**Senior Project:**

**Design Document**

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1. Game Overview

**1.1. Game Concept**

Aliens are attacking planet earth and it is up to the user to stop the invasion.

**1.2. Feature Set**

N/A

**1.3. Genre**

Shooter

**1.4. Target Audience**

Teens and up due to shooting.

**1.5. Game Flow Summary**

The user starts out on the home screen. The user will have three(3) choices to choose from: Play, Instructions, High Score. If the user selects play, the player will be taken to the game screen. After completing the game or running out of lives, the user is asked to input their name. Then the user is taken to the high score screen.

**1.6. Environment (Look and Feel)**

The environment is outer space. There will be stars and occasionally the moon will rotate across the screen.

**1.7. Project Scope**

1.7.1. Number of locations – 1(Space)

1.7.2. Number of waves – 10(Continuous flow)

1.7.3. Number of Non-playable Characters (NPCs) – N/A. Number of attackers per level has not been thought out.

1.7.4. Number of weapons - 2

1.7.5. Number of items - 1

2. Gameplay and Mechanics

**2.1. Gameplay**

2.1.1. Game Progression

The game progression is linear.  The player will progress through the game wave by wave.

2.1.2. Mission/challenge Structure

The player will have to defeat the attackers in order to save earth.

2.1.3. Puzzle Structure

N/A

2.1.4. Objectives

The objective of the game is to defeat the attackers and defend earth.

2.1.5. Flow of Play

The player will start on wave one. Once certain scores are reached, the player will advance to the next level. The player is given three lives to complete all

**2.2. Mechanics**

2.2.1. Movement

2.2.1.1.General Movement

The player will move using the arrow keys or the W,A,S,D keys.

2.2.1.2.Other Movement

N/A

2.2.2. Objects

2.2.2.1.Cataching Up Objects

The player will be able to catch a weapon upgrade that will randomly appear.

2.2.3. Actions

2.2.3.1.Switches and Buttons

N/A

2.2.4. Combat

2.2.4.1 Shooting

The player will use the shift key to shoot.

2.2.5. Point System

The player will receive points for destroying incoming attacks.

**2.3. Game Screen Flow**

2.3.1. Game Screen Flow Chart

2.3.2. Game Screen Descriptions

2.3.2.1.Main Menu Screen

You select whether to continue a save game or start a new game

2.3.2.2.Options Screen

N/A

2.3.2.3. Pause Screen

You can choose to resume or quit the game

**2.4. Game Options**

There will be no options.

**2.5. Replaying Game and Saving**

The game is able to be replayed but not saved.

**2.6. Cheats and Easter Eggs**

N/A

3. Section III – Story, Setting, and Character

**3.1. Story and Narrative**

3.1.1. Backstory

Aliens are trying to take over earth. It is up to the user to stop the invasion.

3.1.2. Game Story Progression

After each wave, the attackers move faster and are harder to hit. After 10 waves, the user will face the mothership.

**3.2. Game World**

3.2.1. General look and feel of world

The general feel and look we are going for is outer space.

3.2.2. Area #1- Space

3.2.2.1.General Description

Black night sky with a starry sky

3.2.2.2.Physical Characteristics

3.2.2.3.Levels that use area

3.2.2.4.Connections to other areas

3.2.3. Area #2

3.2.4. etc.

**3.3. Characters**

3.3.1. Player

3.3.1.1.Backstory

Lone defender of Earth up against an alien invasion.

3.3.1.2.Special Abilities

Can fire lasers.

3.3.2. Kamikaze

3.3.2.1.Backstory

Trained to fly their ship into enemy ships.

3.3.2.4.Special Abilities

Kamikaze Dive. Cannot Fire lasers.

3.3.3. Attcker

3.3.3.1.Backstory

Trained to shoot at enemy ships.

3.3.3.4.Special Abilities

Can fire lasers

3.3.4. Mother Ship

3.3.4.1.Backstory

Leader of the aliens attacking earth.

3.3.4.4.Special Abilities

Can shoot and kamikaze dive at enemy ships. Kamikaze Dives do not damage the mother ship.

4. Section IV – Level Design

**4.1. Space**

4.1.1. Synopsis

Players will shoot lasers at attackers trying to destroy them. All waves are played on the same level.

4.1.2. Introductory Material

N/A

4.1.3. Physical Description

The map will be a space setting with stars, the earth, and moon.

5. Section V - Interface

5.1. Visual System

5.1.1. Head-up display (HUD)

5.1.1.1 Shows lives, score, level, and if the user is using a special weapon.

5.1.2. Menus

* + - 1. Main Menu-This will have Play, How to Play, and High Score.
         1. How to Play- This brings you to an instructional page explaining how to play the game.

5.1.2.1.2 High Score – Shows the top ten highest scores.

5.1.2.2 Pause Menu

5.1.2.2.1 Continue – This selection resumes the game

* + - * 1. Exit – This selection takes you back to the main menu.

5.2. Control System

5.2.1 Moving

Users will be able to use either the arrow keys or the W,A,S,D keys.

5.2.2 Shooting

Users will be able to shoot using either shift key.

5.2.3 Switch Weapon

Users will be able to switch weapons, if they are eligible, by using the space bar.

5.3. Sound Effects-

* Shooting sound when lasers are fired
* Impact sound when you or your opponent are hit with a laser

6. Artificial Intelligence

**6.1. Opponent AI**

The Opponent AI will be designed with one thing in mind and that is to win the race at all cost.  In order to do that it will use item in order to pass the other racers.  It the AI can do and will want to do is to pass other and come in first place in a race.

7. Section VII – Technical

**7.1.Target Hardware**

PC

**7.2.Development hardware and software**

PC using GameMaker

**7.3.Development procedures and standards**

N/A

**7.4.Game Engine**

Game designed using game maker.

**7.5.Network**

None

**7.6.Scripting Language**

GML