Game Programming Project Report

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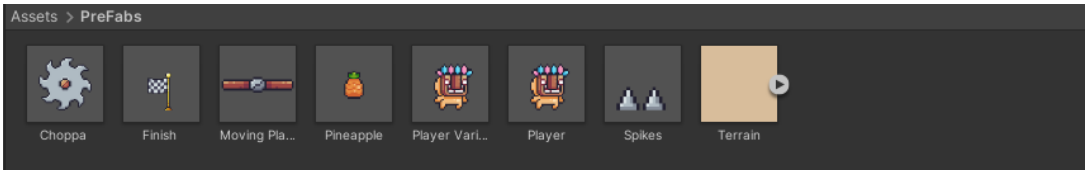
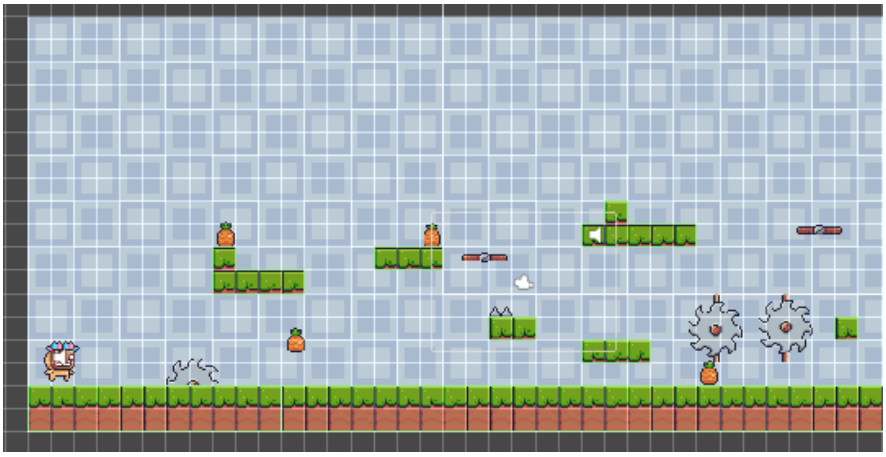
Game Concept: You are a contestant on an obstacle course and your goal is to make it through without getting killed and you have to collect all the pineapples.

The **Design** of the game is a simple Platformer style game with 3 different levels to play through with increasing difficulty.

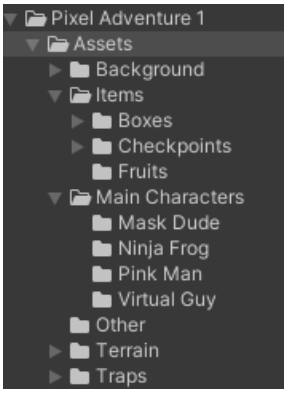
I tried to make the game dynamically, and this includes the use of prefabrications for easy level building. It also helps keep the theme of the game.



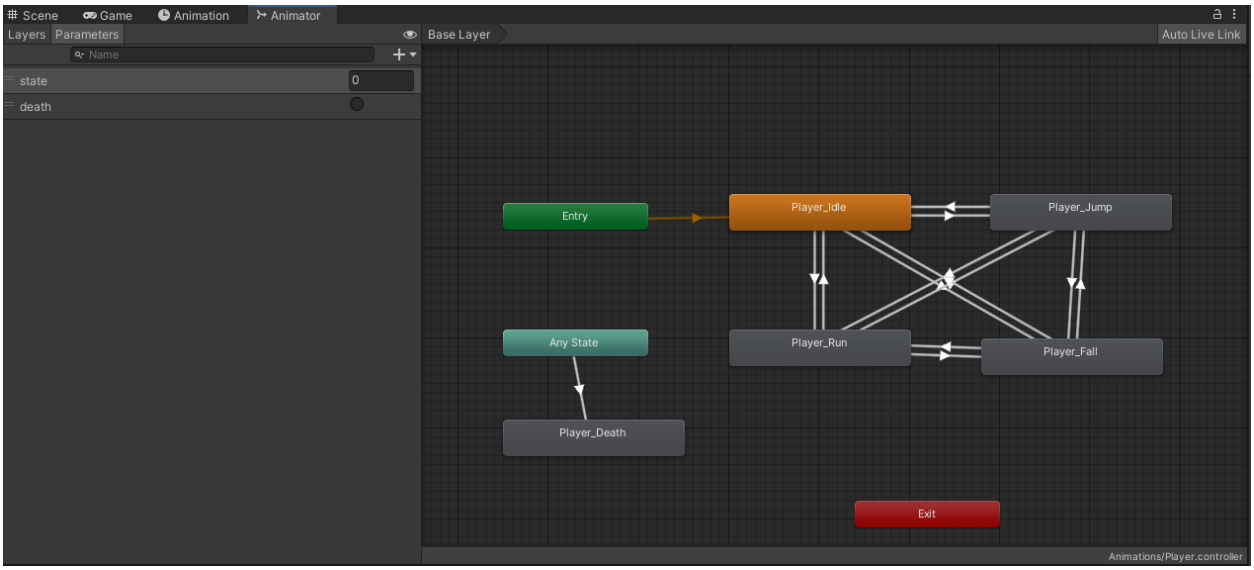
I used a Tile Map style world to lay the graphics in the game.



The animations and graphics are all from sprites sourced from the internet.

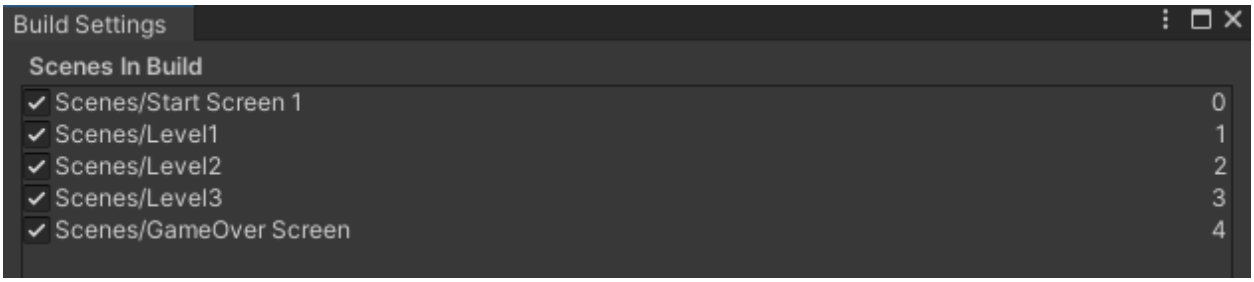


I created the transitions using the tutorials shown in class.



The sounds are from an assets pack in the Unity Asset Store.

I created different Scenes so that there can be different levels to the game.



The C# Scripts pictures are included below.

EndMenu.cs | StartMenu.cs | Finish.cs | PlayerLife.cs | ItemCollector.cs | PlayerMovement.cs | Rotate.cs

Assembly-CSharp — EndMenu

```
using System.Collections;
using System.Collections.Generic;
using UnityEngine;
using UnityEngine.SceneManagement;

Unity Script (2 asset references) | 0 references
public class EndMenu : MonoBehaviour
{
    0 references
    public void Quit()
    {
        Application.Quit();
    }

    0 references
    public void restart()
    {
        SceneManager.LoadScene(SceneManager.GetActiveScene().buildIndex - 3);

    }
}
```

EndMenu.cs | StartMenu.cs | Finish.cs | PlayerLife.cs | ItemCollector.cs | PlayerMovement.cs

Assembly-CSharp — StartMenu

```
using System.Collections;
using System.Collections.Generic;
using UnityEngine;
using UnityEngine.SceneManagement;


public class StartMenu : MonoBehaviour
{
    0 references
    public void startGame()
    {
        SceneManager.LoadScene(SceneManager.GetActiveScene().buildIndex + 1);

    }

}
```

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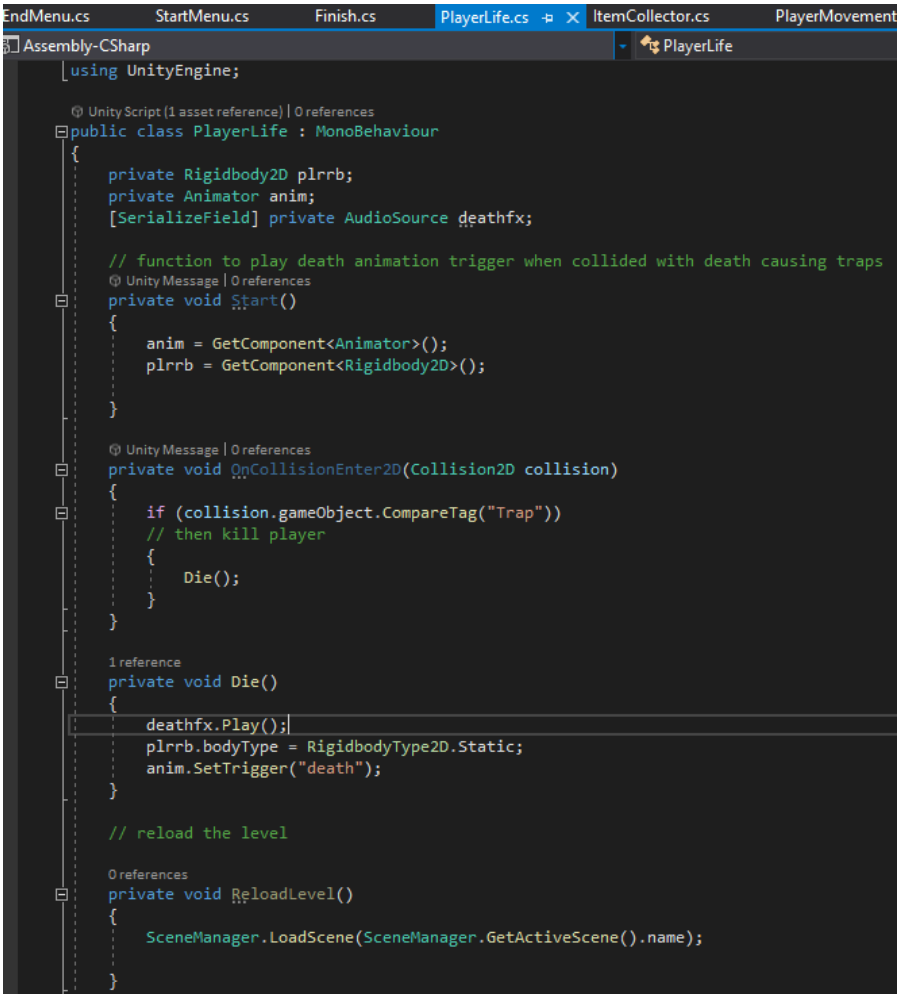
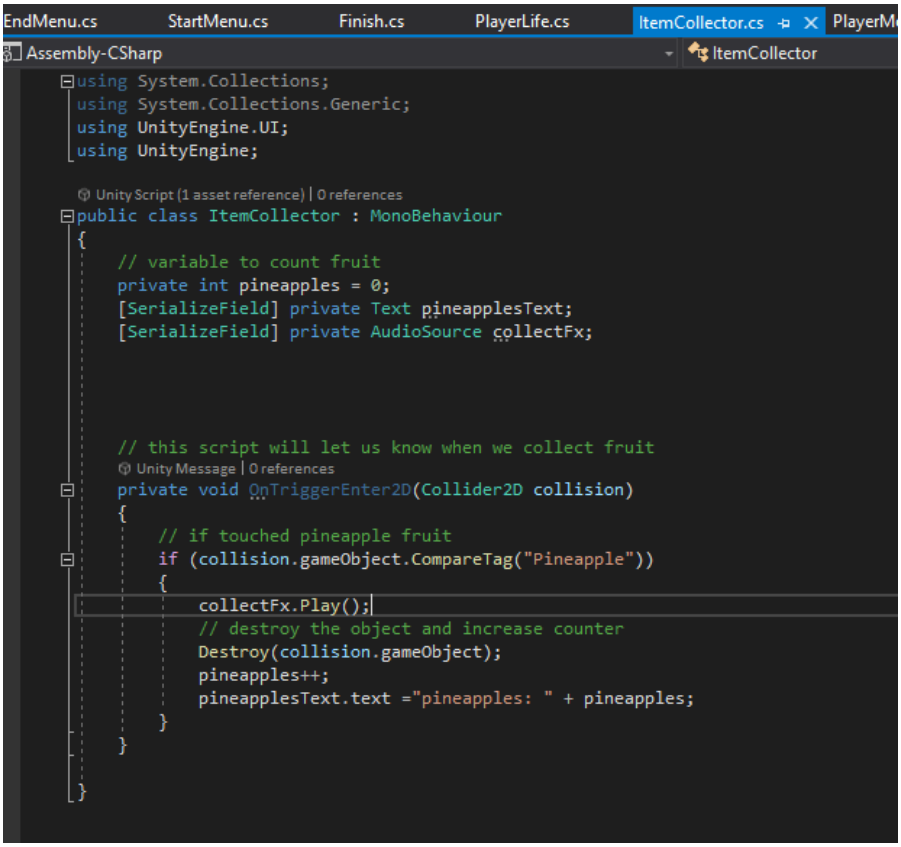
Assembly-CSharp Finish

```
using System.Collections;
using System.Collections.Generic;
using UnityEngine.SceneManagement;
using UnityEngine;

Unity Script (1 asset reference) | 0 references
public class Finish : MonoBehaviour
{
    private AudioSource completeFx;
    private bool levelCompleted = false;
    // Start is called before the first frame update
    Unity Message | 0 references
    void Start()
    {
        completeFx = GetComponent<AudioSource>();

    }

    Unity Message | 0 references
    private void OnTriggerEnter2D(Collider2D collision)
    {
        if (collision.gameObject.name == " Player" && !levelCompleted)
        {
            // playing Audio
            completeFx.Play();
            levelCompleted = true;
            //Time delayy to call next level
            Invoke("CompleteLevel", 2f);


        }

    }

    0 references
    private void CompleteLevel()
    {
        SceneManager.LoadScene(SceneManager.GetActiveScene().buildIndex + 1);
    }

}
```


EndMenu.cs
StartMenu.cs
Finish.cs
PlayerLife.cs
ItemCollector.cs
PlayerMovement
Assembly-CSharp
PlayerLife
using UnityEngine;
Unity Script (1 asset reference) | 0 references
public class PlayerLife : MonoBehaviour
{
private Rigidbody2D plrrb;
private Animator anim;
[SerializeField] private AudioSource deathfx;
// function to play death animation trigger when collided with death causing traps
Unity Message | 0 references
private void Start()
{
anim = GetComponent<Animator>();
plrrb = GetComponent<Rigidbody2D>();
}
Unity Message | 0 references
private void OnCollisionEnter2D(Collision2D collision)
{
if (collision.gameObject.CompareTag("Trap"))
// then kill player
{
Die();
}
}
1 reference
private void Die()
{
deathfx.Play();
plrrb.bodyType = RigidbodyType2D.Static;
anim.SetTrigger("death");
}
// reload the level
0 references
private void ReloadLevel()
{
SceneManager.LoadScene(SceneManager.GetActiveScene().name);
}


EndMenu.cs
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Assembly-CSharp
ItemCollector
using System.Collections;
using System.Collections.Generic;
using UnityEngine.UI;
using UnityEngine;
Unity Script (1 asset reference) | 0 references
public class ItemCollector : MonoBehaviour
{
// variable to count fruit
private int pineapples = 0;
[SerializeField] private Text pineapplesText;
[SerializeField] private AudioSource collectFx;
// this script will let us know when we collect fruit
Unity Message | 0 references
private void OnTriggerEnter2D(Collider2D collision)
{
// if touched pineapple fruit
if (collision.gameObject.CompareTag("Pineapple"))
{
collectFx.Play();
// destroy the object and increase counter
Destroy(collision.gameObject);
pineapples++;
pineapplesText.text ="pineapples: " + pineapples;
}
}
}

EndMenu.cs StartMenu.cs Finish.cs PlayerLife.cs ItemCollector.cs PlayerMovement.cs Rotate.cs

Assembly-CSharp PlayerMovement

```
Unity Script (1 asset reference) | 0 references
public class PlayerMovement : MonoBehaviour
{

    private Rigidbody2D plrb;
    private Animator anim;
    private float direction = 0f;
    private SpriteRenderer sprite;
    private BoxCollider2D col;
    [SerializeField]private float moveSpeed = 6f;
    [SerializeField]private float jumpVel = 11f;
    [SerializeField] private LayerMask canJump;
    6 references
    private enum MovingState
    { idle,running,jumping,falling }

    [SerializeField] private AudioSource jmpFx;


    // Start is called before the first frame update
    Unity Message | 0 references
    private void Start()
    {
        plrb = GetComponent<Rigidbody2D>();
        anim = GetComponent<Animator>();
        sprite = GetComponent<SpriteRenderer>();
        col = GetComponent<BoxCollider2D>();
    }

    // Update is called once per frame
    Unity Message | 0 references
    private void Update()
    {
        direction = Input.GetAxisRaw("Horizontal");
        plrb.velocity = new Vector2(direction * moveSpeed, plrb.velocity.y);


        if (Input.GetButtonDown("Jump") && isGrounded())
        {
            plrb.velocity = new Vector3(plrb.velocity.x, jumpVel, 0);
            jmpFx.Play();
        }
```

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Assembly-CSharp Rotate

```
using System.Collections;
using System.Collections.Generic;
using UnityEngine;

Unity Script (1 asset reference) | 0 references
public class Rotate : MonoBehaviour
{
    [SerializeField] private float rpm = 2f;

    // Update is called once per frame
    Unity Message | 0 references
    private void Update()
    {
        transform.Rotate(0, 0, 360 * rpm * Time.deltaTime);
    }
}
```

Included below are the links to my resources.

[Pixel Adventure 1 | 2D Characters | Unity Asset Store]

[FREE Casual Game SFX Pack | Audio Sound FX | Unity Asset Store]

[Casual Game BGM #5 | Audio Music | Unity Asset Store]