



# Group 5 Week 4



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# Let's Talk About Sky Boxes, Baby

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- We wanted to spice up our background so we researched sky boxes.
- One implementation: literally a giant box added to the scene with textures applied to the inside (THREE.BackSide).



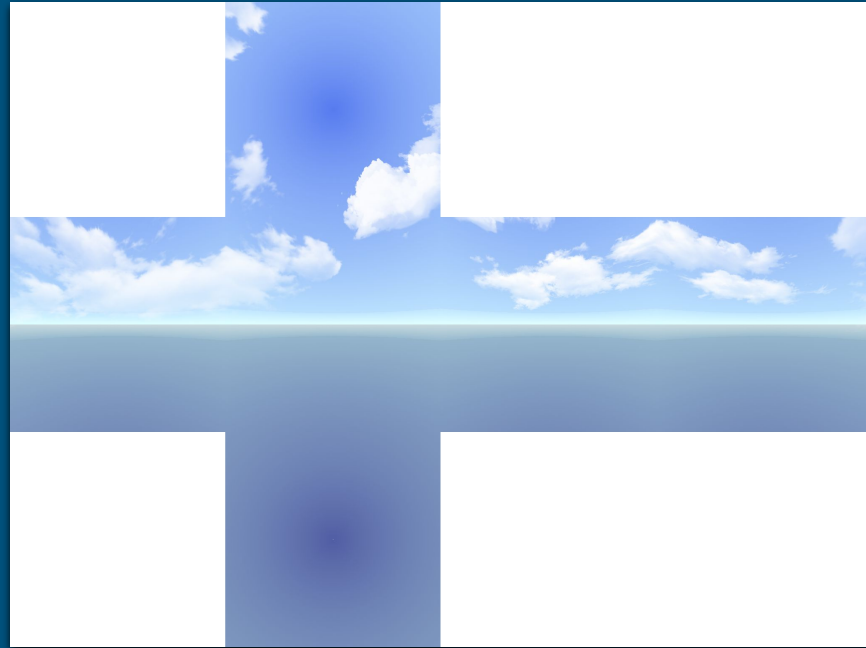
# Let's Talk About Sky Boxes, Baby

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- They look like this!
- Applied to the inside of a box, the camera will show different parts of the textures as you move around.
- Space skybox generator:

<http://www.tyro.github.io/space-3d>

NB: images aren't sized in powers of 2!



# Ours Isn't Really a Box...

For aesthetic reasons, we wanted ours to be static, so we did this:

```
var backgroundLoader = new THREE.CubeTextureLoader(manager);

skyTexture = backgroundLoader.load([
    'js/Objects/right.png',
    'js/Objects/left.png',
    'js/Objects/top.png',
    'js/Objects/bottom.png',
    'js/Objects/front.png',
    'js/Objects/back.png',
]);
```

This gives a cool dreamlike impression.

```
scene.background = skyTexture;
```

# We can climb stairs now!

```
var raycasterD = new THREE.Raycaster();  
var directionD = new THREE.Vector3(0, -1, 0);  
  
var position = new THREE.Vector3();  
camera.getWorldPosition(position);  
raycasterD.set(position, directionD);  
collisionsD = raycasterD.intersectObjects(scene.children, true);
```

```
if(collisionsD[0]){  
    controls.getObject().position.y = collisionsD[0].point.y + 2.5;  
}
```

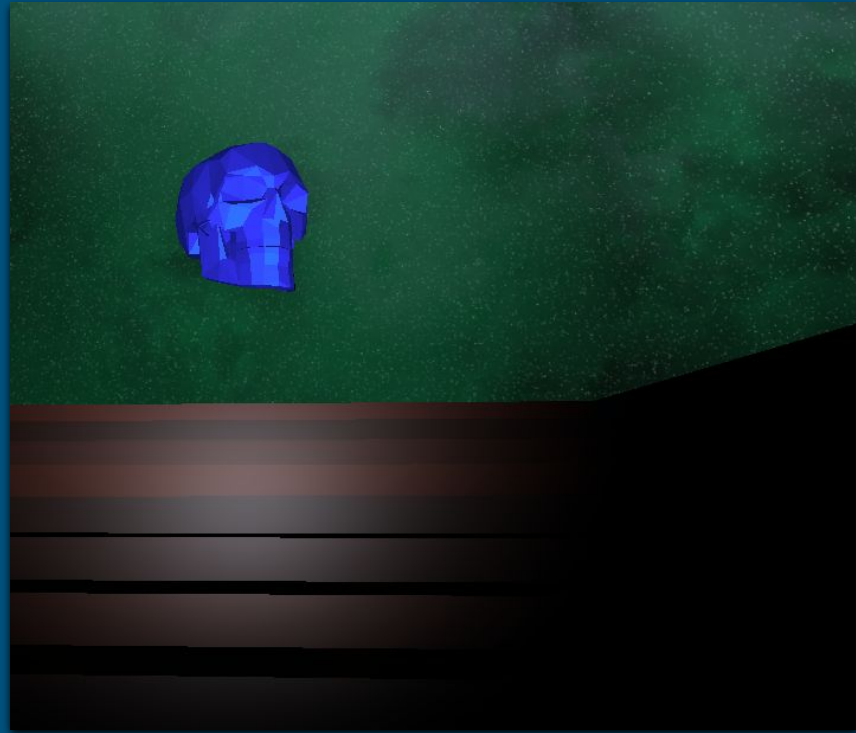
# Added Collectible Skulls!

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They can be “picked up” by moving near them (using bounding boxes).

Sound cue activated when each skull is picked up

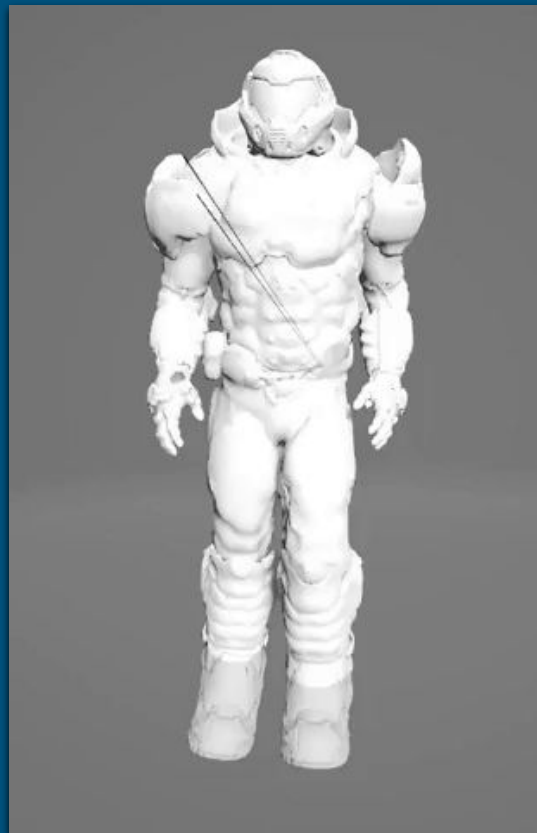
They gate progress to the next level. Once you’ve collected them all from the house, the next level appears.



# Animation Progress

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- Fixed model issues
  - Weight Painting
- Tweaked walk animation
- Added run and idle animation



# Animation System

- .Play() and .Stop() to control the animations.
- The animation mixer contains all of the animations(clips).
- They are tracked by keyframes inside of clips.
- The update function keeps updating the mixer frame by frame ,which animates the animation.

```
mixer = new THREE.AnimationMixer(glTF.scene);  
walk = mixer.clipAction(glTF.animations[0]);  
run = mixer.clipAction(glTF.animations[2]);  
still = mixer.clipAction(glTF.animations[1]);
```

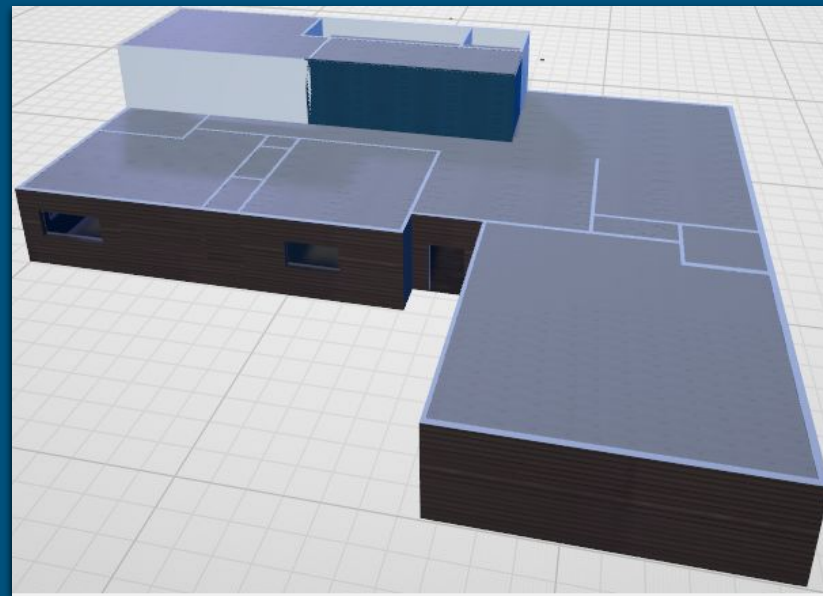
```
dt = (Date.now() - lastFrame) / 1000  
  
if(mixer){  
    mixer.update(dt)  
}  
  
lastFrame=Date.now()
```

```
if(doomCollisions[0]){  
    seeDoomGuy = true;  
    walk.stop();  
    still.play();  
}
```



# Map Model

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# Whats Next

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- Add texture to the model, make the model face the player
- Adding Maze Map
- Title Screen
- Game over/Death Screen, Adding raycasters to make the monster freeze whenever he is on screen