Permission

*Abstract*—We will learn how Permission is used for a project. Also we will try the case if we don't give permission to a project..

# Introduction

In order to protect device resources, Android enforces a resource permission system such that every Android app needs to declare its own permission requirement in AndroidManifest.xml file using <permission> tags. By default, an Android app has no permissions associated with it, meaning it cannot do much thing and it can’t access data on the device. For example, an application that needs to send SMS messages must specify:

<manifest xmlns:android=". . . "

package="com.android.app.myapp" >

<uses-permission android:name="android.permission.SEND\_SMS" />

</manifest>

There are many Android built-in permissions such as contact-list, GPS, camera, SMS, Internet, Etc.

# Lab Activity

Create a new android project

Project Name: Permission

Package Name: Android.Permission

Create a blank activity with

Activity Name: PermissionActivity

Layout Name: main.

Create another two activities with

Activity Name: InternetActivity

Layout Name: internet

Activity Name: SMSActivity

Layout Name: sms

Below I give the full source code for each file

main.xml

|  |
| --- |
| <?xml version="1.0" encoding="utf-8"?>  <LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"  android:orientation="vertical"  android:layout\_width="fill\_parent"  android:layout\_height="fill\_parent"  >  <Button android:layout\_width="wrap\_content" android:layout\_height="wrap\_content" android:id="@+id/interb" android:text="Internet"></Button>  <Button android:layout\_height="wrap\_content" android:id="@+id/smsb" android:text="SMS" android:layout\_width="74dp"></Button>  </LinearLayout> |

internet.xml:

|  |
| --- |
| <?xml version="1.0" encoding="utf-8"?>  <LinearLayout  xmlns:android="http://schemas.android.com/apk/res/android"  android:orientation="vertical"  android:layout\_width="match\_parent"  android:layout\_height="match\_parent">  <WebView android:layout\_width="match\_parent" android:layout\_height="match\_parent" android:id="@+id/webView"></WebView>    </LinearLayout> |

sms.xml:

|  |
| --- |
| <?xml version="1.0" encoding="utf-8"?>  <LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"  android:orientation="vertical"  android:layout\_width="fill\_parent"  android:layout\_height="fill\_parent"  android:weightSum="1">  <LinearLayout android:id="@+id/linearLayout1" android:layout\_width="match\_parent" android:layout\_height="wrap\_content">  <TextView android:layout\_width="wrap\_content" android:id="@+id/textView1" android:layout\_height="wrap\_content" android:textAppearance="?android:attr/textAppearanceLarge" android:text="To: "></TextView>  <EditText android:layout\_width="wrap\_content" android:layout\_weight="1" android:layout\_height="wrap\_content" android:inputType="phone" android:id="@+id/addr">  <requestFocus></requestFocus>  </EditText>  </LinearLayout>  <TextView android:id="@+id/textView2" android:textAppearance="?android:attr/textAppearanceLarge" android:layout\_width="match\_parent" android:layout\_height="11dp"></TextView>  <MultiAutoCompleteTextView android:layout\_width="match\_parent" android:layout\_height="wrap\_content" android:layout\_weight="0.59" android:id="@+id/Text"></MultiAutoCompleteTextView>  <TextView android:id="@+id/textView4" android:layout\_height="wrap\_content" android:textAppearance="?android:attr/textAppearanceLarge" android:layout\_width="match\_parent" android:layout\_weight="0.06"></TextView>  <LinearLayout android:id="@+id/linearLayout2" android:layout\_width="match\_parent" android:layout\_height="wrap\_content" android:layout\_weight="0.16" android:weightSum="1">  <TextView android:id="@+id/textView3" android:textAppearance="?android:attr/textAppearanceLarge" android:layout\_height="match\_parent" android:layout\_width="wrap\_content" android:layout\_weight="0.33"></TextView>  <Button android:layout\_width="wrap\_content" android:layout\_weight="0.29" android:layout\_height="72dp" android:id="@+id/send" android:text="SEND"></Button>  </LinearLayout>  </LinearLayout> |

PermissionActivity.java

|  |
| --- |
| package Android.Permission;  import Android.Permission.R;  import android.app.Activity;  import android.content.Context;  import android.content.Intent;  import android.os.Bundle;  import android.view.View;  import android.view.View.OnClickListener;  import android.widget.Button;  public class PermissionActivity extends Activity {  /\*\* Called when the activity is first created. \*/  @Override  public void onCreate(Bundle savedInstanceState) {  final Context context = this;  super.onCreate(savedInstanceState);  setContentView(R.layout.main);  final Button interb=(Button)findViewById(R.id.interb);  final Button smsb=(Button)findViewById(R.id.smsb);    //Internet Button listener  interb.setOnClickListener(new OnClickListener()  {  public void onClick(View v)  {  //Start Internet Activity  Intent intent = new Intent(context, InternetActivity.class);  startActivity(intent);  }  });  //SMS Button listener  smsb.setOnClickListener(new OnClickListener()  {  public void onClick(View v)  {  //Start SMS Activity  Intent intent = new Intent(context, SMSActivity.class);  startActivity(intent);  }  });  }  } |

InternetActivity.java

|  |
| --- |
| package Android.Permission;  import android.app.Activity;  import android.os.Bundle;  import android.webkit.WebView;  public class InternetActivity extends Activity {    public void onCreate(Bundle savedInstanceState) {    super.onCreate(savedInstanceState);  setContentView(R.layout.internet);    final WebView webView = (WebView) findViewById(R.id.webView);  webView.getSettings().setJavaScriptEnabled(true);  webView.loadUrl("http://www.baidu.com");  }    } |

SMSActivity.java

|  |
| --- |
| package Android.Permission;  import android.app.Activity;  import android.app.PendingIntent;  import android.content.Intent;  import android.os.Bundle;  import android.telephony.SmsManager;  import android.view.View;  import android.view.View.OnClickListener;  import android.widget.Button;  import android.widget.EditText;  import android.widget.Toast;  public class SMSActivity extends Activity {  public void onCreate(Bundle savedInstanceState) {  super.onCreate(savedInstanceState);  setContentView(R.layout.sms);    final Button send=(Button)findViewById(R.id.send);  final EditText text=(EditText)findViewById(R.id.Text);  final EditText addr=(EditText)findViewById(R.id.addr);  send.setOnClickListener(new OnClickListener()  {    public void onClick(View v)  {  //get address and text  String maddr=addr.getText().toString();  String mtext=text.getText().toString();  SmsManager smsmanager=SmsManager.getDefault();  // send message  if(maddr.trim().length()!=0&&mtext.trim().length()!=0)  {  try{  PendingIntent pintent=PendingIntent.getBroadcast(SMSActivity.this, 0, new Intent(), 0);  smsmanager.sendTextMessage(maddr, null, mtext, pintent, null);  } catch (Exception e)  {  e.printStackTrace();  }  Toast.makeText(SMSActivity.this, "sending success", Toast.LENGTH\_LONG).show();  }  else  Toast.makeText(SMSActivity.this, "Enter Address and Message", Toast.LENGTH\_SHORT).show();  };  });  }    } |

# Report

Save and run the project. Click the Internet to display www.baidu.com homepage.

Back to the main interface, click the SMS button. Start a new emulator and send a message to it.

Edit Permission->AndroidManifest.xml, delete following permission code from this file.

|  |
| --- |
| <uses-permission android:name="android.permission.SEND\_SMS"></uses-permission>  <uses-permission android:name="android.permission.INTERNET" /> |

Run the project again. Click the Internet button and see an error message. Click the SMS button, we will find the receive emulator can't receive any message from the sender.

Please include step-by-step screenshots in the lab report, with your name in English as the SMS message body.