Opening Remarks

• Welcome!

• Thank you for attending!

• My promise to you is this:
  • To teach you iOS User Interface Design (iPhone and iPad) faster than any method on planet earth

• My unique teaching style
  • Slides for Concepts
  • Hands-On Demos
  • Questions at anytime are GREAT!
What You Need
To Take This Course

• Option 1
  • Take the course hands-on, following along every hands-on demo
    – Mac OS X
    – iOS 5 SDK (includes Xcode)

• Option 2
  • Watch and observe and take notes

• NOTE: Either option is fine. Use the one that is best for your learning style
Course Schedule

• One Day Course
  • Morning Session
    – Morning Session – Part 1
    – Morning Break
    – Morning Session – Part 2
  • Lunch
  • Afternoon Session
    – Afternoon Session – Part 1
    – Afternoon Break
    – Afternoon Session – Part 2
1 Day Course Outline
iOS User Interface Design

- iOS Human Interface Guidelines
  - Published by Apple and available online
- iOS UI Design - Application Types
  - Including Controllers
- iOS UI Design - Alerts
- iOS UI Design – Controls
- iOS UI Design – Data Views
- Summary and Q/A

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Any Questions Before We Begin?
Introduction

• Two Types of Software Run in iOS
  • iOS Apps (Native Apps)
  • Web Content (Browser Apps)
• See next two slides
iOS Apps (Native Apps)

- Developed using iOS SDK
- Run natively on the device
- Can be submitted to Apple App Store
- The focus of this course
Web Content (Browser Apps)

- Developed using HTML5/Javascript
  - Does NOT require the iOS SDK
- Runs inside Mobile Safari Web Browser
  - Does NOT run natively on the device
- Available from web site
  - Can NOT be submitted to Apple App Store
- Limitations
  - No Web Plugins such as Flash, Java, etc.
iOS Apps (Native Apps)

Platform Characteristics
Introduction

- Great iOS Apps Embrace the iOS Platform
  - Some examples
    - App fits well on the screen
    - App responds to gestures that people already know
- Great iOS Apps Have Clear Definition of Target
  - Who is the user? What features do they need?
- Great iOS Apps pay attention to the details
  - How it starts, how it stops, use of iOS Controls, etc.
- Great iOS Apps Make use of iOS Technology
iOS Platform Characteristics
Display Screen

- The Display Screen is the focus of the user's experience
  - Quality Graphics
  - Single Touch or Multi-Touch
- Minimum size of tappable UI is 44x44 points
iOS Platform Characteristics
Points and Pixels

• Point
  • Unit of measure when discussing the size of an area drawn on screen

• Pixel
  • Unit of measure when discussing the size of a device screen (or icon size in image editing)

• Currently two resolutions of devices
  • Standard Resolution: 1 Point = 1 Pixel
  • Retina Display: 1 Point = 2 Pixels
iOS Platform Characteristics

Device Orientation

- iOS Device can rotate at anytime
  - Portrait
  - Landscape
- Home Screen
  - Portrait Only: iPod Touch and iPhone
    - iPod Touch and iPhone apps launch in Portrait
  - Portrait or Landscape: iPad
    - iPad apps launch in Portrait or Landscape
iOS Platform Characteristics

Gestures

• iOS Apps respond to Gestures
  • Compared to “clicks” of desktop apps
• Use common iOS Gestures provided by the platform
  • See next slide
iOS Platform Characteristics
Platform Provided Gestures - 1

- Tap
  - To press or select a control

- Double-Tap
  - To zoom in and center (if not already zoomed in)
  - To zoom out (if already zoomed in)

- Touch and Hold
  - In editable or selectable text, display a magnified view for cursor positioning
iOS Platform Characteristics
Platform Provided Gestures - 2

- **Shake**
  - To initiate an undo or a redo

- **Pinch**
  - Pinch open to zoom in
  - Pinch close to zoom out

- **Swipe**
  - TableView – show the Delete button
  - Show Notification Center (top edge of screen)
  - iPad: Four fingers to switch between apps
iOS Platform Characteristics
Platform Provided Gestures - 3

• Flick
  • To scroll or pan quickly
iOS Platform Characteristics
One App at a Time

• People interact with one app at a time
  • Pre iOS 4: Pressing HOME terminated the app
  • iOS 4 and later
    – Pressing HOME puts app in background
      • Default background operation is to suspend the app
      • Option to run in background

• Multitasking UI
  • Appears at bottom of screen
  • Shows list of apps in the background state
iOS Platform Characteristics
Preferences Available in Settings

- iOS provides built-in Settings App
  - Used for “set once and rarely change”
- Although you can add your own app settings here, most apps do not
iOS Platform Characteristics
Minimal OnScreen Help

• Mobile app users have neither the time or desire to read help info

• iOS-based apps should be
  • Intuitive
  • Easy To Use
iOS Platform Characteristics
Most iOS Apps Have Single Window

- Most iOS Apps have a single widow
  - Exception: If the app takes advantage of external display
- The Apps window (UIWindow) fills the entire screen
Platform Characteristics
Summary

- The Display is Paramount
- Device Orientation Can Change
- Apps Respond to Gestures
- Preferences in the Settings (not often used)
- Minimal OnScreen User Help
- Most iOS Apps have a single window
  - Unless using external display
Human Interface Principles
Introduction

● A great UI focuses on the way the user thinks and works
  ● Intuitive
  ● Compelling
  ● Beautiful
  ● Inspirational
  ● Emotional
Aesthetic Integrity

- A measure of how well the app integrates with its function
  - Example: Productivity app
    - Keeps decorative elements subtle and in the background
    - Uses standard iOS Controls and Behaviors
  - Example 2: Immersive Game
    - Beautiful and fun
Consistency

- Allow users to transfer their knowledge of iOS apps to your app
  - Use iOS Standard Controls
  - Use iOS Standard Behaviors
  - Use iOS Standard Icons

- Ask the question: Can people immediately use your iOS app?
  - They can if it uses iOS standard UI
Direct Manipulation

• Users directly manipulate on-screen objects
  • Single Touch
  • Multi-Touch Interface
• Use Gestures
• Use Immediate Feedback
  • See next slide on Feedback
Feedback

• Feedback acknowledges the users actions

• Feedback Options
  • iOS Controls change color
    – e.g. iOS Button highlights when touched
  • Animation
  • Sound
Metaphors

- iOS objects and actions are metaphors for objects and actions in the real world
  - Examples
    - Tapping Music Playback Controls
    - Dragging, Flicking, Swiping Objects in a Game
    - Sliding On/Off Switches
    - Flicking through pages of photos
    - Spinning picker wheel to make choices
User Control

- People, not applications, should initiate and control actions
  - Although it's ok for an app to warn or suggest based on user's actions
    - Example: “Really delete the photo?”
  - Users expect to have ample opportunity to cancel an operation before it begins
Human Interface Principles

Summary

- Aesthetic Integrity
- Consistency
- Direct Manipulation
- Feedback
- Metaphors
- User Control
App Design Strategies
Create App Definition Statement

• A concise, concrete declaration of the app's
  • Main Purpose
  • Intended Audience

• Steps
  • 1. List all the features you think users might like
  • 2. Determine who your users are
  • 3. Filter feature list through audience definition
  • 4. Don't stop there
    – Continue to use App Definition Statement
Design the App for the Device

• Design for the iOS Device
  • Option 1: iPod Touch / iPhone
    – Runs in compatibility mode on the iPad
  • Option 2: iPad
  • Option 3: Universal

• Do not design for non-iOS Devices
  • Android, Blackberry, Windows

• Do not design for web
  • These are native apps, not web-based apps
Embrace iOS UI Paradigms

- Controls should look tappable (all iOS Controls)
- App structure should be clean and easy to navigate
  - Navigation Bar for “drill down”
  - Tab Bar for displaying groups of info
- User feedback – subtle but clear
Ensure Universal Apps Run Well on both iPhone and iPad

- Adapt to the User Interface Paradigm
  - Can detect at runtime using UIDevice
- Adapt artwork to screen size
  - Users expect higher fidelity artwork in iPad apps than in iPhone apps
- Preserve primary functionality of your app, regardless of device it runs on
Tailor Customization to the Task

- The best iOS apps balance UI customization with:
  - Clarity of purpose
  - Ease of use
- Example 1 – App that makes phone calls
  - Good: Use built-in iOS Phone Key pad
  - Bad for some: High-res graphic of rotary dialer
- Example 2 – BubbleLevel App
  - Good: Realistic rendition of carpenter's level
Rules for App Customization (Not using iOS Controls)

- Think twice before redesigning a standard iOS Control
  - Never have touch target smaller than 44x44 points
- Avoid increasing the user's cognitive burden
  - User's already know how to use standard iOS Controls
- Be consistent
Prototype and Iterate

- Prototype Early
- Iterate often
- Prototype Options
  - Drawings/Sketches
  - Xcode Storyboard (iOS 5)
- Use Xcode templates as much as possible
  - Single View Based Template, Utility Template, Tab Based Template, Master/Detail Template
App Design Strategies

Summary

- Create App Definition Statement
- Design the App for the Device
  - Embrace iOS UI Paradigms
  - Ensure that Universal Apps Run Well on Both iPhone and iPad
  - Tailor Customization to the Task
- Prototype and Iterate
Case Studies

Transitioning to iOS
Introduction

- Often bring existing desktop/laptop apps to iOS Platform
- But remember
  - iOS devices used very differently than desktop/laptop devices (touch vs mouse, etc.)
  - iOS apps used “on the go” and with “many distractions”
  - 80-20 rule
    - 80% of users use limited number of app features
    - 20% use all the features
Good Case Studies
Recommended By Apple

• Mail
  • Compare Mail on Mac OS X to Mail on iPhone
  • Compare Mail on Mac OS X to Mail on iPad

• Keynote
  • Compare Keynote on Desktop vs Keynote on iPad

• Browser
  • Compare Desktop Browser to Safari
Summary

• When moving Desktop/Laptop apps to iOS, remember that iOS devices used differently than desktop/laptop apps

• Remember recommended case studies of moving from Desktop/Laptop to iOS
  • Mail
  • Keynote
  • Browser
User Experience Guidelines
User Experience Guidelines - 1

- Focus on the primary task
- Elevate the content that People Care About
- Think Top Down
- Give People A Local Path To Follow
- Make Usage Easy and Obvious
- Use User-Centric Terminology
- Minimize the Effort Required for User Input
- Downplay File-Handling Operations
User Experience Guidelines - 2

- Enable Collaboration and Connectedness
- De-emphasis Settings
- Brand Appropriately
- Make Search Quick and Rewarding
- Entice and Inform with a Well-Written Description
- Be Succinct
- Use UI Elements Consistently
User Experience Guidelines - 3

- Consider Adding Realism
- Delight People with Stunning Graphics
- Handle Orientation Changes
- Make Targets Fingertip-Size
  - Give tappable elements target area of 44x44 points
  - Example: iPhone Calculator App
- Use Subtle Animation to Communicate
- Support Gestures Appropriately

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User Experience Guidelines - 4

- Ask People to Save Only When Necessary
- Make Modal Tasks Occasional and Simple
- Start Instantly
- Always Be Prepared to Stop
- Don't Quit Programmatically
Guidelines for iPad

- Enhance Interactivity
- Reduce Full-Screen Transitions
- Restrain your info Hierarchy
- Consider Using Popovers for some modal tasks
- Migrate Toolbar content to the top
User Experience Guidelines
Summary

• Very long list – Review on a regular basis
• iPad specific portions of the list
iOS Technology Guidelines
iOS Tech Usage Guidelines - 1

- iCloud Storage
- Multitasking
- Notification Center
  - Local Notification, Push Notification
  - Banner, Alert, Badge, Sound
- Printing
  - iOS 4.2 and later can wirelessly print
- iAd Rich Media Ads
iOS Tech Usage Guidelines - 2

- Quick Look Document Preview
- Sound
- Understand User Expectations
- Define the Audio Behavior of Your App
- Manage Audio Interrupts
- Handle Remote Control Events (if appropriate)
- VoiceOver and Accessibility
- Edit Menu
iOS Tech Usage Guidelines - 3

- Undo and Redo
- Keyboards and Input Views
- Location Services
  - User must approve
Summary

- Make sure your app takes maximum use of iOS Technologies
iOS UI Element Usage Guidelines

One of most important sections in the iOS Human Interface Guidelines
Bars

- Bars
  - Status bar
- Navigation Bar
- Toolbar
- Tab Bar
Content Views

- Popover
  - iPad Only
- Split View
  - iPad Only
- Table View
- Text View
- Web View
Alerts

- Alert
- Action Sheets
Controls - 1

• Activity Indicator
• Date and Time Picker
• Detail Disclosure Button
• Info Button
• Label
• Network Activity Indicator
• Page Indicator
• Picker
Controls - 2

- Progress View
- Round Rectangle Button
- Scope Bar
- Search Bar
- Segmented Control
- Slider
- Stepper
- Switch
Controls - 3

- Text Field
System Provided Buttons and Icons

- Standard Buttons
- Standard Icons
- Standard Buttons for Tables
iOS UI Element Usage Summary

• Standard Buttons
• Standard Icons
• Standard Buttons for Tables
Custom Icon and Image Creation Guidelines
Overview of Sections - 1

- Table 8-1 - Custom Icons and Images
- Tips for Designing Great Icons and Images
- Tips for Creating Great Artwork for the Retina Display
- Tips for Creating Resizable Images
- Application Icons
- Launch Icons
Overview of Sections - 2

- Small Icons
- Document Icons
  - Document Icons for iPhone
  - Document Icons for iPad
- Icons for Navigation Bars, Toolbars, Tab Bars
- Newsstand Icons
Summary of iOS Human Interface Guidelines
Summary of iOS Human Interface Guidelines

- Platform Characteristics
- Human Interface Principles
- App Design Strategies
- Class Studies – Transitioning to iOS
- User Experience Guidelines
- iOS Technology Usage Guidelines
- iOS UI Element Usage Guidelines
- Custom Icon and Image Creation Guidelines
iOS Application Templates

- Xcode > File > New > Project > iOS App
  - Empty App
  - Single View App
  - Utility App
  - Tabbed App
  - Page-Based App
  - Master-Detail App
  - OpenGL Game
Alert Types

- Alert View
  - Single OK Button, No Delegate
  - Multiple Buttons, with Delegate
- Action Sheet
  - Destructive Button
  - Other Buttons
  - Delegate
iOS Controls

- Label
- Button
- Segmented Control
- Text Field
- Switch
- Activity Indicator View
- Progress View
- Page Control
iOS Data Views

- Table View
- Image View
- Text View
- Web View
- Map View
- Scroll View
- Data Picker
- Picker
iOS Controllers

- View Controller
- Tab Bar Controller
- Navigation Controller
iOS Windows and Bars

- Window
- View
- Navigation Bar
- Search Bar
- Toolbar
- Tabbar
Summary

- App Templates
- Alerts
- Controls
- Data Views
- Controllers
- Windows and Bars
End of Course Slides
Questions / Answers