

# Digital Twin/Extended Reality Banana Problem

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Three js code:

```
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
  <title>Rubik's Cube in Three.js</title>
  <script src="https://cdnjs.cloudflare.com/ajax/libs/three.js/r128/three.min.js"></script>
  <script src="https://cdn.jsdelivr.net/npm/three@0.128.0/examples/js/loaders/GLTFLoader.js"></script>
  <script src="https://cdn.jsdelivr.net/npm/three@0.128.0/examples/js/controls/OrbitControls.js"></script>
</head>
<body style="margin: 0; overflow: hidden;">
  <script>
    // Scene setup
    const scene = new THREE.Scene();
    const camera = new THREE.PerspectiveCamera(75, window.innerWidth / window.innerHeight, 0.1, 1000);
    const renderer = new THREE.WebGLRenderer();
    renderer.setSize(window.innerWidth, window.innerHeight);
    document.body.appendChild(renderer.domElement);

    // Add lighting
    const light = new THREE.AmbientLight(0xffffff, 1);
    scene.add(light);

    // Load the Rubik's Cube Model
    const loader = new THREE.GLTFLoader();
    loader.load('rubiks_cube.glb', function(gltf) {
      const cube = gltf.scene;
```

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        cube.position.set(0, 0, 0);
        scene.add(cube);
    });

    // Orbit Controls
    const controls = new THREE.OrbitControls(camera,
renderer.domElement);
    controls.enableDamping = true;

    // Set Camera Position
    camera.position.set(3, 3, 3);
    camera.lookAt(0, 0, 0);

    // Animation Loop
    function animate() {
        requestAnimationFrame(animate);
        controls.update();
        renderer.render(scene, camera);
    }
    animate();

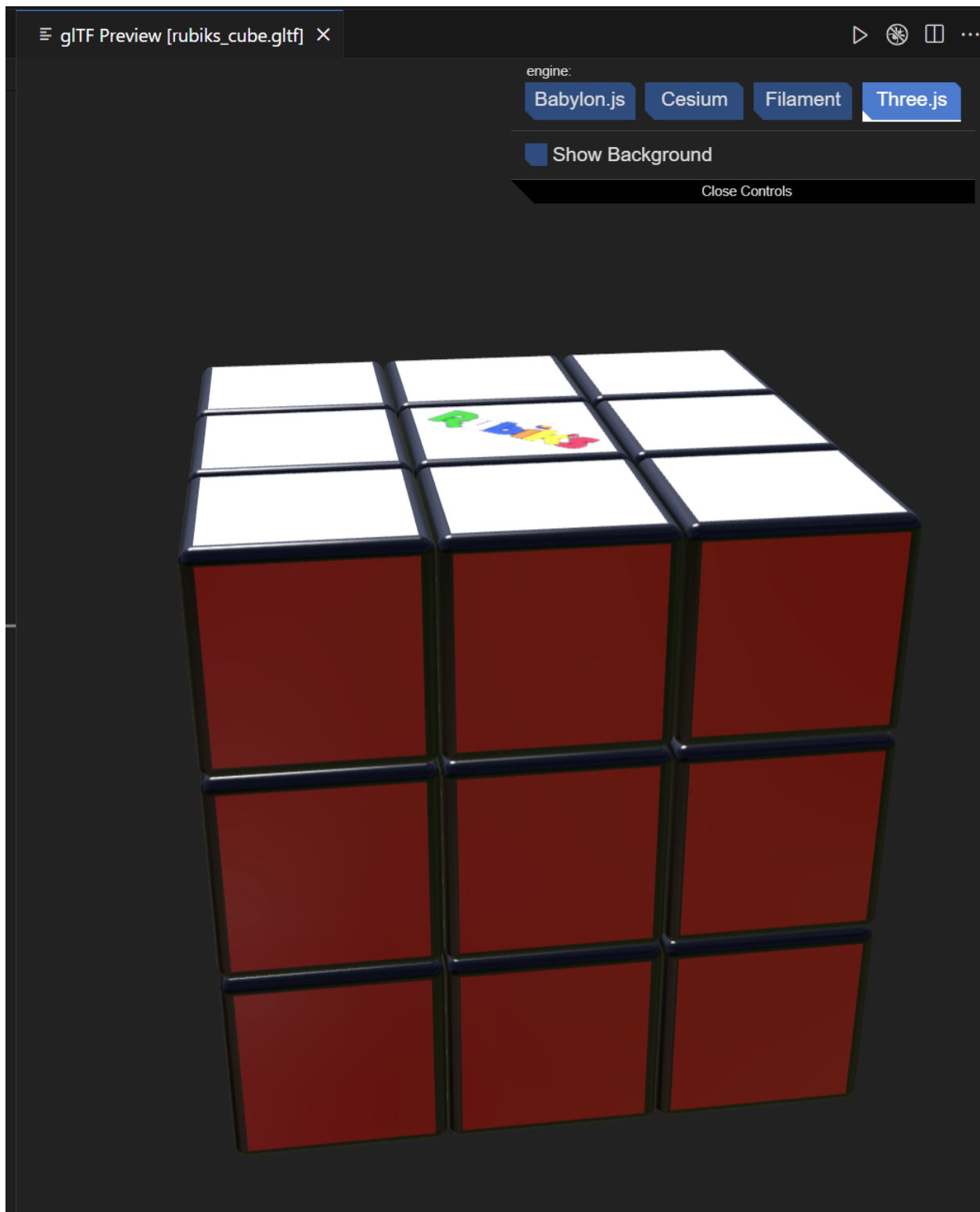
    // Handle Window Resize
    window.addEventListener('resize', () => {
        camera.aspect = window.innerWidth / window.innerHeight;
        camera.updateProjectionMatrix();
        renderer.setSize(window.innerWidth, window.innerHeight);
    });

</script>
</body>
</html>

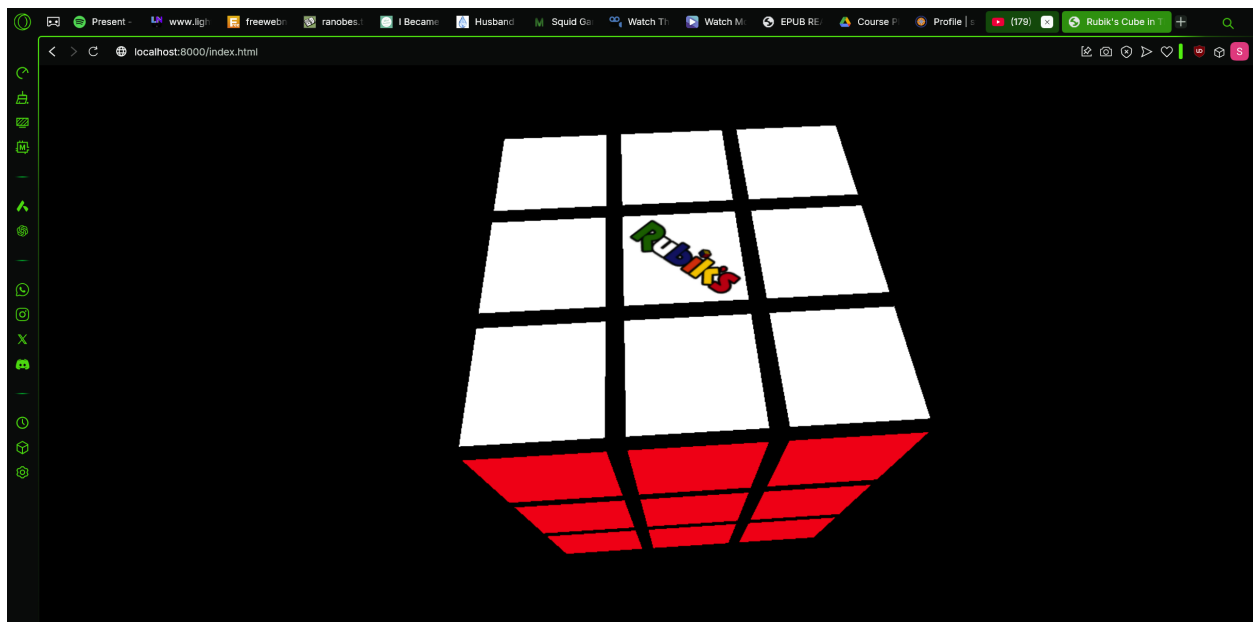
```

## **Screenshots:**

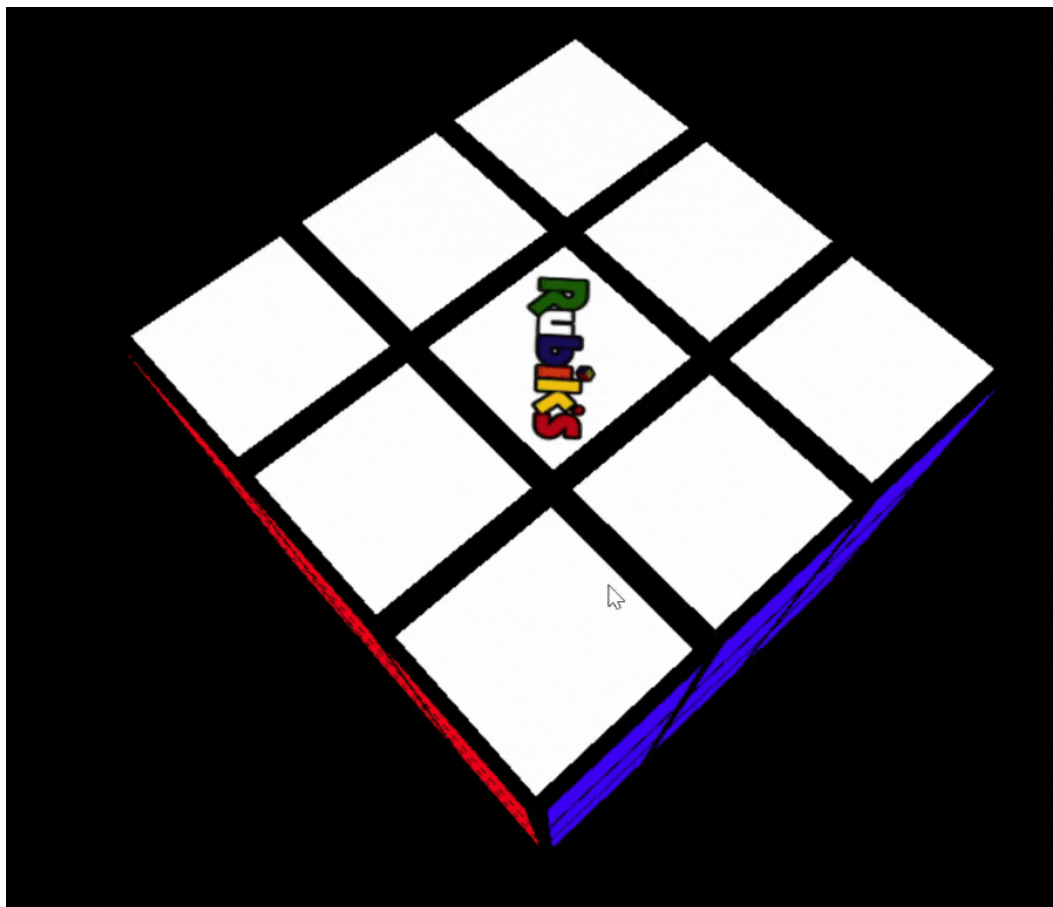
Preview of cube in 3js in VSCode



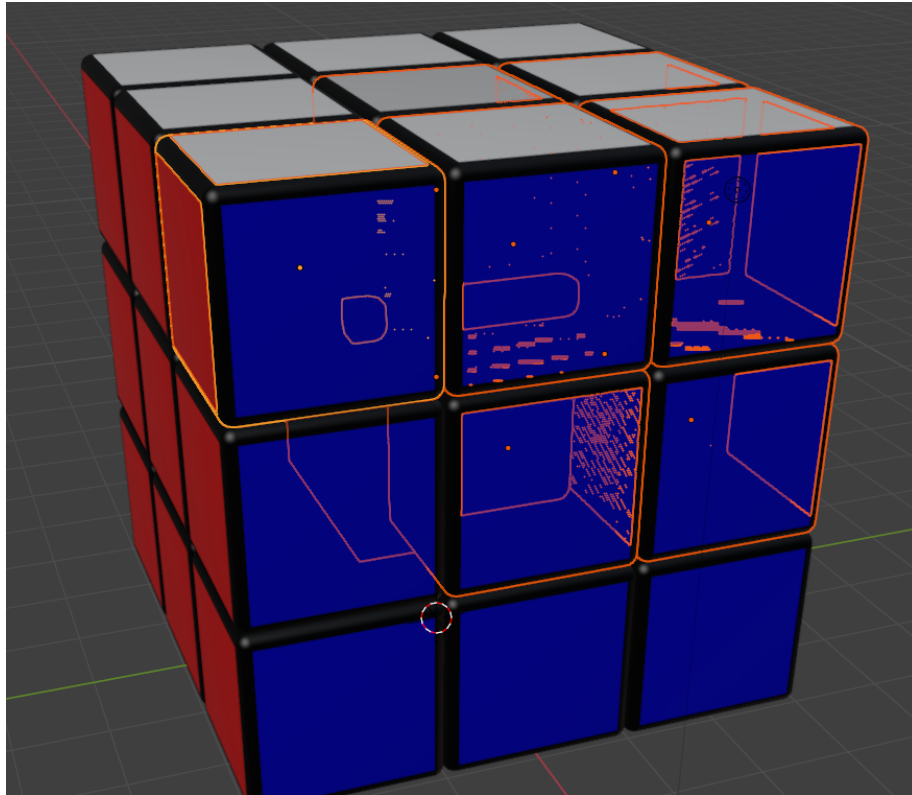
Preview of cube in web-browser:



Alternate View of DT:



SS of DT in Blender with meshes selected:



SS of meshes separate at Discrete level:

