

EX:NO:11

SEND SMS

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DATE:3/5/2024

AIM:-

Develop an application to send SMS.

PROCEDURE:-

Step 1: Create a new Android Project.

Step 2: Design the user Interface.

Step 3: Implement SMS sending and receiving.

Step 4: Handle SMS reception.

Step 5: Test the application.

Step 6: Handle edge cases.

Step 7: Optimize and refine.

PRGRAM CODE:-

AndroidManifest.xml:

```
<manifest xmlns:android="http://schemas.android.com/apk/res/android"
    package="com.example.smssenderreceiver">
    <uses-permission android:name="android.permission.SEND_SMS" />
    <uses-permission android:name="android.permission.RECEIVE_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:supportsRtl="true"
    android:theme="@style/AppTheme">
    <activity android:name=".MainActivity">
        <intent-filter>
            <action android:name="android.intent.action.MAIN" />
            <category android:name="android.intent.category.LAUNCHER" />
        </intent-filter>
    </activity>
    <receiver android:name=".SmsReceiver">
        <intent-filter>
            <action android:name="android.provider.Telephony.SMS_RECEIVED" />
        </intent-filter>
    </receiver>
</application>
</manifest>
```

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"
```

```
tools:context=".MainActivity">
```

```
<!-- Input field to enter phone number -->
```

```
<EditText
```

```
    android:id="@+id/editTextPhone"
```

```
    android:layout_width="match_parent"
```

```
    android:layout_height="wrap_content"
```

```
    android:hint="Phone Number" />
```

```
<!-- Input field to enter message -->
```

```
<EditText
```

```
    android:id="@+id/editTextMessage"
```

```
    android:layout_below="@id/editTextPhone"
```

```
    android:layout_width="match_parent"
```

```
    android:layout_height="wrap_content"
```

```
    android:layout_marginTop="16dp"
```

```
    android:hint="Message" />
```

```
<!-- Button to send SMS -->
```

```
<Button
```

```
    android:id="@+id/buttonSend"
```

```
    android:layout_below="@id/editTextMessage"
```

```
    android:layout_width="wrap_content"
```

```
    android:layout_height="wrap_content"
```

```
    android:layout_centerHorizontal="true"
```

```
    android:layout_marginTop="16dp"
```

```
        android:text="Send SMS" />
<!-- TextView to display received SMS -->
<TextView
    android:id="@+id/textViewReceivedSms"
    android:layout_below="@id/buttonSend"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_marginTop="16dp"
    android:text="Received SMS:"
    android:textStyle="bold" />
</RelativeLayout>
```

MainActivity.kt:

```
package com.example.smssenderreceiver

import android.Manifest
import android.content.BroadcastReceiver
import android.content.Context
import android.content.Intent
import android.content.IntentFilter
import android.content.pm.PackageManager
import android.os.Build
import androidx.appcompat.app.AppCompatActivity
import android.os.Bundle
import android.telephony.SmsManager
```

```

import android.widget.Button

import android.widget.EditText

import android.widget.TextView

import android.widget.Toast

class MainActivity : AppCompatActivity() {

    private lateinit var editTextPhone: EditText

    private lateinit var editTextMessage: EditText

    private lateinit var buttonSend: Button

    private lateinit var textViewReceivedSms: TextView

    private val smsReceiver: BroadcastReceiver = object : BroadcastReceiver() {

        override fun onReceive(context: Context, intent: Intent) {

            if (intent.action == "android.provider.Telephony.SMS_RECEIVED") {

                val bundle = intent.extras

                if (bundle != null) {

                    val pdus = bundle.get("pdus") as Array<*>

                    for (pdu in pdus) {

                        val smsMessage = SmsMessage.createFromPdu(pdu as ByteArray)

                        val sender = smsMessage.originatingAddress

                        val messageBody = smsMessage.messageBody

                        val receivedMessage = "From: $sender\nMessage: $messageBody"

                        textViewReceivedSms.append("\n\n$receivedMessage")

                    }

                }

            }

        }

    }
}

```

```

    }
}
}

override fun onCreate(savedInstanceState: Bundle?) {
    super.onCreate(savedInstanceState)
    setContentView(R.layout.activity_main)
    editTextPhone = findViewById(R.id.editTextPhone)
    editTextMessage = findViewById(R.id.editTextMessage)
    buttonSend = findViewById(R.id.buttonSend)
    textViewReceivedSms = findViewById(R.id.textViewReceivedSms)
    // Request SMS permissions if not granted
    if (Build.VERSION.SDK_INT >= Build.VERSION_CODES.M &&
        checkSelfPermission(Manifest.permission.SEND_SMS) !=
PackageManager.PERMISSION_GRANTED
    ) {
        requestPermissions(arrayOf(Manifest.permission.SEND_SMS), 1)
    }
    // Register SMS receiver
    registerReceiver(smsReceiver,
IntentFilter("android.provider.Telephony.SMS_RECEIVED"))
    // Send SMS button click listener
    buttonSend.setOnClickListener {
        val phoneNumber = editTextPhone.text.toString().trim()

```

```

        val message = editTextMessage.text.toString().trim()

        if (phoneNumber.isNotEmpty() && message.isNotEmpty()) {

            sendSms(phoneNumber, message)

        } else {

            Toast.makeText(this, "Phone number and message cannot be empty",
Toast.LENGTH_SHORT).show()

        }

    }}

    override fun onDestroy() {

        super.onDestroy()

        // Unregister SMS receiver

        unregisterReceiver(smsReceiver)}

    private fun sendSms(phoneNumber: String, message: String) {

        try {

            val smsManager = SmsManager.getDefault()

            smsManager.sendTextMessage(phoneNumber, null, message, null, null)

            Toast.makeText(this, "SMS sent successfully",
Toast.LENGTH_SHORT).show()

        } catch (e: Exception) {

            e.printStackTrace()

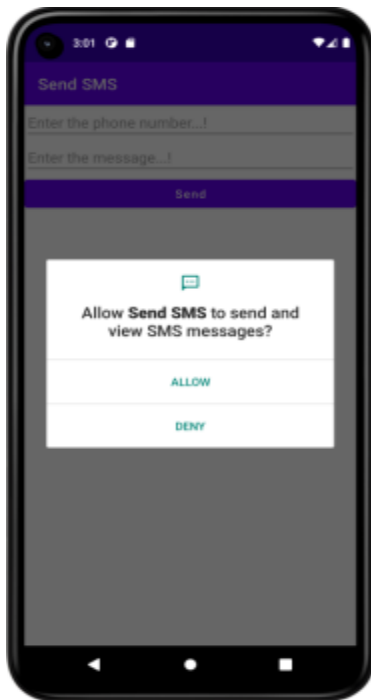
            Toast.makeText(this, "Failed to send SMS",
Toast.LENGTH_SHORT).show()}

    }

}

```

OUTPUT:-



RESULT:-

Thus to develop an application to send SMS is implemented and executed successfully.