



First 3D Scene

Game Objects and Transforms

A plane was inserted into the scene with its x, y and z coordinates scaled to be 20 each in order to cover a large area of the ground. Additionally, a light blue colour was chosen for the plane to help give the scene a calming atmosphere. The objects in the scene use cat images as materials to further enhance the soothing nature of it.

The player, which is represented by a cat textured sphere, was implemented using translation with a vector that either goes up, down, right or left depending on user input [1]. The white textured cat cubes were implemented using translation [2] with a direction vector that is either moved to the left or the right depending on its transform position [3]. A small random range is multiplied with the direction vector to make its movement change upon replaying the scene.

In order to populate the scene with more than one cube, an *Instantiate* function was placed in a for loop that uses a 3D vector to spawn the cubes at random points across the x and z coordinates [4]. The y coordinate of the vector was left to be 0 to avoid the cubes from obscuring the player game object.

Extension - Third Party Camera

For the purposes of the extension, a *CameraController* script was created that follows the player character; its offset is created by subtracting the camera's transform position with that of the player's [5]. This enables the camera to move depending on user input [1]. A vertical offset was added to the transform position in the *LateUpdate* method, so that the user has a better idea of how the camera is following the player object.

References

- [1] <https://www.c-sharpcorner.com/article/transforming-objects-movement-using-c-sharp-scripts-in-unity/>
- [2] https://gamedevbeginner.com/how-to-move-objects-in-unity/#transform_translate
- [3] <https://answers.unity.com/questions/1558555/moving-an-object-left-and-right.html>
- [4] <https://answers.unity.com/questions/1623695/how-to-make-multiple-objects-spawn-at-random-order.html>
- [5] <https://learn.unity.com/tutorial/moving-the-camera?uv=2019.4&projectId=5f158f1bedbc2a0020e51f0d#>