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
<?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"
```

```xml
            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:

```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) {
```

```java
                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();
```

```java
        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:

```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) {
```

```java
                    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: