

A journey of discovery of Three.js

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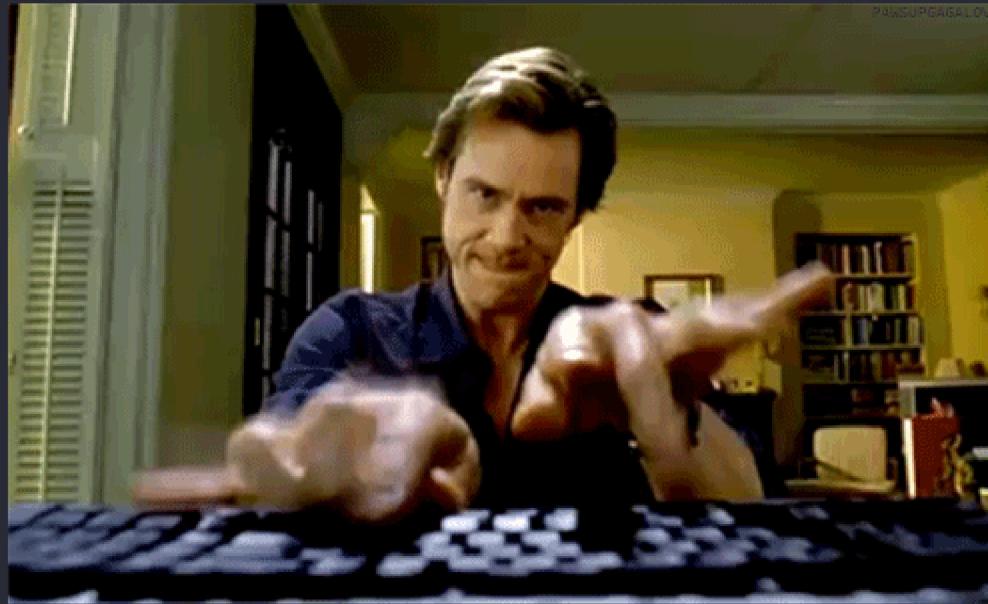


Once upon a time...

Composition of the project

- Web App
- Dashboard
- Editor 3D

Research





3D javascript library



All



Videos



Images



Books



News



⋮

Tools

About 113,000,000 results (0.31 seconds)



Three.js

<https://threejs.org> ⋮

Three.js – JavaScript 3D Library

Learn · documentation · examples · editor · Community · questions · discord · forum · twitter · Code.

github · download · Resources ·

Docs · Examples · Editor · Manual



Best of JS

<https://bestofjs.org> › tags › 3d ⋮

3D

3D · 22 projects · Cesium. An open-source **JavaScript library** for world-class 3D globes and

maps. Updated a week ago, 294 contributors. 3D · WebGL · Maps · Zdog.



Babylon.js

<https://www.babylonjs.com> ⋮

Babylon.js: Powerful, Beautiful, Simple, Open - Web-Based 3D ...

Welcome to Babylon.js 6.0. Our mission is to build one of the most powerful, beautiful, simple, and open web rendering engines in the world, and we are ...

- JavaScript library
- MIT license
- Author: Ricardo Cabello
- Web site: <https://threejs.org/>
- Github page: <https://github.com/mrdoob/three.js/>

What is Three.js?

Three.js is an open source, easy to use, and lightweight 3D JavaScript library that provides Canvas 2D, SVG, CSS3D, and WebGL renders and enables developers to create 3D experiences for the web.

What is WebGL?

WebGL is a JavaScript API that accesses computer graphic hardware in order to render the output into a web page's **canvas** element

Composition of a scene



Scene: The stage where every object needs to be added in order to be rendered

Camera: Controls what the user can see and how

Objects: The things you want to animate and render in the scene

Lights: We'll need light sources to illuminate the scene

Renderer: Displays the scene using WebGL

Setup

```
1 .
2 └── package-lock.json
3 └── package.json
4 └── src
5     ├── index.html
6     └── script.js
7         └── style.css
8 └── vite.config.js
```

- Install with NPM
- Import from a CDN

```
1 import * as THREE from 'three'
```

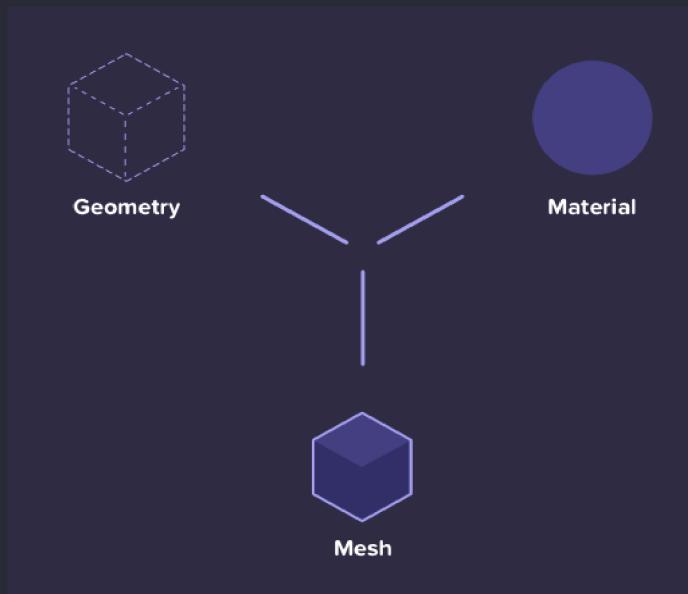
Scene

```
1 const scene = new THREE.Scene()
```

Like a container where we put all the elements that you want to see in our app

Mesh

```
1 const geometry = new THREE.BoxGeometry(1, 1, 1)
2 const material = new THREE.MeshBasicMaterial({ color: 0xff0000 })
3 const mesh = new THREE.Mesh(geometry, material)
```

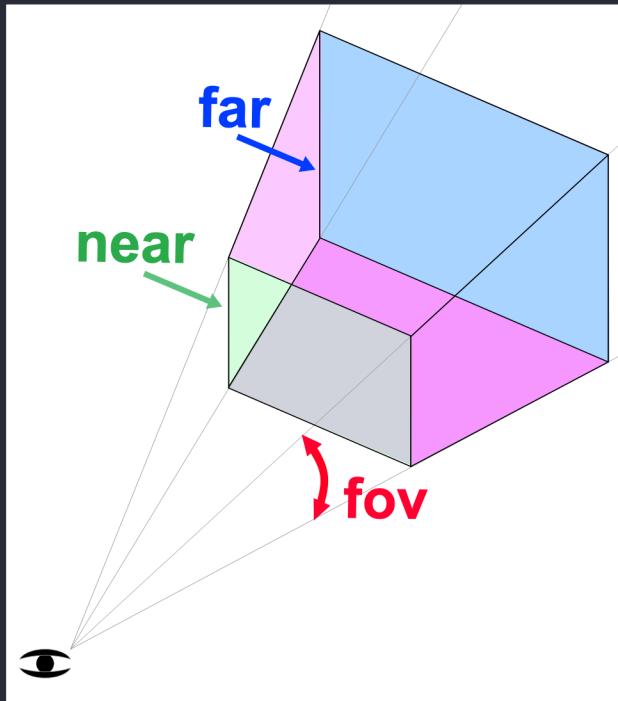


Camera

```
1 const camera = new THREE.PerspectiveCamera(75, window.innerWidth / window.innerHeight)
```

There are different types of cameras in Three.js but the most used is the Perspective Camera. It gives a 3D view where things in the distance appear smaller than things up close

Camera



1. Field of view (fov): The amount of you are seeing
2. Aspect ratio (aspect): Width of the element divided by its height
3. Near clipping plane (near): Defines where the front of the frustum starts
4. Far clipping plane (far): Defines where the front of the frustum ends

Renderer

```
1 <canvas class="webgl"></canvas>

1 const canvas = document.querySelector("canvas.webgl")
2
3 const renderer = new THREE.WebGLRenderer({ canvas: canvas })
4 renderer.setSize(window.innerWidth / window.innerHeight)
5 renderer.render(scene, camera)
```

Render the scene from the camera point of view

Animation

```
1 const tick = () => {
2
3   mesh.rotation.y += 0.01
4
5   renderer.render(scene, camera)
6
7   window.requestAnimationFrame(tick)
8 }
9
10 tick()
```



Demo

Other projects

- <https://github.com/AngyDev/custom-3D>
- <https://eyes.nasa.gov/apps/mars2020/#/home>
- <https://codepen.io/Yakudoo/full/YXxmYR>

What next?

- React-Three-Fiber
- TresJS
- VR
- AR

Resource links

- <https://threejs-journey.com/>
- <https://stemkoski.github.io/Three.js/>
- <https://www.awwwards.com/websites/3d/>

The impact of 3D

- Gaming
- E-commerce
- Healthcare Prototyping
- Prototyping and engineering optimization
- Architecture and history

Thanks



Join us @SH



Next Event

Join us on June 14th at Nana Bianca

The image shows a promotional poster for an event. The background features a gradient from blue to purple. At the top left, the text "SHSESSION" is written vertically. In the center, there is a large black cat head icon with one blue eye and one purple eye containing a small geometric shape. Below the cat head, the text "Schrödinger Session" is written in white, followed by "Presents" and the word "qwik" in a large, bold, black font. To the right of the cat head, the text "SUPPORTED BY" is followed by the "nana bianca" logo, which consists of a stylized 'X' shape next to the brand name. At the bottom left, the text "ana Bianca" is partially visible. At the bottom right, the date "14 June 2023" is displayed. On the far left edge of the poster, there is some very faint, illegible text.

SHSESSION

Schrödinger Session
Presents
qwik

SUPPORTED BY

nana bianca

ana Bianca

14 June 2023





 @angela_busato

 in/angela-busato-91145ab1/

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