

Mobile App Design and Development

The course includes following topics:

Apps Development 101- Introduction to mobile devices and administrative:

- Mobile devices vs. desktop devices
- ARM and intel architectures
- Power Management
- Screen resolution
- Touch interfaces
- Application deployment
- App Store, Google Play, Windows Store
- Development environments
 - XCode
 - Android Studio
 - VS2012
 - PhoneGAP, ...
- Native vs. Hybrid applications

First Phase- Android Application development:

1.Review of java fundamentals:

- The Java Environment
- Datatypes
- Passing Data Types to a Method
- Constructors and Initialization
- Inheritance
- Abstract Classes
- Interfaces

2. Getting Started and Preparing environment for android Development:

- Downloading and Installing SDK for MAC and Windows
- Installing and configuring SDK Packages
- Working with Virtual Devices and its pros and cons
- Preparing the Editor

3. Android App Fundamentals:

- Overview
- Project Structure
- Android Manifest file
- Activities
- Intents(Explicit and Implicit)
- Resources
- Permissions
- Debugging

4. The User interface and controls:

- Measurement Units
- Layouts
 - LinearLayout
 - RelativeLayout
 - Table Layout
 - Absolutelayout
 - Frame Layout
 - List View
- Text Controls
- Other Controls(Button, Textbox, Password, checkboxes, Radio Buttons, Toggle Button, Spinner, Datepicker, Analog Clock, Digital Clock, Image View, Image Button, Image Button Selector, Message)

5. Graphics and Styling:

- Styles
- Themes
- Icons

6. Supporting Multiple Screens:

- Screened Entities
- Alternate Layouts

7. Animation and Graphics:

- Frame by Frame animation
- Tween animation
- 2D drawing

8. Menus and Dialogs:

- Option Menu
- Context Menu
- Alert Dialog, prompt Dialog, Custom Dialog
- Progress bar, Rating Bar
- Custom dialogs

9. Notification and toast:

- Status notification
- Toast notification

10. Working with Media:

- Audio
- Video
- Camera

11. Preferences and Data Storage:

- Shared
- Preferences
- SQLite
- Network access and usage
- Content Provider

12. Locations and Maps:

- Working with Maps
- Working with Location

13. Creating a home Screen widget

14. Publishing Your App

Second Phase- iOS App Development:

1. Getting Started:

- Installing Xcode and the iOS SDK
- Becoming a Registered Apple Developer
- Joining the iOS Developer Program
- Creating a simple iOS app
- The four pillars of iOS app development

2. Core Skills:

- Introduction to Xcode 6
- Using the Model-View-Controller in iOS
- Creating basic interaction
- Using first responders
- Dismissing the keyboard with delegation
- Exploring delegation
- Troubleshooting UI-to-code connections

3. Basic iOS UI:

- Working with Interface Builder
- Using Auto Layout and preview modes
- Adding and troubleshooting Auto Layout constraints
- Using a datepicker control
- Loading data into controls
- Responding to selection
- Exploring the object library
- Using Apple's Human Interface Guidelines

4. iOS Application Architecture:

- Exploring the iOS application life cycle
- Working with foreground and background events
- Understanding view hierarchies
- Introducing the debugger

5. Using Table Views:

- Introduction to table views
- Creating a basic table view and a data source
- Loading a property list into a table view
- Reusing table view cells
- Customizing table views
- Customizing table view cells

6. Multiple-View Applications:

- Introduction to multiple-view applications
- Deconstructing a tabbed application
- Using navigation controllers
- Deconstructing a master/detail app

7. Using Storyboards:

- Exploring storyboards
- Creating new scenes and segues
- Introducing the example project
- Step one: Creating the storyboard scenes and segues
- Step two: Creating the custom classes
- Step three: Defining the model
- Step four: Loading the data
- Step five: Passing objects between scenes

8. iPad Development:

- Understanding the differences in iPad development
- Using the split view controller
- Adding modal view controllers

9. Using Size Classes:

- Introducing size classes
- Altering views and constraints with size classes

10. Finishing Touches:

- Adding iOS 8 app icons
- Creating iOS 8 launch screens
- Conclusion

Third Phase- an Introduction to Mobile App Development Frameworks (Ionic):

1. Introduction
2. Setting up everything
3. Ionic and Its Components
4. Angularjs and ionic
5. Introducing Parse in Ionic Project
6. Using Cordova and ngCordova