will be placed on the air-to-ground route, if they favored air-to-air they will be placed on the air-to-air path, and if they did a health mixture of both they will be placed on the multirole path. The story remains split until Mission 26.

### Flowchart Element 2

* Mission 26 convergence: All three paths converge at mission 26 to funnel down into the mission: Razor’s Edge… Unless you choose ‘no’ to dropping the nuclear bomb on Ashborne. In mission 26C there is a moral decision on whether or not to end the war by dropping the nuclear bomb equipped to your aircraft on the city of Ashborne, or to hold off and try to end the war by other means. If the bomb is dropped the player completes the campaign on mission 26. If the player elects not to drop the bomb then they will proceed into mission 27 upon the arrival of the KOR-872 Phoenix.

### Level Won (Game Over)

* When the player successfully completes the campaign they will receive one of four cutscenes depending on their path: Campaign Clear: Multirole, Campaign Clear: Ace, Campaign Clear: Attacker A (bomb-dropped ending), Campaign Clear: Attacker B (bomb not dropped ending).

### Level Failed (Game Over)

* Any time in which the player fails a mission they will be given the option to quit or retry, there is no permanent game over.

## Campaign Mission Progression

|  |  |  |  |
| --- | --- | --- | --- |
| **Levels** | **New Features** | **# of Enemies** | **# of Stages** |
|  |  |  |  |
| 1 | Debut of Prowler Team, Debut & Destruction of Shroud Team | 5 | 2 |
| 2 | New Aircraft | 12 | 1 |
| 3 | N/A | 15 | 1 |
| 4 | Allied Interactions | 22 | 1 |
| 5 | New Aircraft | 8 | 1 |
| 6 | Establishment of Viper Team | 11 | 2 |
| 7 | N/A | 6 | 1 |
| 8 | First Major Dogfight, Debut of Tachyon Team (enemy) | 40 | 2 |
| 9B | N/A | 18 | 1 |
| 10B | New Aircraft, Debut & Destruction of Anvil Team (enemy) | 16 | 2 |
| 11B | N/A | 22 | 1 |
| 12B | New Aircraft, Return of JL4 | 38 | 1 |
| 13B | N/A | 7 | 1 |
| 14B | N/A | 19 | 1 |
| 15B | Destruction of Tachyon Team | 20 | 3 |
| 16B | New Aircraft, Largest Dogfight in Wings Over Avalon outside JL4 | 62 | 1 |
| 17B | N/A | 12 | 1 |
| 18B | N/A | 30 | 1 |
| 19B | Debut of Zephyr Team | 44 | 2 |
| 20B | New Aircraft | 28 | 1 |
| 21B | Largest Dogfight in Wings over Avalon, Debut of the KOR-872 Phoenix | 90 | 2 |
| 22B | N/A | 52 | 1 |
| 23B | Destruction of Zephyr Team | 29 | 2 |
| 24B | N/A | 17 | 1 |
| 25B | N/A | 10 | 1 |
| 26B | Battle for Air Superiority over Ashborne; Death of Arrowhead | 50 | 2 |
| 27 | Destruction of the KOR-872 Phoenix | 1 | 4 |
|  |  |  |  |

## Endless Mode

|  |  |  |  |
| --- | --- | --- | --- |
| **Levels** | **New Features** | **# of Enemies** | **# of Stages** |
|  |  |  |  |
| 1 | Endless Mode Begins | 5 | 1 |
| 2 | Wave 2; Enemies Increase | 7 | 1 |
| 3 | Wave 3; Enemies Increase | 9 | 1 |
| 4 | Wave 4; Enemies Increase | 11 | 1 |
| 5 | Wave 5; Enemies Increase | 13 | 1 |
| 6 | Wave 6; Enemies Increase | 15 | 1 |
| 7 | Wave 7; Enemies Increase | 17 | 1 |
| 8 | Wave 8; Enemies Increase | 19 | 1 |
| 9 | Wave 9; Enemies Increase | 21 | 1 |
| 10 | First Ace Wave; Significant Difficulty Increase | 7 | 1 |
|  |  |  |  |

# UNLOCKABLES

Overview.

**Unlockables List:**

|  |  |  |
| --- | --- | --- |
| **Unlockables** | **Gameplay Impact** | **In-Game Message** |
|  |  |  |
| **J35J Drakken** | Improvements to handling/effectiveness | The J35J Drakken is now available for purchase. |
| **Typhoon** | Major improvements to air-based combat effectiveness | The Typhoon is now available for purchase. |
| **MIG-29** | First true multirole fighter | The MIG-29 is now available for purchase. |
| **FA-18 Super Hornet** | Impressive air-to-air fighter boasting great statistics. | The FA-18 Super Hornet is now available for purchase. |
| **A10-A Thunderbolt** | Tried & true ground attacker known for its effectiveness. | The A10-A Thunderbolt is now available for purchase. |
| **Su-27** | One of the most effective multirole fighters in the game. Boasts a high load-out capability. | The Su-27 is now available for purchase. |
| **F22 Raptor** | A high-performance, high load-out fighter. Leaps and bounds ahead of the FA-18 in terms of performance. | The F22 Raptor is now available for purchase. |
| **F-4 Phantom II** | Upgraded version of the initial aircraft Razorback flies. Greatly increased effectiveness on all fronts, but mainly for ground-attacking. | The F-4 Phantom II is now available for purchase. |
| **F16 Fighting Falcon** | The best multirole fighter in the game. The ideal choice for the multirole pilot due to its excellent maneuverability and very high load out. | The F16 Fighting Falcon is now available for purchase. |
| **Su-37 Terminator** | The greatest air-to-air fighter ever constructed boasting the highest maneuverability in all of aviation. It’s impressive, 16 target tracking capabilities make it a force to be reckoned with. | The Su-37 Terminator is now available for purchase. |
| **F35 Lightning** | The best ground attacker utilized in the game. It has the best load out capabilities of any aircraft, making it able to adapt to virtually any situation. | The F35 Lightning is now available for purchase. |
| **KOR-872 Phoenix** | An aircraft above and beyond everything else. It excels past its competition in all aspects, boasting many futuristic technologies. | Congratulations. The KOR-872 Phoenix is now available for purchase.w |
|  |  |  |

## Unlockables per Mission

**Number of unlockables unlocked at the end of each mission:**

|  |  |
| --- | --- |
| Missions | Items Unlocked |
| 1 | 1 |
| 2 | 2 |
| 3 | 0 |
| 4 | 0 |
| 5 | 2 |
| 6 | 1 |
| 7 | 1 |
| 8 | 1 |
| 9 | 2 |
| 10 | 0 |
| 11 | 0 |
| 12 | 1 |
| 13 | 0 |
| 14 | 1 |
| 15 | 1 |
| 16 | 1 |
| 17 | 3 |
| 18 | 1 |
| 19 | 1 |
| 20 | 0 |
| 21 | 1 |
| 22 | 0 |
| 23 | 1 |
| 24 | 1 |
| 25 | 0 |
| 26 | 1 |
| 27 | 1 |

# 

# Front End

## Menu Flow

### Main Menu

The main menu of Wings Over Avalon is very straightforward and easy to follow. Each option branches off into more options, or in some cases is a single-option selection (like Exit Game).

* New Game
* Start Game
* Online
* Endless Mode
* Records
* Options
* Exit Game

The menu screen itself features an F35 Lightning in the background fly over Virenis.

### Records

* Kill Count
* Time played
* Online Stats
  + Online Matches Played
  + Online Matches Won
* Achievements
* Back

The Records screen will also feature the F35 Lightning flying over Virenis in the background.

### Options Menus

**From Main Menu:**

* Controls
* Save Game
* Graphics Options
* Audio Options
* Help
* Back

Under volume options there are sliders for Master Volume, Music Volume, Sound Effects Volume, and a checkbox for 3D Audio.

### Help Menu (main)

The Help menu will automatically launch the tutorial when accessed, however it will allow the player to skip to any part of the tutorial to find out what they need to know.

### Credits

The credits can only be viewed upon completion of the game.

### Pause Menu

The pause menu contains three options: resume, options, quit. Options breaks down into the normal options menu, minus the ability to save the game. The help menu accessed in-game will give mission-specific help as well as a few general bits of help.

## Saving and Resuming

### Saving

Saving is recorded whenever:

* 1. The player completes a mission.
  2. The player quits the game.
  3. The player elects to save the game.

**The following Game State data should be saved:**

* Mission completion
* Kill Count
* Time Played
* Achievements

### Resuming

If the game is interrupted (ex. If the player tabs out while not paused, if the game is minimized while not pause) then the game will resume on the pause screen.

If the game is restarted it will resume on the main menu. If a mission is restarted the game will resume at the start of the mission.

## Help Screens

There are two main help menus:

* Main Menu: The Main Menu help menu launches the tutorial with the ability to skip to whichever section the player needs.
* Mission Menu: If the help menu is accessed from the mission pause menu then the help menu displays mission-specific information.

### Help Page Layout

If the help information extends beyond one menu page then there will be an option to advance to the next page. If not it will be laid out on the one menu page.

## Endless Mode Leaderboards

The Endless Mode Leaderboards are contained within a zoomed-in view of the F35’s cockpit windscreen, and contain three list options: Friends, Worldwide, and Personal. The options can be switched and will display appropriate information within the Leaderboard screen.

# Content

## Character Animations

* The only character animations necessary, other than all of the flight physics and animations, are for characters involved in cutscenes. Those characters are:
  + Razorback
  + Prowler 1
  + Base Commander (Post-Mission 1 cutscene)
  + Arrowhead
  + Tachyon 1
  + Zephyr 1
  + Phoenix
  + 15 or so different enemy pilots (background characters)
  + 25 or so allied pilots (background characters)

## NPC List

|  |  |  |  |
| --- | --- | --- | --- |
| **Guest Name** | **Missiles Needed To Kill** | **Evasion Rate**  **(1-10)** | **NPC Description** |
|  |  |  |  |
| **Shroud 1** | 2 | 3 | Shroud 1 is the leader of Shroud Team. He is part of the first ace encounter in the game. He is also the first Ace Team Leader destroyed. Shroud 1 and his team fly MIG-29’s. |
| **Tachyon 1** | 3 | 6 | Tachyon 1 is the leader of Tachyon Team. He is part of the second ace encounter in the game. He and his team driver the player out of airspace JL4 at the end of mission 8. They are then shot down in mission 15B. Tachyon 1 and his team fly FA-18 Super Hornets. |
| **Anvil 1** | 2 | 4 | Anvil 1 is the leader of Anvil team, and is part of the third ace encounter in the game. Even though he is part of the third encounter his team is the second team shot down by Viper Team, in mission 10B. Anvil 1 and his team fly Typhoons. |
| **Zephyr 1** | 3 | 8 | Zephyr 1 is the leader of Zephyr team, and is part of the fourth ace encounter in the game. Zephyr Team, and Zephyr 1, are shot down at the end of mission 23B. Zephyr 1 and his team fly MIG-35s. |
| **Phoenix** | 20 | 10 | Phoenix is the final ace encountered in Wings Over Avalon. He makes his first appearance in mission 22A, 22B, and mission 25C. He is shot down in mission 27. He flies the KOR-872 Phoenix. |
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## SFX Assets

For sound effects we will need a multitude of things, including:

**Distinctly different engine sounds for each aircraft**

**Missile fire sounds**

**Missile hit sounds**

**Gun fire sounds**

**Weapon switch sounds**

**Lock-On sounds**

**Missile alerts**

## Levels

* Missions 1-6 (Paths A, B, C), and 21 (Path C) are set in the skies over Avalon. There are a range of different terrain parts to avoid, including mountains in mission 3, and buildings in mission 5.
* Missions 7-27 (A Path, B Path), 7-20, 22-27 (Path C) are set in Virenis. There are many, many different terrain bits to avoid including houses, skyscrapers, mountains, hills, and canyon walls.

# Controls

General Control Mechanisms: Wings Over Avalon can be played with:

* A Keyboard
* A Playstation 3 or 4 controller
* An Xbox 360 or Xbox One controller
* A flight stick

### Layout and Description

The main item used for controlling the game will be a console controller (Playstation, Xbox). That is what the bulk of gameplay testing will be done on, as well.

## Controls Overview – Expert

|  |  |  |
| --- | --- | --- |
| Function | Button Event | Screen / Mode |
| Left Stick X Axis | Rolls the aircraft left or right depending on input. | During gameplay, in any camera view. |
| Left Stick Y Axis | Pitches the aircraft up or down depending on the input. | During gameplay, in any camera view. |
| Right Stick X Axis | Looks left or right depending on input. | During gameplay, in any camera view. |
| Right Stick Y Axis | Looks up or down depending on input. | During gameplay, in any camera view. |
| A Button (Xbox) / X Button (Playstation) | Fires the machine gun. | During gameplay, in any camera view. |
| B Button (Xbox) / Circle Button (Playstation) | Fires your currently selected weapon (missile, special weapon) | During gameplay, in any camera view. |
| Y Button (Xbox) / Triangle Button (Playstation) | Changes target | During gameplay, in any camera view. |
| X Button (Xbox) / Square Button (Playstation) | Enlarges the minimap | During gameplay, in any camera view. |
| Start button (Xbox, Playstation) | Pauses the game | During gameplay, in any camera view. |
| Back button (Xbox) / Select Button (Playstation) | Changes current weapon | During gameplay, in any camera view. |
| Right Bumper (Xbox) / R1 (Playstation) | Accelerate | During gameplay, in any camera view. |
| Left Bumper (Xbox) / L1 (Playstation) | Decelerate | During gameplay, in any camera view. |
| Right Trigger (Xbox) / R2 (Playstation) | Yaw right | During gameplay, in any camera view. |
| Left Trigger (Xbox) / L2 (Playstation | Yaw left | During gameplay, in any camera view. |
| Click Left Stick (Hold) (Xbox) / L3 (Hold) (Playstation) | Autopilot | During gameplay, in any camera view. |
| Click Right Stick (Hold) (Xbox) / R3 (Hold) (Playstation) | Look Behind | During gameplay, in any camera view. |

# Appendix

## Text

### About Text

**Credits:**

*Darren Roy*

*Simon Comeau*

### Help / How-To-Play

*Before each mission you will be briefed on what is to happen in the mission. Follow the mission layout given to you by destroying the marked targets, or every target within the level and avoid getting shot down or crashing.*

## Audio

### Sound Effects

We will need to create all of our own sound effects for Wings Over Avalon. The most challenging aspect will be creating all of the different engine sounds for each aircraft we will license, and making them as true-to-life as possible.

List of all sound event:

|  |  |  |  |
| --- | --- | --- | --- |
| **Event** | **Action** | **Filename** | **Notes** |
| **Global** |  |  |  |
| Engine Sounds | Audible during each mission, all the time. | <AircraftName>.EngineSound.MP3 | Each engine sound will be named appropriately. |
| Missile Lock-On | Audible whenever your missiles are locked on. | PlayerMissileLockOn.MP3 |  |
| Incoming Missile | Audible whenever a missile has been fired at you. | IncomingMissile.MP3 |  |
| **Menu System** |  |  |  |
| Menu Selection | The sound that plays whenever you change the highlighted menu option. | MenuSelection.MP3 |  |
| Menu Advance | The sound that plays whenever you select an item and advance through the menu. | MenuAdvance.MP3 |  |
| **Environment Sounds** |  |  |  |
| Wind | The sound of wind. | Wind.MP3 |  |
| Rain | The sound of rain. | Rain.MP3 |  |
| Wheel Touchdown | The sound played when wheels touchdown on a runway. | RunwayTouchdown.MP3 |  |
|  |  |  |  |
|  |  |  |  |

### Music

*Overview*:

|  |  |  |
| --- | --- | --- |
| Music Event | Song | Platform / Format |
| Title Screen Music | Aces High – Iron Maiden | PC/MP3 |
| Menu Music | Hypnotic Puzzle 2 (https://soundimage.org/looping-music/) | PC/MP3 |
| Hangar Music | World of Automatons (https://soundimage.org/looping-music/) | PC/MP3 |
|  |  |  |
|  |  |  |

## Game Screens Overview

### Key Screen Mockups

**Label of Mock-Up**

**Label of Mock-Up**

## Marketing

### Short Descriptions/Taglines

* “Take control of a turncoat pilot on a mission of redemption. Champion his rise from traitor to hero as he rises through the ranks and proves his detractors wrong. Will good triumph over evil, or will Razorback fail to accomplish his dreams or a world without hate?”
* “An intense, action-packed story of a pilot sick to death of war who is willing to do whatever he can to bring peace to the world.”

### Positioning Strengths

* Our unique story elements mean that we will have a strong chance at emerging in the market. Also our non-linear gameplay will be a huge selling point for Wings Over Avalon.

### Target Audience

Primary – Young adults – men/women 18-30.

Secondary – Teens – men/women 13-17.