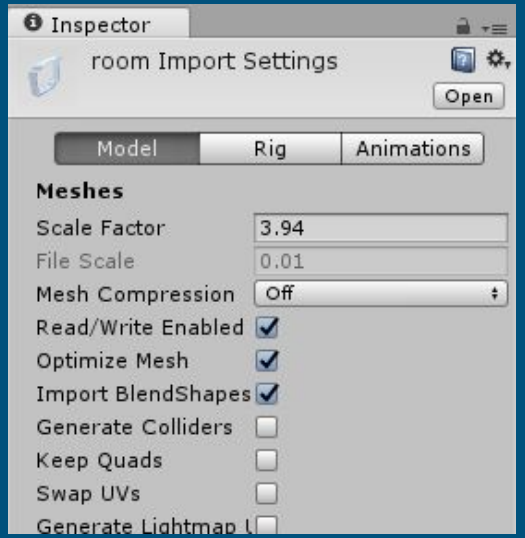
CSE 165 Discussion 3

HW2 Pt. 2

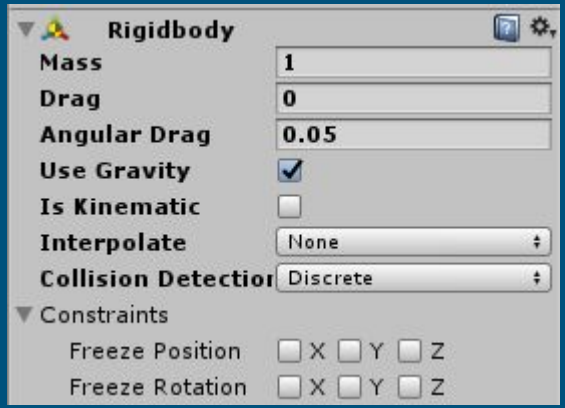
Scaling Models

- Often models aren't the correct scale.
- It's possible to correctly scale using the transform component…
  - Passes scale to children
  - Would need to scale all instances of the object.
- Instead scale the model itself!
  - Then (1,1,1) itself applies to the different sized object.



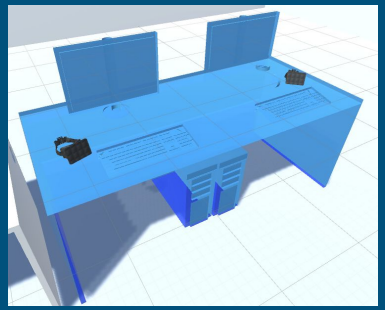
Grouping Objects

- Somehow you need to keep track of which objects belong together.
- Set the objects as children under a parent?
  - Make sure that objects rest on the ground after letting go!
- Use a List and update every frame?
  - Use List<Type>, after “using System.Collections.Generic;”
- Use multiple fixed joints attached to the controller?
  - Consider freezing certain axes of rotation and position.



Highlighting

- How to show selection?
- Change the material color:
  - Can’t directly change the color, all objects sharing that material change too!
- Use an outline shader
  - Bit more involved, but nicer effect.
  - http://wiki.unity3d.com/index.php/Silhouette-Outlined_Diffuse



Grounding

- How to make sure the furniture is on the ground?
- Never let the y value change.
  - May be difficult with the parenting trick.
- Look down via raycasting!

```
// Update is called once per frame
void Update () {
    RaycastHit hit;

    //Raycast directly down from this position.
    Physics.Raycast(this.transform.position, Vector3.down, out hit)

    Debug.Log(hit.point);

    //May be useful, gets the size of the box collider.
    Debug.Log(GetComponent<BoxCollider>().bounds.size);
}
```

Saving

- What information do you need to reconstruct the scene?
- Use “using System.IO;”
- Type of object?
- Transform values?
- Not group values.

```
public GameObject recordObject;
private StreamWriter file;

// Use this for initialization
void Start()
{
    file = new StreamWriter("data.txt");
    file.WriteLine("Time| Object name");

    RecordData();
    //ReadFile();
}

void RecordData()
{
    file.WriteLine(Time.time + " | " + recordObject.name);
    file.Close();
}
```

Loading

- Undoing what you encoded.

```
void ReadFile()
{
    string[] lines = System.IO.File.ReadAllLines("data.txt");

    // Display the file contents by using a foreach loop.
    Debug.Log("Contents of data.txt:");
    foreach (string line in lines)
    {
        //Split the string at the spaces
        foreach (string token in line.Split())
        {
            Debug.Log(token);
        }
    }
}
```