Programming Assignment 1
Treasure Hunt VR
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This project was our first time diving into making Virtual Reality applications using Unity. We were tasked with making a simple game with the following basic features:

- A controllable player that can navigate the map using intuitive VR controls.
- Obstacles that can collide with the player.
- "Treasures" which can be collected when the player touches them. Upon collection of all of the treasures, the game is terminated.

In order to make this game, we had to use some basic assets, materials, and add a small script to implement the game termination functionality as well as randomization of object and treasure placement. We also added some Minecraft themed textures and materials to the game to make it feel more like a game than a demo.

The first step was to place all of the basic assets into our program. We used a capsule as our character, which actually ended up being a bit problematic in terms of balancing. Controlling our player felt like walking around as an inflatable tube man until we played with the kinematics, gravity, and center of mass of the character.

The next asset was for the obstacles, which were just very large cubes. This wasn't very problematic - the only thing we had to keep in mind here was making sure that the collider for the obstacle took up the same frame as the rigidbody.

Finally we had to work on implementing the treasure. The treasures were where most of our scripting came into play. We had to incorporate a "Destroy" function on collision between the player and the treasure. We also had to maintain a count of the treasures on the map which we did by making each treasure a child of a larger treasure asset. Once all of the children of the larger asset were destroyed, we called an exit application function which ended the game.

Here are the two scripts that we wrote in order to implement the functionality of the game:

1. Quitting Game:

```
private void Update() {
    if (!gameIsOver && treasuresContainer.transform.childCount == 0) {
        gameIsOver = true;

        Debug.Log("You win!");
        Application.Quit();
    }
}
}
```

2. Spawn Treasure:

```
public class TreasureScript : MonoBehaviour {

    private void OnTriggerEnter(Collider other) {
        if (other.gameObject.tag == "Player") {
            Destroy(this.gameObject);
        }
    }
}
```