INT209 Unity 3D
Game Designing Project Report

Game title : "Balance the Ball" / "Roll-A-Ball"

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Introduction

'Balance the Ball' or 'Roll-A-Ball' is a 3d puzzle game where the player must control and roll a ball carefully through multiple obstacles and take it to the finish point of the game. The player must also be extra attentive to not let the ball fall into the eternal abyss below. The score in the game is calculated based on the time, the faster you complete the game the more better you are.

This game when played for longer periods of time can help develop the players hand eye coordination, balancing skills, strategic thinking and planning. This game is really hard to finish and may need multiple tries, hence it instils patience in the player too.
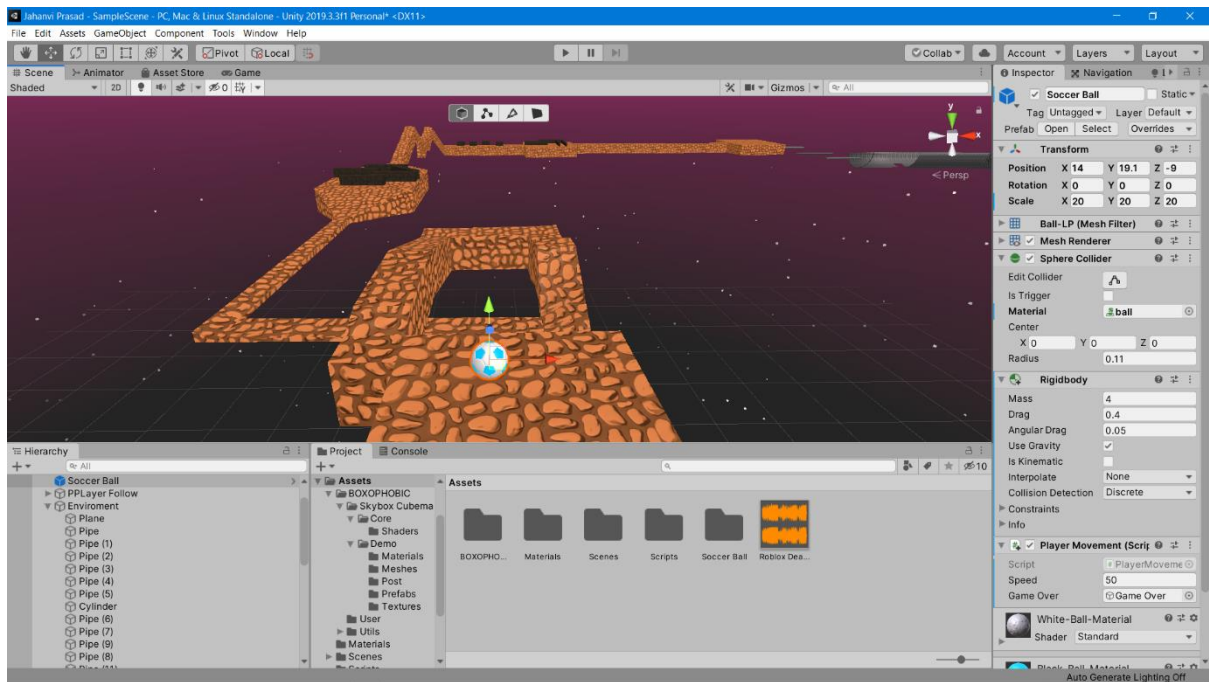
 The idea for this game came from a game called "Balance" which I used to play in my childhood.

Game Categories

3D puzzle/ Platform/ Survival/ Adventure/ Real time strategy and tactics
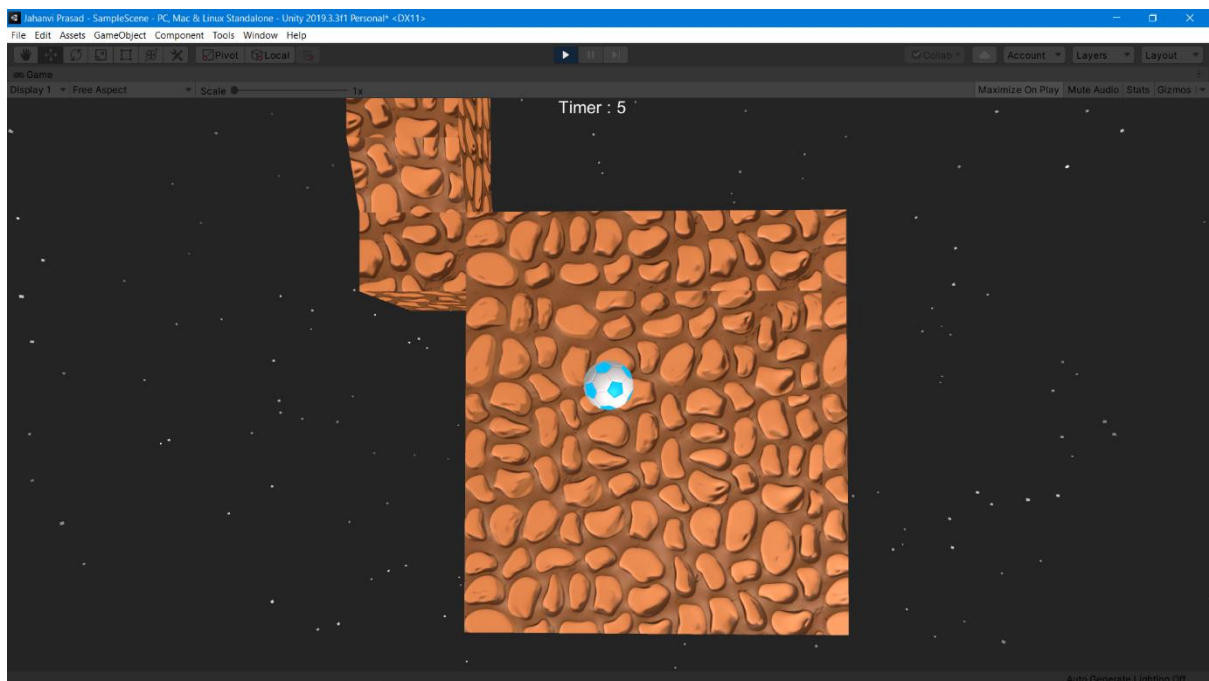
Gameplay Description

The game consist of a ball which the player has to roll using A,S,D,W or the arrow keys. The player has to roll the ball to the finish point in the minimum time possible.
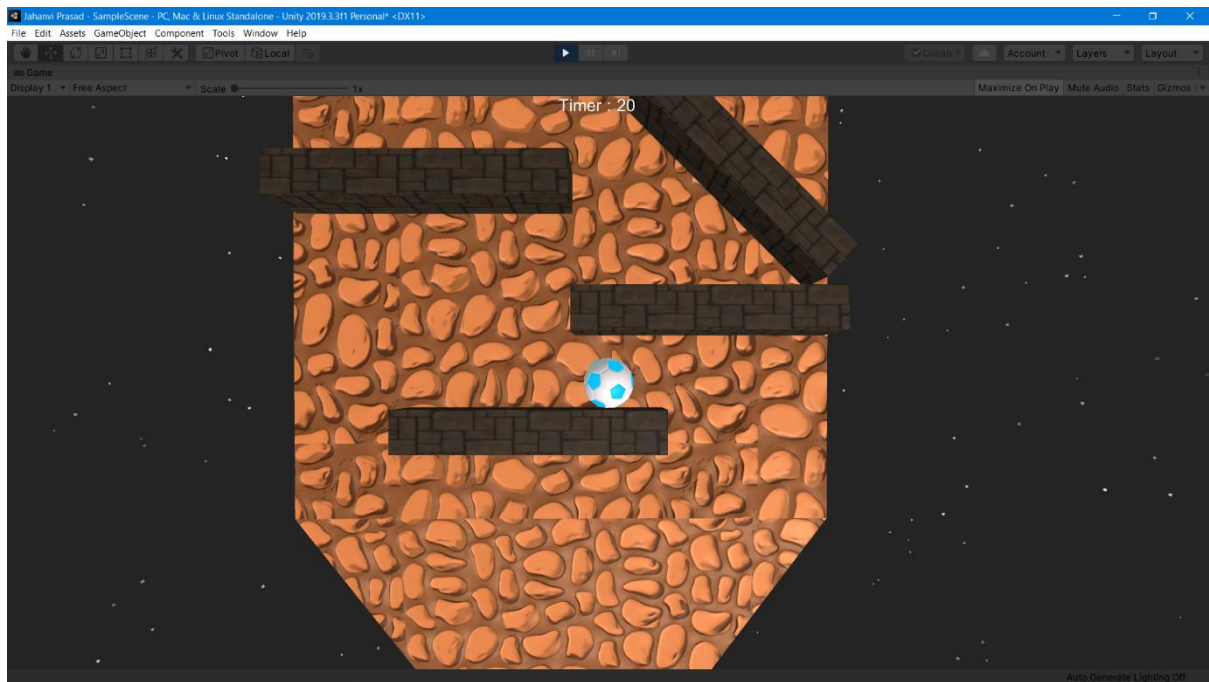
Basic layout of the game. Complete level is created using ProBuilder.

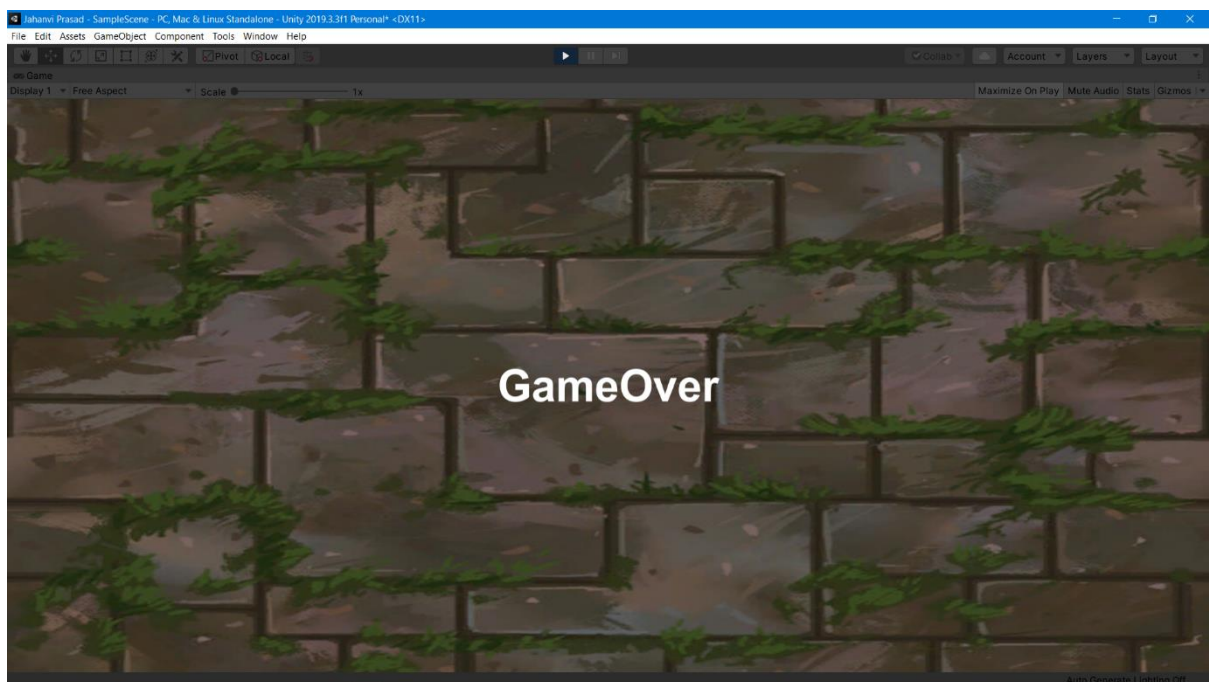As this game doesn't consist of much scripting part most part is of level designing.

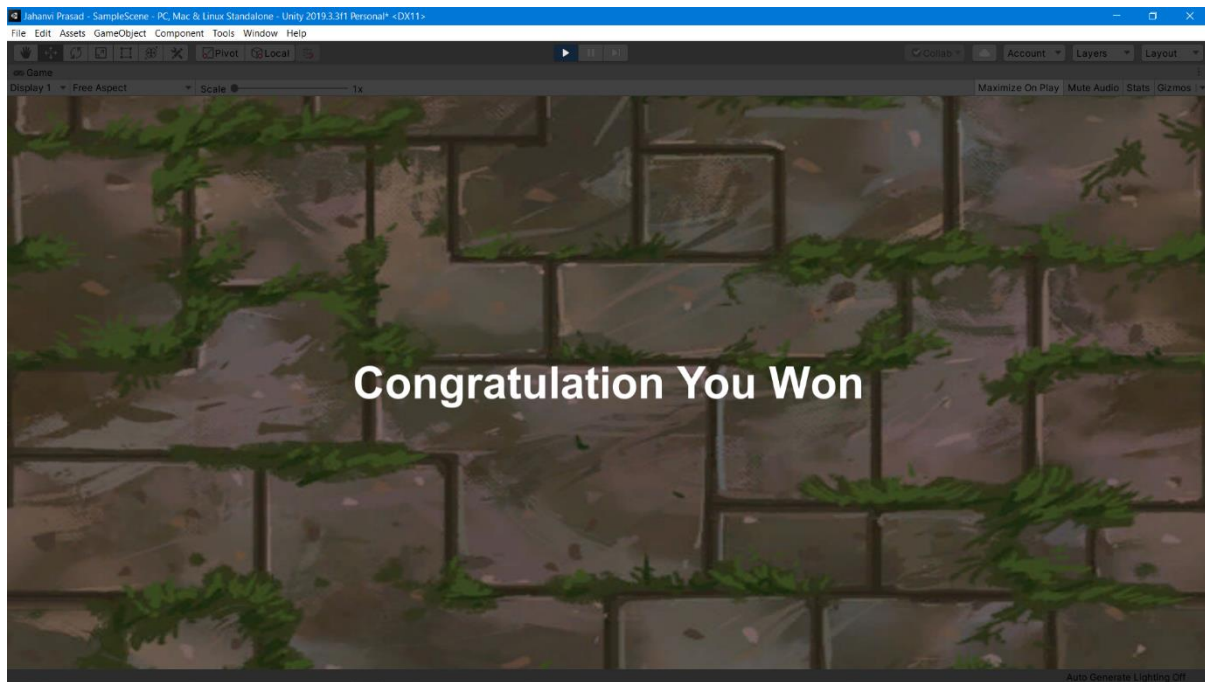Game window scene along with the timer on the top.

Obstacles in the scene to slow the player down

Player can't go through the obstacles, The Ball has to go around them.

Game over screen: when the player falls off the platform.

Winner's screen: when the player will reach the end of the puzzle.

Implementation

The game is fairly simple with only one level and simple motive, it has simple controls but complex gameplay with more than one pathways to reach the end of the game.

The major work in this project is designing and building the platform itself.

I have used Probuilder 4.0.5 for building this platform

I have used the same for creating the player avatar – A Ball.

I have designed each obstacle such that they are encountered by the player at crucial points, and require careful manoeuvring to cross it.

Since most of the work is already with the creation of player and the platform we only require 2 scripts in this game. One for moving the player and another for making the camera follow the player.

Script #1 : Player Controller

```
using UnityEngine;
using System.Collections;

public class PlayerController : MonoBehaviour
{

public float speed;
private Rigidbody rb;

void Start ()
{
rb = GetComponent<Rigidbody>();
}

void FixedUpdate ()
{
float moveHorizontal = Input.GetAxis ("Horizontal");
float moveVertical = Input.GetAxis ("Vertical");

Vector3 movement = new Vector3 (moveHorizontal, 0.0f, moveVertical);
rb.AddForce (movement * speed);
//script for movement of player

timer.text = "Timer : " + Time.time.ToString("0");

//script for creating the timer.


  if(transform.position.y < -80f)
 {
  GameOver.SetActive(true);
 }

/*If the player goes below distance i.e. fall of the puzzle game over screen
will be displayer. */
}
}
```

Script #2 : Camera following the player

```
using UnityEngine;
using System.Collections;

public class Rotator : MonoBehaviour {

void Update ()
{
transform.Rotate (new Vector3 (15, 30, 45) * Time.deltaTime);
//script to make camera follow the player (only position not the rotation of the
player).
}
}
```