



3. Mobile App Development

3.2 IOS Swift

Prerequisites:

1. OOPs Concept
2. Mac OS System

Duration: 60 Lectures

Course Content:

1. Introduction

- 1.1. The Mobile App Paradigm
- 1.2. Introduction to Xcode
- 1.3. Main characteristics of mobile apps
- 1.4. Differences between mobile apps and desktop apps
- 1.5. How iOS is tailored to a mobile platform
- 1.6. iOS main components and services

2. Model View-Controller-Design Paradigm

- 2.1. The Mobile App Paradigm
- 2.2. Review of Intro to MVC
- 2.3. UI View and UI Window classes
- 2.4. View Hierarchy
- 2.5. Transparency
- 2.6. Memory Management
- 2.7. Coordinate Space
- 2.8. Custom Views: Creating a subclass of UI View, Drawing with Core Graphics
- 2.9. Controllers: View Controller Initialization, View Life Cycle, Controllers of Controllers

3. SWIFT

- 3.1. Variables and Constant in SWIFT
- 3.2. Understand variable declaration
- 3.3. Understanding syntax for variable declaration



- 3.4. Type defining the variable
- 3.5. Understanding constant declaration
- 3.6. Syntax for declaring the constant
- 3.7. Understanding Type Annotation
- 3.8. Type Alias and it's important
- 3.9. Tuples and it's befinits
- 3.10. How values are interpreted in print statement
- 3.11. Understanding Optional Variables concepts
- 3.12. Understanding Implicit Optional UnWrapping concepts

4. Operators, Collection Type and Control Flows in Swift

- 4.1. Understand changes in some of the operators
- 4.2. Understanding Array and Dictionary in Swift
- 4.3. Understand If, If Else If and Switch statements in Swift
- 4.4. Understanding various looping options in Swift

5. Functions or Methods, Closure and Subscripts in Swift

- 5.1. Understanding Method declaration and parameters
- 5.2. Understanding Functions as Type
- 5.3. Talk about Functions as parameters
- 5.4. Talk functions as returned type
- 5.5. Nesting of function definition. Implementing functions within the functions
- 5.6. Talk about Closure concepts
- 5.7. Talk about Subscripts

6. Classes and OOPs concepts in SWIFT

- 6.1. How Class is declared in SWIFT
- 6.2. Class file structure in SWIFT
- 6.3. How Factory design patterns works in SWIFT
- 6.4. Talk about Initialize and deinitalizer

7. Properties and Protocols in SWIFT

- 7.1. Talk about properties
- 7.2. Talk about properties in SWIFT
- 7.3. How properties play vital role in memory management
- 7.4. Talk about Initialize and deinitalizer
- 7.5. Talk about Protocols in Swift



8. Automatic Reference Counting in SWIFT

- 8.1. ARC concepts in SWIFT
- 8.2. Strong Reference between instance of Classes
- 8.3. Talk about references and Closure
- 8.4. Talk about open chaining

9. Type Casting in SWIFT

- 9.1. Talk about ANY
- 9.2. Talk about ANY Object
- 9.3. Talk about Nested Type
- 9.4. Talk about Generic Types and Functions

10. Application setup in SWIFT

- 10.1. Talk about the various classes created on Project creation
- 10.2. Understand App Delegate class

11. UI Kit and SWIFT

- 12.1 Talk about UI View Hierarchy
- 11.1. Talk about various UI components
- 11.2. Play with some of the UI elements

12. Controllers, Controllers of Controllers

- 12.1. Controllers
- 12.2. Controllers of Controllers
- 12.3. Handling Gestures
- 12.4. Recognizing and Handling Gestures: pinch, pan, zoom, swipe, and tap

13. Content Display

- 13.1. UI Image View
- 13.2. UI Web View
- 13.3. UI Scroll View
- 13.4. UI Table View
- 13.5. UI Table View Controller

14. Persistent Storage

- 14.1. Property Lists and their limitations
- 14.2. Archiving Objects
- 14.3. Storing on the file system



- 14.4. SQ Lite
- 14.5. Core Data Framework
- 14.6. Using @property to access information
- 14.7. Xcode Generated Code for at property access
- 14.8. Querying data
- 14.9. Displaying Core Data in Table Views
- 14.10. Fetch Request
- 14.11. Core Data Table View Controller

15. Blocks and Multithreading

- 15.1. What is a block
- 15.2. Block Syntax
- 15.3. Context and Scope
- 15.4. Memory Management in Blocks
- 15.5. Declaring variables to hold blocks
- 15.6. Shorthand in block definitions
- 15.7. Usages of Blocks
- 15.8. Grand Central Dispatch API
- 15.9. Creating and Releasing Queues
- 15.10. Putting blocks in queues
- 15.11. Getting the current or main queue

16. Advanced Service

- 16.1. Textual content: UI Text View
- 16.2. Keyboard control
- 16.3. Alerts and Timers
- 16.4. Core Media: audio, still photos and video.
- 16.5. Core Motion: accelerometer and gyro in apps

17. Uploading to the App Store

18. Application architect of iOS Application

- 18.1. Talk about Single View Application
- 18.2. Talk about Multi Controller Applications
- 18.3. Type of multi controller applications
- 18.4. Implement some project with various Application Architect

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19. Notification

- 19.1. Local Notification
- 19.2. Push notification

20. Advanced Topic

- 20.1. Alert controller
- 20.2. Pods
- 20.3. Actions sheets

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