

## Beginning Android Development (3 days) }

This workshop is a hands-on guide to designing and building mobile applications using Google's Android open-source platform. The course explains what Android is, the Android SDK, all essential features, as well as the advanced capabilities and APIs such as background services and notifications. This complete hands-on workshop encourages participants to learn by building a real-life working application, which can serve as a basis for their future Android projects. By the end of the course, each participant will have a complete functional Android application incorporating most of the key features of the platform.

## Objective

Upon completion of this course, you will be able to:

- [1] Build your own Android apps.
- [2] Understand how Android applications work, their life cycle, manifest, Intents, and using external resources.
- [3] Design and develop useful Android applications with compelling user interfaces by using, extending, and creating your own layouts and Views and using Menus.
- [4] Take advantage of Android's APIs for data storage, retrieval, user preferences, files, databases, and content providers.
- [5] Utilize the power of background services and notifications.
- [6] Use Android's communication APIs for internet resources (HTTP). Learn how to use common Web APIs from popular services like Twitter, Flickr, bit.ly, etc.

## Course Outline

Day 01	<b>Overview</b> [1] The Big Picture [2] Project Structure [3] Inside the Manifest [4] The Development Environment	<b>Creating a Skeleton Application</b> [1] Basic User Interface -- (a) Using XML-based Layouts, (b) Employing Basic Widgets, (c) Working with Containers  [2] Advanced UI -- (a) Using XML-based Layouts, (b) Getting Fancy with Lists, (c) Employing Fancy Widgets & Containers  [3] User Action -- (a) The Input Method Framework, (b) Applying Menus, (c) Showing Popup Messages	
	<b>Activity</b> [1] Handling Activity Lifecycle Events [2] Creating Intent Filters [3] Launching Activities and Sub-activities  <b>Web</b> [1] Embedding the WebKit browser [2] Communicating via the Internet [3] Using popular web APIs	<b>Day 03</b>	<b>Resources</b> [1] Working with Resources [2] Working with Medias [3] Building a Content Provider  <b>Background Services</b> [1] Creating a Service [2] Alerting Users via Notification

## Intermediate Android Development (3 days) }

## Course Outline

<b>Day 01</b>	<b>Richer User Interfaces</b> [1] Touchscreen and Multi-touch [2] Gestures Input [3] Text to Speech and Speech Recognition [4] Animation [5] 2D Canvas Drawing [6] Surface View [7] 3D Graphics with OpenGL	<b>Day 02</b>	<b>Working with Media</b> [1] Playing Audio [2] Playing Video [3] Audio Recording [4] Capturing with Camera [5] Video Recording  <b>Using Hardware</b> [1] Compass [2] Accelerometer [3] Orientation Sensor and Gyroscope [4] Vibration	<b>Day 03</b>	<b>Working with Data</b> [1] Using Content Providers [2] Creating Content Providers [3] Live Folders  <b>Testing and Publishing</b> [1] Reusable JAR Library [2] Test Case [3] Android Monkey [4] Various Distributions
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## Advanced Android Development (2 days) }

## Course Outline

<b>Day 01</b>	<b>Advanced User Interfaces</b> [1] Custom View [2] Search Manager [3] Broadcast Receiver [4] Home Screen App Widgets [5] Live Wallpaper  <b>Communication</b> [1] Bluetooth [2] WiFi [3] Telephony [4] Near Field Communication	<b>Day 02</b>	<b>Background Tasks</b> [1] Thread and AsyncTask [2] Notifications [3] Alarm Manager [4] Local Service [5] External Database via Remote Service [6] Push Notifications  <b>Beyond Java</b> [1] Webkit-based Hybrid Development [2] Android Native Development
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## Beginning iPhone Development (3 days) }

This intensive 3-day course will guide students through the process of designing and developing iPhone/iPad/iPod Touch applications. The goal is to get you past the initial learning curve to help you to understand the way iPhone/iPod Touch applications work and how they are built, incorporating most of the key features of the platform.

### Course Outline

#### Day 01

##### Introducing the iPhone Development

- [1] Registering as a Developer
- [2] Installing the SDK
- [3] Setting up Xcode
- [4] Introducing the Interface Builder
- [5] Using the iPhone Simulator
- [6] Debugging Tools and Features

##### Handling Basic Interactions

- [1] The Model-View-Controller Pattern
- [2] Working with Outlets and Actions

##### Building User Interfaces

- [1] Working with Image Views/Text Fields
- [2] Controlling the Keyboard
- [3] Working with Sliders/Switches/Labels
- [4] Working with Buttons
- [5] Implementing Alerts and Action Sheets
- [6] Downloading content via the Internet
- [7] Accessing the Camera / Photo Library

##### Autorotation and AutoSizing

- [1] Handling Rotation & Autosize attributes
- [2] Restructuring a view when rotated
- [3] Swapping Views

#### Day 02

##### Multiview Applications

- [1] Architecture of a Multiview Application
- [2] Building the View Switcher
- [3] Animating the Transition

##### Tab Bars and Pickers

- [1] Setting up the Tab Bar framework
- [2] Implementing the Date Picker
- [3] Implementing the Single Component Picker

##### Introduction to Table Views

- [1] Implementing a Simple Table
- [2] Adding Images
- [3] Customizing Table View Cells
- [4] Grouped and Indexed Sections
- [5] Implementing a Search Bar

#### Day 03

##### Core Location

- [1] Setting up Location Manager
- [2] Getting Location Updates
- [3] Using Core Location in iOS4

##### App Settings and User Defaults

- [1] Working with the Settings Bundle
- [2] Reading Settings in our application
- [3] Changing Defaults from our application

##### Basic Data Persistence

- [1] Persisting Application Data with Property Lists
- [2] Working with Core Data

##### Prerequisites:

- [1] Bring your own Intel-based Mac laptop.
- [2] Register as an iPhone Developer (free).
- [3] Install the latest iPhone SDK and XCode.

*Membership in the iPhone Developer Program (USD\$99/yr) is not required but it is recommended. Unless you are a member, you will not be able to test applications on your own device.*



## Windows Phone 7 Development (3 days) }

Writing apps for a phone was never so easy. If you've been tempted to write for the iPhone or the Android phone, you don't have to. With Silverlight you can build applications for the Windows Phone 7 Series as easy as you can build a web widget. When you're ready to dive into building applications for phones, this is the workshop for you.

### Course Outline

#### Day 01

##### Silverlight Development

- [1] XAML
- [2] Working with Shapes and Brushes
- [3] Working with Controls and Events
- [4] Styling, Layouts and Transformations
- [5] Databinding
- [6] Developing with Expression Blend 4

#### Day 02

##### Designing for the Phone

- [1] Metro Explained
- [2] Working with Screen Sizes
- [3] Integrating Touch
- [4] Why Panorama Applications Make Sense
- [5] Making sense of the Page Model
- [6] Understanding Connectivity
- [7] Understanding the App Lifecycle

#### Day 03

##### Building for the Phone

- [1] Working with Phone Services
- [2] Orientation Changes
- [3] Contact List Access
- [4] Making Calls / Sending SMS
- [5] Working with the GPS
- [6] Accessing the Accelerometer
- [7] Setting up Push Notification

##### Accessing the Web/Services

- [1] Accessing web services within your app
- [2] Working with the WebClient Object
- [3] Working with the WebBrowser control
- [4] Interacting with Javascript via Silverlight