



Part3 : Final journal



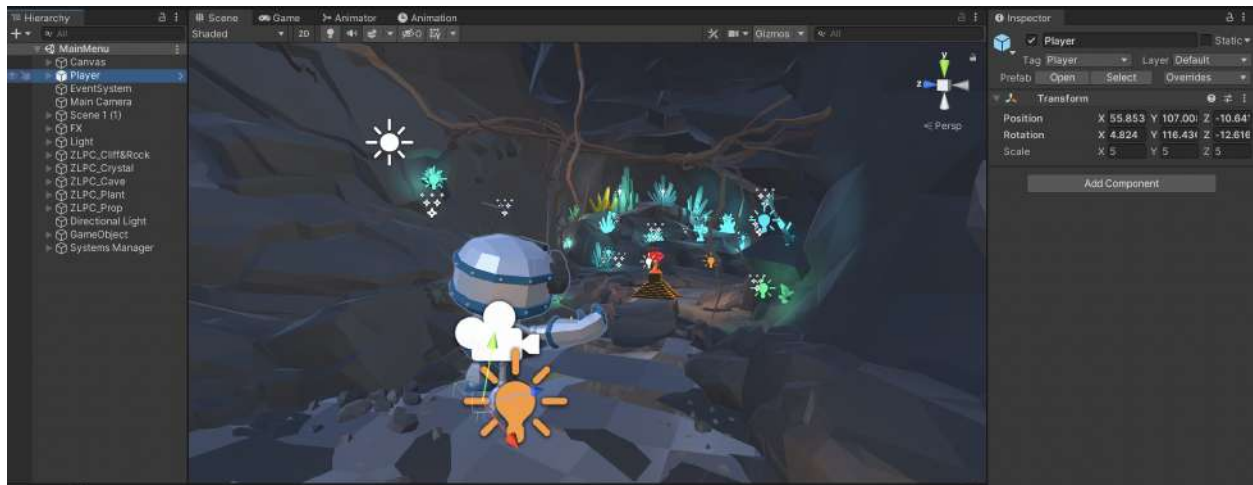
Time : week15(5.25 - 5.31) | week16(6.1 -6.7) | The Big show : Week17 (6.9 - 6.12)

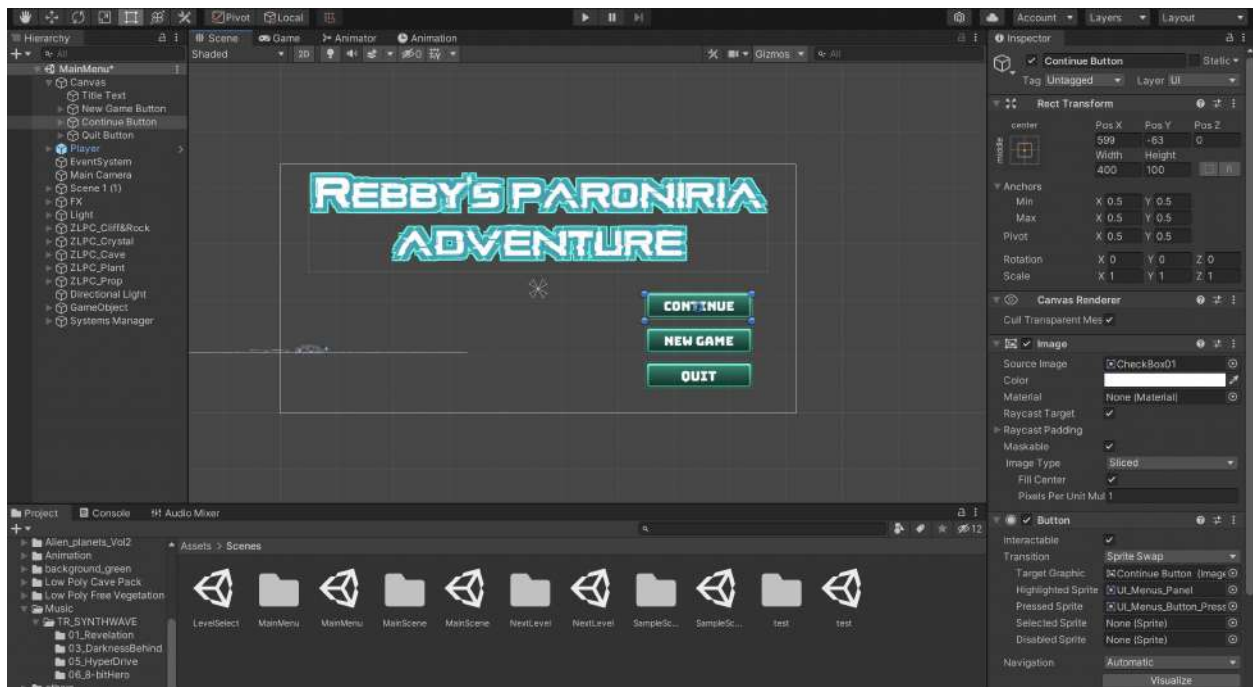
Description :

In the last part, I also planned a three-week period and the last week was to prepare for the exhibition. This time I designed the main interface first, then added levels to my game, and then added the final boss. In order to improve the user's experience of the game, I also added some items, such as doors and buttons, etc. Finally, i added and designed different environments.

11.Main menu

11.1 Create new scene & UI :





• In the [MainMenu.cs] scripts

https://github.com/orionmel/S3_Final_Artwork_Environment_Project/blob/main/All_Assets/Scripts/MainMenu.cs

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

public class MainMenu : MonoBehaviour
{
    public string firstLevel, levelSelect;
    public GameObject continueButton;

    public string[] levelNames;

    void Start()
    {
        //继续按钮
        if(PlayerPrefs.HasKey("Continue")){
            continueButton.SetActive(true);
        }else{
            RestProgress();
        }
    }

    void Update()
    {
    }

    public void NewGame(){
        SceneManager.LoadScene(firstLevel);
        //继续按钮
        PlayerPrefs.SetInt("Continue", 0);
        //start current level points
        PlayerPrefs.SetString("CurrentLevel", firstLevel);

        RestProgress();
    }

    public void Continue(){
        SceneManager.LoadScene(levelSelect);
    }
}
```

```

    }

    public void QuitGame(){
        Debug.Log("Quit Game");
        Application.Quit();
    }

}

```

· In the [UIManager.cs] scripts

https://github.com/orionmel/S3_Final_Artwork_Environment_Project/blob/main/All_Assets/Scripts/UIManager.cs

```

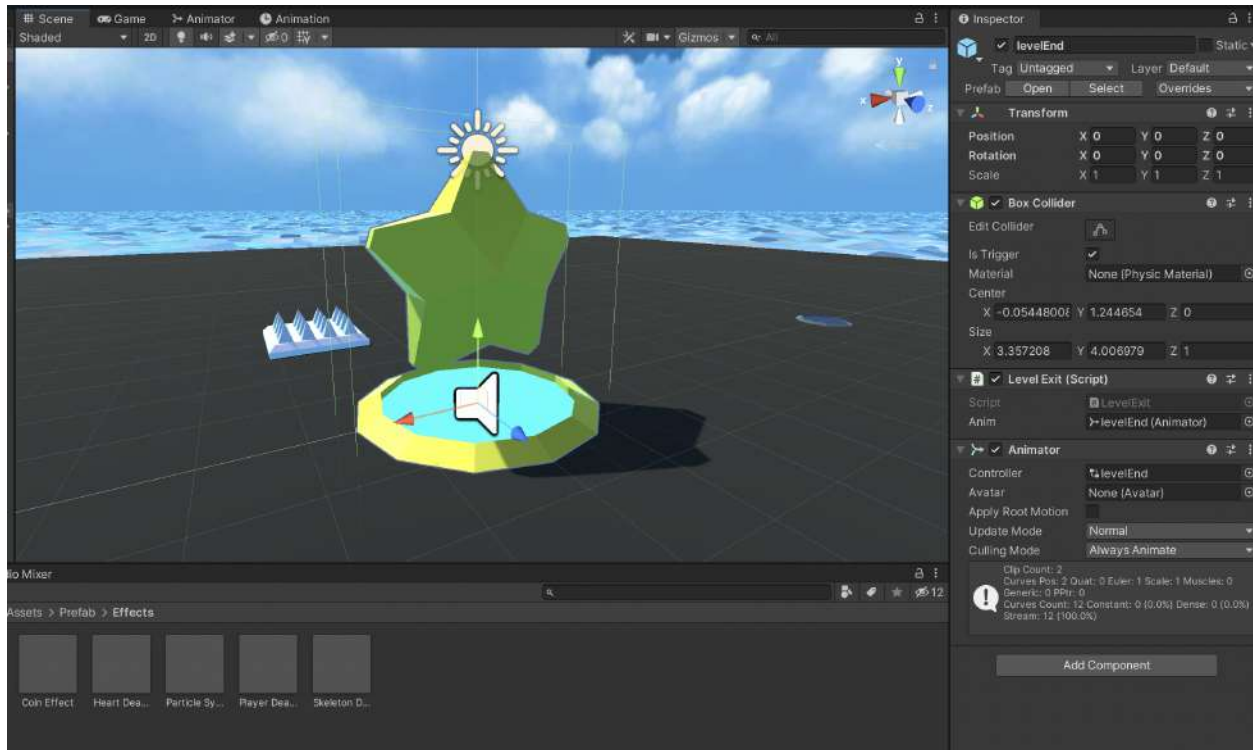
public void LevelSelect(){
    SceneManager.LoadScene(levelSelect);
    Time.timeScale = 1f;
}

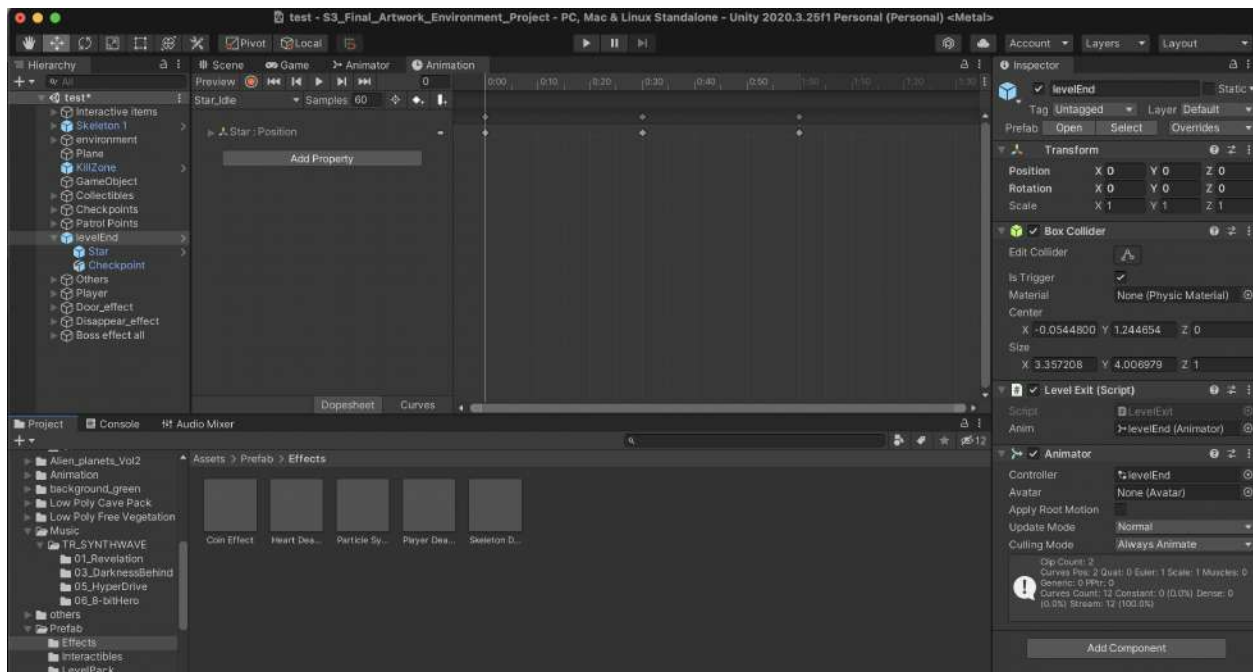
public void MainMenu(){
    SceneManager.LoadScene(mainMenu);
    Time.timeScale = 1f;
}

```

12.Level adding

12.1 level exit :





· In the [LevelExit.cs] scripts

https://github.com/orionmel/S3_Final_Artwork_Environment_Project/blob/main/All_Assets/Scripts/LevelExit.cs

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

public class LevelExit : MonoBehaviour
{
    public Animator anim;

    void Start()
    {

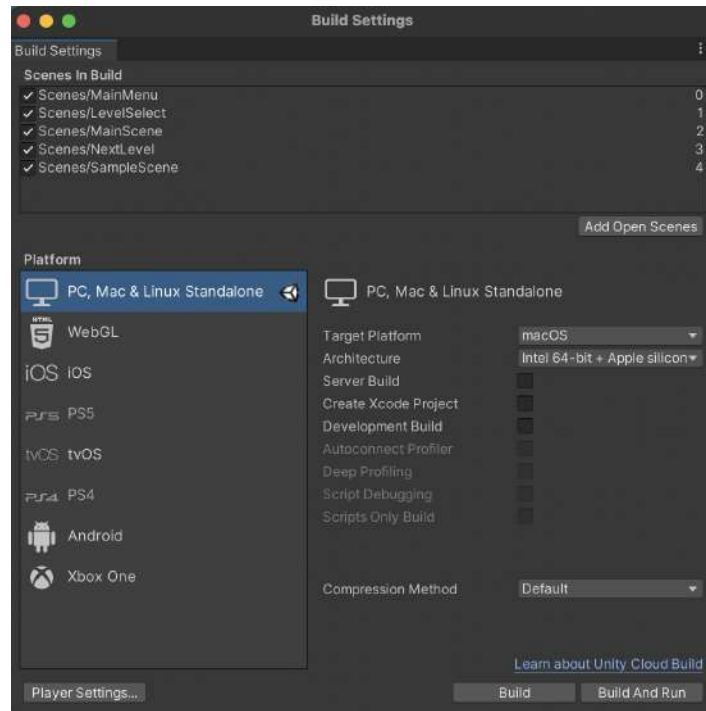
    }

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

    }

    private void OnTriggerEnter(Collider other) {
        if(other.tag == "Player"){
            anim.SetTrigger("Hit");
            //下一关
            StartCoroutine(GameManager.instance.LevelEndCo());
        }
    }
}
```

12.2 level loaded :



· In the [GameManager.cs] scripts

https://github.com/orionmel/S3_Final_Artwork_Environment_Project/blob/main/All_Assets/Scripts/GameManager.cs

```
//下一关
public IEnumerator LevelEndCo(){
    AudioManager.instance.PlayMusic(levelEndMusic);
    PlayerController.instance.stopMove = true;
    UIManager.instance.fadeToBlack = true;

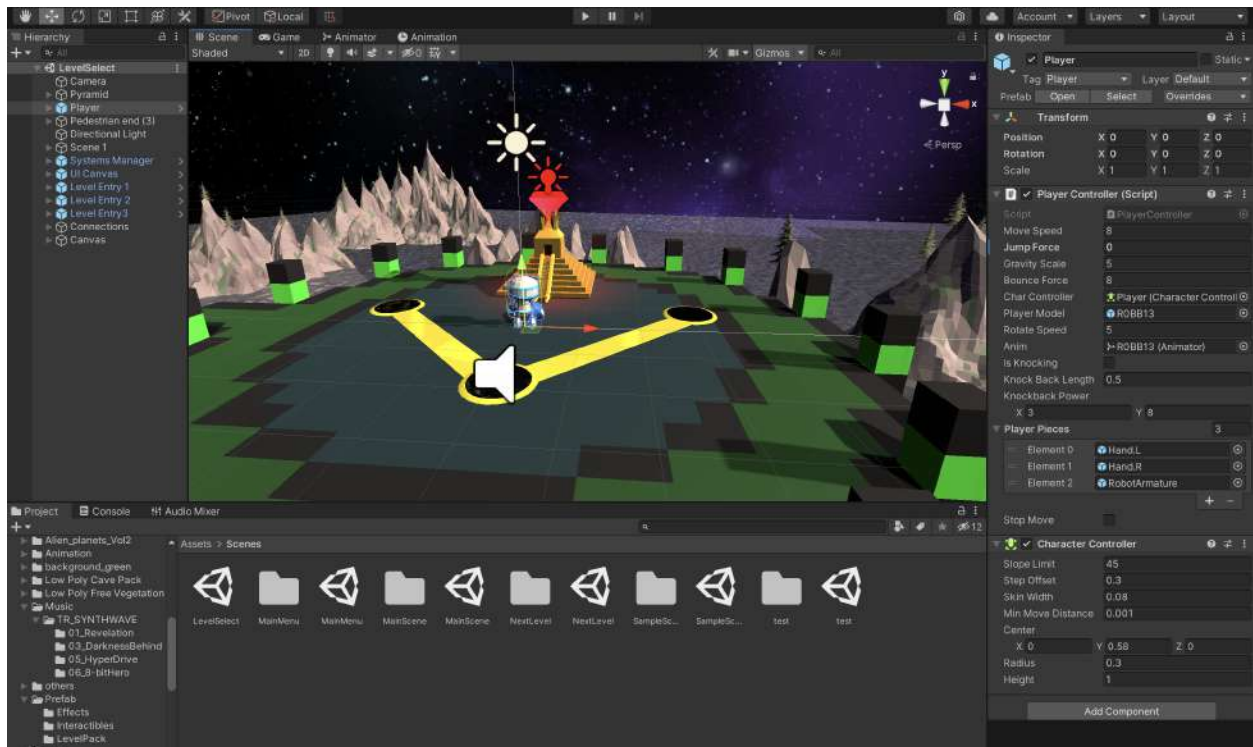
    yield return new WaitForSeconds(2f);
    Debug.Log("Level Ended");

    //unlocking levels
    PlayerPrefs.SetInt(SceneManager.GetActiveScene().name + "_unlocked",1);

    if(PlayerPrefs.HasKey(SceneManager.GetActiveScene().name + "_coins")){
        if(currentCoins > PlayerPrefs.GetInt(SceneManager.GetActiveScene().name + "_coins")){
            PlayerPrefs.SetInt(SceneManager.GetActiveScene().name + "_coins",currentCoins);
        }
    }else{
        PlayerPrefs.SetInt(SceneManager.GetActiveScene().name + "_coins",currentCoins);
    }

    SceneManager.LoadScene(levelToLoad);
}
```

12.3 level selected scene :



· In the [LSCamera.cs] scripts

https://github.com/orionmel/S3_Final_Artwork_Environment_Project/blob/main/All_Assets/Scripts/LevelSelect/LSCamera.cs

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

public class LSCamera : MonoBehaviour
{
    public Transform target;
    private Vector3 offset;

    void Awake()
    {
        offset = transform.position - target.position;
    }

    // Update is called once per frame
    void Update()
    {
        transform.position = target.position + offset;
    }
}
```

· In the [LSResetPosition.cs] scripts

https://github.com/orionmel/S3_Final_Artwork_Environment_Project/blob/main/All_Assets/Scripts/LevelSelect/LSResetPosition.cs

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

public class LSResetPosition : MonoBehaviour
{
    public static LSResetPosition instance;

    public Vector3 respawnPosition;

    private void Awake() {
```

```

        instance = this;
    }

    void Start()
    {

    }

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

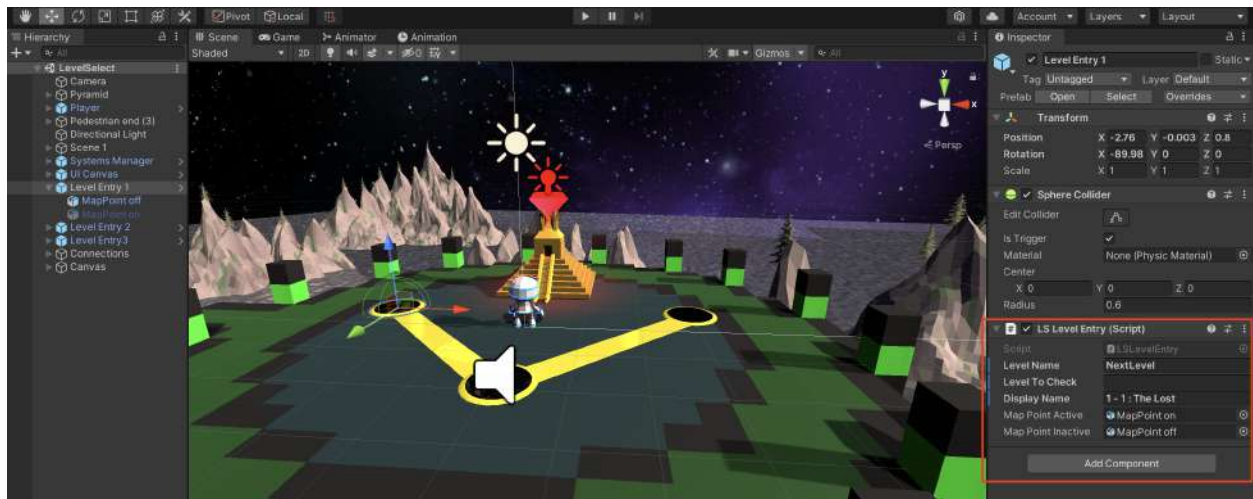
    }

    private void OnTriggerEnter(Collider other) {
        if(other.tag == "Player"){
            PlayerController.instance.gameObject.SetActive(false);
            PlayerController.instance.transform.position = respawnPosition;
            PlayerController.instance.gameObject.SetActive(true);
        }
    }
}

```

· In the [LSLevelEntry.cs] scripts

https://github.com/orionmel/S3_Final_Artwork_Environment_Project/blob/main/All_Assets/Scripts/LevelSelect/LSLevelEntry.cs



```

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

public class LSLevelEntry : MonoBehaviour
{
    public string levelName, levelToCheck, displayName;
    private bool canLoadLevel, levelUnlocked;

    public GameObject mapPointActive, mapPointInactive;

    private bool levelLoading;

    void Start()
    {
        //unlocking levels
        if(PlayerPrefs.GetInt(levelToCheck + "_unlocked") == 1 || levelToCheck == ""){
            mapPointActive.SetActive(true);
            mapPointInactive.SetActive(false);
            levelUnlocked = true;
        }else{
            mapPointActive.SetActive(false);
            mapPointInactive.SetActive(true);
        }
    }
}

```



```

        levelUnlocked = false;
    }

    if(PlayerPrefs.GetString("CurrentLevel") == levelName){
        PlayerController.instance.transform.position = transform.position;
        //重新回到目标点
        LSResetPosition.instance.respawnPosition = transform.position;
    }
}

// Update is called once per frame
void Update()
{
    if(Input.GetButtonDown("Jump") && canLoadLevel && levelUnlocked && !levelLoading){
        StartCoroutine(LevelLoadCo());
        levelLoading = true;

        //SceneManager.LoadScene(levelName);
    }
}

private void OnTriggerEnter(Collider other) {
    if(other.tag == "Player"){
        canLoadLevel = true;

        LSUIManager.instance.INamePanel.SetActive(true);
        LSUIManager.instance.INameText.text = displayName;

        if(PlayerPrefs.HasKey(levelName + "_coins")){
            LSUIManager.instance.coinsText.text = PlayerPrefs.GetInt(levelName + "_coins").ToString();
        }else{
            LSUIManager.instance.coinsText.text = "???";
        }
    }
}

private void OnTriggerExit(Collider other) {
    if(other.tag == "Player"){
        canLoadLevel = false;

        LSUIManager.instance.INamePanel.SetActive(false);
    }
}

public IEnumerator LevelLoadCo(){
    PlayerController.instance.stopMove = true;
    UIManager.instance.fadeToBlack = true;

    yield return new WaitForSeconds(2f);
    SceneManager.LoadScene(levelName);
    PlayerPrefs.SetString("CurrentLevel", levelName);
}
}

```

· In the [LSUIManager.cs] scripts

https://github.com/orionmel/S3_Final_Artwork_Environment_Project/blob/main/All_Assets/Scripts/LevelSelect/LSUIManager.cs



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

public class LSUIManager : MonoBehaviour
{
    public static LSUIManager instance;
    public Text INameText;
    public GameObject INamePanel;

    public Text coinsText;

    private void Awake() {
        instance = this;
    }
    void Start()
    {

    }

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

    }
}
```

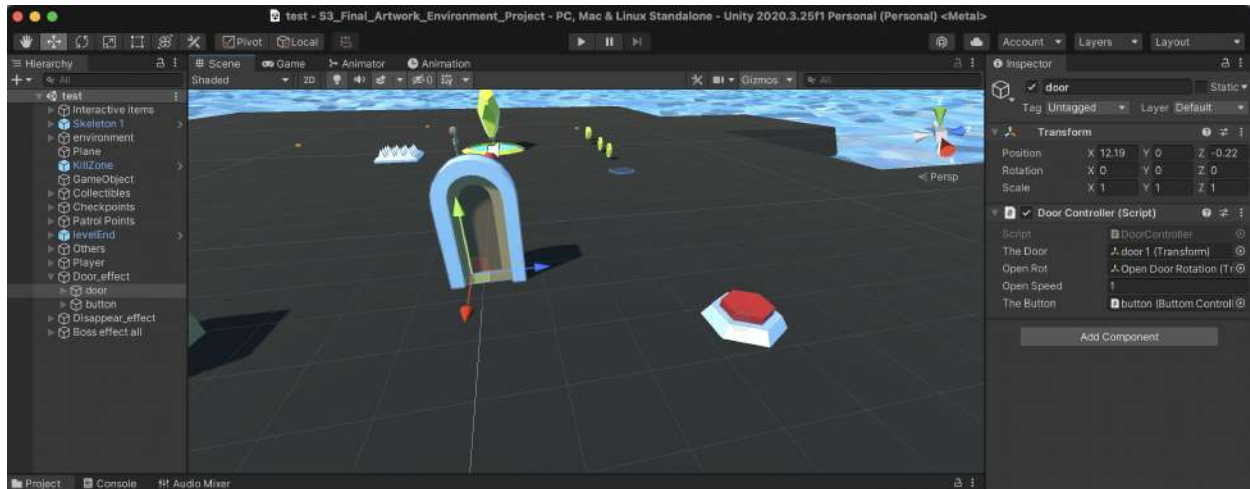
12.4 Locking levels when start new game :

- In the [MainMenu.cs] scripts

```
public void RestProgress(){
    for(int i = 0; i < levelNames.Length; i++){
        PlayerPrefs.SetInt(levelNames[i] + "_unlocked", 0);
    }
}
```

13. Other items

13.1 Open the door :



• In the [DoorController.cs] scripts

https://github.com/orionmel/S3_Final_Artwork_Environment_Project/blob/main/All_Assets/Scripts/LevelMEchanics/DoorController.cs

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

public class DoorController : MonoBehaviour
{
    //public bool shouldOpen;

    public Transform theDoor, openRot;

    public float openSpeed;

    private Quaternion startRot;

    public ButtonController theButton;

    void Start()
    {
        startRot = transform.rotation;
    }

    // Update is called once per frame
    void Update()
    {
        if(theButton.isPressed){
            theDoor.rotation = Quaternion.Slerp(theDoor.rotation, openRot.rotation, openSpeed*Time.deltaTime);
        }else{
            theDoor.rotation = Quaternion.Slerp(theDoor.rotation, startRot, openSpeed*Time.deltaTime);
        }
    }
}
```

• In the [ButtonController.cs] scripts

https://github.com/orionmel/S3_Final_Artwork_Environment_Project/blob/main/All_Assets/Scripts/LevelMEchanics/ButtonController.cs

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

public class ButtonController : MonoBehaviour
{
    public bool isPressed;
```

```

public Transform button,buttonDown;
private Vector3 buttonUp;

public bool isOnOff;

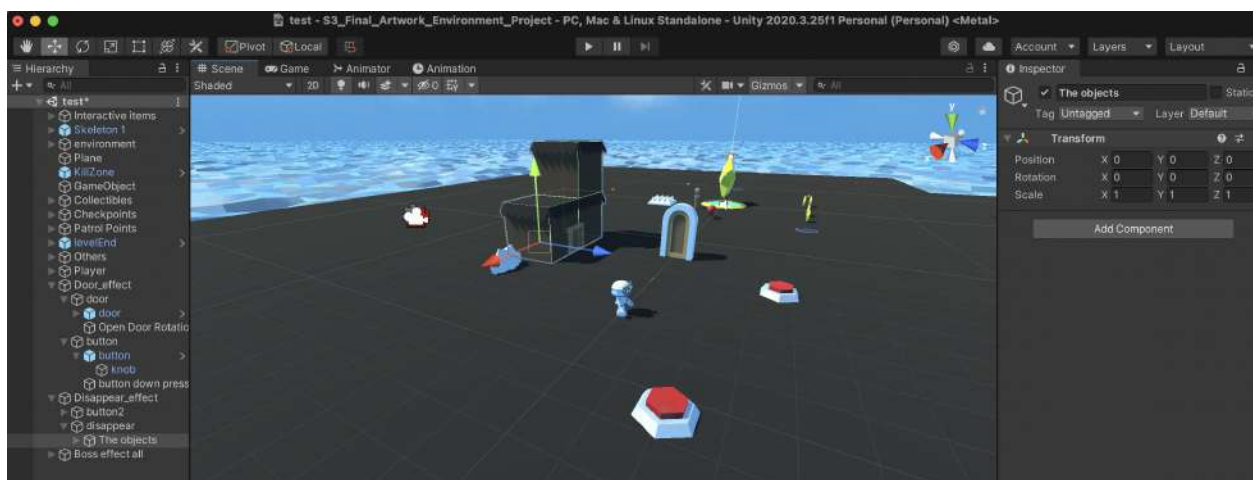
void Start()
{
    buttonUp = button.position;
}

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

private void OnTriggerEnter(Collider other) {
    if(other.tag == "Player")
    {
        if(isOnOff)
        {
            if(isPressed)
            {
                button.position = buttonUp;
                isPressed = false;
            }
            else
            {
                button.position = buttonDown.position;
                isPressed = true;
            }
        }
        else
        {
            if(!isPressed)
            {
                button.position = buttonDown.position;
                isPressed =true;
            }
        }
    }
}
}
}

```

13.2 Using button to let items disappear :



• In the [Switchingobjects.cs] scripts

https://github.com/orionmel/S3_Final_Artwork_Environment_Project/blob/main/All_Assets/Scripts/LevelMEchanics/Switchingobjects.

```

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

public class Switchingobjects : MonoBehaviour
{
    public GameObject theObject;

    public ButtonController theButton;

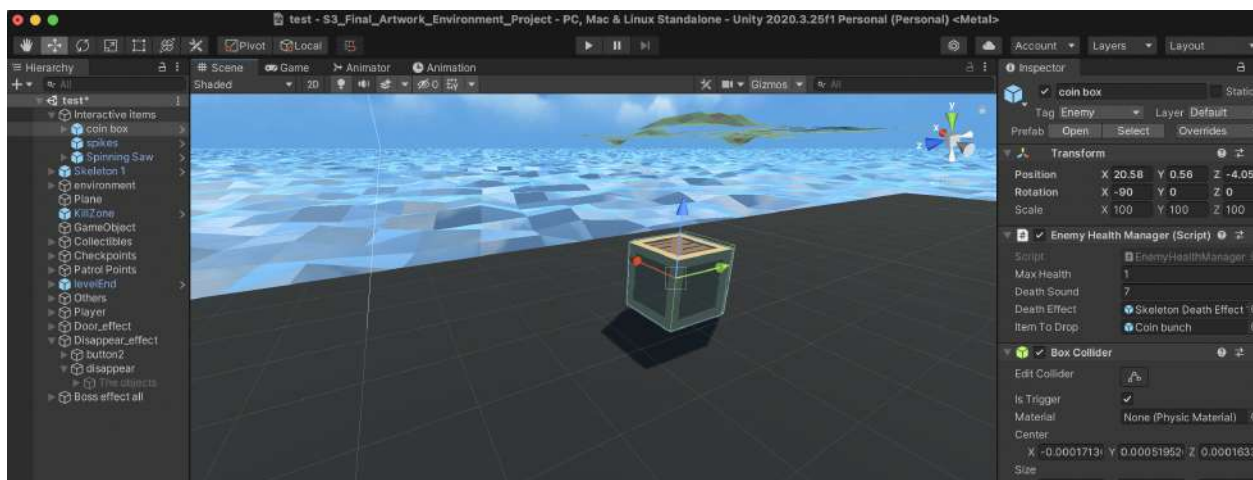
    public bool revealWhenPressed;

    void Start()
    {
    }

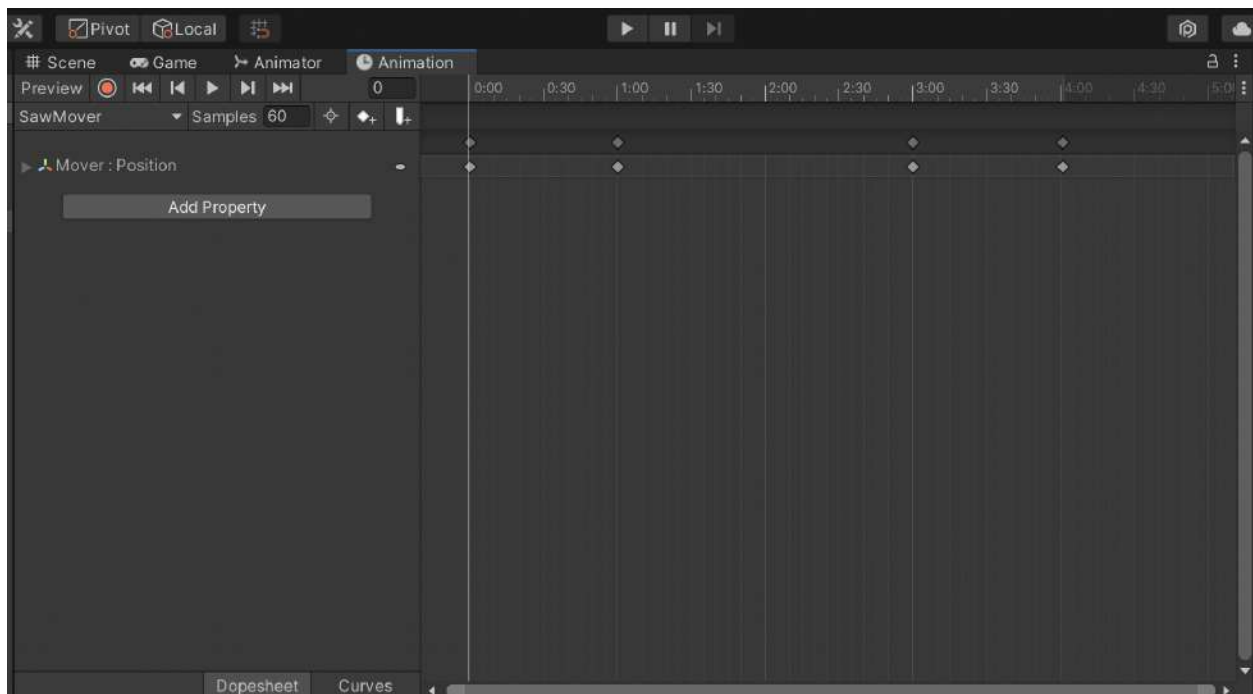
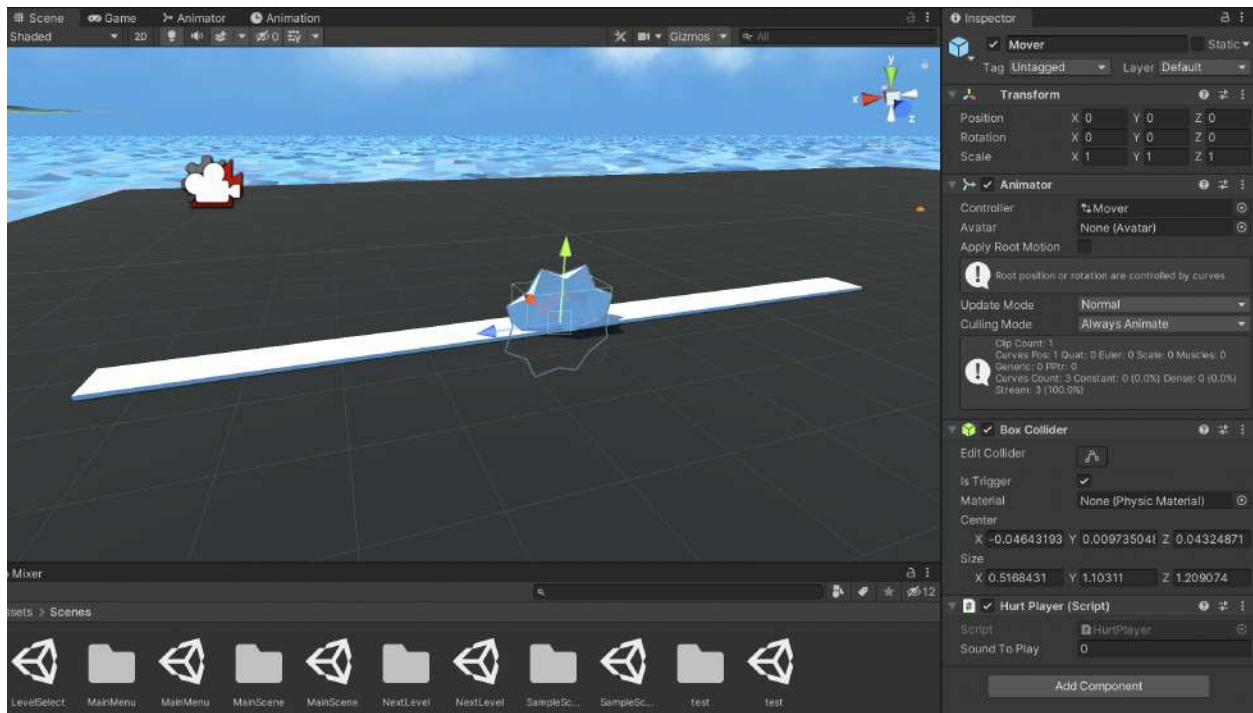
    // Update is called once per frame
    void Update()
    {
        if(theButton.isPressed){
            theObject.SetActive(revealWhenPressed);
        }else{
            theObject.SetActive(!revealWhenPressed);
        }
    }
}

```

13.3 Breaking the box:

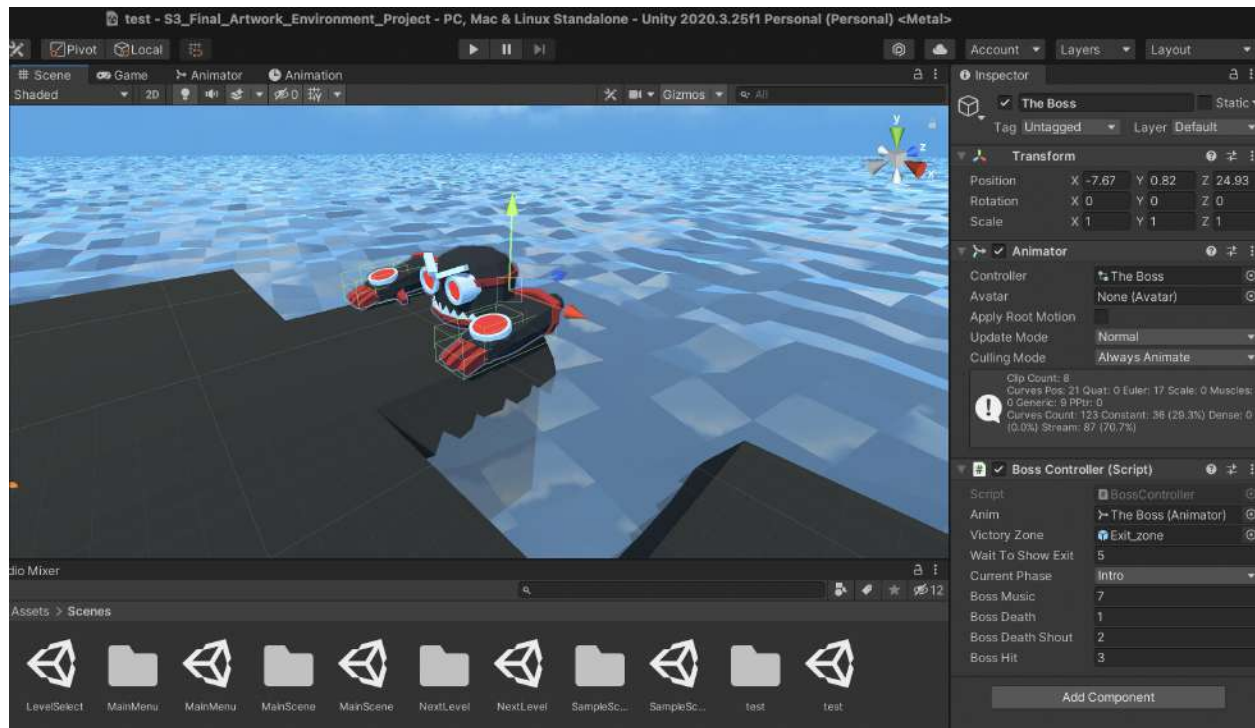


13.4 Spinning saw:

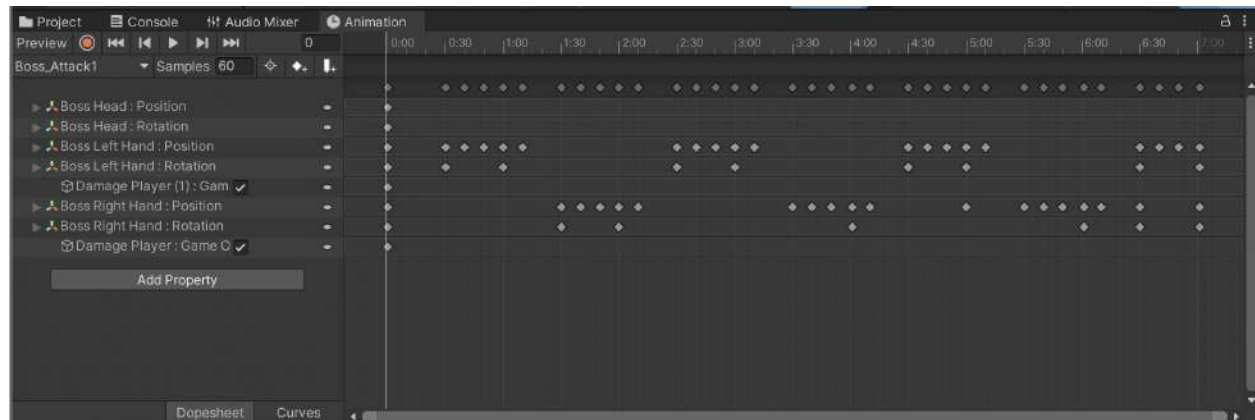


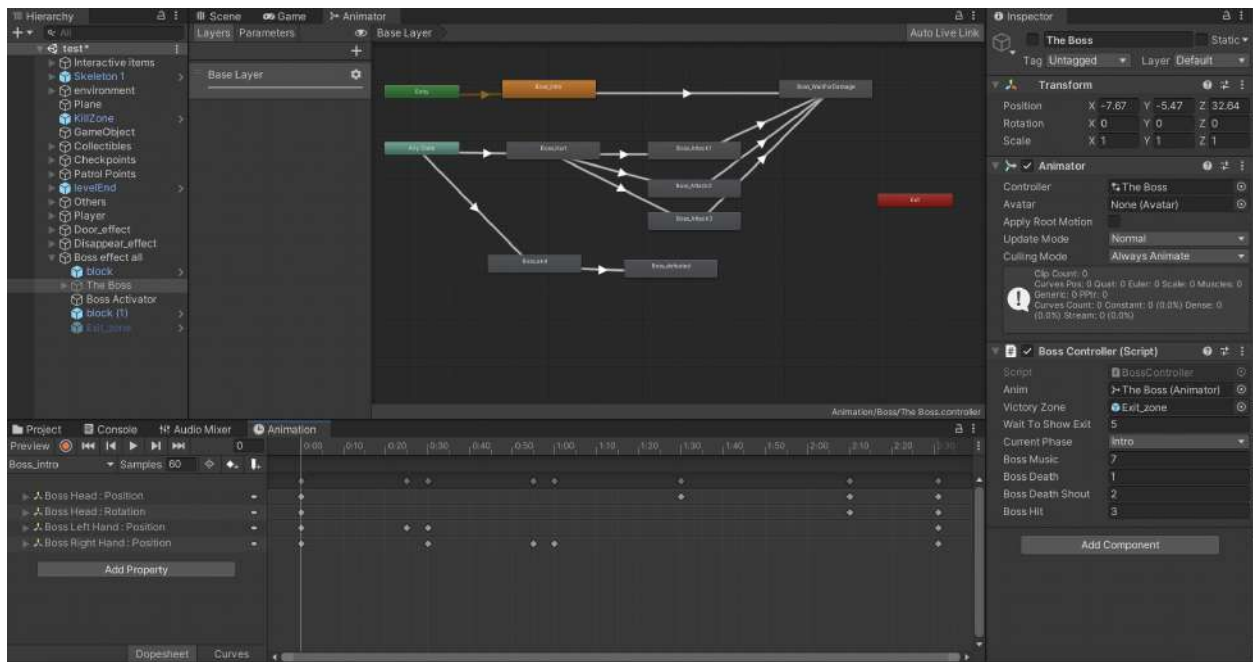
14. Adding boss

14.1 Setup the boss:

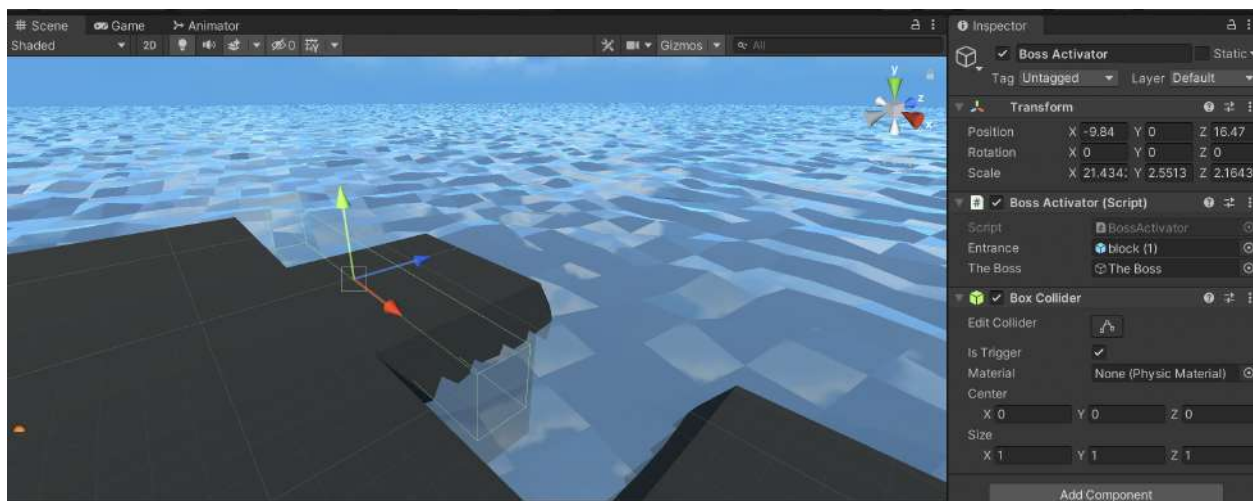


14.2 Setup the boss's animation & animator:





14.3 Setup the activator:



• In the [BossActivator.cs] scripts

https://github.com/orionmel/S3_Final_Artwork_Environment_Project/blob/main/All_Assets/Scripts/BossActivator.cs

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

public class BossActivator : MonoBehaviour
{
    public static BossActivator instance;

    public GameObject entrance,theBoss;

    private void Awake() {
        instance = this;
    }

    void Start()
    {
```



```

{
}

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

private void OnTriggerEnter(Collider other) {
    if(other.tag == "Player"){
        entrance.SetActive(false);
        theBoss.SetActive(true);
        gameObject.SetActive(false);
    }
}
}
}

```

14.4 Setup the boss battle & damage:

· In the [BossController.cs] scripts

https://github.com/orionmel/S3_Final_Artwork_Environment_Project/blob/main/All_Assets/Scripts/BossController.cs

```

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

public class BossController : MonoBehaviour
{
    public static BossController instance;

    public Animator anim;

    //成功的台阶
    public GameObject victoryZone;
    public float waitToShowExit;

    //动画切换
    public enum BossPhase{intro,phase1,phase2,phase3,end};
    public BossPhase currentPhase = BossPhase.intro;

    public int bossMusic,bossDeath,bossDeathShout,bossHit;

    private void Awake() {
        instance = this;
    }

    void Start()
    {
        //AudioManager.instance.PlayMusic(bossMusic);
    }

    private void OnEnable() {
        AudioManager.instance.PlayMusic(bossMusic);
    }

    // Update is called once per frame
    void Update()
    {
        if(GameManager.instance.isRespawning){
            currentPhase = BossPhase.intro;
            anim.SetBool("Phase1", false);
            anim.SetBool("Phase2", false);
            anim.SetBool("Phase3", false);

            AudioManager.instance.PlayMusic(AudioManager.instance.levelMusicToPlay);

            gameObject.SetActive(false);

            BossActivator.instance.gameObject.SetActive(true);
            BossActivator.instance.entrance.SetActive(true);

            GameManager.instance.isRespawning = false;
        }
    }
}

```

```

    }

    public void DamageBoss(){
        AudioManager.Instance.PlaySFX(bossHit);

        currentPhase++;

        if(currentPhase != BossPhase.end){
            anim.SetTrigger("Hurt");
        }

        switch(currentPhase)
        {
            case BossPhase.phase1:
                anim.SetBool("Phase1", true);
                break;

            case BossPhase.phase2:
                anim.SetBool("Phase2", true);
                anim.SetBool("Phase1", false);
                break;

            case BossPhase.phase3:
                anim.SetBool("Phase3", true);
                anim.SetBool("Phase2", false);
                break;

            case BossPhase.end:
                anim.SetTrigger("End");
                StartCoroutine(EndBoss());
                break;

        }
    }

    IEnumerator EndBoss(){
        AudioManager.Instance.PlaySFX(bossDeath);
        AudioManager.Instance.PlaySFX(bossDeathShout);
        AudioManager.Instance.PlayMusic(AudioManager.Instance.levelMusicToPlay);

        yield return new WaitForSeconds(waitToShowExit);
        victoryZone.SetActive(true);
    }
}

```

• In the [BossDamagePoint.cs] scripts

https://github.com/orionmel/S3_Final_Artwork_Environment_Project/blob/main/All_Assets/Scripts/BossDamagePoint.cs

```

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

public class BossDamagePoint : MonoBehaviour
{
    // Start is called before the first frame update
    void Start()
    {

    }

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

    }

    private void OnTriggerEnter(Collider other) {
        if(other.tag == "Player"){
            BossController.Instance.DamageBoss();
        }
    }
}

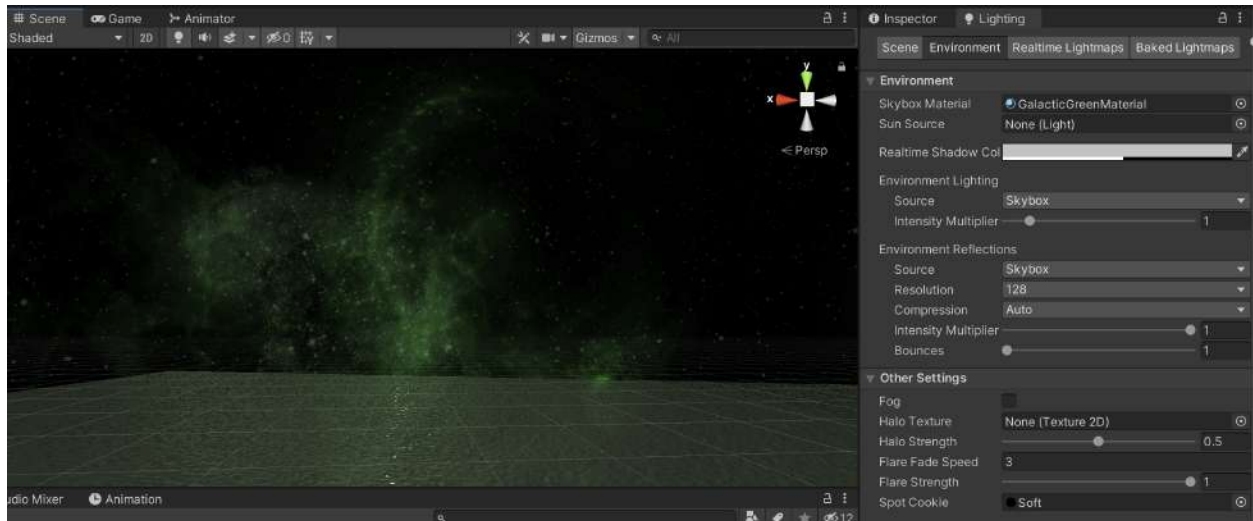
```

15.Setup environments

15.1 Setup the skybox:

·The link of the source:

<https://assetstore.unity.com/packages/2d/textures-materials/deep-space-skybox-pack-11056>

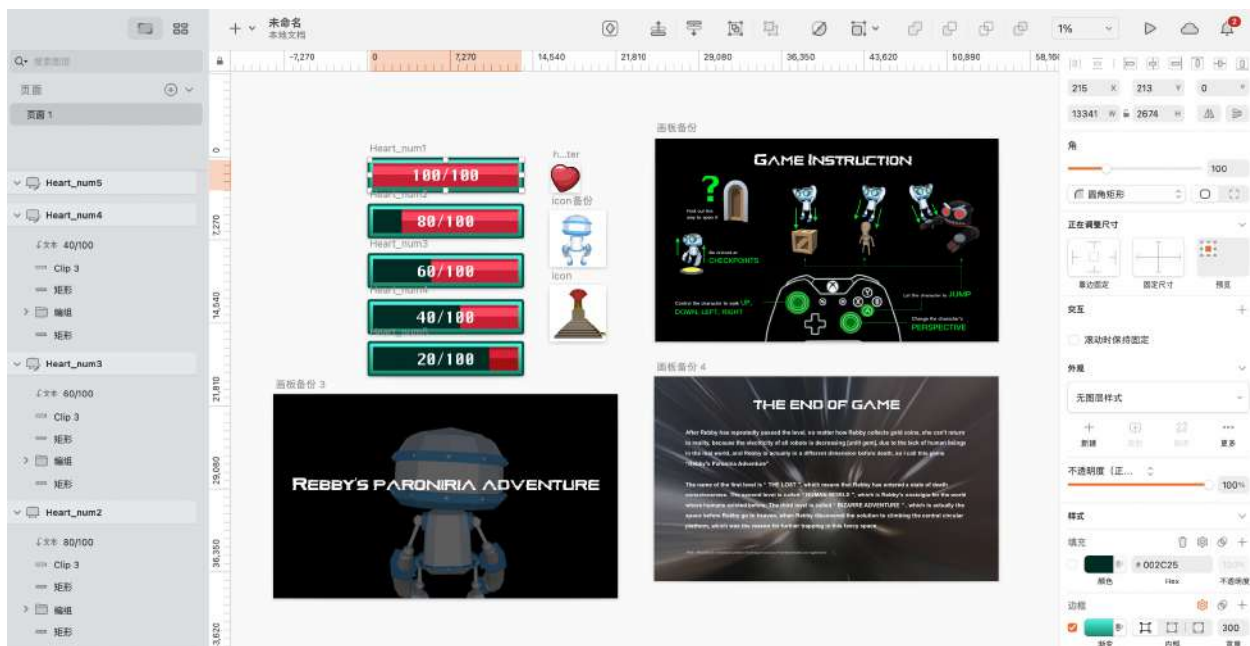


15.2 Mainpage & Game instruction:

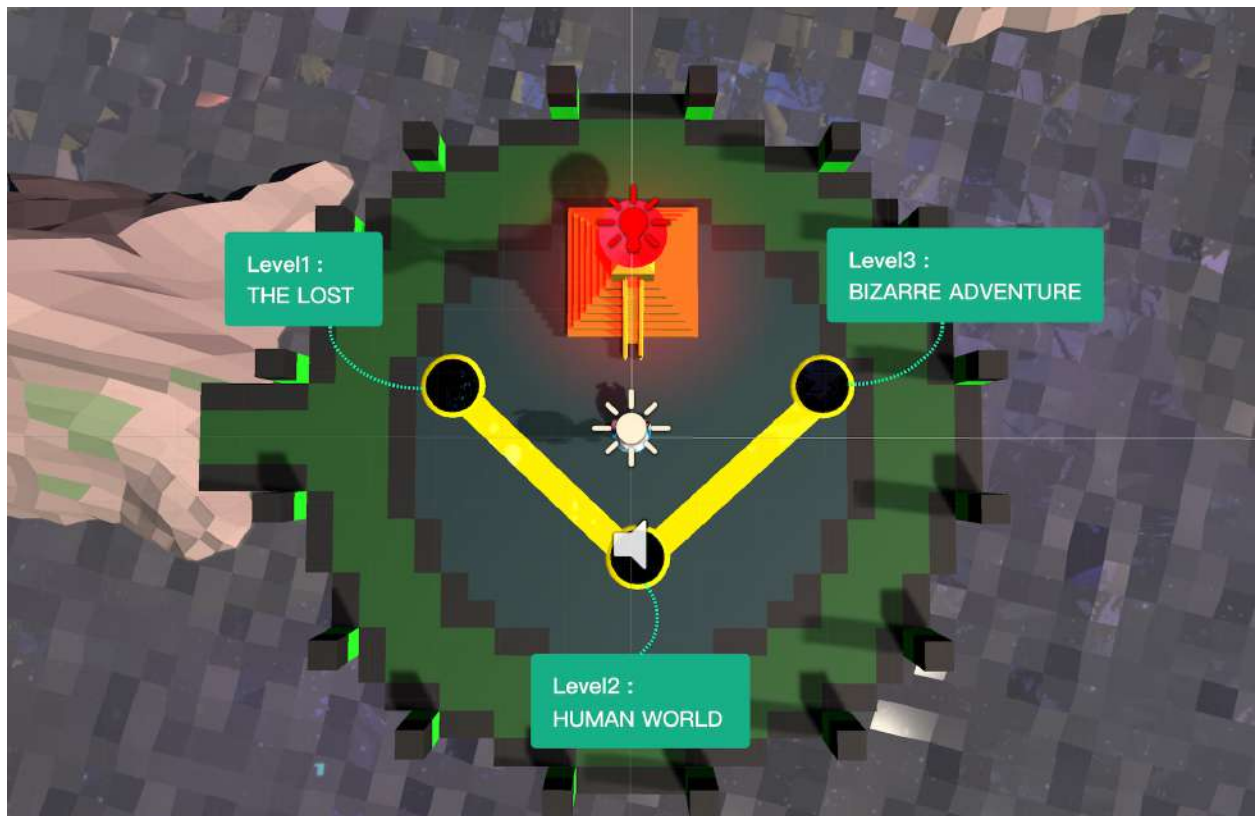




15.3 Design the layout:



•Level select :



·Level 1 :



·Level 2 :



·Level 3 :



Resources:

<https://assetstore.unity.com/publishers/44981>

<https://assetstore.unity.com/packages/3d/environments/sci-fi/construction-futuristic-voxel-pack-209040>

<https://assetstore.unity.com/packages/3d/environments/low-poly-alien-environment-05-213737>

16.Final exhibition prepared







