



MTEC 2120: Tutorial Project

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John Lemon's Haunted House

- Game Objective: Get John Lemon through the Haunted House safely
- Tutorial Tasks
 - Environment
 - Player Character (John Lemon)
 - Enemies
 - Animate Enemies and Player Character



John Lemon (Player Character)

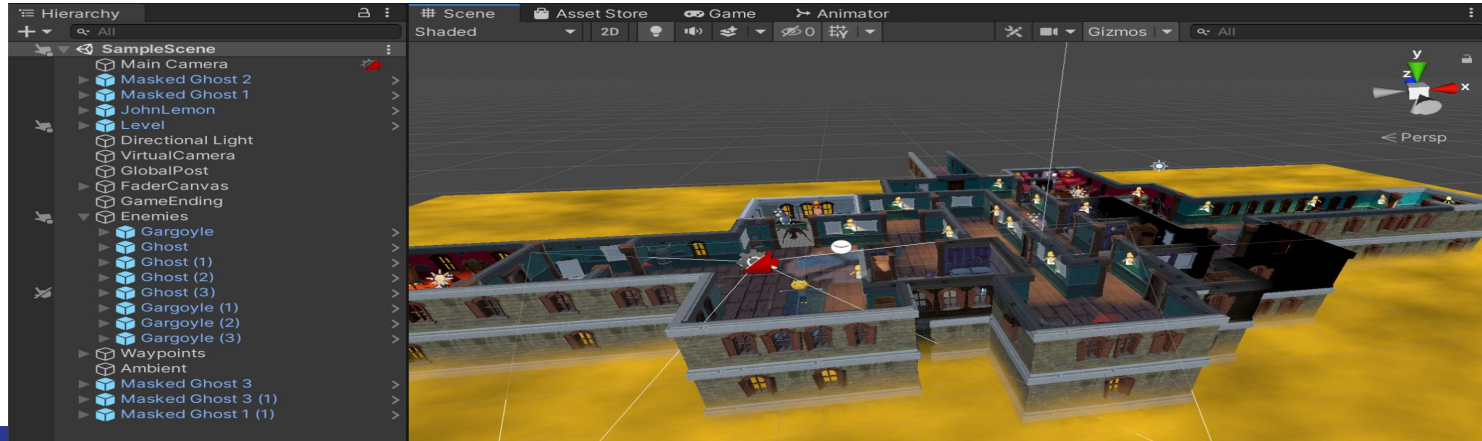
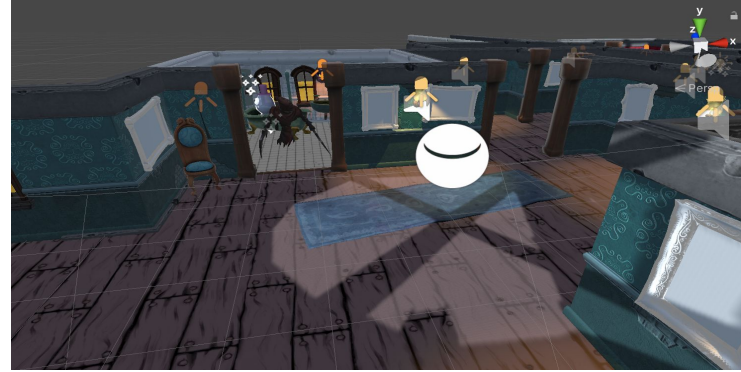
- Import Prefabs
- Animator
 - Animation States
 - Animation Transitions
 - Bool, Trigger, Float, Int
- Make John Lemon Move
 - Player Controller (Player Movement Script)
 - Loops
 - Vectors
 - Collider, Rigid Body



```
5 public class PlayerMovement : MonoBehaviour
6 {
7     public float turnSpeed = 20f;
8
9     Animator m_Animator;
10    Rigidbody m_Rigidbody;
11    Vector3 m_Movement;
12    Quaternion m_Rotation = Quaternion.identity;
13
14    void Start ()
15    {
16        m_Animator = GetComponent<Animator> ();
17        m_Rigidbody = GetComponent<Rigidbody> ();
18    }
19
20    void FixedUpdate ()
21    {
22        float horizontal = Input.GetAxis ("Horizontal");
23        float vertical = Input.GetAxis ("Vertical");
24
25        m_Movement.Set(horizontal, 0f, vertical);
26        m_Movement.Normalize ();
27
28        bool hasHorizontalInput = !Mathf.Approximately (horizontal, 0f);
29        bool hasVerticalInput = !Mathf.Approximately (vertical, 0f);
30        bool isWalking = hasHorizontalInput || hasVerticalInput;
31        m_Animator.SetBool ("IsWalking", isWalking);
32
33        Vector3 desiredForward = Vector3.RotateTowards (transform.forward, m_Movement, turnSpeed * Time.deltaTime, 0f);
34        m_Rotation = Quaternion.LookRotation (desiredForward);
35    }
}
```

Environment & Camera

- Import Environment
- Lighting
- Nav Mesh so Player and Enemies can move
- Post Processing
- Add Color to make the environment scary



Enemies: Static

- Gargoyles
- Trigger Simulates Gargoyle's line of sight (Capsule Collider)
- Static Observer
- Script to Detect Player Character

```
1 using System.Collections;
2 using System.Collections.Generic;
3 using UnityEngine;
4
5 public class Observer : MonoBehaviour
6 {
7     public Transform player;
8     public GameEnding gameEnding;
9
10    bool m_IsPlayerInRange;
11
12    void OnTriggerEnter (Collider other)
13    {
14        if (other.transform == player)
15        {
16            m_IsPlayerInRange = true;
17        }
18    }
19
20    void OnTriggerExit (Collider other)
21    {
22        if (other.transform == player)
23        {
24            m_IsPlayerInRange = false;
25        }
26    }
27
28    void Update ()
29    {
30        if (m_IsPlayerInRange)
31        {
32            Vector3 direction = player.position - transform.position + Vector3.up;
33            Ray ray = new Ray(transform.position, direction);
34            RaycastHit raycastHit;
```



Enemies: Dynamic

- Ghosts: Will move throughout level and hunt John Lemon
- Animate Ghosts (Collider, Arrays Rigid Body, NavMesh, Animator etc.)
- Simulate Ghosts line of sight
- Waypoint Scripts to determine where the ghosts will move throughout the level
- Some ghosts will stay still, others will move on a predertimed path.



Enemies: Extra Obstacles



- Masked Ghosts (Not included in Project)
- These ghosts block off some exits making it harder for the Player to get through
- Player must maneuver around them before the Dynamic Ghosts spot them, making the level more challenging.

What I Learned

- Different Ways to animate objects
- Arrays
- Vectors
- Nav Mesh
- I thought the tutorial was easier than it looked. Although it was easy to follow and it is technically a beginner/intermediate tutorial, there were still things I didn't understand. The game didn't work several times and I had to troubleshoot a lot.

