



# 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

This ebook app is so beautiful and so much fun that my grandkids can't leave it alone. Honestly, I'm mesmerized too. The new 12 piece puzzle came along just in time. They were ready for the new challenge.

They are big fans of the Miss Spider series on Nick, Jr. Hopefully there will be more e-Books to come. Considering the amount of read and playtime this app inspires it delivers good value even at \$9.99

Was this review helpful? **Yes** | **No**

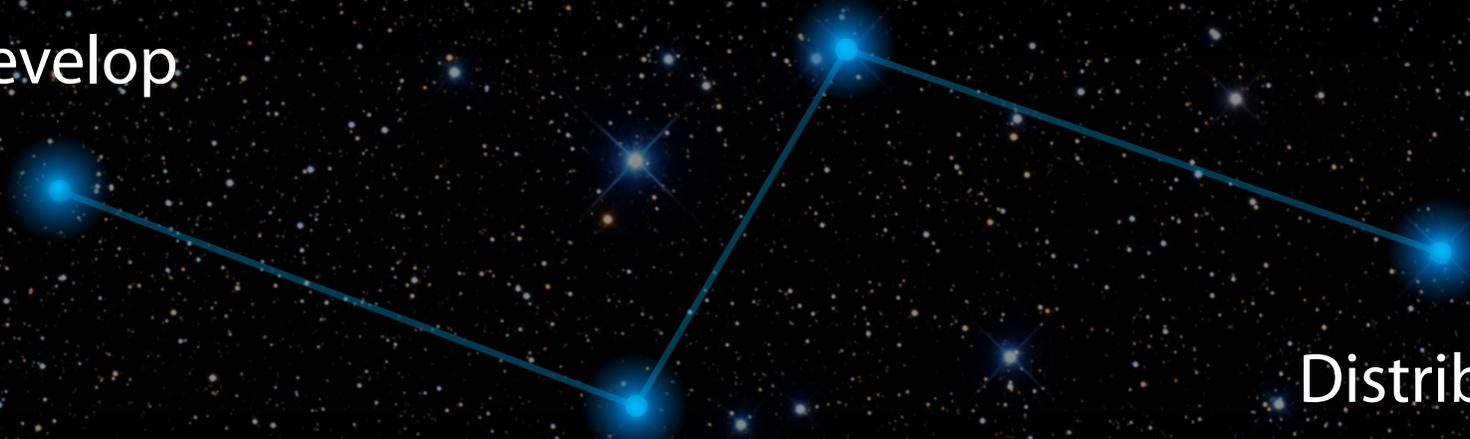


Develop

Provision

Distribute

Build



# Tale of Two Sessions

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



Develop



Provision

Build

Distribute

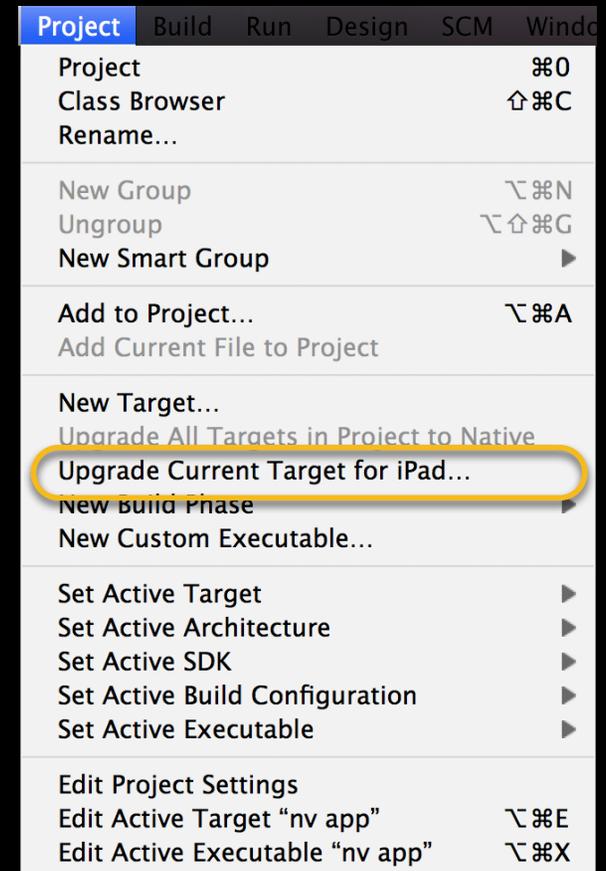


# Project Templates

- 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

Develop



Provision



Build

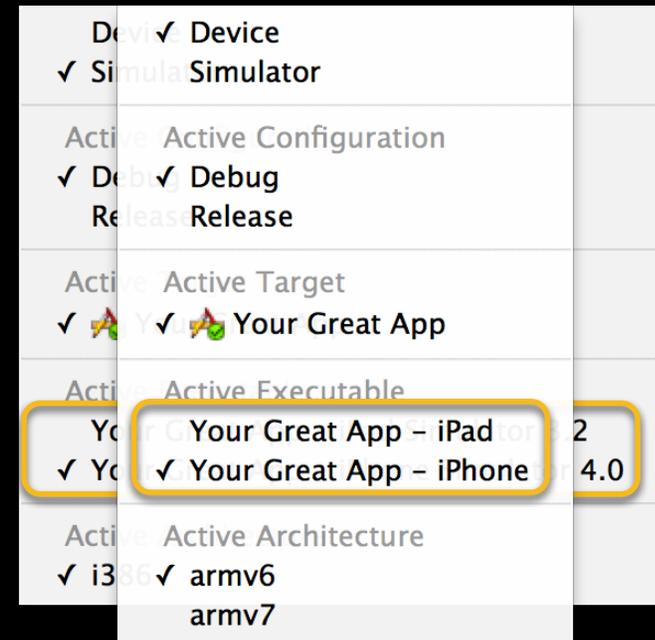
Distribute



# Build

## Device or Simulator

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



# Build Simulator

- 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

New  
3.2



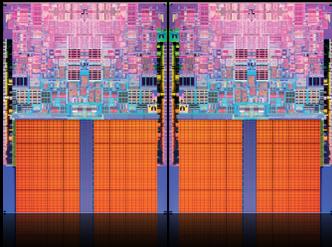
# Build

## 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

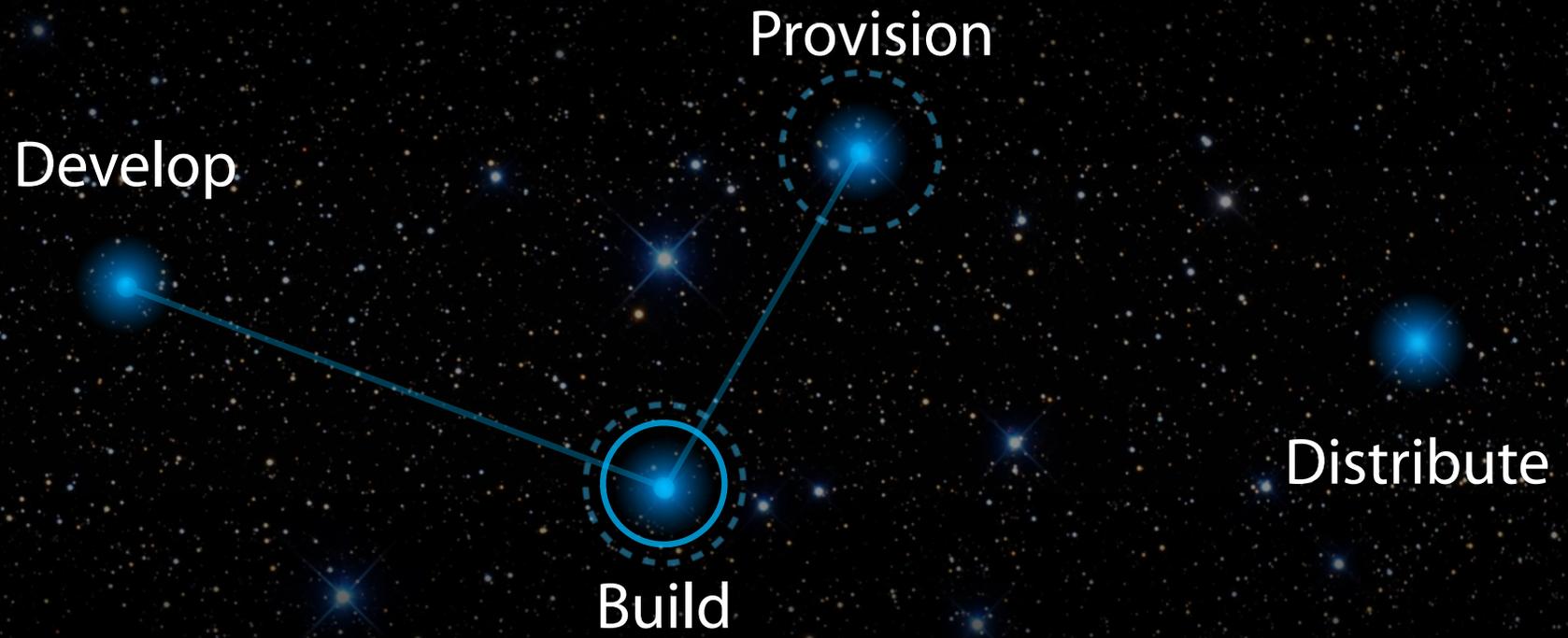


Develop

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# Automatic Device Provisioning



## Basics

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

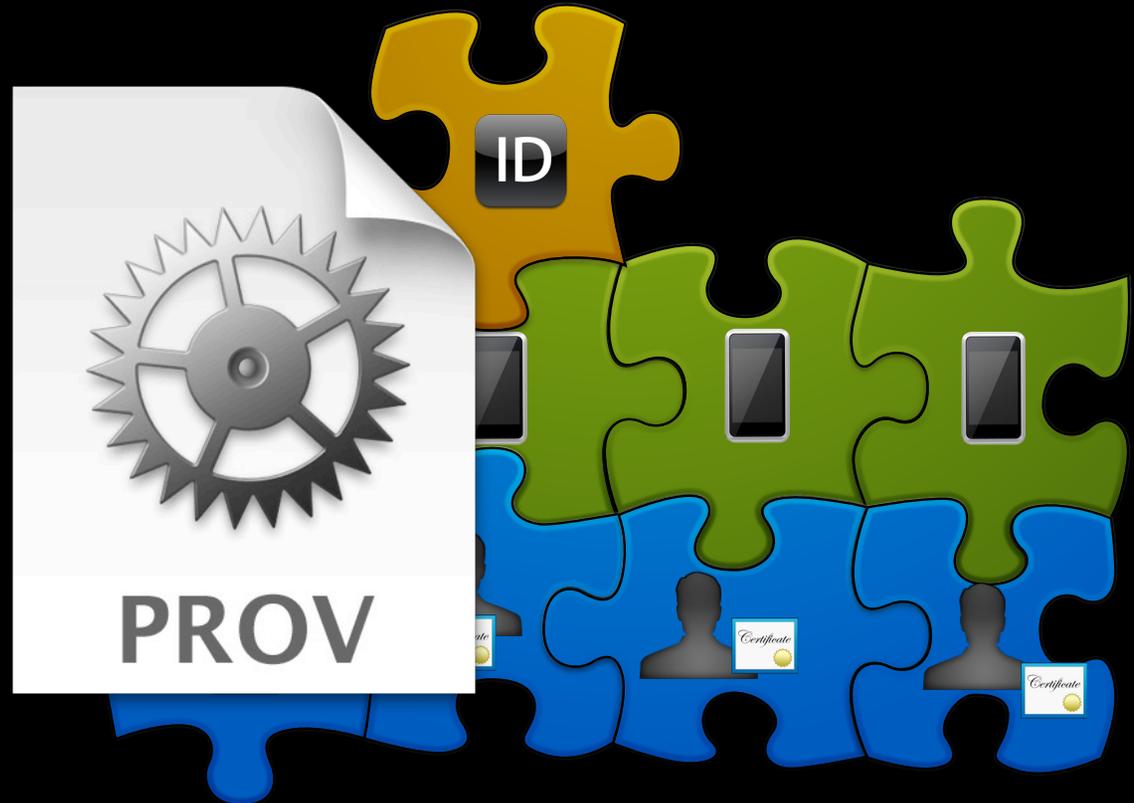


## App ID

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

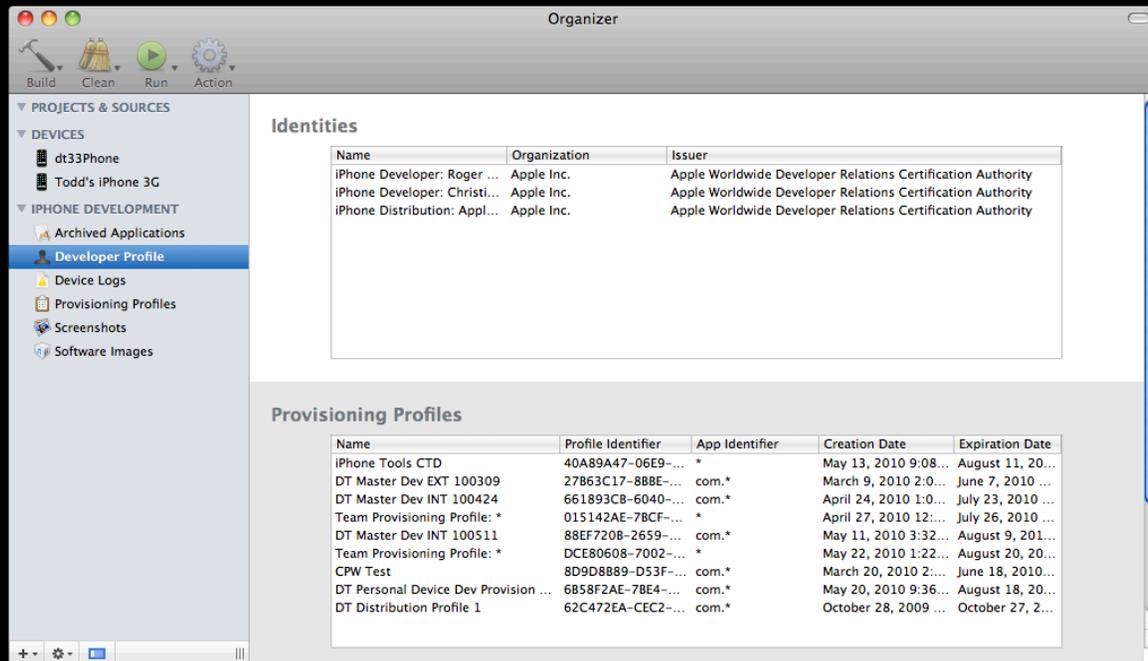
## Advanced

- 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

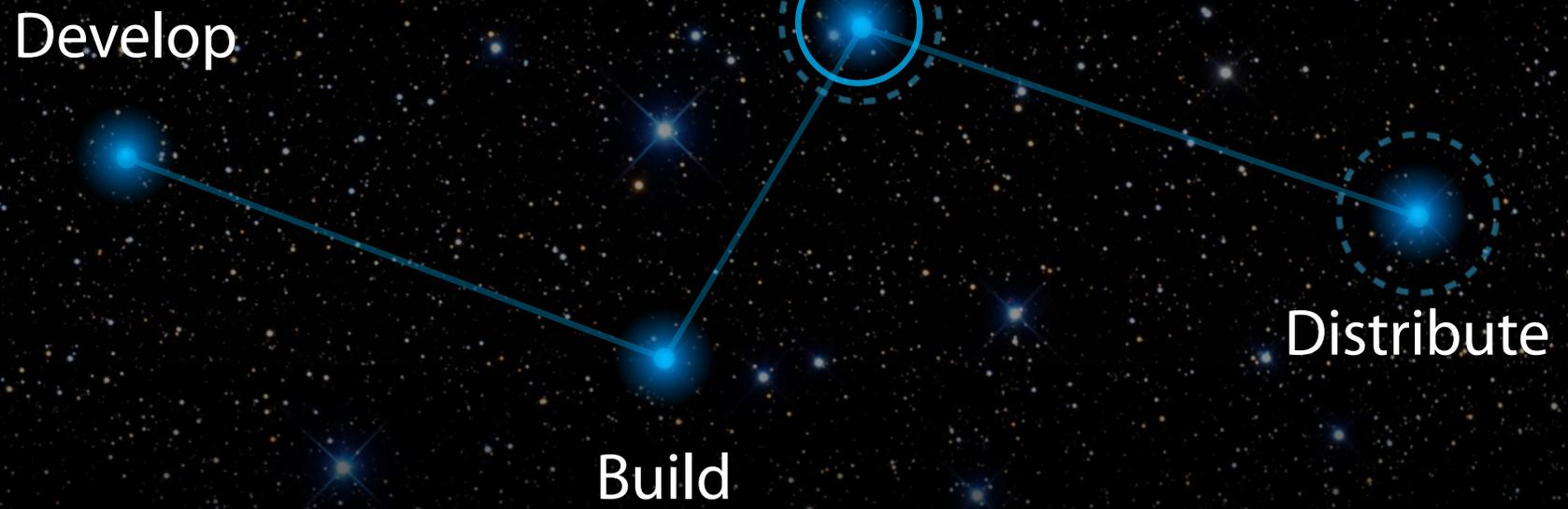
- Building for device
- Debugging
- Instruments
- UI automation

Develop

Provision

Distribute

Build



# 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
<b>Build and Archive</b>					
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

iTunes Connect

Team Leader, Example Corp, Inc. [Sign Out](#)

**Welcome, Example Corp, Inc.**  
iTunes Connect provides tools to help manage your content in the iTunes Store.

**NEW** Starting with February 2009, monthly financial reports are being delivered in a new format. For information about the changes and how to read the new reports, [click here](#). For information about financial reports in general, see the new [iTunes Finance Reports Guide](#).

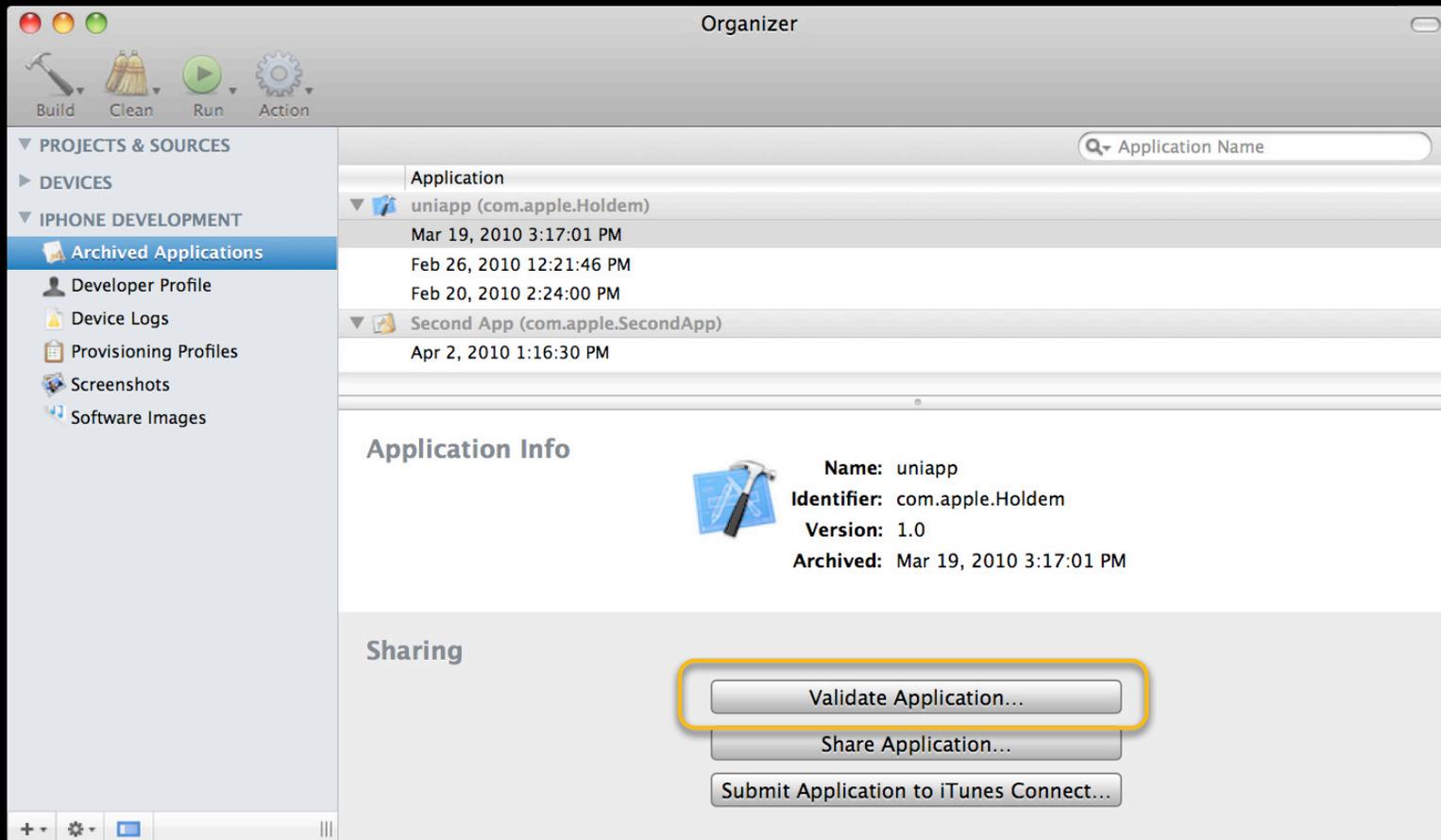
 <b>Sales/Trend Reports</b> Preview or download your daily and weekly reports here.	 <b>Manage Your Applications</b> Add, view, and manage your applications in the iTunes Store.
 <b>Contracts, Tax, &amp; Banking Information</b> Request Contracts and manage your contact, banking and tax information.	 <b>Request Promotional Codes</b> Get codes that will give you free downloads of your applications.
 <b>Financial Reports</b> View and download your monthly financial reports.	 <b>Contact Us</b> Having a problem uploading your application? Can't find a Finance Report? Use our Contact Us system to find an answer to your question or to generate a question to an iTunes Rep
 <b>Manage Users</b> Set access permissions and email settings for users of your iTunes Connect account.	

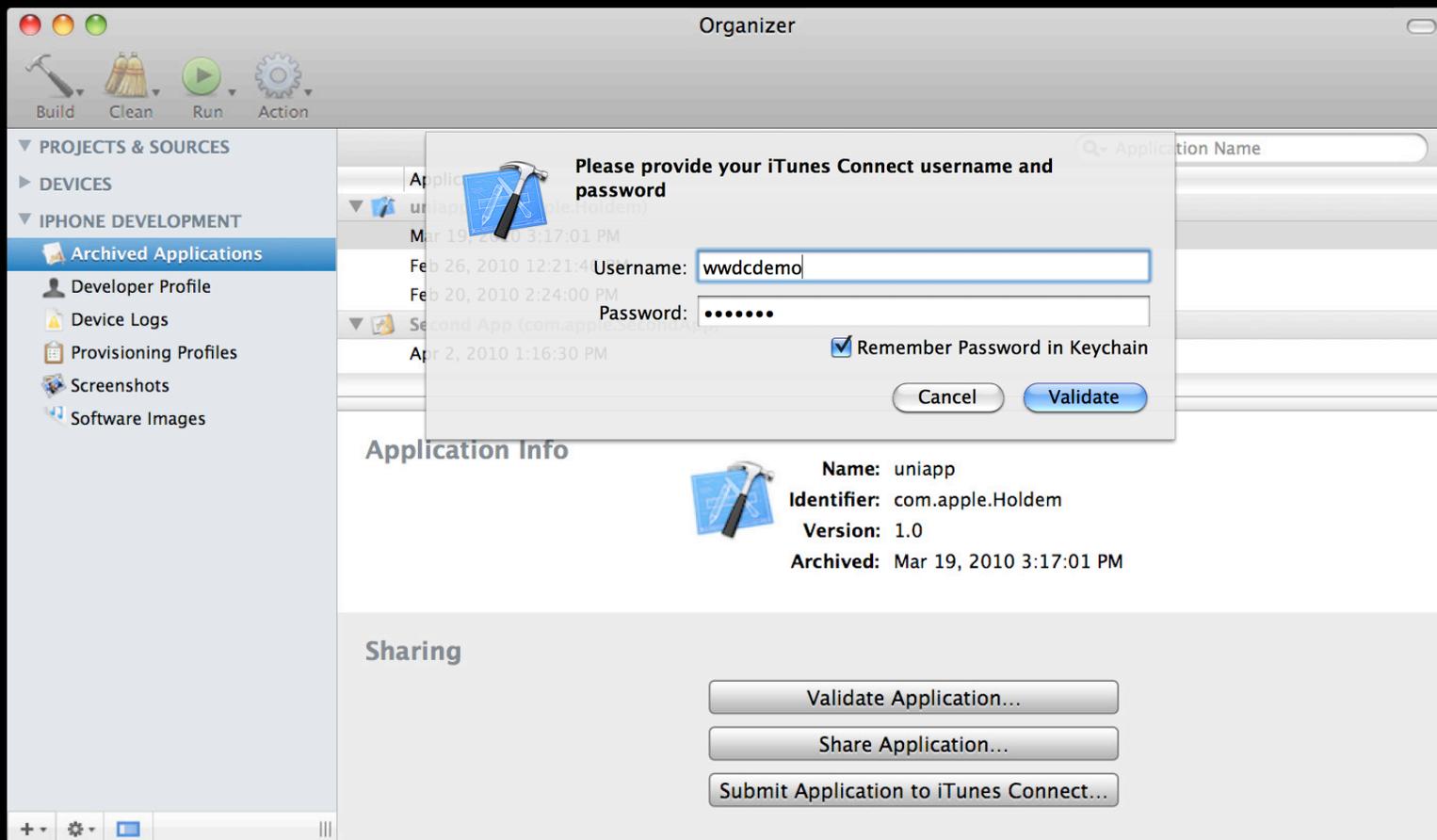
 **FAQs** Review our answers to common inquiries.

[Home](#) | [FAQs](#) | [Sign Out](#)  
Copyright © 2009 Apple Inc. All rights reserved. [Terms of Service](#)

# Screenshots

- Marketing
- Launch image
- Debugging
- Documentation





Organizer

Build Clean Run Action

PROJECTS & SOURCES

DEVICES

IPHONE DEVELOPMENT

Archived Applications

- Developer Profile
- Device Logs
- Provisioning Profiles
- Screenshots
- Software Images

Validate Archived Application

Please choose your distribution code signing identity as well as your iTunes Connect application record.

Identity: iPhone Distribution (currently matches 'iPhone...)

Application: Texas Hold'em 1.3

Cancel Validate

Application Info

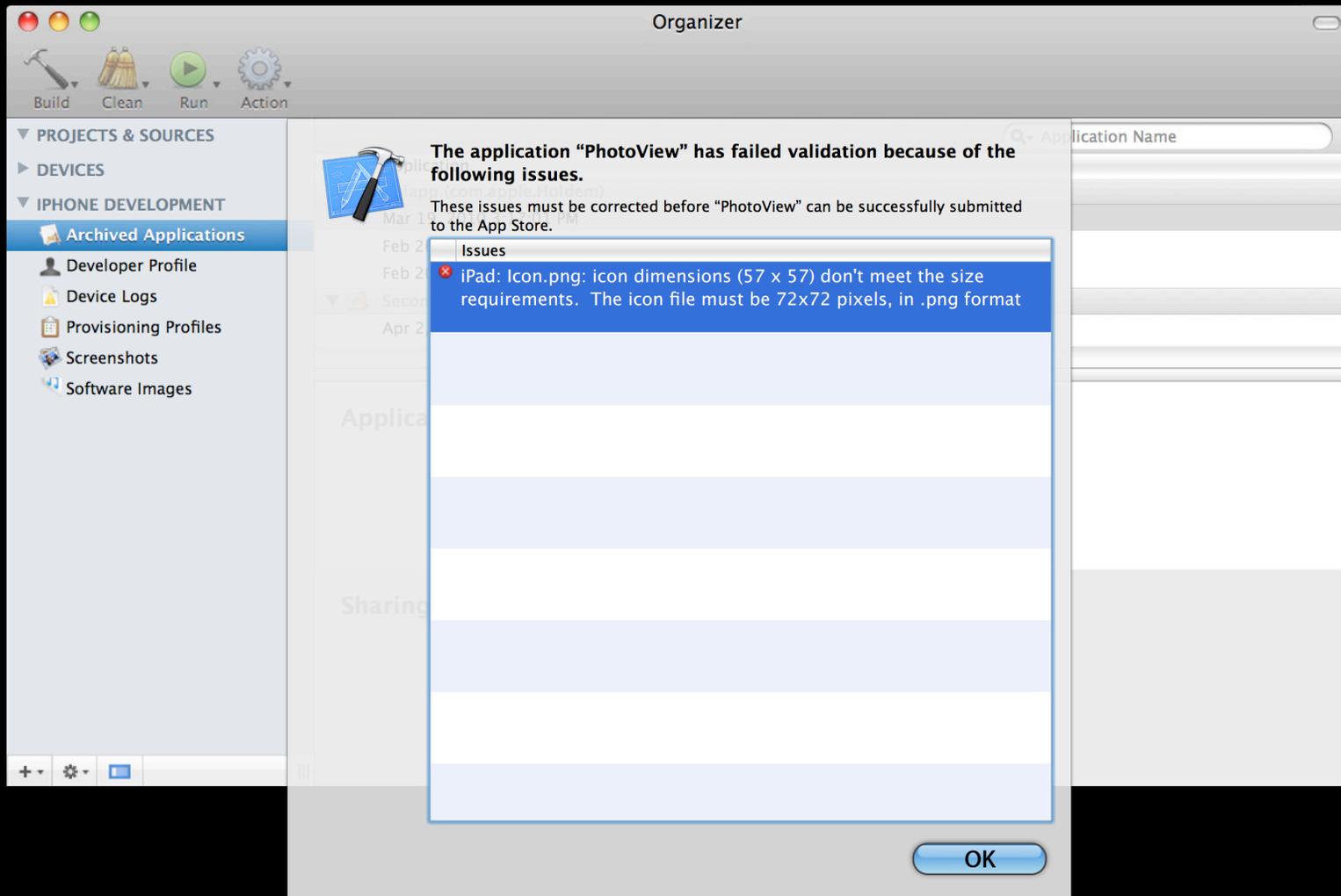
 Name: uniapp  
Identifier: com.apple.Holdem  
Version: 1.0  
Archived: Mar 19, 2010 3:17:01 PM

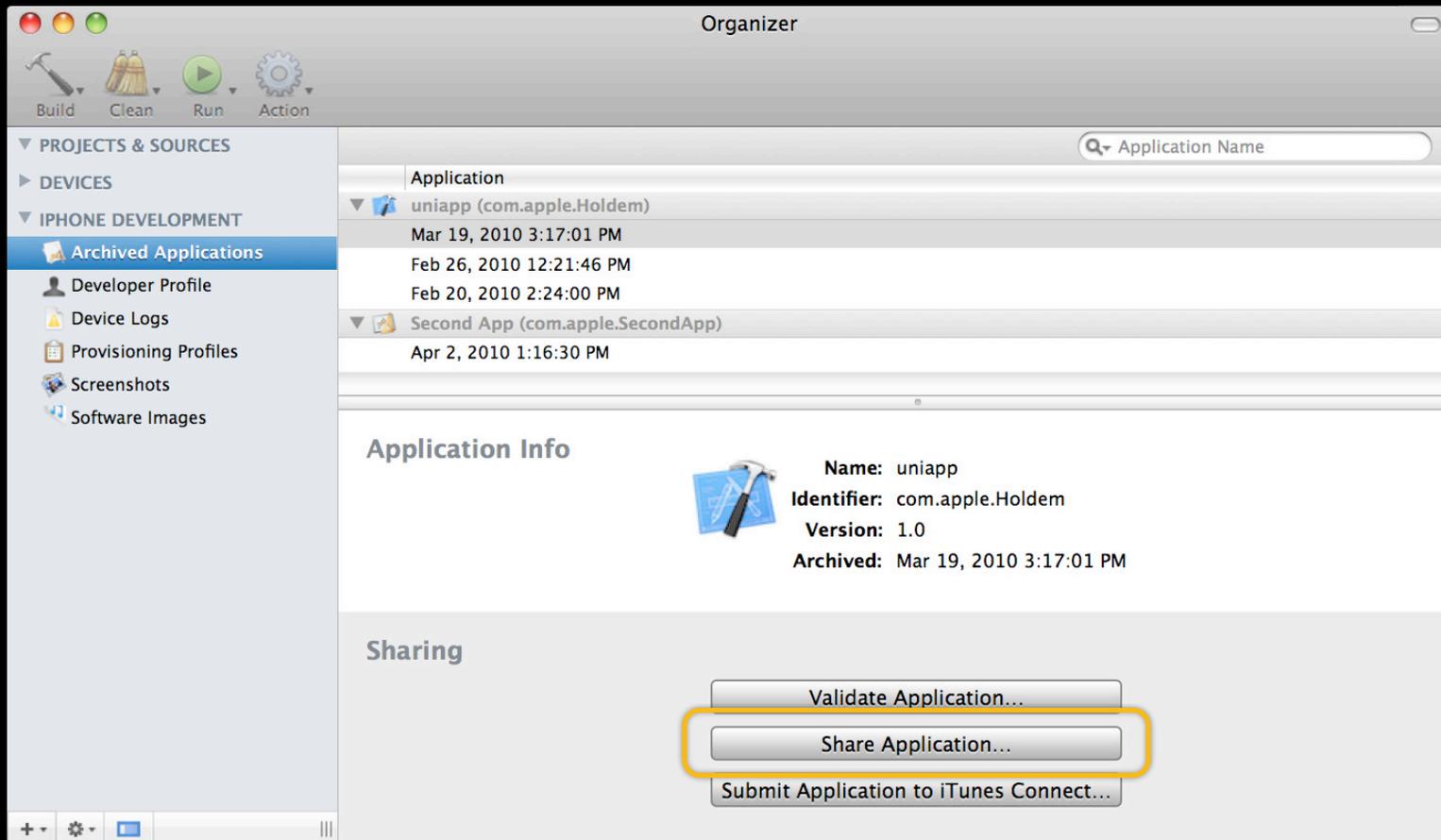
Sharing

Validate Application...

Share Application...

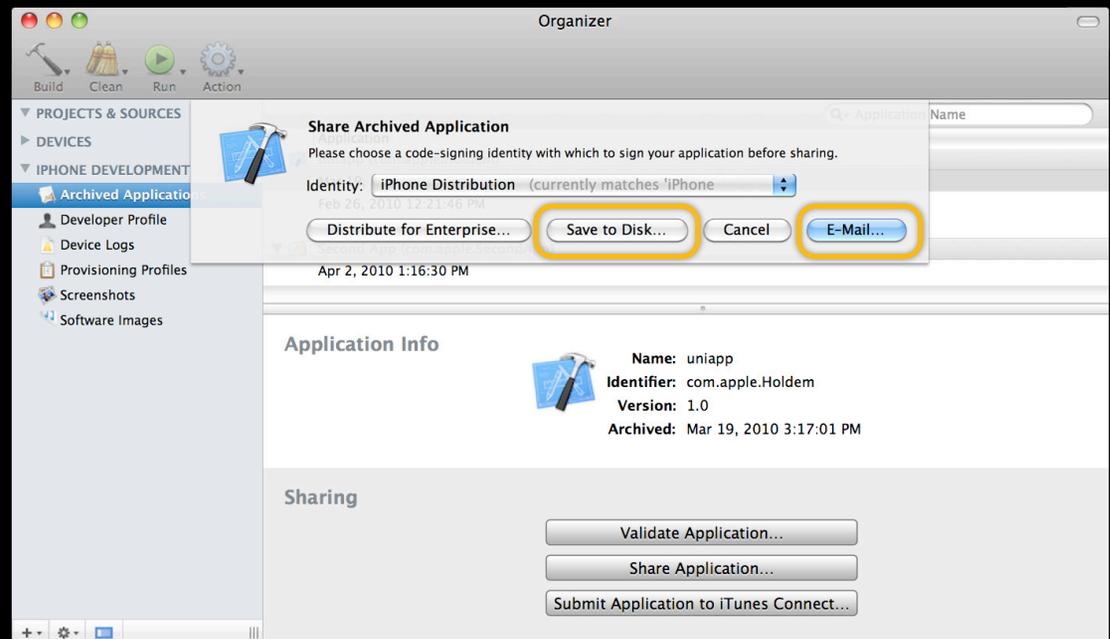
Submit Application to iTunes Connect...





# Ad Hoc Distribution

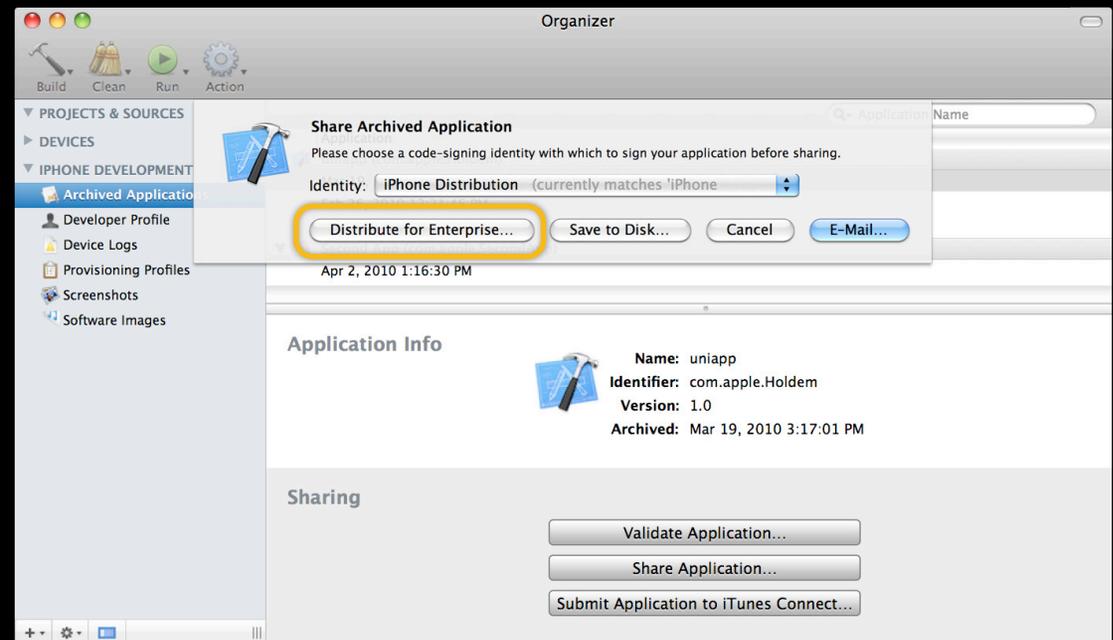
- Beta testing
- Limited audience
- Email
- Web



# Enterprise Distribution

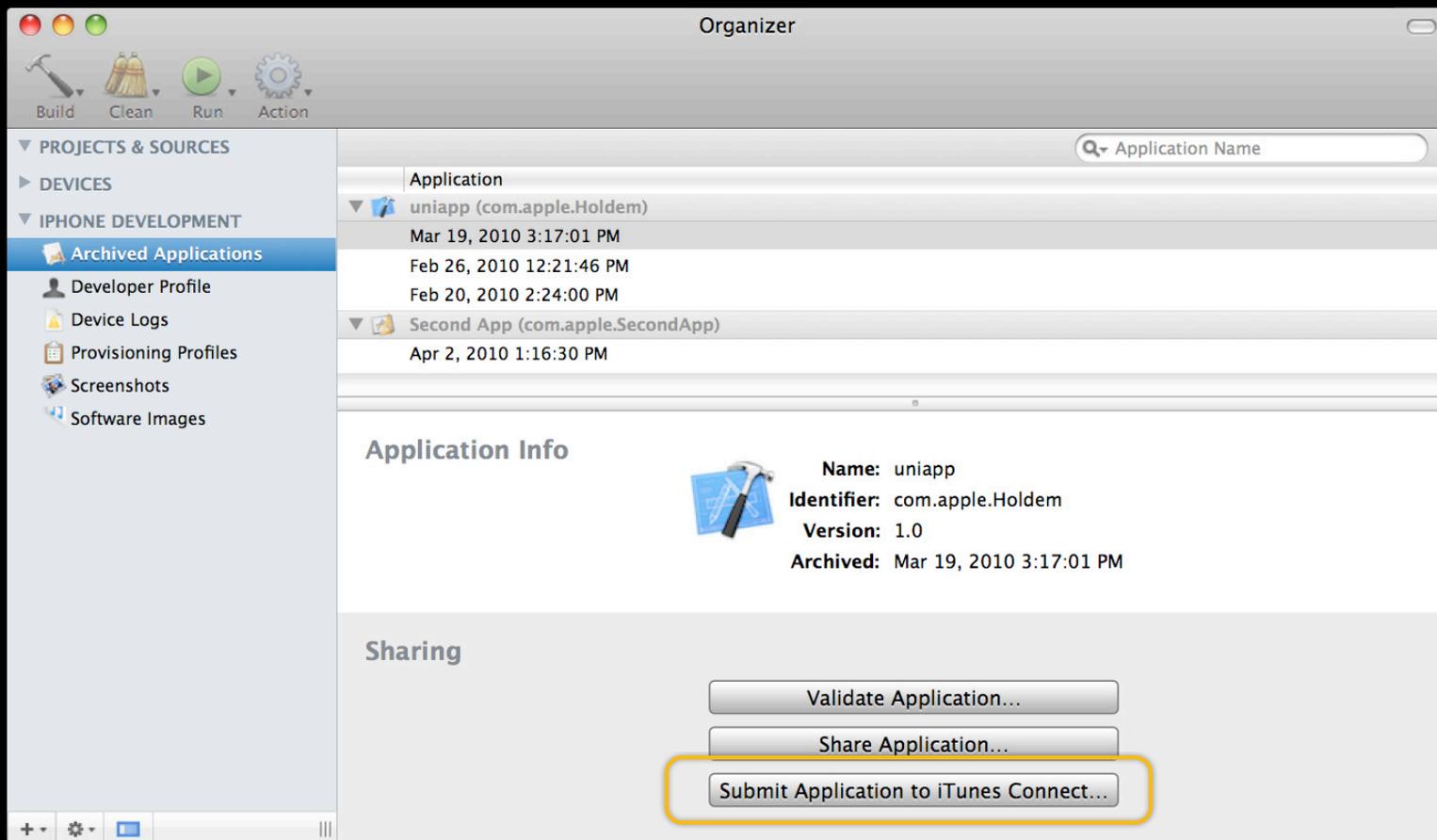
iOS 4

- Make available on website
- Scales better than ad hoc



Managing Mobile Devices

Nob Hill  
Tuesday 3:15PM





# Demo

## Distribute

**Clark Cox**  
iPhone Tools Engineer

# Distribute Demo

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



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Was this review helpful? **Yes** | **No**

# 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



The last slide  
after the logo is  
intentionally left  
blank for all  
presentations.

