SAM OLLASON

Seccl

React Native and native iOS: my experience

OVERVIEW

Refresher on React Native:

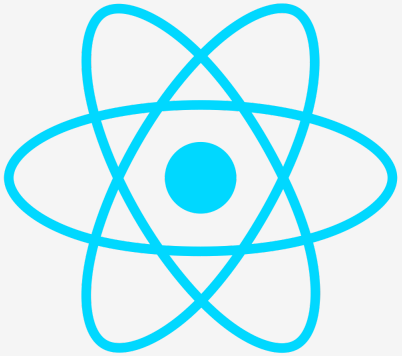
What it is and how it works

My Experiences:

Native iOS v React Native v React for the web

React Native - an overview

React Native



React Native

- React: JavaScript library for building UIs
- React Native: JavaScript library for building cross-platform mobile apps
- Write once, run anywhere (almost)

REACT NATIVE

How it works - rendering elements

- Same approach as React: UI components

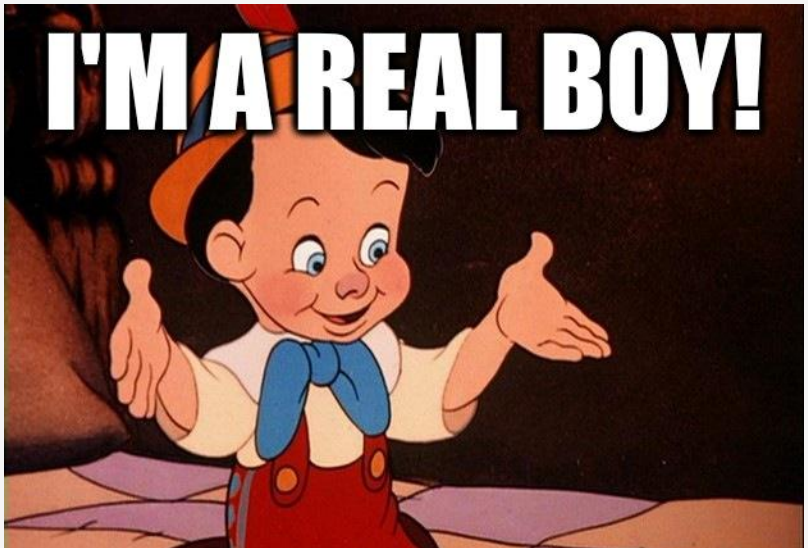
⋆ **Takeaway:** Same code (almost) as React for web projects

REACT NATIVE

A real native app

- Generates actual native UI modules

⋆ **Takeaway:** User doesn't know its not a true native app!



COMPARISON AREAS

- Language
- Tooling and Infrastructure
- UI Styling
- Connecting UI elements to logic
- Project Roadmap
- Deploying
- Bugs and support

Language

LANGUAGE

React Native

- Writing in React ... for native apps
- 'Almost' identical, so shallow learning curve
- Some React Native pre-made components easier to work with than React
- JavaScript under the surface

LANGUAGE

Native iOS App

- Swift (or Objective-C...)
- Type checking, type inference
- Easy to learn to start with, but then some challenges

LANGUAGE

Conclusion

- Swift > React Native (JavaScript)
- Swift > React for web (JavaScript)
- React Native > React for web
- ⭑ **Swift has a best developer experience**

Tooling and Infrastructure

TOOLING

Native iOS

- IDE: Xcode, Emulators: Xcode
- Swift for iOS apps compiled
- Slow and frustrating for quick iterations

TOOLING

React Native

- IDE: WebStorm, Emulators: Xcode
- Hot reloading

TOOLING

Conclusion

- Same emulator experience
- Hot reloading beats compilation

★ React native > Native iOS

★ React native same as React for the web

UI Styling

UI STYLING

Native iOS

- Xcode Interface Builder
- Initially enjoyed the fine-grained control
- In the end found cluttered and frustrating

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- Home View Controller Scene
- Timer View Controller Scene
- Photo View Controller Scene
  - Photo View Controller
    - View
      - Safe Area
      - Home
      - Image View
  - First Responder
  - Exit
  - Unwind segue to "unwindToHome...
- T Scene
- Navigation Controller Scene

View as: iPhone 8 (wC hR)

```swift
//
//  TimerViewController.swift
//  pomodoroPlus
//
//  Created by Samuel Ollason on 23/11/2018.
//  Copyright © 2018 Samuel Ollason. All rights reserved.
//

import UIKit

class TimerViewController: UIViewController {

    // In hours
    var selectedTime = 00
    var time         = 999
    var seconds      = 60 //This variable will hold a starting value of seconds. It could be any amount above 0.

    var timer          = Timer()
    var isTimerRunning = false //This will be used to make sure only one timer is created at a time.
    var pauseActive    = false

    @IBOutlet weak var timeRemaningLabel: UILabel!
    @IBOutlet weak var pauseButton: UIButton!
    @IBOutlet weak var resumeButton: UIButton!
    @IBOutlet weak var resetButton: UIButton!
    @IBOutlet weak var pictureButton: UIButton!

    @IBAction func pauseButtonTapped(_ sender: Any) {
        if pauseButton.isEnabled {
            // If here then user wants to pause timer from running
            // so we stop timer and mark that the user has paused
            // countdown
            timer.invalidate()

            resumeButton.isEnabled = true;
```

yout-With-ScrollView-and-TextView > A...w > ... > ... > V...e > V...r > V... > S...w > View > Text View

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trailing = Text View.trailing...
Text View.top = top + 20
Text View.leading = leading...
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ttom = View.bottom + 419
ew.leading = leading
iling = View.trailing
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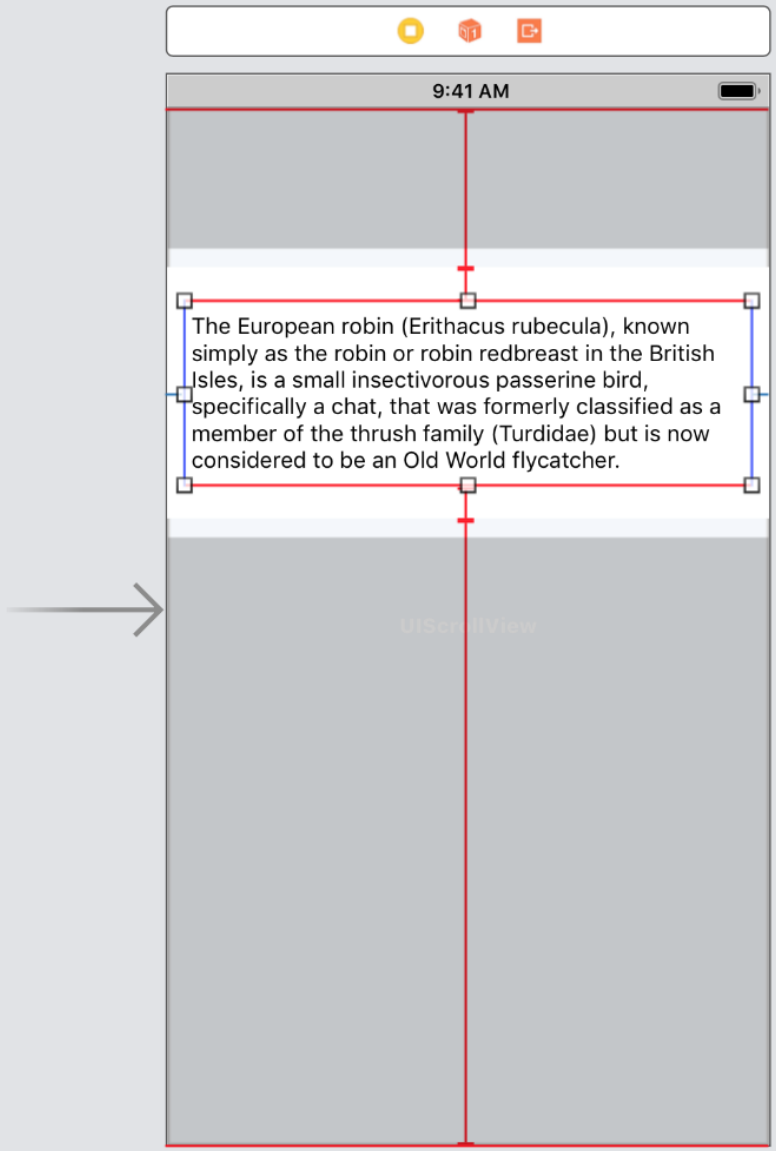

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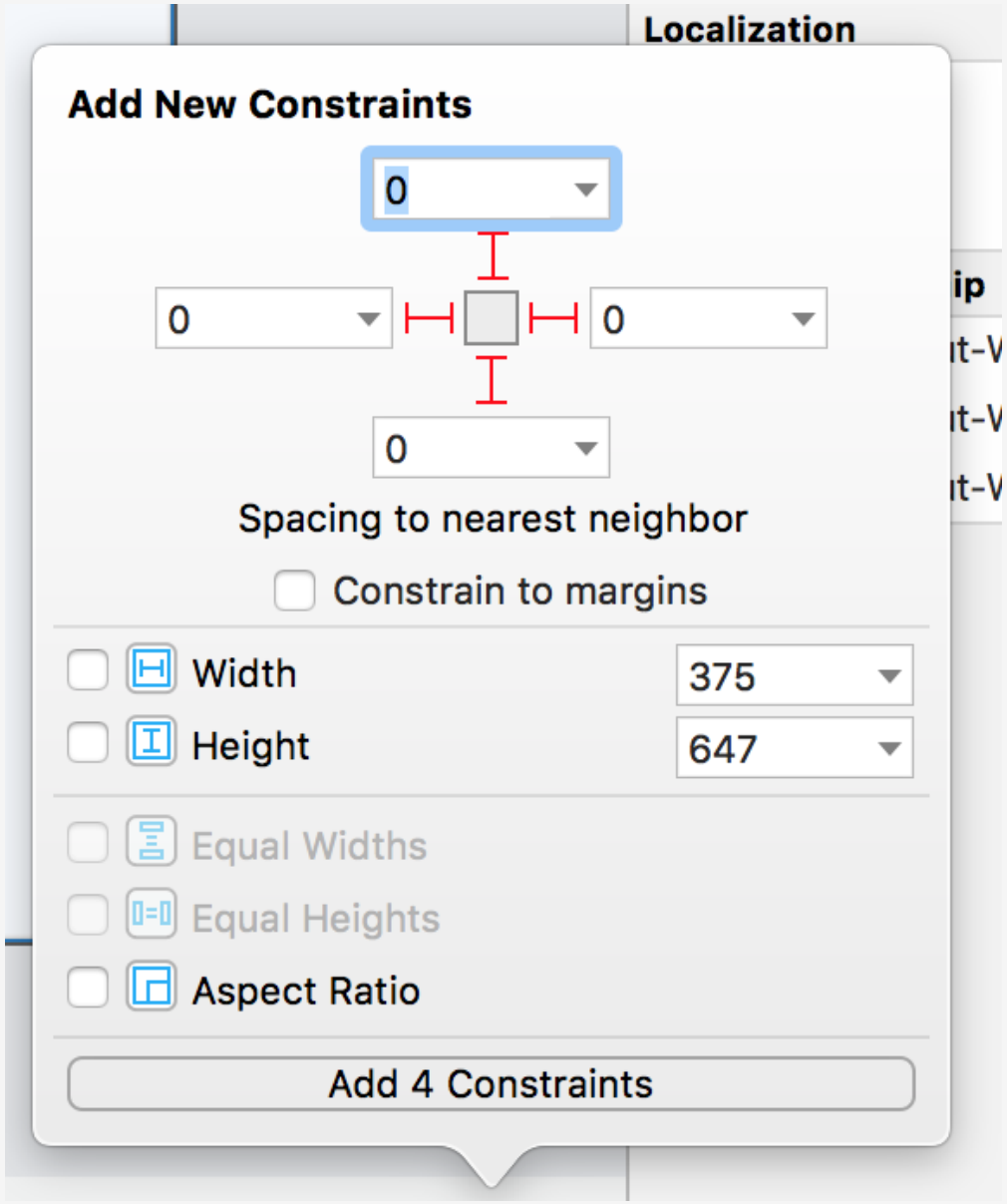
Localization
Add New Constraints
0
0
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0
Spacing to nearest neighbor
Constrain to margins
Width
375
Height
647
Equal Widths
Equal Heights
Aspect Ratio
Add 4 Constraints

UI STYLING

React Native

- Programmatically style w/ FlexBox + CSS
- Very similar to React
- Handles resizing automatically

```
return(
    <ScrollView>
        <View style={styles.weekContainer}>
            {forecast.map((point) => {
                const day = getDay(point.dt_txt);
                const uri = `http://openweathermap.org/img/w/${point.weather[0].icon}.png`;

                return <View style={styles.weekdayContainer} key={point.dt_txt}>
                    <View style={styles.dateTime}>
                        <Text style={{fontSize: 15, color: textColour}}>{day}</Text>
                    </View>
                    <View style={styles.weather}>
                        <Image
                            source={{uri: uri}}
                            style={styles.icon}
                        />
                    </View>

                    <View style={styles.tempMax}>
                        <Text style={{fontSize: 15, fontWeight: 'bold', color: textColour}}>{point.main.temp_max}</Text>
                    </View>

                    <View style={styles.tempMin}>
                        <Text style={{fontSize: 15, color: textColour}}>{point.main.temp_min}</Text>
                    </View>
                </View>
            })}
        </View>
    </ScrollView>
)


t styles = StyleSheet.create({
weekContainer: {
    flex: 1,
    justifyContent: 'center',
},

weekdayContainer: {
    flexDirection: 'row',
    alignItems: 'center',
    paddingLeft: 30,
    paddingRight: 30,
    padding: 10,
    margin: 1,
},
dateTime: {
    flex: 2,
```

UI STYLING

Conclusion

- React Native the same as React for the web
- React Native > Native iOS
- ★ React native the easiest

UI and logic

UI AND LOGIC

Native iOS

- MVC paradigm
- View: storyboard area
- Controller: Swift source file
- Make sure appropriate files open/closed
- Make sure 'connections' deleted properly

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UI AND LOGIC

React Native

- Markup and logic all in one file
- Markup with JSX
- JSX: *"combining markup and JavaScript"*

ctacle-boilerplate 〉 presentation 〉 index.js

Add Configuration...

index.js

```
import createTheme from 'spectacle/lib/themes/default';

const images = {
    formidagon: require('../assets/formidable-logo.svg'),
    goodWork: require('../assets/good-work.gif'),
    bridge: require('../assets/bridge.png'),
    XcodeSShot: require('../assets/XcodeSShot.png'),
    WebStormSShot: require('../assets/WebStormSShot.png'),
    pino: require('../assets/pino.jpg'),
    InterfaceBuilderStyling1: require('../assets/InterfaceBuilderStyling1.png'),
    InterfaceBuilderStyling2: require('../assets/InterfaceBuilderStyling2.png'),
    FlexBoxStyling: require('../assets/FlexboxStyling.png'),
    RNLogo: require('../assets/react-native-logo.png'),
    sponsor1: require('../assets/sponsor1.png'),
    sponsor2: require('../assets/sponsor2.png'),
    jsxExample: require('../assets/jsxExample.png'),


    firstSlide: require('../assets/firstSlide.png'),
}

// Require CSS
require('normalize.css');

const theme = createTheme(
    args: {
        primary: 'whitesmoke',
        secondary: '#1F2022',
        tertiary: '#03A9FC',
        quaternary: '#CECECE'
    },
    {
        primary: 'Montserrat',
        secondary: 'Helvetica'
    }
);

export default class Presentation extends React.Component {
    render() {
        return (
            <Deck
                transition={['zoom', 'slide']}
                transitionDuration={500}
                theme={theme}
            >

                <Slide
                    transition={['slide']}
                    bgImage={images.firstSlide}
                    // bgDarken={0.75}
                >
```

images

Version Control Terminal

s: WebStorm is ready to update. (25 minutes ago)

45:53 LF UTF-8 4 spaces

UI AND LOGIC

Conclusion

- ★ React Native > native iOS
- ★ React Native === React for the web

Project Roadmap

PROJECT ROADMAP

React Native

- Two choices: Expo CLI vs 'React Native CLI'
- Not always clear at which to pick
- Lots of community approaches to projects

PROJECT ROADMAP

Native iOS

- Clearly linear learning path
- *The* Apple way of doing things

PROJECT ROADMAP

Conclusion

- ★ Preferred guided nature of native iOS

Deploying

React Native: React Native CLI

- Open Xcode project - then its the same as a native release

React Native: Expo CLI

Deployment

- Bundle, upload with Apple desktop tool
- App is agnostic at and beyond this point

To publish to others with Expo app

- Over the air updates - share demos with others

DEPLOYING

Conclusion

- React Native CLI === Native iOS
- Expo CLI > Native iOS (from what I've read)

Bugs and support

BUGS AND SUPPORT

React Native

- Lots of moving parts
- Breaking changes between versions

BUGS AND SUPPORT

React

- Easier than React Native to find solutions as bigger community
- Still lots of moving parts

BUGS AND SUPPORT

Native iOS

- Easy to find solution
- Often clear if it was best practice or or not

BUGS AND SUPPORT

Conclusion

- ★ Native iOS > React for the web
- ★ React for the web > React Native

OVERALL

Language:	Native iOS (Swift)
Tooling and Infrastructure:	React Native
UI Styling:	React Native
UI connecting to Logic:	React Native
Project Roadmap:	Native iOS
Deploying:	React Native
Support:	Native iOS

RESOURCES

- Article by Sam Ollason on Medium
- GitHub
- Slides
- Created with Spectacle ... using React!!!

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Cognisess

Recognise talent. Enable potential.

aws

SPACE IN BATH

storm

BRISTOL+BATH CREATIVE R+D

ALTRAN

twiDAQ

onesub

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mud

Rocketmakers

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