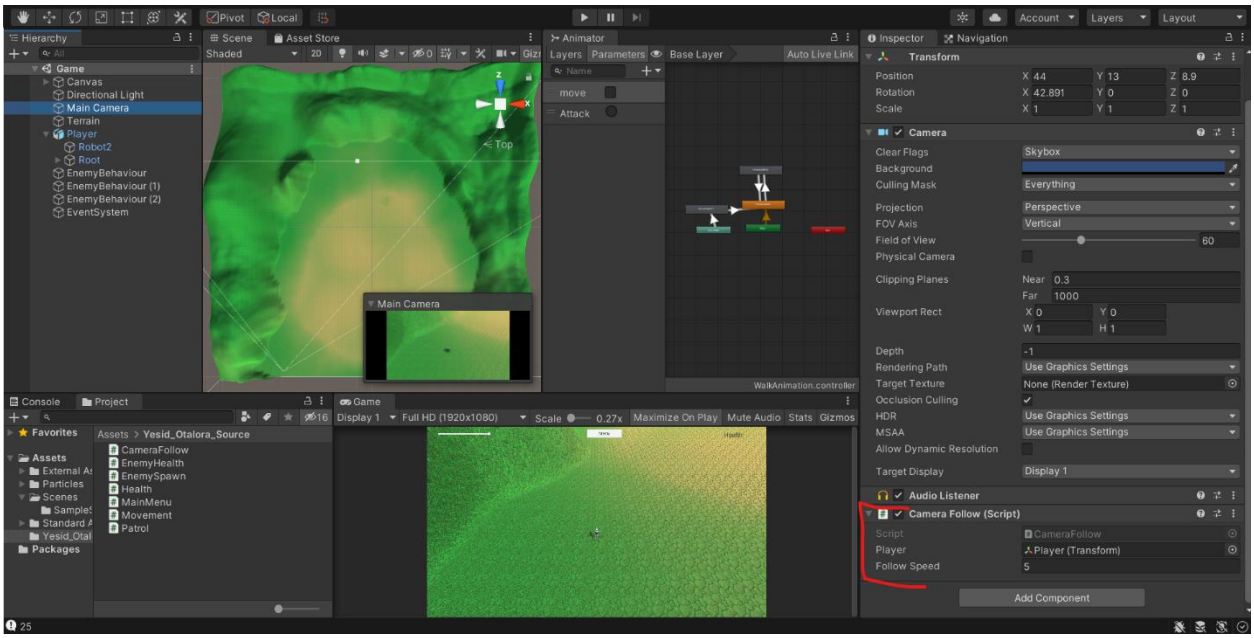
Report Assignment 2

Camera control:

Instead of going for cinema chine I just decided to place a camera over the player and made a script to have the camera follow the player as is in the frame.

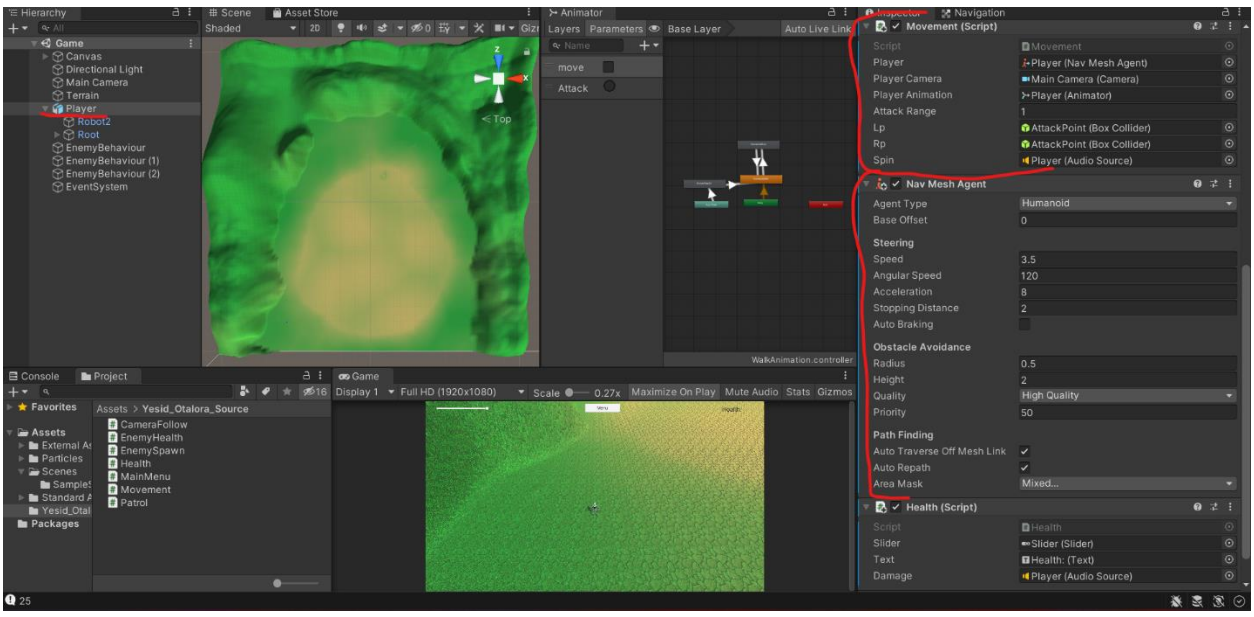
```
using UnityEngine;


public class CameraFollow : MonoBehaviour
{
    public Transform player;
    public float followSpeed = 5;
    private Vector3 offset;



    void Start()
    {
        offset = player.position - transform.position;
    }



    void LateUpdate()
    {
        if (player)
        {
            transform.position = player.position - offset;
        }
    }
}

```



Basic Movement and control:

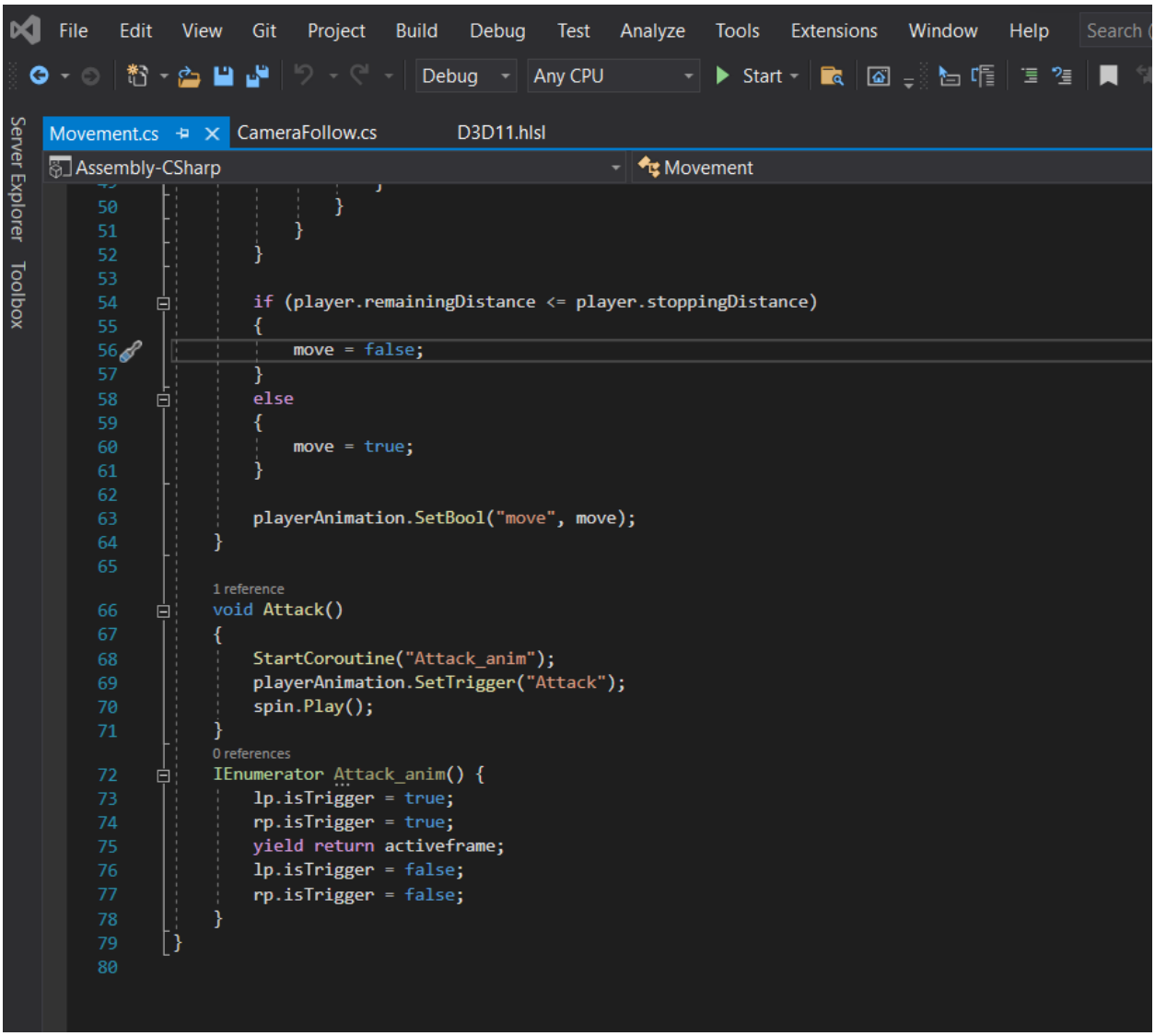
I went to use a NavMeshAgent to make my player move from place A to place B by setting the destination be where I clicked on the terrain. I decided to track when my player is moving by setting a Boolean value. Then I have an animator that waits for the movement to be set to true and it animates the player.

```
Unity Message | 0 references
void Update()
{

    if (Input.GetMouseButton(0))
    {
        Ray myRay = playerCamera.ScreenPointToRay(Input.mousePosition);
        RaycastHit hit;

        if (Physics.Raycast(myRay, out hit))
        {
            player.destination = hit.point;

            if(hit.transform.tag == "Enemy")
            {
                if (enemy != null)
                {
                        transform.LookAt(hit.transform.position);
                }
                if (Vector3.Distance(transform.position, hit.transform.position) <= 2)
                {
                    Attack();
                }
            }
        }
    }

    if (player.remainingDistance <= player.stoppingDistance)
    {
        move = false;
    }
    else
    {
        move = true;
    }

    playerAnimation.SetBool("move", move);
}
```



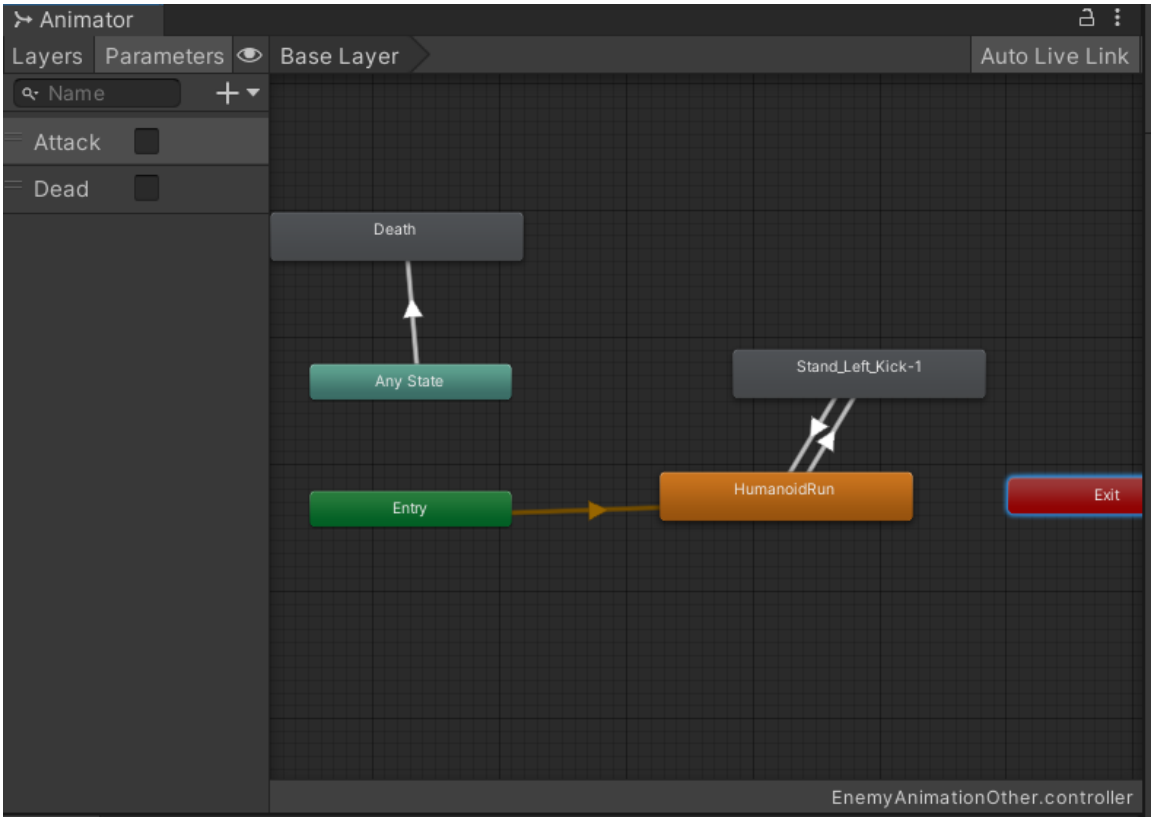
3D animation:

For the 3D animation, I decided to set animations for attacking, and walking. The enemy and the player both have the features assigned. In order to have damage, I decided to put colliders on the player's arms and tagged them as "AttackPoint" since the animation the player rotates with open arms to hit enemies. When the collider detects there is a collision it will the remove health to the enemy. I also decided to make enemies die and make them stay ion the floor like a real corpse would.



```
    private float health;
    private GameObject gameobject;
    public Animator enemyAnimation;

    Unity Message | 0 references
    private void Start()
    {
        health = 20f;
    }

    Unity Message | 0 references
    private void Update()
    {
    if (health <= 0f)
    {
        Die();
    }
}

    Unity Message | 0 references
    void OnTriggerEnter(Collider obj)
    {
    if (gameObject != null)
    {
        if (obj.gameObject.tag == "AttackPoint")
        {
            health -= 5f;
        }
        }
    }

1 reference
void Die()
{
    enemyAnimation.SetBool("Dead", true);
    GetComponent<Patrol>().enabled = false;
    GetComponent<Collider>().enabled = false;
    GetComponent<NavMeshAgent>().speed = 0;
    GetComponent<Rigidbody>().isKinematic = true;

}
```

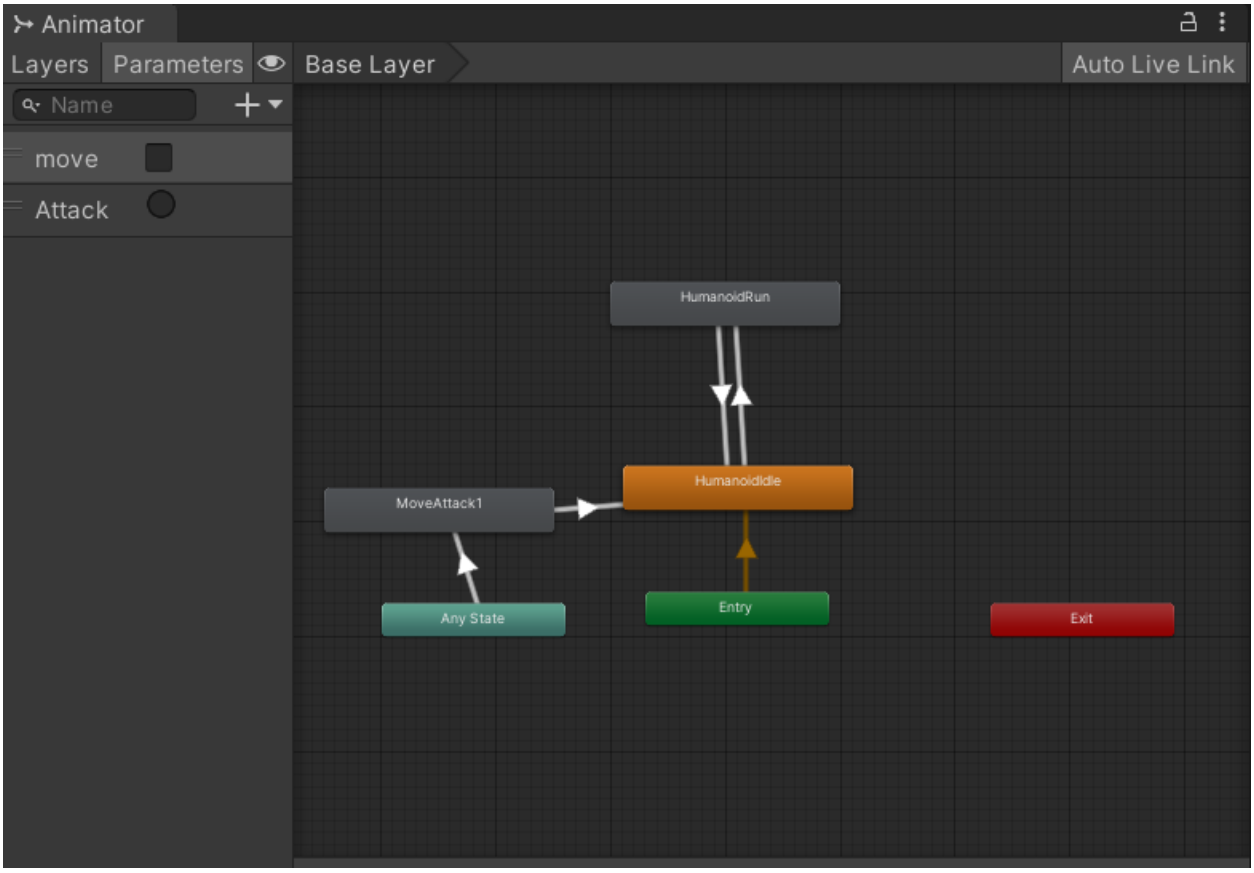
This is the animation tree for the enemy:



Since there are three different enemies the only thing that changes are the attacks since some punch, other jump and kick and other just jump.

For the player's health I decided to detect collision with objects whose tag are "Hand" or "Leg" since those are the tags on the enemy's body part that attacks (Ex: left hand or left foot).

The player's animation tree:



Melee:

Basically, I decided to make the enemies randomly patrol the map and follow the player when he is at a certain range. If the player is too close, then the enemy will follow the player and attack with animations. I decided to put a rigidbody and collider on the part of the body that the animations use to hit. When the enemy hit the player then there is a punch sound that is triggered. In case of the player attack then a vacuum like noise will sound since the player is a robot and spins.

```
        else
        {
            if (Vector3.Distance(transform.position, player.position) <= attackRange && attack == false)
            {
                // transform.LookAt(player.position);
                 StartCoroutine("Attackanim");



            }
            else
            {
                if (attack == false && bruh == false)
                {

                    StartCoroutine("changeDestination");
                }

            }

        }


    }
    0 references
    IEnumerator Attackanim()
    {
        attack = true;
        enemy.SetBool("Attack", attack);
        transform.LookAt(player.position);
        yield return activeframe;
        attack = false;
        enemy.SetBool("Attack", attack);
        yield return cd;
    }
    0 references
    IEnumerator changeDestination()
    {
        bruh = true;
        agent.destination = player.transform.position;
        yield return wtime;
        bruh = false;


    }
    2 references
    private void changePosition()
    {
        xPos = Random.Range(20, 120);
        zPos = Random.Range(0, 120);
        agent.destination = new Vector3(xPos, 0, zPos);
    }
}
```

UI:

For the UI I decided to make a script that pause, resume and quits the game. I added the script as an attribute to the MainMenu and had it be actioned by clicking the buttons.

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

Unity Script (2 asset references) | 0 references
public class MainMenu : MonoBehaviour
{
    0 references
    public void PlayGame()
    {
        Time.timeScale = 1;
    }

    0 references
    public void PauseGame()
    {
        Time.timeScale = 0;
    }

    0 references
    public void QuitButton()
    {
        Application.Quit();
    }

}
```