

**Ex. No. : 07**

**Date:04/05/25**

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## **Telephony Services**

### **Aim**

Develop an android application to display the information of the telephony services.

### ***Procedure:***

**Step 1 :** File -> NewProject

Provide the application name and Click "Next"

**Step 2 :** Select the target android devices

Select the minimum SDK to run the application. Click "Next".

**Step 3 :** Choose the activity for the application (By default choose "Blank Activity").

Click "Next".

**Step 4 :** Enter activity name and click "Finish".

**Step 5 :** Edit the program.

**Step 6 :** Run the application, 2-ways to run the application.

1. Running through emulator
2. Running through mobile device

## ***AndroidManifest.xml***

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

<manifest xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools"
    package="com.example.exp7">

    <uses-permission android:name="android.permission.READ_PHONE_STATE" />

    <application
        android:allowBackup="true"
        android:dataExtractionRules="@xml/data_extraction_rules"
        android:fullBackupContent="@xml/backup_rules"
        android:icon="@mipmap/ic_launcher"
        android:label="@string/app_name"
        android:roundIcon="@mipmap/ic_launcher_round"
        android:supportsRtl="true"
        android:theme="@style/Theme.Exp7"
        tools:targetApi="31">

        <activity
            android:name=".MainActivity"
            android:exported="true"
            android:theme="@style/Theme.Exp7">

            <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"?>
<ScrollView xmlns:android="http://schemas.android.com/apk/res/android"
    android:layout_width="match_parent"
    android:layout_height="match_parent">
    <LinearLayout
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:padding="16dp"
        android:orientation="vertical">
        <TextView android:text="Telephony Services"
            android:textSize="20sp"
            android:textStyle="bold"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:textColor="@android:color/black"
            android:layout_gravity="center_horizontal"
            android:paddingBottom="20dp" />
        <EditText
            android:id="@+id/editOperator"
            android:hint="Network Operator Name"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:enabled="false" />
        <EditText
            android:id="@+id/editPhoneType"
            android:hint="Phone Type"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:enabled="false" />
        <EditText
            android:id="@+id/editNetworkISO"
            android:hint="Network Country ISO"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:enabled="false" />
        <EditText
            android:id="@+id/editSIMISO"
            android:hint="SIM Country ISO"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:enabled="false" />
        <Button
            android:id="@+id/btnFetch"
            android:text="Get Telephony Services"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:layout_marginTop="16dp"/>

    </LinearLayout>
</ScrollView>
</LinearLayout>
```

## **MainActivity.kt**

```
package com.example.exp7

import android.Manifest
import android.content.pm.PackageManager
import android.os.Bundle
import android.telephony.TelephonyManager
import android.widget.Button
import android.widget.EditText
import androidx.appcompat.app.AppCompatActivity
import androidx.core.app.ActivityCompat

class MainActivity : AppCompatActivity() {

    private lateinit var telephonyManager: TelephonyManager
    private lateinit var operatorField: EditText
    private lateinit var phoneTypeField: EditText
    private lateinit var networkISOField: EditText
    private lateinit var simISOField: EditText
    private lateinit var softwareVersionField: EditText
    private lateinit var btnFetch: Button

    override fun onCreate(savedInstanceState: Bundle?) {
        super.onCreate(savedInstanceState)
        setContentView(R.layout.activity_main)

        telephonyManager = getSystemService(TELEPHONY_SERVICE) as TelephonyManager

        operatorField = findViewById(R.id.editOperator)
        phoneTypeField = findViewById(R.id.editPhoneType)
        networkISOField = findViewById(R.id.editNetworkISO)
        simISOField = findViewById(R.id.editSIMISO)
        softwareVersionField = findViewById(R.id.editSoftwareVersion)
        btnFetch = findViewById(R.id.btnFetch)

        btnFetch.setOnClickListener {
            fetchTelephonyInfo()
        }
    }
}
```

```

private fun fetchTelephonyInfo() {
    if (ActivityCompat.checkSelfPermission(
        this,
        Manifest.permission.READ_PHONE_STATE
    ) != PackageManager.PERMISSION_GRANTED
    ) {
        ActivityCompat.requestPermissions(
            this,
            arrayOf(Manifest.permission.READ_PHONE_STATE),
            1
        )
        return
    }

    operatorField.setText(telephonyManager.networkOperatorName)
    phoneTypeField.setText(getPhoneTypeName(telephonyManager.phoneType))
    networkISOField.setText(telephonyManager.networkCountryIso)
    simISOField.setText(telephonyManager.simCountryIso)
    softwareVersionField.setText(telephonyManager.deviceSoftwareVersion ?: "N/A")
}

private fun getPhoneTypeName(type: Int): String {
    return when (type) {
        TelephonyManager.PHONE_TYPE_GSM -> "GSM"
        TelephonyManager.PHONE_TYPE_CDMA -> "CDMA"
        TelephonyManager.PHONE_TYPE_SIP -> "SIP"
        TelephonyManager.PHONE_TYPE_NONE -> "None"
        else -> "Unknown"
    }
}
}

```

## Output

The image displays two side-by-side screenshots of a mobile application titled "Telephony Services".

**Left Screenshot (11:57):**

- Network Operator Name:
- Phone Type:
- Network Country ISO:
- SIM Country ISO:
- Device Software Version:
- Button: Get Telephony Services

**Right Screenshot (11:58):**

- Network Operator Name: T-Mobile
- Phone Type: GSM
- Network Country ISO: us
- SIM Country ISO: us
- Device Software Version: 01
- Button: Get Telephony Services

## Result:

The experiment has been executed successfully