Android Development

Course description

The Android operating system is the world most popular mobile platform. The proliferation of smart phones and the popularity of the Android platform have meant that there is a huge requirement for developers who can develop apps on Android OS. With over 1 billion Android devices already activated, this represents a great opportunity for developers.

Student Take away

- Study Material
- Learning stuff
- Sample project for practice

Android Development Online Training Curriculum

Introduction to Android

- Overview of Android and Android SDK
- History of Android
- Android features

Android Architecture overview

- Android Runtime
- Linux Kernel, Libraries
- Applications, Application framework

Setup of Android Development environment

- System requirements
- Eclipse and SDK installation, AVD creation
- Creating first Android application
- Project Structure

Android Application Fundamentals

- Android application building blocks
- Activating components
- Shutting down components
- Lifecycle of Application
- Development tools, Manifest File

Building Blocks

- Activity & Lifecycle
- Intents & Categories

Building Blocks continues...
- Services, Content Providers
- Broadcast Receivers

User interfaces
- Creating the Activity
- An Overview of User interfaces
- Using XML Layouts
- XML versus Java UI
- Selection Widgets, Using fonts
- Using Menus, Date and Time tabs
- Common UI components
- Handling user events

Advanced UI
- Selection components
- Adapters
- Complex UI components
- Building UI for performance
- Menus and Dialogs
- Graphics & animations

Resources
- Overview of Android Resources
- Creating Resources
- Using Resources
- Draw-able Resources
- Animation Resources

Intents and services
- Working with Intent classes
- Listening in with broadcast receivers
- Building a Service
- Performing Inter-Process Communication

Storing and retrieving data
- Using preferences
- Using the file system
- Internal Storage - Files
- External Storage - SD Card
- Persisting data to a database

SQL Database
- Introducing SQ Lite
- SQ Lite Open Helper and creating a database
- Opening and closing a database

SQL Database continues…
- Working with cursors
- Inserts, updates, and deletes

Basic Content Providers
- Content provider MIME types
- Searching for content
- Adding, changing, and removing content
- Working with content files

Web Services
- Understanding Web Services
- Integrating Web Services
- REST and SOAP - JSON based calling

Networking
- An overview of networking
- Checking the network status
- Working with HTTP

Location Services - GPS
- Using Location Manager and Location Provider
- KML, NMEA, Track Files
- Simulation of the locations on the emulator

Integrating Google Maps
- User Interface – Map View
- Changing views on the Map
- Maps API Key generation
- Adding layers to the Map - Overlays
- Itemized Overlays - Adding markers on the map

Telephony
- Telephony background
- Accessing telephony information
- Monitoring data activity and connectivity
- Interaction with the phone
- Working with messaging SMS
- Voice Activity and Messaging Activity

Multimedia in Android
- Multimedia Supported audio formats
- Playing Audio & Video
- Recording Audio & Video

Multimedia in Android continues...
- Accessing Camera, Capturing Photos
- Speech Recognition

Bluetooth
- Controlling local Bluetooth device
- Discovering and bonding with Bluetooth devices
- Managing Bluetooth connections
- Communicating with Bluetooth