

## Topics:

### Session 1: Introduction to Android

- OOPs Concepts
- Inheritance in detail
- Exception handling
- Packages & interfaces
- JVM & .jar file extension
- Collections – HashTable, Vector, List, ArrayList, HashMap
- Multi threading(Thread class & Runnable Interface)

### Session 2: Introduction to Android

- A little Background about mobile technologies
- Overview of Android - An Open Platform for Mobile development
- Open Handset Alliance
- Setting up development environment
- Dalvik Virtual Machine & .apk file extension
- Fundamentals
- Basic Building blocks – Activities,Services,Broadcast Receivers & Content Providers
- UI Components- Views & notifications
- Components for communication -Intents & Intent Filters
- Android API levels(versions & version names)

### Session 3: My First Android Application

- How to setup Android Development Environment.
- Android development Framework - Android-SDK, Eclipse
- My First Android Application
- Launching emulator
- Editing Emulator

### Session 4: Application Structure(in detail)

- AndroidManifest.xml
- uses-permission & uses-sdk
- Activity/services/receiver declarations
- Resources & R.java
- Assets
- Values – strings.xml
- Layouts & Drawable Resources
- Activities and Activity lifecycle

## Session 5:XML Introduction to Basic UI design

- Push Button
- Text / Labels
- EditText
- ToggleButton
- Spinner
- AutoCompleteTextView
- Date & time picker
- ProgressBar
- Analog & Digital

## Session 6: Advanced UI Programming

- Event driven Programming in Android (Text Edit, Button clicked etc.)
- Android Activity Lifecycle
- Popup

### Menu

- Option menu
- Context menu
- Sub menu
- Menu from xml
- menu via code

### Multimedia

- Audio & Video Player
- Recording Video

## Session 7: Intents & Views (in detail)

- Implicit Intents
- Explicit Intents
- Designing interface with views

## Session 8: Styles & Themes

- styles.xml
- colors.xml- declaring colors and drawables
- Drawable resources for shapes,gradients(selectors)
- Style attribute in layout file
- Applying themes via code and manifest file

## Session 9: Adapters and Widget

### Adapters

- ArrayAdapter
- BaseAdapters
- ListView and ListActivity
- Custom listview
- GridView using adapters
- Gallery using adapters

## Session 10: Notifications

- Broadcast Receivers
- Services and notifications
- Toast
- Alarms

## Session 11: Tabs and TabActivity

## Session 12: Data Storage & SQLite Programming

### Data Storage:

- Internal Storage
- External Storage

### SQLite:

- SQLiteOpenHelper
- SQLiteDatabase
- Cursor
- Content providers
- Defining and using content providers
- Reading and updating Contacts
- Reading bookmarks

## Session 13: Linkify & Telephony API

- SMS and Email Messaging in android
- Location Based services
- Networking
- Telephony Manger
- Get call State

- Phone call

## **Session 14: Android Security Essentials**

- Introduction and Android Security Architecture
- Android Permission Model and third party applications
- Component Security and Protecting data storage
- Client-Server communication security

## **Session 15: Publishing Android Applications**