

Game Design Document: ZigZag 3D

Team Members -

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1. Introduction

1.1. Game Concept

ZigZag 3D is an endless runner game where players control a Player rolling along a narrow path that continuously zigzags. The goal is to keep the Player on the path as long as possible while avoiding falling off the edges. Players will need to demonstrate precise timing and quick reflexes to succeed.

1.2. Target Platform

The game will be developed for mobile platform, primarily focusing on Android devices.

1.3. Development Team

The development team consists of the following members:

Aditya Patel - Developer
Aashish Vemuri -Game Designer
Vaibhav Dubey- 3D Artist
Parth Pandey - UI/UX

- Game Designer
- Unity Developer (C#)
- 3D Artist

2. Game Overview

2.1. Game Description

In ZigZag 3D, players control a Player that automatically moves forward on a narrow 3D path. The path continuously zigzags, and the player must tap to change the Player's direction at the right moment to stay on the path. The more , the higher the score the player achieves.

2.2. Core Mechanics

- Tap Mechanics: Tapping the screen changes the direction of the Player to the left or right, depending on the current position of the Player on the path.
- Endless Runner: The game offers an infinite path, and players aim to achieve the highest distance and score possible.
- High Score: Players can compete against their own high scores

2.3. Gameplay Flow

1. The game starts with the Player on the path, automatically moving forward.

2. The player can tap the screen to make the Player change direction, avoiding falling off the edges.
3. The Player moves along the path, and the player earns points as they progress.
4. If the Player falls off the path, the game ends, and the player's score is recorded.
5. The player has the option to restart the game and improve their score.

3. Gameplay

3.1. Controls

- Tap: Tapping on the screen makes the Player change its direction to the left or right, following the direction of the path.

3.2. Level Design

- The game will feature procedurally generated paths to keep the gameplay fresh and challenging each time since no level is going to be the same as before.
- The path will have varying widths and sharp turns.

4. Visuals and Audio

4.1. Art Style

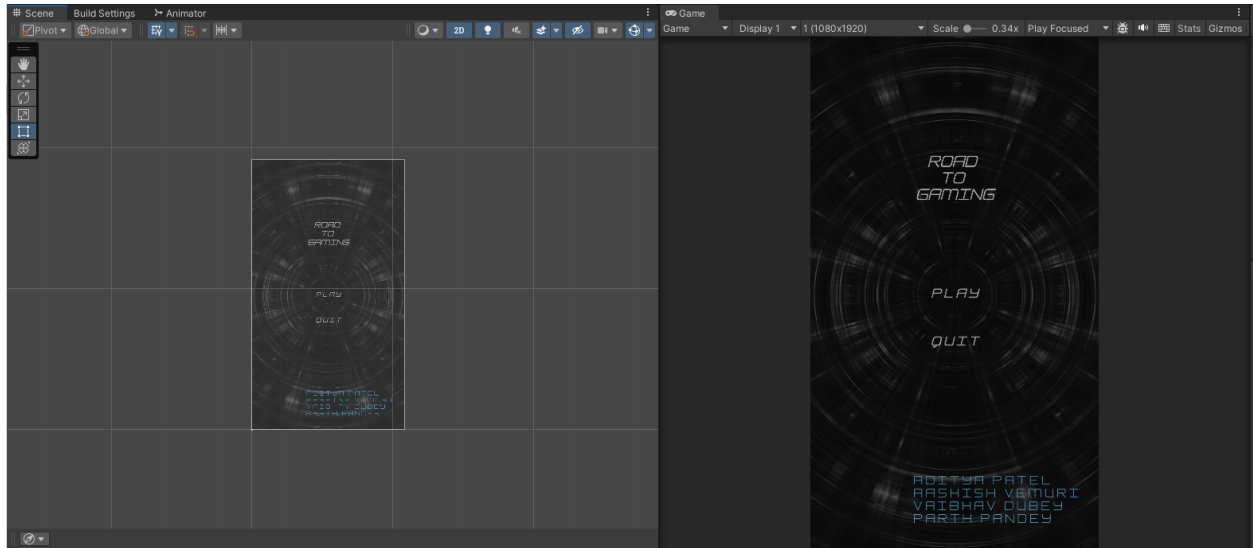
- The game will have a vibrant and colorful 3D environment with a minimalist design for both the path and the Player.

-Audio

- Player makes pick up sound effect on collecting the crystals
- The environment will feature simple geometric shapes to maintain visual clarity to tell the player where to navigate since that is what will determine when to tap to switch directions.

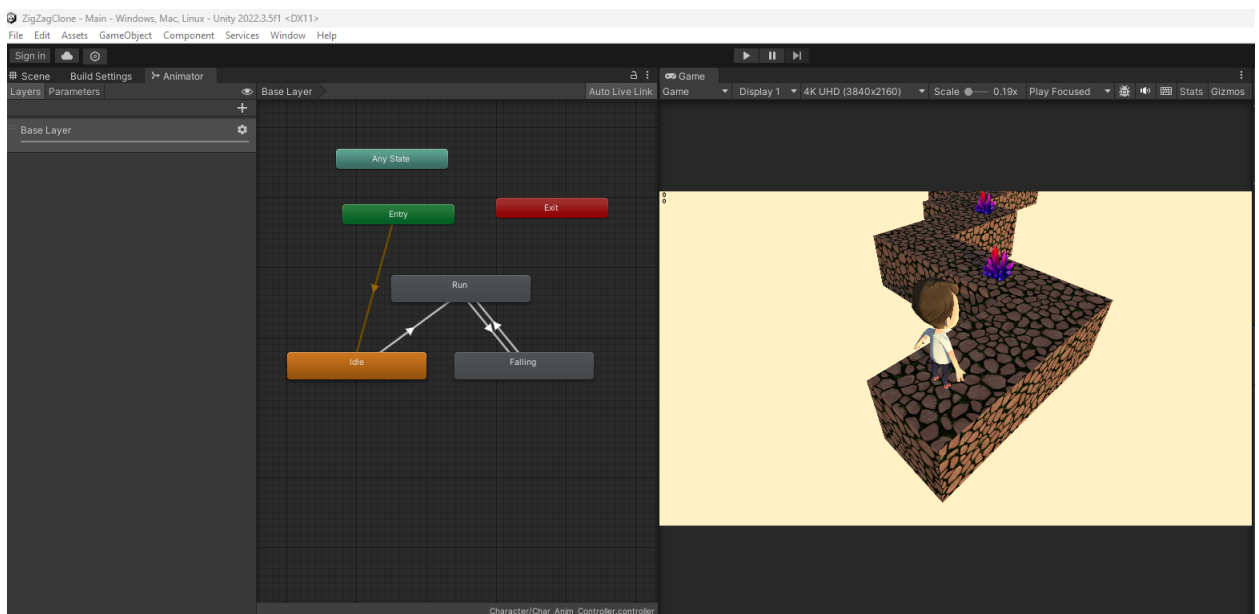
4.2. UI/UX

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4.3. Animation

- The Player Character animates as he runs and plays the fall animation once the player is off the platform.



5. Technical Details

5.1. Development Tools

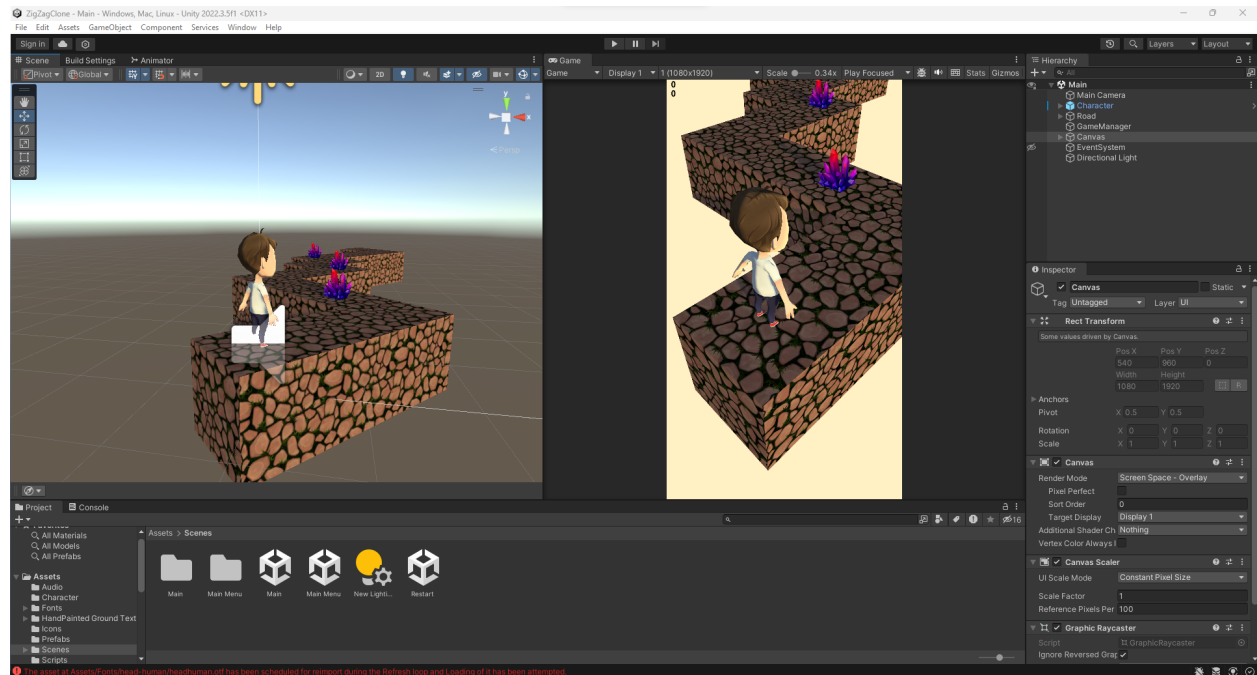
- Game Engine: Unity3D

- Programming Language: C#
- 3D Modeling: Blender and Unity Asset Store

5.2. Code Structure

The code will follow object-oriented programming and be organized into scripts to manage different aspects of the game, including player controls, random platform generation, scoring, and UI.

Platform Generation is done using `Random.Range` which gives us a small probability to switch the directions of the platforms to spawn.



The project and the game build is provided in the project folder . Build will be available under the folder called “Builds”.