

JOURNEY THROUGH VR AND AR WITH REACT

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A photograph of a young boy with short brown hair, wearing a red baseball cap and a yellow t-shirt with a cartoon character, standing on a stage and singing into a microphone. He is positioned in front of a large blue backdrop with the word "RADIO" printed on it. The stage is equipped with a complex lighting rig consisting of numerous spotlights and speakers hanging from a truss system above.

Let's go back to the past

What was the web like 5 years ago?

- IE8 😰
- PWA? 🤔
- Flexbox? 😐
- jQuery ❤️

Some things haven't changed that much

justin bieber

David Guetta 330M views • 7 months ago

BUY / LISTEN : <https://Guetta.co/2U> Director: Jerome Duran Production: Victoria's Secret Executive Producer: Ed Razek Lyrics : No

CC





Mix - Justin Bieber

YouTube

Justin Bieber - Sorry (PURPOSE : The Movement) • 3:26

Justin Bieber - What Do You Mean? • 4:58



JustinBieberVEVO

33,501,778 subscribers • 123 videos

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GIFS • AWW • TECHNOLOGY • JOKES • HEARTSH



The web can be so much more

It's fun to explore 

Now, we are living in the future



Future is weird







Samsung



Back to the web

In 2018, we can do more

React

Flexibility

Web (+ NW & Electron)

- [react-dom](#) - A declarative, efficient, and flexible JavaScript library for building user interfaces.
- [react-tiny-dom](#) - A minimal implementation of react-dom using react-reconciler
- [react-art](#) - React Bridge to the ART Drawing Library.
- [react-canvas](#) - High performance canvas rendering for React components.
- [react-three](#) - React bindings to create and control a 3D scene using three.js.
- [React-GL](#) - Render React components in WebGL for 60 FPS animations.
- [ReactLiberty](#) - Connect, discover, be free to choose between WebGL / Canvas (PIXI) / DOM or any other UI renderer.
- [react-vr](#) - Render React components in WebGL/WebVR for VR apps.
- [react-konsul](#) - A react renderer that renders to the browser's devtools console.
- [react-worker-dom](#) - Experiments to see the advantages of using Web Workers to Render React Virtual DOM.
- [rax](#) - A universal React-compatible render engine.

Mobile

- [react-native](#) - A framework for building native apps with React.
- [react-titanium](#) - React custom renderer for Appcelerator® Titanium™ SDK.

Command Line Interface

- [react-blessed](#) - A react renderer for blessed.
- [ink](#) - React for interactive command-line apps

Television

- [react-tvml](#) - React bindings to Apple's TVJS and TVML.
- [React-Gibbon](#) - React bindings to Netflix's custom Gibbon rendering layer on TV devices.
- [react-tv](#) - React development for TV (WebOS, SmartTVs)

- Source: <https://github.com/chentsulin/awesome-react-renderer>

React

React for AR and VR

Let's start with AR

The are is a unit of area, equal to 100 square metres ($10\text{ m} \times 10\text{ m}$), used for measuring land area. It was defined by older forms of the metric system, but is now outside the modern International System of Units (SI).

AR

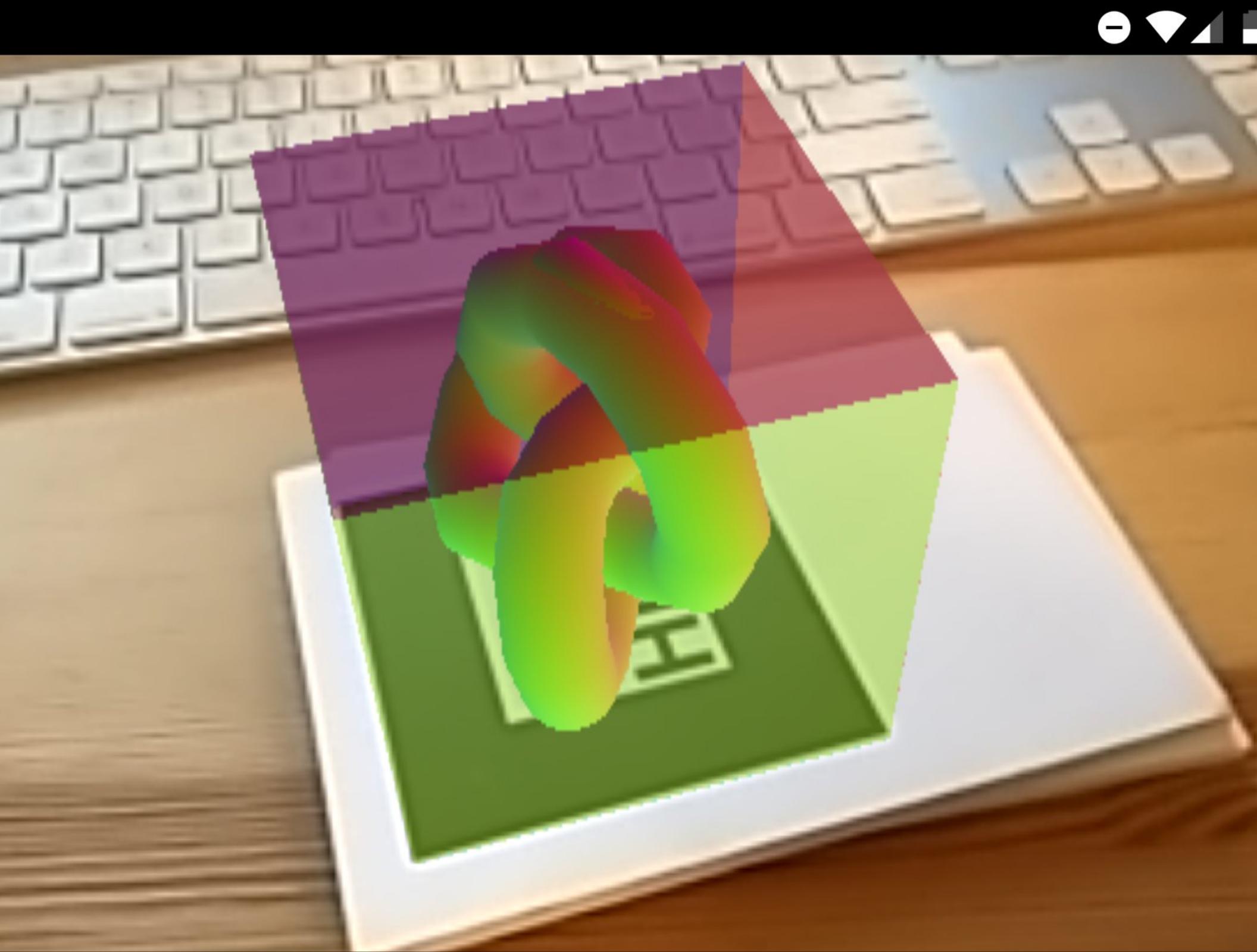
Augmented Reality

Augmented reality

From Wikipedia, the free encyclopedia

Not to be confused with [Virtual Reality](#).

A layer on top of real world



-

WIFI

4G

Marker-based AR



Hiro

ReactAR

React-Web-AR

React-Web-AR

Experimental and work in progress 🚧

React-Web-AR



Augmented Reality on web with React

- Source: Nitin Tulswani <https://github.com/nitin42/React-Web-AR>

Standing on the shoulders of giants

- React
- AR.js
- aframe
- emscripten
- asm.js
- artoolkit

```
import React, { Component } from 'react';

import { AFrameRenderer, Marker } from 'react-web-ar';

class App extends Component {
  render() {
    return (
      <AFrameRenderer>
        <Marker parameters={{ preset: "hiro" }}>
          <a-box color="blue">
            <a-animation
              attribute="rotation"
              to="360 0 0"
              dur="2000"
              easing="linear"
              repeat="indefinite"
            />
          </a-box>
        </Marker>
      </AFrameRenderer>
    )
  }
}

export default App;
```

Experimental and work in progress 



Custom markers

AR.js Marker Training

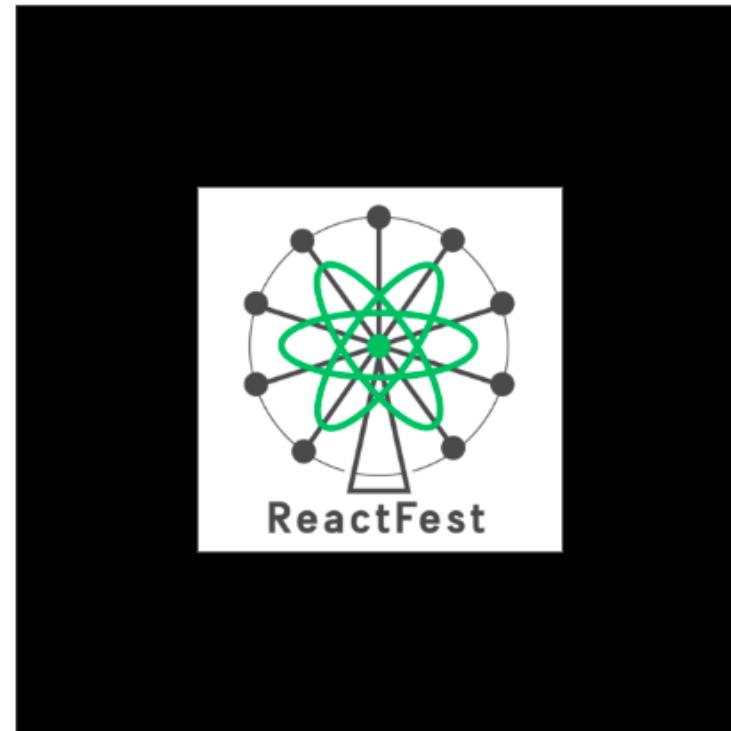
UPLOAD

DOWNLOAD

PDF ONE PER PAGE

PDF TWO PER PAGE

PDF SIX PER PAGE



Let's go further

VIRTUAL REALITY

When you get VR and everyone around
you is jealous



It's been around for quite some time

Nintendo® 3D DISPLAY GAME SYSTEM
VIRTUAL BOY



More than 20 years later

Virtual Reality

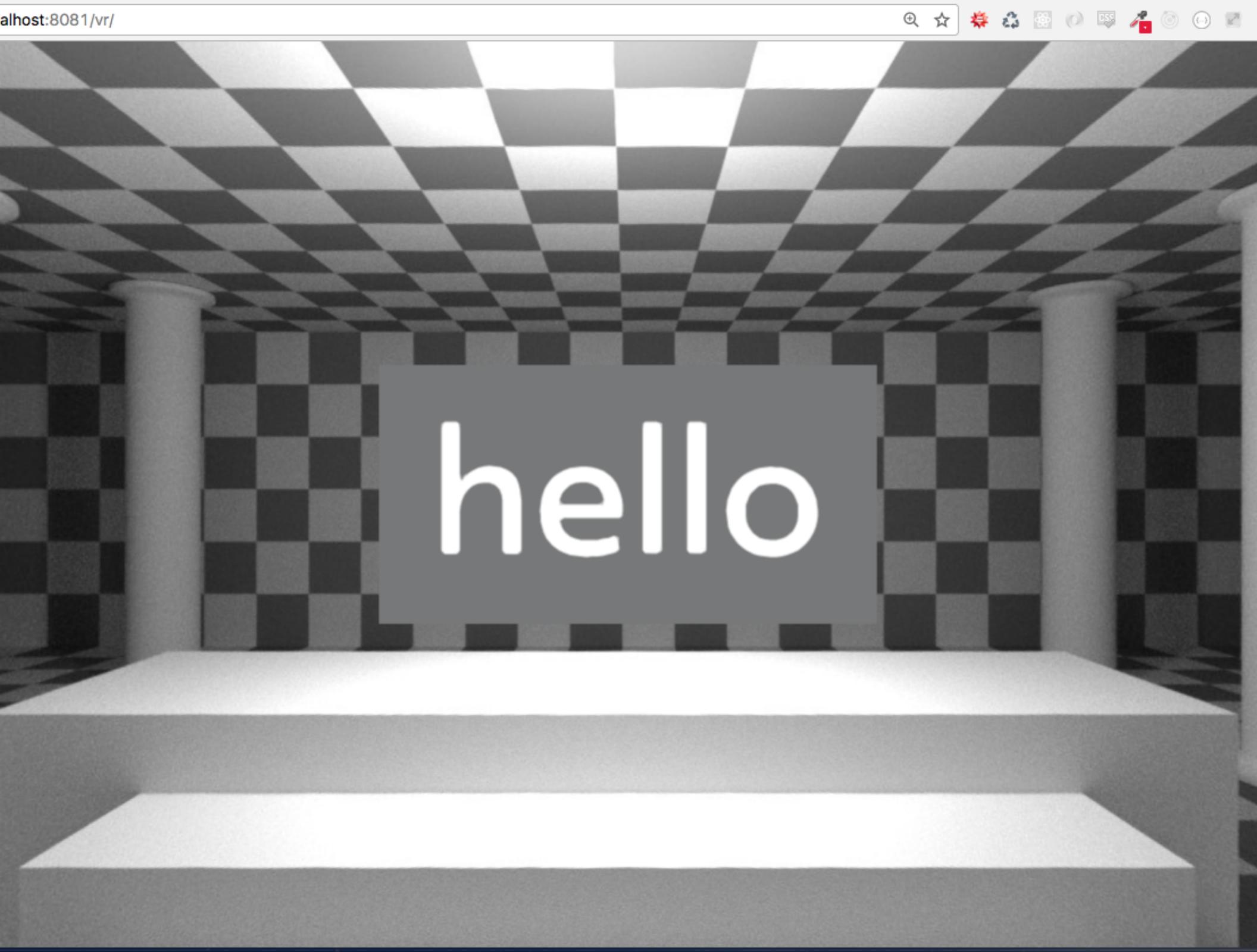
Virtual Reality on Web

Virtual Reality with React

What is ReactVR?

A framework for building VR apps using React

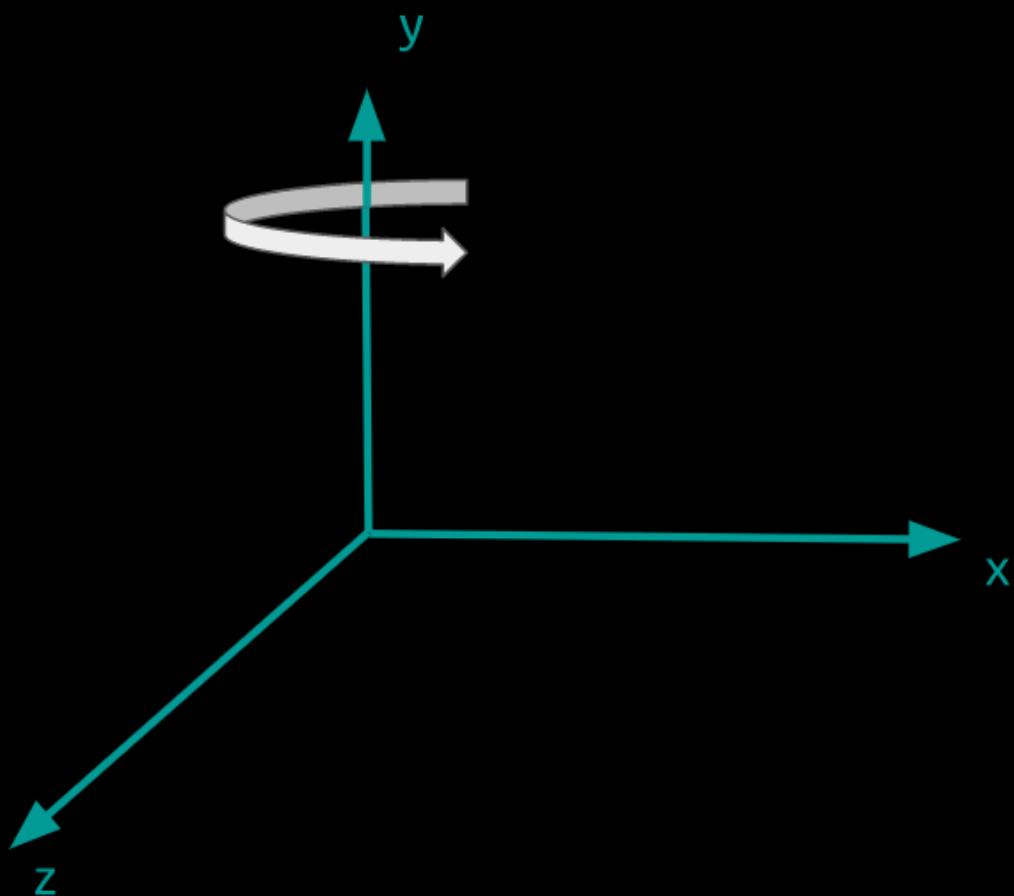
Getting started



hello

```
export default class HelloVR extends React.Component {
  render() {
    return (
      <View>
        <Pano source={asset('chess-world.jpg')} />
        <Text
          style={{{
            backgroundColor: '#777879',
            fontSize: 0.8,
            fontWeight: '400',
            layoutOrigin: [0.5, 0.5],
            paddingLeft: 0.2,
            paddingRight: 0.2,
            textAlign: 'center',
            textAlignVertical: 'center',
            transform: [{translate: [0, 0, -3]}],
          }}>
          hello
        </Text>
      </View>
    );
  }
};
```

Positioning items in 3D space



Transform properties

- Scale
- Rotate
- Translate
- Matrix

Events

Supported Input Events

- onEnter
- onExit
- onMove
- onInput
 - MouseInputEvent
 - KeyboardInputEvent
 - TouchInputEvent
 - GamepadInputEvent

Allright, that's cool but...

A young man with short, wavy hair is wearing a Samsung VR headset. He is looking upwards and to the right with a surprised or excited expression. His right hand is raised, palm facing forward, as if reaching for something. In the background, there is a bright, colorful interface with a starry sky, a large yellow and orange nebula-like shape, and a futuristic, metallic object resembling a satellite or a piece of machinery. The overall atmosphere is one of wonder and technological exploration.

Where's the VR?!

THE DEMO

What if I wanted to do both?

Hololens





Microsoft HoloLens

Choose the option that best suits your purpose.

Commercial Suite Ideal for organizations. The Commercial Suite includes the Development Edition hardware, plus a warranty and enterprise features for added security and device management*. See enterprise features	\$5,000
Development Edition A good choice for individual developers who are ready to get started. Documentation, tutorials, and community forums are standing by to support you*.	\$3,000

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AND IT'S WAITING FOR US TO EXPLORE THEM 😎

Thank you!