**MathVR**

**MathVR helps teach people how the world around them can be described with mathematics. Players are thrown into a pre-made environment that they can explore using VR. In this environment, the physical properties of 3D objects can be changed in real time by manipulating formulas.**

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**Objectives**

Create a cube in Unity

Use Unity as the 3D virtual environment

Attach scripts as components

Scripting Phase I

1. We need the camera to be from the perspective of the player through the Oculus.
2. We need to be able to look at an object and click left mouse button to select it.
3. We need to be able to scroll a mouse wheel to change the size of the cube.
4. We need to be able to move the player character around.

Scripting Phase II

1. We need to be able to see the formulas that make up the geometric properties of the cube.
   1. HUD? User Interface Window in-game?
2. We need to be able to manipulate individual values of variables in the formulas.
3. We need the manipulated variables to change the physical properties of the cube in real-time.
4. **public** **class** ScaleCube : MonoBehaviour {
5. **public** **float** resizer = 0;
7. **if**(Input.GetAxis("Mouse Scrollwheel") > 0){
8. Vector3 vector = **new** Vector3(transform.localScale.x++, transform.localscale.y++, transform.localscale.z++);
9. transform.localScale = vector;
10. }
11. **if**(Input.GetAxis("Mouse Scrollwheel") < 0){
12. **if**(Transform.localScale.x > 1){
13. Vector3 vector = **new** Vector3(transform.localScale.x--, transform.localscale.y--, transform.localscale.z--);
14. }
15. }
16. }