

REACT NATIVE

TRANSLATED FOR THE EVERYDAY WEB DEVELOPER

IN THE WORLD OF JAVASCRIPT, THERE
ARE HUNDREDS OF FRAMEWORKS
AND LIBRARIES TO CHOOSE FROM

It becomes difficult to make a
decision without hours of research
and hands-on experience.

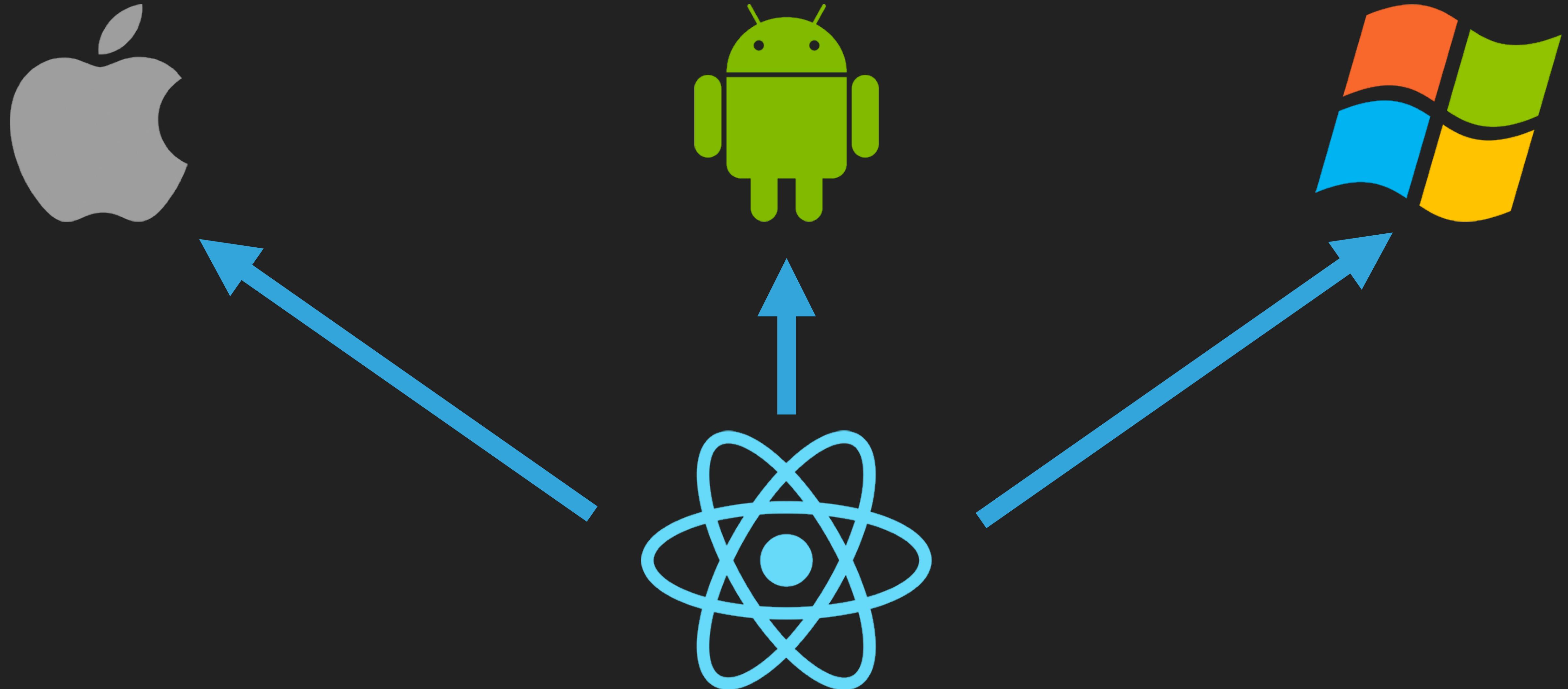
React Native is no exception.

Let's dive into some of the
nuances required to build a
production-ready React Native
app.



WHAT IS REACT NATIVE?

A JAVASCRIPT FRAMEWORK FOR DEVELOPING NATIVE APPS ACROSS MULTIPLE PLATFORMS



WHY REACT NATIVE?

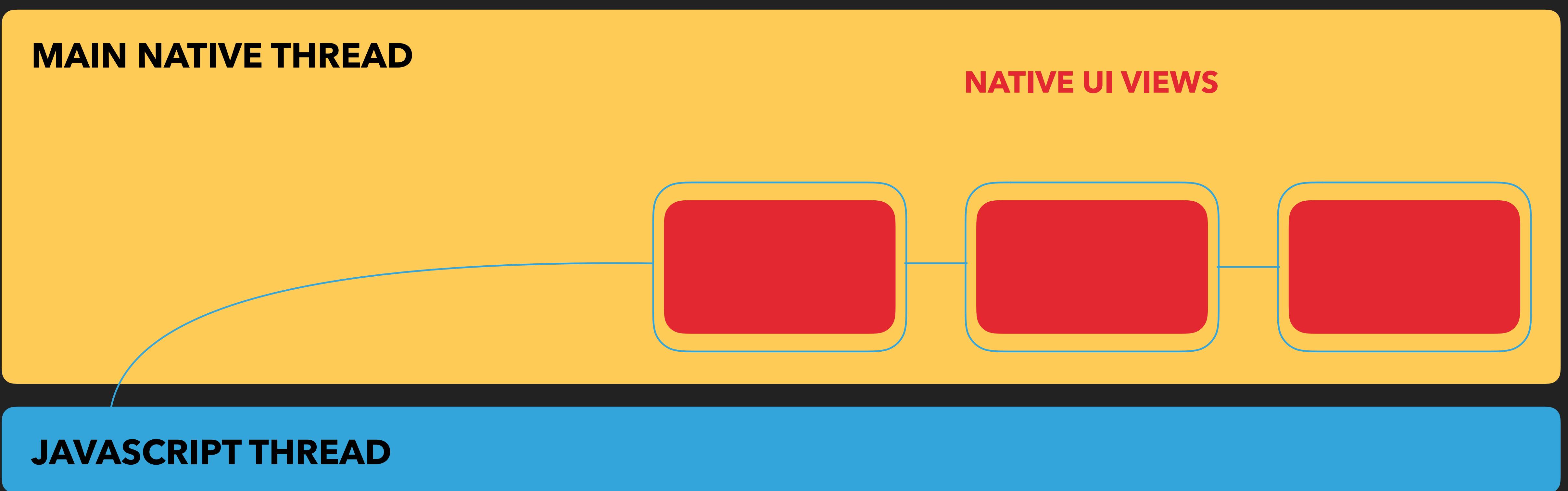
- ▶ One codebase;
multiple platforms
- ▶ JavaScript!
- ▶ Actually native

```
1 import React, { Component } from 'react';
2 import { Text, View } from 'react-native';
3
4▼ class WhyReactNativeIsSoGreat extends Component {
5▼   render() {
6▼     return (
7▼       <View>
8         <Text>
9           If you like React on the web, you'll like React Native.
10          </Text>
11        <Text>
12          You just use native components like 'View' and 'Text',
13          instead of web components like 'div' and 'span'.
14          </Text>
15        </View>
16      );
17    }
18  }
19
20
21
22
23
24
25
26
27
28
29
```

code snippet taken from: <https://facebook.github.io/react-native>

WHAT IS REACT NATIVE ACTUALLY DOING?

- ▶ You build views in React
- ▶ Components in those views represent native UI components
- ▶ Gestures and scrolling are more performant and responsive



THINGS TO KNOW BEFORE BUILDING A PRODUCTION-READY REACT NATIVE APP

1. Is it a Framework?
2. Navigation
3. Styling
4. Memory
5. Do the Native Dance

**1. IT'S A FRAMEWORK
SORTA. . .**

**YES. IT'S A
FRAMEWORK IN
THE CONTEXT OF
BUILDING
NATIVE APPS**



image credit: <http://www.memes.com/meme/774992>

REACT NATIVE FRAMEWORK DEVELOPMENT FEATURES

- ▶ ES6 syntax with Babel
- ▶ Flow for static type checking
- ▶ A built-in packager for:
 - ▶ Hot Reloading
 - ▶ CMD + R reloading
 - ▶ Builds
 - ▶ ES6 module loading
- ▶ React Native Package Manager (aka rnpm)
- ▶ A massive number of React components and APIs that represent Native components
- ▶ Chrome debugger
- ▶ Sandbox environments for macOS and Linux, (Windows as well - without iOS support)

IT'S STILL JUST
THE REACT
LIBRARY IN
THE CONTEXT
OF JAVASCRIPT
DEVELOPMENT

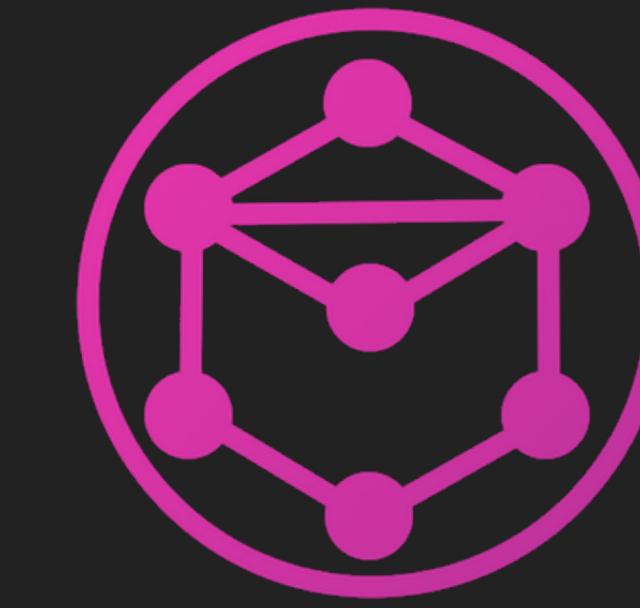


image credit: <https://memegenerator.net/instance/63084325>

PICK OUT YOUR FAVORITE LIBRARIES



Redux



socket.io

AND EVEN MORE:

js.coach/react-native

[Everything](#)[Pinned](#)[React](#)**React Native**[Webpack](#)[Browserify](#)[Babel](#)[PostCSS](#)**Sort by** Updated New Popular**Filters** iOS Android**Categories** All Contacts**react-native** updated today by facebook

A framework for building native apps using React.

41K stars 187K installs/mo [iOS](#) [Android](#)**react-native-macos** updated 11 days ago by ptmt

A framework for building native macOS apps using React.

8.1K stars 645 installs/mo [iOS](#) [Android](#)**reactotron** updated 4 months ago by reactotron

A console-based remote control for React and React Native.

4.9K stars 3.2K installs/mo [iOS](#) [Android](#)**react-native-web** updated 11 days ago by necolas

React Native for Web.

3.5K stars 5.1K installs/mo [Inline Styles](#)**react-native-elements** updated 12 days ago by react-native-comm...

React Native Elements & UI Toolkit.

3.3K stars 4.4K installs/mo**react-native-vector-icons** updated 12 days ago by oblador

Customizable Icons for React Native with support for NavBar/TabBar, image source and full styling. Choose from 3000+ bundled icons or use your own.



Coach Jess welcomes you!

This is an opinionated catalog of open source JS packages.

Libraries come and go. The ecosystem evolves rapidly, and that's a good thing. But it means you can't rely on your bookmarks. Google may not be your best friend either, since it focuses on popular results – established solutions that may not be the best fit for your project.

This website indexes new packages and is updated roughly once

2. NAVIGATION IN REACT NATIVE

```
1 import User from './User';
2
3 class Main extends Component {
4   render() {
5     const routes = [
6       { title: 'Home' },
7       { title: 'User' }
8     ];
9
10    return (
11      <Navigator
12        initialRoute={routes[0]}
13        renderScene={(route, navigator) => {
14          switch (route.title) {
15            case 'Home':
16              return (
17                <Text>HOME!</Text>
18              );
19            case 'User':
20              return <User />;
21          }
22        }}
23      />
24    );
25  }
```

```
1 class User extends Component {
2   render() {
3     const routes = [
4       { title: 'MyProfile' },
5       { title: 'MySettings' }
6     ];
7
8     return (
9       <Navigator
10         initialRoute={routes[0]}
11         renderScene={(route, navigator) => {
12           return (
13             <Text>{route.title}</Text>
14           );
15         }}
16       />
17     );
18   }
19 }
20
21 ▶ No URI routing out of the box
22
23 ▶ Use 1 or more "Navigators"
```

COMPLEX NAVIGATION

- ▶ Option 1: `NavigationExperimental`
- ▶ Option 2: Off-the-shelf library:
 - ▶ React Native Router: <https://github.com/t4t5/react-native-router>
 - ▶ React Native Router Flux: <https://github.com/aksonov/react-native-router-flux>

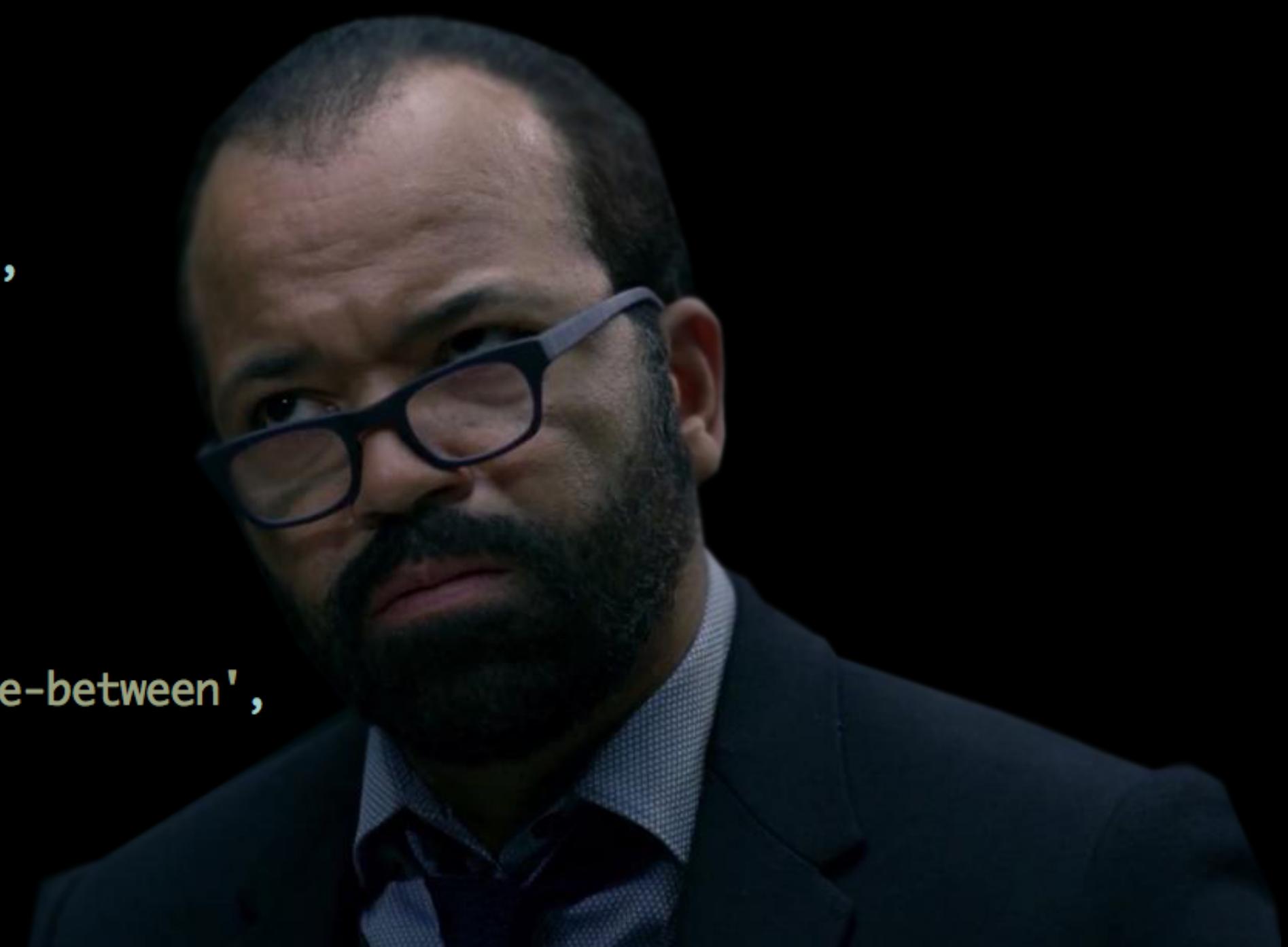
**3. ALRIGHT, BUT WHAT ABOUT
CSS? I NOTICED YOU
AVOIDED THAT WORD**

OH LOOK IT'S CSS! . . .

WHAT CSS?

- ▶ Looks like CSS. Feels like CSS.
But isn't CSS
- ▶ Camel cased properties
- ▶ Flex instead of Floats. Learn flex
here: <https://css-tricks.com/snippets/css/a-guide-to-flexbox>
- ▶ Validation with StyleSheet API

```
1 import { StyleSheet } from 'react-native';
2
3 export default StyleSheet.create({
4   rowA: {
5     flexDirection: 'row',
6     justifyContent: 'space-between',
7     backgroundColor: '#003366'
8   },
9
10  rowA_columnLeft: {
11    flex: 1,
12    paddingRight: 15
13  },
14
15  rowA_columnRight: {
16    flex: 1,
17    paddingLeft: 15
18  },
19
20  bottomMenu_wrap: {
21    paddingHorizontal: 20,
22    position: 'absolute',
23    bottom: 0,
24    left: 0,
25    right: 0,
26    height: 70,
27    flexDirection: 'row',
28    justifyContent: 'space-between',
29    alignItems: 'center'
30  }
31 });
32 }
```



```
24  
25  
26 render() {  
27   return (  
28     <View style={[styles.wrapper, styles.wrapperBg]}>  
29       <StatusBar barStyle="default" />  
30  
31     <View style={[styles.rowA, styles.containerBg]}>  
32       <View style={styles.rowA_columnLeft}>  
33         <Text>  
34           Hello  
35         </Text>  
36       </View>  
37       <View style={styles.rowB_columnRight}>  
38         <Text>  
39           World  
40         </Text>  
41       </View>  
42     </View>  
43   </View>  
44 );  
45 }  
46
```

USE MULTIPLE STYLES WITH JAVASCRIPT ARRAYS

4. MEMORY MANAGEMENT IN REACT NATIVE

- ▶ Re-Renders in React matter more than ever
- ▶ Large list iterations in the Render matter too
- ▶ Emulators and Simulators are always slower
- ▶ Dev-mode is always slower
- ▶ Use InteractionManager to execute heavy tasks when animations end
- ▶ Bonus: Facebook blog article about React Native performance tuning:
 - ▶ <https://code.facebook.com/posts/895897210527114/dive-into-react-native-performance>

**5. OKAY. I'M READY FOR THE
NATIVE DANCE NOW**

I JUST WANNA WRITE JAVASCRIPT 😞

- ▶ Android Studio
- ▶ Xcode
- ▶ TestFlight & Play Store
- ▶ AndroidManifest.xml
- ▶ info.plist



Android
Studio



ANDROID STUDIO IS AVOIDABLE

Run builds from the command line

```
$ cd path/to/ReactNative/project/android  
$ ./gradlew assembleRelease
```

Install SDKs by adding them to build.gradle

```
143 // build.gradle  
144 dependencies {  
145     compile 'com.urbanairship.android:urbanairship-sdk:8.0.+'  
146     compile 'com.google.android.gms:play-services-location:9.4.0'  
147     compile 'com.facebook.fresco:animated-gif:0.11.0'  
148     compile "com.facebook.react:react-native:+"  
149 }
```

XCODE IS A VITAL PART OF IOS DEVELOPMENT

- ▶ Builds
- ▶ Uploading builds to iTunes Connect
- ▶ Installing SDKs (except for rnpm & cocoapods)
- ▶ Applying Provisioning Profiles
 - ▶ Read more about Provisioning Profiles here: <http://apple.co/2hkLG2d>
- ▶ and more

ANDROIDMANIFEST.XML

```
1 <manifest xmlns:android="http://schemas.android.com/apk/res/android"
2   package="com.beepyonative"
3   android:versionCode="1"
4   android:versionName="1.0">
5
6
7   <uses-permission android:name="android.permission.INTERNET" />
8   <uses-permission android:name="android.permission.ACCESS_NETWORK_STATE" />
9   <uses-permission android:name="android.permission.BLUETOOTH" />
10  <uses-permission android:name="android.permission.VIBRATE" />
11
12  <uses-permission android:name="android.permission.SYSTEM_ALERT_WINDOW"/>
13  <uses-permission android:name="android.permission.CAMERA"/>
14  <uses-permission android:name="android.permission.WRITE_EXTERNAL_STORAGE"/>
15  <uses-permission android:name="android.permission.ACCESS_FINE_LOCATION"/>
16
```

INFO.plist

```
23 <key>CFBundleIdentifier</key>
24 <string>com.beepyo.beepyo</string>
25 <key>CFBundlePackageType</key>
26 <string>APPL</string>
27 <key>CFBundleShortVersionString</key>
28 <string>1.3.11</string>
29 <key>CFBundleSignature</key>
30 <string>????</string>
31 <key>CFBundleVersion</key>
32 <string>8</string>
33 <key>LSRequiresiPhoneOS</key>
34 <true/>
35 <key>NSAppTransportSecurity</key>
36 <dict>
37   <key>NSExceptionDomains</key>
38   <dict>
39     <key>dev.beepyo.com</key>
40     <dict>
41       <key>NSTemporaryExceptionAllowsInsecureHTTPLoads</key>
42       <true/>
43     </dict>
44   </dict>
45 </dict>
46 <key>NSCameraUsageDescription</key>
47 <string>Used to take photos of items you're selling.</string>
48 <key>NSPhotoLibraryUsageDescription</key>
49 <string>Used to upload photos of items you're selling.</string>
```

QUESTIONS?

RICHARD GIRGES -

RICHARDGIRGES@GMAIL.COM

FIND THIS DECK HERE:

[GITHUB.COM/RICHARDGIRGES/TECHTALKS](https://github.com/RICHARDGIRGES/TECHTALKS)



www.beepyo.com

