

Building iPhone® and iPad® Applications: Extended Features - 4 Days

Course 2762 Overview

- You Will Learn How To**
- Develop advanced mobile applications that take full advantage of Cocoa Touch frameworks
 - Maximise the potential of Objective-C to create modular, maintainable code
 - Effectively manage application data using Core Data and the SQLite database
 - Incorporate Core Location and MapKit to create location-aware applications
 - Write code to interact with the address book and calendar
 - Enhance applications with multimedia and animation

Course Benefits The iPhone and iPad have revolutionised mobile computing with an innovative combination of hardware and software components that empower developers to create rich, multifunctional applications. In this course, you exploit the advanced techniques needed to create compelling, intuitive applications that stand out in a competitive market.

Who Should Attend Experienced iOS programmers who want to build advanced, multifunctional iPhone and iPad applications. Previous iOS programming experience at the level of Course 2761, "iPhone and iPad Programming Introduction", is assumed.

Hands-On Training In this course, you gain hands-on experience building a feature-rich iOS application using a variety of Cocoa Touch frameworks. Exercises include:

- Programming with Objective-C categories, protocols and blocks
- Reading and writing application preferences
- Persisting information with SQLite and Core Data
- Finding a device location using Core Location
- Displaying dynamic maps and annotating using MapKit
- Scheduling local notifications
- Building a split-view iPad application

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Course 2762 Outline

Moving Forward with iOS Development

- Overview of Cocoa Touch frameworks
- Exploring device capabilities
- Adding frameworks to a project

Taking Objective-C to the Next Level

Incorporating advanced features

- Extending a class with categories
- Leveraging blocks to simplify code
- Declaring methods with protocols
- Managing memory with Automatic Reference Counting (ARC)

Applying design patterns

- Sharing data using the singleton pattern
- Modularising code with delegates
- Implementing effective Data Access Objects (DAOs)

Implementing Data Storage Techniques with SQLite and Core Data

Saving application settings

- Maintaining user preferences locally
- Interacting with the Settings application

Archiving objects

- Preparing data structures for archiving
- Conforming to the NSCoder protocol
- Serialising objects for storage

Persisting data into SQLite

- Creating a database file
- Inserting, updating and deleting records
- Querying data for display
- Handling errors using NSError

Managing object graphs with Core Data

- Designing the data model with Xcode
- Creating entities and relationships
- Working with managed objects
- Integrating Core Data into an application

Determining and Displaying Location

Incorporating the Core Location framework

- Establishing device latitude and longitude
- Working with the location manager delegate
- Obtaining altitude and heading

Best practices for location services

- Managing battery life
- Implementing forward and reverse geocoding

Displaying maps with MapKit

- Embedding maps in your application
- Controlling zoom level
- Adding annotations to identify locations
- Customising annotation views
- Drilling down using an annotation callout
- Showing user location

Enabling Mobile Communication Services

Sending messages with e-mail and SMS

- Checking device capabilities
- Retrieving contacts from the address book
- Creating content using standard address book interfaces

Creating and retrieving calendar events

- Querying events with the EventKit framework
- Displaying standard calendar interfaces

Scheduling and receiving notifications

- Investigating the architecture
- Creating and responding to events with local notifications
- Extracting information from a notification payload

Enriching an Application with Multimedia

Interacting with the camera and photo library

- Capturing images and video
- Picking items from the camera roll
- Extracting information from multimedia assets

Incorporating multimedia into an application

- Playing audio and video files
- Handling media player notifications

Creating Compelling Content

Optimising iPad screen usage

- Creating split-view applications
- Presenting content with popovers
- Choosing a modal view style
- Extending the Xcode template

Enhancing a project with animation

- Transforming and fading views
- Nesting animation blocks