Advanced iOS Programming for iPhone® and iPad® Applications Using Objective-C

Duration: *(Face-to-Face & Remote-Live)*, or 35 Hours *(On-Demand)*

Price: £1,945 *(Face-to-Face & Remote-Live)*, or £1,145 *(On-Demand)*

Discounts: For multiple course purchases, please contact us for applicable discounts.

Delivery Options: Perform training at your own pace via our on-demand training option or attend regularly scheduled live courses via remote-live attendance.

Students Will Learn

- Using templates to create applications in Xcode

- Designing applications for multi-platform devices

- Designing user interfaces for multiple screen resolutions and aspect ratios

- Using advanced views to create complex user interfaces

- Accessing the device's camera and microphone

- Integrating with the Mail app, Messages app, Calendar app and Reminder app

- Saving files on the device to create data persistence

- Loading and parsing XML data from a stored file

- Using Core Data to more easily store and fetch data of different types

- Using encryption and keychain to secure data such as usernames and passwords

- Creating shapes, images, paths, and colors using Core Graphics

- Animating objects using Core Animation

- Using the device's accelerometer and gyroscope to detect movement and orientation

- Responding to multi-touch and gesture user interactions

- Localizing the user interface based on language and region

- Using MapKit

- Using Core Location to access GPS data

- Implementing UIDynamics into user interfaces

Course Description

Participants in this hands-on course will develop apps to interact with many of the hardware systems available on iPhone, iPad and iPod Touch hardware devices.

Students will learn how to use the camera and microphone for still images, videos and audio. The course includes coverage of the Core Location and Map Kit for GPS systems and the motion systems for the internal gyroscope system.

Students will learn how to save and read files for local systems and how to use the Core Data system to create local SQLite databases.

The course emphasizes Service Oriented Architecture (SOA), and students learn how iOS apps interact with Web services through request/response systems. Hands on practice includes implementing code to access a web service asynchronously using SOAP.

Attendees also learn how to develop apps incorporating iCloud support, and the requirements for sharing documents.

Comprehensive hands on exercises are integrated throughout to familiarize students with many of the hardware systems and concepts needed for iOS apps, as well as security concerns to address prior to launching iOS apps. Exercises include use of the redesigned iOS7 UI controls and many of the new features of the latest release of iOS.

Course Prerequisites

Strong experience with Objective-C programming language and basic iOS application development. HOTT's iOS Programming for iPhone and iPad Applications Using Objective-C course strongly recommended.

Course Overview

iOS File Manager System

- Directory Structure
- File Detection
- Basic File Instructions
    - Load
    - Save
    - Move
    - Delete

File Saving and Loading

- File Manipulation
- Saving and Loading Files
- Archiving and Unarchiving to Files
    - Binary
    - XML
    - plist

Core Data and Database Development

- Core Data Managed Object Model
- SQLite Database Support
- Core Data Classes and Programming Protocol
- Apple iCloud Storage

Internet Communication

- Communication Using Internet Protocols
- Using the HTTP Request/Response System

Hardware Camera Use

- Camera Detection
- Image Capture
- Image Display Options

Web Service Support

- Exploiting Service Oriented Architecture
- Creating Apps that Use Web Services
- Advantages of Using RESTful Web Services

Audio Systems

XML Parsing

- Recording
- Playback
- Streaming
- Overview of the OpenAL Sound Engine

- Using DOM and SAX Parsers
- Using Built-in XML Parsers

Video Systems

- Recording
- Playback
- Saving Locations

Multi-Platform Development

- Creating Apps that Work on iPhone and iPad
- Creating User Interfaces for Multiple Screen Resolutions
- Detecting and Using Hardware at Runtime

Core Motion System

- Gyroscope Detection
- Precise Measurement of Device Orientation
- Shake Gesture Recognition

Games and Graphics Support

- Creating a Simple Game Using Cocoa Graphics
- 2D and 3D Graphics Support

Core Location System

- MapKit Introduction
- CoreLocation Library Development
- Input and Display of GPS Information

Security Considerations

- Encrypting Files
- Setting Phone Security
- Accessing Keychain Settings

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