

Android Application Design and Resources

* Explain Android Manifest File.

=> Android Manifest File is a one kind of XML File which is known as AndroidManifest.xml.

Android Manifest File is a crucial component in an Android Application.

This File provides essential information about the Android Application.

This File contains metadata about app, components, permissions and Activity of an Android Application.

=> Structure of File :

```
<?xml version="1.0" encoding="utf-8"?>
```

```
<manifest xmlns:android=" "
    package="package name">
```

```
<application>
```

```
<!-- Activities, Services etc -->
```

```
</application>
```

```
<User-permission android:name =  
    "android.permission.INTERNET"/>
```

```
<User-feature android:name =  
    "android.hardware.camera"/>
```

```
</manifest>
```

=> Key Elements:

1 <manifest>: This is a main root element of the this file.

This element contains all the information about the Android Application.

2 <application>: This element contains all information about Application.

This element includes application components like activities, services and app's theme, icon etc.

3 <activity>: This element contains all the details of activity.

This element includes activity

name, intent filters and other configuration.

4 <user-permission>: This element is specifies the permission required by the access the Android Application.

Ex. Internet permission is required for network access.

5 <user-feature>: This element is declares the hardware features that the application required.

* Explain Android Application Folder structure.

=> Android Application includes Folder structure for the organized whole application.

This Folder structure separate different type of resources, source code and all the configuration files.

⇒ Folder Structure:

- app
 - src
 - main
 - java
 - com
 - example
 - Application Name
 - MainActivity.java
- res
 - drawable
 - layout
 - mipmap
 - values
 - strings.xml
- build.gradle
- AndroidManifest.xml
- gradle
 - wrapper
- build.gradle
- ~~st~~ settings.gradle

1 app : This is main module of Android Project.

2 src : Includes source code, and Resources

main : Primary source

java: Java Source File

res: Resource App

drawable - Includes Images and XML drawable.

layout: Define Layout element

mipmap - Includes launcher icons

values - XML File includes string, colors, style etc.

3 gradle: Contains Gradle build System File.

4 settings.gradle: Specifies the structure and configuration of the Android Project.

5 build.gradle: Configuration File for build Gradle System.

* Explain Types of Intent with its example.

=> Intents are fundamental concept in Android Application Development.

In Android Development, Intent is a messaging object that allow to do communication between two components within an application.

Using Intent we can do the communication between different application component.

Intent is used the exchange of data and perform various operation in Android system.

There are Two Types of Intent

1) Explicit Intent

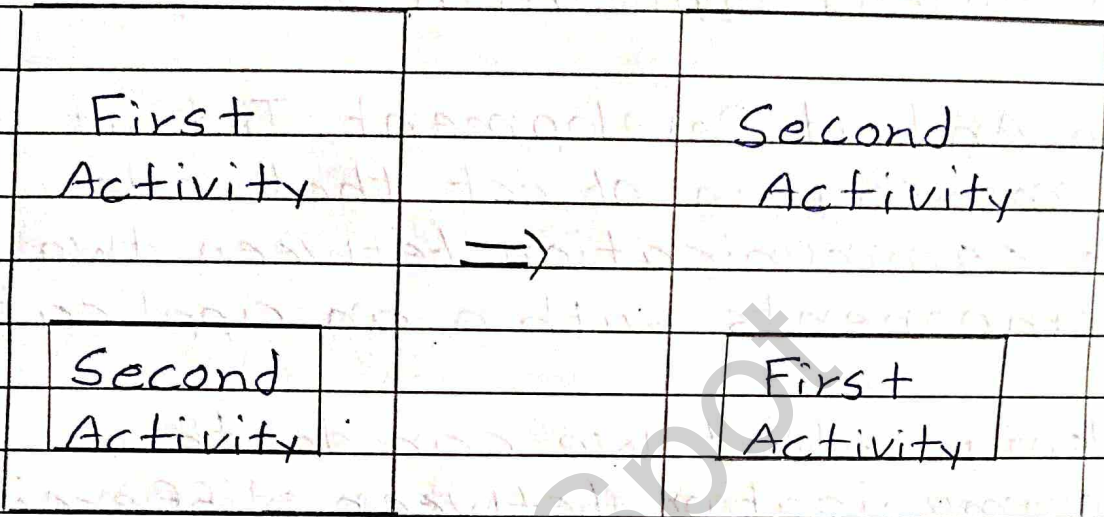
2) Implicit Intent

1 Explicit Intent: Allows to go in one activity to another activity with user knowledge.

In explicit intent, All the Activity are fixed. User can

not go in other activity without developer's assign activity.

Ex.



⇒ First Activity ⇒ MainActivity

```
public class MainActivity
    extends AppCompatActivity
```

↵

```
public void newsScreen(
    View view)
```

↵

```
Intent i = new Intent(
    getApplicationContext(),
    MainActivity2.class);
```

```
    startActivity(i);  
}
```

```
}
```

=> Second Activity => MainActivity2

```
public class MainActivity2 extends  
    AppCompatActivity  
{
```

```
    public void homeScreen(View view)  
{
```

```
        Intent i = new Intent(getApplicationContext(), MainActivity.class);  
        startActivity(i);  
    }
```

```
}
```

2. Implicit Intent: Allows to go in one Activity to another activity without user knowledge.

User can go any Activity without developer's assign Activity.

Ex.

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=> MainActivity:

```
public class MainActivity extends
    AppCompatActivity
```

```
{
```

```
    Button btn;
```

```
    EditText et;
```

```
    btn = findViewById(R.id.btn);
```

```
    et = findViewById(R.id.text);
```

```
    btn.setOnClickListener(new
        view.OnClickListener()
    {
```

```
        {
```

```
            public void onClick(View view)
            {
```

```
                {
```

```
                    String url = et.getText().to
                        String();
```

```
                    Intent intent = new
```

```
                        Intent(Intent.ACTION_VIEW,
                            Uri.parse(url));
```

```
    } startActivity(intent);  
  }  
};  
}  
}
```

Brain Spot