**PRACTICAL 13**

**Aim: Create an Android application which reads contact name from phone, and display contact name to List View. On long press of any of the list item a context menu shall be display having an option called “Send SMS”. On click of “Send SMS” option, an inbuilt messaging application should be open with an appropriate data. (I.e., pass the phone number of selected contact to messaging application) (Note: Make the use of content provider).**

**Code:**

**JAVA FILE: (MainActivity.java)**

package com.example.practical13;

import android.Manifest;

import android.content.Intent;

import android.content.pm.PackageManager;

import android.database.Cursor;

import android.net.Uri;

import android.os.Bundle;

import android.provider.ContactsContract;

import android.view.ContextMenu;

import android.view.MenuItem;

import android.view.View;

import android.widget.AdapterView;

import android.widget.ArrayAdapter;

import android.widget.ListView;

import androidx.annotation.NonNull;

import androidx.appcompat.app.AppCompatActivity;

import androidx.core.app.ActivityCompat;

import androidx.core.content.ContextCompat;

import java.util.ArrayList;

public class MainActivity extends AppCompatActivity {

private static final int REQUEST\_CONTACTS\_PERMISSION = 1;

private ArrayList<String> contactNames = new ArrayList<>();

private ArrayAdapter<String> adapter;

@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.activity\_main);

ListView listView = findViewById(R.id.listView);

adapter = new ArrayAdapter<>(this, android.R.layout.simple\_list\_item\_1, contactNames);

listView.setAdapter(adapter);

// Check for Contacts permission

if (ContextCompat.checkSelfPermission(this, Manifest.permission.READ\_CONTACTS)

!= PackageManager.PERMISSION\_GRANTED) {

ActivityCompat.requestPermissions(this,

new String[]{Manifest.permission.READ\_CONTACTS},

REQUEST\_CONTACTS\_PERMISSION);

} else {

fetchContacts();

}

// Register ListView for context menu

registerForContextMenu(listView);

}

private void fetchContacts() {

Cursor cursor = getContentResolver().query(

ContactsContract.CommonDataKinds.Phone.CONTENT\_URI,

null,

null,

null,

null);

while (cursor.moveToNext()) {

String name = cursor.getString(cursor.getColumnIndex(ContactsContract.CommonDataKinds.Phone.DISPLAY\_NAME));

contactNames.add(name);

}

cursor.close();

adapter.notifyDataSetChanged();

}

@Override

public void onRequestPermissionsResult(int requestCode, @NonNull String[] permissions, @NonNull int[] grantResults) {

super.onRequestPermissionsResult(requestCode, permissions, grantResults);

if (requestCode == REQUEST\_CONTACTS\_PERMISSION) {

if (grantResults.length > 0 && grantResults[0] == PackageManager.PERMISSION\_GRANTED) {

fetchContacts();

}

}

}

@Override

public void onCreateContextMenu(ContextMenu menu, View v, ContextMenu.ContextMenuInfo menuInfo) {

super.onCreateContextMenu(menu, v, menuInfo);

getMenuInflater().inflate(R.menu.context\_menu, menu);

}

@Override

public boolean onContextItemSelected(MenuItem item) {

AdapterView.AdapterContextMenuInfo info = (AdapterView.AdapterContextMenuInfo) item.getMenuInfo();

String selectedContactName = contactNames.get(info.position);

if (item.getItemId() == R.id.send\_sms\_option) {

// Get the phone number associated with the selected contact

String phoneNumber = getPhoneNumberForContact(selectedContactName);

if (phoneNumber != null) {

// Create an intent to open the messaging app

Intent intent = new Intent(Intent.ACTION\_SENDTO);

intent.setData(Uri.parse("smsto:" + phoneNumber));

startActivity(intent);

}

return true;

}

return super.onContextItemSelected(item);

}

private String getPhoneNumberForContact(String contactName) {

Cursor cursor = getContentResolver().query(

ContactsContract.CommonDataKinds.Phone.CONTENT\_URI,

null,

ContactsContract.CommonDataKinds.Phone.DISPLAY\_NAME + " = ?",

new String[]{contactName},

null);

if (cursor != null && cursor.moveToFirst()) {

String phoneNumber = cursor.getString(cursor.getColumnIndex(ContactsContract.CommonDataKinds.Phone.NUMBER));

cursor.close();

return phoneNumber;

}

return null;

}

}

**XML FILE: (activity\_main.xml)**

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

<LinearLayout 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"

android:orientation="vertical"

tools:context=".MainActivity">

<ListView

android:id="@+id/listView"

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:divider="@android:color/darker\_gray"

android:dividerHeight="1dp" />

</LinearLayout>

**XML FILE(res/menu): (context\_menu.xml)**

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

<menu xmlns:android="http://schemas.android.com/apk/res/android">

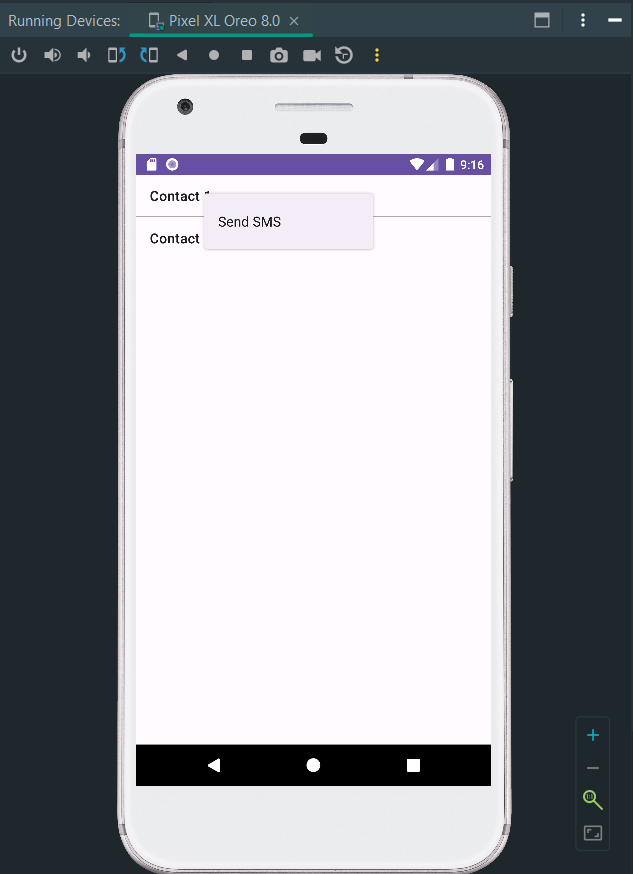
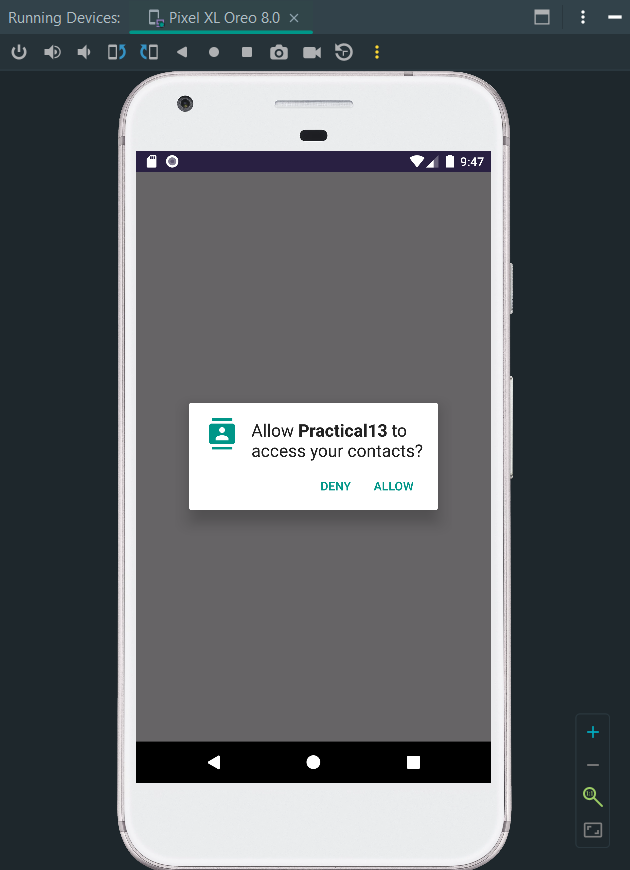
<item

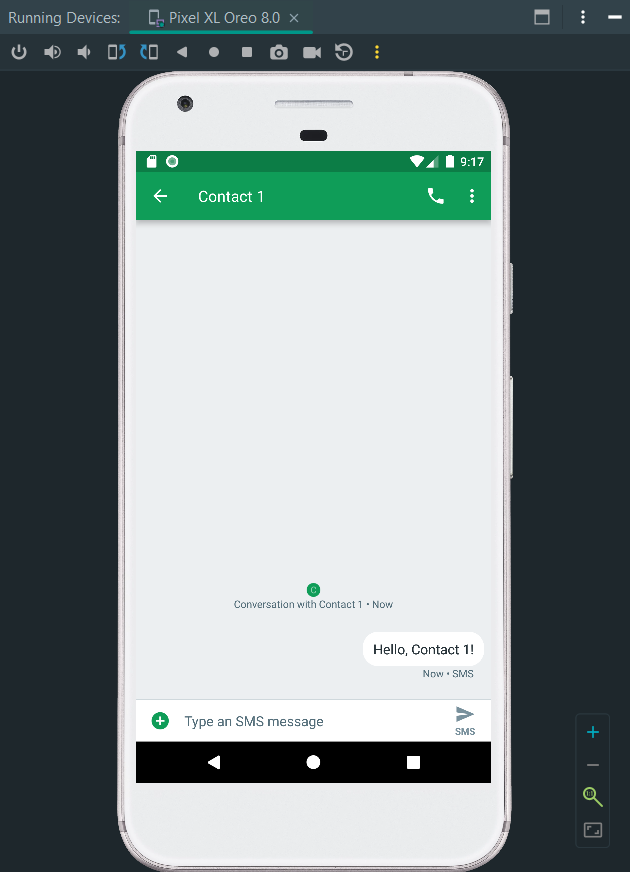
android:id="@+id/send\_sms\_option"

android:title="Send SMS" />

</menu>

**Output:**

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