

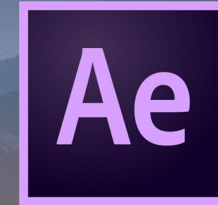


MIKYLA WILFRED

# MAGIC OF THE WITCH

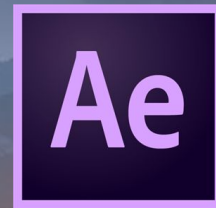
## WHY I PICKED A VIDEO GAME

- 🎃 Media Minor
  - 💀 Using After Effects, Premiere and Photoshop
- 🎃 Computer Graphics Class
  - 💀 More C# Experience
  - 💀 Unity
- 🎃 Learning new applications
  - 💀 Blender



## WHY I PICKED A VIDEO GAME

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## STORY

The main character, Isabelle, lives in a small medieval land, Ashwood. While Isabella is playing hide and seek with her siblings, Alice, Leo, and Cassius, they get kidnapped. Isabelle goes through a portal that takes them to a similar world as the first but the color scheme changes, making it the witch world which is referred to as Dragon Ash. Isabelle must save her three siblings who have been sold to three random witches in Dragon Ash by the evil head witch.

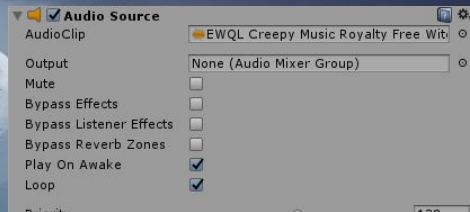
# MENU



Separate Audio and Video



Button starts game



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

public class MenuManager : MonoBehaviour {

    public void OnStart(){
        SceneManager.LoadScene ("OpeningScene");
    }

    // Use this for initialization
    void Start () {

    }

    // Update is called once per frame
    void Update () {

    }

}
```





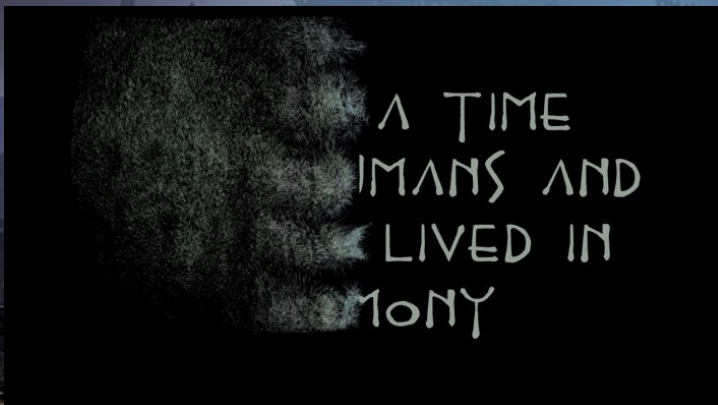
## CUTSCENES



Built in its own Scene



Plays new scene when done

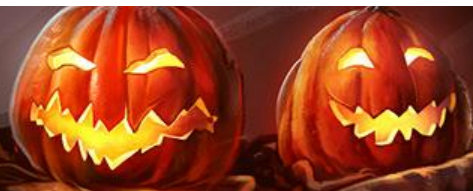


```
using System.Collections;
using System.Collections.Generic;
using UnityEngine;
using UnityEngine.Video;

public class Movie : MonoBehaviour {
    public VideoPlayer Intro_Movie;
    void Start()
    {
        Intro_Movie.Play();
        StartCoroutine("waitForMovieEnd");
    }

    IEnumerator waitForMovieEnd()
    {
        while(Intro_Movie.isPlaying) // while the movie is playing
        {
            yield return new WaitForEndOfFrame();
        }
        // after movie is not playing / has stopped.
        onMovieEnded();
    }

    void onMovieEnded()
    {
        Debug.Log("Movie Ended!");
        Application.LoadLevel("MainWorld");
    }
}
```



PLAYER



1st or 3rd person



Left Mouse - Runs



Mouse looks



Z - Sword



X - Magic



Gets knocked back when hit



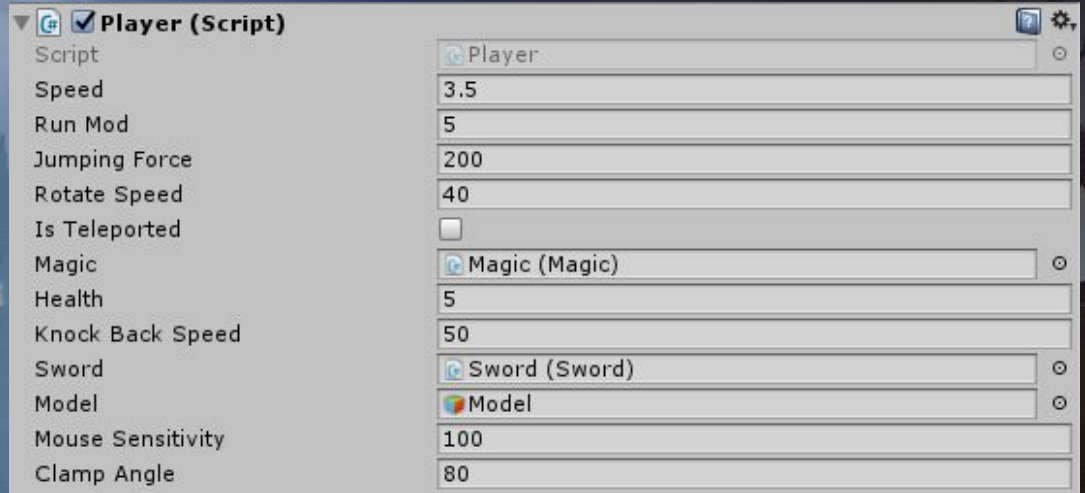
Spacebar and Right Click - Jump



Code: C:\Users\snowy\Documents\VideoGames-Unity\Witch  
Video Game do I make\Assets\Test Character\Player.cs



Isabelle



# HEALTH



## Health Calculations

```
void OnCollisionEnter (Collision collision){
    if (collision.transform.name == "Plane"){
        //Debug.Log ("Let the bodies!");
        canJump = true;
    }

    if (collision.gameObject.GetComponent<Enemy> () != null){
        Hit ((transform.position = collision.transform.position).normalized);
    }
}

void OnTriggerEnter (Collider otherCollider){
    if (otherCollider.GetComponent<EnemyBullet> () != null){
        Hit ((transform.position = otherCollider.transform.position).normalized);
    }
}

private void Hit (Vector3 direction) {
    if (isHit){
    }else{
        Vector3 knockbackDirection = (direction + Vector3.up).normalized;
        GetComponent<Rigidbody> ().AddForce (knockbackDirection * knockBackSpeed);
        knockBackTimer = 1f;
        isHit = true;

        health--;
        if (health <= 0) {
            Destroy (model);
            SceneManager.LoadScene ("GameOver");
        }
    }
}
```





# ENEMIES



## Enemy Class



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

public class Enemy : MonoBehaviour {
    public int health = 1;
    public GameObject explosionPrefab;
    public virtual void Hurt () {
        health -= 1;
        if (health <= 0) {
            Destroy (gameObject);
        }
    }

    public void OnTriggerEnter (Collider otherCollision) {
        if (otherCollision.GetComponent<Sword> () != null) {
            if (otherCollision.GetComponent<Sword> ().IsAttacking) {
                Hurt ();
                Debug.Log ("Sword");
            }
        }
        if (otherCollision.GetComponent<FireBall> () != null) {
            Hurt();
            Debug.Log ("FireBall");
            GameObject explodeObject = Instantiate (explosionPrefab);
            explodeObject.transform.position = transform.position;
            Destroy (otherCollision.gameObject);
        }
    }
}
```

# ENEMIES



## Simple Enemy

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

public class SimpleEnemy : Enemy {

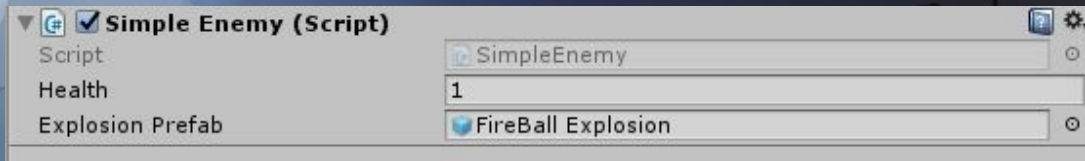
    // Use this for initialization
    void Start () {

    }

    // Update is called once per frame
    void Update () {

    }

    public override void Hurt ()
    {
        base.Hurt ();
    }
}
```



# ENEMIES



## Moving Enemy



<b>Strong Enemy (Script)</b>			
Script	StrongEnemy		
Health	10		
Explosion Prefab	FireBall Explosion		
<b>Patrolling Logic (Script)</b>			
Script	PatrollingLogic		
<b>Directions</b>			
Size	2		
Element 0	X 1	Y 0	Z 0
Element 1	X -1	Y 0	Z 0
Time To Change	1		
Movement Speed	10		

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

```
public class PatrollingLogic : MonoBehaviour {
```

```
    public Vector3[] directions;
    public float timeToChange = 1f;
    public float movementSpeed;
```

```
    private int directionPointer;
    private float directionTimer;
```

```
    // Use this for initialization
```

```
    void Start () {
        directionPointer = 0;
        directionTimer = timeToChange;
    }
```

```
    // Update is called once per frame
```

```
    void Update () {
        directionTimer -= Time.deltaTime;
        if (directionTimer <= 0f) {
            directionTimer = timeToChange;
            directionPointer++;
            if (directionPointer >= directions.Length) {
                directionPointer = 0;
            }
        }
    }
```

```
    GetComponent<Rigidbody>().velocity = new Vector3 (
        directions[directionPointer].x * movementSpeed,
        GetComponent<Rigidbody>().velocity.y ,
        directions[directionPointer].z * movementSpeed
    );
}
```

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

public class StrongEnemy : Enemy {

    // Use this for initialization
    void Start () {

    }

    // Update is called once per frame
    void Update () {

    }

    public override void Hurt ()
    {
        base.Hurt ();
    }
}
```





# ENEMIES



## Shooting Enemy



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

public class ShootingEnemy : Enemy {
    public GameObject model;
    public float timeToRotate = 2f;
    public float rotationSpeed = 6f;
    private Quaternion targetRotation;
    private int targetAngle;
    private float rotationTimer;
    private float shootingTimer;
    public GameObject bulletPrefab;
    public float timeToShoot = 1f;
    // Use this for initialization
    void Start () {
        rotationTimer = timeToRotate;
        shootingTimer = timeToShoot;
    }

    // Update is called once per frame
    void Update () {
        rotationTimer -= Time.deltaTime;
        if (rotationTimer <= 0f) {
            rotationTimer = timeToRotate;
            targetAngle += 90;
        }

        transform.localRotation = Quaternion.Lerp (transform.localRotation, Quaternion.Euler (0, targetAngle, 0), Time.deltaTime * rotationSpeed);

        shootingTimer -= Time.deltaTime;
        if (shootingTimer <= 0f) {
            shootingTimer = timeToShoot;
            GameObject bulletObject = Instantiate (bulletPrefab);
            bulletObject.transform.position = transform.position + model.transform.forward;
            bulletObject.transform.forward = model.transform.forward;
        }
    }
}
```



## DRAGON ASH



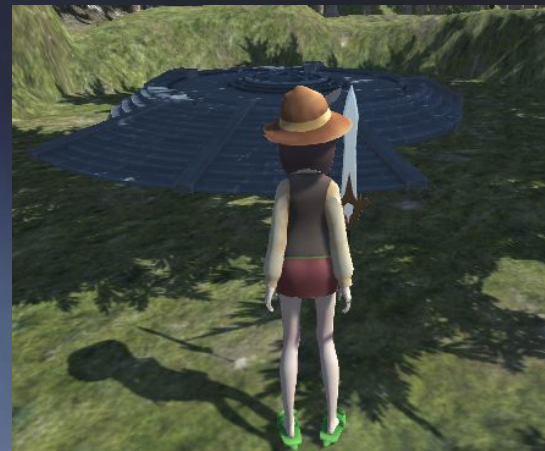
Portal to Ashwood



Witch World



No Enemies





ASHWOOD



Portals to Levels and Siblings





## BOSS FIGHTS



Level 1



Cave



Little Brother, Leo



25hp



## BOSS FIGHTS



Level 2



Castle/Dungeon



Little Sister, Alice



50hp





## BOSS FIGHTS



Level 3



Ship



Baby Brother, Cassius



100hp

