ISIMS

University of Sfax
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Higher Institute of Computer Science and Multimedia of Sfax

Summer Internship Report

Presented to

Higher Institute of Computer Science and Multimedia of Sfax

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By

Rami Chaaben

License In Computer Science and Multimedia

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Chapter I: General framework of the project

Introduction

1: Company Presentation

The Higher Institute of Computer Science and Multimedia of Sfax (ISIMS) is an academic institution located in Sfax, that focuses on providing education and training in the fields of computer science and multimedia technologies.

2: General Presentation of The Project

Party games that are meant for one player are usually created to be enjoyed by an individual. They offer entertainment in situations where traditional multiplayer games may not be possible or preferred.

3: Project Objective

The aim of single player party games is to entertain and engage a player with activities or challenges that are usually designed for group settings. These games are modified to cater to players offering entertainment and fun without requiring a group.

Chapter II: Technical Environment

I: Software Environment Table

Tool	Description
	Unity, developed by Unity Technologies is an embraced game engine that allows developers to create types of interactive content, including 2D and 3D games as well, as simulations.
	Adobe Photoshop is a recognized software created by Adobe Inc. It is mainly used for design editing photos and creating art. Ever since it was first launched in 1988 Photoshop has become the go to choose for professionals and hobbyists who want to manipulate and improve images create artwork, design graphics and much more.
	Microsoft Visual Studio, created by Microsoft is an integrated development environment (IDE) that offers developers a range of tools, features and resources to simplify software development, testing, debugging and deployment across platforms and technologies.

II: Technology Table

Tool	Description
	C# (commonly known as "C sharp") is a programming language that was created by Microsoft as a component of their.NET initiative.

Chapter III: Project Presentation

I. Game Presentation

1: Introduction

This game includes a wide range of mini games, each with its unique gameplay mechanics and specific objective.

2: General Use Case Diagram

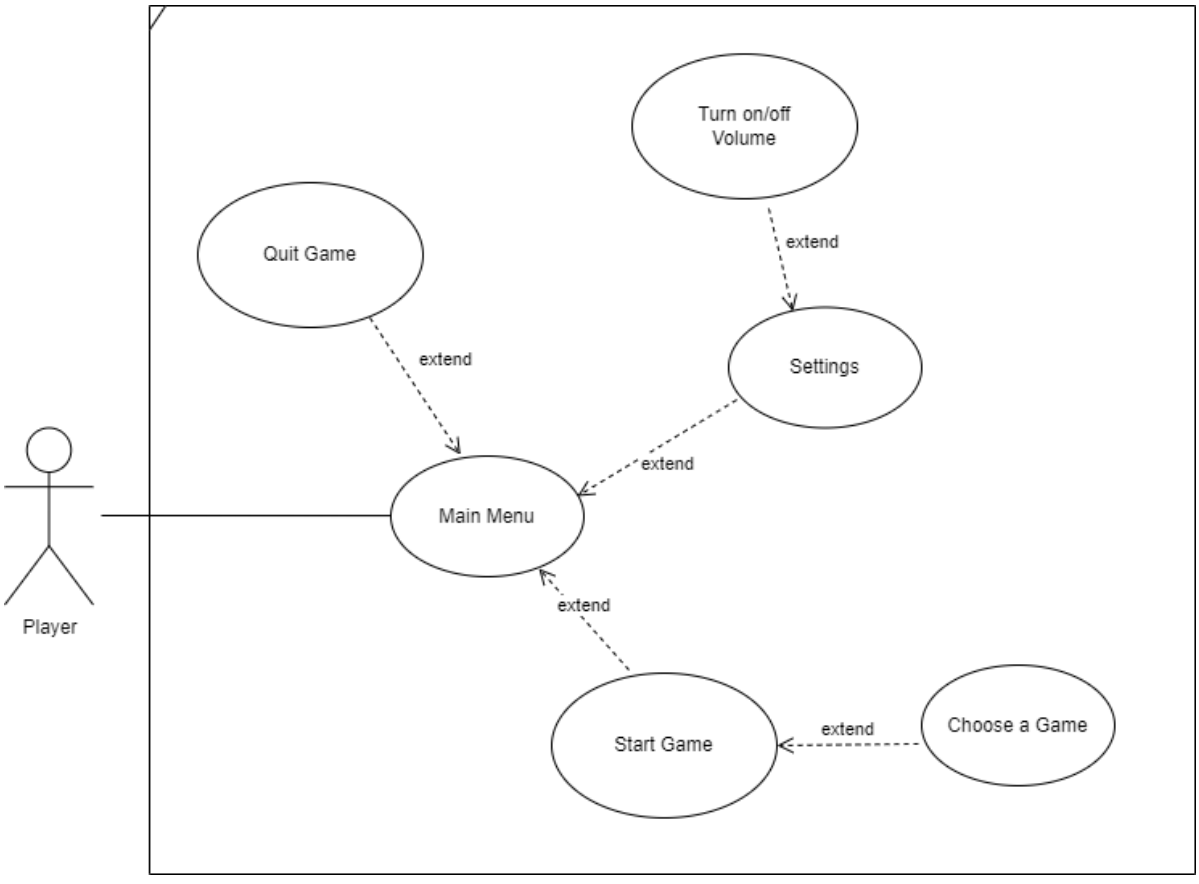

Figure 1

3: Main Menu Scenes

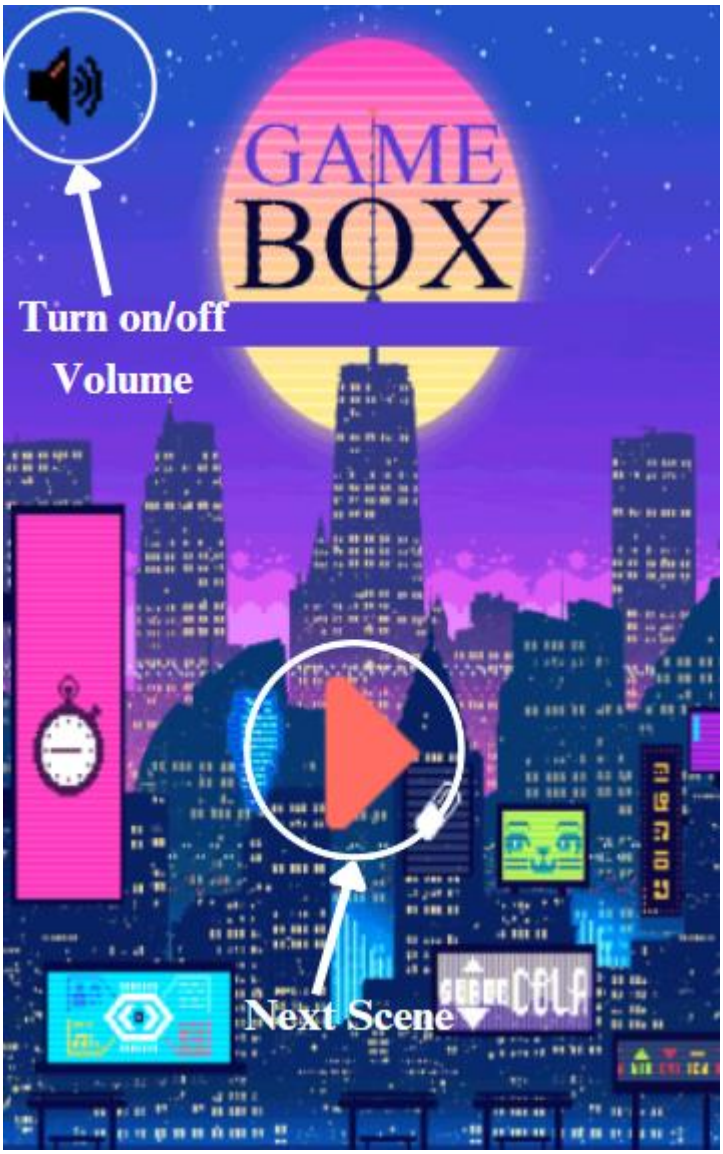

Figure 2

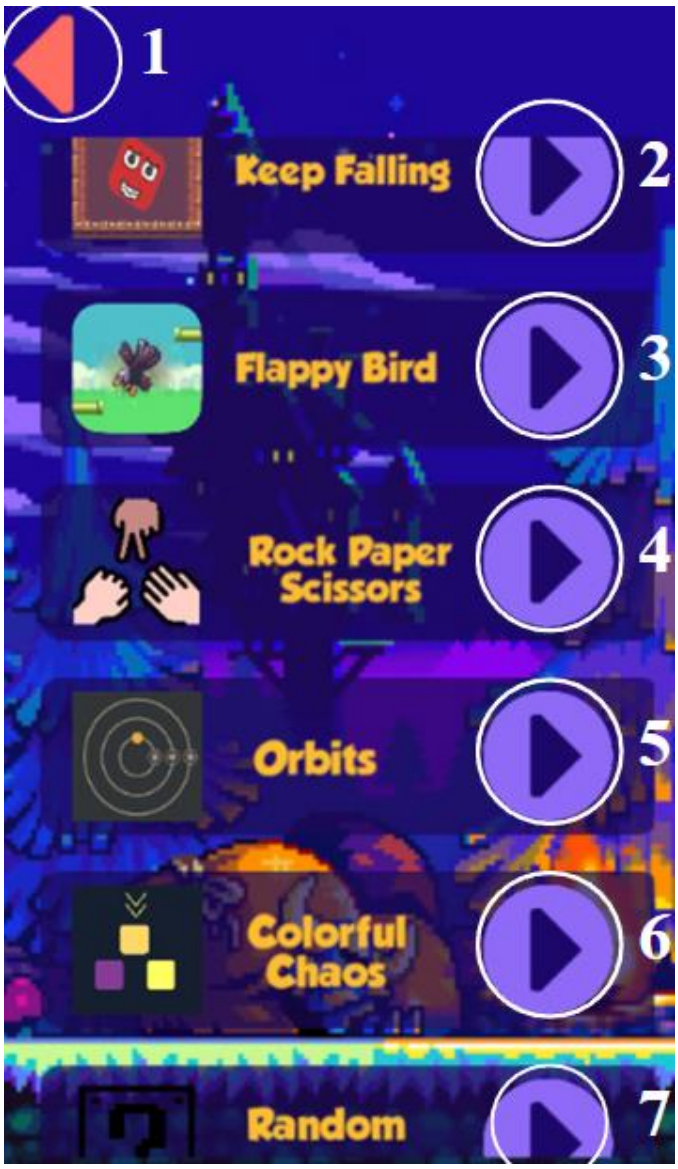

Figure 3

1. **Previous Scene**
2. **Start Keep Falling**
3. **Start Flappy Bird**
4. **Start Rock Paper Scissors**
5. **Start Orbits**
6. **Start Colorful Chaos**
7. **Start A Random Mini Game**

II. Game List

1: Keep Falling

Figure 4

1.1: Game Presentation

Keep falling is a platform game in which the player slides for an infinite amount of time while avoiding obstacles.

1.2: Game Objective

The player's objective in Keep Falling is to reach a high score by surviving as long as possible.

1.3: Game Animation

Moving Platform Animation:

This platform is specifically created to move horizontally giving players the freedom to navigate left or right, within the game world. During gameplay players need to exercise caution and skill in timing their movements.

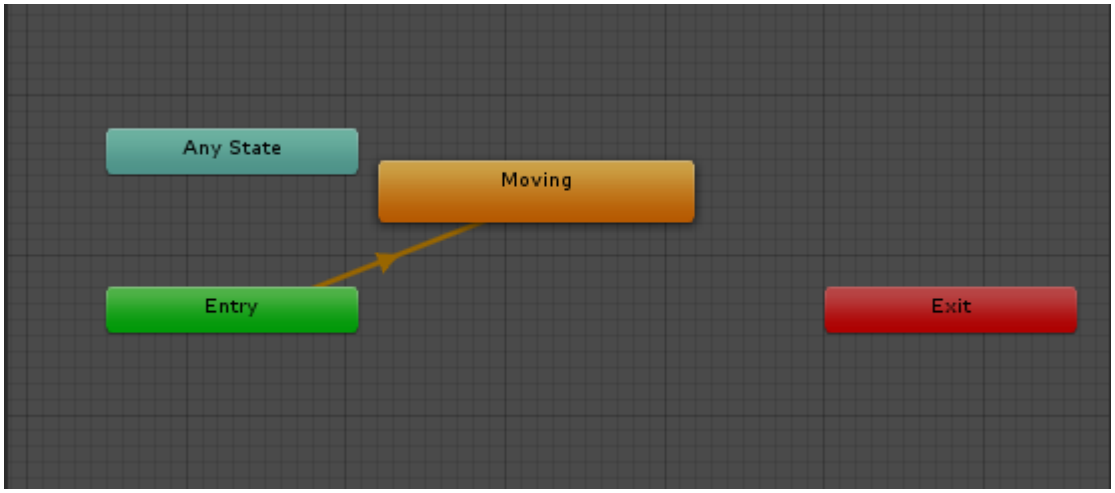

Figure 5

1.4: Player Use Case Diagram

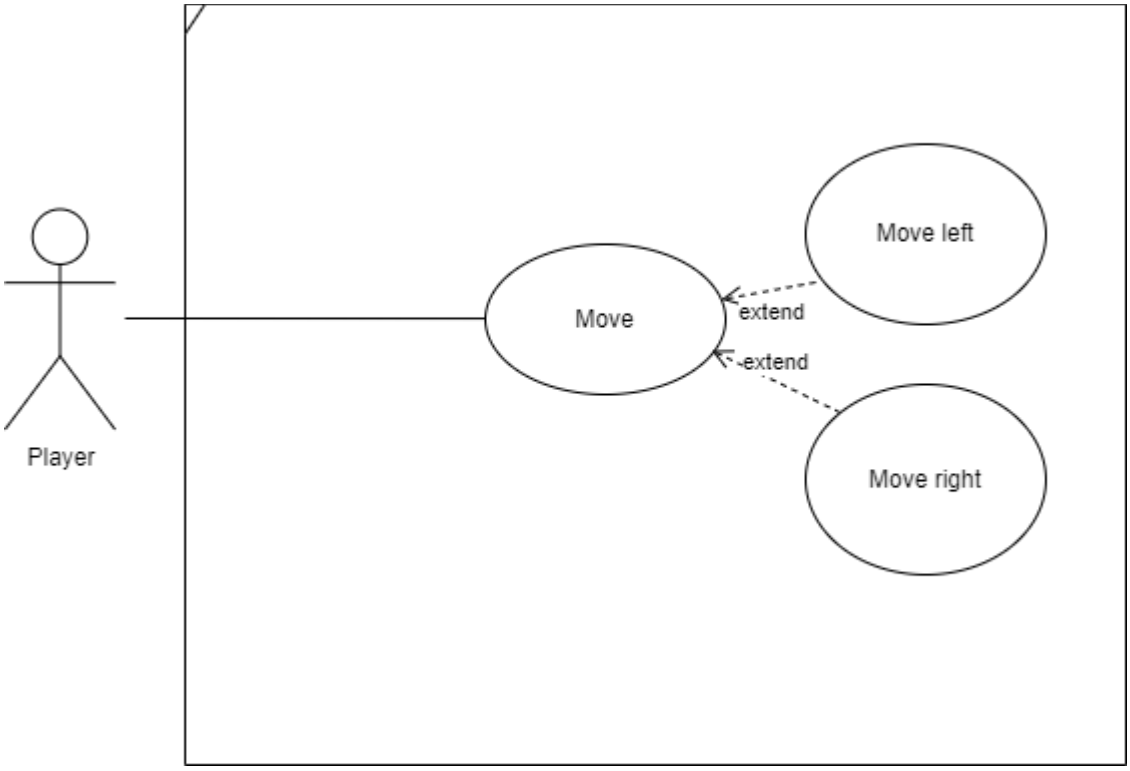

Figure 6

2: Flappy Bird

Figure 7

2.1: Game Presentation

Flappy Bird is a game where you must control a bird character and guide it through challenges by simply tapping on the screen.

2.2: Game Objective

The objective of the Flappy Bird game is to navigate a bird through a series of vertically aligned green pipes without colliding with them to reach a high score by surviving as long as possible.

2.3: Game Animation

Bird Animation

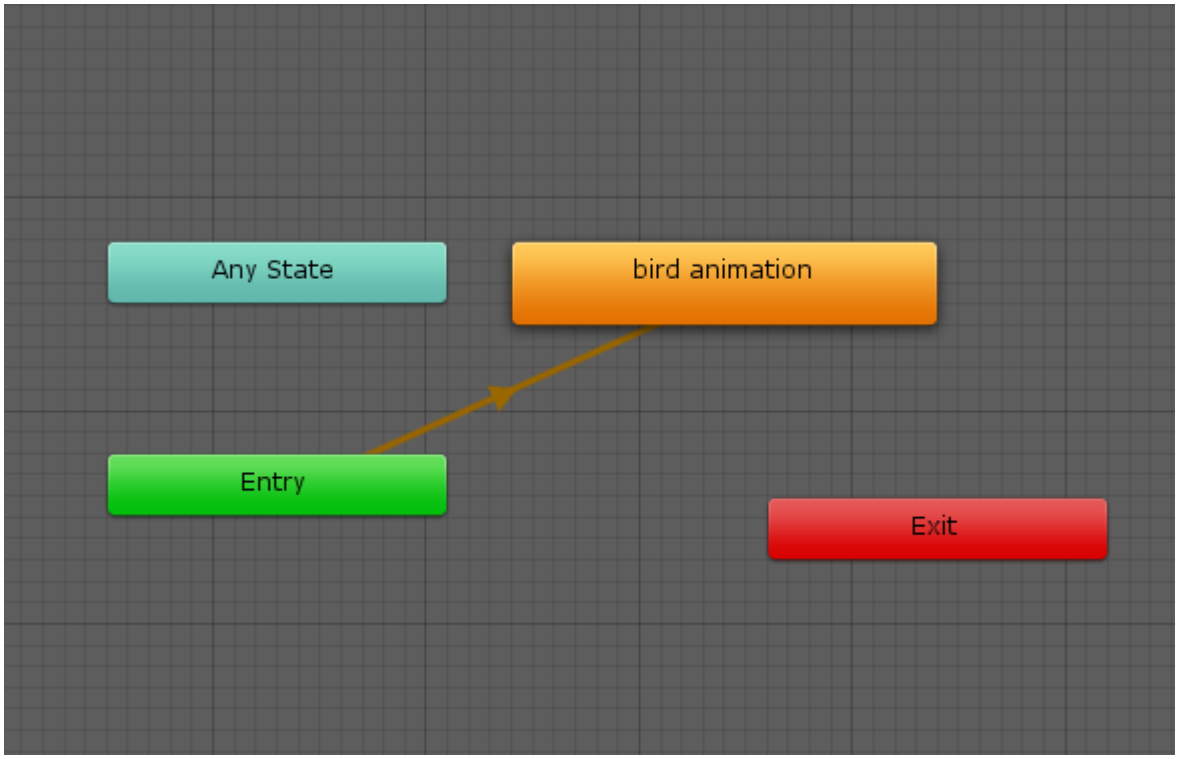

Figure 8

The bird's animation created using picture frames typically involves utilizing sprite sheets or individual sprite images to create a sequence of frames that play in succession and simulating motion.

Frame 1 **Frame 2** **Frame 3** **Frame 4**

3: Rock Paper Scissors

Figure 9

3.1: Game Presentation

Rock paper scissors is a game played by two individuals to resolve conflicts or reach decisions, like flipping a coin, drawing straws or rolling dice. It is a hand game that has been commonly used for ages.

3.2: Game Objective

In the game called "Rock, Paper, Scissors " the goal is to choose between rock, paper or scissors in order to outsmart your opponent. Each hand shape has an advantage over another:

- Rock can crush scissors.
- Paper can cover rock.
- Scissors can cut paper.

3.3: Game Animation

Choice Animation

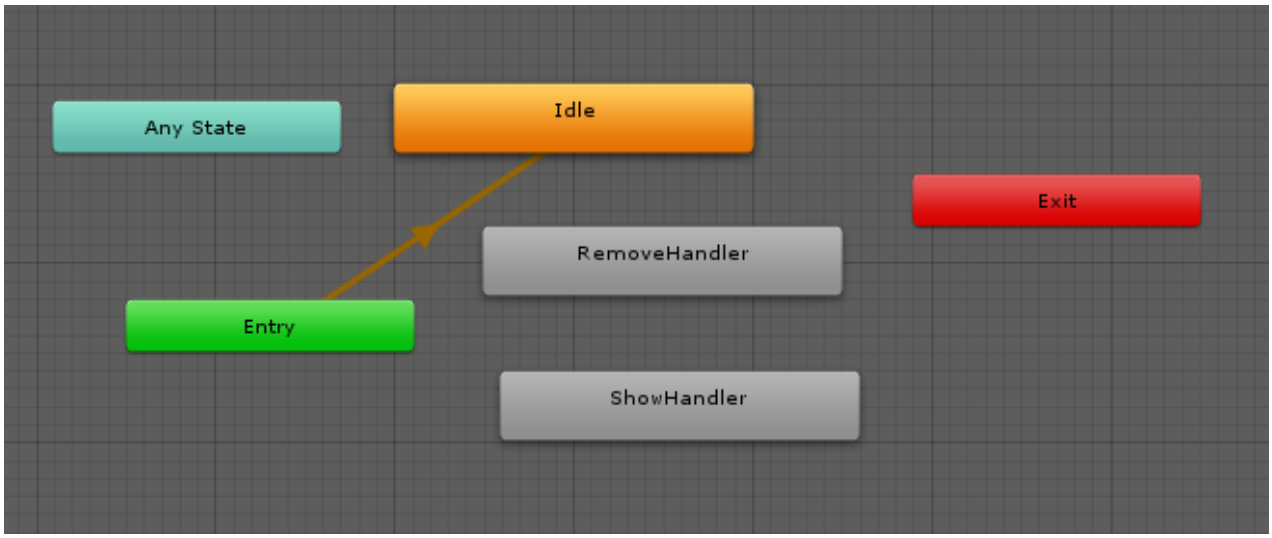

Figure 10

3.4: Game Use Case Diagram

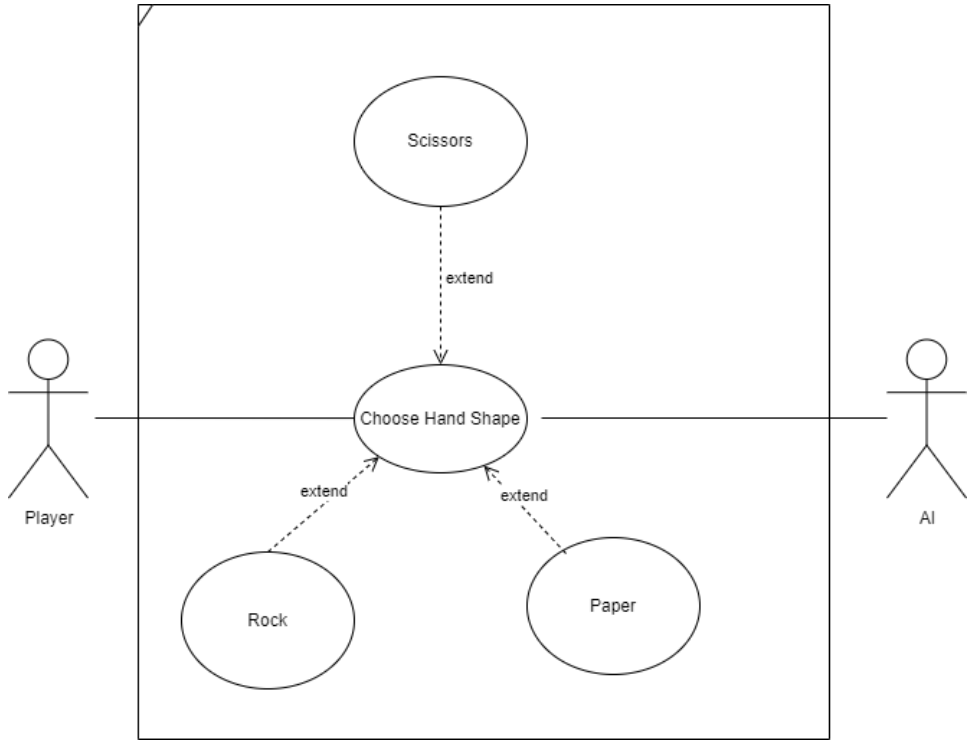

Figure 11

4: Orbits

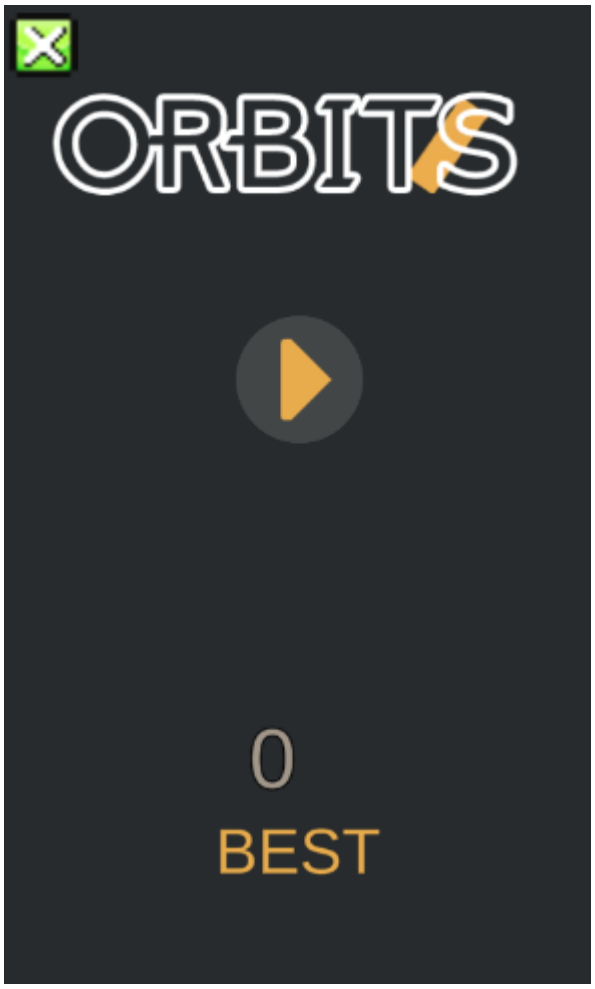

Figure 12

4.1: Game Presentation

Orbits is a game in which the player collects points for an infinite amount of time while avoiding obstacles.

4.2: Game Objective

The player's objective in Orbits is to reach a high score by collecting points and surviving as long as possible.

4.3: Gameplay

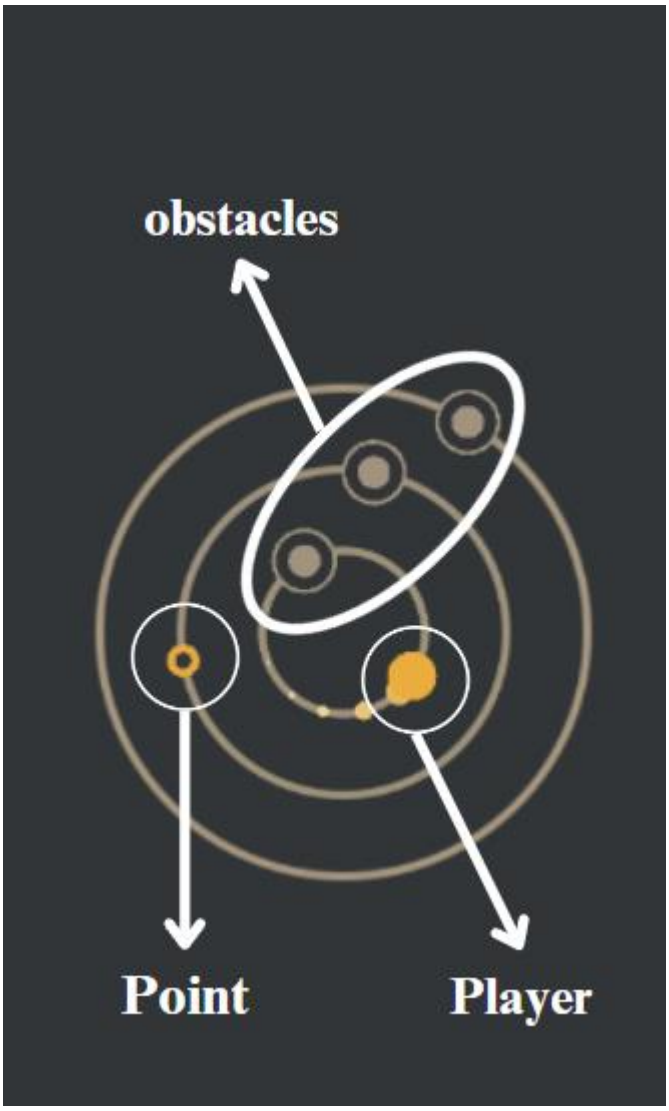

Figure 13

5: Colorful Chaos

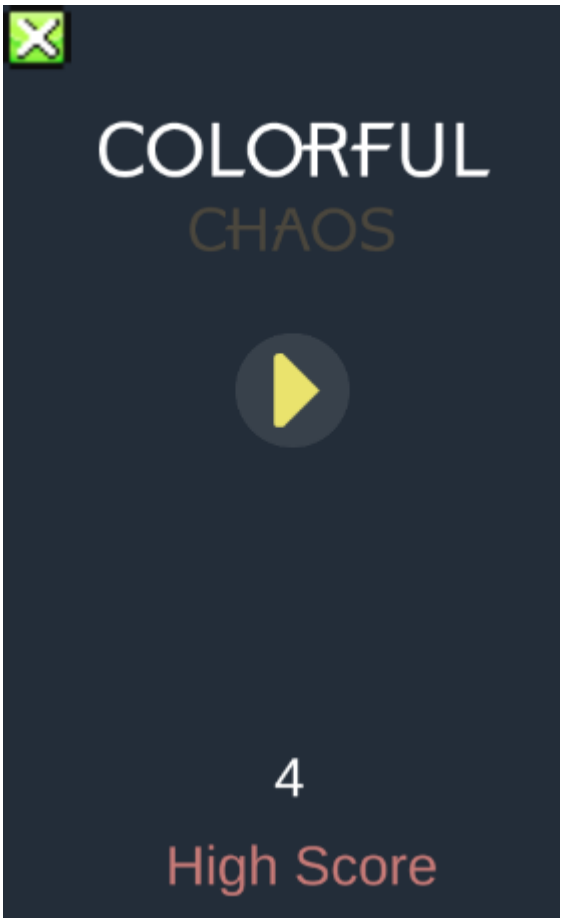

Figure 14

5.1: Game Presentation

Colorful Chaos is a game designed to assess, challenge, and enhance an individual's ability to recognize and react to different colors rapidly and accurately.

5.2: Game Objective

The objective of the "Colorful Chaos" is to survive as long as possible and collect points by clicking the right color box.

5.3: Gameplay

Figure 15

Chapter IV: Conclusion

When exploring the world of game development creating a Unity 2D game is both a testament to creativity and a showcase of skill. Crafting a game within the Unity framework requires not only an understanding of game mechanics but also finding the right balance between artistry and programming. Developing a Unity 2D game is like conducting a symphony, where every aspect from character movements to background visuals comes together seamlessly to captivate players. This undertaking involves planning, iteractive design and paying attention to the smallest details.