

## Experiment 29

### 1.

#### AndroidManifest.xml

```
<?xml version="1.0" encoding="utf-8"?>
<manifest xmlns:android="http://schemas.android.com/apk/res/android"
    package="com.example.exp_29a">

    <uses-feature
        android:name="android.hardware.telephony"
        android:required="false" />

    <uses-permission android:name="android.permission.SEND_SMS"/>
    <uses-permission android:name="android.permission.RECEIVE_SMS"/>
    <application
        android:allowBackup="true"
        android:icon="@mipmap/ic_launcher"
        android:label="@string/app_name"
        android:roundIcon="@mipmap/ic_launcher_round"
        android:supportRtl="true"
        android:theme="@style/Theme.Exp_29A">
        <activity android:name=".MainActivity"
            android:exported="true">
            <intent-filter>
                <action android:name="android.intent.action.MAIN" />
                <category android:name="android.intent.category.LAUNCHER" />
            </intent-filter>
        </activity>
    </application>
</manifest>
```

#### activity\_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="match_parent"
    android:gravity="center"
    android:layout_height="match_parent">
    <RelativeLayout
        android:layout_width="match_parent"
        android:gravity="center"
        android:layout_height="wrap_content">
        <TextView
            android:id="@+id/textView1"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content">
```

```

        android:textColor="#FF0000"
        android:textStyle="bold"
        android:text="Enter Mobile.No" />
<EditText
    android:id="@+id/editText1"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_toEndOf="@+id/textView1"
    android:ems="10"
    android:layout_toRightOf="@+id/textView1" />
<TextView
    android:id="@+id/textView2"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:textStyle="bold"
    android:textColor="#FF0000"
    android:layout_alignBaseline="@+id/editText2"
    android:layout_alignLeft="@+id/textView1"
    android:layout_alignBottom="@+id/editText2"
    android:text="Enter Message" />
<EditText
    android:id="@+id/editText2"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_alignLeft="@+id/editText1"
    android:layout_below="@+id/editText1"
    android:layout_marginTop="26dp"
    android:ems="10"
    android:inputType="textMultiLine" />
<Button
    android:id="@+id/button1"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_alignLeft="@+id/editText2"
    android:layout_below="@+id/editText2"
    android:layout_marginTop="48dp"
    android:text="SEND" />
</RelativeLayout>
</LinearLayout>

```

### MainActivity.java:

```

package com.example.exp_29a;
import android.os.Bundle;
import android.app.Activity;
import android.app.PendingIntent;
import android.content.Intent;

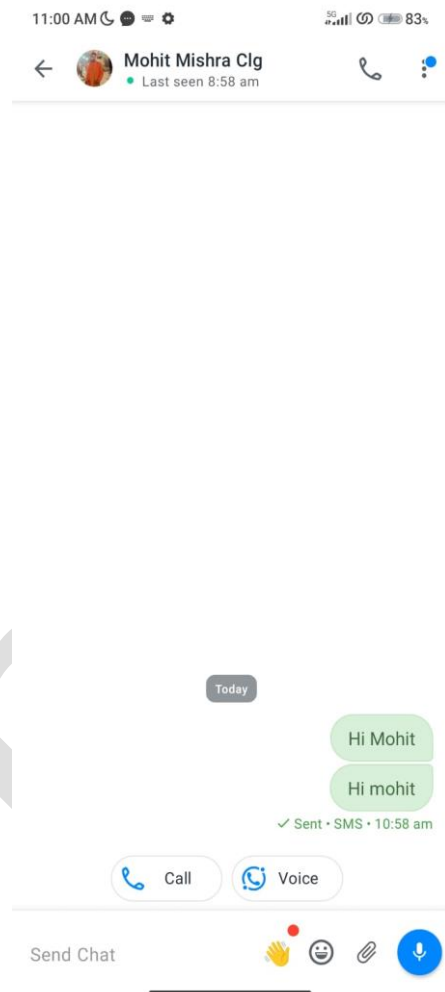
```

```

import android.telephony.SmsManager;
import android.view.Menu;
import android.view.View;
import android.view.View.OnClickListener;
import android.widget.Button;
import android.widget.EditText;
import android.widget.Toast;
public class MainActivity extends Activity {
    EditText mobileno,message;
    Button sendsms;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        mobileno=(EditText)findViewById(R.id.editText1);
        message=(EditText)findViewById(R.id.editText2);
        sendsms=(Button)findViewById(R.id.button1);
        sendsms.setOnClickListener(new OnClickListener() {
            @Override
            public void onClick(View arg0) {
                String no=mobileno.getText().toString();
                String msg=message.getText().toString();
                Intent intent=new
                    Intent(getApplicationContext(),MainActivity.class);
                PendingIntent
                    pi=PendingIntent.getActivity(getApplicationContext(), 0, intent,
PendingIntent.FLAG_IMMUTABLE);
                SmsManager sms=SmsManager.getDefault();
                sms.sendTextMessage(no, null, msg, pi,null);
                Toast.makeText(getApplicationContext(), "Message Sent successfully!",
Toast.LENGTH_LONG).show();
            } });
    }
}

```

**Output:**



2.

### AndroidManifest.xml:

```
<?xml version="1.0" encoding="utf-8"?>
<manifest xmlns:android="http://schemas.android.com/apk/res/android"
    package="com.example.exp29_1">
    <uses-permission android:name="android.permission.SEND_SMS"/>
    <uses-permission android:name="android.permission.READ_SMS"/>
    <application
        android:allowBackup="true"
        android:icon="@mipmap/ic_launcher"
        android:label="@string/app_name"
        android:roundIcon="@mipmap/ic_launcher_round"
        android:supportRtl="true"
        android:theme="@style/Theme.Exp29_1">
        <receiver
            android:name=".SMSBReceiver"
            android:enabled="true"
```

```

        android:exported="true">
        <intent-filter>
        <action android:name="android.provider.Telephony.SMS_RECEIVED"/>
        </intent-filter>
    </receiver>
    <activity android:name=".MainActivity">
    <intent-filter>
    <action android:name="android.intent.action.MAIN" />
    <category android:name="android.intent.category.LAUNCHER" />
    </intent-filter>
    </activity>
</application>
</manifest>

```

### **activity\_main.xml:**

```

<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".MainActivity"
    android:padding="10dp">
    <ListView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        tools:layout_editor_absoluteX="8dp"
        tools:layout_editor_absoluteY="8dp"
        android:id="@+id/SMSList" />
</LinearLayout>

```

### **MainActivity.java:**

```

package com.example.exp29_1;
import android.content.ContentResolver;
import android.content.pm.PackageManager;
import android.database.Cursor;
import android.net.Uri;
import android.os.Bundle;
import android.view.View;
import android.widget.AdapterView;
import android.widget.AdapterView;
import android.widget.ArrayAdapter;
import android.widget.ListView;
import android.widget.Toast;
import androidx.appcompat.app.AppCompatActivity;
import androidx.core.app.ActivityCompat;
import androidx.core.content.ContextCompat;

```

```

import java.util.ArrayList;
public class MainActivity extends AppCompatActivity {
    private static MainActivity inst;
    ArrayList<String> smsMessagesList = new ArrayList<String>();
    ListView smsListView;
    ArrayAdapter arrayAdapter;
    public static MainActivity instance() {
        return inst;
    }
    @Override
    public void onStart() {
        super.onStart();
        inst = this;
    }
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        smsListView = (ListView) findViewById(R.id.SMSList);
        arrayAdapter = new ArrayAdapter<String>(this,
            android.R.layout.simple_list_item_1, smsMessagesList);
        smsListView.setAdapter(arrayAdapter);
        // Add SMS Read Permission At Runtime
        // Todo : If Permission Is Not GRANTED
        if(ContextCompat.checkSelfPermission(getBaseContext(),
            "android.permission.READ_SMS") == PackageManager.PERMISSION_GRANTED) {
            // Todo : If Permission Granted Then Show SMS
            refreshSmsInbox();
        } else {
            / Todo : Then Set Permission
            final int REQUEST_CODE_ASK_PERMISSIONS = 123;
            ActivityCompat.requestPermissions(MainActivity.this, new
                String[]{"android.permission.READ_SMS"}, REQUEST_CODE_ASK_PERMISSIONS);
        }
    }
    public void refreshSmsInbox() {
        ContentResolver contentResolver = getContentResolver();
        Cursor smsInboxCursor =
            contentResolver.query(Uri.parse("content://sms/inbox"), null, null, null, null);
        int indexBody = smsInboxCursor.getColumnIndex("body");
        int indexAddress = smsInboxCursor.getColumnIndex("address");
        if (indexBody < 0 || !smsInboxCursor.moveToFirst()) return;
        arrayAdapter.clear();
        do {
            String str = "SMS From: " + smsInboxCursor.getString(indexAddress) +
                "\n" + smsInboxCursor.getString(indexBody) + "\n";

```

```

arrayAdapter.add(str);
} while (smsInboxCursor.moveToNext());
}
public void updateList(final String smsMessage) {
arrayAdapter.insert(smsMessage, 0);
arrayAdapter.notifyDataSetChanged();
}
public void onItemClick(AdapterView<?> parent, View view, int pos, long id) {
try {
String[] smsMessages = smsMessagesList.get(pos).split("\n");
String address = smsMessages[0];
String smsMessage = "";
for (int i = 1; i < smsMessages.length; ++i) {
smsMessage += smsMessages[i];
}
String smsMessageStr = address + "\n";
smsMessageStr += smsMessage;
Toast.makeText(this, smsMessageStr, Toast.LENGTH_SHORT).show();
} catch (Exception e) {
e.printStackTrace();
}
}
}
}
}

```

### **SMSBReceiver.java:**

```

package com.example.exp29_1;
import android.content.BroadcastReceiver;
import android.content.ContentResolver;
import android.content.Context;
import android.content.Intent;
import android.database.Cursor;
import android.net.Uri;
import android.os.Bundle;
import android.telephony.SmsMessage;
import android.widget.Toast;
class SMSBReceiver extends BroadcastReceiver{
public static final String SMS_BUNDLE = "pdus";
public void onReceive(Context context, Intent intent) {
Bundle intentExtras = intent.getExtras();
if (intentExtras != null) {
Object[] sms = (Object[]) intentExtras.get(SMS_BUNDLE);
String smsMessageStr = "";
for (int i = 0; i < sms.length; ++i) {
SmsMessage smsMessage =
SmsMessage.createFromPdu((byte[]) sms[i]);

```

```

String smsBody =
smsMessage.getMessageBody().toString();
String address = smsMessage.getOriginatingAddress();
smsMessageStr += "SMS From: " + address + "\n";
smsMessageStr += smsBody + "\n";
}
Toast.makeText(context, smsMessageStr,
Toast.LENGTH_SHORT).show();
//this will update the UI with message
MainActivity inst = MainActivity.instance();
inst.updateList(smsMessageStr);
}
}
}
Output:

```

