



Group 5 Presentation 6



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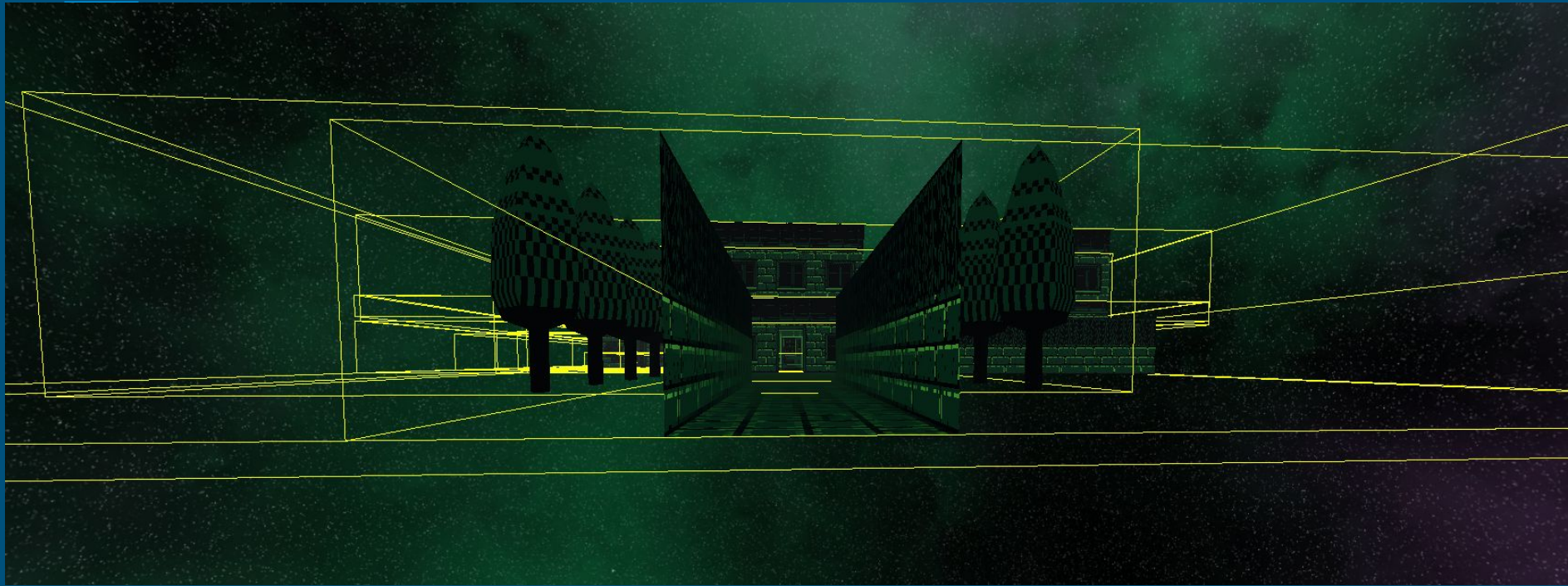
Player Movement With Bounding Boxes

```
for( i = 0; i < houseBBoxCount; i++){  
    if(moveForward && houseBBoxes[i].containsPoint(camera.position)){  
        moveForward = false;  
        controls.getObject().translateZ(delta);  
    }  
    if(moveBackward && houseBBoxes[i].containsPoint(camera.position)){  
        moveBackward = false;  
        controls.getObject().translateZ(-delta);  
    }  
    if(moveLeft && houseBBoxes[i].containsPoint(camera.position)){  
        moveLeft = false;  
        controls.getObject().translateX(delta);  
    }  
    if(moveRight && houseBBoxes[i].containsPoint(camera.position)){  
        moveRight = false;  
        controls.getObject().translateX(-delta);  
    }  
}
```

Bounding Box Based Collision Attempt 1

```
loader.load('js/Objects/scene.glTF', function (glTF) {  
    building = glTF.scene;  
    scene.add(building);  
    building.position.z = -200;  
    building.name = "building";  
    building.scale.set(3, 3, 3);  
    let i = 0;  
    building.traverse(function (child) {  
        if (child instanceof THREE.Object3D) {  
            buildingBBoxes[i] = new THREE.Box3();  
            buildingBBoxes[i].setFromObject(child);  
            scene.add(new THREE.Box3Helper(buildingBBoxes[i], 0xffff00));  
            i++;  
        }  
    });  
});
```

That Did This...

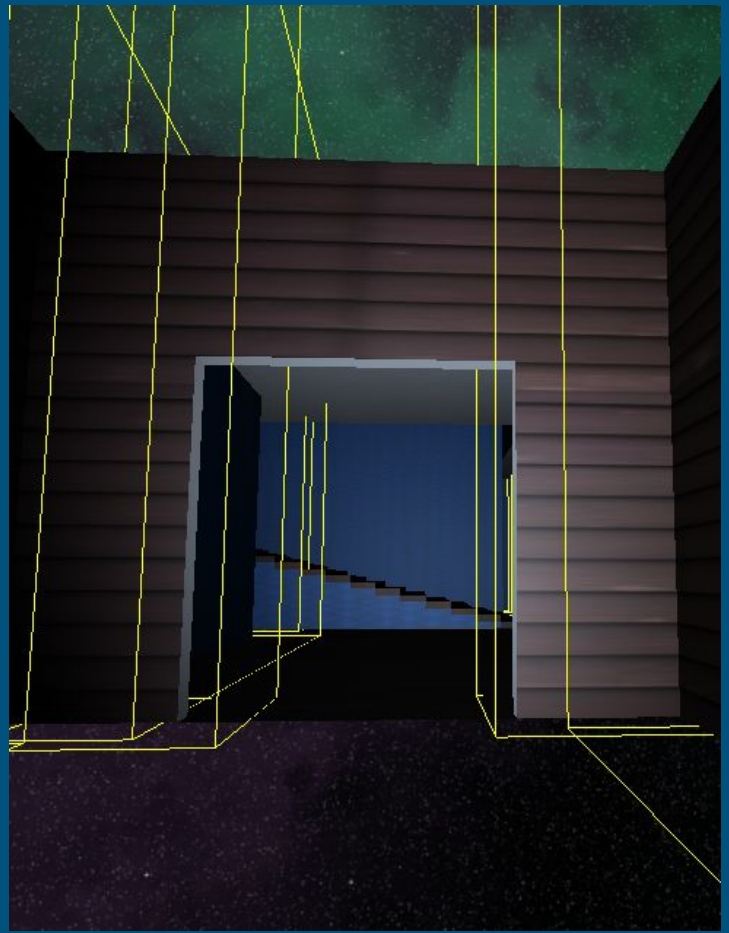


Which Made Us Do This...



setFromObject Not An Option

- We had to create 40 bespoke, artisanal bounding boxes using console.log on an interval to show the coordinates of the camera. If you know a better way to do this, please let us know!



```
houseBBoxes[0] = new THREE.Box3(new THREE.Vector3(97, -2, 34), new THREE.Vector3(102, 10, 78));
```

Title Screen

- FontLoader
- .json files
- Centering through bounding boxes (thanks group 6)
- Menu is free floating
- Levels set to invisible
- Once start is selected the player

is spawned in the first level



```
var loader = new THREE.FontLoader();  
  
loader.load("js/Fonts/Insomnia_Regular.json", function (font) {  
    let title = new THREE.TextBufferGeometry("Mood", {
```

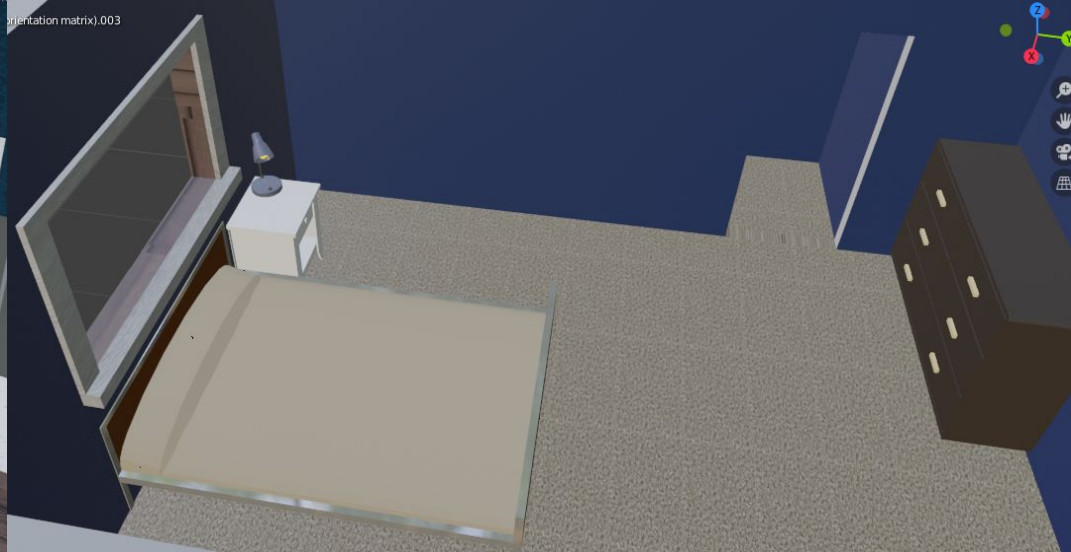
```
        title.computeBoundingBox();  
        let centerTitle = - 0.5 * ( title.boundingBox.max.x - title.boundingBox.min.x );  
        let textMatTitle = new THREE.MeshPhongMaterial({ color: 0xff0000, specular: 0xffffff });  
        meshTitle = new THREE.Mesh(title, textMatTitle);  
        meshTitle.position.set(centerTitle, 5, -55);
```

Title Cont.

- We check when the raycaster intersects the mesh to select the different parts of the menu.
- It changes the color.
- When the counter reaches more than 70 on that mesh it “selects” it and completes the operations associated with it.
- The counter is reset when you are not looking at any of the options or when the other operations are complete.

```
var num = 0;  
function menuSystem() {  
    camera.getWorldDirection(direction);  
    var position = new THREE.Vector3();  
    camera.getWorldPosition(position);  
    menuSelect.set(position, direction);  
  
    menuTitle = menuSelect.intersectObject(meshTitle, true);
```

```
    if (menuTitle[0]) {  
        num++;  
        meshTitle.material.color.set(0xFFFFFF);  
        if (num > 70) {  
            meshStart.visible = true;  
            meshOption.visible = true;  
            meshExit.visible = true;  
            num = 0;  
        }  
    }  
    else if (menuStart[0]) {
```



Whats Next?

- Bounding boxes for the second level
- More functionality in the title screen
- Look into Yuka AI for DoomGuy
- Continue work on maze map
- Refactoring