**UCS6611 - MOBILE APPLICATION DEVELOPMENT LABORATORY**

**Ex. No. 8 Implement an application that send a SMS**

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**Question:**

Implement an application that send a SMS

**Code:**

**Activitymain.xml:**

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

<androidx.constraintlayout.widget.ConstraintLayout 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">

    <TextView

        android:id="@+id/textView"

        android:layout\_width="wrap\_content"

        android:layout\_height="wrap\_content"

        android:text="SMS Application"

        app:layout\_constraintBottom\_toBottomOf="parent"

        app:layout\_constraintLeft\_toLeftOf="parent"

        app:layout\_constraintRight\_toRightOf="parent"

        app:layout\_constraintTop\_toTopOf="parent"

        app:layout\_constraintVertical\_bias="0.07" />

    <EditText

        android:id="@+id/editText\_main"

        android:layout\_width="wrap\_content"

        android:layout\_height="wrap\_content"

        android:layout\_marginStart="52dp"

        android:layout\_marginLeft="52dp"

        android:layout\_marginTop="50dp"

        android:layout\_marginEnd="149dp"

        android:layout\_marginRight="149dp"

        android:ems="10"

        android:hint="Phone Number"

        android:inputType="phone"

        app:layout\_constraintEnd\_toEndOf="parent"

        app:layout\_constraintStart\_toStartOf="parent"

        app:layout\_constraintTop\_toBottomOf="@+id/textView" />

    <EditText

        android:id="@+id/sms\_message"

        android:layout\_width="320dp"

        android:layout\_height="103dp"

        android:layout\_marginStart="51dp"

        android:layout\_marginLeft="51dp"

        android:layout\_marginTop="34dp"

        android:layout\_marginEnd="40dp"

        android:layout\_marginRight="40dp"

        android:ems="10"

        android:hint="Message"

        android:inputType="textPersonName"

        app:layout\_constraintEnd\_toEndOf="parent"

        app:layout\_constraintStart\_toStartOf="parent"

        app:layout\_constraintTop\_toBottomOf="@+id/editText\_main" />

    <Button

        android:id="@+id/message\_icon"

        android:layout\_width="wrap\_content"

        android:layout\_height="wrap\_content"

        android:layout\_marginStart="150dp"

        android:layout\_marginLeft="150dp"

        android:layout\_marginTop="17dp"

        android:layout\_marginEnd="151dp"

        android:layout\_marginRight="151dp"

        android:text="Send SMS"

        app:layout\_constraintEnd\_toEndOf="parent"

        app:layout\_constraintStart\_toStartOf="parent"

        app:layout\_constraintTop\_toBottomOf="@+id/sms\_message" />

    <Button

        android:id="@+id/button\_retry"

        android:layout\_width="wrap\_content"

        android:layout\_height="wrap\_content"

        android:layout\_marginStart="161dp"

        android:layout\_marginLeft="161dp"

        android:layout\_marginTop="21dp"

        android:layout\_marginEnd="162dp"

        android:layout\_marginRight="162dp"

        android:text="Retry"

        app:layout\_constraintEnd\_toEndOf="parent"

        app:layout\_constraintStart\_toStartOf="parent"

        app:layout\_constraintTop\_toBottomOf="@+id/message\_icon" />

</androidx.constraintlayout.widget.ConstraintLayout>

**Mainactivity.java:**

package com.example.sms;

import androidx.appcompat.app.AppCompatActivity;

import androidx.core.app.ActivityCompat;

import android.os.Bundle;

import android.Manifest;

import android.app.PendingIntent;

import android.content.Intent;

import android.content.pm.PackageManager;

import android.telephony.SmsManager;

import android.util.Log;

import android.view.View;

import android.widget.Button;

import android.widget.EditText;

import android.widget.ImageButton;

import android.widget.Toast;

public class MainActivity extends AppCompatActivity {

    private static final String TAG = MainActivity.class.getSimpleName();

    private static final int MY\_PERMISSIONS\_REQUEST\_SEND\_SMS = 1;

    @Override

    protected void onCreate(Bundle savedInstanceState) {

        super.onCreate(savedInstanceState);

        setContentView(R.layout.activity\_main);

        // Check to see if SMS is enabled.

        checkForSmsPermission();

        Button send = (Button) findViewById(R.id.message\_icon);

        send.setOnClickListener(new View.OnClickListener() {

            @Override

            public void onClick(View view) {

                System.out.println("1");

                smsSendMessage(view);

                System.out.println("2");

            }

        });

    }

    private void checkForSmsPermission() {

        if (ActivityCompat.checkSelfPermission(this,

                Manifest.permission.SEND\_SMS) != PackageManager.PERMISSION\_GRANTED) {

            Log.d(TAG, getString(R.string.permission\_not\_granted));

            ActivityCompat.requestPermissions(this,

                    new String[]{Manifest.permission.SEND\_SMS},

                    MY\_PERMISSIONS\_REQUEST\_SEND\_SMS);

        } else {

            enableSmsButton();

        }

    }

    @Override

    public void onRequestPermissionsResult(int requestCode,

                                           String permissions[], int[] grantResults) {

        super.onRequestPermissionsResult(requestCode, permissions, grantResults);

        switch (requestCode) {

            case MY\_PERMISSIONS\_REQUEST\_SEND\_SMS: {

                if (permissions[0].equalsIgnoreCase(Manifest.permission.SEND\_SMS)

                        && grantResults[0] == PackageManager.PERMISSION\_GRANTED) {

                    enableSmsButton();

                } else {

                    Log.d(TAG, getString(R.string.failure\_permission));

                    Toast.makeText(this, getString(R.string.failure\_permission),

                            Toast.LENGTH\_LONG).show();

                    disableSmsButton();

                }

            }

        }

    }

    public void smsSendMessage(View view) {

        EditText editText = (EditText) findViewById(R.id.editText\_main);

        String destinationAddress = editText.getText().toString();

        EditText smsEditText = (EditText) findViewById(R.id.sms\_message);

        String smsMessage = smsEditText.getText().toString();

        String scAddress = null;

        PendingIntent sentIntent = null, deliveryIntent = null;

        checkForSmsPermission();

        SmsManager smsManager = SmsManager.getDefault();

        smsManager.sendTextMessage(destinationAddress, scAddress, smsMessage,

                sentIntent, deliveryIntent);

    }

    private void disableSmsButton() {

        Toast.makeText(this, R.string.sms\_disabled, Toast.LENGTH\_LONG).show();

        Button smsButton = (Button) findViewById(R.id.message\_icon);

        smsButton.setVisibility(View.INVISIBLE);

        Button retryButton = (Button) findViewById(R.id.button\_retry);

        retryButton.setVisibility(View.VISIBLE);

    }

    private void enableSmsButton() {

        Button smsButton = (Button) findViewById(R.id.message\_icon);

        smsButton.setVisibility(View.VISIBLE);

    }

    public void retryApp(View view) {

        Intent intent = getPackageManager().getLaunchIntentForPackage(getPackageName());

        startActivity(intent);

    }

}

**Sms.java:**

package com.example.sms;

import android.annotation.TargetApi;

import android.content.BroadcastReceiver;

import android.content.Context;

import android.content.Intent;

import android.os.Build;

import android.os.Bundle;

import android.telephony.SmsMessage;

import android.util.Log;

import android.widget.Toast;

public class MySmsReceiver extends BroadcastReceiver {

    private static final String TAG = MySmsReceiver.class.getSimpleName();

    public static final String pdu\_type = "pdus";

    @TargetApi(Build.VERSION\_CODES.M)

    @Override

    public void onReceive(Context context, Intent intent) {

        Bundle bundle = intent.getExtras();

        SmsMessage[] msgs;

        String strMessage = "";

        String format = bundle.getString("format");

        Object[] pdus = (Object[]) bundle.get(pdu\_type);

        if (pdus != null) {

            boolean isVersionM = (Build.VERSION.SDK\_INT >= Build.VERSION\_CODES.M);

            msgs = new SmsMessage[pdus.length];

            for (int i = 0; i < msgs.length; i++) {

                if (isVersionM) {

                    msgs[i] = SmsMessage.createFromPdu((byte[]) pdus[i], format);

                } else {

                    msgs[i] = SmsMessage.createFromPdu((byte[]) pdus[i]);

                }

                strMessage += "SMS from " + msgs[i].getOriginatingAddress();

                strMessage += " :" + msgs[i].getMessageBody() + "\n";

                Log.d(TAG, "onReceive: " + strMessage);

                Toast.makeText(context, strMessage, Toast.LENGTH\_LONG).show();

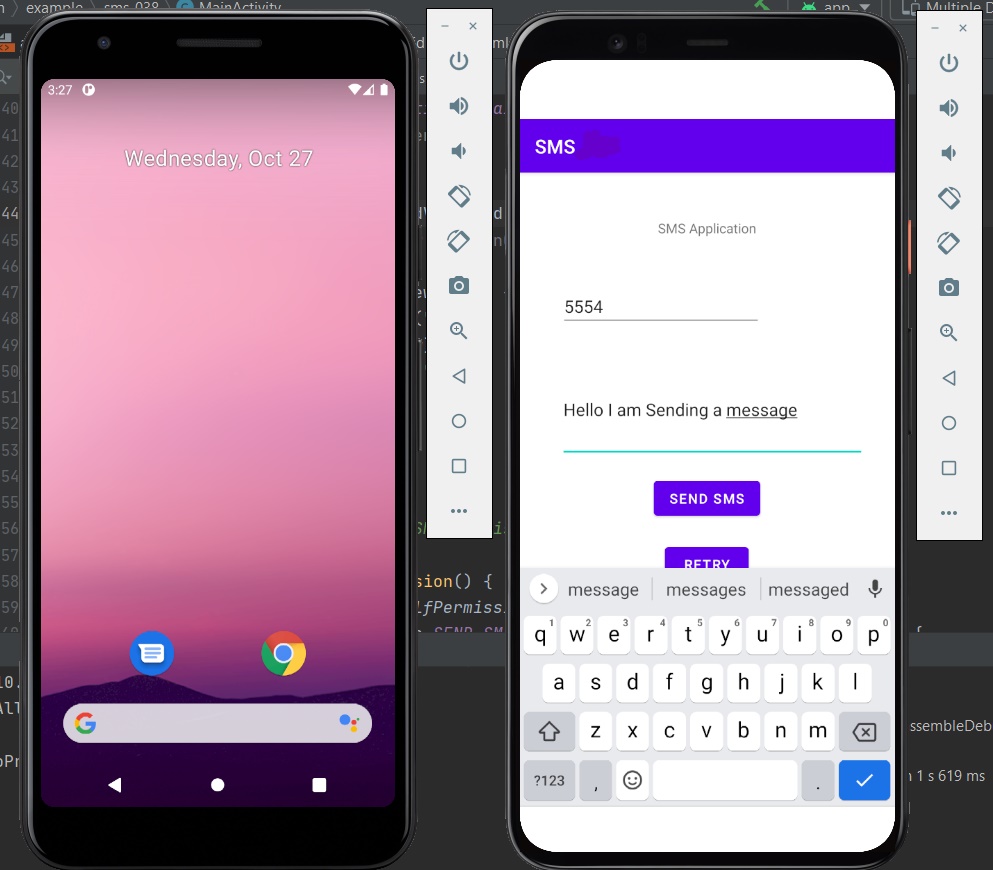
            }

        }

    }

}

**Outputs:**

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