Basic App Development with Swift

by Daniel Mikusa
Software Support Engineer @ Pivotal
About Me

- Daniel Mikusa
  - Blog / Website
  - Twitter / Google Plus
  - Github (Work) / Github (Personal)
- Long time Mac user
- Professional software developer
- Interested in building tools for my desktop
- Still learning Swift & Mac Dev
Agenda

- Introduction
- Swift
- Xcode
- Important Libraries
- Where to go next?
Introduction

● Goals
  ○ introduce dev tools
  ○ show relevant parts of Swift
  ○ show how to build some basic apps for your Mac

● Out of scope
  ○ iOS Development
  ○ Mastery of...
    ■ Swift language
    ■ Mac OSX APIs
    ■ XCode & other dev tools
  ○ XCode 7 & Swift 2
Prerequisites

- Install XCode
- Use Yosemite & XCode 6.3+
- Optional but recommended
  - Carthage - github.com/Carthage/Carthage
  - CocoaPods - cocoapods.org
Swift Language

● Features
  ○ A compiled language
  ○ Has static, strongly typed objects
  ○ Intended to be more concise, safer and robust than Objective-C
  ○ Designed to work w/Cocoa & CocoaTouch
  ○ Works well w/existing C, Obj-C and C++ code
  ○ Automatic memory management via ARC

● Reference Links
  ○ Home Page
  ○ A Swift Tour
  ○ Reference Docs
  ○ Other useful links
Playgrounds

- REPL (Read-Eval-Print-Loop) Environment for running Swift Code
- Excellent for learning, quickly building and iterating on your code and exploring new APIs
- Works with GUI classes too
- Easy way to share code samples and a great tool for presentations
Testing

- It’s always good to test your code
- Uses XCTestCase
- Similar to unit tests in many other languages
- One caveat...
  - Tests are in a separate target, which only gives you access to public methods & properties (fixed in 2.0)
Gotchas & Problems

- Swift is still very new
  - Heard reports of compiler issues / shortcomings
  - Have had problems compiling third party code
  - Language & compiler are still evolving
  - Not all docs have Swift examples
  - StackOverflow other resources limited

- Xcode 6.3.2 w/Yosemite seems stable, but previous versions crashed constantly w/Playgrounds & Swift

- www.textfromxcode.com
Swift Demos
XCode - Real Estate
XCode - Real Estate

Toggle Sections on / off
XCode - Real Estate

- Schema & Target selection
- Status Bar
- Assistant Editor Mode
- VCS Mode
- Standard Editor Mode
- Run / Test / Profile / Analyze Button
XCode - Building GUIs

- XIB file
  - XCode shows as GUI, but is an XML file
  - Represents “objects”
  - Can contain visible & invisible objects
- Edit the XIB file visually
  - Drag & drop controls / wysiwyg style
- Large list of components available
Component Demo
XCode - Actions & Outlets

- **Action**
  - Sends a message from a control to code
  - Attach functionality to a button or other control

- **Outlet**
  - Reference to an object in the XIB file
  - Object automatically created and injected
  - Wire dependent objects together
XCode - Actions & Outlets

Assistant Editor Mode
(aka split panes)
XCode - Actions & Outlets

Connections Inspector w/Action

Connections Inspector w/Outlets
Actions & Outlets Demo
XCode - Bindings

- Bindings
  - keeps model and view in sync, automatically!
  - increase functionality, decrease code required
  - optionally can transform the data as it’s sync’d
  - other flexible configuration options
XCode - Basic Binding

Model key path is linked to an object on the App Delegate

```swift
@NSApplicationMain
class AppDelegate: NSObject, NSApplicationDelegate {

    @IBOutlet weak var window: NSWindow!

    var configValue: Double = 0.0
    var enabled: Bool = true
```
Binding Demo
Libraries

● Swift is the language
● Interacts with Object-C and C libraries
● Cocoa
  ○ File system access
  ○ Network access
  ○ Data access
  ○ Audio & Video
  ○ GUI framework
Libraries

- Third party libraries
  - Lots of open source libraries available
  - Cocoapods and Carthage are great ways to use them
- HTTP - Easier HTTP clients
  - Alamofire
  - Just
- SwiftyJSON - Nice JSON processor
- BrightFutures - Futures & Promises API
Libraries Demo
Where to go next?

- **Apple Resources**
  - Docs
  - Sample Code
  - Videos
- **cocoapods.org**
  - Great place to find third party libraries
- **StackOverflow**
- **Swift Developer Blog**
Questions
Feedback

http://j.mp/psumac2015-119