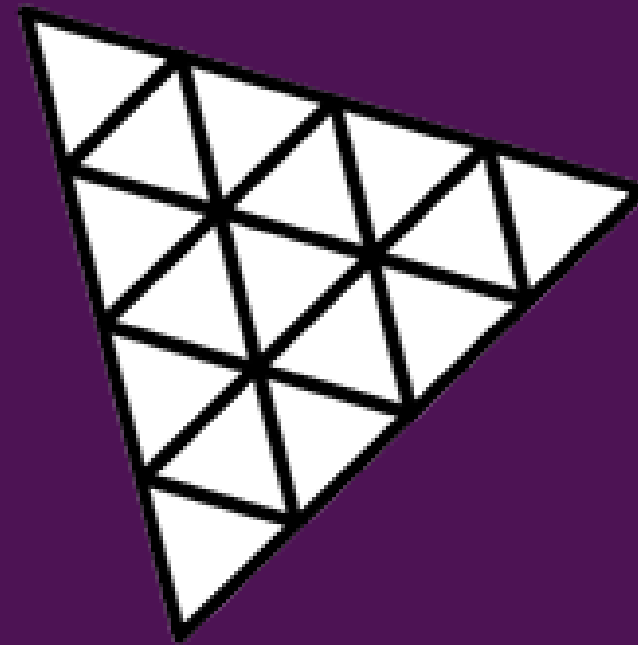


# Three JS



three.js

<https://jesse-zhou.com/>

<https://www.ryan-floyd.com/>

<https://coastalworld.com/>

# OVERVIEW

Open GL

Web GL

Three JS

Application

Resources

React Three Fiber

# 01 OPEN GL

- OpenGL is a computer graphics rendering application programming interface (API)
  - With it, you can generate high-quality color images by rendering with geometric and image primitives
  - Makes use of graphics processing unit (GPU)
  - By using OpenGL, the graphics part of your application can be
    - operating system independent
    - window system independent

# 02

## WEB GL

- WebGL 1.0:  
JavaScript implementation of OpenGL ES 2.0
  - runs in all recent browsers (Chrome, Firefox, IE, Safari)
- entire application is operating system independent
- entire application is window-system independent
  - application can be located on a remote server
  - rendering is done within browser using local hardware
  - integrates with standard Web packages and apps

# 03 What is THREE js?

## Definition

- **Three.js** is a cross-browser JavaScript library and application programming interface (API) used to create and display animated 3D computer graphics in a web browser using WebGL.

<https://threejs.org/>

## Web GL

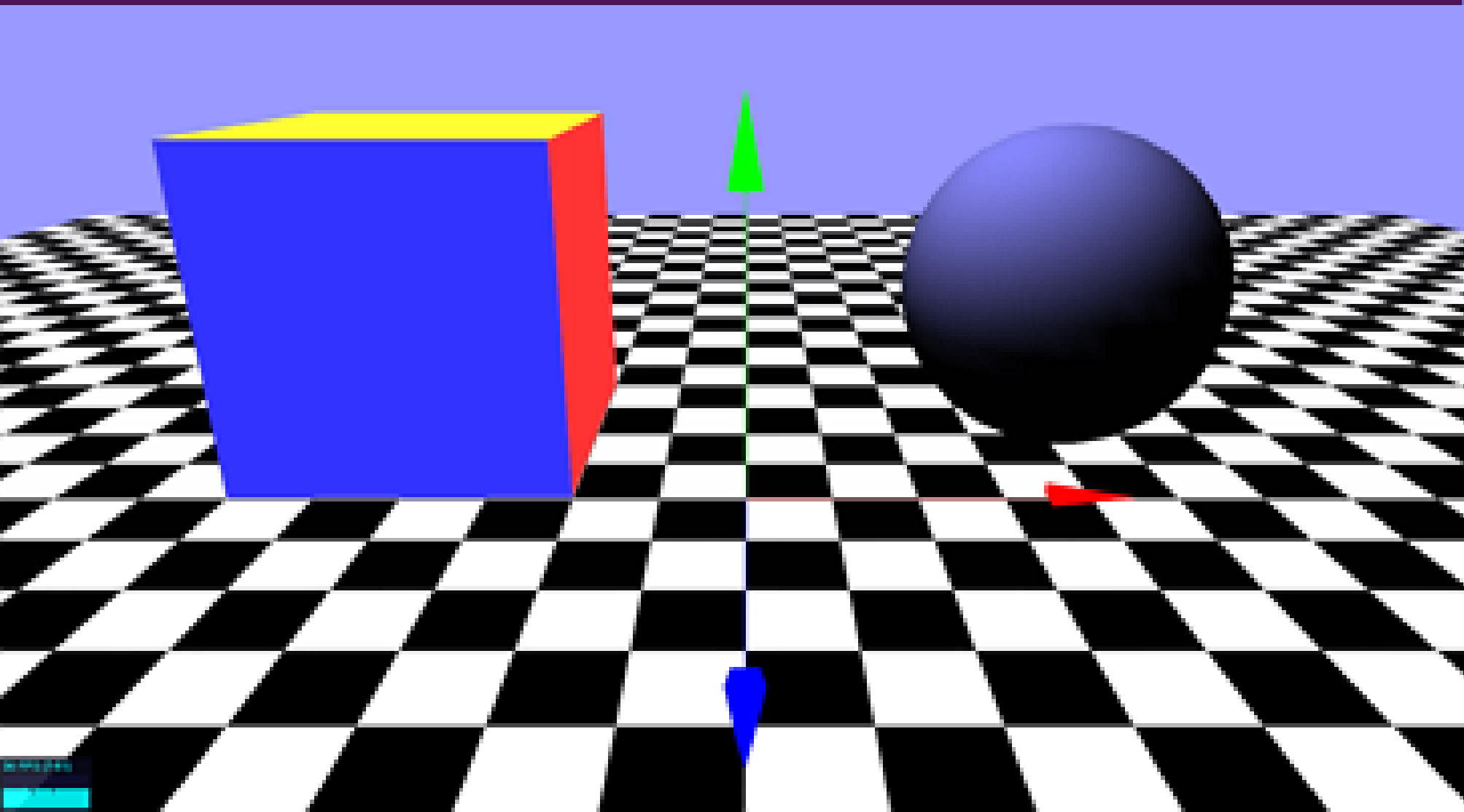
- WebGL is fully integrated with other web standards, allowing GPU-accelerated usage of physics and image processing and effects as part of the web page canvas. WebGL elements can be mixed with other HTML elements and composited with other parts of the page or page background.

## What's in store for us?

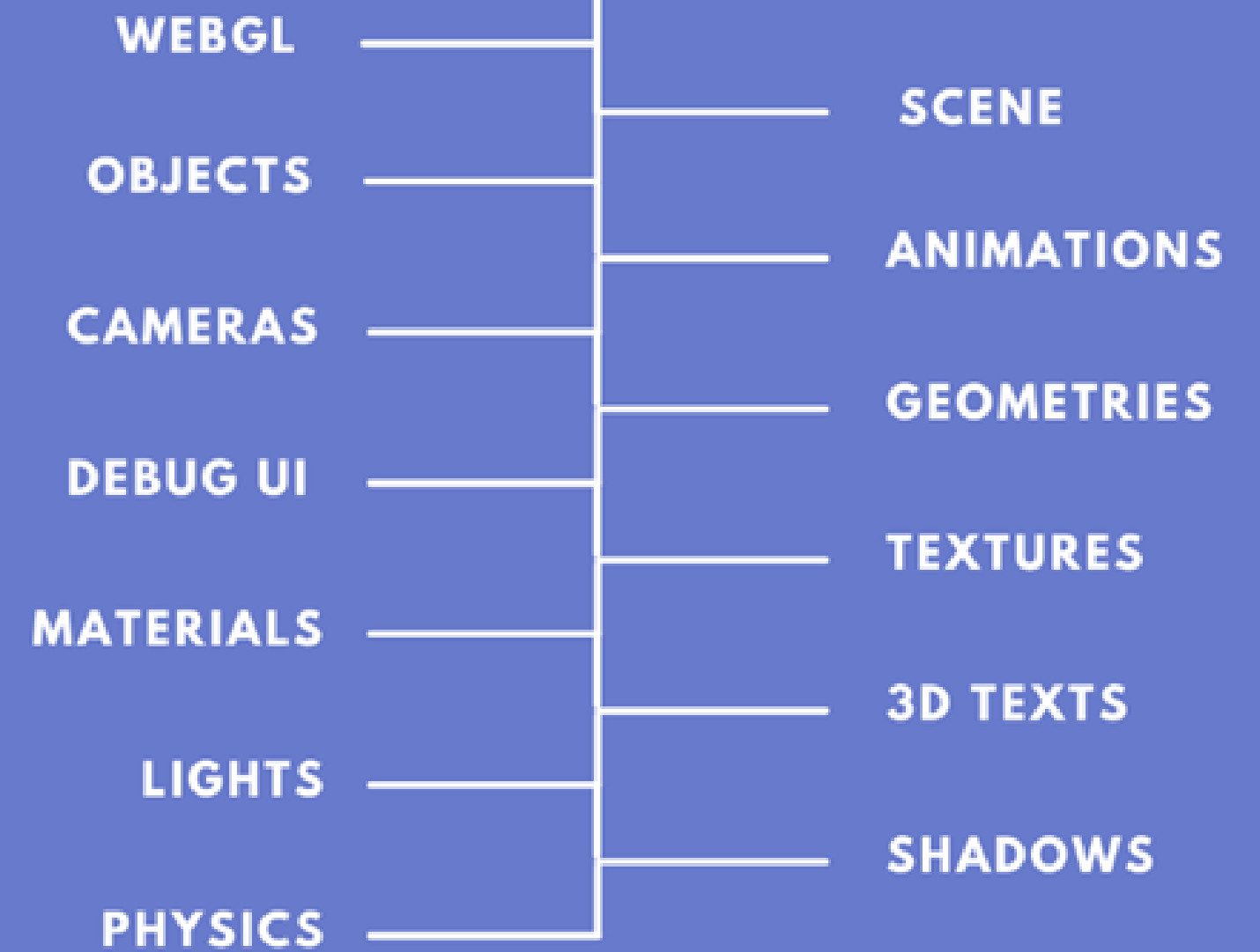
– Three.js is vast, and you can do an infinite number of things with it. creating our first scene, adding objects, choosing the right materials, adding textures, and animating everything. Then, we will go through many traditional skills: for instance, creating our own geometries, adding lights and shadows, interacting with the 3D objects, adding particles. Finally, we will end with more advanced techniques like physics, producing realistic renders, writing custom shaders, adding post-processing, and even creating our own Blender models.

# Components

ROADMAP  
THREEJS



## THREEJS





# Application of Three JS

-Portfolio Websites

-Interactive Websites

-For Game Development.

-Useful for Blender artists as you can easily load your blender models using GLTF loader

## Flipkart Grid 4.0

How about building the future of immersive shopping with possibilities of VR, AR, and immersive 3D worlds/Metaverses for e-Commerce? This hack expects you to Create a connected Metaverse experience on the web, in which anyone with a web browser can join and experience a 3D world along with their friends to browse & shop.

<https://drive.google.com/file/d/1t7dSKBkPmGj1g9FP0LHJhrNdebWHZ80o/view?usp=sharing>

# 05 Resources

## Sites to Check

<https://bruno-simon.com/>

<https://jesse-zhou.com/>

<https://www.ryan-floyd.com/>

<https://danny-garcia.com/>

<http://www.robinpayot.com/>

## Roadmap

<https://github.com/Chamepp/3D-Web-Roadmap>

## Books

<https://drive.google.com/drive/folders/1MW0B58hsyU872HVEKB4ZuNt-ovHE90SA?usp=sharing>

## Videos for reference

[https://www.youtube.com/watch?v=YK1Sw\\_hnm58&list=PLpPnRKq7eNW3fl6UUawZ76XkuMb6W\\_L40](https://www.youtube.com/watch?v=YK1Sw_hnm58&list=PLpPnRKq7eNW3fl6UUawZ76XkuMb6W_L40)

<https://www.youtube.com/watch?v=pUgWfqWZWmM&t=563s>

[https://www.youtube.com/watch?v=8jP4xpga6yY&list=RDCMUC29ju8bIPH5as8OGnQzwJyA&start\\_radio=1&rv=8jP4xpga6yY&t=1](https://www.youtube.com/watch?v=8jP4xpga6yY&list=RDCMUC29ju8bIPH5as8OGnQzwJyA&start_radio=1&rv=8jP4xpga6yY&t=1)





06

# React Three Fiber

React-three-fiber is a React renderer for three.js.

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

[docs.pmnd.rs/react-three-fiber](https://docs.pmnd.rs/react-three-fiber)



The background features a dark purple gradient with several organic, flowing shapes in shades of blue and purple. A small, glowing sphere is positioned in the upper left quadrant. The text is rendered in a clean, white, sans-serif font.

**Thank You**

**-Anika Singh**