Syllabus: Android Training Course

1. JAVA Concepts

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)

2. SQL

DML & DDL Queries in brief

3. Introduction to Android

What is Android?

Setting up development environment

Dalvik Virtual Machine & .apk file extension

Fundamentals :

a) Basic Building blocks – Activities,Services,Broadcast Receivers & Content providers

b) UI Components- Views & notifications

c) Components for communication -Intents & Intent Filters

Android API levels(versions & version names)

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

First sample Application

Deploying sample application on a real device

5. Emulator-Android Virtual Device

Launching emulator

Editing emulator settings

Emulator shortcuts

Logcat usage

Introduction to DDMS

File explorer

Second App :- (switching between activities)

- Develop an app for demonstrating the communication between Intents

6. Basic UI design

Form widgets

Text Fields

Layouts

- RelativeLayout ,TableLayout, FrameLayout, LinearLayout
- Nested layouts

[dip,dp,sip,sp] versus px

Examples

7. Preferences

SharedPreferences

Preferences from xml

Examples

8. Menu

Option menu

Context menu

Sub menu

menu from xml

menu via code

Examples

9. Intents (in detail)

Explicit Intents

Implicit intents

Examples

10. UI design

Time and Date

Images and media

Composite

AlertDialogs & Toast

Popup

Examples

11. Tabs and TabActivity

Examples

12. Styles & Themes

styles.xml

colors.xml- declaring colors and drawables

Drawable resources for shapes,gradients(selectors)

- Shapes drawables

- State drawables

- Transition drawables

- 9 Patch drawables

style attribute in layout file

Applying themes via code and manifest file

Examples

13. SQLite Programming

SQLite Programming

SQLiteOpenHelper

SQLiteDatabse

Cursor

Content providers

- Defining and using content providers

- Example- Sharing database among two different applications using content providers

Reading and updating Contacts

Reading bookmarks

Example :

– Develop an App to demonstrate database usage. CRUD operations must be implemented. Final details should be viewed in GridView as well as in ListView.

– Do the same application with database operations in a single class(As a Model class) and do the CRUD operations with this class object

14. Android Debug Bridge(adb) tool

15. Linkify

Web URLs,Email address,text,map address,phone numbers

MatchFilter & TransformFilter

Examples

16. Adapters and Widgtes

Adapters :-

a) ArrayAdapters

b) BaseAdapters

Example - Efficient Adapter

ListView and ListActivity

Custom listview

GridView using adapters

Gallery using adapters

Examples

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17. Notifications

Broadcast Receivers

Services and notifications

Toast

Alarms

Examples

18. Custom components

Custom Toast

Custom dialogs

Custom Tabs

Custom animated popup panels

Other components

Examples

19. Threads

Threads running on UI thread(runOnUiThread)

Worker thread

Handlers & Runnable

AsynTask(in detail)

Examples

20. Advanced

Live Folders

Using sdcards – Reading and writing

XML Parsing

JSON Parsing

Including external libraries in our application

Maps via intent and MapActivity

GPS,Location based Services

Accessing Phone services(Call,SMS,MMS)

Network connectivity services

Sensors

Using Wifi & Bluetooth

Action bar tabs and custom views on Action bars

Introduction to fragments

A brief introduction to Ice Cream Sandwich

21. Assignment