

MAD

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Assignment-1

Q1) Explain the Android Application Components in detail.

Ans - Application components are the essential building blocks of an android application.
- These components are loosely coupled by the application manifest file AndroidManifest.xml that describes each component of the application and how they interact.

• COMPONENTS

- ↳ Activities :- They dictate the UI and handle the user interaction to the smart phone screen.
- ↳ Services :- They handle background processing associated with an application.
- ↳ Broadcast Receivers :- They handle communication between Android OS and applications.
- ↳ Content Providers :- They handle data & database management issues.
- ↳ Fragments :- Represents a portion of user interface in an Activity.

- ↳ Views :- UI elements that are drawn on-screen including buttons, lists forms etc.
- ↳ Layouts :- View hierarchies that control screen format and appearance of the views
- ↳ Intents :- Messages wiring components together
- ↳ Resource :- External elements, such as string, constants and drawable pictures
- ↳ Manifest :- Configuration file for the application.

2) Explain the Manifest File.

Ans - The `AndroidManifest.xml` file contains information of your package, including components of the application such as activities, services, broadcast receivers, content providers etc.

- It performs some other tasks also:

- ↳ It is responsible to protect the application to access any protected parts by providing the permissions
- ↳ It also declares the android api that the application is going to use.

↳ It lists the instrumentation classes. The instrumentation classes provides profiling and other informations. These informations are removed just before the application is published etc.

• ELEMENTS OF THE AndroidManifest.xml file

◦ <manifest>

↳ It is the root element of the AndroidManifest.xml file. It has package attribute that describes the package name of the activity class.

◦ <application>

↳ It is the subelement of the manifest. It includes the namespace declaration. This element contains several subelements that declares the application component such as activity etc.

↳ The commonly used attributes are of this element are icon, label, theme, etc.

◦ <activity>

↳ It is the subelement of application and represents an activity that must be defined in the AndroidManifest.xml file.

↳ It has many attributes such as label, name, theme, launchMode etc.

• <Intent-Filter>

- ↳ It is the sub-element of activity that describes the type of intent to which activity, service or broadcast receiver can respond to.

• <action>

- ↳ It adds an action for the intent filter. The intent-filter must have at least one action element.

• <category>

- ↳ It adds a category name to an intent-filter.

34 Define and Explore the Development Environment of Android.

Ans - Development environment of Android are defined as follows:

- Android application development on either of the following operating system -

- ↳ Microsoft Windows XP or later version.

- ↳ Mac OS X 10.5.8 or later version with Intel chip.

- ↳ Linux including GNU C Library 2.7 or later.

- Second point is that all the required

tools to develop android applications are freely available and can be downloaded from the web.

- Following is the list of software's you will need before you start your Android application programming

- ↳ Java JDKs as latest version
- ↳ Android Studio.

- Here last two components are optional and if you are working on windows machine then these components make your life easy while doing Java based application development.

• Set-up Java Development Kit (JDK)

- ↳ You can download the latest versions of Java JDK from Oracle's Java site - Java SE Downloads.

• Android IDEs

- There are so many sophisticated technologies are available to develop android applications, the familiar technologies, which are predominantly using tools as follows
 - ↳ Android Studio
 - ↳ Eclipse IDE (Deprecated).