

Native vs Cross Platform

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About Dave Koziol

- Long time Apple Developer (21 WWDCs)
- Organizer Ann Arbor CocoaHeads & Google Developer Group Ann Arbor
- President at Arbormoon Software Inc.
- Multiple Top 5 apps in the iTunes App Store, and multiple apps featured by Google



About Ronald Daugherty

- Software Developer - 3 years
 - Android
 - Java
 - Kotlin
 - Flutter
 - Dart
- Tech Hobbyist
- Twitter: @ronjdaugherty29
- Father of Two
- Basketball
- Movie Afficionado
- TVing
- Youtube Rabbit Holes



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Audience Background

- Prior coding experience?
- Current Students?
- IT Industry?
- Others?



Overview

- Native
- Flutter
- Xamarin
- React Native
- Titanium SDK
- Cordova



Landscape

	Compiled	Interpreted
MVC MVVM	Native Xamarin	Titanium SDK Cordova
Reative	Flutter	React Native



Native

- Building apps using the platform vendors primary tools.
- Supported by Apple, Google



Native Apple Facts

- Language: Swift or Objective-C
- IDE: Xcode
- Supported Platforms: iOS, tvOS, watchOS



Native Android Facts

- Language: Kotlin or Java
- IDE: Android Studio
- Platforms: Android, Android Things, Android Auto, Android TV, WearOS



Native Pros & Cons

- Supported by platform vendors
- Immediate Access to new platform features
- Always native look and feel
- Compiled
- Often need two different codebases
- Need to learn iOS & Android or have 2+ developers



Flutter

- Flutter is Google's mobile app SDK for crafting high-quality native interfaces on iOS and Android in record time. Flutter works with existing code, is used by developers and organizations around the world, and is free and open source.
- Supported by Google



Flutter Facts

- Language: Dart
- IDE: Android Studio, Visual Studio Code
- Supported Platforms: Android, iOS, Google Fuchsia



Flutter Pros & Cons

- Supported by Google
- Compiled
- Write once
- Immature
- Look & Feel controlled by Google
- When Apple changes UI, your app may look old
- Learn Dart
- Debug twice



Xamarin

- “Deliver native iOS, Android, and Windows apps using existing skills, teams, and code.”
- Supported by Microsoft



Xamarin Facts

- Language: C#
- IDE: Visual Studio 2017 and Visual Studio for Mac
- Supported Platforms: iOS, Android, Windows Phone, Windows 10 Mobile, Windows



Xamarin Pros & Cons

- Supported by Microsoft
- Familiar tools, language & framework
- Compiled
- Write once
- UI design tools are lacking
- Debug twice
- Some lag in support of new platform versions
- Lowest common denominator UI
- Not Free



React Native

- “React Native lets you build mobile apps using only JavaScript. It uses the same design as React, letting you compose a rich mobile UI from declarative components.”
- Supported by Facebook
 - <https://medium.com/airbnb-engineering/react-native-at-airbnb-f95aa460be1c>



React Native Facts

- Language: JavaScript
- IDE: None, Favorite Text Editor
- Supported Platforms: iOS, Android



Reactive Native Pros & Cons

- Supported by Facebook
- Write once
- Supported by Facebook
- Interpreted
- Debug twice
- Some lag in support of new platform versions
- Lowest common denominator UI



Titanium SDK

- “The Titanium SDK provides community developers with an unmatched ability to create quality native, mobile web or rich hybrid applications to all platforms from a single code base, using JavaScript”
- Supported by Appcelerator



Titanium SDK Facts

- Language: JavaScript
- IDE: Appcelerator Studio
- Supported Platforms: iOS, Android



Titanium SDK

Pros & Cons

- Familiar language
- Write once
- Interpreted
- IDE is lacking
- Debug twice
- Lag in support of new platform versions
- Lowest common denominator UI
- Not Free



Cordova

- “Mobile apps with HTML, CSS & JS
- Target multiple platforms with one code base
- Free and open source”
- Supported by Apache



Cordova Facts

- Language: JavaScript
- IDE: None, Favorite Text Editor
- Supported Platforms: iOS, Android, Windows, macOS



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Cordova Pros & Cons

- Familiar language
- Write once
- Interpreted
- Debug twice
- Oldest
- Lag in support of new platform versions
- Lowest common denominator UI



Resources: Followup Sessions

- ~~Intro to Coding for Android – 6/19 8pm, Grand Circus~~
- ~~Designing for Mobile – 6/20 2pm, 20 Witherell~~
- Surviving and Thriving in Tech (When You're Not a Techie) – 6/21 1pm, Aloft Detroit



Resources:

Detroit Community

- Motor City CocoaHeads
 - 3rd Thursday of every month, food 6:30, Talk 7pm
 - <https://www.meetup.com/MotorCityCocoaHeads/>
- Google Developer Group Detroit
 - Web: <https://www.meetup.com/Detroit-Google-Developers-Group/>
- Mobile Monday
 - Groups in Ann Arbor and Detroit
 - Web: <http://mobilemondaysmichigan.org>



Resources:

Ann Arbor Community

- Motor City CocoaHeads
 - 3rd Thursday of every month, food 6:30, Talk 7pm
 - <https://www.meetup.com/MotorCityCocoaHeads/>
- CocoaHeads Ann Arbor
 - 2nd Thursday of every month, Pizza 6:30pm, Talk 7pm
 - Web: <http://meetup.com/A2-CocoaHeads>
- Mobile Monday
 - Groups in Ann Arbor and Detroit
 - Web: <http://mobilemondaysmichigan.org>



Q&A