



React Native: How we use JavaScript for Rapid Native Mobile Development

A retrospective on React

WHO AM I ?



Mike Ebinum

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CTO
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Mike is a techie, hacker,
lover of well made
things

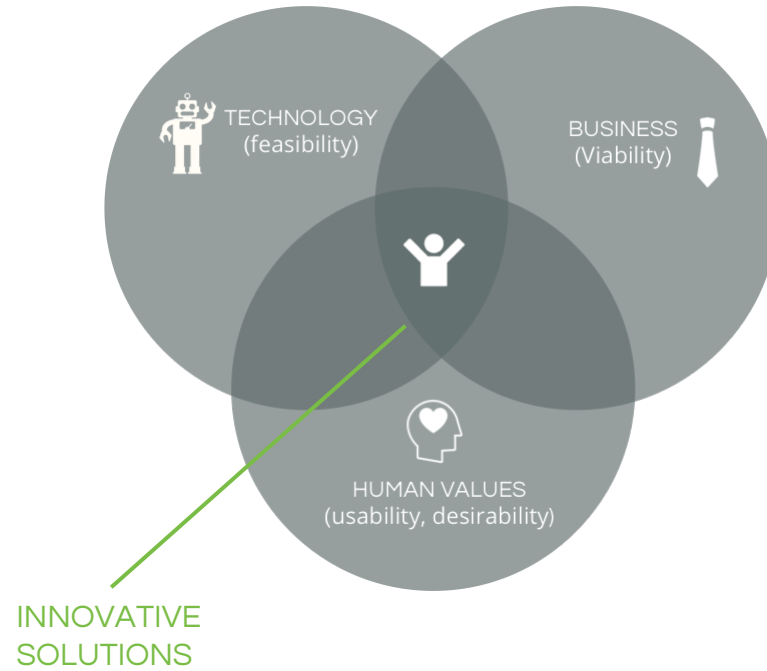


ABOUT SEED DIGITAL

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We **create** winning products that get deliver value and grow.

ABOUT SEED DIGITAL



OUR SERVICES



DIGITAL STRATEGY



EXPERIENCE DESIGN



DEVELOPMENT



ENTERPRISE SERVICES



DIGITAL MARKETING



SUPPORT

WHAT WE'LL COVER

- What is React Native and how it differs from React JS
- What is possible using React Native - some sample apps
- How to think in React and Structure your components
- Getting started with App development in React native
- Bridging the gap - how to access native features from Javascript
- What's coming up in the future for React Native



Cross Platform Applications

SO WHAT'S CROSS PLATFORM?



“An application that reaches your customers through whatever device they have in front of them, wherever they are: while using a Windows PC at work, an Apple iPad at the local coffee shop or an Android phone on the go.” - Paul Fischer

CROSS PLATFORM APP DEVELOPMENT



Sencha



Xamarin



APACHE

CORDOVA™



Write once run anywhere

- Sencha Touch
- Phonegap

Write common logic once, define custom ui's/api's for target systems

- Appcelerator
- Xamarin

BENEFITS OF CROSS PLATFORM APP DEVELOPMENT

- Code Reuse
- Greater Reach
- Uniform look and feel
- Use of known technologies
- Reduced development costs

WROTE CODE ONCE



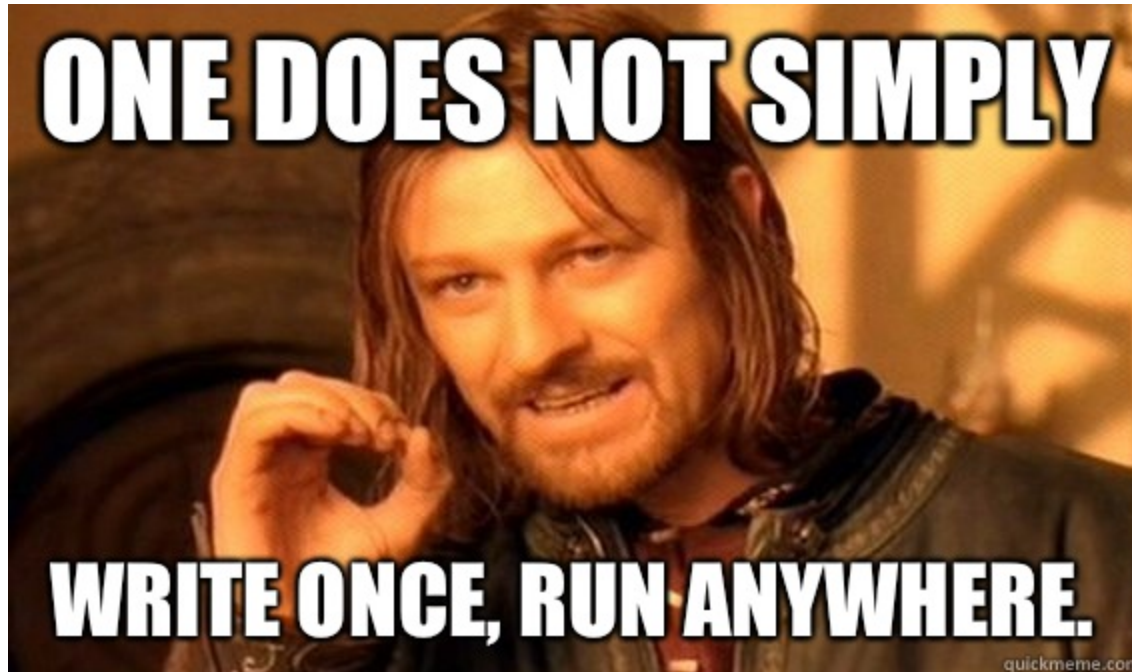
IT DEPLOYS EVERYWHERE!

memegenerator.net

DIFFICULTIES WITH CROSS PLATFORM DEVELOPMENT

- Testing across multiple platforms and devices
- Lowest common denominator feature set
- Different UX Conventions
- Performance
- Lack of flexibility

THE PROMISE IS OK



Bottom line: It's not that simple



Enter React

React Native?

It is not write once run anywhere

It is learn once write anywhere

We should expect the Android version in about 2 week*

```
var Todo = React.createClass({  
  render: function() {  
    return (  
      <View style={styles.container}>  
        <Text>Hello World!</Text>  
      </View>  
    );  
  }  
});
```


React is Declarative

Moving from imperative to declarative programming is shifting from describing how to do something to describing what you want done.

```
//declarative
var garbage = fruits.filter(function(f){
    return f.isPeeled;
});

//imperative
var getGarbage = function (someFruits) {
var garbage = [];
for (var f of someFruits) {
    if (f.isPeeled) {
        garbage.push(f);
    }
}
return garbage;
};
```

React is Declarative

Declarative programming: a style of building the structure and elements of computer programs, that expresses the logic of a computation without describing its control flow. - Wikipedia

Declarative

- Saying what you want

Imperative

- Saying how to achieve it

Declarative

A tower of 3 blocks



Imperative

1. Put down block A
2. Put down block B on A
3. Put down block C on B

React is Declarative

It's the reason we use HTML vs JavaScript for Web UI

```
1 <html>
2   <body>
3     <div class="box1">
4       Text Body one
5     </div>
6     <div class="box2">
7       Text Body Two
8     </div>
9     <div class="box3">
10      Text Body Three
11    </div>
12  </body>
13 </html>
```

```
var html = document.createElement('html');
var body = document.createElement('body');

var div1 = document.createElement('div');
div1.innerText = "Text Body one";
var div2 = document.createElement('div');
div2.innerText = "Text Body two";
var div3 = document.createElement('div');
div3.innerText = "Text Body three";

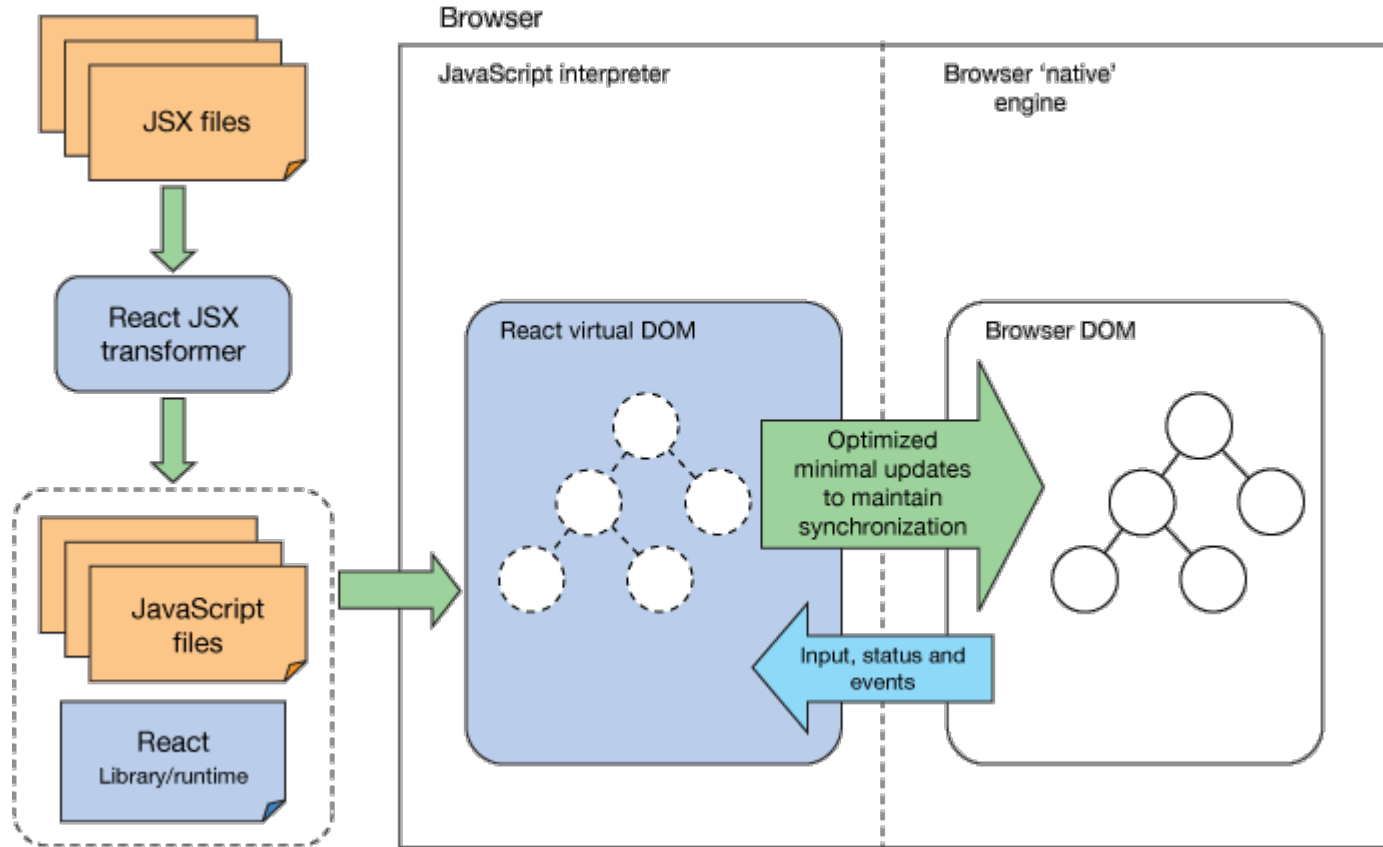
html.appendChild(body);
body.appendChild(div1);
body.appendChild(div2);
body.appendChild(div3);
```

React is Declarative

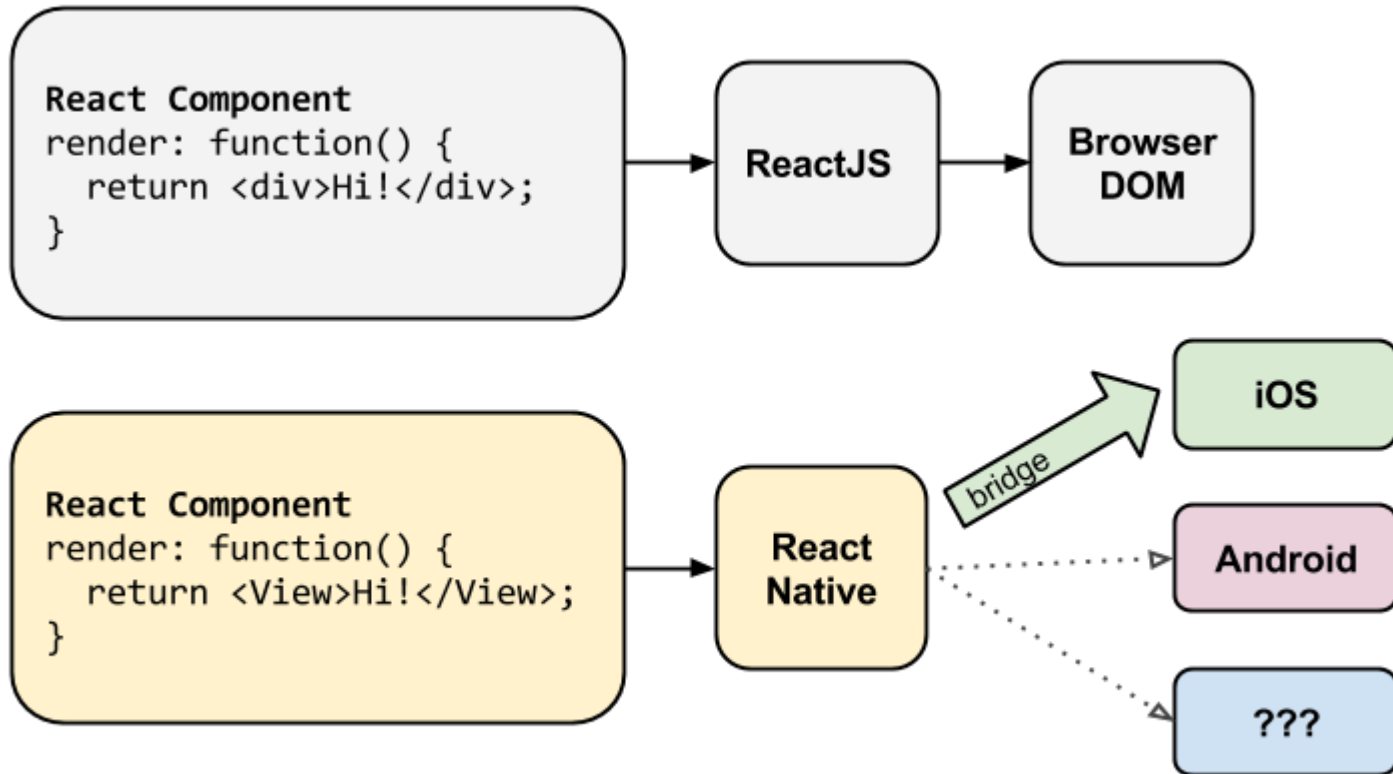
Reasons we like Declarative UIs

- Predictable
- Reusable
- Without side effects
- 'stateless'

React JS



React Native is Declarative UI over Objective C



WHAT I LIKED WORKING WITH REACT NATIVE

- It is JavaScript, a lot more accessible to everyone
 - It's open source
 - Layout with React Native is x1000K better than using AutoLayout (that being said I didn't use AutoLayout a lot)
 - Flex Box Rules
 - Component Structure/Architecture is awesome if you actually do it right
 - You are not restricted to xCode (No drag and drop code)
 - It is learn once write anywhere
 - You can use a lot of Node modules
 - The community was very helpful and responsive
 - Plugin pretty good if you can get it to work
- We should expect the Android version in around 2 weeks

WHAT I DIDN'T LIKE AS MUCH

- Getting used to the React Way can be problematic
- Documentation issues but it's still in 0.14
- Dealing with xCode
- Component Structure/Architecture can be a pain if you actually do it right
- Plugins where quite spare and took a little bit of a curve but then we were using 0.4.4
- No nice way to package swift plugins in xCode*
- Tooling could be improved

SOLUTION STRUCTURE

```
-- src
|-- iOS //xCode generated iOS folder
|-- {project-name}.xcodeproj
    |-- {project-name}.xcworkspace
    |-- app //contains all our react code
        |-- actions
        |-- animations
        |-- components
        |-- stores
        |-- styles
    |-- package.json
    |-- Podfile
    |-- Podfile.lock
```

Tools

React Native Hot Loader (comes with npm install)

Live reload your code

- Write code, get almost instantaneous feedback on it's success
- Lowers developer iteration time
- Spend more time writing code rather than waiting for it to compile

React Packager

Bundles your npm modules with your code

- Lodash
- Flux - **Alt.js**
- ImmutableJS, I preferred [seamless-immutable](#) because
- eslint your code will save you hassles and prevent you from making mistakes
- [ES6](#) syntax via [BabelJs](#)
- IDE - Atom with these plugins
 - language-babel
 - linter-eslint
 - emmet, react (JSX)
- [CocoaPods](#) for iOS dependencies (equivalent of npm for iOS)

React Debugger

Debug and Inspect your code with chrome dev tools

[Super cool inspector in 0.8](#)

Who is using it



It was supposed to take 18 months. But with React Native, Facebook built its iOS **Ads Manager** app in 5 months, and then ported it to Android in just 3 more months.



Spero for
Cancer on the
App Store on
iTunes



Learn to code at your convenience



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0 - Native app in 2 months

Getting Started with React

- Facebook's React Tutorial - <https://facebook.github.io/react/docs/tutorial.html> –
- Learn React, Flux, and Flow: Part I - @colinmegill - <https://www.youtube.com/watch?v=Pd6Ub7Ju2RM>
- React for stupid people - @andrewray - <http://blog.andrewray.me/reactjs-for-stupid-people>
- Flux for stupid people - @andrewray - <http://blog.andrewray.me/flux-for-stupid-people>
- ReGmail- Gmail Written in React - <https://github.com/markbrown4/gmail-react>

Sounds great where do I start?

- Pull the repository - <http://facebook.github.io/react-native/>
- Read through the examples
- Read through the documentation - <http://facebook.github.io/react-native/docs/>
- Install the CLI - <http://facebook.github.io/react-native/docs/getting-started.html>
- start coding!

Some links to help

- [React Native](#) - ton of links and sample apps
- [Going native with React, an introduction](#)
- [Custom Components in Swift](#)
- [Building components with Objective C](#)

App Hub

Continuous Deployment to the app store

A

My App

Builds

Usage

Settings

Docs

Dan Schlosser

Upload a Build

All Builds

V 1.0.1

V 1.0.0

Debug

Build #4

Uploaded just now

Click to add a description.

0%

Targeted Users

2

Current Users

1

iOS Version

V 1.0.1

Live

Build #3

Uploaded two weeks ago

Bug fixes.

70%

Targeted Users

3.2K

Current Users

2

iOS Versions

V 1.0.1

V 1.0.0

Live

Build #2

Uploaded a month ago

Added a new feature.

30%

Targeted Users

1.3K

Current Users

2

iOS Versions

V 1.0.1

V 1.0.0

Build #1

Uploaded two months ago

Initial build.

0

Targeted

112

Current

2

iOS

V 1.0.1

V 1.0.0

Join us in creating octo sniffle aka

- <https://github.com/seedtech/octo-sniffle/>
- Sound board synthesizer

Ping me if interested

Not **keezy**

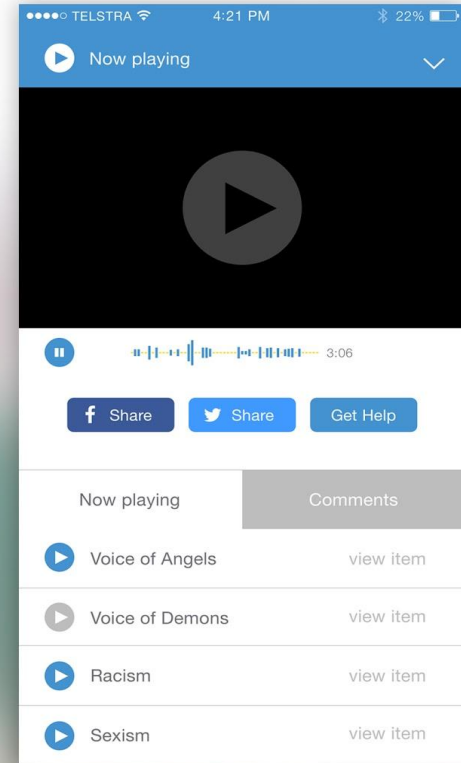
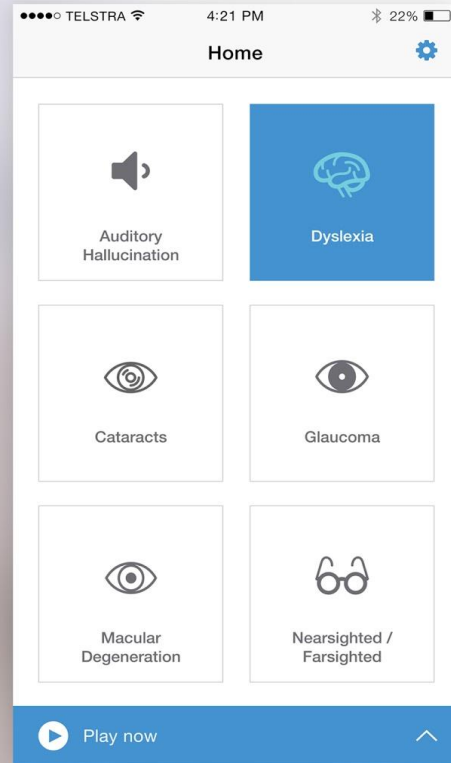
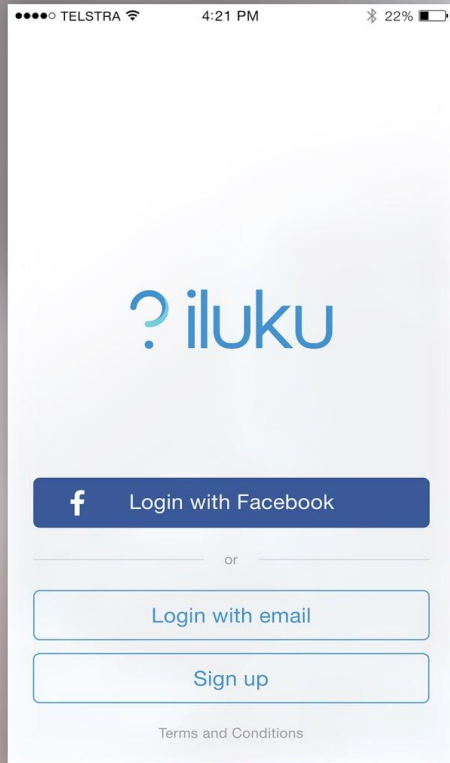
A toy for musicians like you.



Checkout iluku.io



? iluku



THANK YOU

Questions?



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Need an app built or got a question contact me

mike@seeddigital.co

Got a question tweet [@mikeebinum](#)