# Game Engines

Task 1 – Preparation - By Riedle Azzopardi

A) The Target Device

The device for our game will specifically only be on the computer platform (PC'S), the reason being as this offers the best type of optimization on the market and is a great starting point as it's more accessible to people with the reason being that almost everyone owns a computer.

9:16 will be the default resolution for the game as it's the most suitable type with the structure of the gameplay that we're going for. In terms of the input devices, we've thought on how the game would function with different kind of peripherals, such as controlling the cursor with a keyboard which would operate with the arrow keys or W A S D. We've concluded using a mouse is the best option as it offers the smoothest and easiest experience for the user to navigate with.

B) Gameplay Flowchart (representation of the game flow logic)
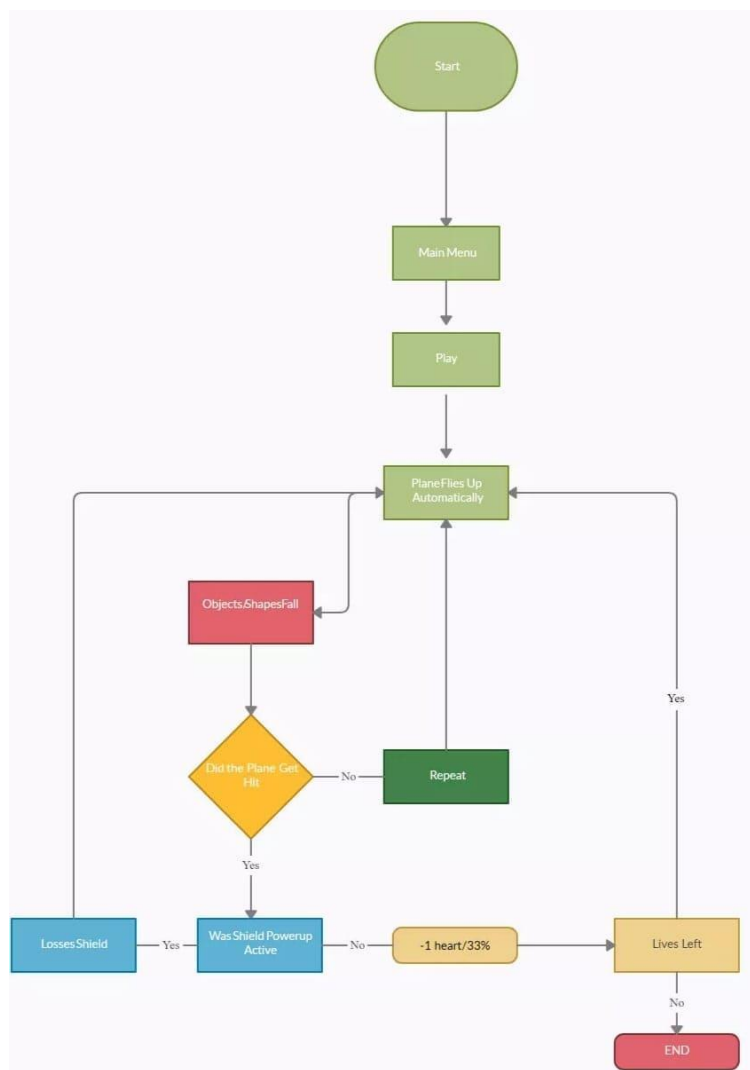
C) **Pseudocode** (Representation of the game flow logic)

Game Script

// If the game is launched, a loading bar will appear, which will take you to the home screen.

// If the "Play" button is pressed, the game will take you to its first level.

// If all lives are lost, a screen will pop up giving u an option to either Retry or Give up (takes u back to the home screen)

// If retry button is pressed; it will take you back to the start of the level.

Game Manager

// Once the game starts, points will appear on the top right. These go up depending on how long you can stay alive for.

Player Script

// If you swipe left or right, the cursor will move towards the left/right depending on how fast you go.

// If you swipe up or down, the cursor will move up or down depending on how fast you go.

// If you swipe in any circular motion, the cursor will correspond with the users input.

Obstacle Script

// If cursor hits the falling object, it will travel towards the angel it was hit

// if the object is still, it will not move unless there is any contact with the cursor

// if the cursor hits the shield power up, a blue bubble will appear around the plane

// if the falling object hits the plane, a life will be deducted

// if the falling object hits the plane whilst the shield is active, the shield will disappear

d) **Walkthroughs** (An explanation of the gameplay loop including screenshots)

The inspiration for our game is based on the already existing **Rise up.**

The game starts up with your character model which in our case will be a plane instead of the balloon and the goal is to protect any objects or collision with the plane using your cursor.

 By moving the cursor using your mouse, you have control on were to push any type of incoming collision that tries to come into contact with the plane that you're trying to protect, which will be always at a stationary position.

As you make your way through different type of objects, your cursor will increase in size at a very minimal pace during the round. This is to keep the game balanced and fun so this will restart to its original size at every new round reached.

If you do unfortunately get hit by any incoming objects, from 100% health you will drop down to 66.67% or in other words from 3 hearts you will go down to your last 2.

An element that is included in this version of the game is that at times, a shield power up will appear. You'd have to go over it with your cursor for it to function; doing this is risky as you'd be leaving your plane exposed.
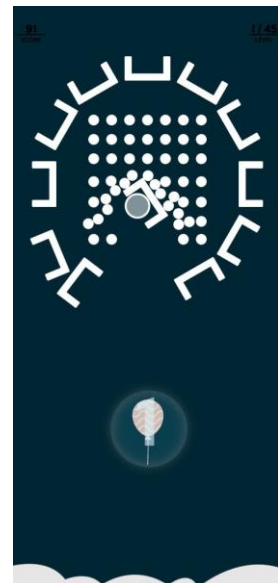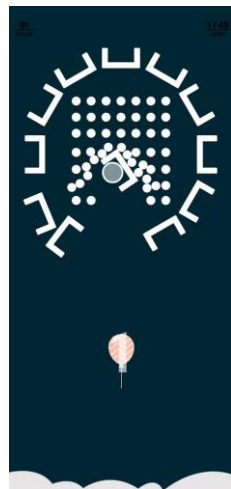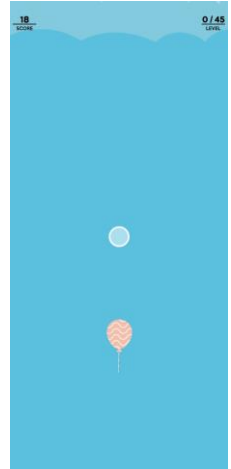
e) **Game objectives** (Define the main objective of the game)

The main objective for the game is to avoid losing your 3 lives by protecting the plane at all costs from different sized objects using the cursor. As you do this, you will encounter new levels and increase your score depending to what level you can make it too.

f) **Art Assets** (2d/3d) (Collection of the artwork needed for the game)
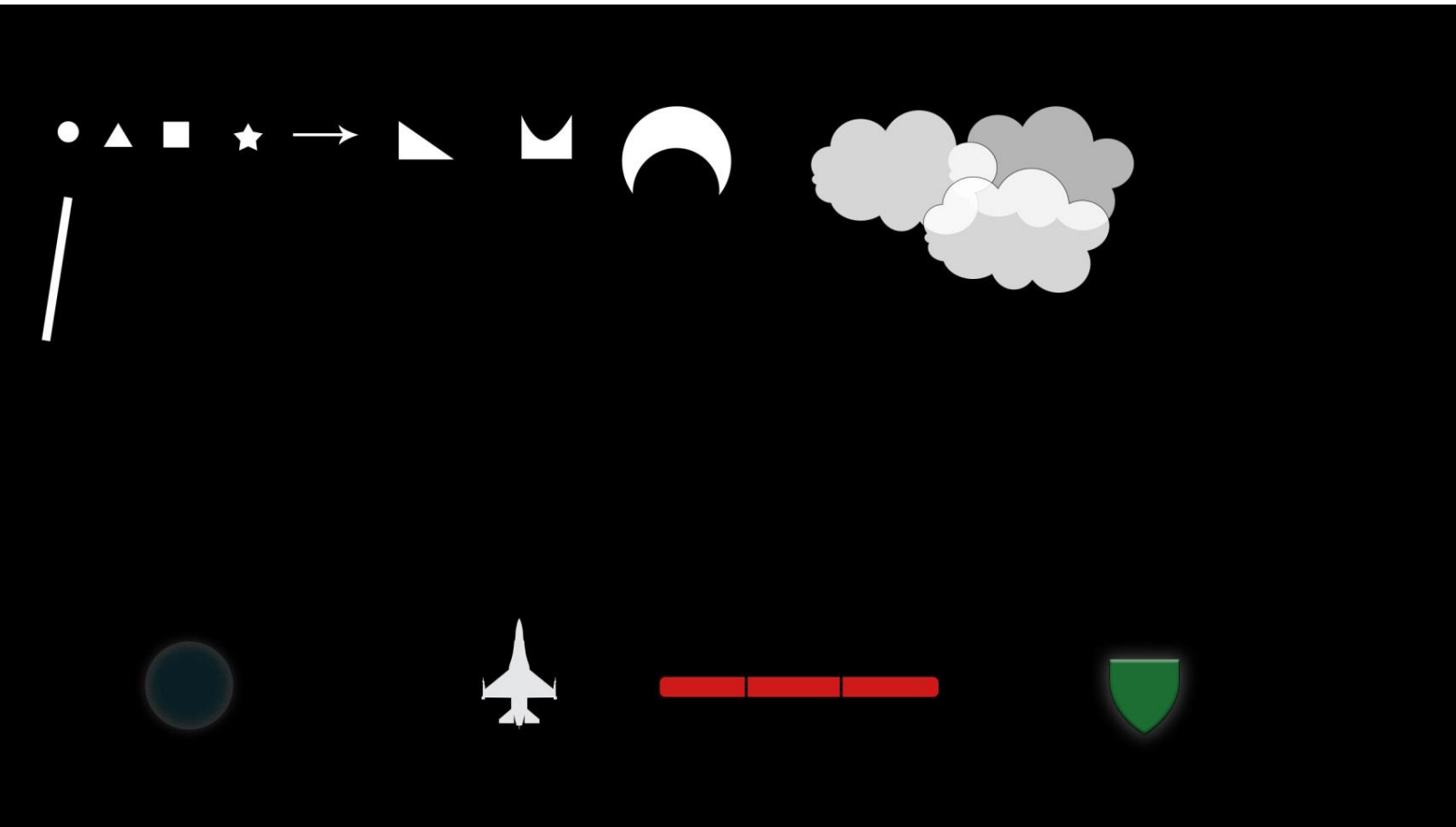
- Different type of shapes for Collison (circles, triangles, stars, arrows, custom made shapes
- Clouds for the background of the game whilst transitioning levels
- Light blue shield effect
- Plane as the object that needs to be protected from collision from the shapes
- A health bar with 3 lines signifying 3 lives
- A green shield showcasing the power up symbol that will give you the light blue shield effect.