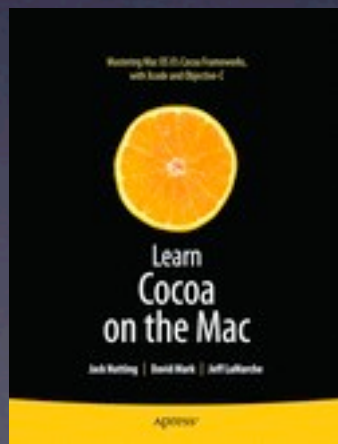# The iPhone Platform

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IPHONE AND MAC OS X SOFTWARE AND CONSULTING

- Working with iPhone, Mac OS X, and their tech predecessors (OpenStep and NeXTStep) since 1994

- A few games of my own on the App Store

- Employed at Nordnet Bank building mobile apps

- Wrote "Learn Cocoa on the Mac" and "Beginning iPad Development for iPhone Developers"

- The iOS platform

- iOS Development

- the iPhone Developer Program

- App Store

- Closing Remarks

The iOS Platform

Hardware Baseline

- 320x480 display

- Geolocation (GPS, WiFi, cell tower)

- Sensors: accelerometer, touch-screen, microphone

- 3D hardware acceleration: OpenGL ES 1.1

Hardware since 2009

- 640x960 display (iPhone 4)

- 1024x768 display (iPad)

- Compass

- Gyroscope (iPhone 4)

- 3D hardware acceleration: OpenGL ES 2.0

Included Software

- Mobile Safari: world-class browser

- Automatic synchronizing with the cloud

- Solid OS with UNIX underpinnings

- Syncs with iTunes, easy to update

People Like Apps

- 200,000 apps

- > 2 billion app downloads

- > 100 million users trained to buy software

"I used to think I pirated software because I was a cheapskate. Now I know I was just lazy."

OS Roadmap

- mid-2007: iPhone OS 1.0

- mid-2008: iPhone OS 2.0

- mid-2009: iPhone OS 3.0

- April 2010: iPhone OS 3.2 (iPad only)

- mid-2010: iOS 4.0 (iPhone)

- fall 2010: iOS 4.x (iPad)

iOS Development

Xcode & iPhone SDK

- Free (as in beer) high-level tools
  - Xcode, Interface Builder
- Free (as in speech) compiler tools
  - llvm, gdb

Objective-C

- Object-oriented extension to C

- Inspired by Smalltalk

- Dynamic runtime similar to ruby, python

- Native apps require Objective-C

- People who "don't like" Objective-C probably haven't tried it

Objective-C syntax

- Calling a method looks *nothing* like calling a function

- The Objective-C and C++ method-calling syntaxes are orthagonal

```
gateway.callWebService("http://z.com/",
1024, 2048, "orders", "123", "providers",
"456");
```

```
gateway.callWebService("http://z.com/",
                       1024,
                       2048,
                       "orders",
                       "123",
                       "providers",
                       "456");
```

```
[gateway callWebService:"http://z.com/"
              port:1024
            buffer:2048
          authUser:"orders"
          authPass:"123"
          resource:"providers"
        resourceId:"456"];
```

```
[gateway callWebService:"http://z.com/"
              port:1024
            buffer:2048
          authUser:"orders"
          authPass:"123"
          resource:"providers"
        resourceId:"456"];
```

CocoaTouch

- Objective-C frameworks

- General-purpose classes for strings, arrays, etc

- System classes for files, networking

- Accessing sensors (accelerometer, GPS, etc)

- UIKit for GUI

- Core Graphics / Animation / Audio

Other APIs

- OpenGL ES

- OpenAL

- C/C++

- Web Standards HTML5, CSS, JS

- 3d-party: cocos2d, three20, etc

Getting Started

- Get a Mac

- Register at developer.apple.com

- Download iPhone SDK

- Sign up for iPhone Developer Program (it may take some time)

- Start coding, using Simulator to run

iPhone
Developer Program

Get with the program

- Costs $99 per year

- Gives you ability to create certificates

- Development certificates for your devices

- Ad Hoc Distribution for testers and friends

- App Store Release

- Developer Forums

App Store

- Hundreds of thousands of apps

- Categories and Subcategories, all full of new entries all the time

- Top sellers in each category are prominently displayed

- Apple can pick some winners "New & Noteworthy", "What we're playing"

App Store

- Apple handles all CC stuff, gives you 70%

- Think about prices!

- Monthly payments for each region exceeding threshold

- Horror stories

- Delays!

- Rejections!

App Store
submission process

Waiting For Review

In Review

*@#($!   Denied

Submit to App Store

- Truth: it's not that bad

- 95% of submissions approved in < 1 week

- Reasons for rejection are usually clearly stated and sensible

Your First Submission

- Be prepared to wait for finalization of your paid contract

- Post-date your app's first release

Submitting Updates

- Waiting game all over again.

Tracking Sales

- Daily reports

- Monthly reports

- Use AppViz

Other ways of getting paid

- Ads in apps
  - iAd, Google, adMob, mobClix

- In-app purchasing

Think Virally

- Make it easy for users to connect to Twitter and Facebook

- For games: Leaderboards, acheivements, challenges

- Use Push Notifications to keep people engaged

Design for Mobile

- Keep it simple

- Focus on your app's core value proposition

- Make common tasks simple, other tasks possible (within reason)

- Eliminate unreasonable tasks

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