

# **iOS or iPhone/iPad Application Development Course**

## **About**

iOS or iPhone/iPad Application Development Course is hands-on that provides knowledge about iOS Apps life cycle. The objective of these courses is to make participant aware about the entire development cycle of the iOS apps.

The course is a combination of lectures and hands-on exercises that provide real-world experience.

## **Who Should Attend**

- Programmers who are looking to enter the Mobile Apps Development
- Beginners, Junior Software Developers, Senior Software Developers, Team Leads and Managers
- Hobbian who wants to bring their ideas into potential Apps
- Anyone who wants to make sophisticated mobile applications

## **Duration**

- 8 days
- Each day 4 hours of session
- Total 32 hours

## **What You'll Learn**

- Understanding of the Objective C concepts
- Create apps with sophisticate UI designs
- Understanding standard Human Interface guidelines
- Create apps with MVC iOS environment
- Creates apps which interacts with various UI components
- Create an App with Multi Controller environment
- Deploy the App on the iOS devices and over the App Store
- Understand how to make App compatible with multi iOS devices

- Understanding the Apps Ecosystem and how to make money
- Create the Apps with Multitouch and Motion Sensor hardware capabilities.
- Create apps including Web services
- Create apps including the persistent storage
- Create client-server mobile app
- Understand the architecture for Web services oriented apps and persistent storage oriented apps.

## Prerequisites

- Basic knowledge of programming language like C
- At least one Object Oriented Programming Language like C++ or JAVA

## Course Outline

### 1.Objective C Basics

- Comparing the Objective C with language like C++ or JAVA
- Understanding Apple Philosophy and “WOW” factor
- Understanding Class template
  - o What is Interface file?
  - o What is Implementation file?
- Understanding NSObject, id pointer and isa pointer
- Understanding importance of id & isa pointers
- Understanding Objective C syntax and comparing with C++ & JAVA
- Understanding the Constructor pattern in Objective C
- Properties
  - o Discuss setters & getters
  - o Discuss attributes
  - o Talk about pointer behavior for assign, retain, copy
  - o Talk about pointer behavior in ARC environment i.e. strong and weak
  - o Talk about autorelease

- o List our all methods incrementing retain count & corresponding methods which decrement retain count
- o Give golden rules what to use when setting the attributes while declaring the properties
- Talk about Protocols & delegates:
  - o Importance of Protocols
  - o Comparing Protocols with Interface in JAVA
  - o Discuss Required and Optional methods in Protocol
- Automatic Reference Counting (ARC)
  - o Talk about Automatic Reference Counting
  - o How its different from Garbage Collector
  - o Talk about Strong & Weak attributes
  - o Importance of using ARC in code
  - o Discussing scenarios where ARC fails and use Manual Memory Management
- Given golden rules for memory management in Objective C
- Autorelease Objects
  - o Difference between auto release object and normal objects
  - o When to use Autorelease objects
  - o How system manages memory for the Autorelease objects.
  - o Golden rules on when to use Autorelease Objects in the Objective C

## 2. Xcode IDE, Foundation and UIKit Framework, NSString, NSArray, UILabel, UIImageView etc.

- Briefing the Mac OS system
- Walk through the creation of simple project in Xcode
  - o Talk about maintaining folders in sequence
  - o Understand various windows in the Xcode IDE
  - o Understanding the various files
- Discuss MVC & the application life cycle, ask participants to put NSLog statements in their code
- Walk through changing the view background of the app
- Talk about general UI Component rules: creation of frame, setting properties, adding to view
- Talk about UILabels & NSSStrings
  - o Adding text,

- o Modifying properties
  - Font type
  - Font size
  - Alignment
  - Number of lines
  - Background color
  - Text color
- o Adding to view
- o Calling the load function
- Ask students to explore some properties of UILabel
- Correlate the 3 rules mentioned earlier with what we have done
  - o Adding imageView to view
- Project implementation
- Talk about UIImageView
  - o Adding resources to project & the directory concept
  - o Creation of UIImage model
  - o Setting the center

### 3. Responder Chain Pattern

- Touch Events
  - o Get to implement the touches began, moved, ended messages
  - o Get the basic label hiding effect with touches began
  - o Understand pattern of registering the view with the touch
  - o Drafting of 4 golden rules to register view on touch
  - o Demonstrate each rule

### 4. Multi Controller Environment using UITabBarController and UINavigationController

- Talk about the multi controller environment
  - o Talk about base architecture of the multi controller environment

- o Talk about the relationship between the window and root controller for the multi controller environment.
- Talk about Tab Bar controller
  - o Talk about view controllers & root view controllers
  - o Walk through creation of tab bars
  - o Discuss about icons creations and Apple's clauses on Tab bar icons
  - o Talk about how to create various classes in Xcode.
  - o Discuss about the default constructor
  - o Creating multi controller project in iOS MVC architecture
- Talk about Navigation
  - o Ask to implement navigation
  - o Talk about various Navigation controllers in iOS

## 5. UITableViews

- Talk about Table creation
  - o Talk about the multiple row/single column concept
  - o Talk about various protocols used by Table in iOS
  - o Discuss about required & optional methods
  - o How to confirm the protocols in App
  - o Talk about the Table optimization
  - o Create first table and play with various table features
- Talk about customizing tables
  - o Customizing the header/footer with text
  - o Customizing Header/Footer with Images
- Talk about the protocols required
  - o Talk about the height or the row & cell
- Talk about creation of custom cells

## 6. Making App Compatible from iPhone 4 to iPhone 5 and iPad to iPad mini and iPad Air

- Making App compatible with all the iOS devices

- o Understanding the development cycle time for all devices
- o Understanding Apple strategy about announcing the new devices
- o Understanding how to make existing App immediately compatible with the New device release
- o How you can still make money from App which were made 3-4 years back
- o How Apple ecosystem is strongest of all.

## 7. Deployment and Distribution

- Start off on deployment
  - o Talk about the \$99 program & the free program. Especially the differences between the 2
  - o Talk about Certificate creation, renewal
  - o Talk about KeychainAccess and process for creating certificate request
  - o Talk about registering devices on the provisioning portal
    - Talk about fetching the UDID
- Talk about the app id creation
- Unique id for each app
- Format for bundle ids
- Talk about provision profile creation
- Talk about binding developer, appid, devices
- Talk about importing the provisioning profile
- Talk about setting the project target settings
- o Talk about project settings
- Deploy the app/game that has been developed.
- Start off on distribution
- Learn how to make .ipa file of the app.
- Learn ad Hoc app distribution
- Learn about iTunes Connect
- Talk about how to register app on the iTunes connect and other legal things for app distribution
- Registering the app on iTunes Connect

## 8. StoryBoard (Overview)

- What is Story Board
- Why it was introduced
- When and where to use Storyboard.
- Walk through the story board
- Integrating story board in the app

## 9. Hardware Capabilities

- o Multi Touch
  - Talk about the Multi Touch environment
  - Understand Fast Enumeration concept
  - Build and test the App
- Accelerometer
  - o Talk about the Accelerometer
  - o Talk about the Motion Sensor
- Build and test the App

## WebServices using SOAP and REST

- Understand client server architecture
- Understand the Web services
- Start with the SOAP webservice
- Talk about how to integrate MVC architecture in client-server environment
- Talk about XML
  - o Talk about where XML is used.
  - o The working of client-server architecture
  - o XML: Solution for client server architecture
- Talk about 5 golden points for creating robust MVC for client-server architecture
- The importance of 5 golden points across the entire platform.
- Talk about how to utilize same architecture across other platform
- Start of on the implementation of XML parsers
  - o Talk about the parsing process
  - o Talk about pure model components
  - o Talk about the protocols required & creating the protocol

- Walk through the flow of the code implemented
  - o Finally giving full MVC flow of client server environment.
  - o Difference between DOM and SAX parser
  - o Integrating the REST web services in the client-server architecture
  - o Talk about the JSON

### Persistence using SQLite

- o Talk about creation of persistent storage
- Talk about SQLite
- Talk about writing SQLite queries in objective-c & the protocols required
  - o Walk through the creation of a simple database
    - o Start of with the implementation of the code
  - o Talk about the sql\_stmt object
  - o Talk about the functions required by the SQLite handler class
  - o Talk about single ton class concept
  - o Talk about why single ton class is required
    - o Talk about security
- Create front end
  - o Talk about all the integration of front end with the handler
- o Creation of text fields & buttons
- o Talk about fast enumeration
- o Talk about UIAlertView
  - o Making the To-DO List type App

### Persistence using Plist

- Talk about creation of persistent storage using plists
- o Talk about key value concept of dictionaries as compared to arrays
- o Talk about how plists store key value pairs

### Persistence using CoreData Framework

- Core Data frame work



- Talk about the core data frame work
- Discuss about the pros & cons of core data
- Talk about when to use core data frame work
- Walk through on creating core data
- Integrating core data into the app

### **Pricing For Individual (Per participant)**

Mr. Priyank Ranka 50000 INR + 15% Service Tax

Other Trainer 30000 INR + 15% Service Tax

### **Pricing For Corporate Per Day (Upto 12 participant)**

Mr. Priyank Ranka 30000 INR + 15% Service Tax

Other Trainer 20000 INR + 15% Service Tax

### **Terms and Conditions**

- Payment: 100% advance for blocking the seat
- All payment needs to be made in favor of “Nimap Infotech LLP”

- **Wire Transfer Details**

Bank Name : ICICI bank

Branch : Mazagaon Branch

Account Name : Nimap Infotech LLP

A/c. no : [107105000697](#)

IFSC Code : icic0001071

MICR code : 400229073

- Tea will be provided at the Training Center.
- Non-refundable Fees. Replacement of seat is allowed.

Thank You!!

Success of Nimap Infotech as a company is measured by the growth and happiness of its customers. Nimap Infotech has a vested interest in supporting you for years to come.

Please send us a PO and provided above and email to [Priyank@nimapinfotech.com](mailto:Priyank@nimapinfotech.com) if you choose to accept this offer.

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