

# Keonics Certified Mobile Application Program

**Duration: 3 Months**

## Android Application Development

### Summary

Android is the leader in smartphones operating system market. Android owns 43% (Oct 2011) of the US smartphone market share. Google's dedication to continually improve Android, has also made it the platform of choice in various embedded systems, requiring a graphical front end.

This course aims to teach application development for Android. Since Java is the primary language of the Android platform, the course starts by refreshing the advanced features of the Java programming language. The course then covers the building blocks of Android in detail, and shows how to design & develop applications using these building blocks.

### Pre-requisite

- Java or C Programming

### Syllabus

#### 1. Introduction

- 1.1 What is cell?
- 1.2 Cell phone usages
- 1.3 Types of Cell phone CDMA & GSM cell phones

##### 1.1 Varieties of Mobiles

- 1.2.1 Basic Mobiles
- 1.2.2 Color Mobiles
- 1.2.3 FM & GPRS Mobile
- 1.2.4 Flip top Mobiles
- 1.2.5 Lieder Mobiles
- 1.2.6 Rolling Mobiles camera Mobiles
- 1.2.7 Multimedia Mobiles
- 1.2.8 2 in 1 Mobiles
- 1.2.9 PDA Mobiles
- 1.2.10 I phone
- 1.2.11 Child Mobiles

### **1.3 Cell phone History**

- 1.3.3 Generation of cell phones
- 1.3.4 1<sup>St</sup> Generation
- 1.3.5 2<sup>nd</sup> Generation
- 1.3.6 3<sup>rd</sup> Generation
- 1.3.7 4<sup>th</sup> Generation
- 1.3.8 Mobile Frequencies

### **1.4 Operators-**

- 1.4.3 GSM
- 1.4.4 CDMA Operators
- 1.4.5 Zone Operators
- 1.4.6 Zone-1
- 1.4.7 Zone-2
- 1.4.8 2G
- 1.4.9 3G

### **1.5 Various Models of Cell phone-**

- 1.5.3 Sony Ericsson
- 1.5.4 Motorola
- 1.5.5 LG
- 1.5.6 Nokia-
  - 1.5.6.1 CDMA
  - 1.5.6.2 GSM Mobile
- 1.5.7 Advanced cell phones
  - 1.5.7.1 Vegin Mobiles
  - 1.5.7.2 Palmtop Mobiles
  - 1.5.7.3 TV Mobiles
  - 1.5.7.4 Projector Mobiles
  - 1.5.7.5 Dual SIM Mobiles
  - 1.5.7.6 Dual battery Mobiles
  - 1.5.7.7 30 Gb Memory Support Mobile
  - 1.5.7.8 Google Map Mobile
  - 1.5.7.9 Windows Mobile
  - 1.5.7.10 Other Advantages
  - 1.5.7.11 Mobile Advantages & Disadvantages

# Android Foundations

## Introduction

- Android Architecture
- Android Versions
- Building Blocks
- Hello Android!

## Data Types

- Java Virtual Machine
- Data Types
- Arrays
- Strings
- Exceptions
- Packages and Imports

## Object Oriented Programming

- Classes
- Inheritance & Overriding
- Overloading
- Interfaces
- Abstract Class

## Inner Classes

- Inner Classes
- Static Inner Classes
- Anonymous Classes
- Local Classes

## Collections

- Interfaces - Set, Lists, Maps
- Implementations
- Iterating, Searching & Sorting

## Threads

- Thread Objects
- Interrupts
- Joins
- Synchronization

# Android Programming

## Activities

- Lifecycle
- Preferences
- Options Menu
- Activities & Intents

## **User Interface**

- Layouts
- Button & CheckBox
- TextView & EditText
- Dialogs
- Lists
- Notifications

## **Data Storage & Permissions**

- Process & Application Context
- Permission Systems
- Internal Storage
- External Storage
- Cache Management

## **Databases**

- SQL Review
- DBHelper
- Database Operations
- Cursors

## **Content Providers & Contacts**

- Content Providers & URIs
- Accessing Contacts
- Insertion, Deletion, Updation
- Managed Cursors

## **Services**

- Lifecycle
- Bound Services
- Notifications
- Running in Foreground

## **Broadcast Receivers**

- Broadcast Receivers
- Lifecycle
- Permissions
- Broadcasting Intents