



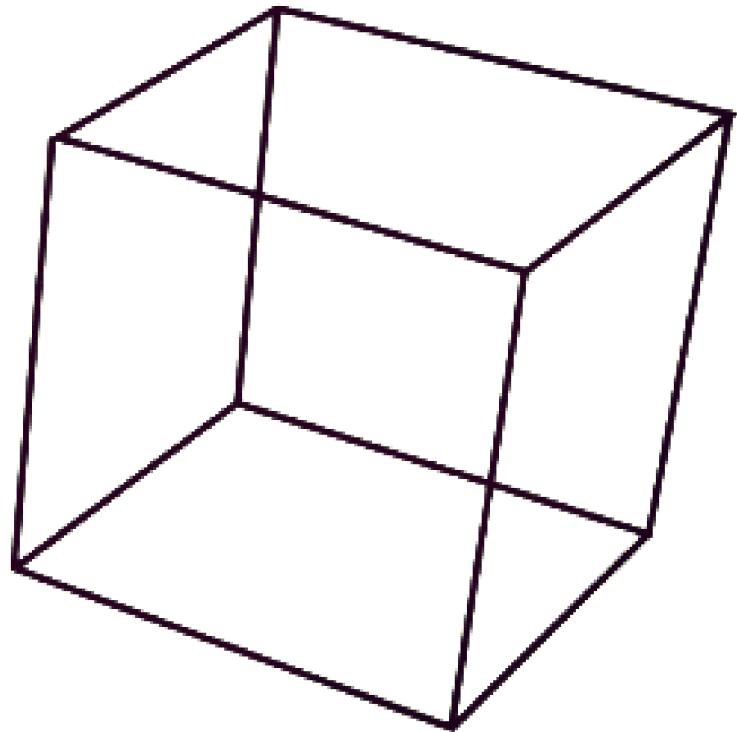
Three.js

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ANDRES ZEUS HERNANDEZ IMPINI

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beautiful.ai

Content



HISTORY

A little of Three.js's history.

WHAT IS THREE.JS

A simple explanation about this library.

STRUCTURE

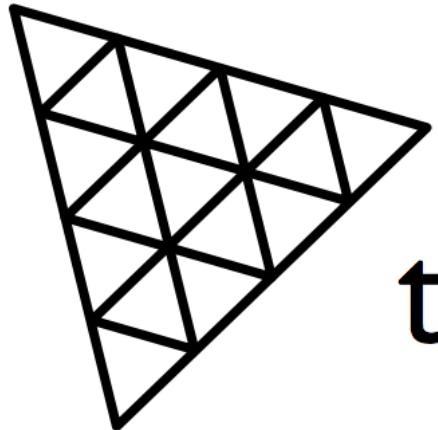
The Three.js basic structure

CODE

Demonstration of how its work

History

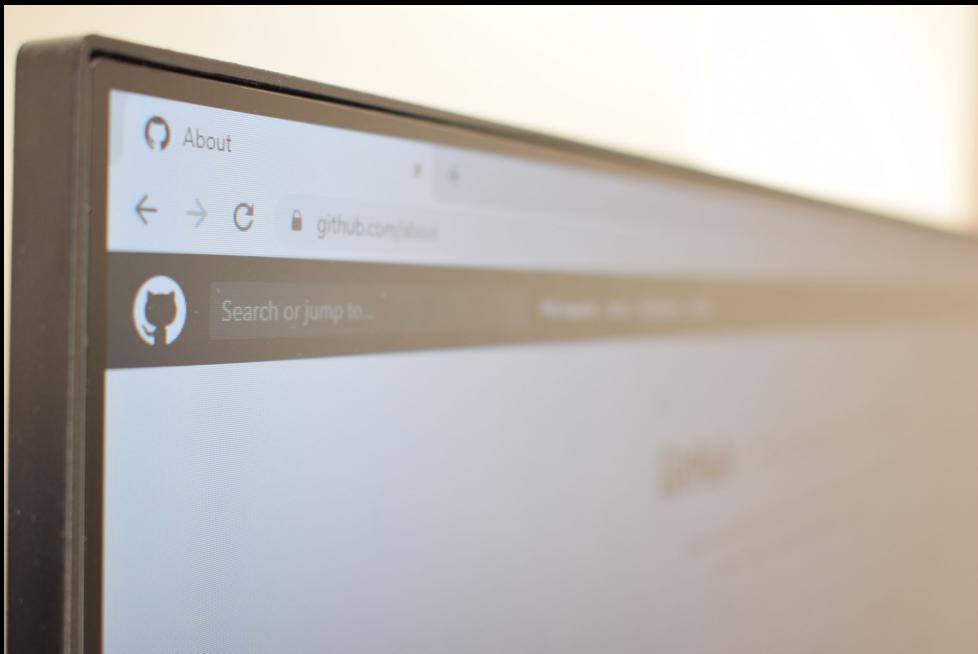




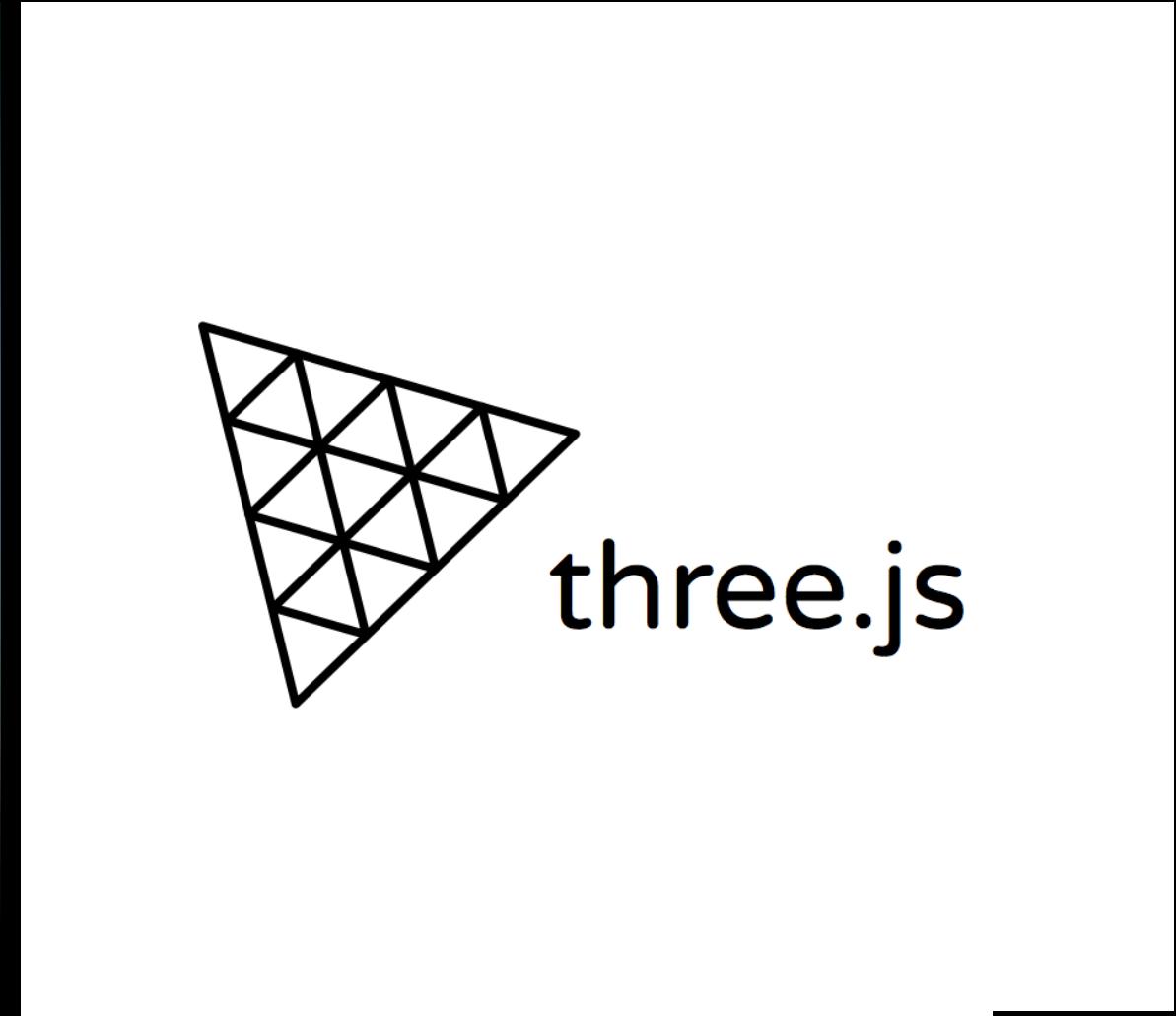
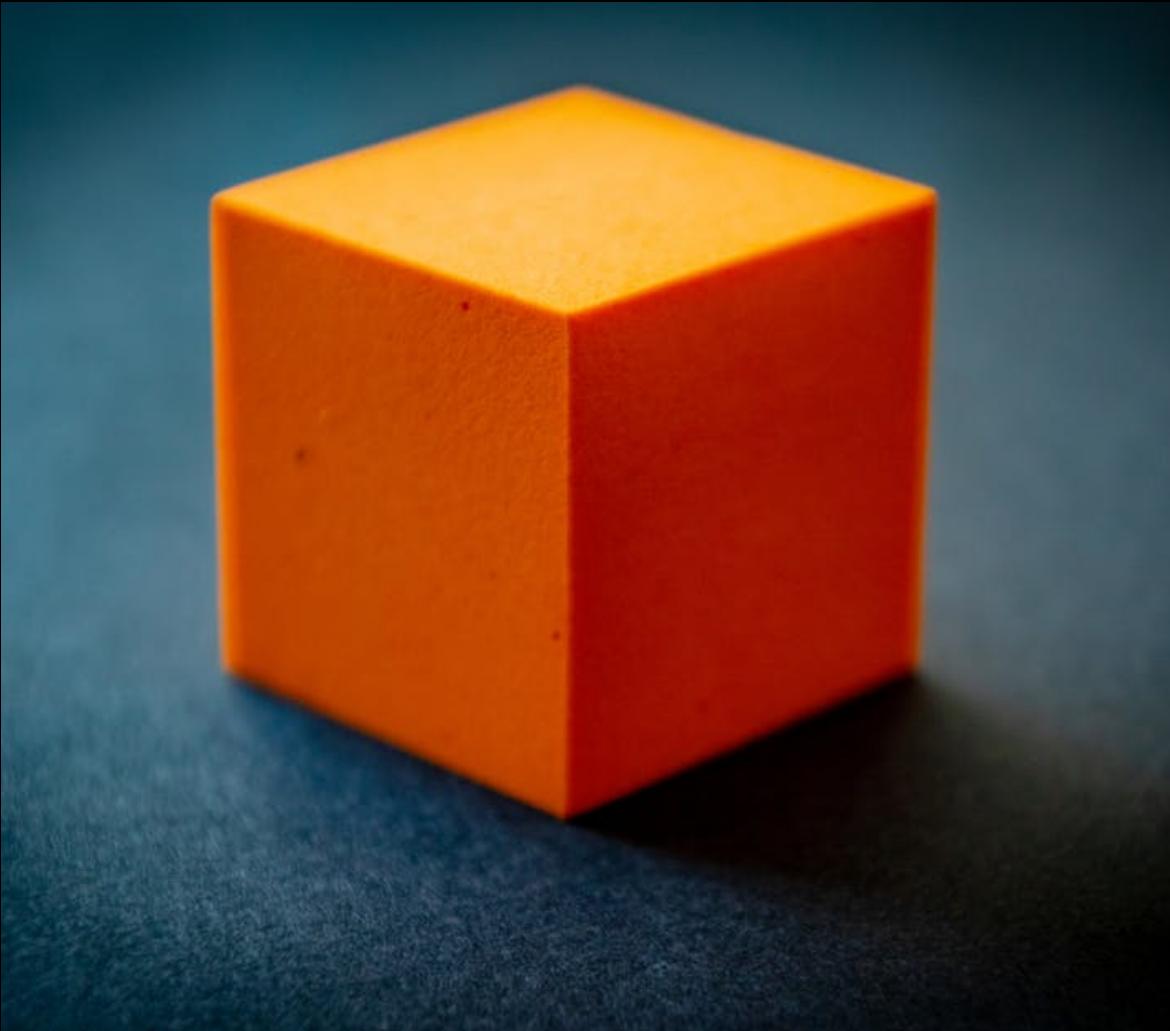
three.js

First stable version was released to GitHub in April 2010

It was released by a Spanish developer called Ricardo Cabello also known by its Github name Mr.doob and this js library at first was develop in Actionscript which is a Object oriented language



What is Three.js about?



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Features

1 **EFFECTS**

2 **SCENES**

3 **CAMERAS**

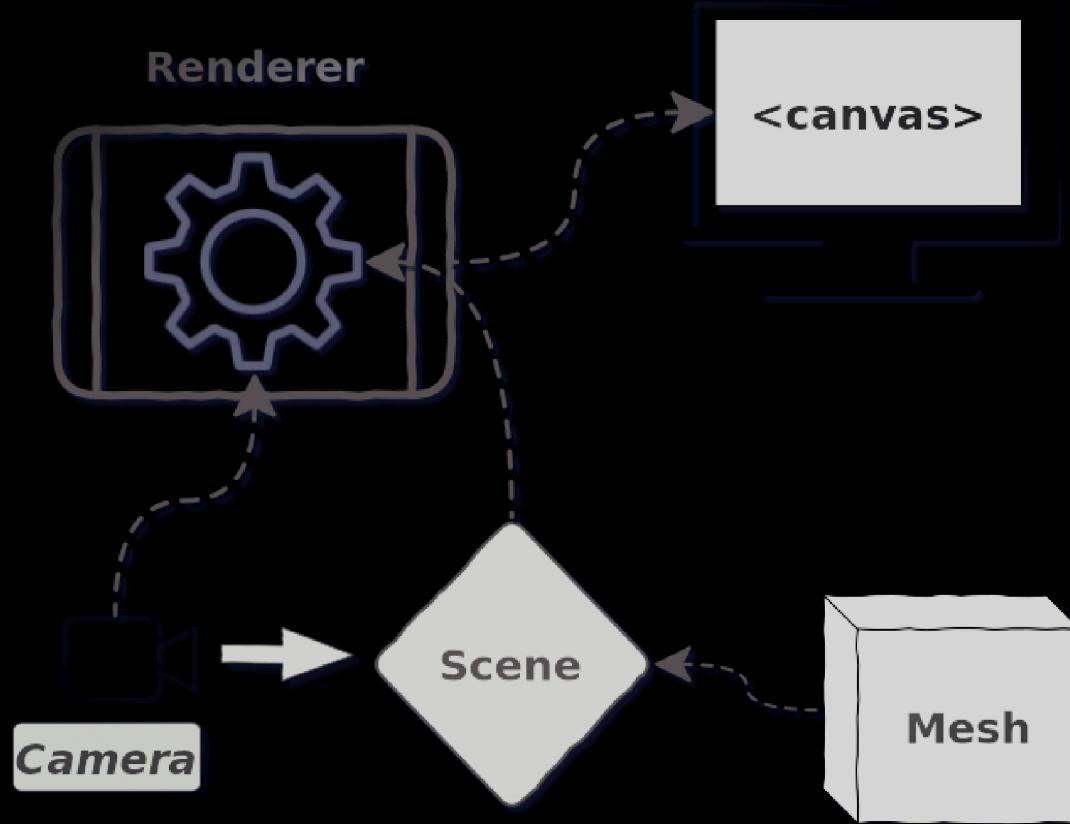
4 **ANIMATION**

5 **LIGHTS**

6 **MATERIALS**

7 **OBJECTS**



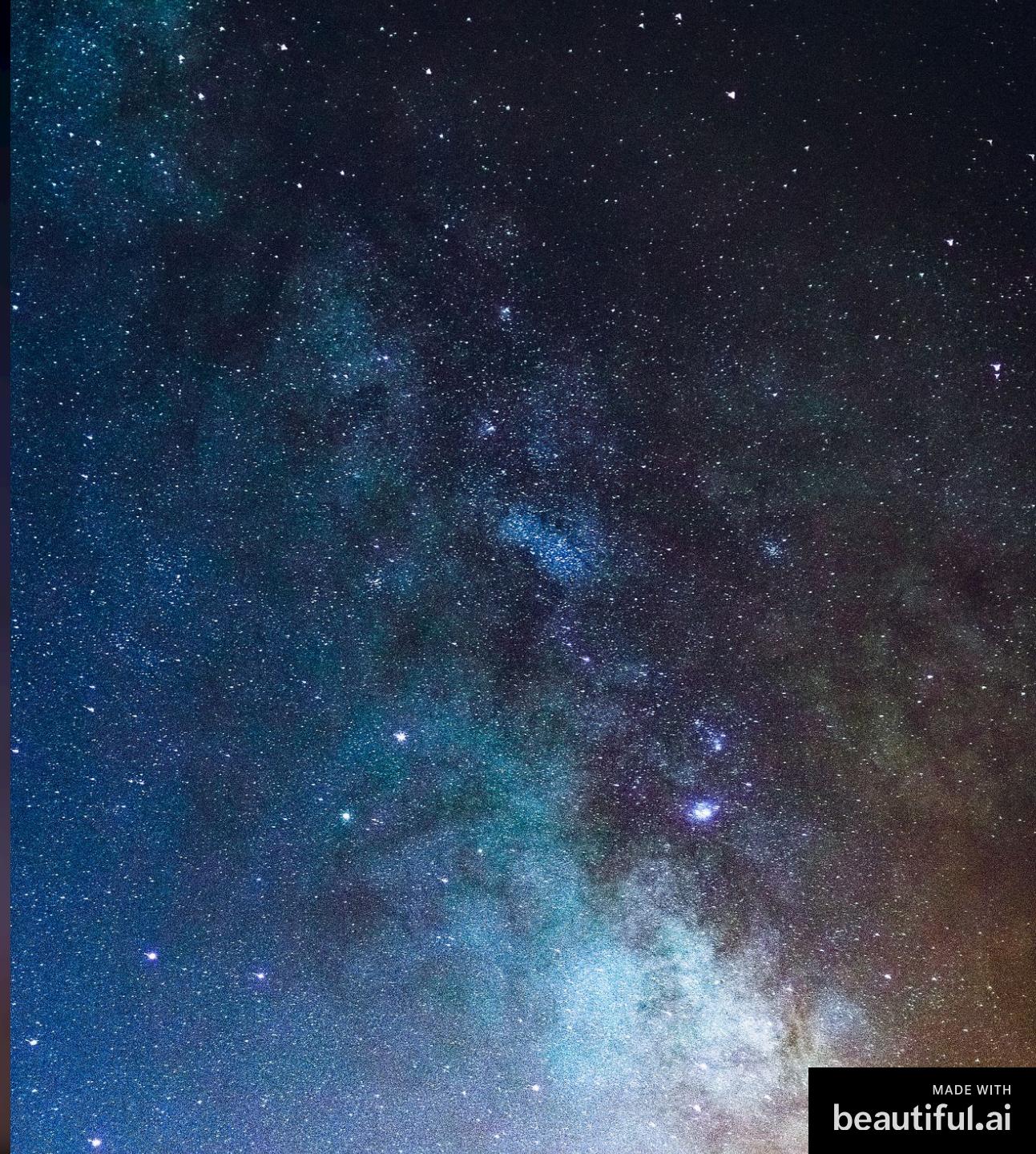


Three.js Structure



OUR LITTLE UNIVERSE

Scenes



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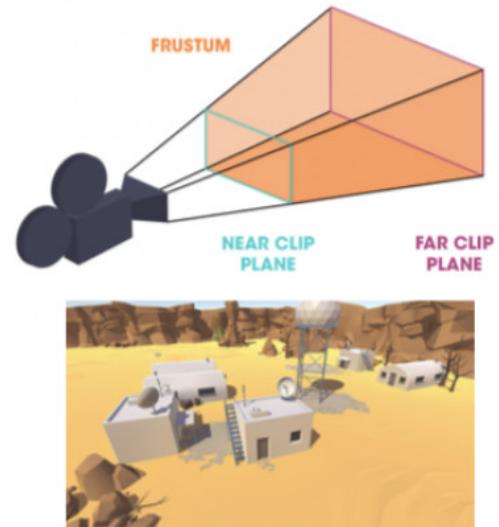
What we will see

Camera

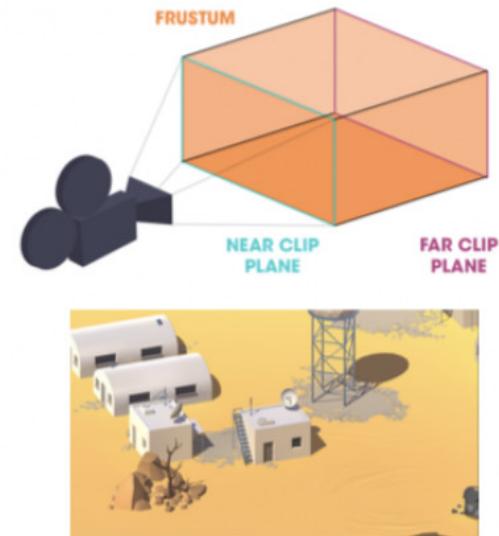
Type of cameras

In Three.js we can use different camera perspectives.

PERSPECTIVE CAMERA



ORTHOGRAPHIC CAMERA





Objects

The actors in our scene

MESH

Combination of the material and geometry of the object

MATERIAL

Is a color, a texture, a skin that you can apply in an object

GEOMETRY

Basically, the shape of the object

Installation

THE INSTALLATION IS REALLY SIMPLE.
WE START BY INSTALLING THE LIBRARIES USING NPM



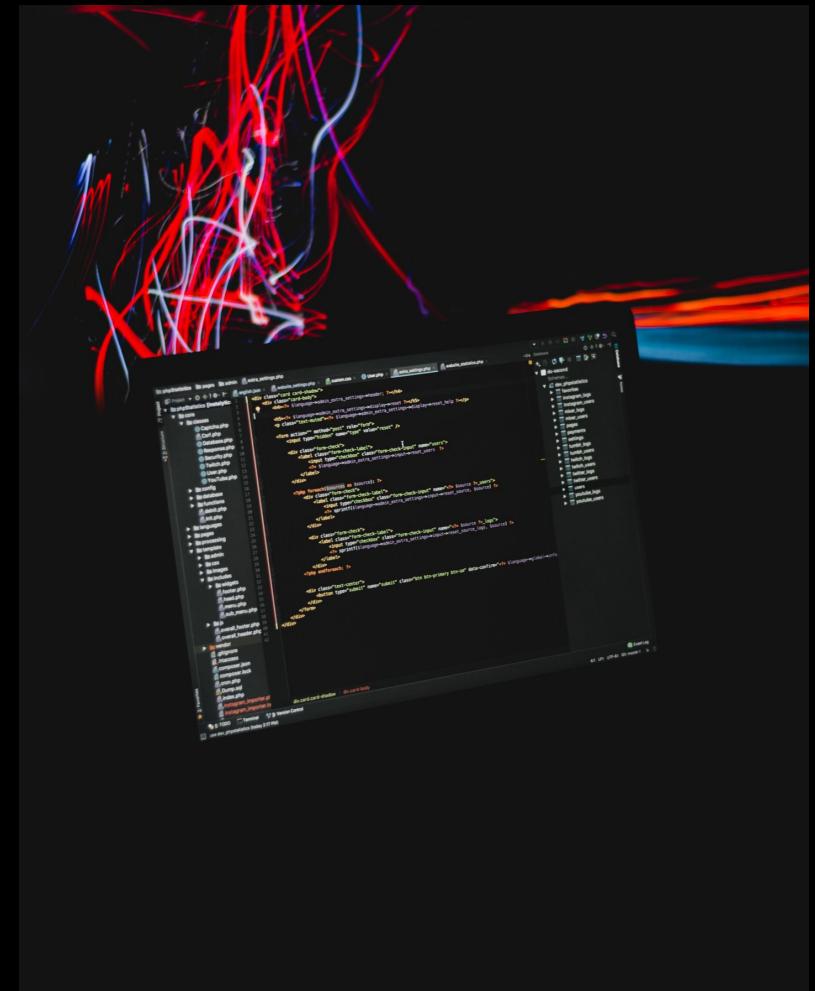
```
npm install --save three
```

THEN ONCE YOU HAVE THE LIBRARY
INSTALL YOU ONLY HAVE TO IMPORT IT



```
<body>
  <div id="container"></div>

  <script src=" https://cdnjs.cloudflare.com/ajax/libs/three.js/r128/three.js"></script>
  <script src='hello-cube.js'></script>
</body>
```



THREE.JS

Now, we are
going to talk
about coding

Hello Cube

WHAT WE USED?

We used the basics objects of that ThreeJs provide us only for show you an basic example.

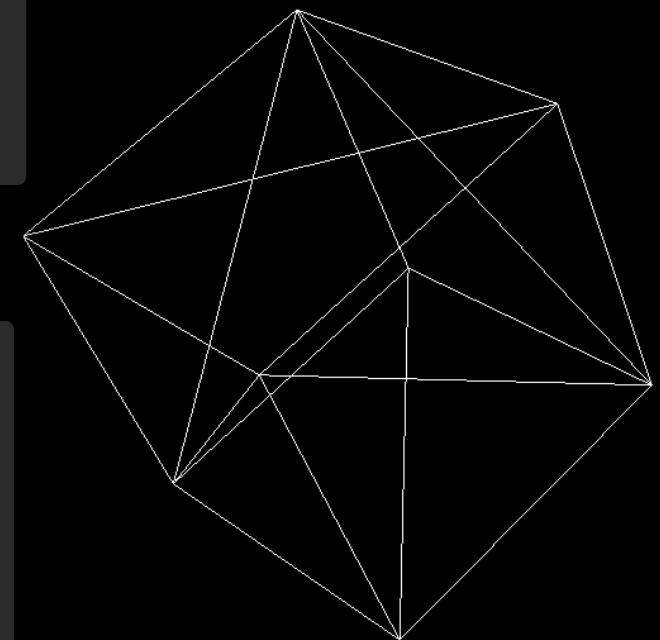
1

```
const FACE_SIZE = 2;
this.#geometry = new THREE.BoxBufferGeometry(FACE_SIZE, FACE_SIZE, FACE_SIZE);
this.#material = new THREE.MeshBasicMaterial({ wireframe: true });
this.#shape = Object.assign(new THREE.Mesh(this.#geometry, this.#material));
```

2

```
const FIELD_OF_VIEW = 35;
const WIDTH = window.innerWidth;
const HEIGHT = window.innerHeight;
const NEAR_CLIPPING_PLANE = 0.1;
const FAR_CLIPPING_PLANE = 100;
this.#camera = new THREE.PerspectiveCamera(FIELD_OF_VIEW, WIDTH / HEIGHT, NEAR_CLIPPING_PLANE, FAR_CLIPPING_PLANE);

this.#camera.position.set(0, 0, 10);
```



Hello Cube

3

```
  this.#scene = new THREE.Scene();
  this.#scene.background = new THREE.Color('black');
  this.#scene.add(this.#shape);
```

4

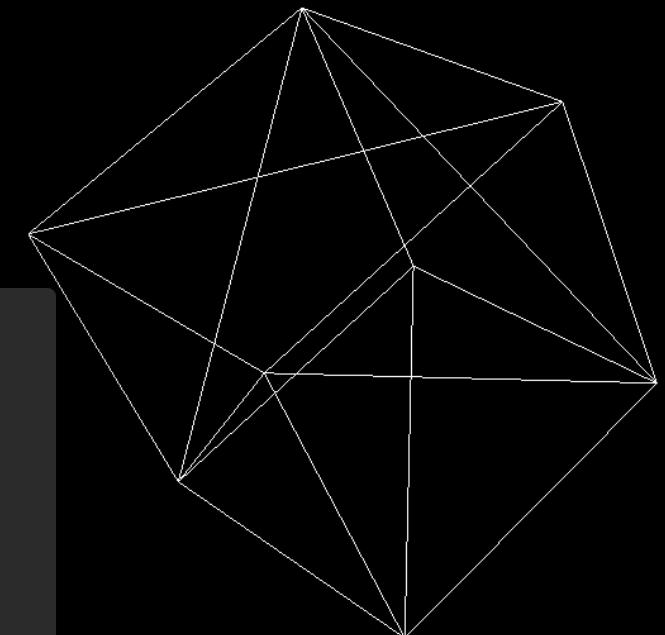
```
  this.#renderer = new THREE.WebGLRenderer();
  this.#renderer.setSize(WIDTH, HEIGHT);
```

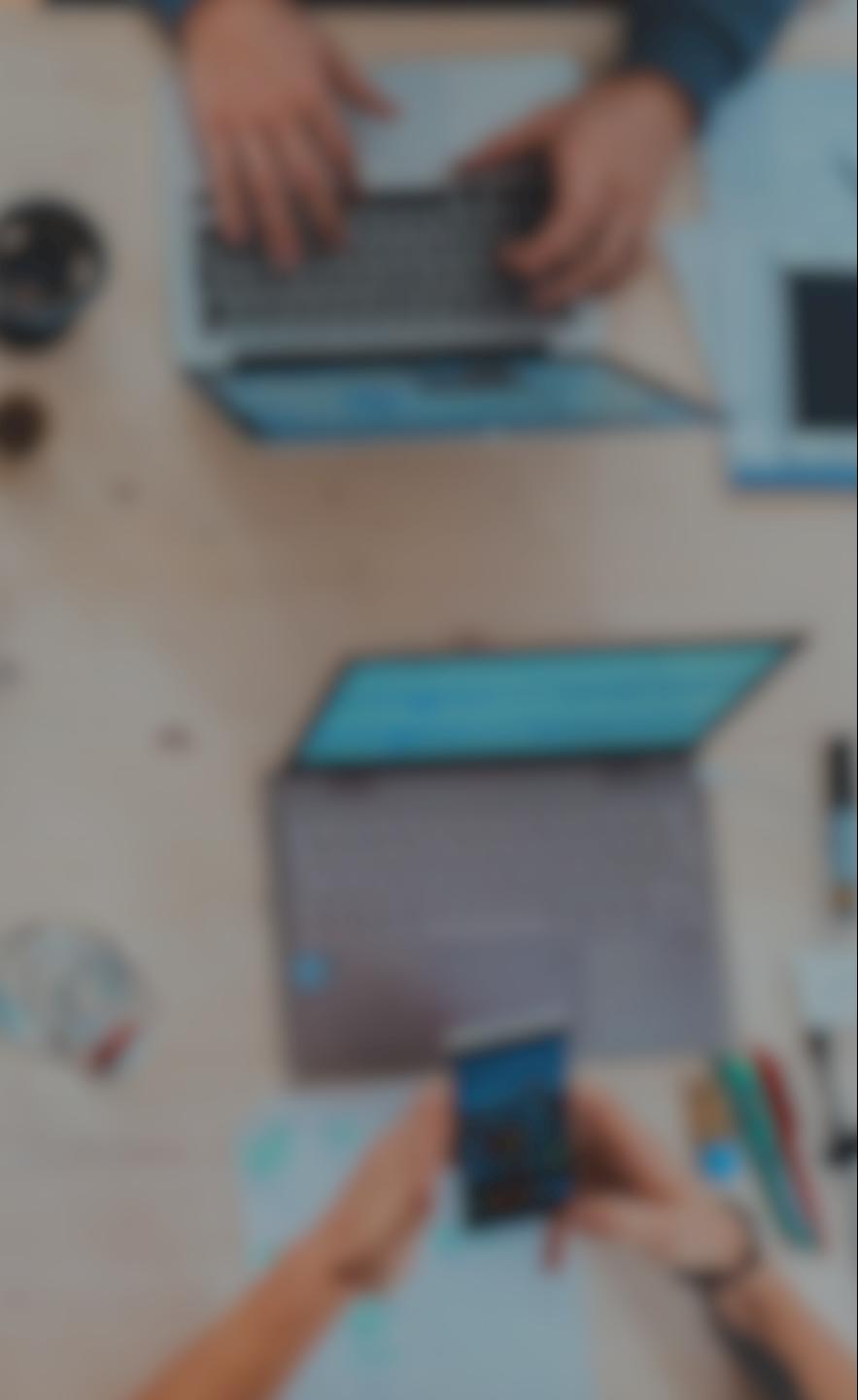
5

```
animation() {
  requestAnimationFrame(() => this.#animation());

  this.#shape.rotateX(0.01);
  this.#shape.rotateY(0.01);
  this.#shape.rotateZ(0.01);

  this.#renderer.render(this.#scene, this.#camera);
};
```





References

<https://en.wikipedia.org/wiki/Three.js>

<https://discoverthreejs.com/book/first-steps/first-scene/>

<https://threejs.org/>

<https://threejsfundamentals.org/threejs/lessons/threejs-fundamentals.html>

<https://threejs.org/docs/#manual/en/buildTools/Testing-with-NPM>

<https://plumegame.com/>

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