iOS Development Talk Outline

Jianneng Li

July 10, 2013

1 Introduction

- iOS is a variant of UNIX written in Objective-C, and powers both iPhone and iPad
- Objective-C is closely designed around the Model-View-Controller (MVC) philosophy
- Xcode is the main IDE for developing in Objective-C
- The primary purpose of this talk is to show a practical approach to developing iOS applications; it aims to provide a glimpse over a wide range of topics, ranging from specific features of Objective-C to how to best utilize Xcode to abide by MVC

2 The Talk

2.1 Xcode

- Layout of menus, commonly used features, and keyboard shortcuts

2.2 Objective-C

2.2.1 Basics

- Strict superset of C; object-oriented language
- Method calls are in the forms of message passing
- Single inheritance (use protocols for more behaviors)

2.2.2 Syntax

- Designed to resemble human language as much as possible

2.2.3 Features

- Properties (instance variables with getters and setters)
- Public and private methods and instance variables
- Standard library
- Protocols (similar to interfaces in Java)
- Categories (similar to the decorator pattern)

2.3 MVC

- Adding and editing items in storyboard
- Using IBAction to communicate from View to Controller
- Using IBOutlet to communicate from Controller to View
- View Controller lifecycle
- Tab bar (an easy way to make multiple MVCs)
- Navigation Controller (navigate from one screen to another)
- Segue (passing data between screens)
- NSNotificationCenter (message broadcast)

3 Other Topics

- Autolayout
- Core data
- Multithreading
- Gesture recognizer
- Profiling

A References and Useful Links

A.1 Acknowledgement

This talk largely based on the first half of the CS 193P iPhone Application Development course taught at Stanford University in Winter 2012-2013, as well as web tutorials from AppCoda.

A.2 Links

- CS 193P Winter 2012-2013 at Stanford University
  https://itunes.apple.com/us/course/coding-together-developing/id593208016
- AppCoda Community - Learn iOS Programming and Build iPhone App
  http://www.appcoda.com/ios-programming-tutorial-create-a-simple-table-view-app/
  http://www.appcoda.com/use-storyboards-to-build-navigation-controller-and-table-view/
  http://www.appcoda.com/storyboards-ios-tutorial-pass-data-between-view-controller-with-segue/
  http://www.appcoda.com/storyboard-tutorial-create-tab-bar-controller-and-web-view/
- Ry's Objective-C Tutorial
  http://rypress.com/tutorials/objective-c/
- Ray Wenderlich: Tutorials for iPhone / iOS Developers and Gamers
  http://www.raywenderlich.com/

A.3 Demo Repositories

The source code for the demo used throughout the talk can be found online.

- GitHub: https://github.com/jl982/iostutorial
- Bitbucket: https://bitbucket.org/jl982/iostutorial

Tip: use commit logs to learn the steps taken in building the final application.

B Appendix: Xcode Keyboard Shortcuts

Xcode has a rich set of keyboard shortcuts. Below are some good resources showing you the variety of things that can be done quickly using keystrokes rather than mouse clicks.

- http://stackoverflow.com/questions/1402174/
- http://www.rsaunders.co.uk/2011/11/xcode-shortcuts.html
- http://www.1729.us/xcode/Xcode%20Shortcuts.png

For text editing, there is a vim plugin available: https://github.com/JugglerShu/XVim