NSBudapest – UI Testing Workshop

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About Supercharge

- Our mission is build strategic mobile products with a large impact (usually meaning 1+ million users)
- ~40 people strong team
- Technologies
  - Native iOS, Android, Windows Phone
  - Ruby/Rails, JS
- Large-scale international products e.g.
  - Self-care app for Europe's biggest telco company (multiple countries)
  - Mobile banking app for the 2nd largest bank in Indonesia (100+ million customers)
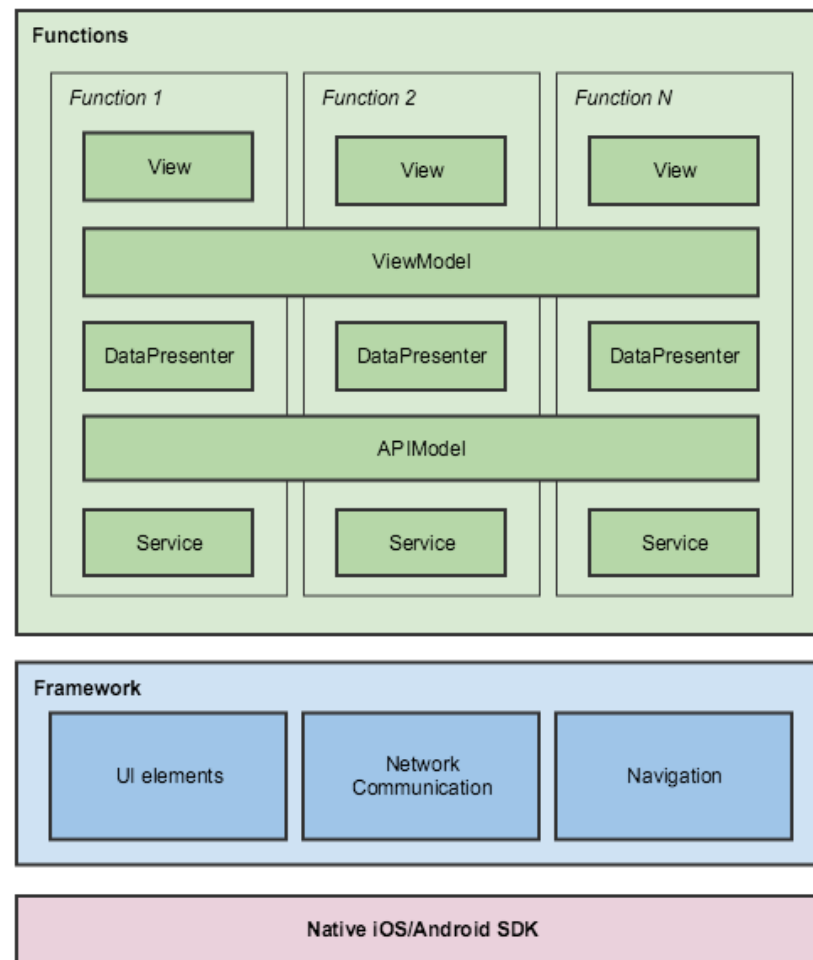
Agenda

- Case Study

- KIF Framework

- KIF vs. Xcode UI testing
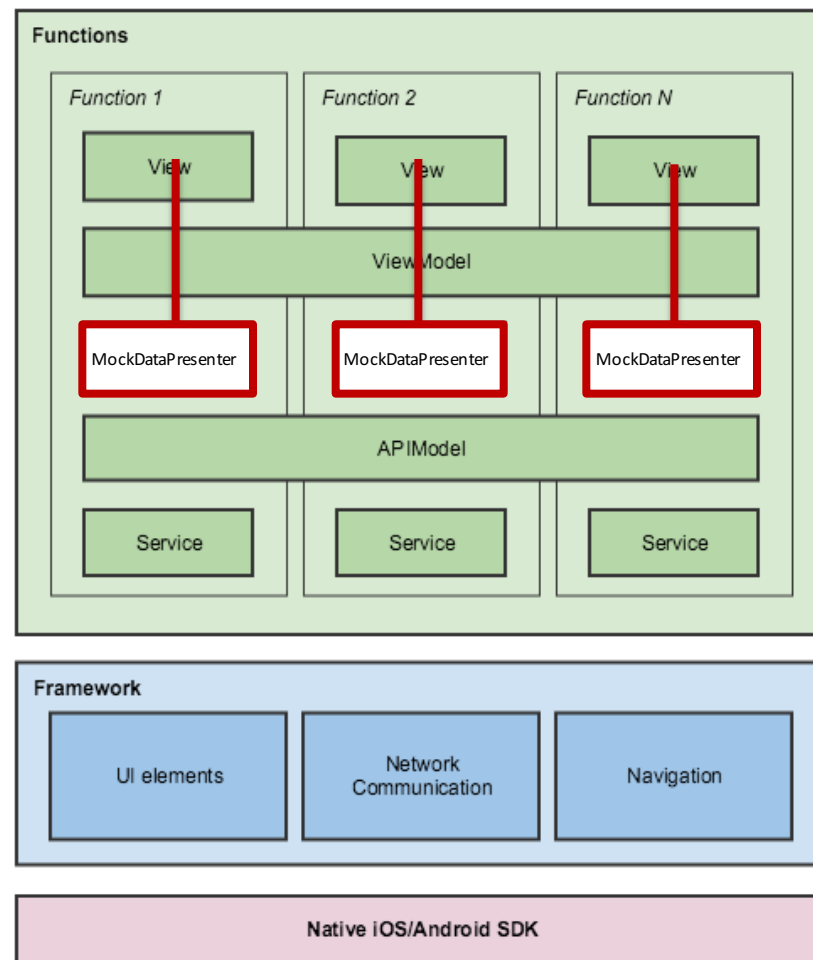
- Tips & Tricks

- Code, code, code

Case Study

- Unit tests
  - Business logic, low level code
  - **iOS:** XCUnit, OCMock
  - **Android:** JUnit, Mockito

- Acceptance tests
  - Testing UI and interactions
  - Mock on Presenter level, or Network level?
  - **iOS:** KIF, VCR
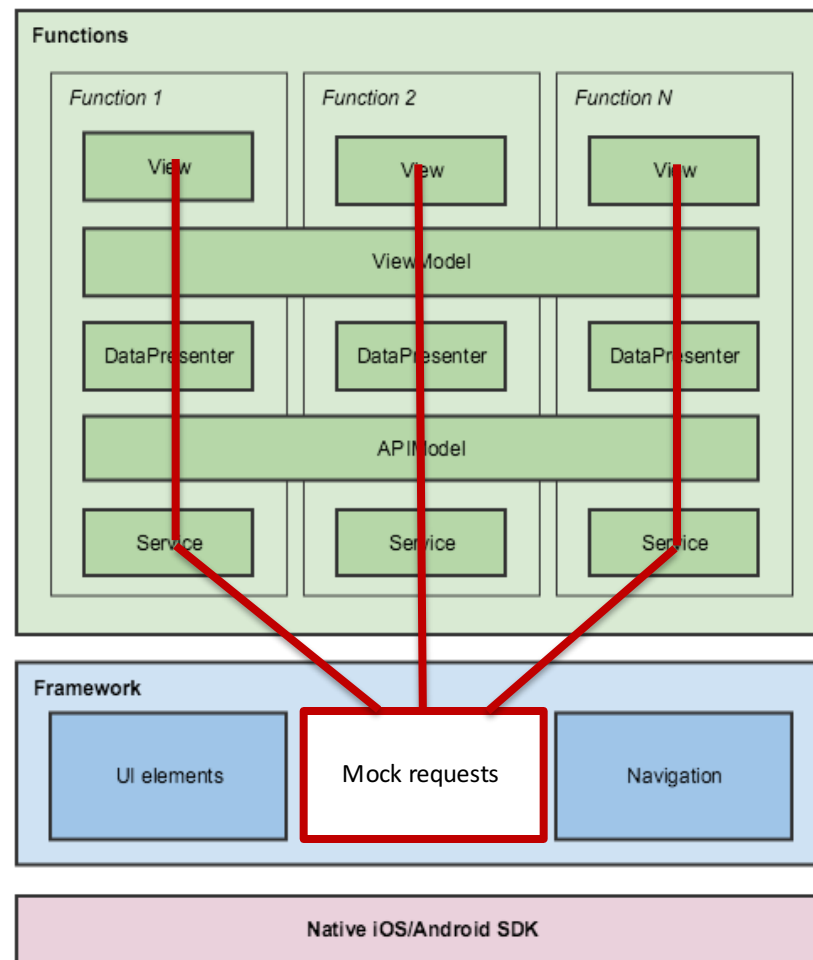 - **Android:** RoboGuice, Espresso

Case Study

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Functions

Function 1	Function 2	Function N
View	View	View

ViewModel

| MockDataPresenter | MockDataPresenter | MockDataPresenter |

APIModel

| Service | Service | Service |

Framework

| UI elements | Network Communication | Navigation |

Native iOS/Android SDK

Case Study

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KIF Framework

- Keep It Functional! – since 2011

- Using iOS Accessibility

- High abstraction level

- **Features:**
  - Tests written in Objective-C
  - Easy to configure (standard Xcode target)
  - Works on iOS 5.1 - 9
  - Imitate actual user input (tap events)

KIF vs. Xcode UI testing 🛠

- KIF:
  - more flexible
  - more helpers
  - every property can be tested

- XCTest:
  - officially supported
  - interesting features
    - relaunch
    - disabling animations
    - recording
  - speed boost?

Tips & Tricks ⚠

- Write environment-independent tests (tap on type instead of instance)

- Mind the localization

- accessibilityLabel / accessibilityIdentifier

- Always test with mock data
  - Use in-app mocking (OCMock, architecture)
  - Record network for more code coverage
  - NSURLConnectionVCR

Have fun!

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WE'RE
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- References
  - http://ocmock.org/
  - https://github.com/kif-framework/KIF
  - https://medium.com/@larcus94/ui-testing-with-xcode-7-221d16bad276
  - https://bitbucket.org/martijnthe/nsurlconnectionvcr
  - https://github.com/team-supercharge/