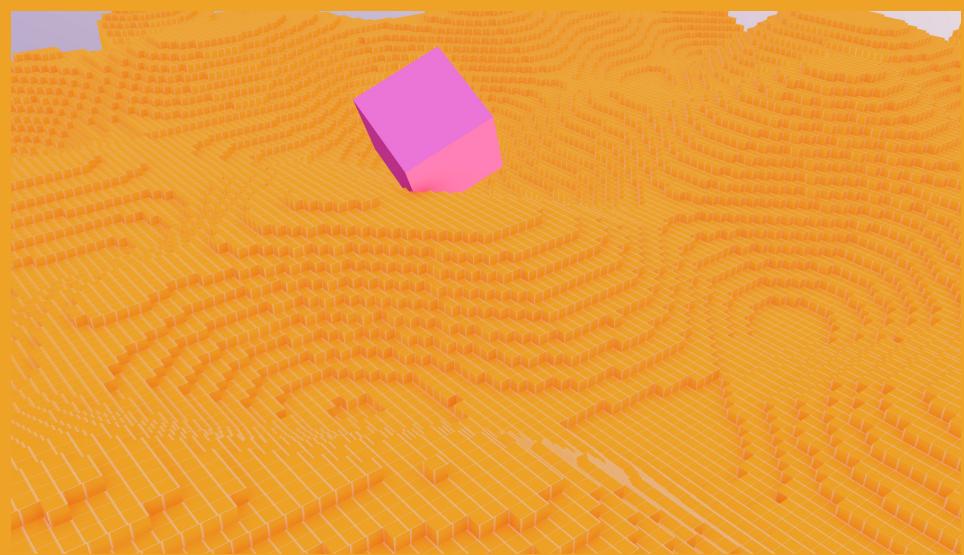
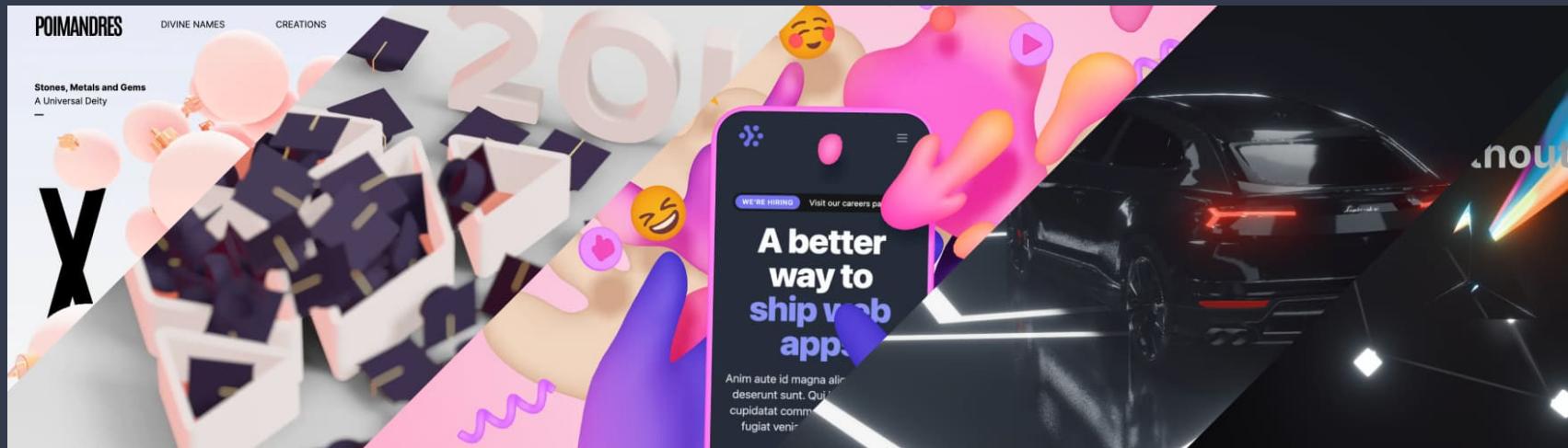


# Building a Minecraft clone with React Three Fiber and using multithreading



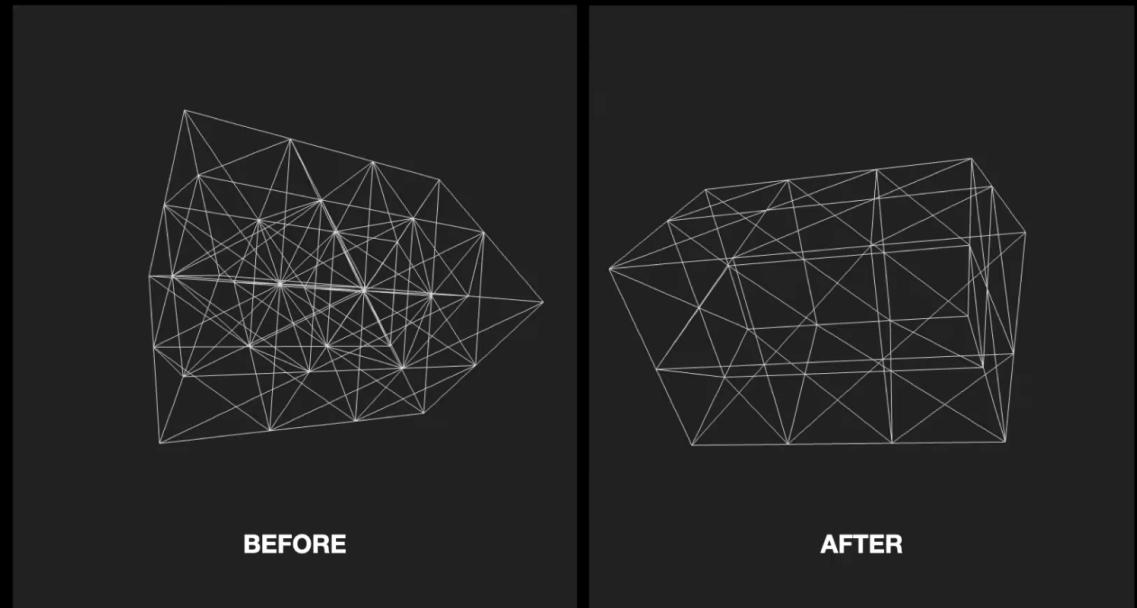
# React Three Fiber

"Build your scene declaratively with re-usable, self-contained components that react to state, are readily interactive and can participate in React's ecosystem."



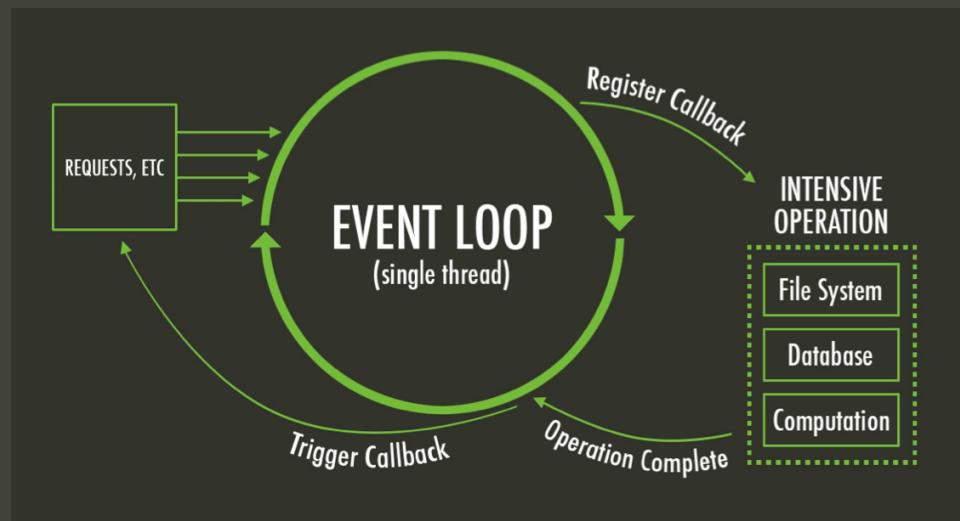
```
<World>
  <Cube pos={ [0,0,0] } type="dirt" />
  <Cube pos={ [1,0,0] } type="dirt" />
  <Cube pos={ [0,-1,0] } type="stone" />
  ...
</World>
```

**Improving performance  
by hiding geometry that  
is not visible to the  
camera**



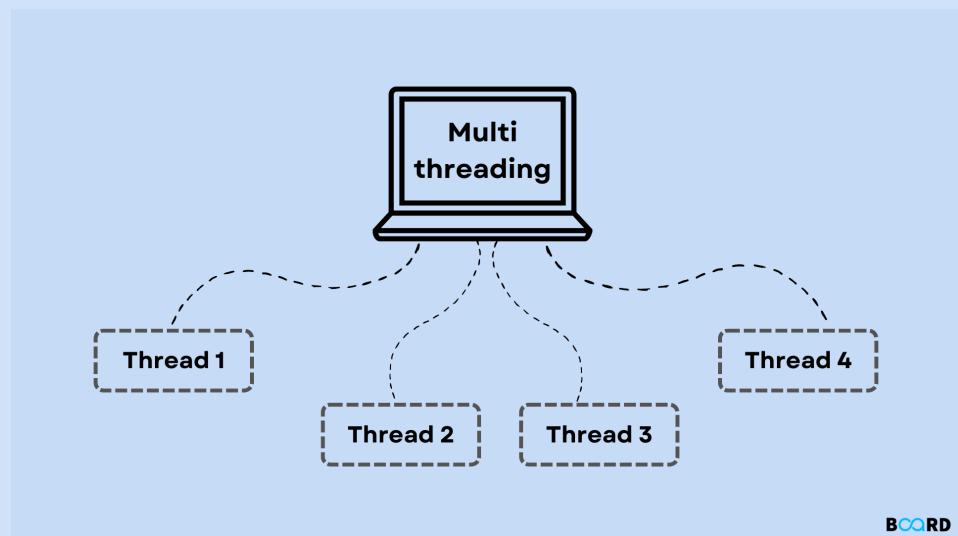
**Demo time**

**JavaScript is a single-threaded language. it is synchronous in nature.**



# Multithreading

A technique by which a single set of code can be used by several processors at different stages of execution.



# Webworkers

“Web Workers are a simple means for web content to run scripts in background threads.”



# Code demo

```
1 import * as Comlink from 'comlink'; 4.8k (gzipped: 2.1k)
2 import { Vector3 } from 'three'; 217.5k (gzipped: 47k)
3
4 export const useRemoteNoise = () => {
5   const createRemoteNoise = (onNoiseCreated: (data: Int8Array) => void, offset: Vector3, chunkScale = 32) => {
6     const worker = new Worker(new URL('../noiseWorker.js', import.meta.url));
7
8     // Make TypeScript believe this is callable
9     // eslint-disable-next-line @typescript-eslint/no-explicit-any
10    const remoteFunction: any = Comlink.wrap<Worker>(worker);
11
12    remoteFunction(Comlink.proxy(onNoiseCreated), offset, chunkScale);
13  };
14
15  return { createRemoteNoise };
16}
17
```

# Time for questions



## References

- <https://docs.pmnd.rs/react-three-fiber/getting-started/introduction>
- <https://www.youtube.com/watch?v=DVkXZPzopEs>
- <https://www.boardinfinity.com/blog/multithreading-in-python/>
- [https://developer.mozilla.org/en-US/docs/Web/API/Web\\_Workers\\_API/Using\\_web\\_workers](https://developer.mozilla.org/en-US/docs/Web/API/Web_Workers_API/Using_web_workers)

Find the code on Github:

<https://github.com/dmnkb/react-three-multithreaded>



Using Web Workers - Web APIs |  
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[developer.mozilla.org](https://developer.mozilla.org/en-US/docs/Web/API/Web_Workers_API/Using_web_workers)