

## Experiment No. - 6

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**Branch:** BE-CSE(LEET)

**Semester:** 6<sup>th</sup>

**Subject Name:** Mobile Application Development Lab

**UID:** 21BCS8129

**Section/Group:** 20BCS-ST-801/B

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### 1. Aim:

Create an Android-based application and use intent to send SMS.

### 2. Objective:

Understanding and analyse the specific requirement, possibilities and challenges when developing for a mobile application context.

### 3. System Requirements:

- Microsoft Windows 7/8/10 (32-bit or 64-bit)
- 4 GB RAM minimum, 8 GB RAM recommended (plus 1 GB for the Android Emulator)
- 2 GB of available disk space minimum, 4 GB recommended (500 MB for IDE plus 1.5 GB for Android SDK and emulator system image)
- 1280 x 800 minimum screen resolution
- Java JDK5 or later version
- Java Runtime Environment (JRE) 6 or higher.

### 4. Steps/Program:

- You will use Android Studio IDE to create an Android application and name it as tutorials point under a package in.innovateria.ws6application
- Modify src/MainActivity.java file and add required code to take care of sending sms.
- Modify layout XML file res/layout/activity\_main.xml add any GUI component if required. I'm adding a simple GUI to take mobile number and SMS text to be sent and a simple button to send SMS.
- No need to define default string constants at res/values/strings.xml. Android studio takes care of default constants.
- Modify AndroidManifest.xml and Add the Permission "<uses-permission android:name='\"android.permission.SEND\_SMS\"'/>"
- Run the application to launch Android emulator and verify the result of the changes done in the application.

### 5. Code:

#### activity\_main.xml

```
<?xml version="1.0" encoding="utf-8"?>
<RelativeLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:paddingLeft="20dp"
    android:paddingTop="20dp"
    android:paddingRight="20dp"
    android:paddingBottom="20dp"
```

```
android:background="@color/white"  
tools:context="MainActivity">
```

```
<TextView  
    android:id="@+id/textView1"  
    android:layout_width="wrap_content"  
    android:layout_height="wrap_content"  
    android:layout_alignParentTop="true"  
    android:layout_centerHorizontal="true"  
    android:text="Experiment 6"  
    android:textColor="@color/black"  
    android:textSize="32sp" />
```

```
<TextView  
    android:id="@+id/textView2"  
    android:layout_width="wrap_content"  
    android:layout_height="wrap_content"  
    android:layout_below="@+id/textView1"  
    android:layout_centerHorizontal="true"  
    android:text="By Vivek Kumar"  
    android:textColor="#272726"  
    android:layout_marginBottom="40dp"  
    android:textSize="30sp" />
```

```
<EditText  
    android:id="@+id/editText"  
    android:layout_width="match_parent"  
    android:layout_height="wrap_content"  
    android:layout_below="@+id/textView2"  
    android:layout_centerHorizontal="true"  
    android:hint="Enter the Mobile Number"  
    android:padding="8dp"  
    android:textSize="28sp"  
    android:background="@drawable/edittext_border"  
    android:layout_marginBottom="8dp"  
    android:textColorHint="#353434" />
```

```
<EditText  
    android:id="@+id/editText2"  
    android:layout_width="match_parent"  
    android:layout_height="wrap_content"  
    android:layout_below="@+id/editText"  
    android:layout_alignStart="@+id/editText"  
    android:layout_alignEnd="@+id/editText"  
    android:hint="Enter Your Message"  
    android:padding="8dp"  
    android:textSize="28sp"  
    android:background="@drawable/edittext_border"  
    android:textColorHint="#353434" />
```

```
<Button
    android:id="@+id/btnSendSMS"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_below="@+id/editText2"
    android:layout_centerHorizontal="true"
    android:layout_marginTop="48dp"
    android:textSize="32sp"
    android:textAllCaps="false"
    android:background="@drawable/edittext_border"
    android:text="Send Sms" />
</RelativeLayout>
```

### **MainActivity.java**

```
package in.innovateria.ws6application;

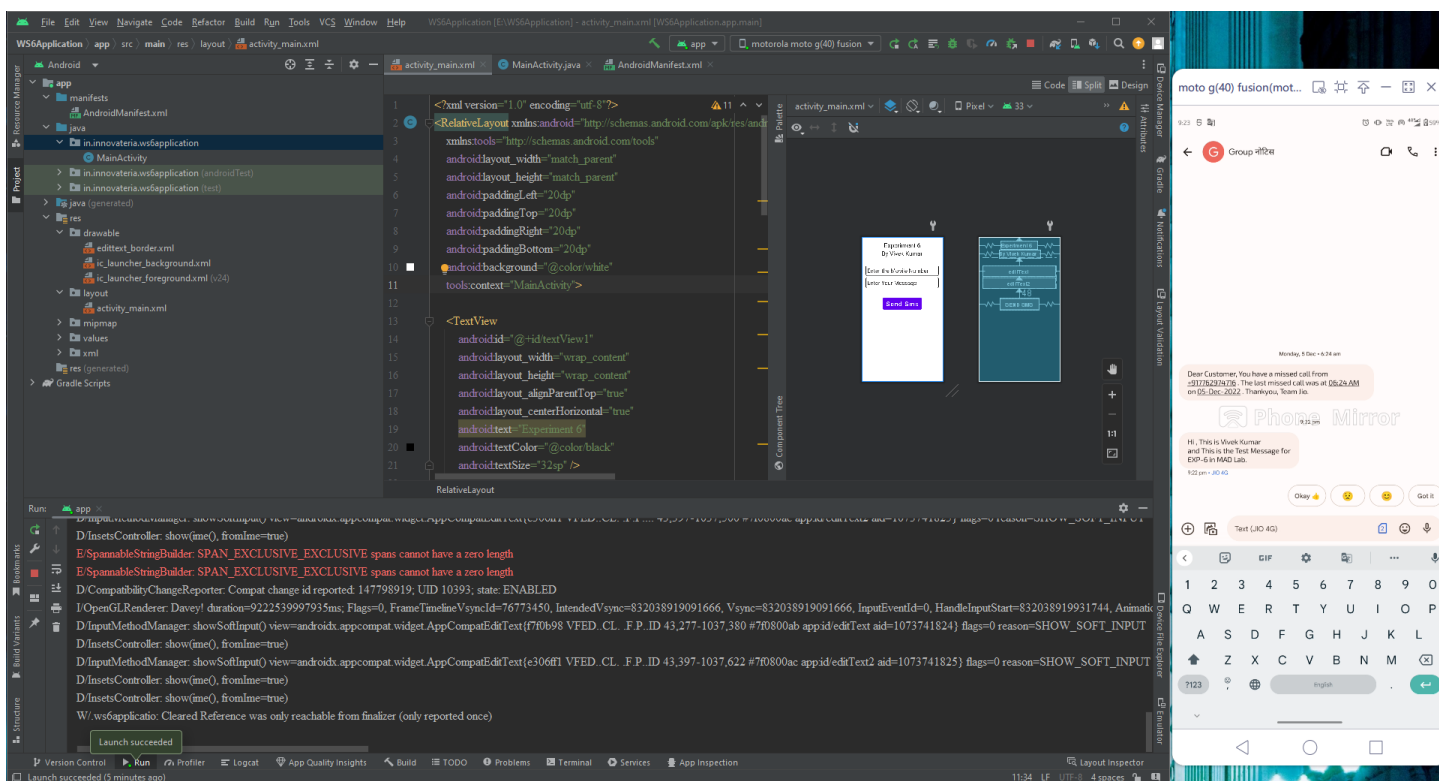
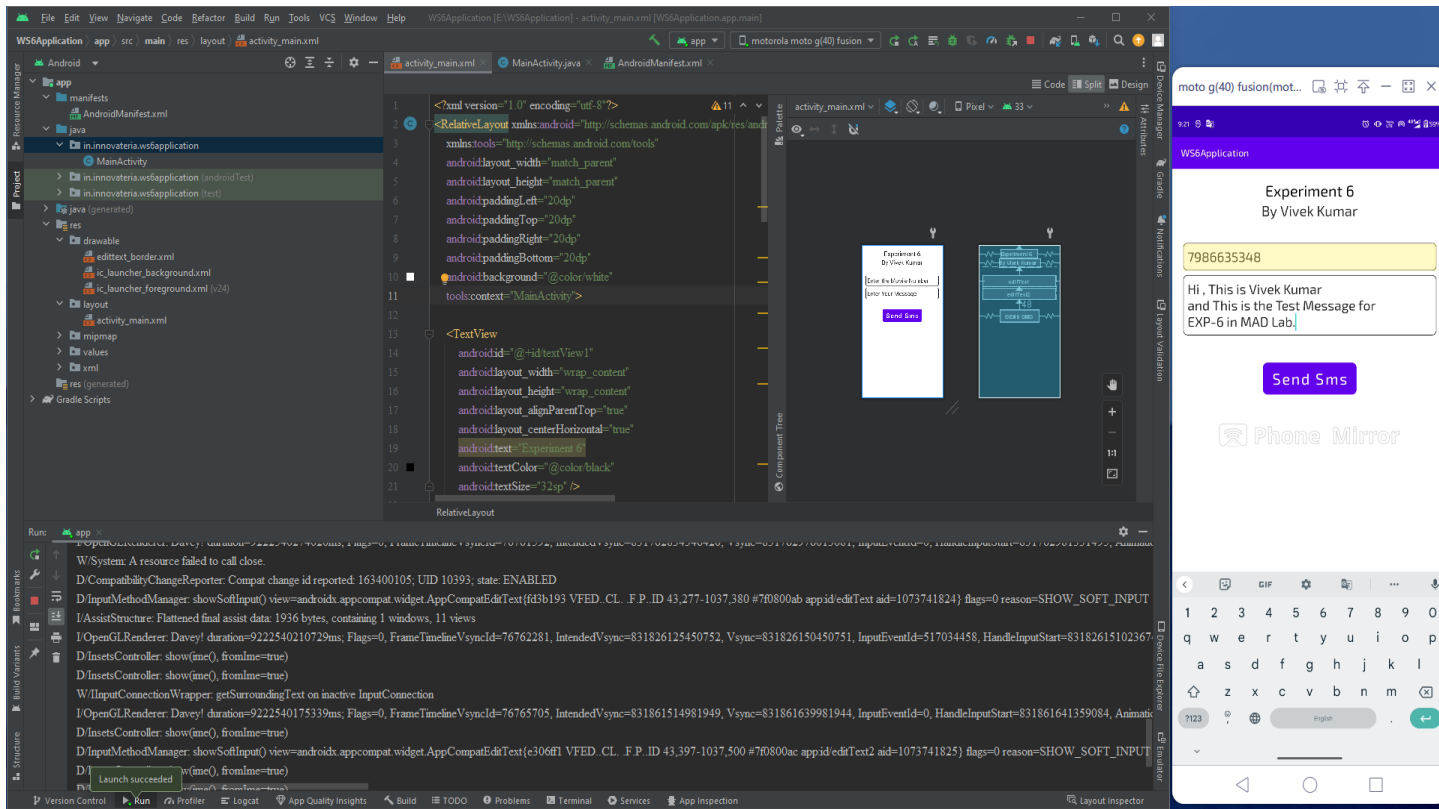
import androidx.appcompat.app.AppCompatActivity;
import androidx.core.app.ActivityCompat;
import androidx.core.content.ContextCompat;
import android.Manifest;
import android.content.pm.PackageManager;
import android.os.Bundle;
import android.telephony.SmsManager;
import android.widget.Button;
import android.widget.EditText;
import android.widget.TextView;
import android.widget.Toast;

public class MainActivity extends AppCompatActivity {
    private static final int MY_PERMISSIONS_REQUEST_SEND_SMS =0;
    Button sendBtn;
    EditText txtphoneNo;
    EditText txtMessage;
    String phoneNo;
    String message;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        sendBtn = (Button) findViewById(R.id.btnSendSMS);
        txtphoneNo = (EditText) findViewById(R.id.editText);
        txtMessage = (EditText) findViewById(R.id.editText2);
        sendBtn.setOnClickListener(view -> sendSMSMessage());
    }
    protected void sendSMSMessage() {
        phoneNo = txtphoneNo.getText().toString();
        message = txtMessage.getText().toString();
    }
}
```

```
if (ContextCompat.checkSelfPermission(this,
    Manifest.permission.SEND_SMS)
    != PackageManager.PERMISSION_GRANTED) {
    if (ActivityCompat.shouldShowRequestPermissionRationale(this, Manifest.permission.SEND_SMS)) {
    } else {
        ActivityCompat.requestPermissions(this,
            new String[]{Manifest.permission.SEND_SMS},
            MY_PERMISSIONS_REQUEST_SEND_SMS);
    }
    Toast.makeText(this, "msg sent", Toast.LENGTH_LONG).show();
}
}
@Override
public void onRequestPermissionsResult(int requestCode, String[] permissions, int[]
    grantResults) {
    super.onRequestPermissionsResult(requestCode, permissions, grantResults);
    if (requestCode == MY_PERMISSIONS_REQUEST_SEND_SMS) {
        if (grantResults.length > 0
            && grantResults[0] == PackageManager.PERMISSION_GRANTED) {
            SmsManager smsManager = SmsManager.getDefault();
            smsManager.sendTextMessage(phoneNo, null, message, null, null);
            Toast.makeText(getApplicationContext(), "SMS sent.",
                Toast.LENGTH_LONG).show();
        } else {
            Toast.makeText(getApplicationContext(),
                "SMS failed, please try again.", Toast.LENGTH_LONG).show();
        }
    }
}
}
```

## 6. Result/Output:



## Learning outcomes (What I have learnt):

- To design an android application which uses SEND\_SMS permission in android studio.
- Learnt about running application on android studio.
- Creating Application by Implementing Message Sending App.