Anjie's Gallery TDR

The Project

This project is a VR gallery experience where the user walks through a gallery set under the galaxy, the showpieces are 3D models made by myself as well as some models I have downloaded. All the models spin to showcase all sides of them aside from a few larger ones that the player can walk around to view.

Within the scene there is a carpet for the player to follow that takes them around all the showpieces. There are also some cubes around the scene for the player to play around with.

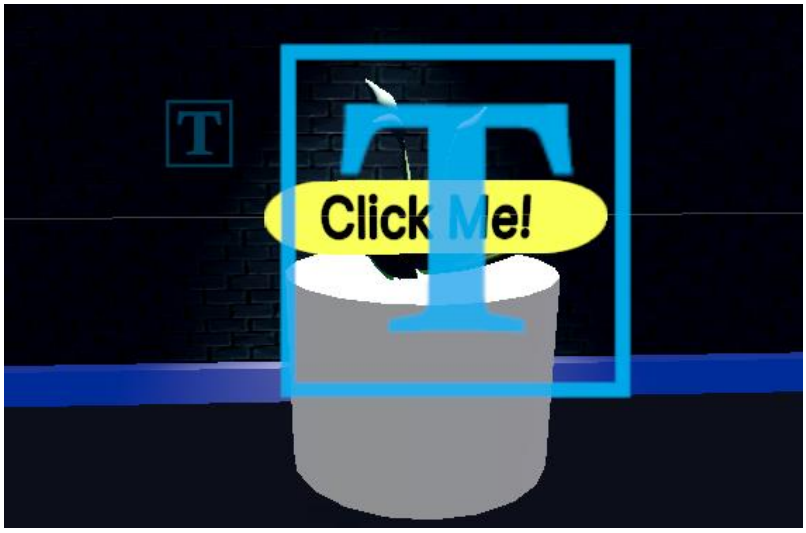
Techniques

UI:

The interface within the game is implemented using UI on Unity's World Space Canvas, the elements are placed directly in the world where the player can interact with buttons and other features using the Controllers ray-cast. Once the buttons are in range of the controller, they can aim the controller and press the buttons to activate the UI.

Each display piece has a button with a function that displays the Model name.

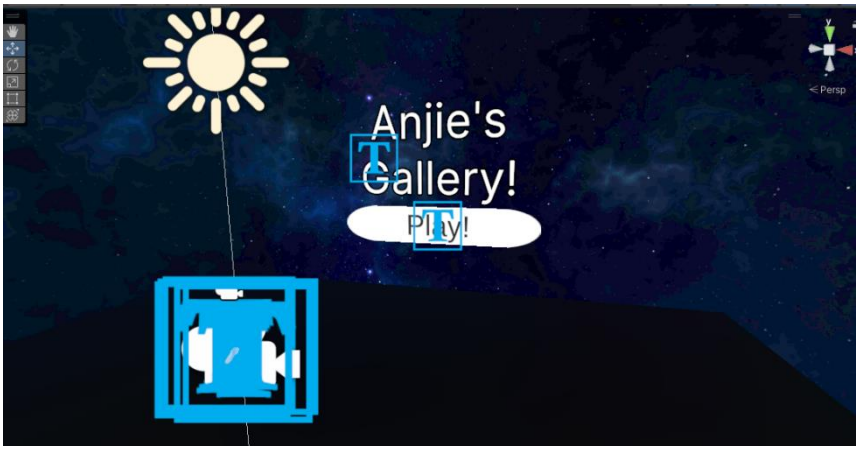
```
0 references
public void Flower1()
{
    f1.SetActive(true);
    F1button.SetActive(false);
}
```



Scene Management:

The project makes use of very simple Scene Management where the player launches in a separate scene where they are greeted by the Title and a simple Play button to enter the gallery.

```
public void Play()
{
    SceneManager.LoadScene("Test");
}
```

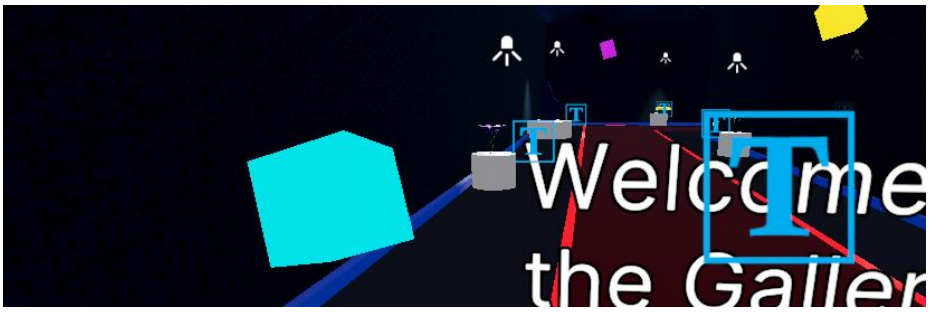


Movement:

The movement for the player uses the XR Origin template where it is simple joystick movement using them to turn the player and move them forward. The left controller moves the player around while the right controller turns the player. The player can also turn their heads to look around them in the scene.

Controller Interaction:

The player can use the controller buttons to interact with some of the simple cubes laid around the scene. They can be picked up and thrown around displaying some of Unity's physics features. The roof of the room has a collider so the objects cant be thrown out of the scene.

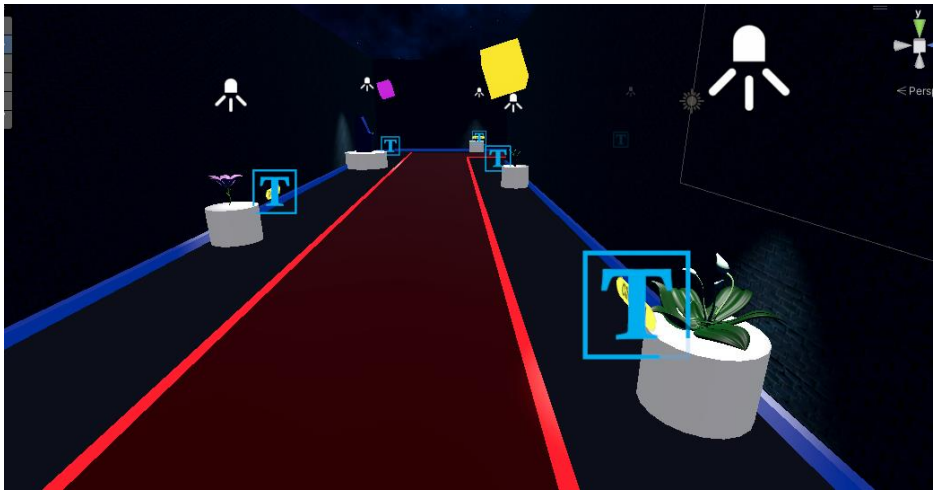


Physics/Lighting:

The project uses Realtime Lighting to give the experience a better feel. Throughout the scene there are also various materials that use emission to make them look much brighter and stand out in the dark scene. Which highlights certain aspects of the room such as the red-carpet path being highlighted around the edges.

All the display pieces also have lighting on them to showcase them in the darkness, along with a podium stand to be at the players height.

The cubes floating around the scene are meant for some fun and the player can just throw them around.



Comfort:

The project has all the base VR classes and controls, this includes the vignette for the headset which helps with motion sickness. The player can toggle this with controller buttons to enable and disable it.

REFERENCES:

CAT V1 3D model (no date) *Free3D*. Available at: https://free3d.com/3d-model/cat-v1--522281.html (Accessed: 24 April 2024).

Intergalactic spaceship in Blender 2.8 Eevee 3D model (no date) *Free3D*. Available at: https://free3d.com/3d-model/intergalactic-spaceship-in-blender-28-eevee-394046.html (Accessed: 24 April 2024).

Audi R8 car 3D model (no date) *Free3D*. Available at: https://free3d.com/3d-model/audi-r8-car-65522.html (Accessed: 24 April 2024).

The other 3D models are my work from different University Modules that have been reused in this Project.