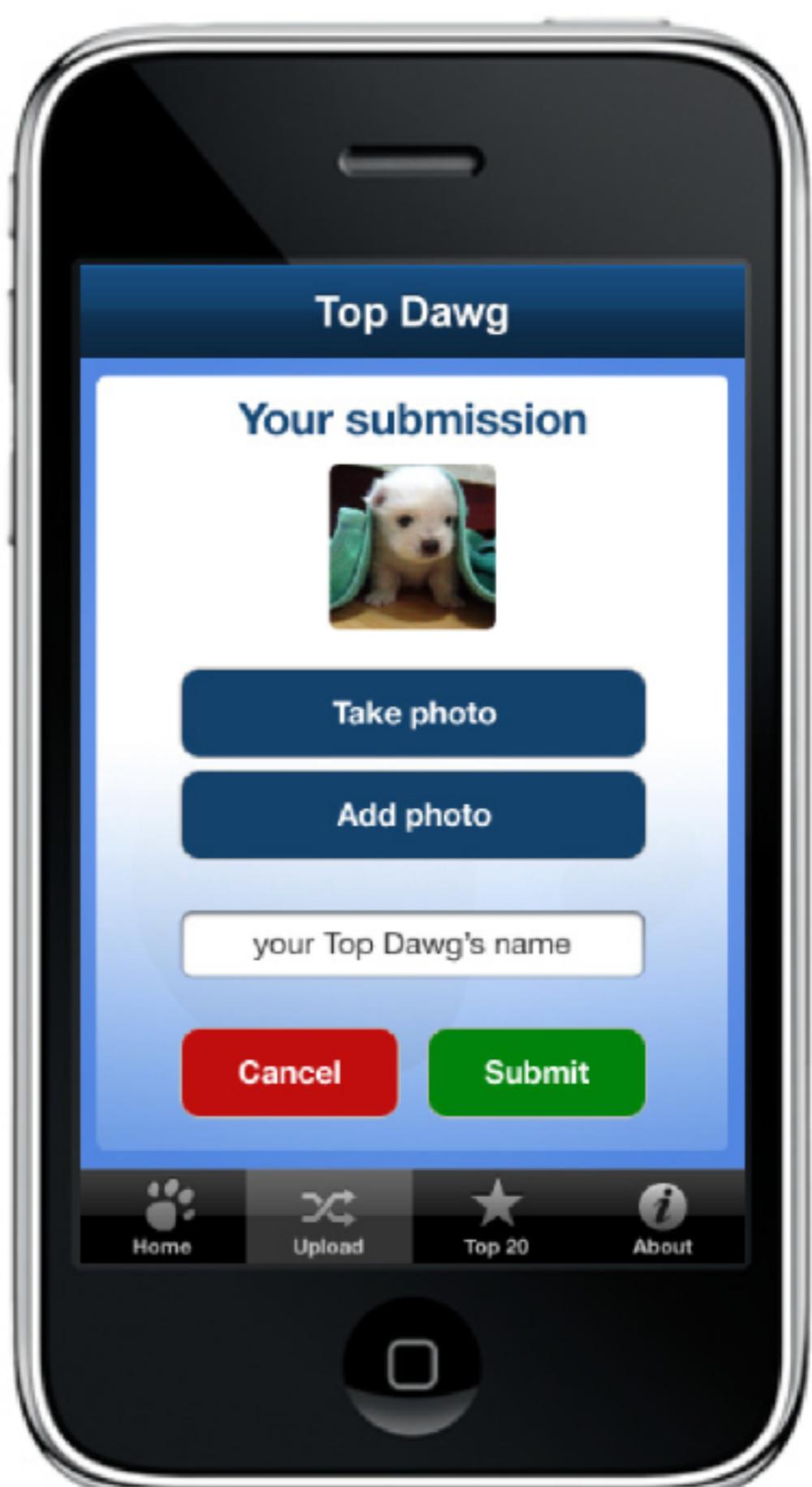




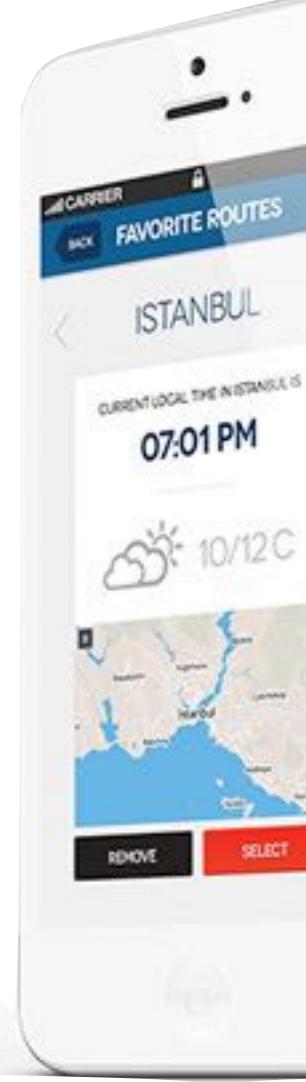
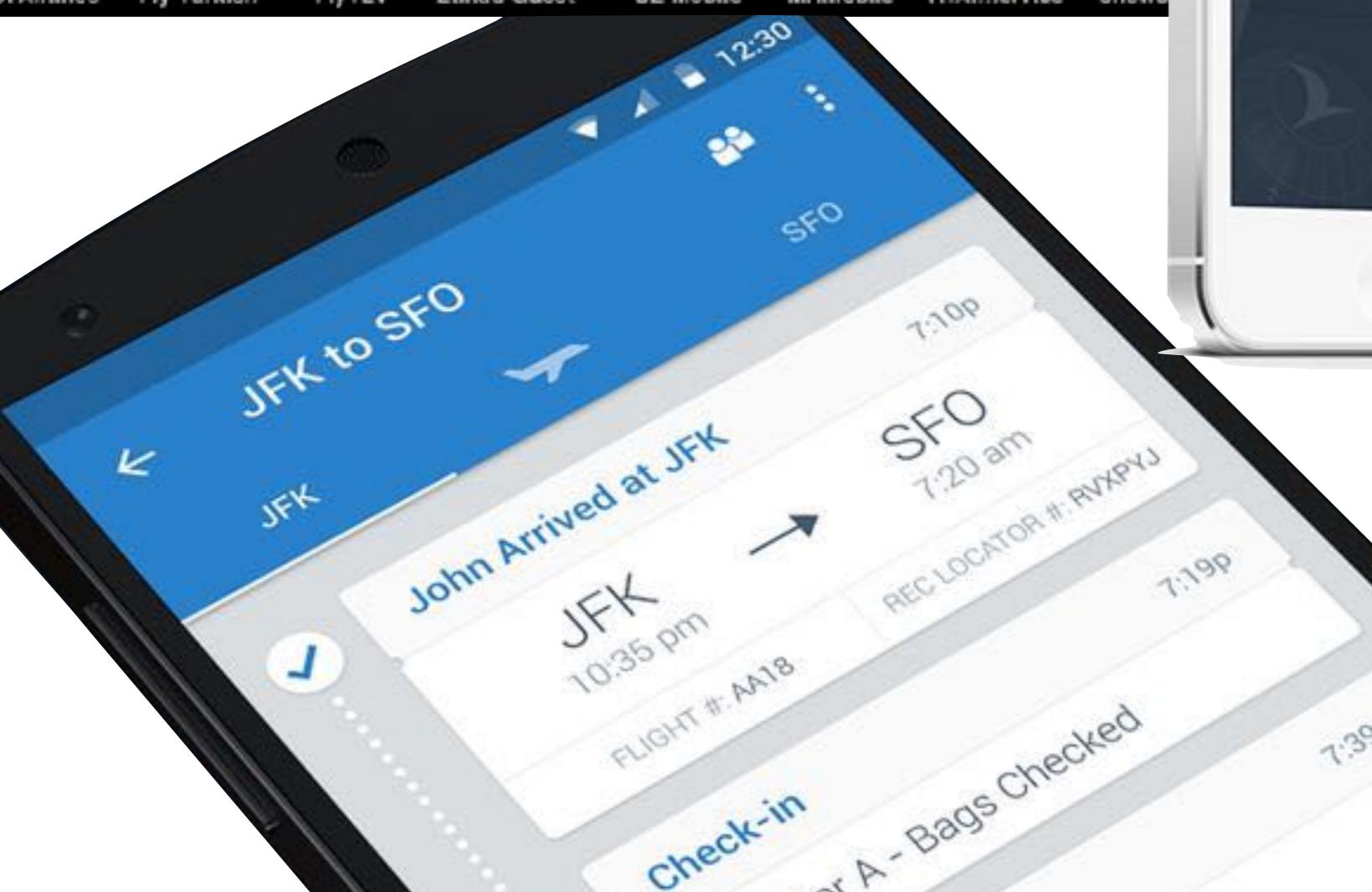
*@cassiend
@carson_ramsden*

EVOLVING MOBILE APPLICATIONS WITH CONTINUOUS DELIVERY

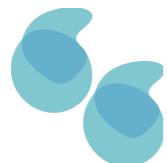
Cassie Shum & Carson Ramsden







EVOLUTION



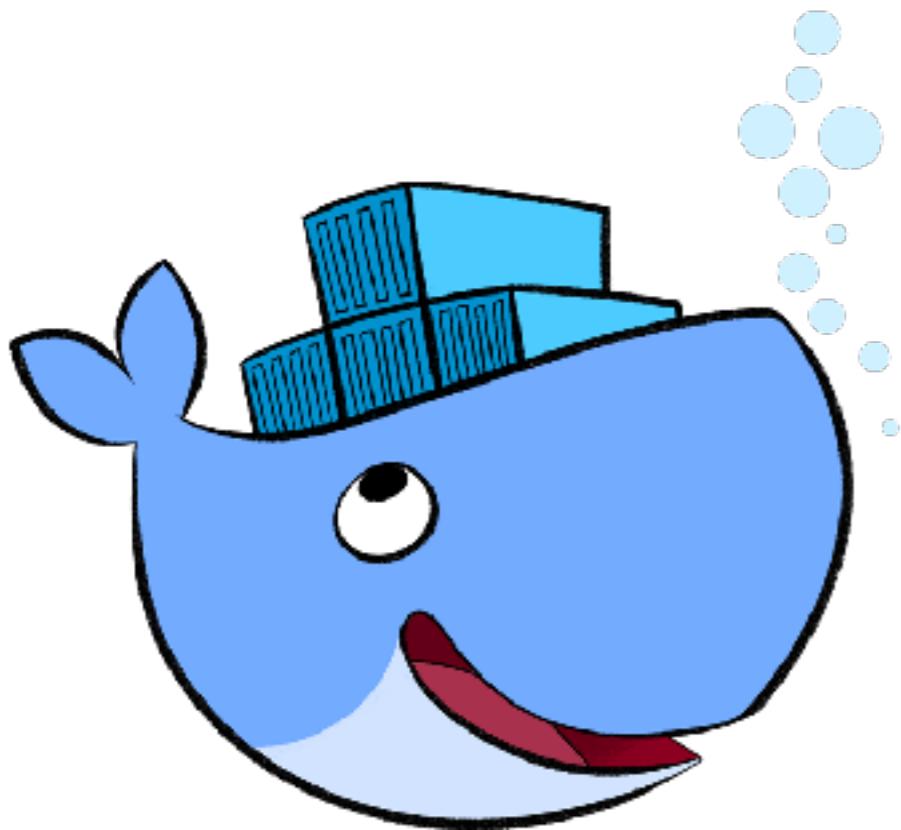
An evolutionary architecture supports

incremental, guided change as a first

principle along multiple dimensions.



— Neal Ford “Evolutionary Architecture”



The Addison-Wesley Signature Series

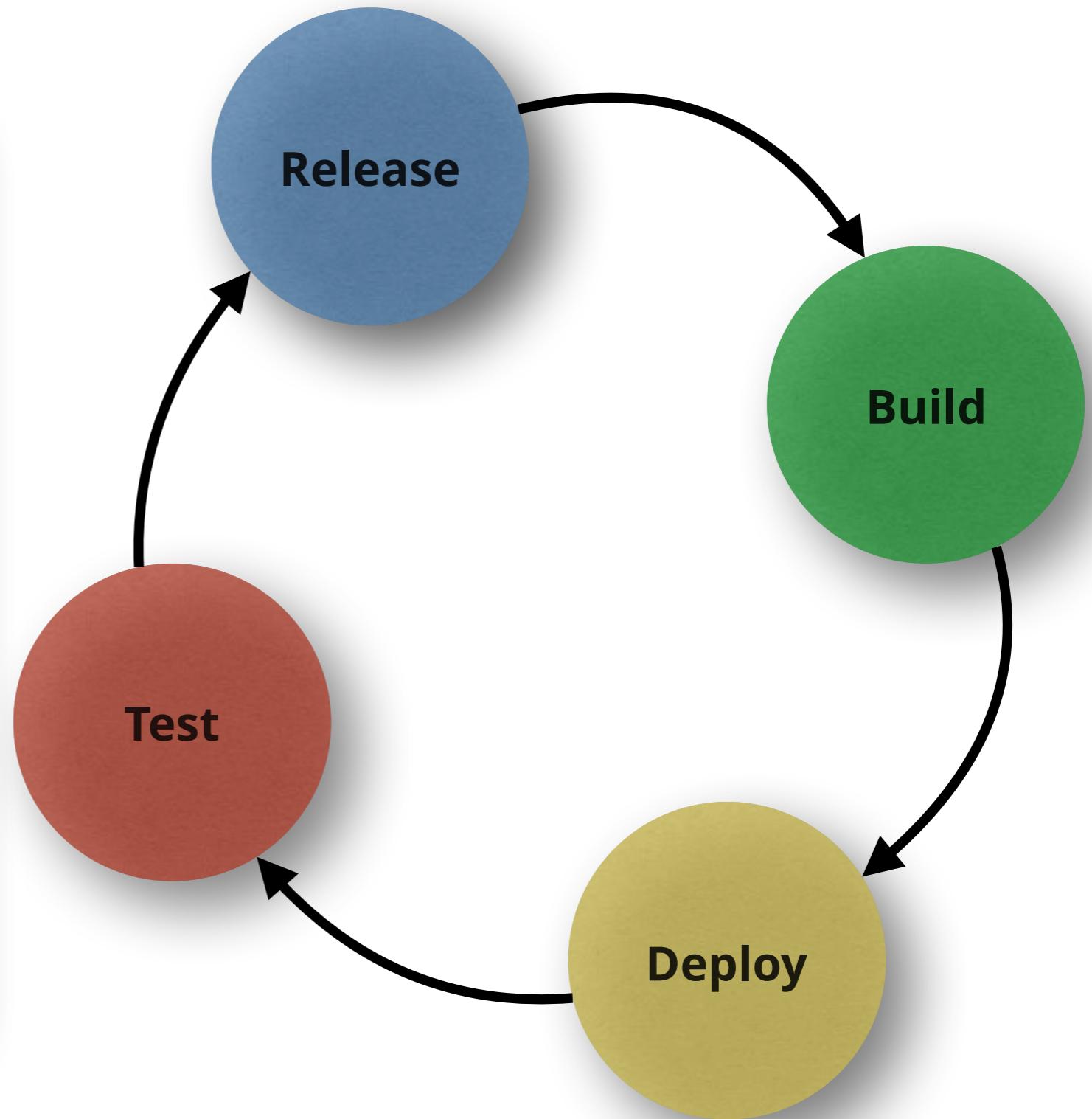
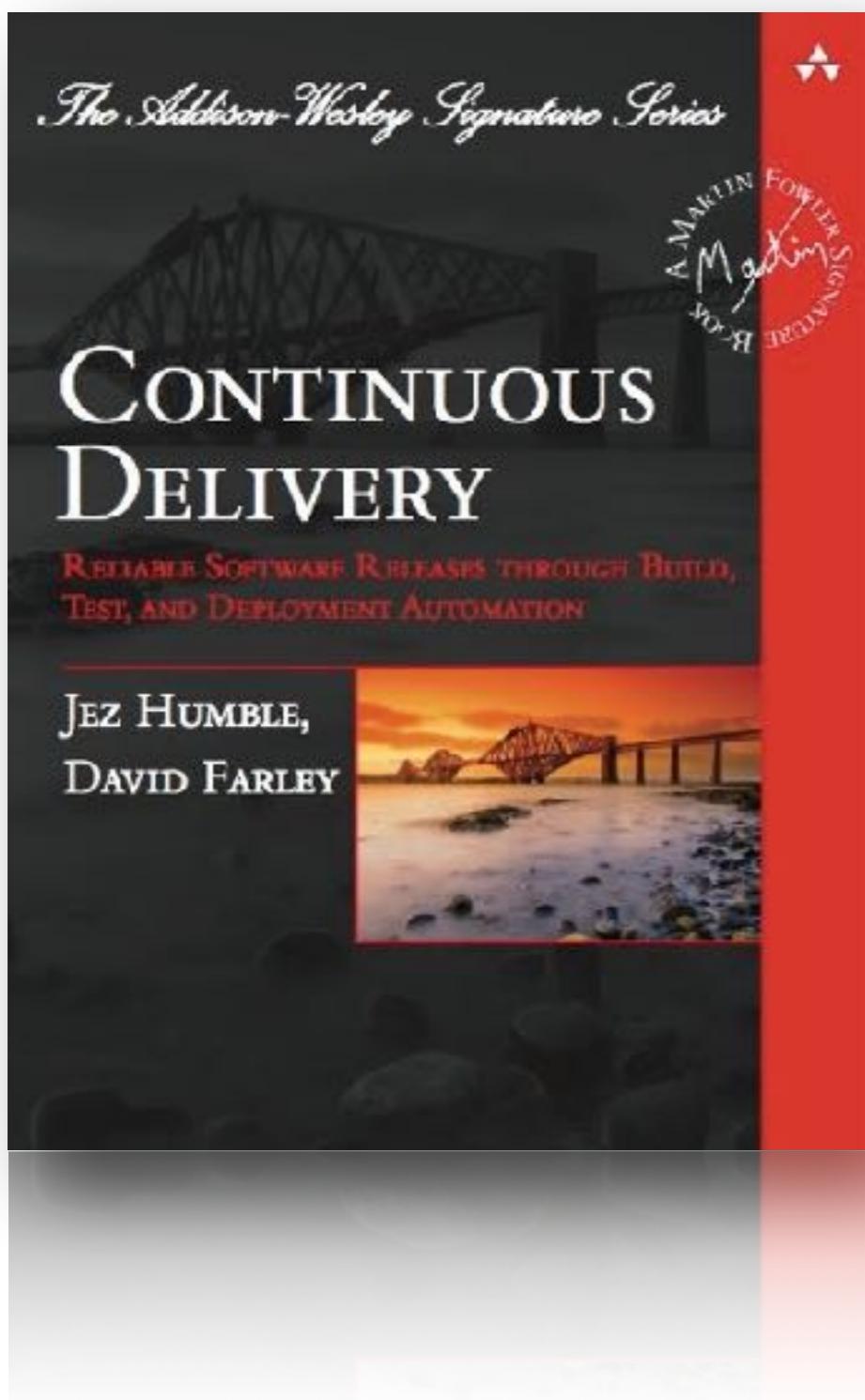


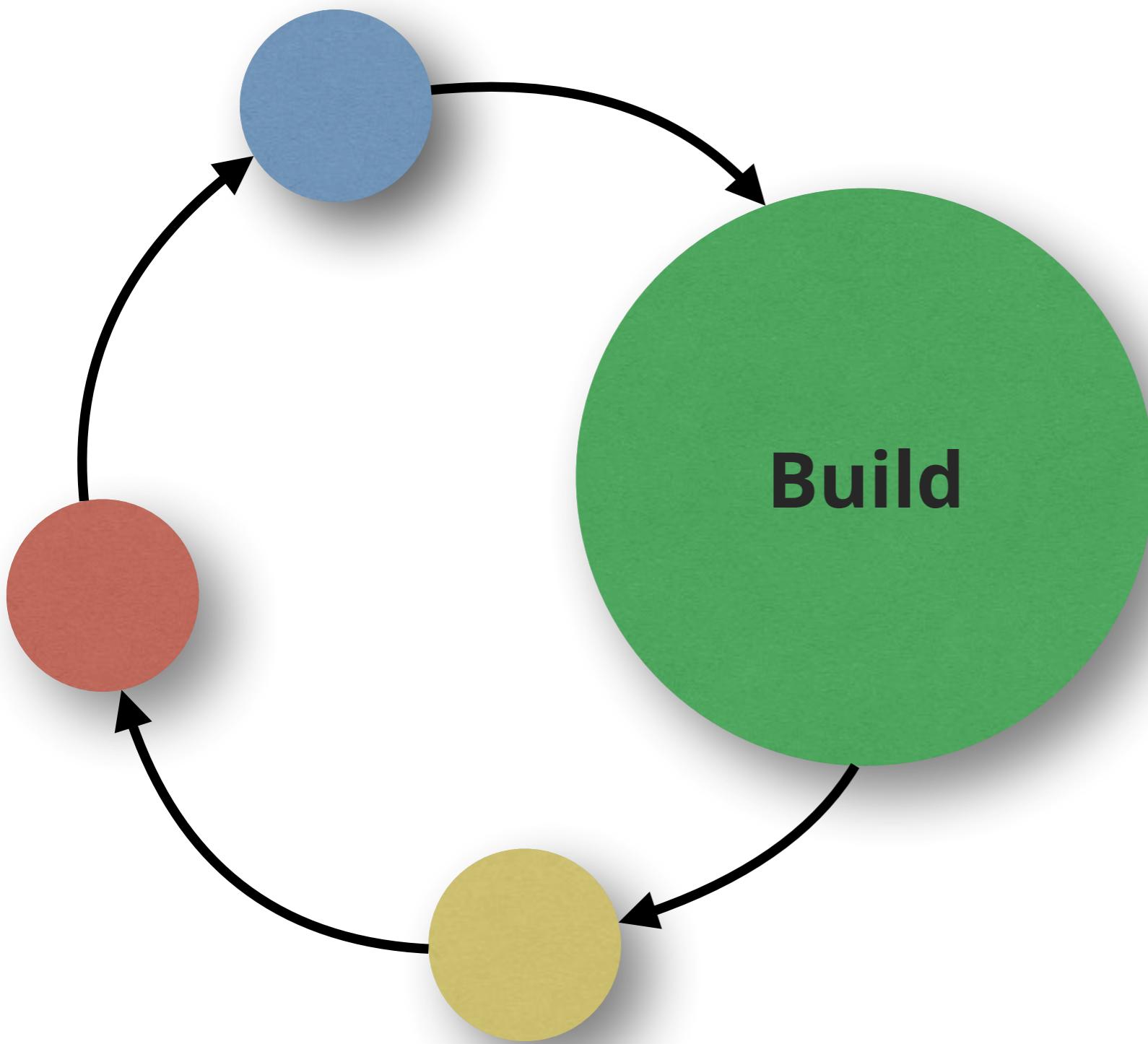
CONTINUOUS DELIVERY

RELIABLE SOFTWARE RELEASES THROUGH BUILD,
TEST, AND DEPLOYMENT AUTOMATION

JEZ HUMBLE,
DAVID FARLEY







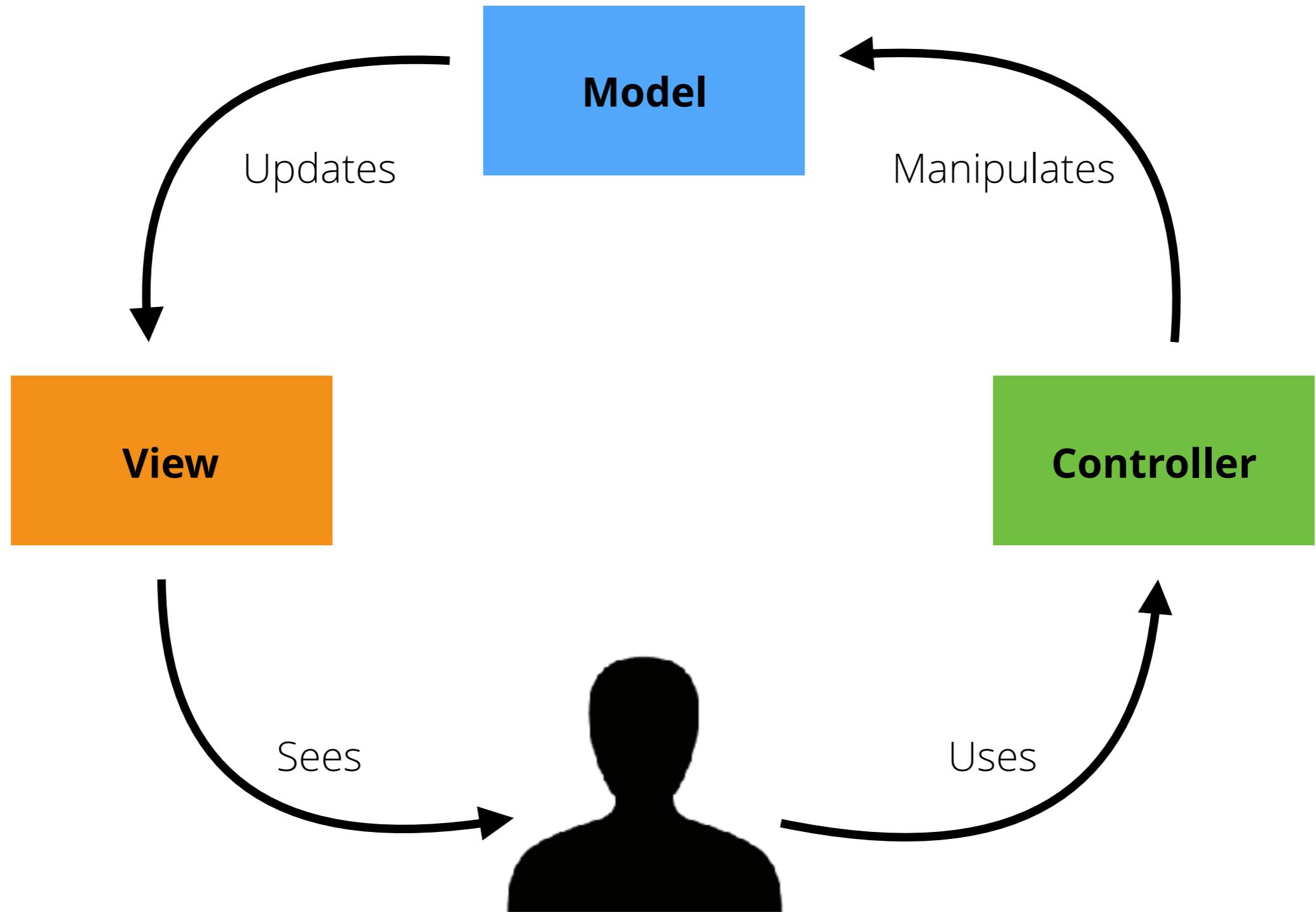
Design Patterns

Tools/Libraries

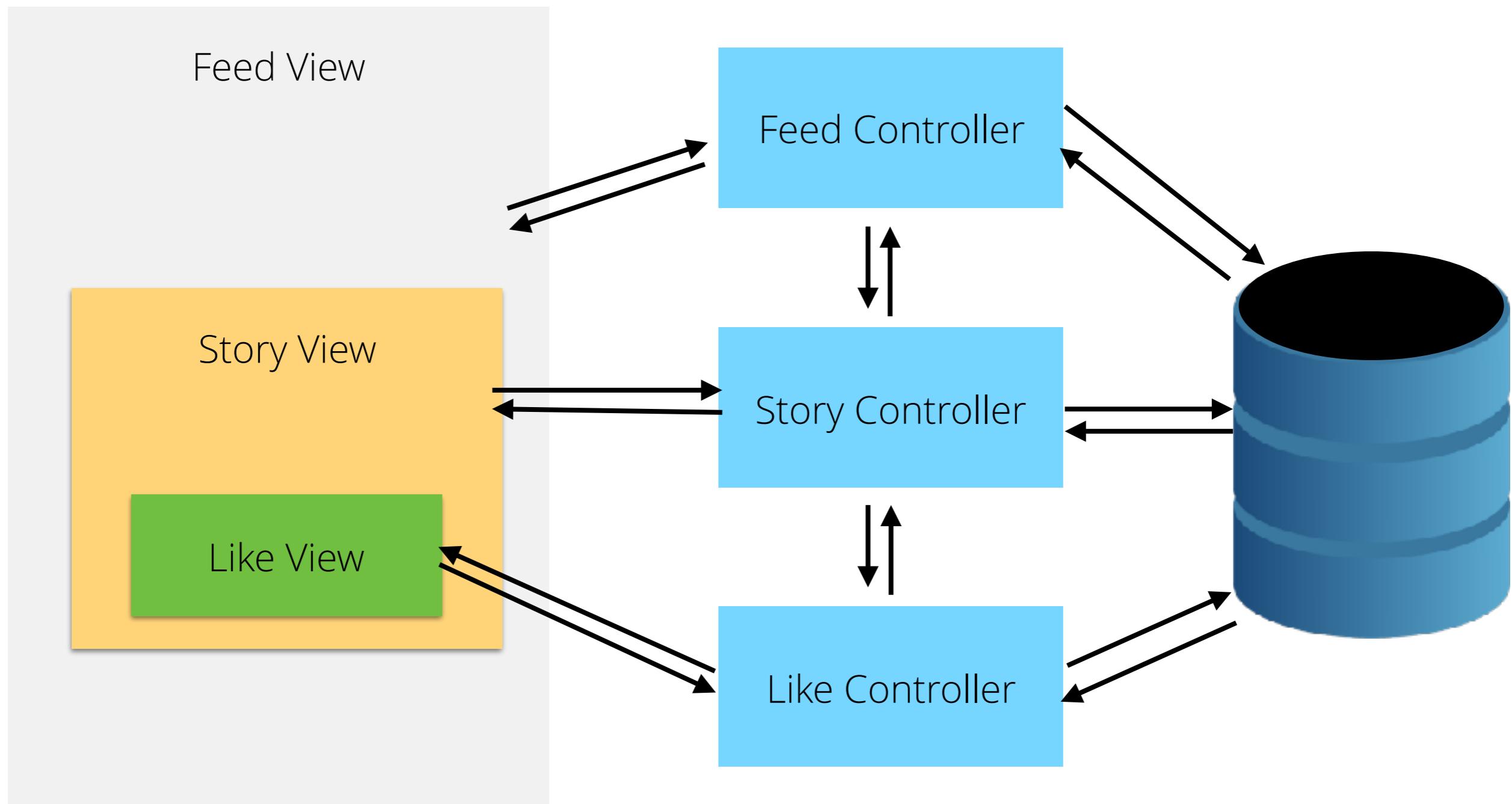
Architecture



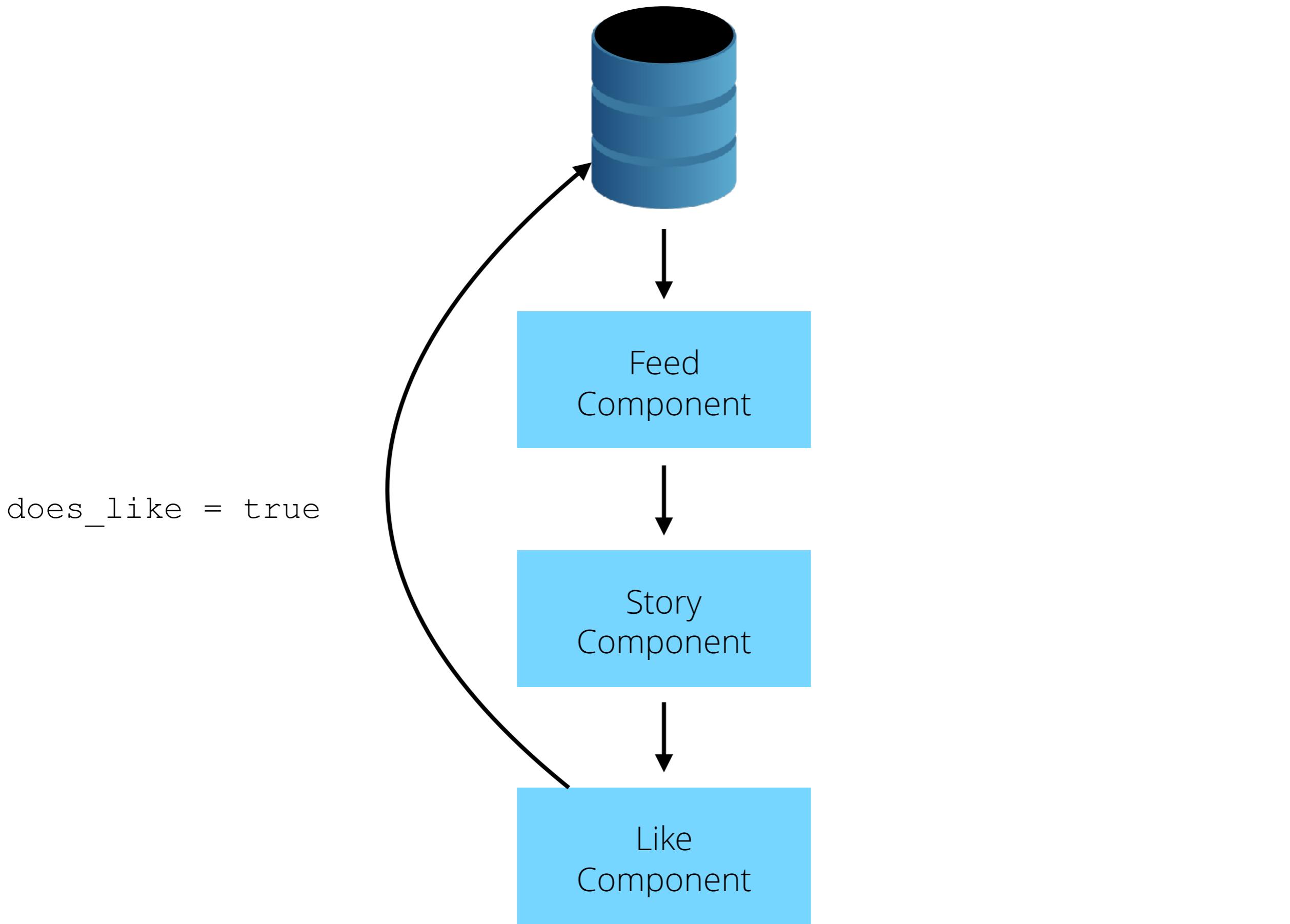
ComponentKit



<https://www.youtube.com/watch?v=XhXC4SKOGfQ>



<https://www.youtube.com/watch?v=XhXC4SKOGfQ>

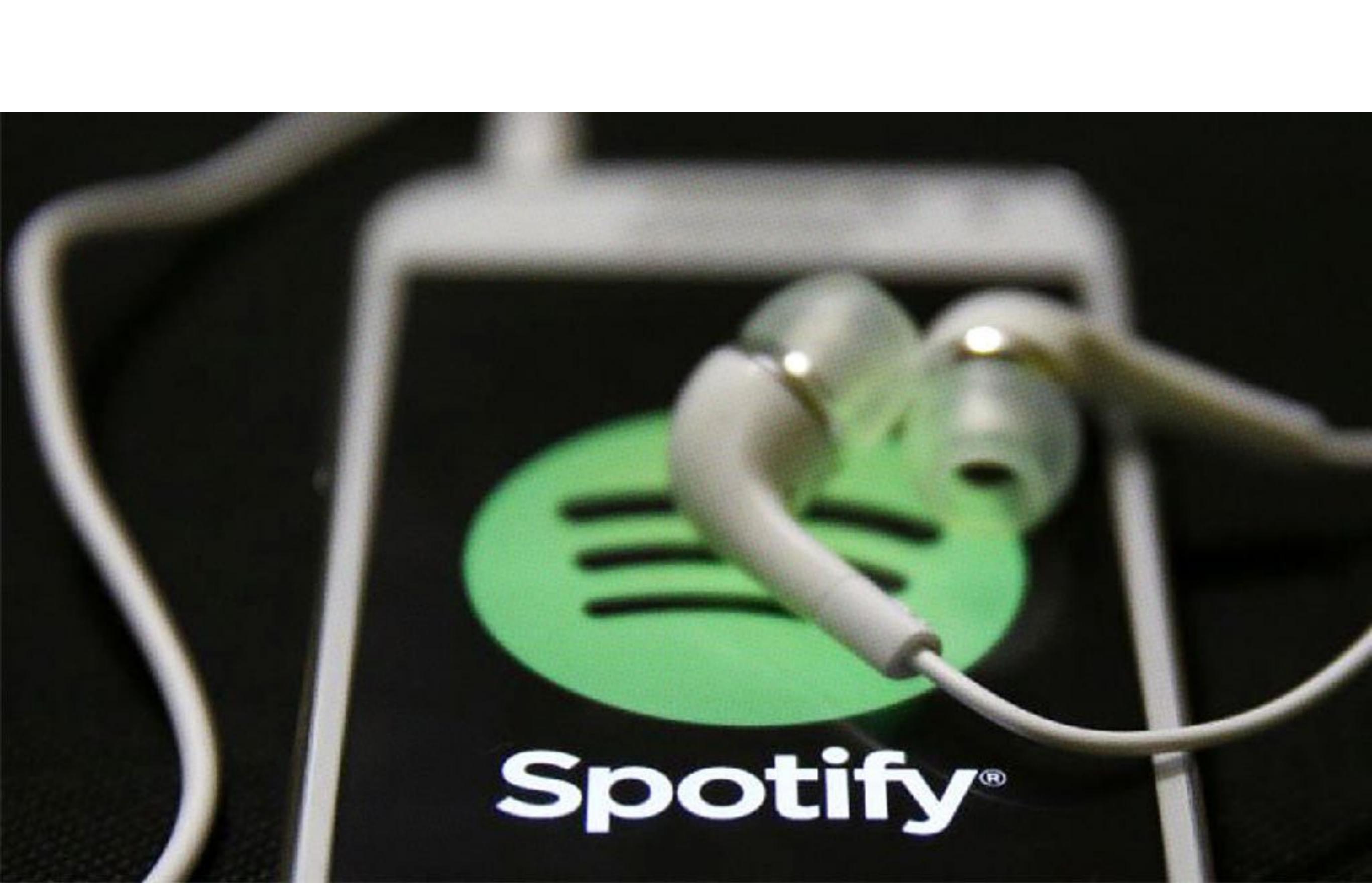


<https://www.youtube.com/watch?v=XhXC4SKOGfQ>

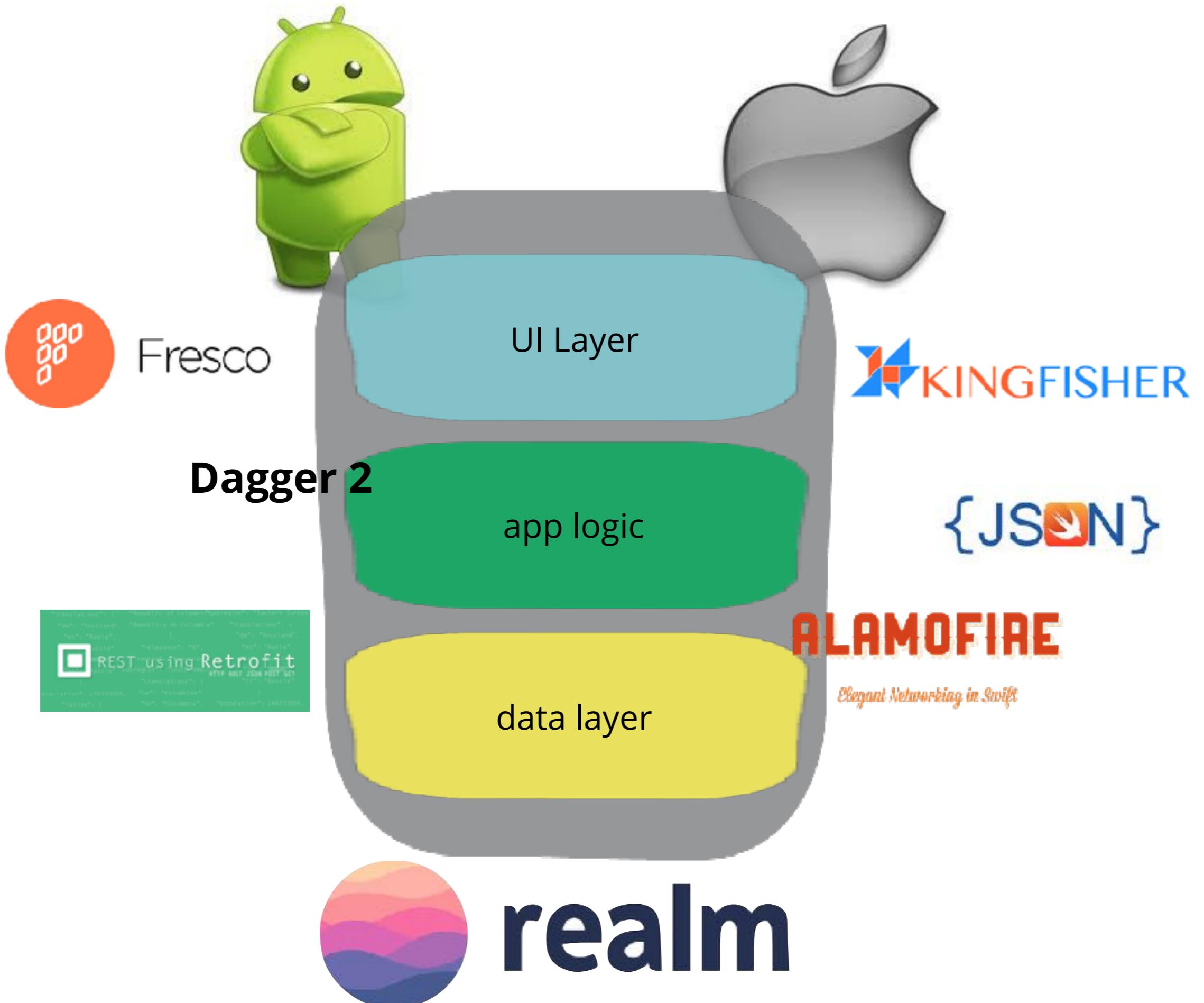
One-way Data Flow

Immutable View Descriptions

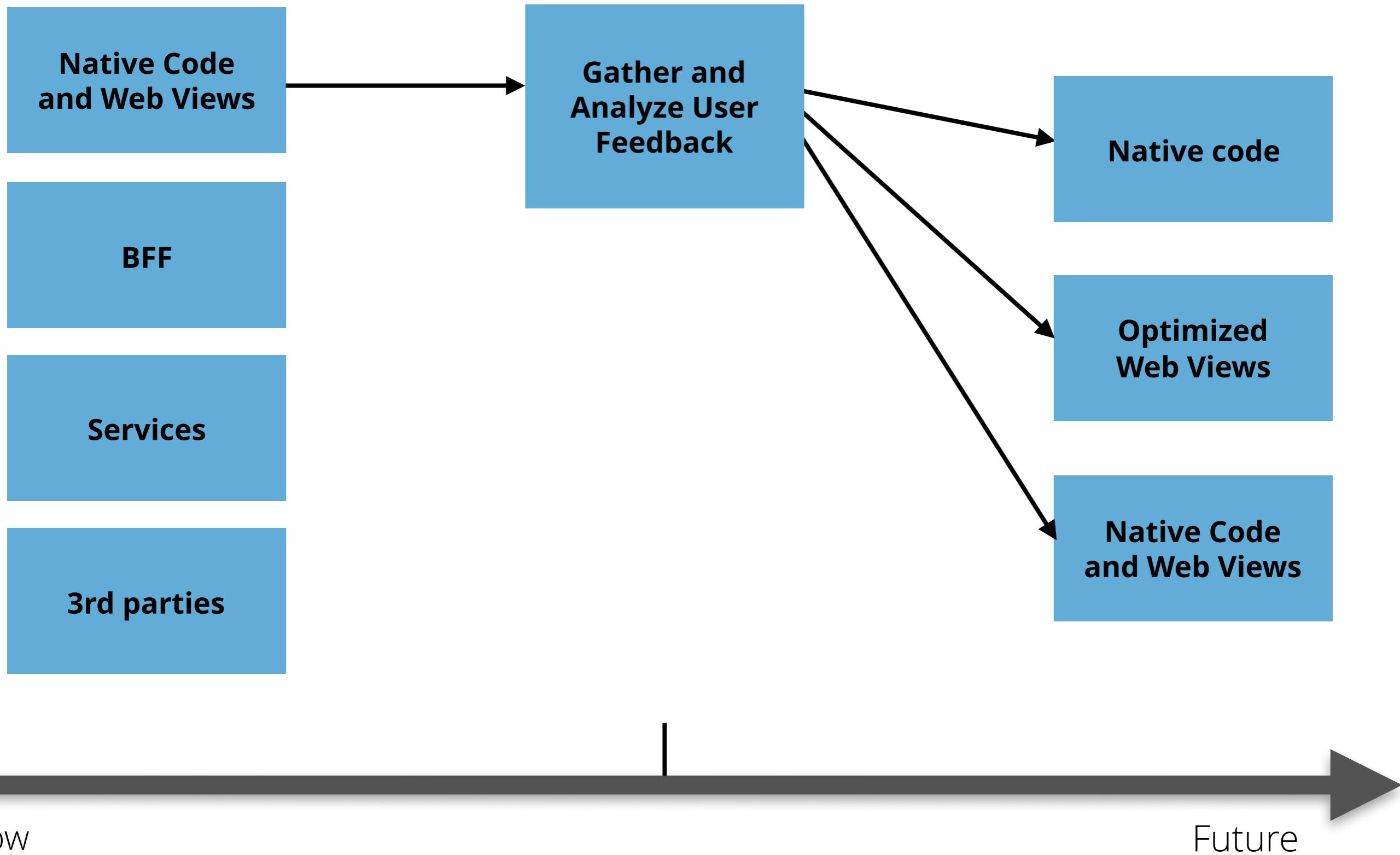
View Recycling



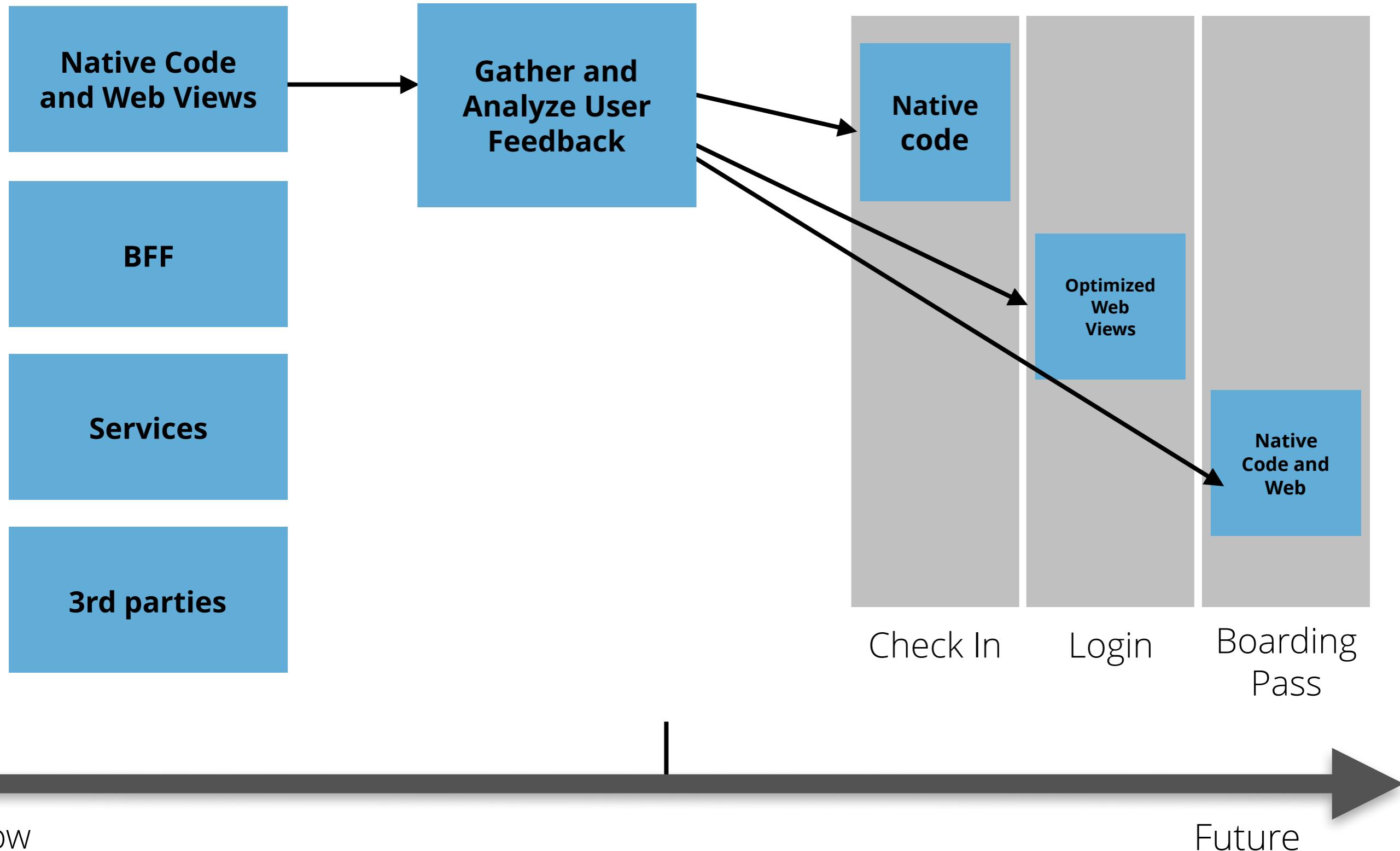
<https://realm.io/news/mbltdev-hector-zarate-consistent-thin-dumb-spotify/>



ARCHITECTURE



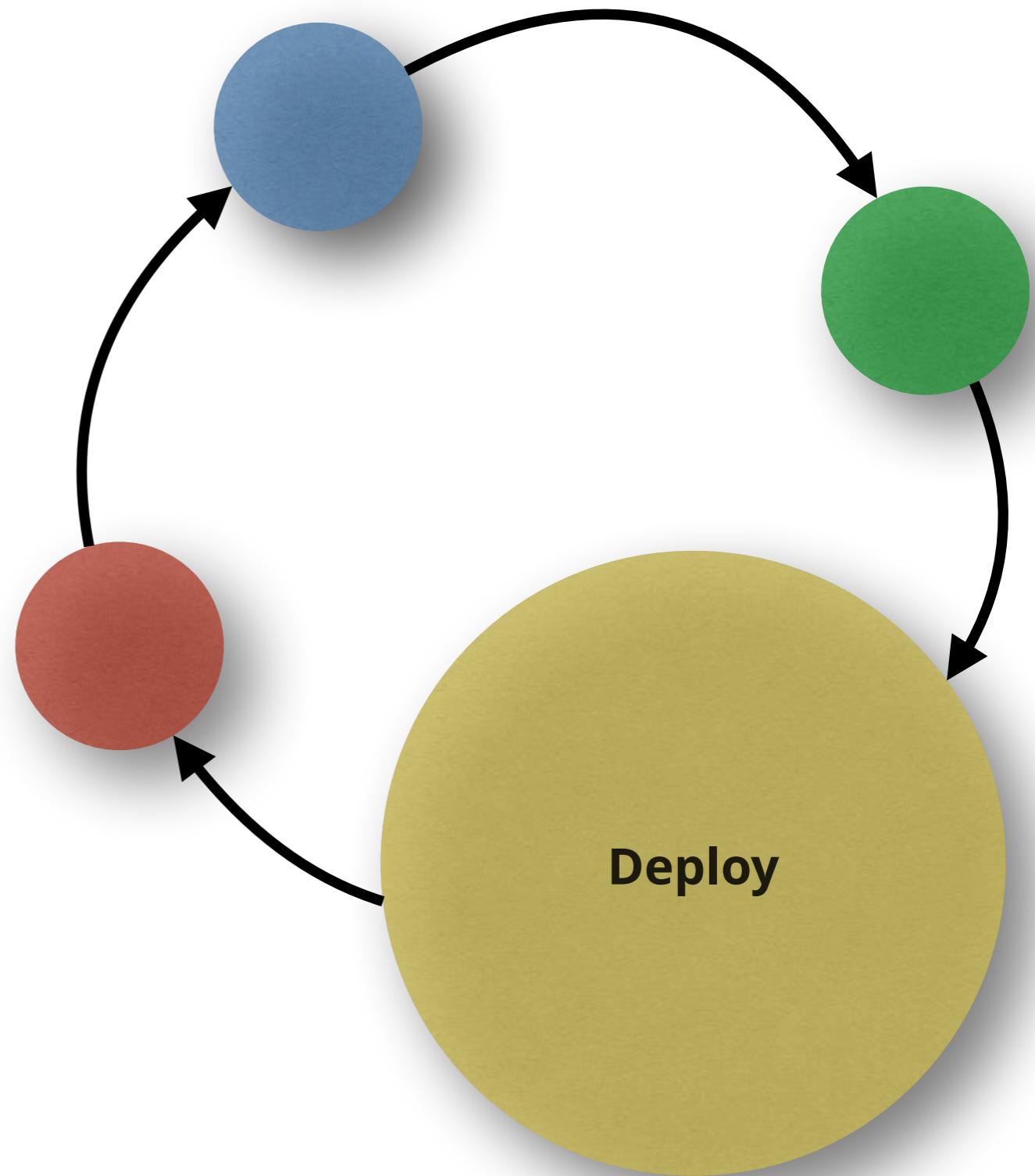
ARCHITECTURE



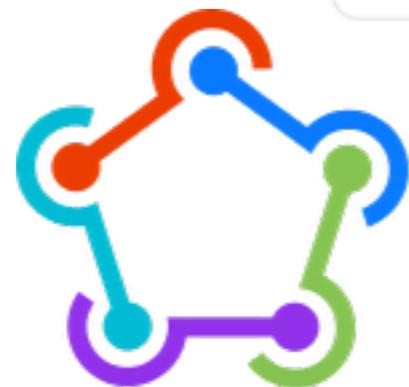
fastlane

Deployment platforms

Dogfooding

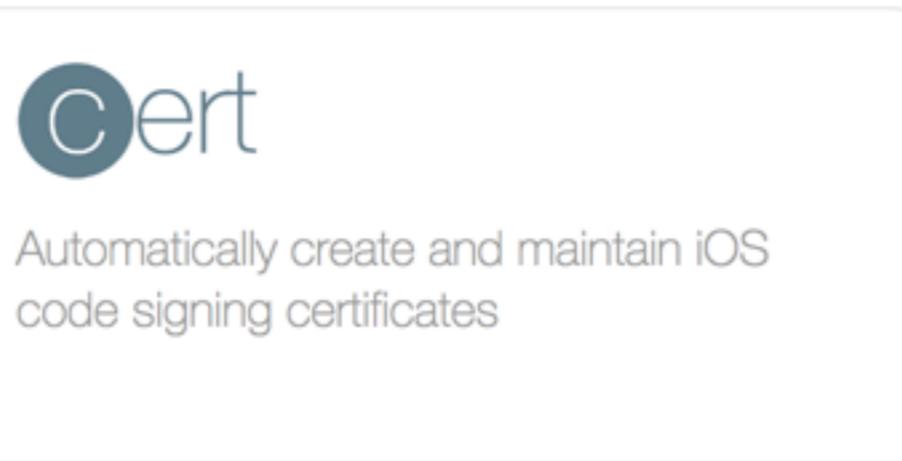


CONTINUOUS DELIVERY TOOL



scan

The easiest way to run tests of your iOS
and Mac app



fastlane

gym

Building your iOS app has never been
easier

FASTLANE

```
desc "Pull certificate and sign ipa with provisioning profile"
lane :sign do
  cert
  sigh(force: true)
  gym(scheme: "IOSStarter", use_legacy_build_api: true)
end

desc "Submit a new Beta Build to Apple TestFlight"
desc "This will also make sure the profile is up to date"
lane :beta do
  # match(type: "appstore") # more information: https://codesigning.guide
  gym(scheme: "IOSStarter") # Build your app - more options available
  pilot

  # sh "your_script.sh"
  # You can also use other beta testing services here (run `fastlane actions`)
end

desc "Deploy a new version to the App Store"
lane :release do
  match(type: "appstore")
  snapshot
  gym(scheme: "IOSStarter", use_legacy_build_api: true)
  deliver(force: true)
  frameit
end
```



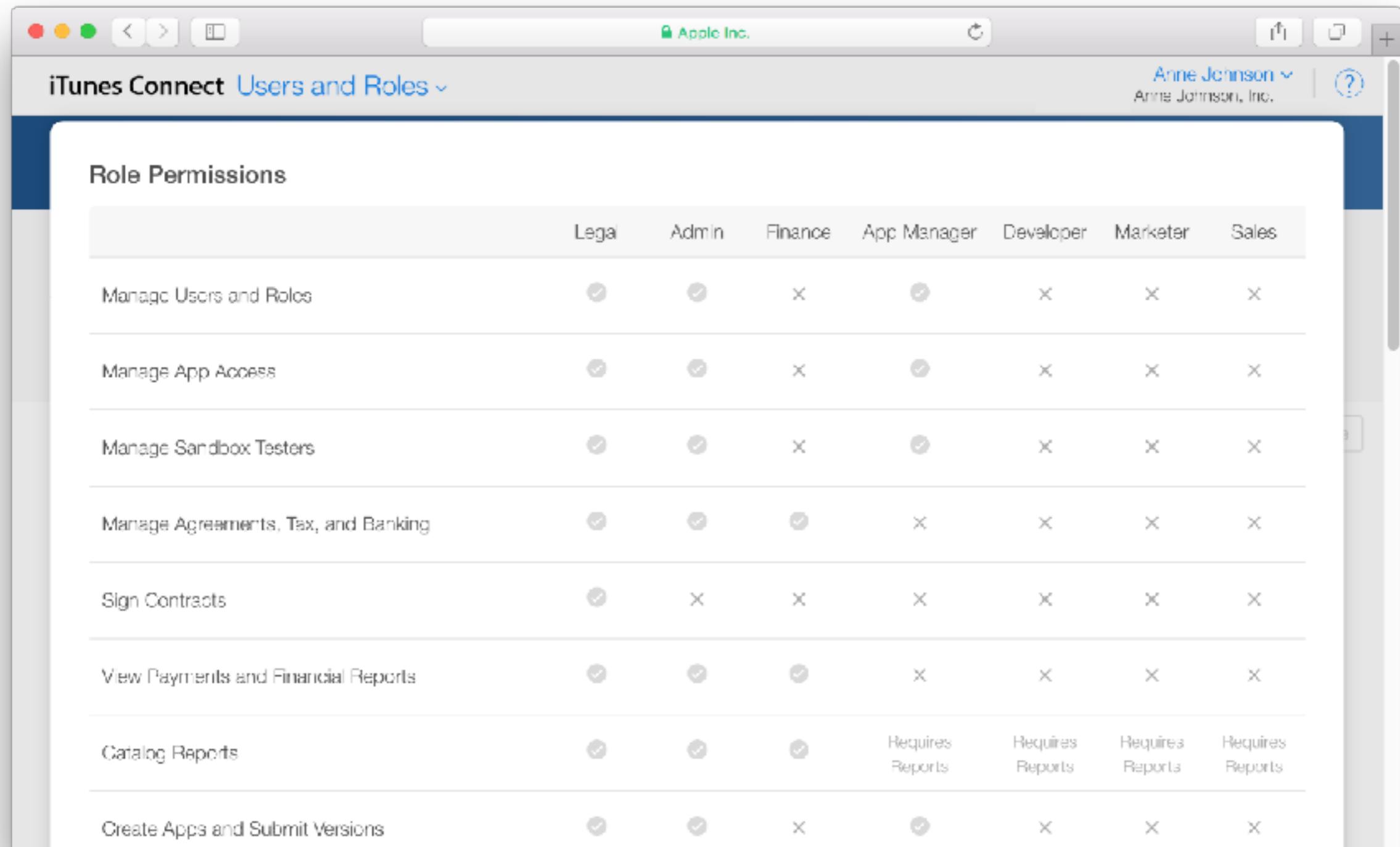
TestFlight

Beta Testing On The Fly



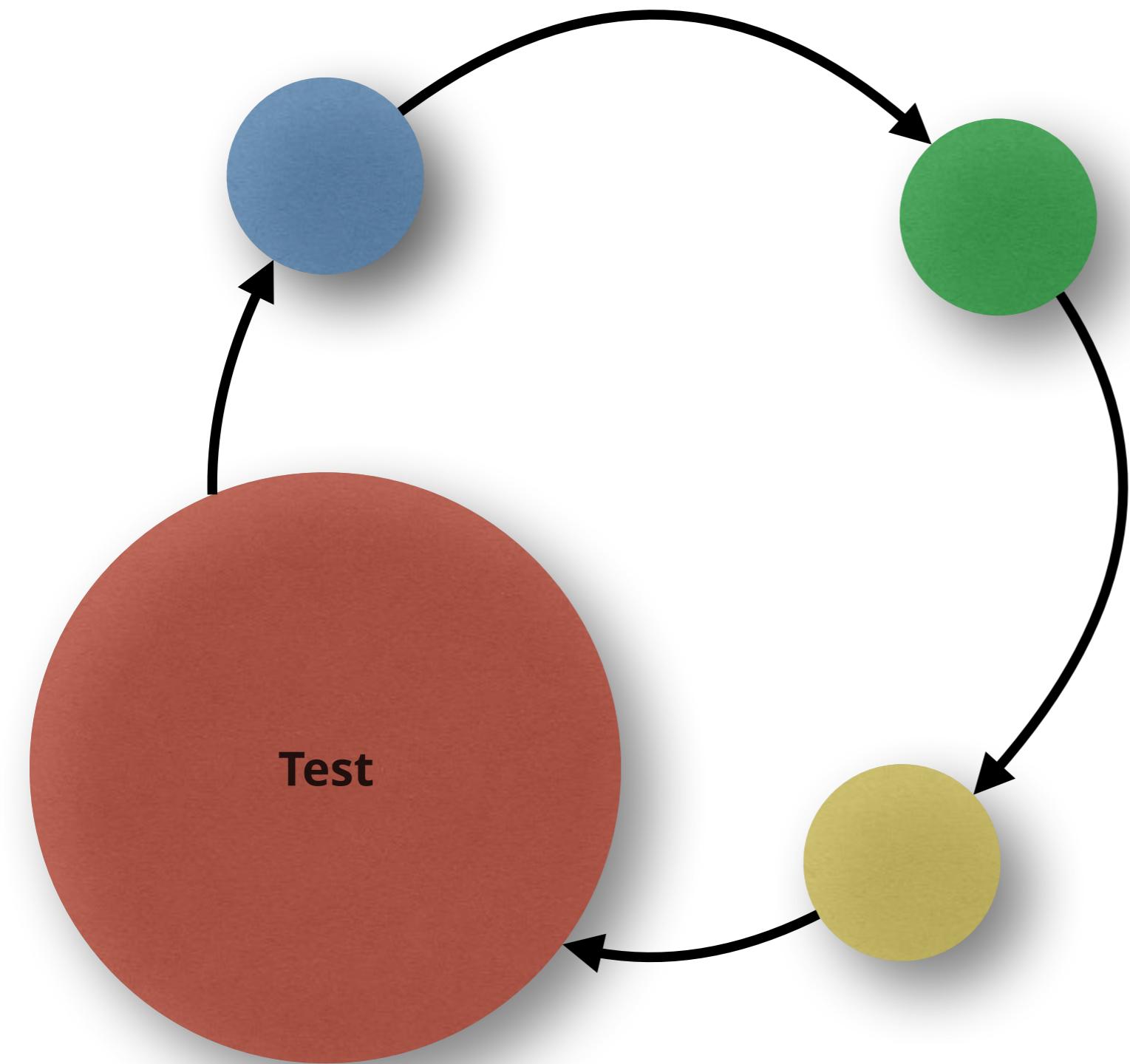
HOCKEYAPP

DOGFOODING

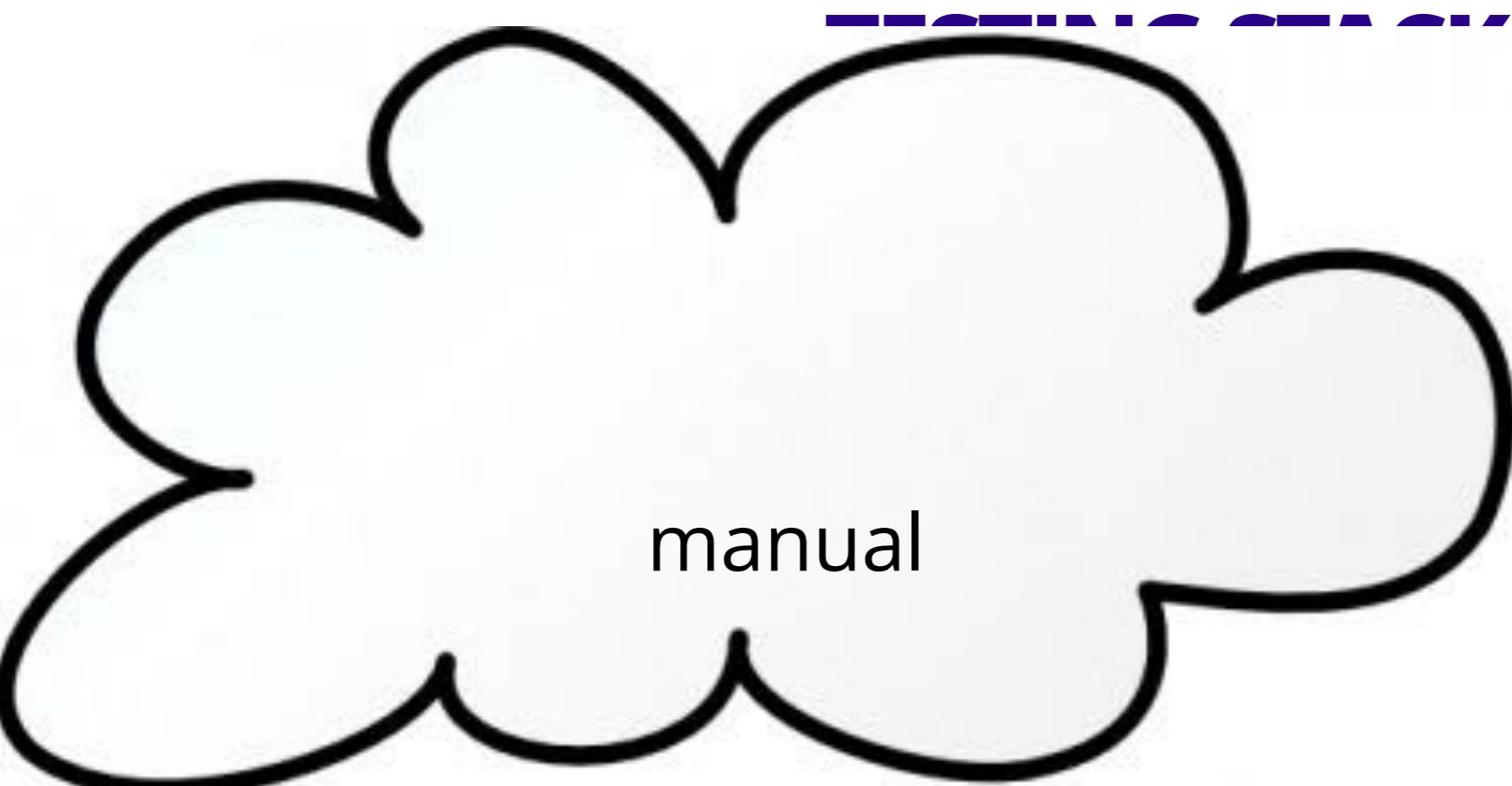


The screenshot shows the iTunes Connect 'Users and Roles' interface. At the top, it displays 'Apple Inc.' and the user 'Anne Johnson'. The main section is titled 'Role Permissions' and lists various roles and their permissions across different categories.

	Legal	Admin	Finance	App Manager	Developer	Marketer	Sales
Manage Users and Roles	✓	✓	✗	✓	✗	✗	✗
Manage App Access	✓	✓	✗	✓	✗	✗	✗
Manage Sandbox Testers	✓	✓	✗	✓	✗	✗	✗
Manage Agreements, Tax, and Banking	✓	✓	✓	✗	✗	✗	✗
Sign Contracts	✓	✗	✗	✗	✗	✗	✗
View Payments and Financial Reports	✓	✓	✓	✗	✗	✗	✗
Catalog Reports	✓	✓	✓	Requires Reports	Requires Reports	Requires Reports	Requires Reports
Create Apps and Submit Versions	✓	✓	✗	✓	✗	✗	✗



Testing pyramid
Continuous Integration
Testing devices



manual



appium



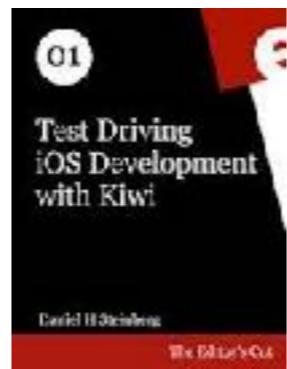
espresso



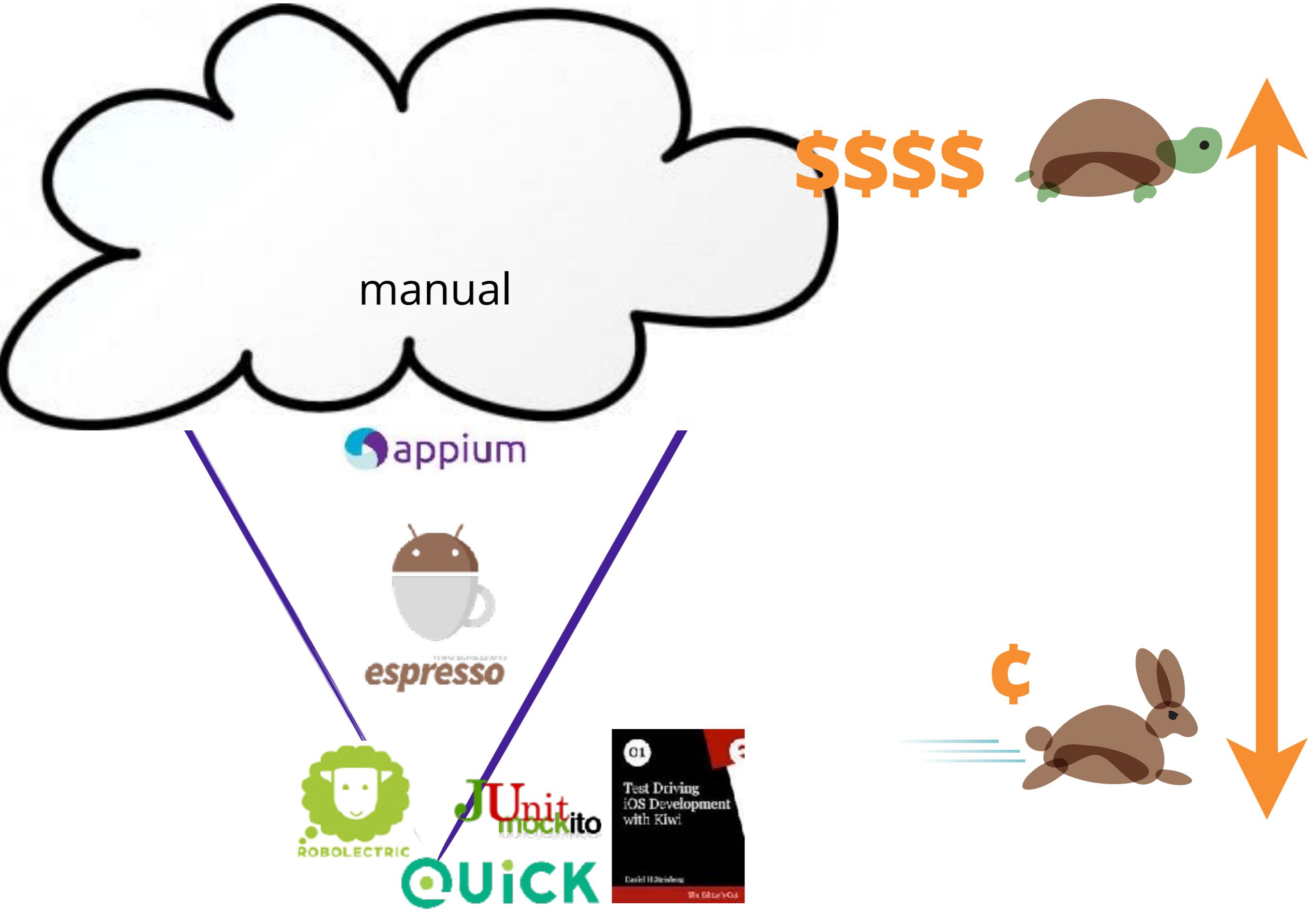
ROBOLECTRIC



JUnit
mockito
@Quick



How many tests?



?

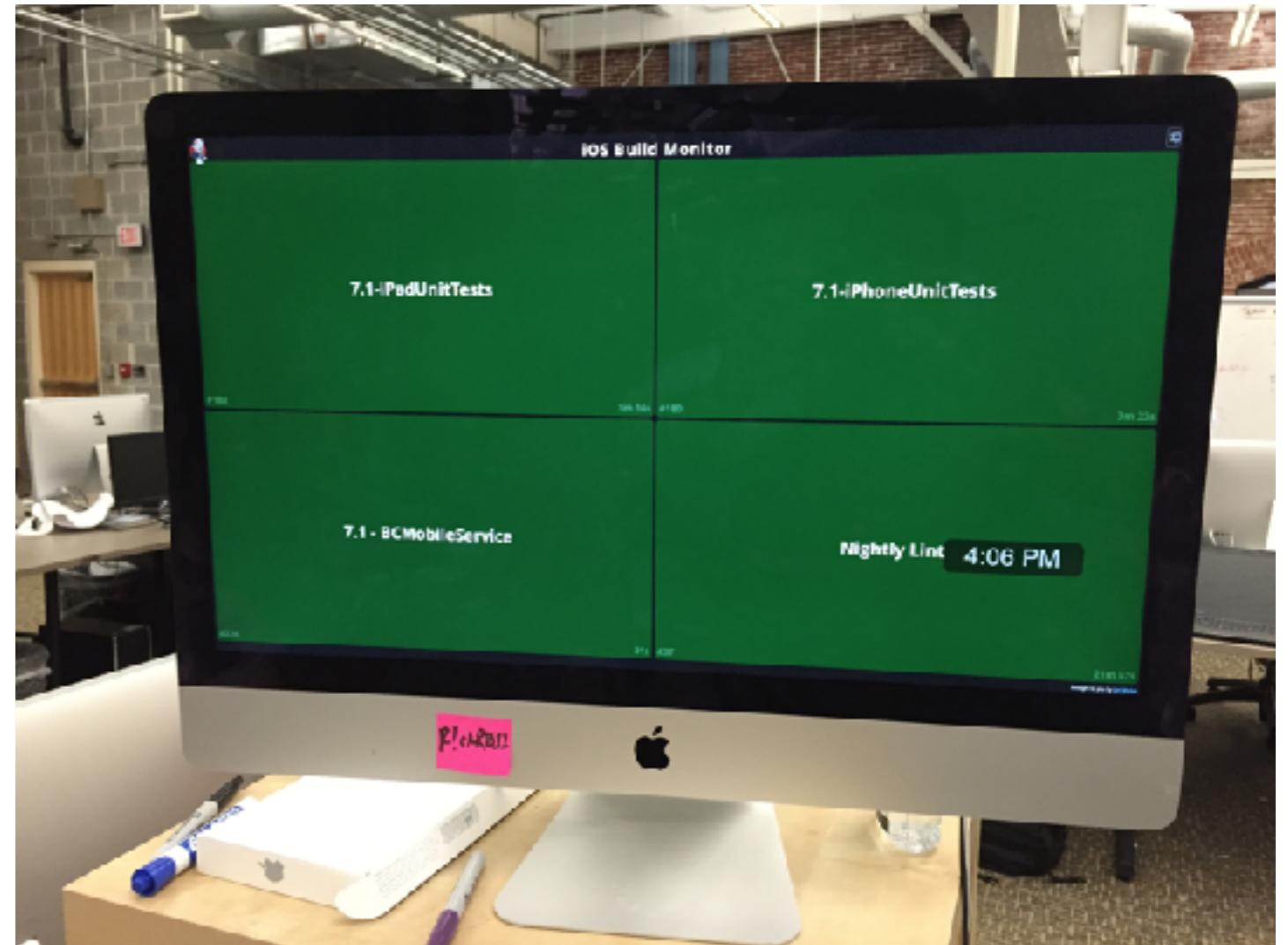
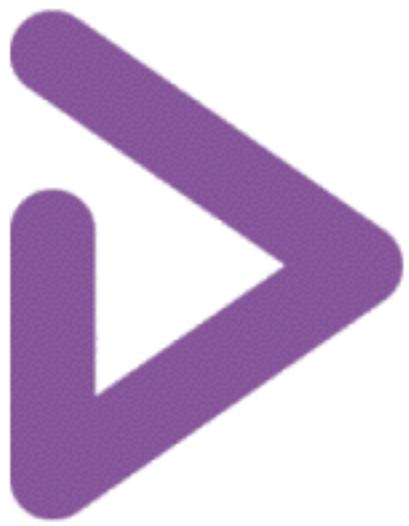
PUSHING DOWN THE PYRAMID!



CONTINUOUS INTEGRATION



TeamCity



JEZ HUMBLE'S 3-STEP TEST

1. *Every developer commits to master / trunk every day*
2. *Every commit triggers build and test*
3. *Failures usually fixed in minutes*

JEZ HUMBLE'S 3-STEP TEST

1. *Every developer commits to master / trunk every day*
2. *Every commit triggers build and test*
3. *Failures usually fixed in minutes*



iPhone 6s



iPhone 6s Plus



iPhone 6



iPad Pro



iPad Air 2



iPad Air



iPod touch 6th
generation



iPhone 6 Plus



iPhone 5s



iPhone 5c



iPad 4th generation



iPad 3rd generation



iPad 2



iPod touch 5th
generation



iPhone 5



iPhone 4s



iPad mini 4



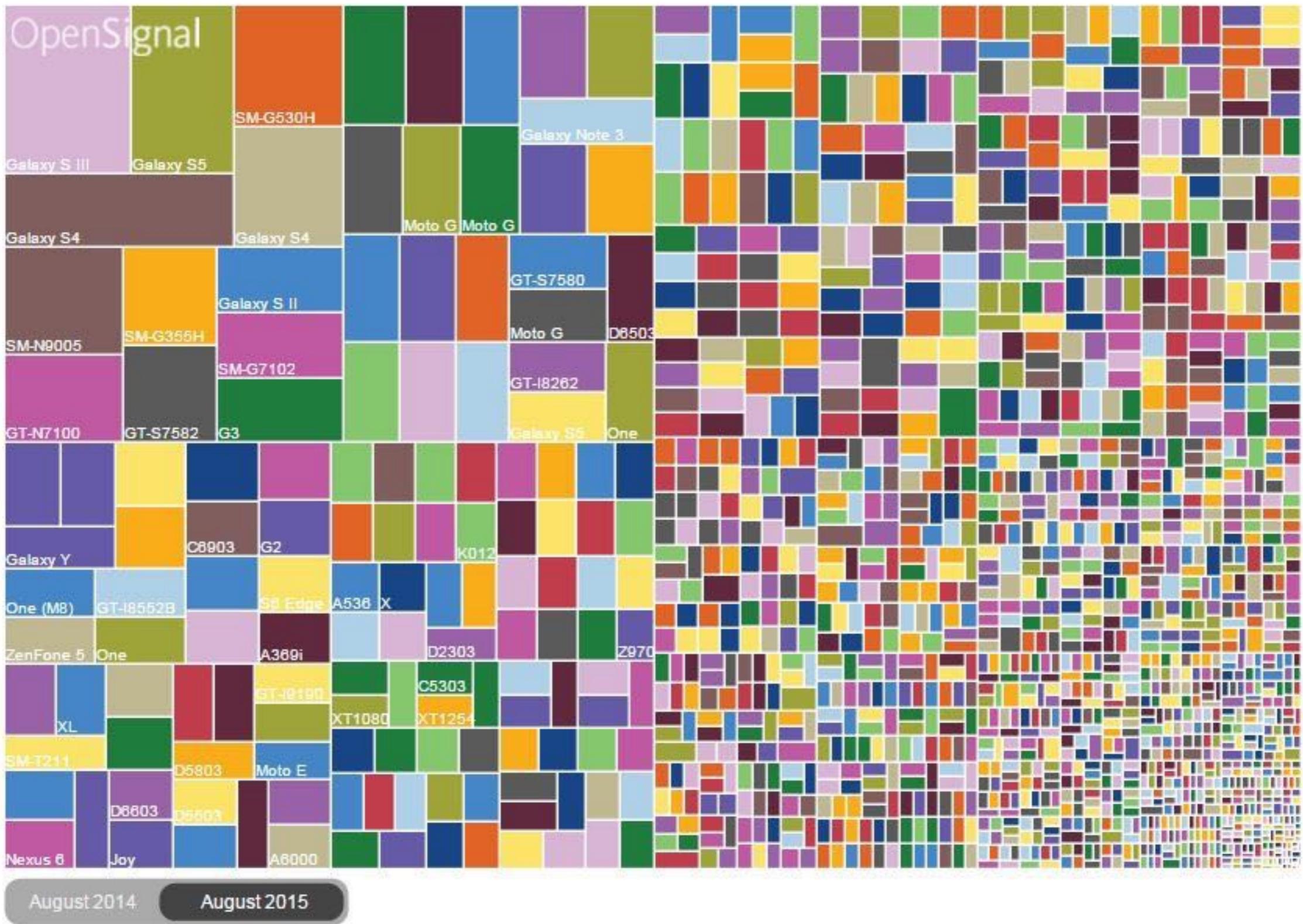
iPad mini 3



iPad mini 2

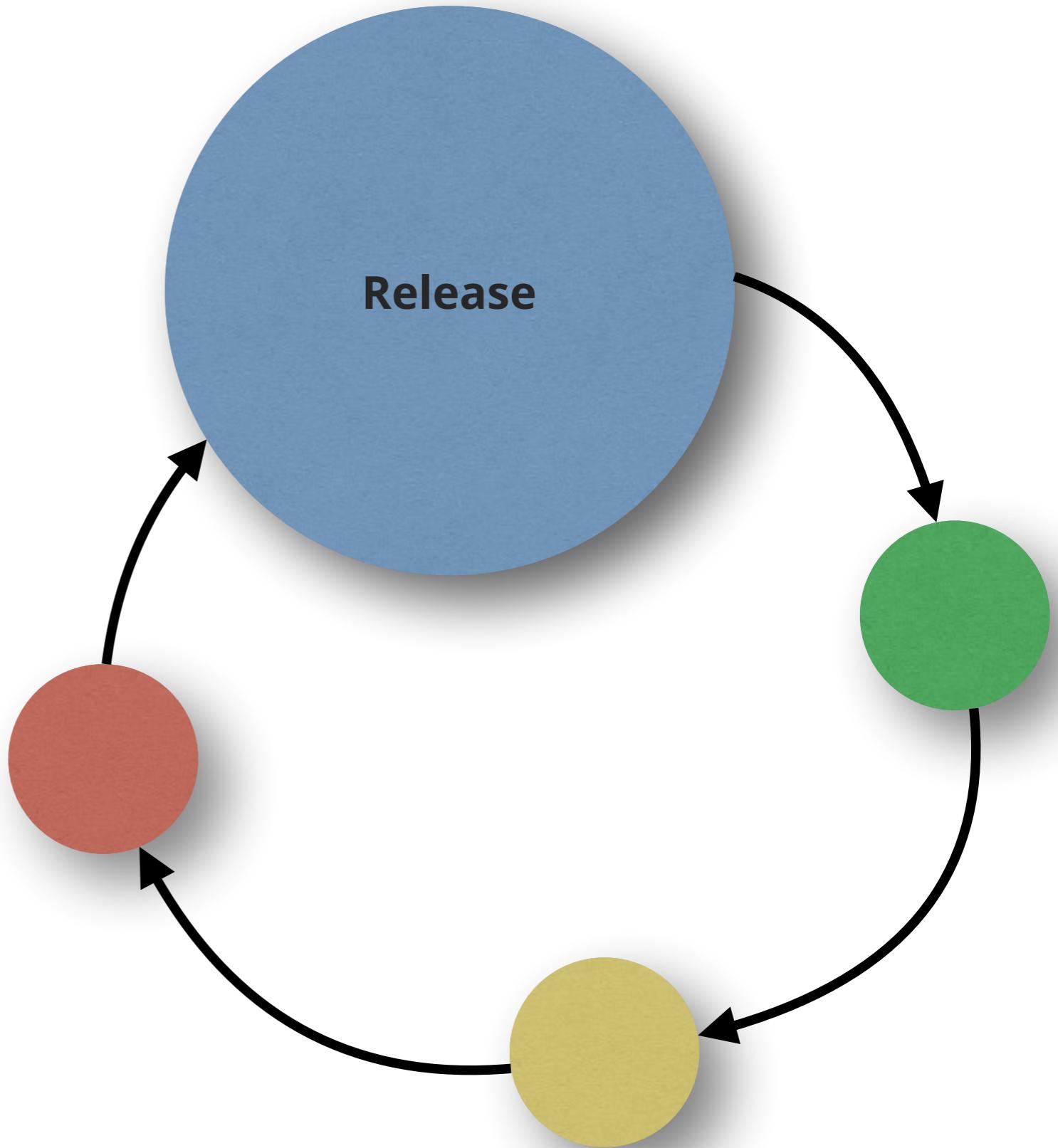


iPad mini



<http://www.afourtech.com/devices-to-test-android-app/>

App stores
fastlane
Metrics



GETTING READY FOR THE STORE

App Store > Travel > American Airlines



American Airlines 4+

American Airlines >

Offers iMessage App for iOS Offers Apple Watch App for iPhone

Details Ratings and Reviews Related

Screenshots

iPhone iPad iMessage Apple Watch

+ Downloaded

This app is designed for both iPhone and iPad

★★★★★ (129)

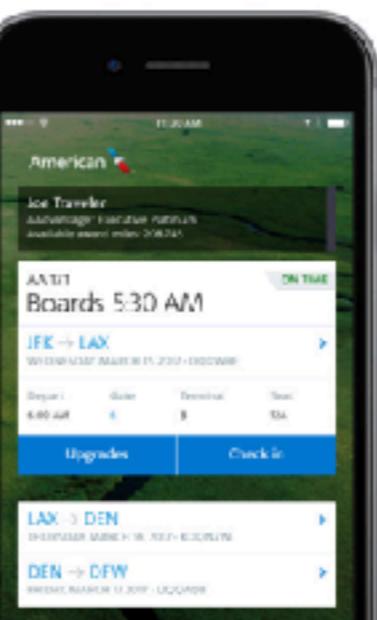
Rating: 4+

LINKS

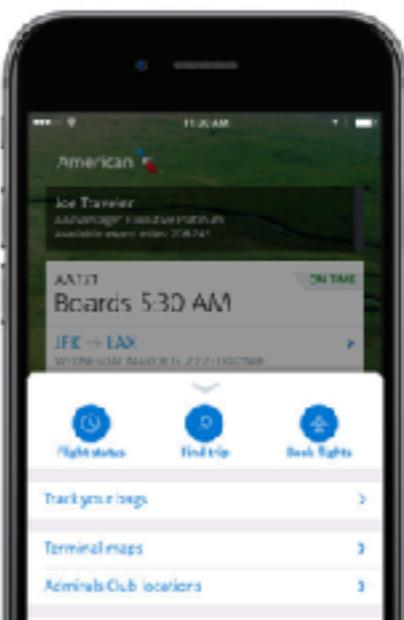
Privacy Policy

Developer Website

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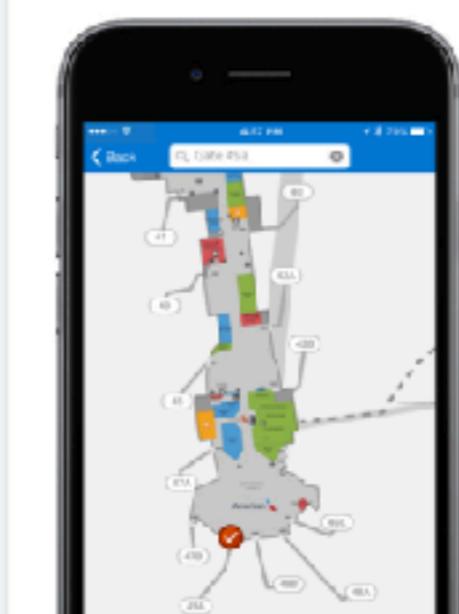


Dynamic home screen
knows what you need

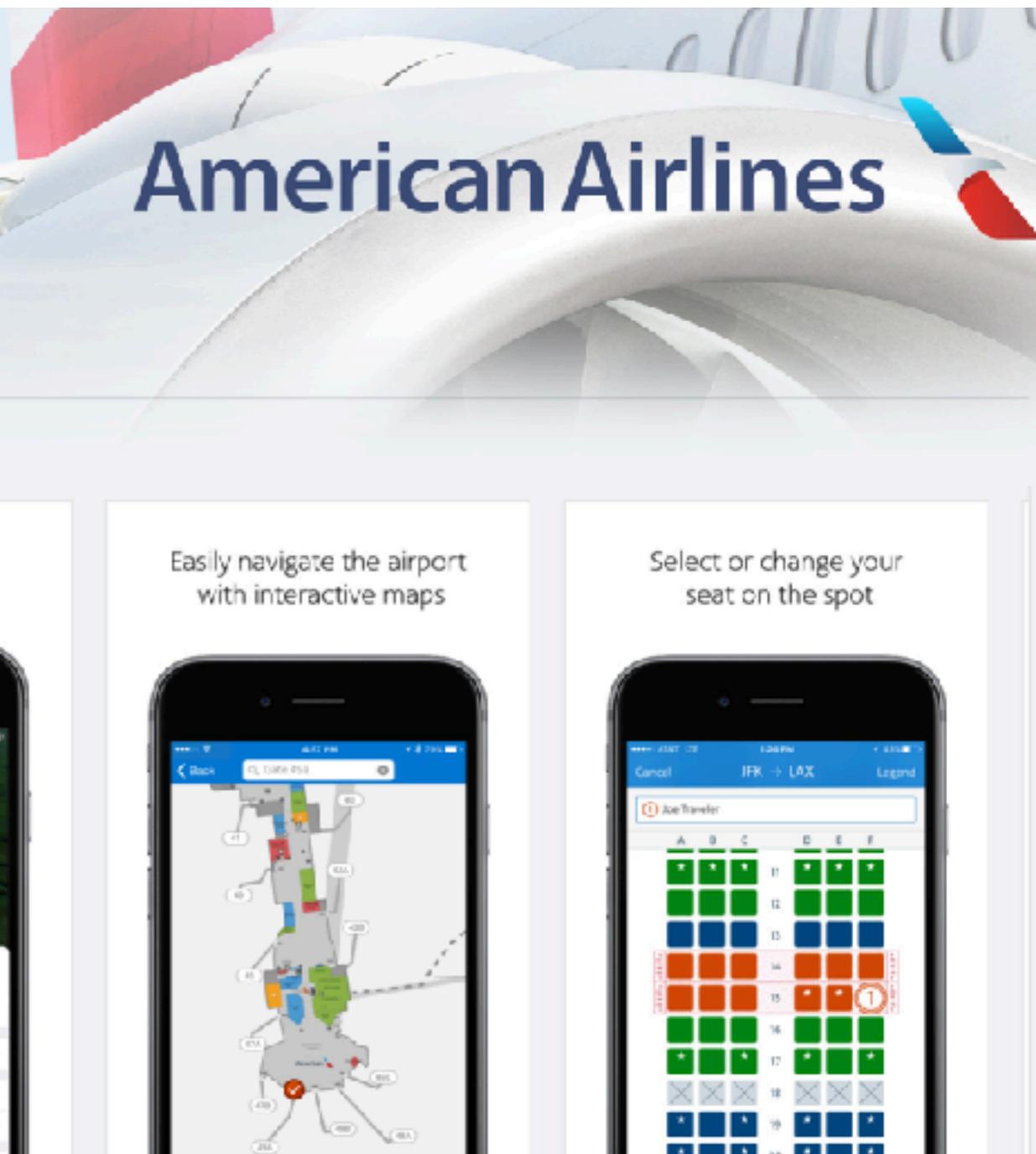


Sliding menu with
your travel tools

Easily navigate the airport
with interactive maps



Select or change your
seat on the spot



GETTING READY FOR THE STORE



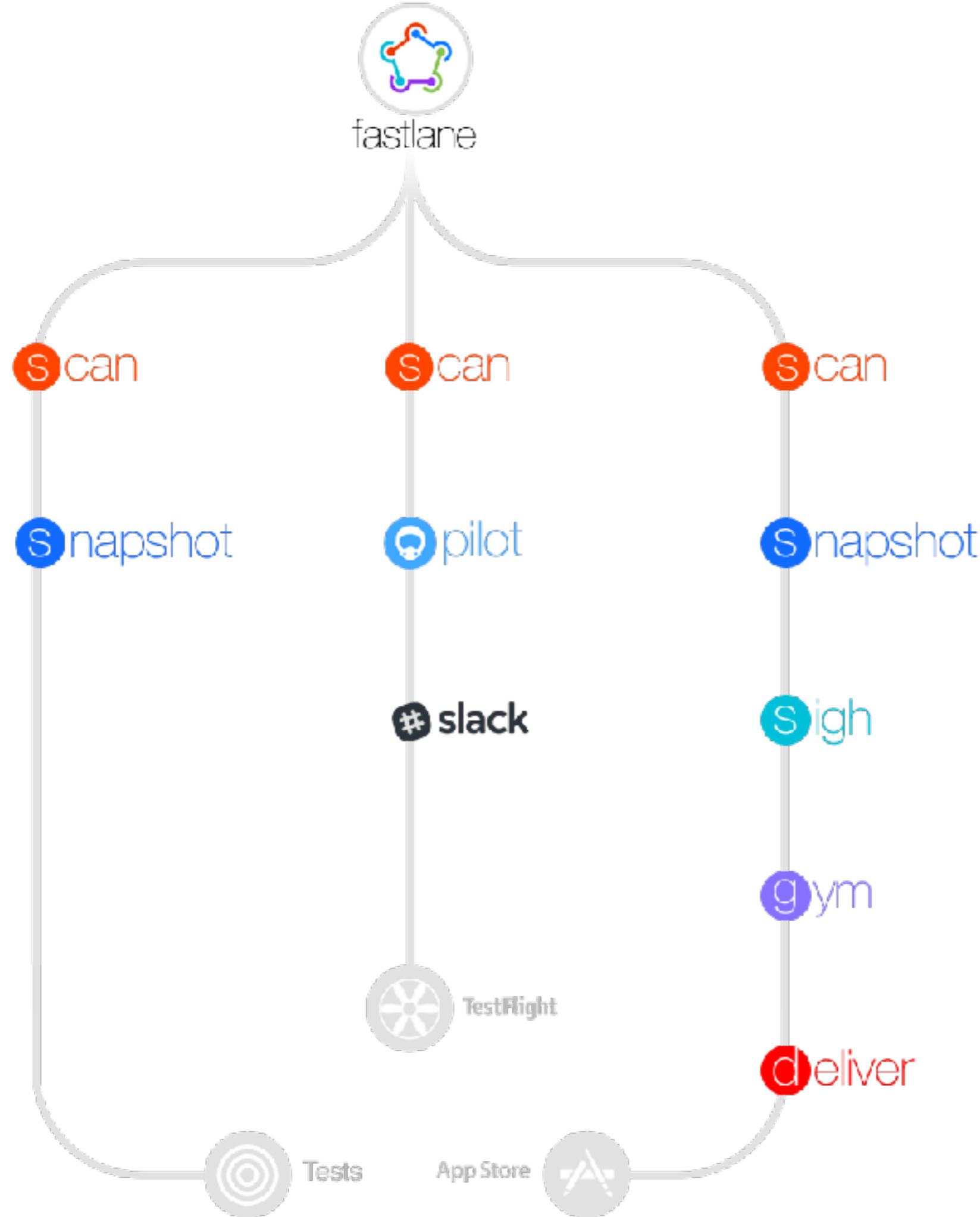
Automate taking localized screenshots of your Android app on every device



Upload screenshots, metadata and
your app to the App Store using a
single command.



Automate taking localized screenshots
of your iOS app on every device



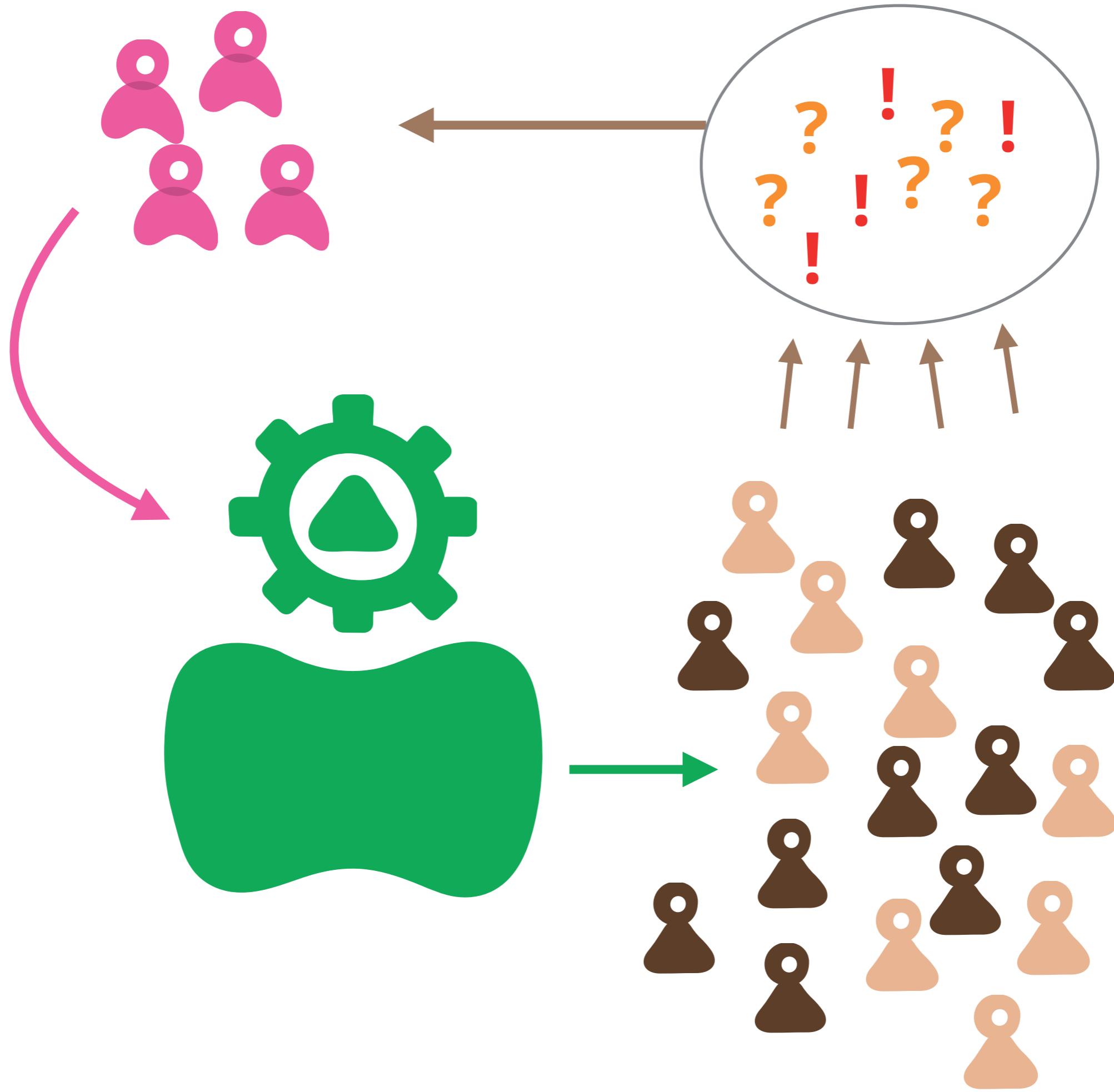
devices/
localization

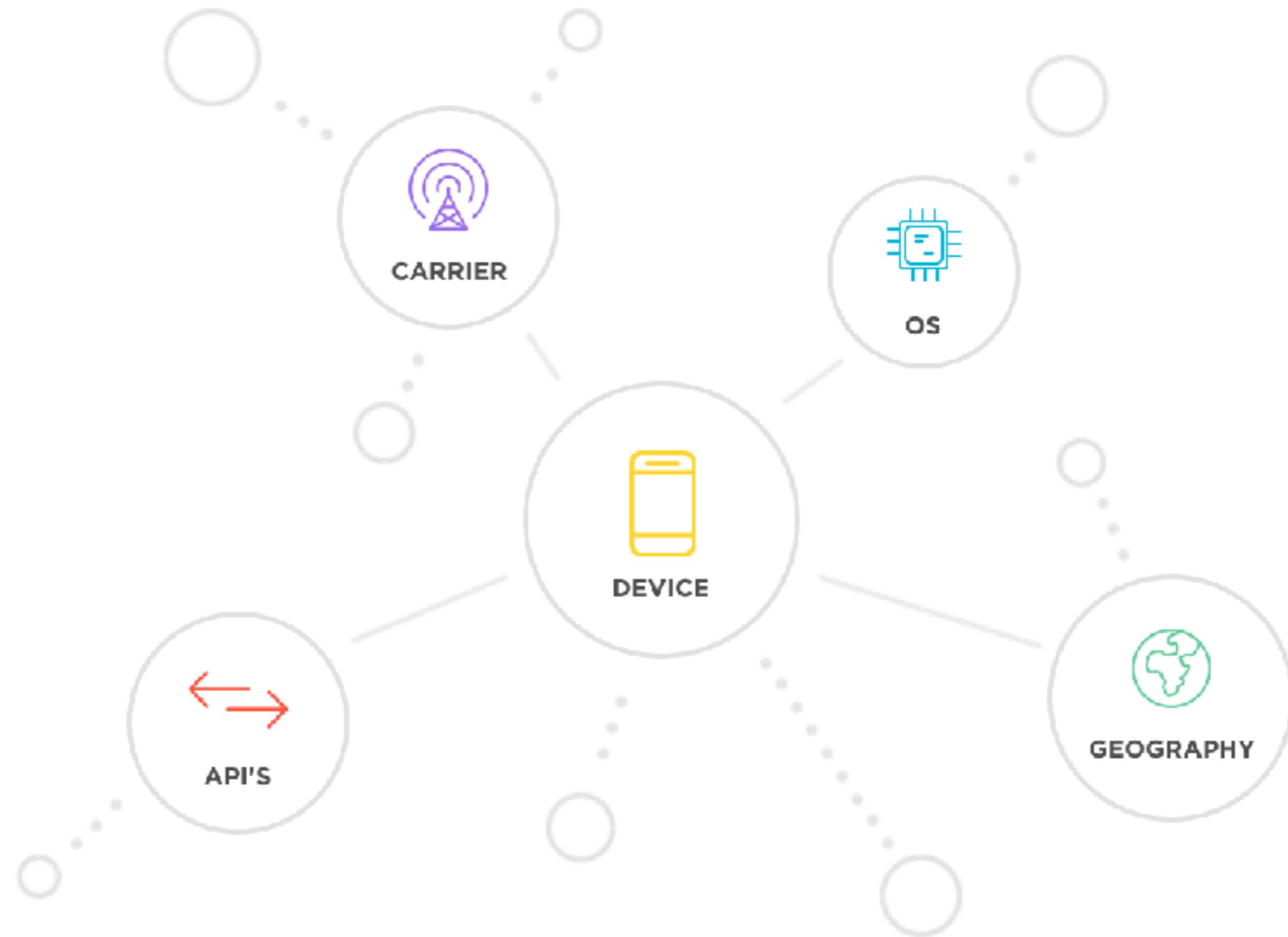
screen grabs for
submitting

signing issues

pushing/
preparing
certification

processing/
submit





Mobile apps

MOBILE APPLICATIONS
New Relic for iOS - Prod...

TIME PERIOD
Last 3 hours ending now

VERSIONS
All versions (21)

APP

Overview

Interactions

Devices

OS versions

Alerts

NETWORK

Map

HTTP requests

Errors

Geography

Carriers

CRASHES

Crashes

Sort by Interaction time

Hide < 1% throughout X

▼ iPhone 0.159 sec

iPhone 4S 0.292 sec

iPhone 4 0.216 sec

iPhone 5 0.154 sec

iPhone 6 0.151 sec

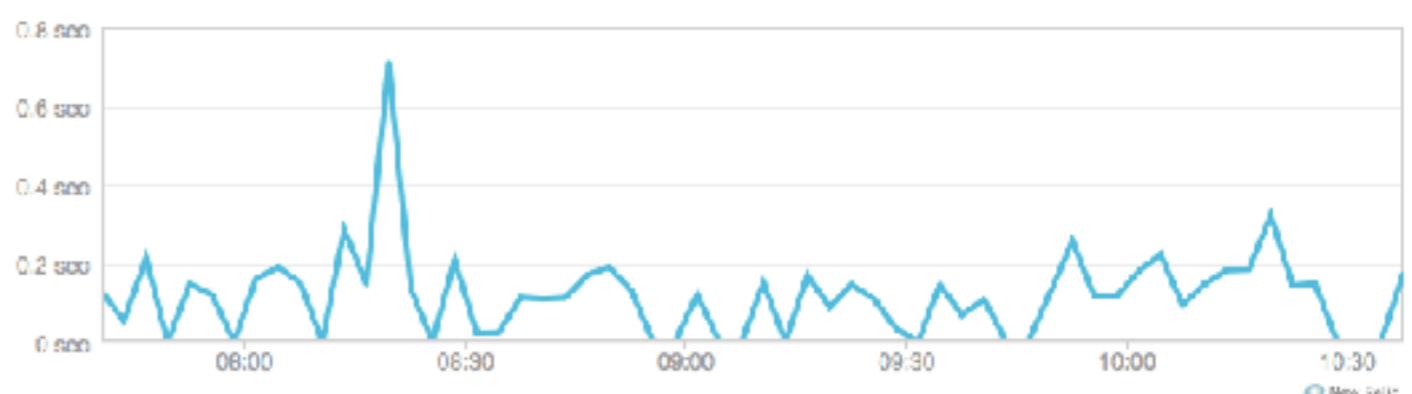
iPhone 5C 0.15 sec

iPhone 5S 0.135 sec

► iPad 0.047 sec

iPhone 6

Interaction time



Http response time



iPhone 6

ACTIVE USERS

157K



DAILY ACTIVE USERS

2.4k

▲ 24.2%



NEW USERS

829

▲ 4.7%



MONTHLY ACTIVE USERS

9.1k

▲ 3.3%



SESSIONS

106k

▲ 2.5%



CRASH-FREE USERS

98.1%

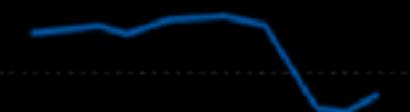
▲ 1.1%

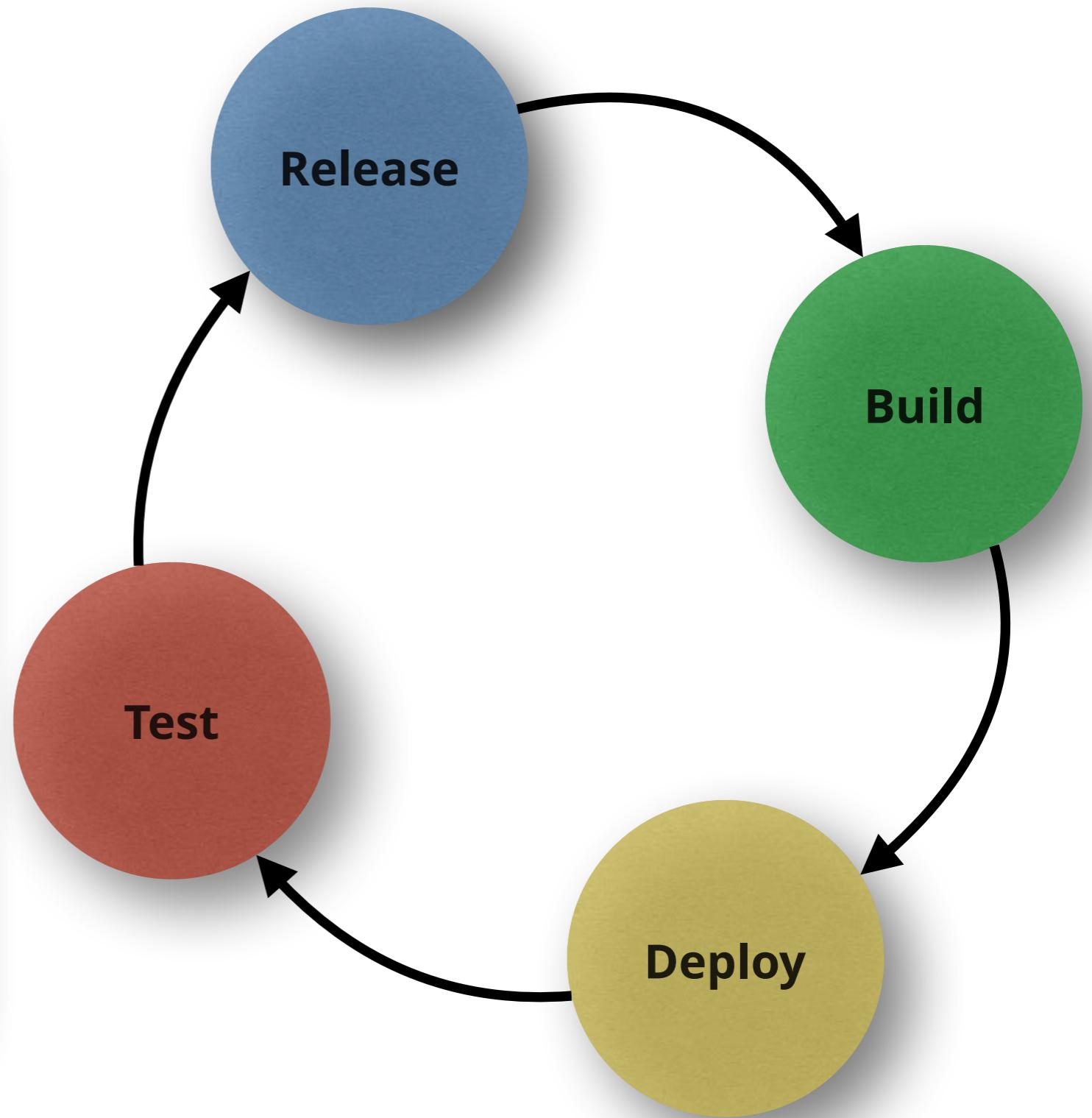
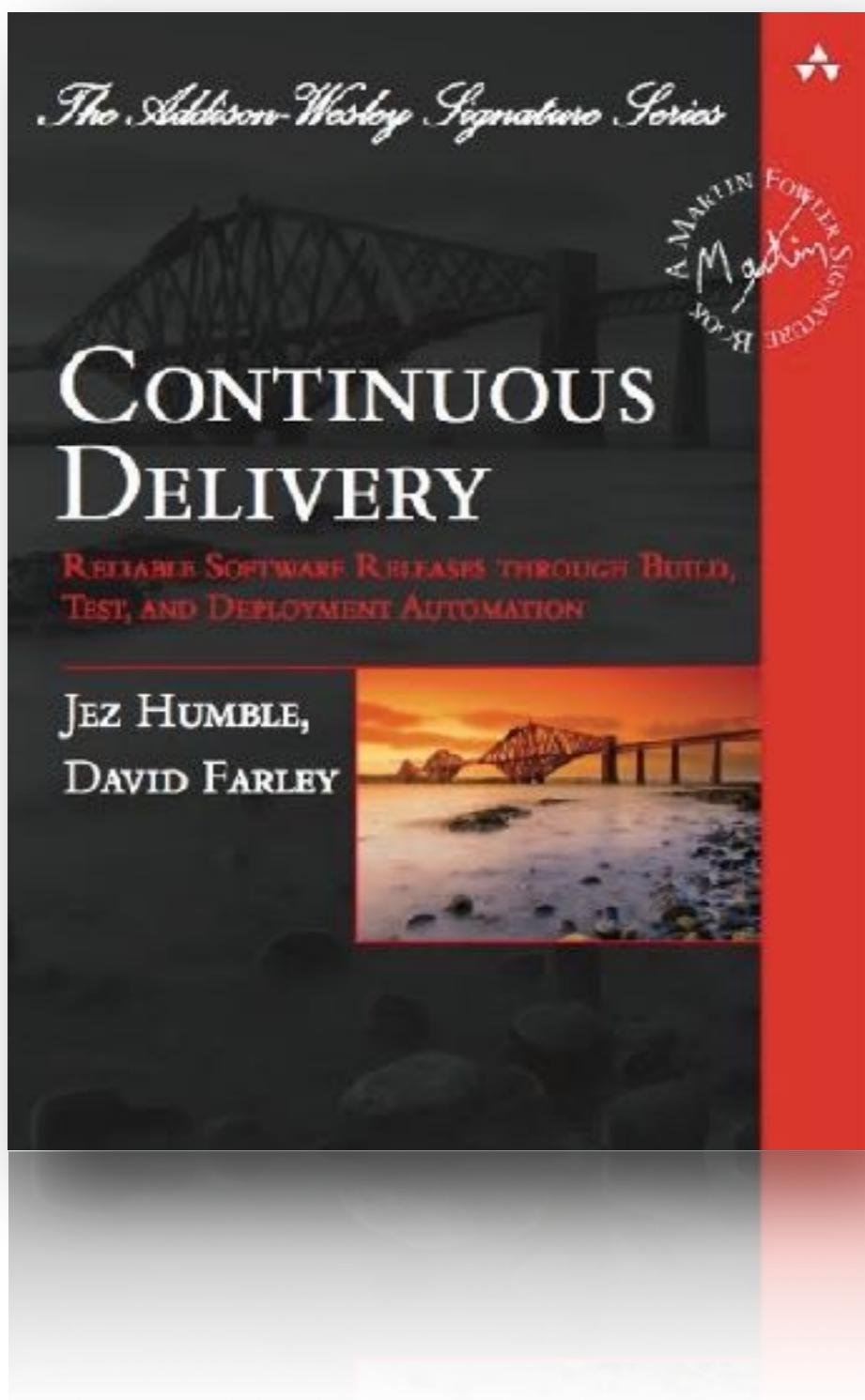


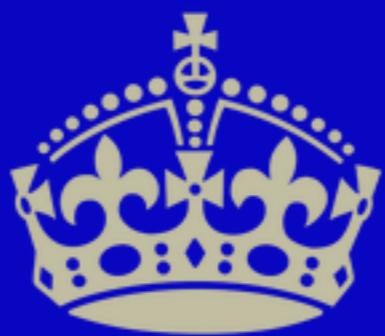
MEDIAN SESSION LENGTH

2:32min

▲ 14%







KEEP
CALM
AND
CONTINUE
EVOLVING

THANK YOU

*@cassiend
@carson_ramsden*

ThoughtWorks®

REFERENCES

Books:

- Continuous Delivery - Jez Humble, Dave Farley
- Working Effectively with Legacy Code - Michael Feathers
- Release It - Michael Nygard
- Domain Driven Design - Eric Evans

Articles/Blogs:

- Branch by Abstraction - Jez Humble:

<http://continuousdelivery.com/2011/05/make-large-scale-changes-incrementally-with-branch-by-abstraction/>

- Branch by Abstraction - Paul Hammant:

http://paulhammant.com/blog/branch_by_abstraction.html/

- Feature Toggles - Martin Fowler: <http://martinfowler.com/bliki/FeatureToggle.html>

- Conway's Law: http://www.melconway.com/Home/Conways_Law.html

Tools:

- Appium: <http://appium.io/>
- Kiwi: <https://github.com/kiwi-bdd/Kiwi>
- Calabash: <http://calaba.sh/>
- Robolectric: <http://robolectric.org/>
- New Relic: <https://newrelic.com/mobile-monitoring>
- Fastlane: <https://fastlane.tools/>
- Spoon: <http://square.github.io/spoon/>