ADVANCED BUILDING APPS FOR APPLE WATCH

360 IDEV 2017

Justin Domnitz, Lowyoyo, LLC

Introduction

- Bachelors in Computer Engineering from Georgia Tech and an MBA from Georgia State.
- Software development, primarily in the retail and food service technology space.
- Independent contractor, focusing entirely developing software for the mobile platform.

Agenda

- Xcode 9 beta 5 / iOS 11 / watchOS 4.0
- Introduction - SDK / watchOS Version
  - Anyone built an Apple Watch app before?
  - Anyone attend Sunday's Apple Watch workshop with Jeff Kelley? Tuesday's Notification Handling on WatchKit with Eric Blair?
- Debugging
- Network Requests
- Background Tasks
- User Interface Elements
- Basic iPhone / Watch App Communication
- Complication With "Time Travel"
- Resources
- Q&A

A note about debugging…

- Debugging on the watch simulator works much better than in earlier versions of watchOS.
- Debugging on a physical device is still problematic with Xcode having difficulty being able to attach to the physical device’s process id. If you get stuck, restart the physical device and try again.
- iOS Simulator Watch app.

Network Requests

- SystemConfiguration.framework is not available on watchOS. Therefore, Reachability is not available. You'll need to leverage some other real-time network connectivity tracker. Ideas?
- Don't forget to configure your App Transport Security, just like your iOS apps.
- What about certificate pinning?
  - AFNetwork touts itself as working on watchOS, but I haven't personally tried this library.
  - openSSL on Apple Watch.
    - A note about Heartbleed.
- A note about Watch simulator connectivity issues.

Network Requests

- Twitter Example
  - Their app versus my app.

Background Tasks

- WKApplicationRefreshBackgroundTask
  - Background tasks are “black box” budgeted like iOS background tasks. You request a specific interval, but it is not guaranteed. Priority is given if the user has installed your application’s complication.
- WKSnapshotRefreshBackgroundTask
  - System does this automatically, but you can take your own actions to improve the user experience.

User Interface Elements

- WKInterfaceTable
  - The Watch’s answer to a UITableView.
- Animations
  - watchOS doesn’t natively support an activity indicator. So… we’ll create one using animations.

Basic iPhone / Watch App Communication

- WatchConnectivity
  - WCSession

Complication With "Time Travel"

- Do all (even if it's just a launcher) for discoverability.
- Let's look at some sample code.
- A note about images in complications (alpha values).

Things to look for in watchOS 4

- Overlap interface elements
  - Group layout: Overlap
- Auto-rotate
- Page index

Resources

- http://www.lowyoyo.com
- https://github.com/justindomnitz/iDev2017_watchOS
- http://stackoverflow.com/users/4877241/justin-domnitz
- https://github.com/AFNetworking/AFNetworking
- https://www.openssl.org/
- https://github.com/billchan/ios-openssl/tree/WatchOS
  - You may need to update the SDK versions in the build.sh file.
- WWDC2017
  - https://developer.apple.com/videos/play/wwdc2017/205/
  - https://developer.apple.com/videos/play/wwdc2017/808/
  - https://developer.apple.com/videos/play/wwdc2017/216/

Q&A

- Justin Domnitz
- @justindomnitz
- justin.domnitz@lowyoyo.com
- +1 (678) 523-2505

Overview

- The Apple Watch no longer depends on the iPhone to make its network requests. The Watch can make and handle its own network requests including OAuth2 and any other authentication pattern you can build for iOS. Apple has made significant improvements in getting and using data in the Watch Complications. We'll develop a basic Complication and push a data schedule to it. We'll also enable "time travel" so the user can navigate forward and back along the Complication's schedule. The Apple Watch is the smallest screen you'll ever develop for. We'll look at how iOS UI elements you already know are leveraged on the smaller real estate. We'll look at animations and other tricks for leveraging this tiny screen. Having a basic understanding of Swift programming and Apple Watch development is a recommended prior to attending this talk.