< 2D Top Down Scrolling Shooter >

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Revision: 2.1

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## Theme / Setting / Genre

- <2D Top-Down Scrolling Shooter>

## Core Gameplay Mechanics Brief

- <flying>

- <shooting>

## Targeted platforms

- <Windows 10>

## Project Scope

- <Game Time Scale>

- Cost? (the game will be build using free software)

- Time Scale (2 months)

- <Team Size>

- <Core Team>

- Rick Beniers

- Lead Developer & CEO Beniers Gaming

- < no salary or signed contract >

- <Marketing Team>

- Rick Beniers

- Chairmen for marketing & Company advisory board

- < no salary or signed contract >

- <Licenses / Hardware / Other Costs> (Windows 10)

- <Total Costs with breakdown> (none)

## Influences (Brief)

### - <Influence #1>

- <video game> (Ace Combat in Bullet hell and SHMUP form)

- it is an easy concept and much room for improvements and additions.

### 

## The elevator Pitch

<A one sentence pitch for your game.>

A free to play game in an aviation shooter concept which is easy to addict and entertain.

## Project Description (Brief):

<Two Paragraphs or more If needs be>

A 2D bullet hell Top-Down Scrolling Shooter in which the player will control a aircraft and needs to destroy enemy aircraft to gain XP and gold with which the player can unluck and buy new & better aircraft.

the more missions the player can complete and the further the player gets distance wise the harder the game will become until the player is shot down.

## Project Description (Detailed)

<Four Paragraphs or more If needs be>

A 2D bullet hell Top-Down Scrolling Shooter in which the player will control a aircraft and needs to destroy enemy aircraft to gain XP and gold with which the player can unluck and buy new & better aircraft.

The player will begin flying in a default Bi-plane from the Great war Era.

The player will receive a small commission for flying but Through destroying enemy aircraft the player can earn a bonus upon this commission through which he will be able to unluck, buy and fly better planes from WW1 Bi-planes to modern Stealth fighter.

the more missions the player can complete and the further the player gets distance wise the harder the game will become until the player is shot down.

# What sets this project apart?

- <an easy to use & easy to master>

- <Iconic art style>

- <historical aircraft>

- <Fun!>

## Core Gameplay Mechanics (Detailed)

### - <Core Gameplay Mechanic #1>

- <flying>

The player can fly his aircrafts by using the arrow keys or W,S,A,D.

- <How it works>

When the player presses a movement key a signal is send to the player controller on which the scripts associated with player movement is put, the corresponding movement script will then be selected and run.

### - <Core Gameplay Mechanic #2>

- <shooting>

The player can shoot bullets from his aircraft by pressing the space bar.

- <How it works>

When the player presses the space bar a signal is send to the player controller on which the scripts associated with shooting are put, the shooting script is run and instantiates a bullet object that when colliding with another object is destroyed and spawns a minor effect.

### - <Core Gameplay Mechanic #3>

- <collecting XP>

The player collects experience(XP) when he destroys another aircraft or completes a mission.

- <How it works>

When the player destroys an enemy aircraft or completes a mission then a signal is sent to the player controller on which the Wallet script is put, this script is run and the XP mana wallet from the player is credited with an amount of XP on top of the XP already in the wallet.

### - <Core Gameplay Mechanic #4>

- <collecting Gold>

The player is credited an small amount of money every 30 seconds this is the Pilots war time commission, on top of this is a bonus that the player will receive for destroying enemies and completing missions.

- <How it works>

When the player destroys an enemy aircraft or completes a mission then a signal is sent to the player controller on which the Wallet script is put, this script is run and the Gold mana wallet from the player is credited with an amount of Gold on top of the Gold already in the wallet.

A timer in the Wallet script will count the time between commissions and credit the player with an amount of gold every time the timer hits 30.

### - <Core Gameplay Mechanic #5>

- <AI enemies flying>

The player will need to destroy enemy units in particular aircraft. a scripted AI will control the enemies and there behavior and movement. the script for this AI is stored on the EnemyController.

- <How it works>

On the start of a game session a 10 second timer will count down this is the crucial time for the player to position itself. If the timer runs out the 1st enemy will appear and approach the player.

The AI behavior depends on the difficulty level of the spawned enemy, there will be 3 difficulty levels.

**Level 1:** enemy has a small detection sector in which the AI can detect the player if he is within this sector.

Detection sector is a straight forward rectangle.

This enemy only flies straight forward and thus very easy to dodge.

Recognizable by 1 stripe on its wings/fuselage.

**Level 2:** enemy has a medium detection sector in which the player can be detected.

detection sector is half a circle with the bulge pointing towards the flying direction

Enemy will follow the players aircraft slightly to the left or right but will always point down.

Recognizable by 2 stripes on its wings/fuselage.

**Level 3:** enemy has a large detection sector in which the player can be detected.

Enemy will follow the player around the map and will try to always change its direction to face the player.

Detection sector is a full circle all around the enemy aircraft

Recognizable by 3 stripes on its wings/fuselage.

### - <Core Gameplay Mechanic #6>

- <AI enemies shooting>

When the player is within the enemy aircrafts detection sector the AI will start shooting bullets or missiles at the player, when a bullet hits the player its health is reduced and when significant damage is dealt the sprite will show damage in form of color change, smoke or bullet holes.

- <How it works>

When the player enters the enemies detection sector the AI script will run the “*shoot*” function. Based upon the ammunition type a certain type of bullet is instantiated and travels in a straight direction until it hits the player or leaves the screen upon which the bullet is destroyed.

### - <Core Gameplay Mechanic #7>

- <Missions>

The player can complete missions through which the player can gain large amounts of funds.

- <How it works>

Mission triggers will spawn in the game as special buildings on islands and land, if the player flies close to these buildings the mission text will be activated and a small description becomes visible, based upon this description the player can decide to accept or decline the mission.

If the player declines, the text disappears, if the player accepts the description text will deactivate and the quest text will be activated, this text will most likely display some sort of counter to give the player a visual representations of its progress regarding the mission, the player should work towards the goal revered to in the quest text and quest description to complete the mission, upon completing the mission all mission text is made void and the player will earn an amount of gold and XP.

### - <Core Gameplay Mechanic #8>

- <Winkel>

When the player is ready to play the game and he clicks on start in the start menu the game scene is loaded but not started, first the player needs to choose a plane to fly and is given time to buy better or more ammo all this is done in the shop panel that will appear alongside the pause menu.

- <How it works>

When the player loads the game scene by clicking on start in the start menu the game scene is first paused and a new see through menu appears on top of the game map.

This menu will have a play, menu and exit button as well as a shop window. The play button will be activated when the player chooses a plane, default or otherwise.

The plane specific info is displayed on the left side of the shop window and will serve as a guide for the player to choose the best possible plane and ammo as well as fuel and other handy information.

The player can switch between the ammo shop and the plane shop by pressing the Tabs slightly above the shop window.

When ever the player buys anything the amount of gold and xp is subtracted from the players wallet.

During the game the player can pause the game by pressing ESC key, the shop will not be visible, the shop will be visible on every start of a game session or when interacting with an allied base of operations which will function as a trigger for the pause menu and the in-game shop.

# Gameplay

## Gameplay

The player will upon running the application see a small main menu with 3 options, Start, Exit, High score.

When the player clicks on start the start menu disappears and a 2D top-down map becomes visible along with the sound of the environment.

A small and quick to navigate menu will appear through which the player can select, research and buy better airplanes and ammunition.

When the player clicks on start and has selected an airplane or leaves it on default the menu will disappear again and the map is now totally visible.

The player selected aircraft becomes visible and flies into the map from below the screen and the sound of the specific airplane can be heard, the player can now control the aircraft and steer it forward(up), down, left and right.

By pressing the space bar the player aircraft will shoot a bullet straight forward.

After a few seconds the first enemy aircraft level 1 appears, if the player enters the detection sector of the enemy and the enemy aircraft shoots a few bullets at the player, the player will need to maneuver in order to avoid the bullets and not get hit, by shooting bullets at the enemy aircraft the player can destroy it and earn a cash bonus and XP.

Every few second(not decided yet how much) the player will earn the standard commission(salary).

When the player stops the session, or is shot down the earned gold and XP is added to the players gold and XP wallets.

# Assets Needed

## - 2D

- Textures

- sea, water

- island, land

- clouds, bullets.

## - Sound

- Sound List (Ambient)

- Outside

- Bi-plane engine sound

- monoplane engine sound

- jet fighter engine sound

- stealth fighter engine sound

- sea movement sound

- air blowing sound

- Sound List (Player)

- Character Movement Sound List

- Bi-plane Boost engine sound

- monoplane Boost engine sound

- jet fighter Boost engine sound

- stealth fighter Boost engine sound

- Bi-plane Shooting sound

- monoplane shooting sound

- jet fighter shooting sound

- stealth fighter shooting sound

- Character Hit / Collision Sound list

- Bullet hit wood sound1

- Bullet hit metal sound1

- Bullet hit metal sound2

- Character on Injured / Death sound list

- explosion sound 1

- explosion sound 2

## - Code

- Character Scripts (PlayerMovement, shootingScript, WalletScript )

- Ambient Scripts (Runs in the background)

- Wallet Script

- background scroll

- background sprite location randomization

- points controller

- player health

- music Controller

- dialogue Manager

- NPC Scripts

- AI movement

- AI detectionAndShooting

## - Animation

- Environment Animations

- airplane propeller

- airplane jet engine

- airplane damage smoke

- bullet impact

# Functional Design(FO)

* introduction
  + - This is the functional design of the application, in the FO the entire functionality of the application will be outlined.
* Target audience
  + - The target audience is Teenagers and gamers who like shmups or bullet hell type games.
* The goal of the application
  + - Entertaining & challenge the target audience.
* Structure of the application
  + - The structure of the application is as follows :
    - 1st scene : the start menu.
    - 2nd scene : the game.
    - 3rd scene : the highscore list.
* Functionality per scene
  + - *1st scene :* the start menu will contain 3 buttons, an start button through which the player can navigate tot he game scene, an Highscore button to navigate tot he highscore list and an exit button the close the application.
    - *2nd scene :* the game scene will contain the game itself and some UI ellements. The game will consist of a scrolling background , a moveable player, enemies, and mission objects. The UI will consist of the player health bar, a valuta counter, a XP counter and general info about the player like the amount of bullets, amount of fuel, temperature of the gun which wil loverheat if the temp gets to high.
    - *3rd scene :* the highscore list will be build up of only UI and will show all achieved scores by multible players.
* Tecknical input (TO)

# Feedback

## V1

meneer Stoter 09-09-2019

de game ziet er leuk uit, maar is bijna een klone van andere games met dezelfde atributen.

Niet alle aspecten zoals beschreven in GDD V1 zijn verwerkt in het uiteindelijke product.

Meneer stoter heeft de sugestie geuit om een highscore lijst te maken zodat spelers onderlinge competitie ondervinden en verder willen spelen om hun score te verbeteren.

Meneer stoter heeft ook twijfels geuit over het bouwen van een online data base om de score op te slaan, is het mogenlijk om dit lokaal te doen zoals met C# zelf, een lokaal bestand of Json.

## V2

Meneer Fleur 29-10-2019

De game is leuk om te spelen en daagt de speler uit.

De game is niet erg uniek een meer een klone van andere games uit hetzelfde genre.

De game was duidelijk en de game is makkelijk te spelen.

Tijdens de test sessie crashte Unity/de game en de buiten grenzen waren binnen het speel veld waardoor de speler niet bij alle vliegtuigen kon komen.

Verdere sugestie van meneer fleur was het implementeren van muziek en in het bijzonder een switch station(radio) waarmee muziek kan afgewiselde worden op aanvraag van de speler.

Uit eindelijke cijfer is een 7.0

# Git Link

Dit project is online te bezichtigen via Git hub, git functioneerde tijdens dit project als een Version controll system en backup indien de game bestanden zoek of corruptet zouden raken.

Meneer stoter

Mevrouw drewes en

Meneer fleur zijn uitgenodigt op git om de online bestanden te bekijken indien nodig

Tot op heden heeft alleen meneer fleur hier gebruik van gemaakt.

Link Git : <https://github.com/RickBeniers/2DTopDownScrollingShooter>