

iPhone Development Using MonoTouch 4

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Meet the expert: Wallace McClure specializes in building applications that have large numbers of users and large amounts of data as well as user interface specific technologies such as AJAX, iPhone, and Android. He is a Microsoft MVP, ASPInsider, and a partner in Scalable Development, Inc. Wally has authored books on iPhone Programming with Mono/MonoTouch, Android Programming with Mono for Android, application architecture, ADO.NET and SQL Server, and finally AJAX.

Prerequisites: This course assumes that students have some programming background and experience using Visual Studio 2010. In addition, the course assumes knowledge of C# in the Windows environment (and extends it to use on the Mac and OS X platform). Some basic knowledge of Silverlight 4 is helpful, as well. A very basic understanding of XML is also required.

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Course description: The iPhone and the OS of the iPhone, iOS, have set a standard for all smart phones for usability. As iPhone became more powerful it made since to take advantage of that power and create applications for the iPhone that allow employees or customers to use company systems to the companies benefit. This course introduces the MonoTouch, a program add-on for Xcode that is used to create applications for the iPhone and iOS using C# and the .NET framework and not in the native Object C language of iOS, thus making it easier for C# programmers to create iPhone applications. This course will start off with an introduction to the iPhone, Xcode and MonoTouch. Then move on to application events, screen controls and tabular data. iPhone mapping and location services as well as integrating with other applications via URLs are discussed.

Course outline:

iPhone Introduction

- Introduction
- ObjectiveC Challenges for .NET
- What's Driving Development?
- Mobile Marketplace
- Strategies to get on the iPhone
- How did I get here?
- Device Support
- What is MonoTouch
- What MonoTouch is Not
- Monotouch Editions
- (.NET) Monos JIT Engine
- Apple Issues
- Monos AOT Engine
- What about App Size
- Monotouch Features - High Level
- Monotouch Support
- The Layers of iOS
- Bindings
- iOS SDK
- Cocoa Touch Framework
- Other Frameworks
- Multitasking
- Map Kit
- UI Kit

- Core Location
- iOS Summary
- Summary

MonoDevelop and MonoTouch

- Introduction
- Demo: MonoDevelop
- User Interface Concepts
- A Few Terms
- MonoDevelop
- Creating a New iPhone App
- MD with a solution
- Debugging
- Interface Builder
- Control Library
- Class Library
- Windows
- Remember
- Summary

Picker Controls

- Introduction
- Types of Controls
- Picker
- Demo: Picker Control
- Multi-column Picker
- Demo: Multi-column Picker
- Summary

Date Picker and Simple Table

- Introduction

- Date Picker
- Demo: Date Picker
- Simple Table
- Demo: Simple Table
- Summary

Slider and Textbox Controls

- Introduction
- Responsive Applications
- Slider
- Demo: Slider Control
- Soft Keyboards
- Demo: Keyboards and Textbox
- Other Controls
- Summary

Mapping And Location

- Introduction
- Determine Location
- Geocoding
- Forward Geocoding
- Reverse Geocoding
- Displaying Maps
- Map Properties
- Annotating Maps
- Displaying Overlays
- Overlays
- Demo: Working with Maps
- Summary

Location Services

- Introduction

- Location Services
- Info.plist
- Events
- Direction Related Data
- Demo: Location Information
- Tips for Conserving Battery
- Summary

UI Table View

- Introduction
- UITableView
- Dimension Definitions
- Standard Styles
- Accessory Values
- UITableView API
- Let's Get Going
- Demo: UITableView
- Demo: GetCell
- Summary

Custom UITableView Cell

- Introduction
- Performance
- Selections
- Custom UITableViewCell
- Demo: Custom UITableViewCell
- Summary

Data Access

- Introduction
- Off Device

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- Sql Server
- Sql Server Specifics
- SQLite
- Web Services Support
- Demo: Data
- WCF Services Proxy
- Summary

iPad Introduction

- Introduction
- iPhone Apps in the iPad
- iPad UI Capabilities
- Initial Setup
- Orientation
- Universal Application - Start
- Settings
- Starting the iPad Emulator
- Universal Application
- Demo: Universal Application
- Summary

iPad Introduction 2

- Introduction
- Splitview
- Popover
- About App
- Portrait
- Into the Code
- Demo: Splitview
- Pain Points
- Summary

Calling Other Applications

- Introduction
- Marketplace
- What is a URL?
- Examples
- Demo: Calling Other Apps
- Maps
- Summary

Creating URL Schemes

- Introduction
- Custom URLs
- info.plist - Xcode 4
- Code
- Demo: Handle Open URL
- Summary

Testing On the Device

- Introduction
- MonoDevelop
- Debugging
- Emulator
- Testing on the Emulator
- Testing on a Device
- iOS Provisioning Profile
- Logging
- Crash Information

- Profiling Applications
- Profiling with Instruments
- Summary

Application Life Cycle

- Introduction
- Application States
- Basic Lifecycle
- Supporting Multitasking
- Application Delegate
- Application Lifecycle Events
- Opening Views
- Control Events
- Demo: Application Events
- Summary