



# Mastering Xcode for iPhone OS Development

Part 1

**Todd Fernandez**

Sr. Manager, IDEs



## Customer Reviews

[Current Version \(1\)](#) [All Versions \(24\)](#)

[Write a Review >](#)

### Gorgeous and Addictive

[Report a Concern >](#)



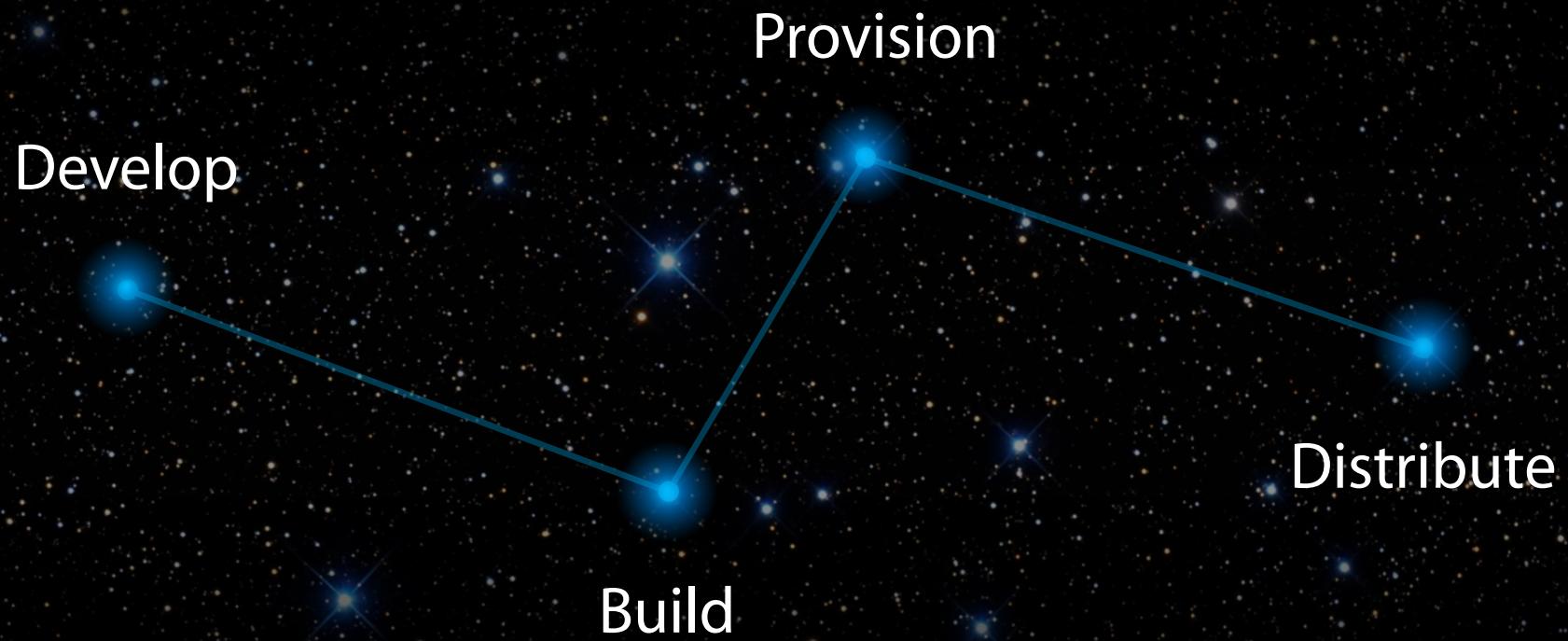
by Play 4 Keeps - Version 2.0 - May 29, 2010

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Was this review helpful? [Yes](#) [No](#)

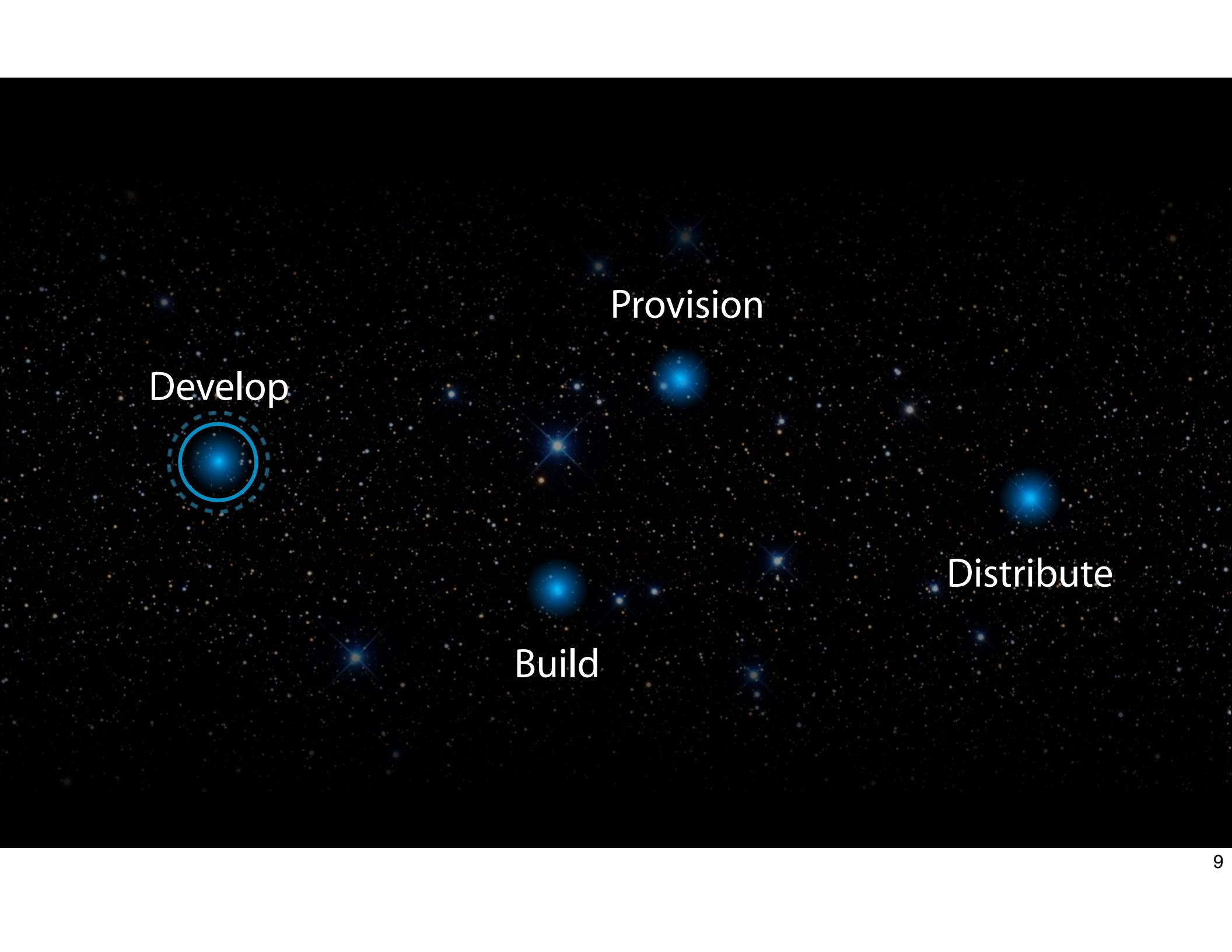




# Tale of Two Sessions

- Part 1: Orientation: tour of complete development cycle
- Part 2: Mastery: details of several critical areas





Develop



Provision

Build

Distribute

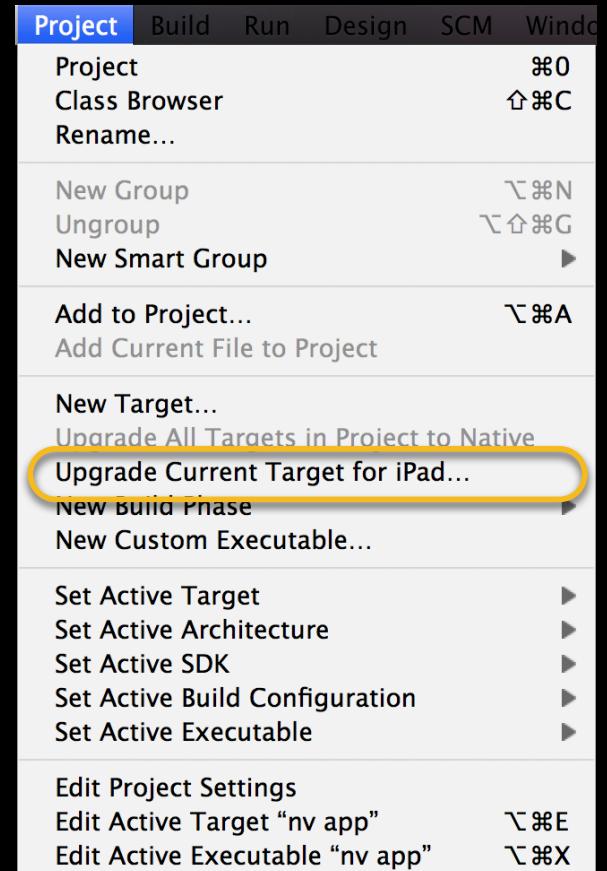


# Project Templates

- Different app types
- iPhone vs. iPad vs. Universal
- Create working apps

# Project Templates

- Different app types
- iPhone vs. iPad vs. Universal
- Create working apps
- Upgrade existing iPhone projects for iPad



# Project Settings

- Base SDK
  - APIs your app uses
  - Always build against latest SDK
- iPhone OS Deployment Target
  - Earliest OS version app supports
- Targeted Device Family
  - Devices app supports

# Project Editing

- Source Editor
  - Code completion
  - Edit All in Scope
- Interface Builder
- Building
  - Analyzer
- Documentation
  - Quick Help

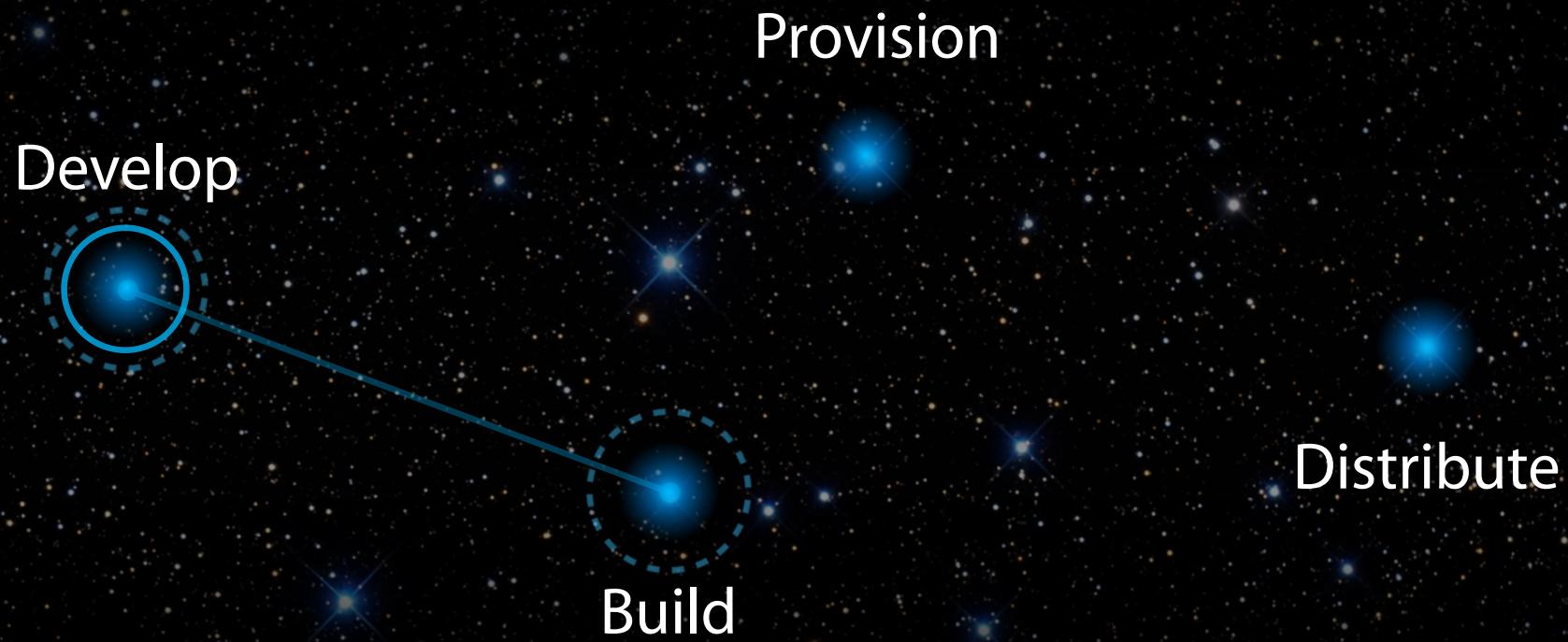
# Demo

## Develop

**Jacob Xiao**  
iPhone Tools Engineer

# Develop Demo

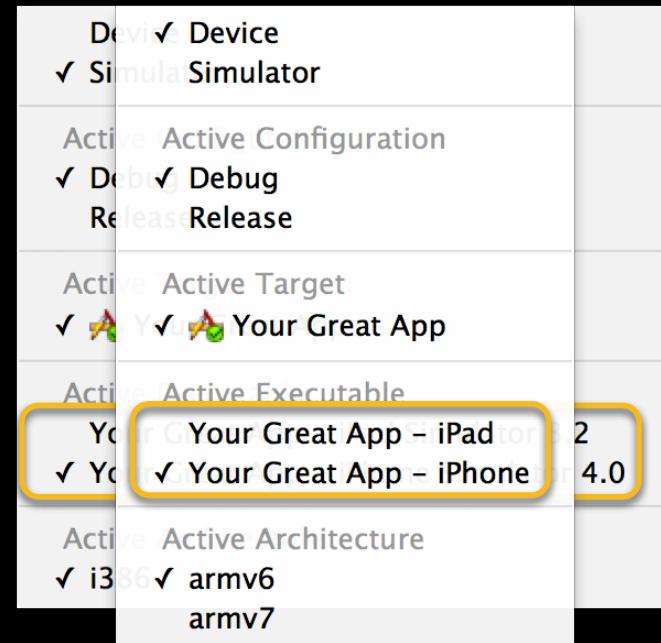
- Create Universal app project
- Source code and interface editing workflows
- Quick Help and documentation
- Build and debug in iPhone Simulator



# Build

## Device or Simulator

- Simplified Overview popup
- Choose your destination!
  - Device and specific device
  - Simulator and specific OS version



# Build Simulator

iOS 4

- Build once and simulate on multiple OS versions
- Uses modern Objective-C runtime ABI
  - Don't declare instance variables for properties
  - Do rebuild any code built with older SDK



# Build Device



- Incremental uploading to the device
  - Only changed bits uploaded
  - Faster build and debug turnaround



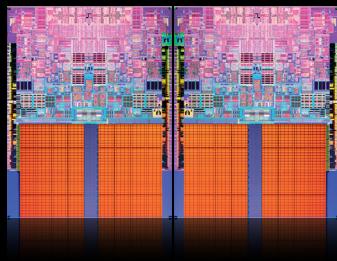
# Build

## Simulator vs. Device

- Use iPhone Simulator for faster turnaround
- Test every model you support  
(you can cheat on the different colors)



# Why Test on a Device



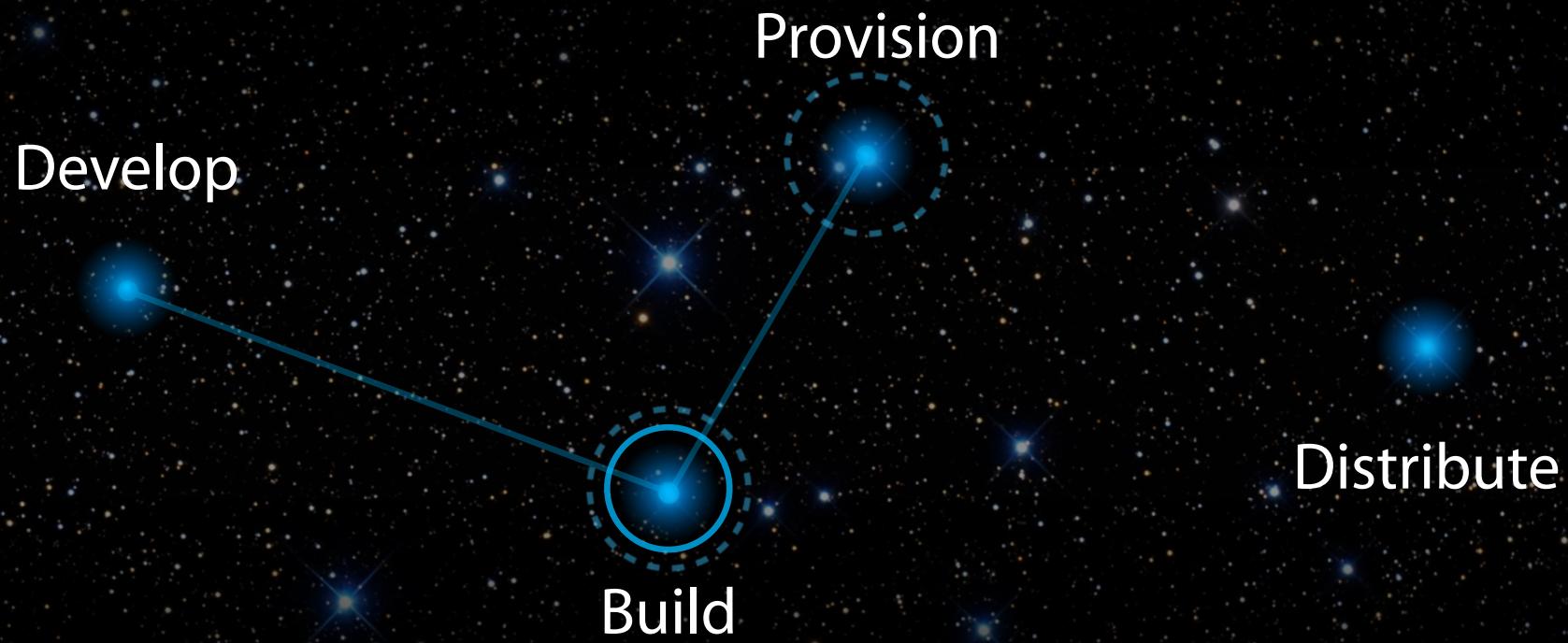
# Test on Older Devices and OS Versions

- Know how app performs for all users
- Keep devices running the older OS versions



# OS and Device Support Timeline







# Automatic Device Provisioning

## Basics

- We made the simple cases simple
- Join iPhone Developer Program
- Everything else in Xcode

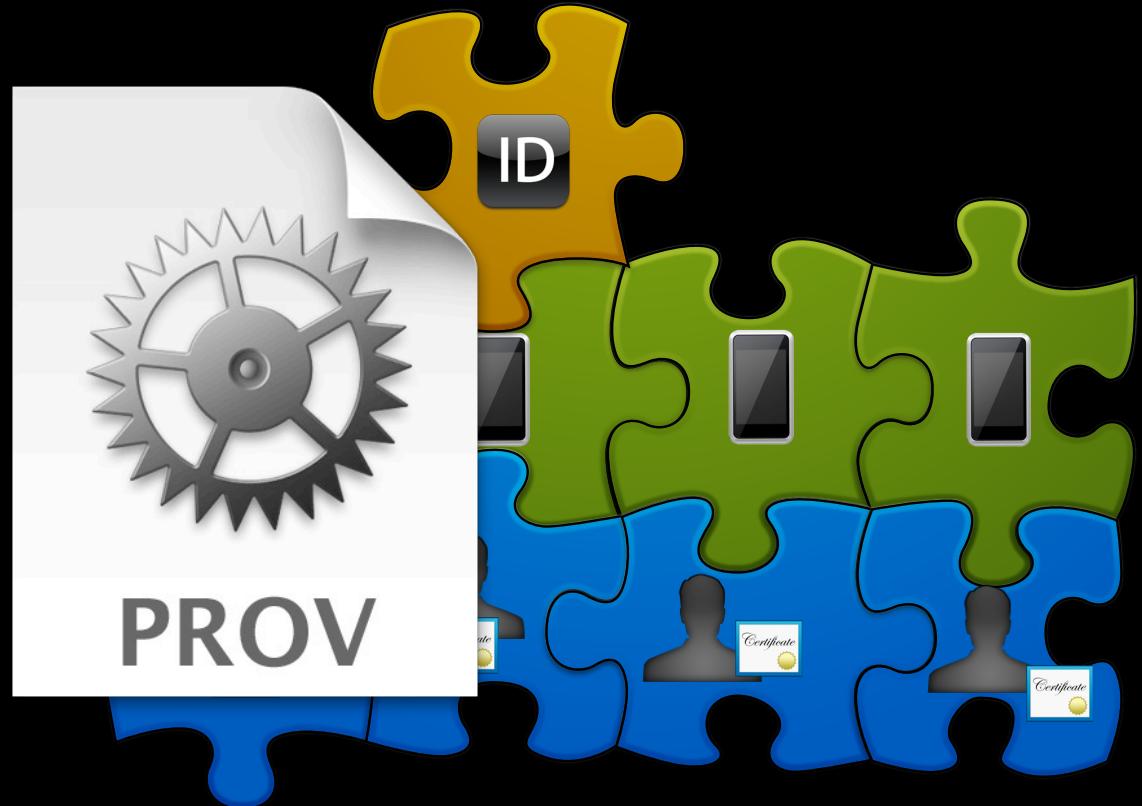


## **App ID**

Wildcard for development

## **Team Member Devices**

## **Development Team Certificates**





# Automatic Device Provisioning

## Updating

- New profile generated
  - New team member
  - New device
- Simply click refresh in Organizer to get the latest profile for your team



# Automatic Device Provisioning

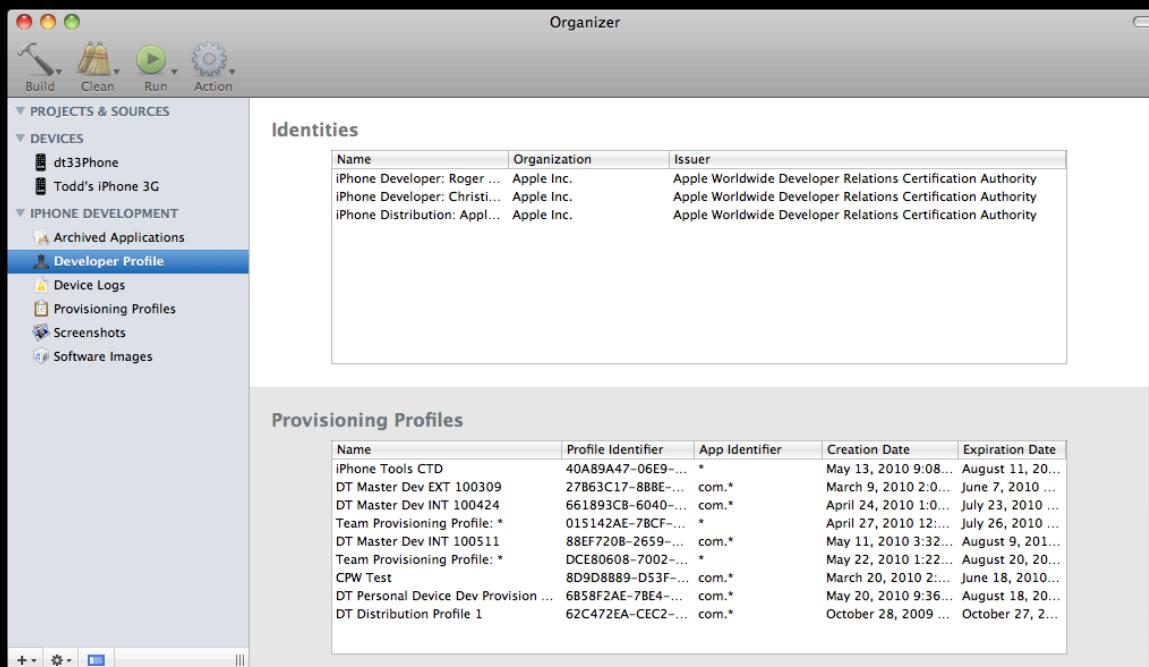
## Advanced

- Create at iPhone Provisioning Portal
  - Custom development provisioning profiles
  - Distribution provisioning profiles
- Xcode still manages them for you

# Developer Profiles



- Code signing certificates and provisioning profiles
- Move to new development system



# Debugging, Tuning, and Testing

- Debugging push notifications
- Instruments
- UI automation

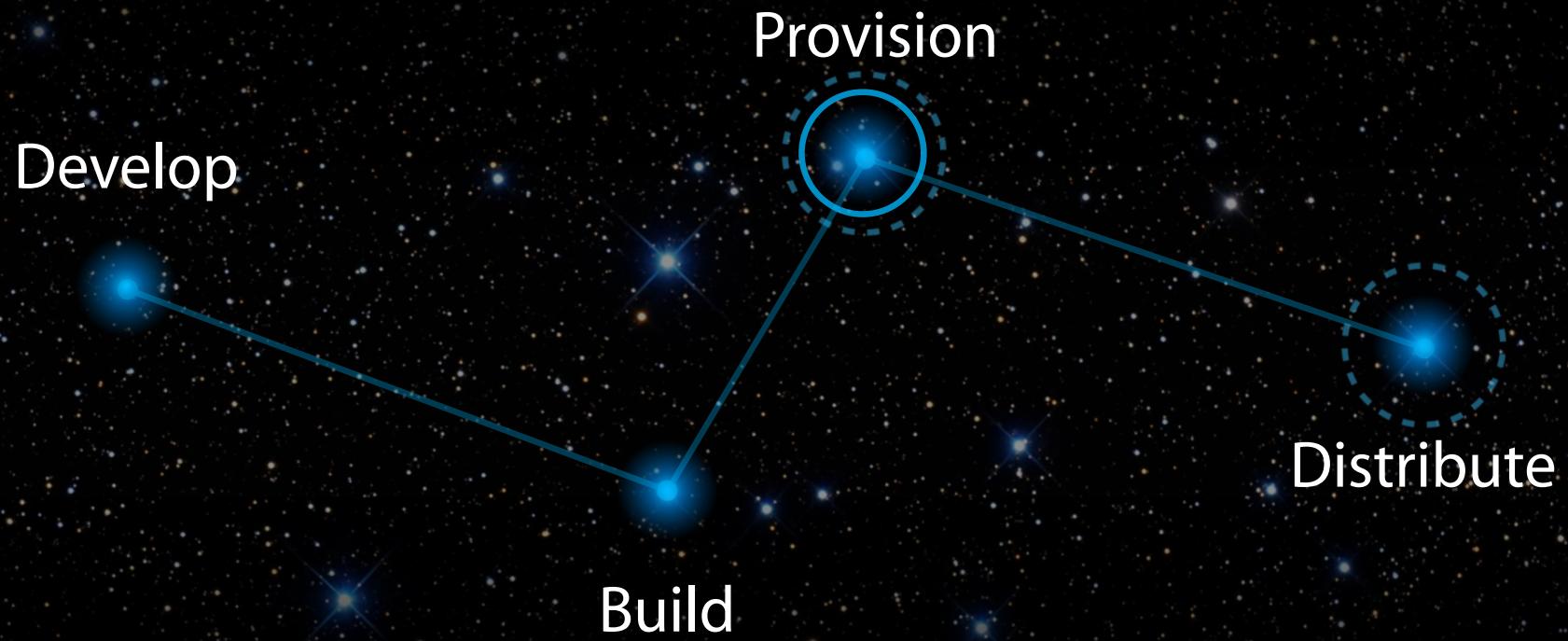
# Demo

## Provision and Build

**Chris Skogen**  
iPhone Tools Engineer

# Provision and Build Demo

- Building for device
- Debugging
- Instruments
- UI automation



# Distribution



- First-class support in Xcode
- Archives
  - Freeze build of your app
  - Preserve debug information
  - Support testing

Build	Run	Design	SCM	Window
Build Results				⇧⌘B
Build				⌘B
Build and Analyze				⇧⌘A
Build and Archive				
Build and Debug				⌘←
Build and Run – Breakpoints Off				⌘R
Build and Debug – Breakpoints On				⌘Y
Clean				⇧⌘K
Clean All Targets				
Next Build Warning or Error				⌘=
Previous Build Warning or Error				⌘+
Compile				⌘K
Preprocess				
Show Assembly Code				
Touch				

# Archive Contents



# Archive vs. SCM

- Source code that was used to build a particular version
- Each build is unique
- Source code cannot replace an archive



# Validation

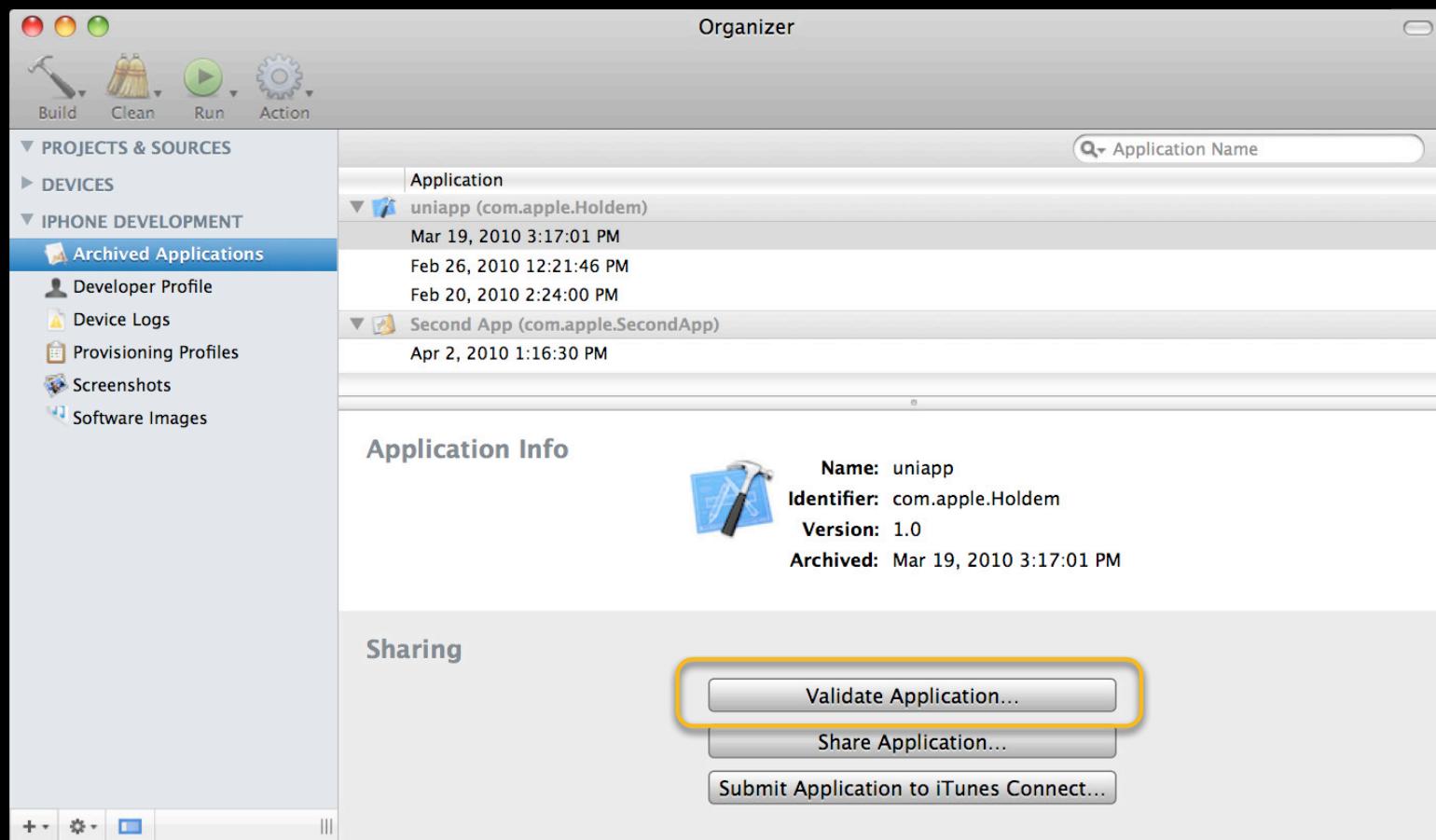
- Performs tests from App Store review process
- Detects many different common problems
- Suggests fixes
- Validate early and often
  - Build
  - Distribute

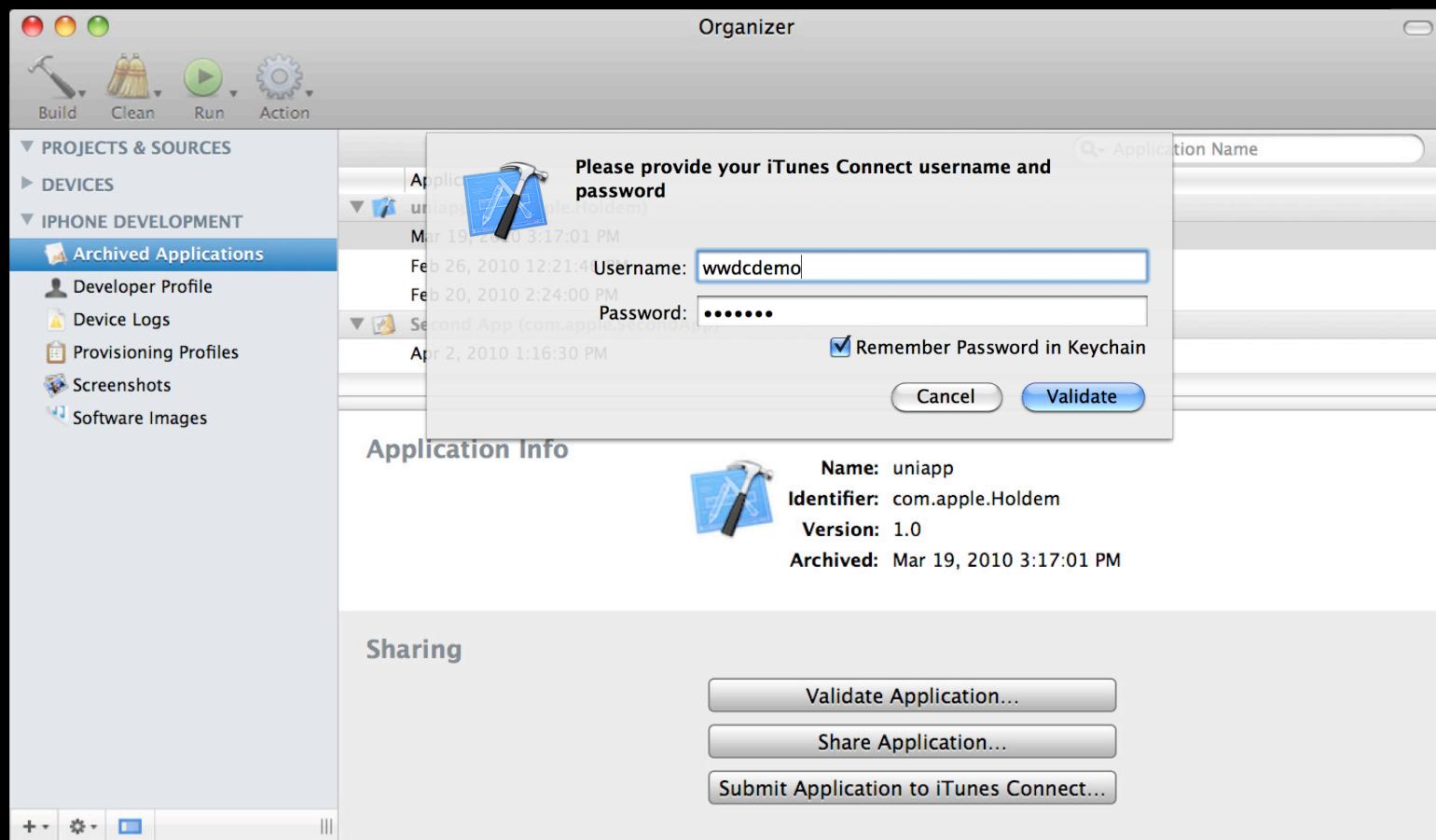
# iTunes Connect

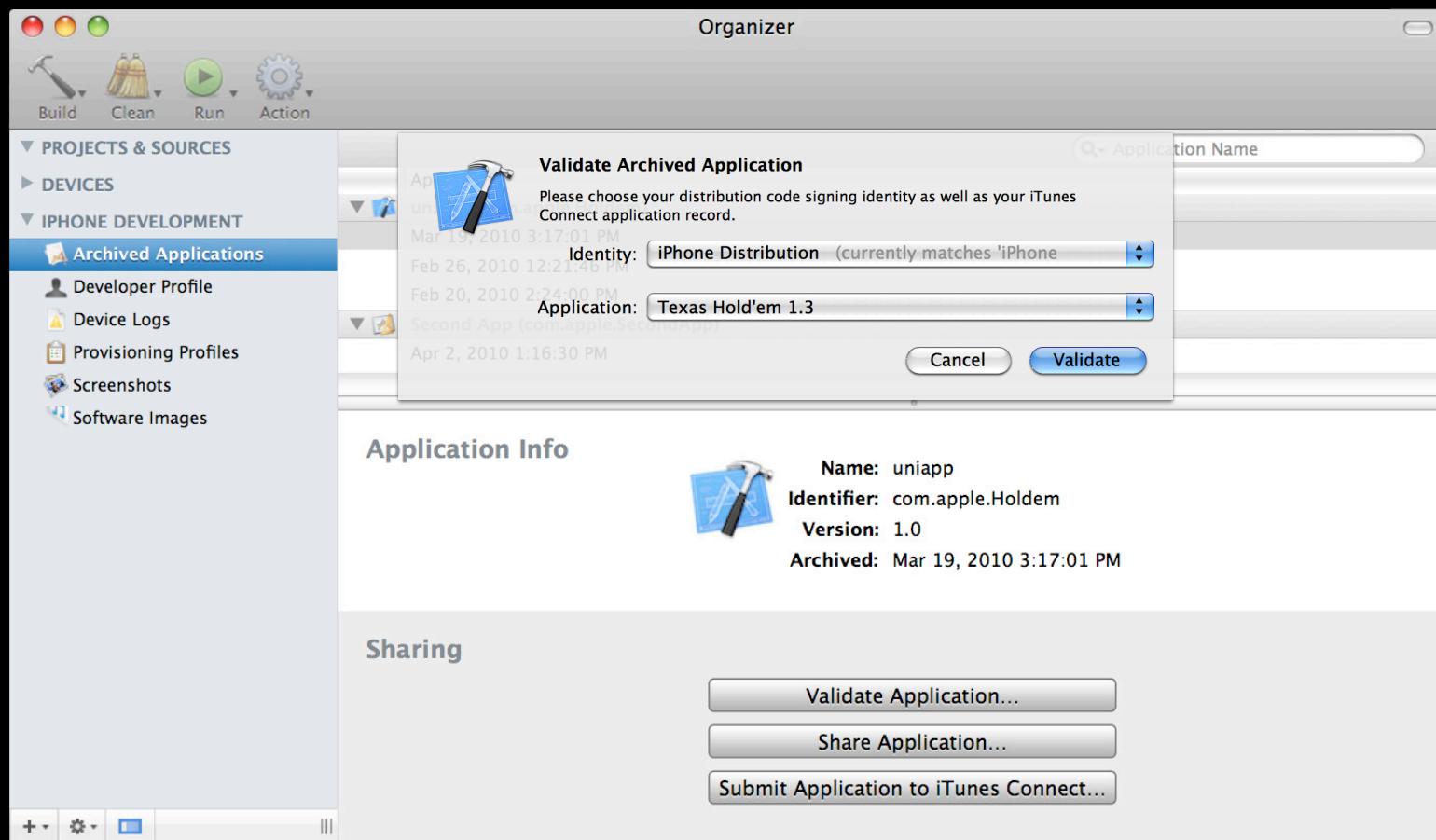
The screenshot shows the iTunes Connect interface on a Mac OS X desktop. The window title is "iTunes Connect". The top menu bar includes "Store", "Mac", "iPod + iTunes" (which is highlighted), "iPhone", "Downloads", and "Support". The user is identified as "Team Leader, Example Corp, Inc." with a "Sign Out" button. The main content area is titled "iTunes Connect" and features a "Welcome, Example Corp, Inc." message. It informs users that starting in February 2009, monthly financial reports will be delivered in a new format, with a link to the new reports and a guide to financial reports. Below this, there are several sections: "Sales/Trend Reports" (with a preview or download link), "Manage Your Applications" (with a link to add, view, and manage applications), "Contracts, Tax, & Banking Information" (with a link to request contracts and manage contact, banking, and tax info), "Request Promotional Codes" (with a link to get free download codes), "Financial Reports" (with a link to view and download monthly financial reports), "Contact Us" (with a link to upload applications or find answers to questions), and "Manage Users" (with a link to set access permissions and email settings). At the bottom, there is a "FAQs" section with a link to review common inquiries. The footer contains links for "Home", "FAQs", and "Sign Out", along with a copyright notice for 2009 Apple Inc.

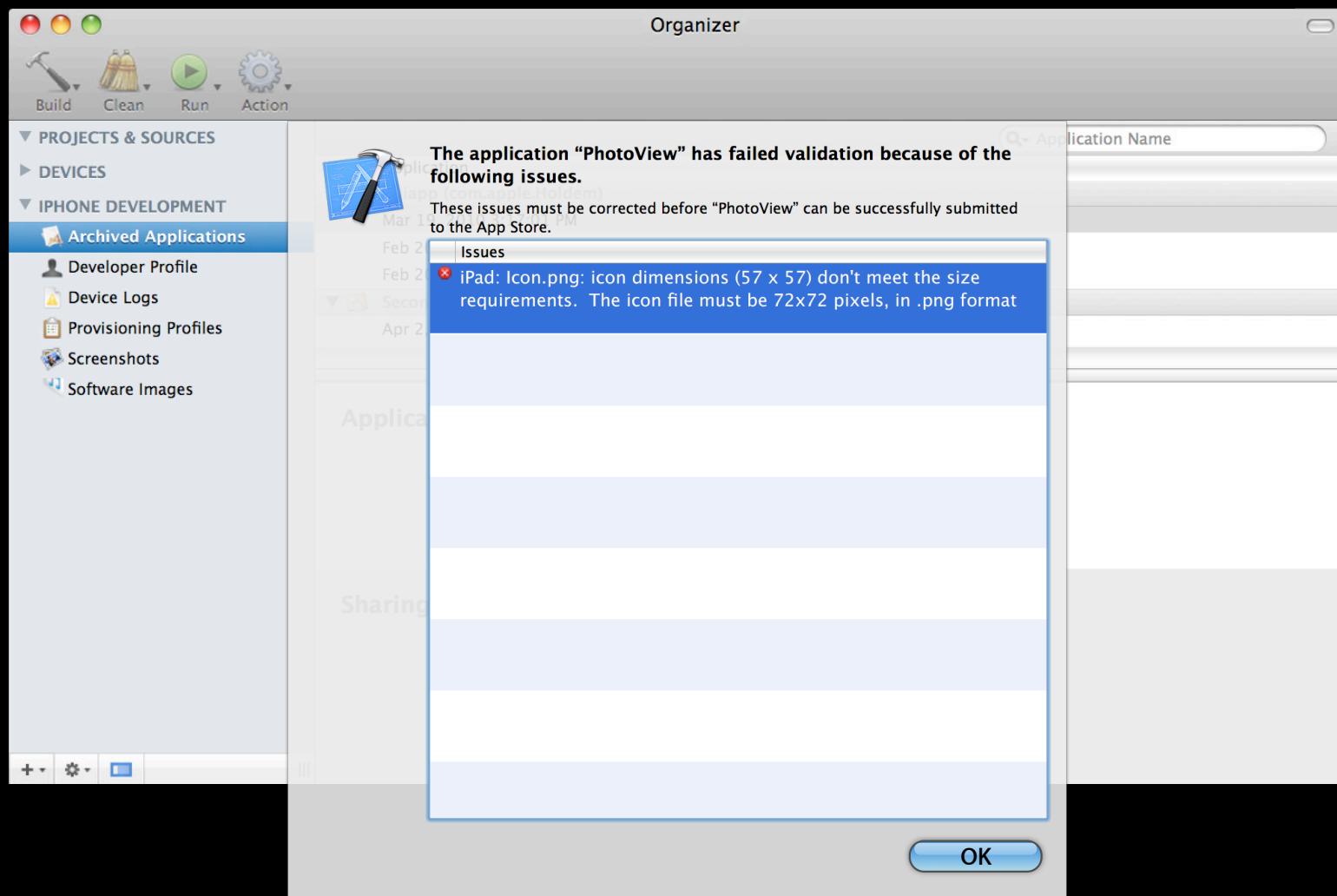
# Screenshots

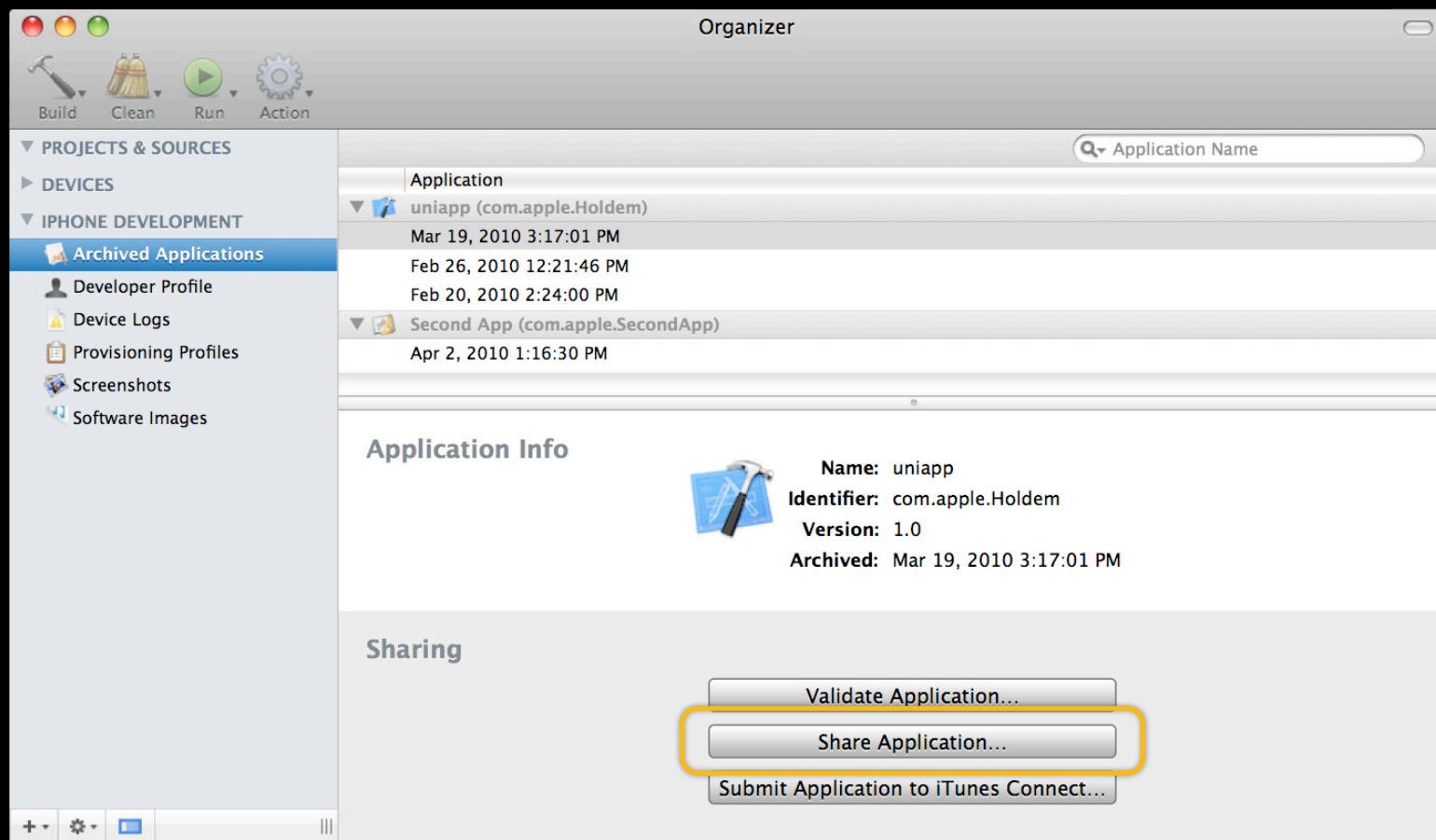
- Marketing
- Launch image
- Debugging
- Documentation





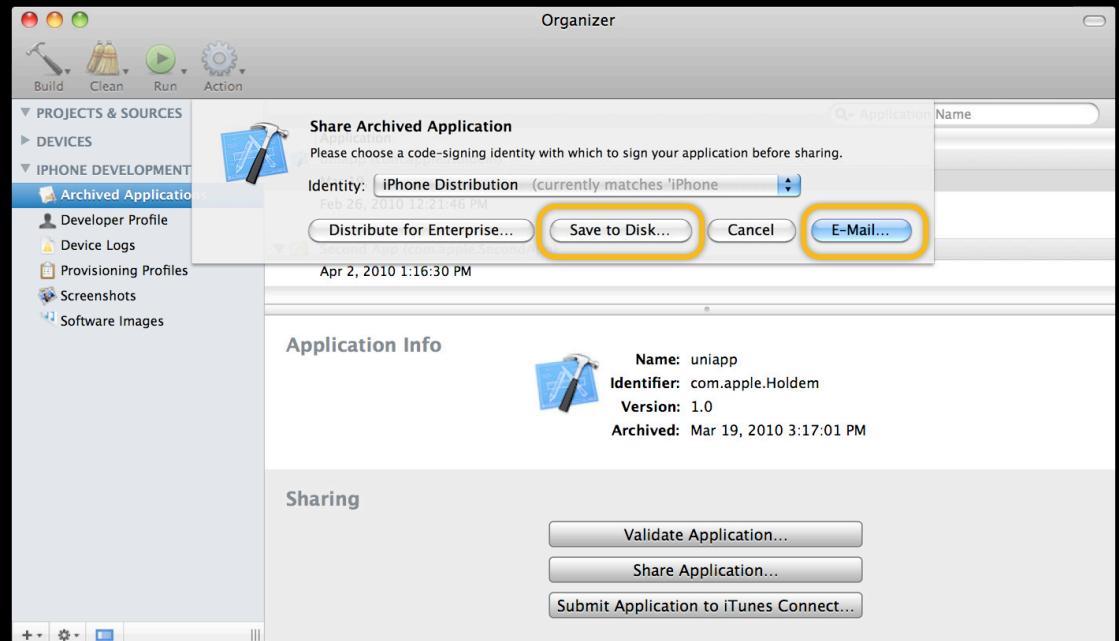






# Ad Hoc Distribution

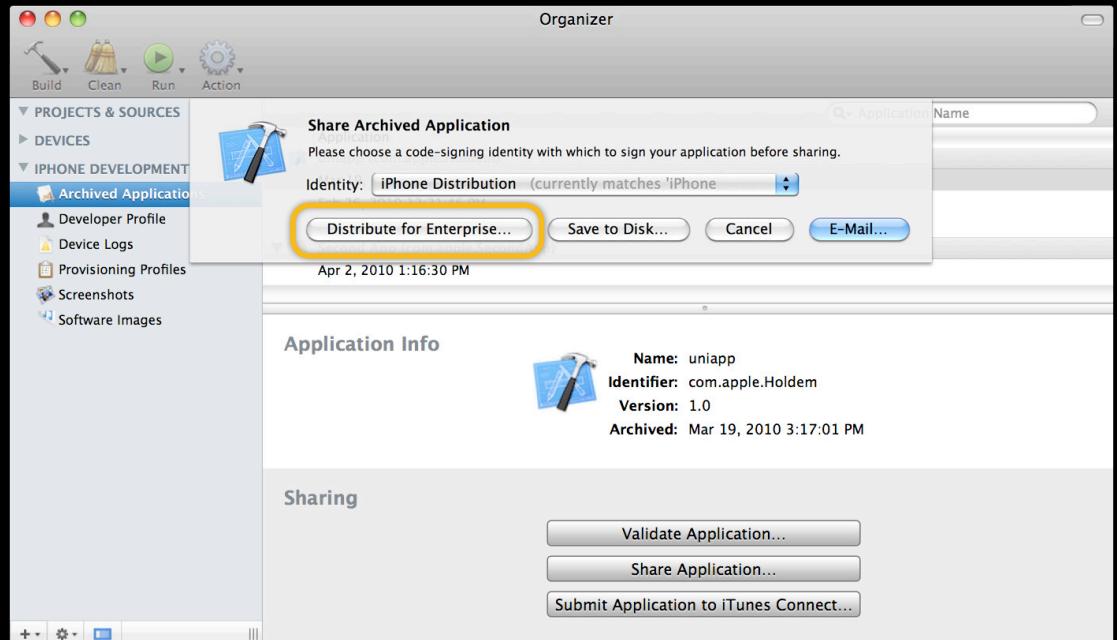
- Beta testing
- Limited audience
- Email
- Web

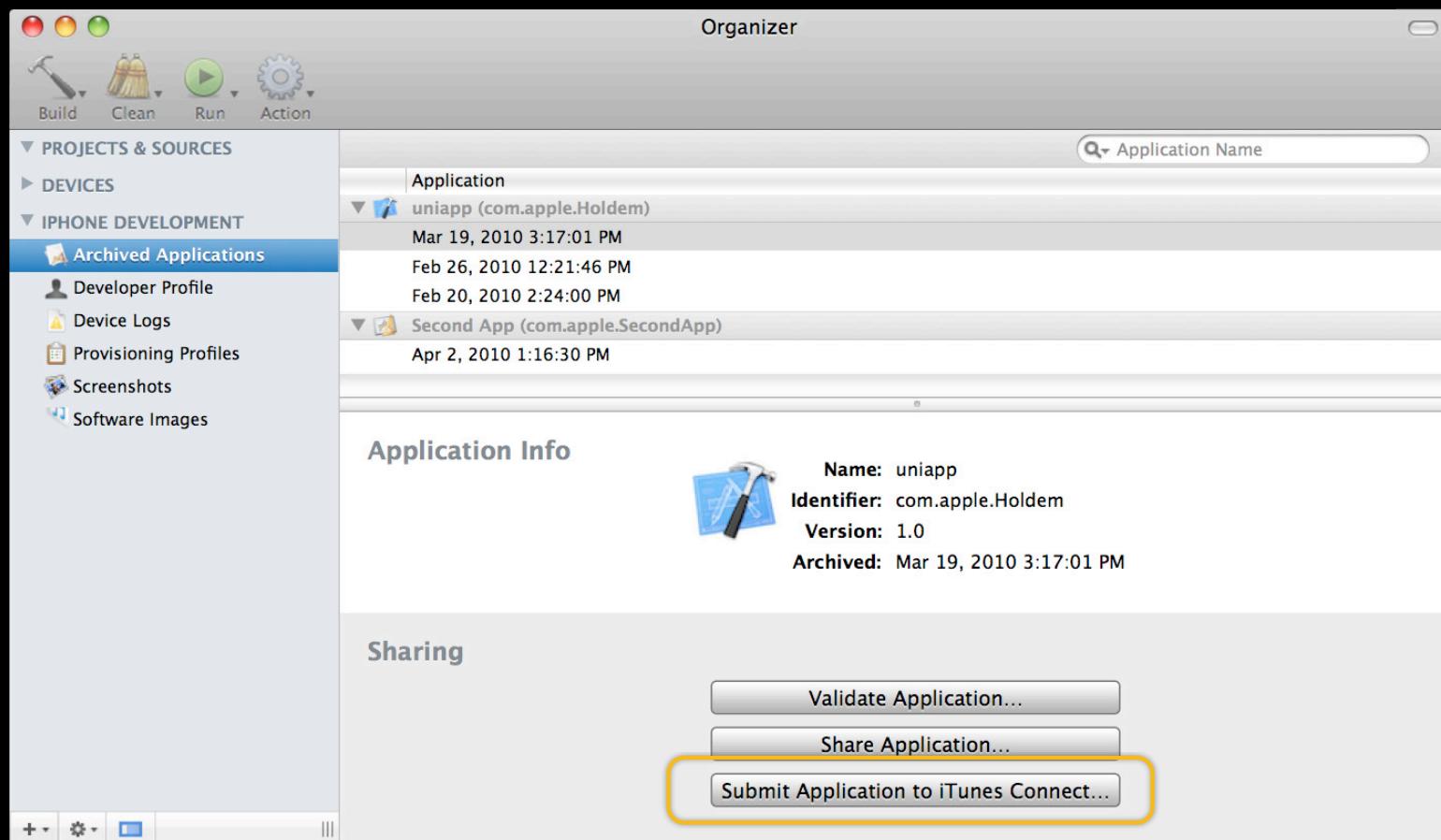


# Enterprise Distribution

iOS 4

- Make available on website
- Scales better than ad hoc







# Demo Distribute

**Clark Cox**  
iPhone Tools Engineer

# Distribute Demo

- Archived applications
- Validation
- Sharing
- Screenshots
- Crash logs
- Device restores
- Device console



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# More Information

## **Michael Jurewitz**

Developer Tools Evangelist

[jurewitz@apple.com](mailto:jurewitz@apple.com)

## **iPhone Dev Center**

iPhone Development Documentation and Resources

<http://developer.apple.com/iphone>

## **Developer Forum**

iPhone Developer Tools Forum

<https://devforums.apple.com/community/iphone/devtools>

# Related Sessions

Managing Mobile Devices	Nob Hill Tuesday 3:15PM
Mastering Xcode for iPhone OS Development Part 2	Pacific Heights Wednesday 10:15AM
What's New in Instruments	Presidio Wednesday 11:30AM
Automating User Interface Testing with Instruments	Marina Wednesday 2:00PM
Designing Apps with Interface Builder	Mission Wednesday 2:00PM
Introducing Xcode 4	Mission Wednesday 3:15PM
App Publishing with iTunes Connect	Mission Thursday 10:15AM

# Labs

Xcode for iPhone Development Lab	Developer Tools Lab B Tuesday 3:15PM-6:30PM
iPhone OS Performance Lab	Application Frameworks Lab B Wednesday 9:00PM-11:15AM
Xcode for iPhone Development Lab	Developer Tools Lab B Wednesday 2:00PM-4:00PM
Automated User Interface Testing Lab	Developer Tools Lab A Wednesday 4:30PM-6:30PM
Interface Builder Lab	Developer Tools Lab B Thursday 9:00AM-11:15AM
Xcode 4 Lab	Developer Tools Lab A Wednesday 9:00AM-11:15AM
iPhone OS Performance Lab	Developer Tools Lab A Thursday 4:30PM-6:00PM



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blank for all  
presentations.

