

Technological Institute of the Philippines Manila
CIT 306-IT32S3 - Mobile Computing
Geolocation App

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Section\Sem\Year	IT32S3\2nd Sem\3rd Year

AndroidManifest.xml

```
AndroidManifest.xml ×
1  <?xml version="1.0" encoding="utf-8"?>
2  <manifest xmlns:android="http://schemas.android.com/apk/res/android"
3      xmlns:tools="http://schemas.android.com/tools">
4
5      <uses-permission android:name="android.permission.ACCESS_FINE_LOCATION"/>
6      <uses-permission android:name="android.permission.ACCESS_COARSE_LOCATION"/>
7
8      <application
9          android:allowBackup="true"
10         android:dataExtractionRules="@xml/data_extraction_rules"
11         android:fullBackupContent="@xml/backup_rules"
12         android:icon="@mipmap/ic_launcher"
13         android:label="samplegeolocation"
14         android:roundIcon="@mipmap/ic_launcher_round"
15         android:supportRtl="true"
16         android:theme="@style/Theme.Samplegeolocation"
17         tools:targetApi="31">
18
19         <activity
20             android:name=".MainActivity"
21             android:exported="true">
22             <intent-filter>
23                 <action android:name="android.intent.action.MAIN" />
24
25                 <category android:name="android.intent.category.LAUNCHER" />
26             </intent-filter>
27         </activity>
28     </application>
29 </manifest>
```

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MainActivity.java

```
AndroidManifest.xml  MainActivity.java x
1 package com.example.samplegeolocation;
2
3 import androidx.appcompat.app.AppCompatActivity;
4
5 import android.os.Bundle;
6
7
8 import android.Manifest;
9 import androidx.annotation.NonNull;
10
11 import androidx.core.app.ActivityCompat;
12 import androidx.core.content.ContextCompat;
13
14 import android.content.pm.PackageManager;
15 import android.location.Address;
16 import android.location.Geocoder;
17 import android.location.Location;
18
19 import android.util.Log;
20 import android.view.View;
21 import android.widget.Button;
22 import android.widget.TextView;
23 import android.widget.Toast;
24
25 import com.google.android.gms.location.FusedLocationProviderClient;
26 import com.google.android.gms.location.LocationServices;
27 import com.google.android.gms.tasks.OnSuccessListener;
28
29 import java.io.IOException;
30 import java.util.List;
31 import java.util.Locale;
32
```

```
AndroidManifest.xml  MainActivity.java x
33 public class MainActivity extends AppCompatActivity {
34     2 usages
35     FusedLocationProviderClient fusedLocationProviderClient;
36     2 usages
37     TextView latitude, longitude, address, city, country;
38     2 usages
39     Button getLocation;
40     2 usages
41     private final static int REQUEST_CODE = 100;
42
43     @Override
44     protected void onCreate(Bundle savedInstanceState) {
45         super.onCreate(savedInstanceState);
46         setContentView(R.layout.activity_main);
47
48         // Initializing UI elements
49         latitude = findViewById(R.id.latitude);
50         longitude = findViewById(R.id.longitude);
51         address = findViewById(R.id.address);
52         city = findViewById(R.id.city);
53         country = findViewById(R.id.country);
54         getLocation = findViewById(R.id.getLocation);
55
56         // Initializing FusedLocationProviderClient for location services
57         fusedLocationProviderClient = LocationServices.getFusedLocationProviderClient(this);
58
59         getLocation.setOnClickListener(new View.OnClickListener() {
60             @Override
61             public void onClick(View v) {
62
63             }
64         });
65     }
66 }
```

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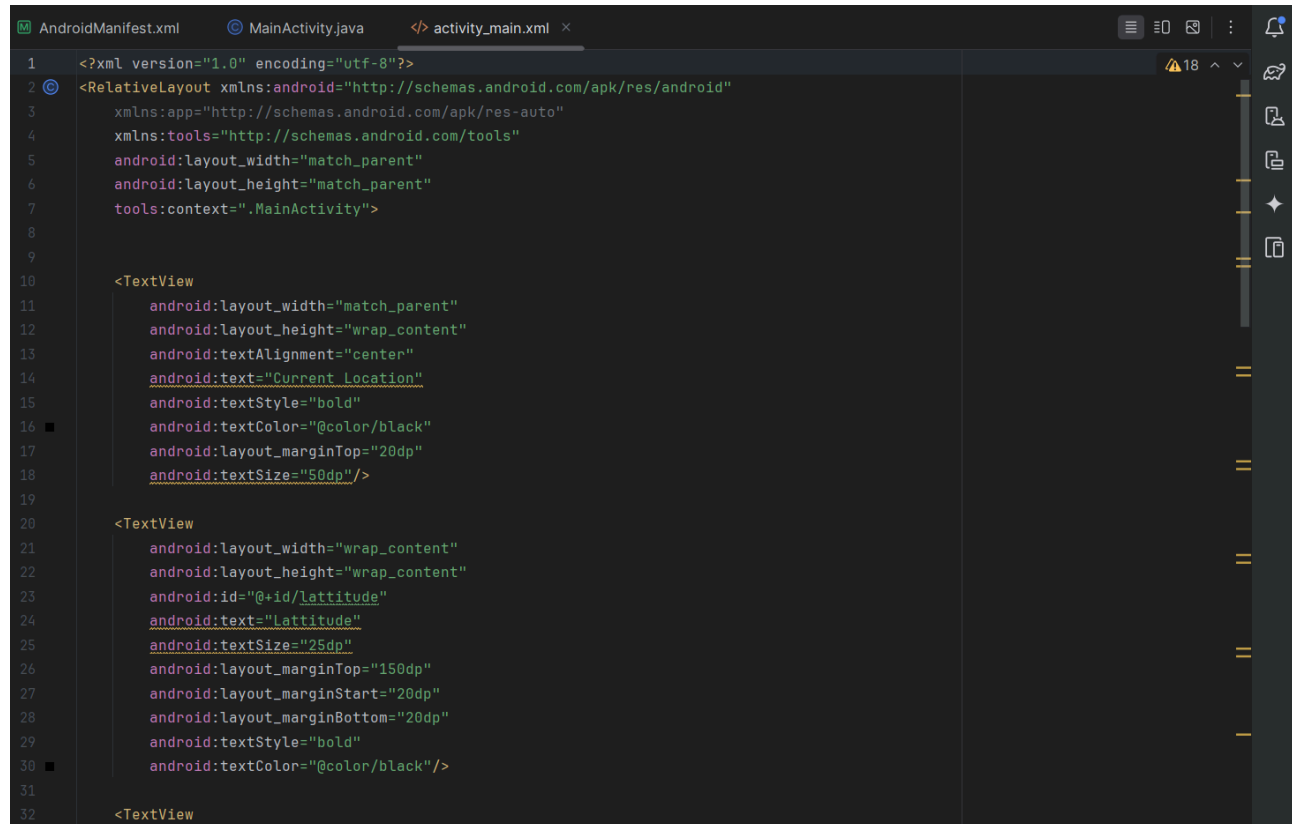
```
AndroidManifest.xml  MainActivity.java x
33 public class MainActivity extends AppCompatActivity {
41     protected void onCreate(Bundle savedInstanceState) {
62
63
64     }
65
66     // Function to fetch the last known location
67     1 usage
68     private void getLastLocation() {
69         if (ContextCompat.checkSelfPermission(this, Manifest.permission.ACCESS_FINE_LOCATION) == PackageManager.PERMISSION_DENIED) {
70             fusedLocationProviderClient.getLastLocation()
71                 .addOnSuccessListener(new OnSuccessListener<Location>() {
72                     no usages
73                     @Override
74                     public void onSuccess(Location location) {
75                         if (location != null) {
76                             // Log the latitude and longitude
77                             Log.d("Location", "Latitude: " + location.getLatitude());
78                             Log.d("Location", "Longitude: " + location.getLongitude());
79
80                             // Use Geocoder to get detailed location information
81                             try {
82                                 Geocoder geocoder = new Geocoder(this, Locale.getDefault());
83                                 List<Address> addresses = geocoder.getFromLocation(location.getLatitude(), location.getLongitude(), 1);
84
85                                 // Display location details on UI elements
86                                 latitude.setText("Latitude: " + addresses.get(0).getLatitude());
87                                 longitude.setText("Longitude: " + addresses.get(0).getLongitude());
88                                 address.setText("Address: " + addresses.get(0).getAddressLine(0));
89                                 city.setText("City: " + addresses.get(0).getLocality());
90                                 country.setText("Country: " + addresses.get(0).getCountryName());
91
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```

```

89
90     // Log detailed location information
91     Log.d("Location", "Addresses: " + addresses.toString());
92 } catch (IOException e) {
93     e.printStackTrace();
94     Toast.makeText(this, "Error fetching address", Toast.LENGTH_SHORT).show();
95 }
96 } else {
97     // Handle the case when location is null
98     Toast.makeText(this, "Unable to fetch location", Toast.LENGTH_SHORT).show();
99 }
100 }
101 });
102 } else {
103 // Request location permission if not granted
104     askPermission();
105 }
106 }
107
108 // Function to request location permission
109 1 usage
110 private void askPermission() {
111     ActivityCompat.requestPermissions(this, new String[]{Manifest.permission.ACCESS_FINE_LOCATION}, REQUEST_PERMISSION_CODE);
112 }
```

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ActivityMain.xml



```
1 <?xml version="1.0" encoding="utf-8"?>
2 <RelativeLayout xmlns:android="http://schemas.android.com/apk/res/android"
3     xmlns:app="http://schemas.android.com/apk/res-auto"
4     xmlns:tools="http://schemas.android.com/tools"
5     android:layout_width="match_parent"
6     android:layout_height="match_parent"
7     tools:context=".MainActivity">
8
9
10    <TextView
11        android:layout_width="match_parent"
12        android:layout_height="wrap_content"
13        android:textAlignment="center"
14        android:text="Current Location"
15        android:textStyle="bold"
16        android:textColor="@color/black"
17        android:layout_marginTop="20dp"
18        android:textSize="50dp"/>
19
20    <TextView
21        android:layout_width="wrap_content"
22        android:layout_height="wrap_content"
23        android:id="@+id/latitude"
24        android:text="Latitude"
25        android:textSize="25dp"
26        android:layout_marginTop="150dp"
27        android:layout_marginStart="20dp"
28        android:layout_marginBottom="20dp"
29        android:textStyle="bold"
30        android:textColor="@color/black"/>
31
32    <TextView
```

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```
AndroidManifest.xml MainActivity.java activity_main.xml x
2 <RelativeLayout xmlns:android="http://schemas.android.com/apk/res/android"
32 <TextView
33     android:layout_width="wrap_content"
34     android:layout_height="wrap_content"
35     android:id="@+id/longitude"
36     android:layout_alignStart="@id/latitude"
37     android:layout_below="@id/latitude"
38     android:text="Longitude"
39     android:textSize="25dp"
40     android:layout_marginBottom="20dp"
41     android:textStyle="bold"
42     android:textColor="@color/black"/>
43
44 <TextView
45     android:layout_width="wrap_content"
46     android:layout_height="wrap_content"
47     android:id="@+id/address"
48     android:layout_alignStart="@id/latitude"
49     android:layout_below="@id/longitude"
50     android:text="Address"
51     android:textSize="25dp"
52     android:layout_marginBottom="20dp"
53     android:textStyle="bold"
54     android:textColor="@color/black"/>
55
56 <TextView
57     android:layout_width="wrap_content"
58     android:layout_height="wrap_content"
59     android:id="@+id/city"
60     android:layout_alignStart="@id/latitude"
61     android:layout_below="@id/address"
62     android:text="City"
```

```
AndroidManifest.xml MainActivity.java activity_main.xml x
2 <RelativeLayout xmlns:android="http://schemas.android.com/apk/res/android"
56 <TextView
63     android:textSize="25dp"
64     android:layout_marginBottom="20dp"
65     android:textStyle="bold"
66     android:textColor="@color/black"/>
67
68 <TextView
69     android:layout_width="wrap_content"
70     android:layout_height="wrap_content"
71     android:id="@+id/country"
72     android:layout_alignStart="@id/latitude"
73     android:layout_below="@id/city"
74     android:text="Country"
75     android:textSize="25dp"
76     android:layout_marginBottom="10dp"
77     android:textStyle="bold"
78     android:textColor="@color/black"/>
79
80 <Button
81     android:layout_width="wrap_content"
82     android:layout_height="60dp"
83     android:backgroundTint="@color/black"
84     android:id="@+id/getLocation"
85     android:text="Get Location"
86     android:layout_marginTop="50dp"
87     android:layout_centerHorizontal="true"
88     android:layout_below="@id/country"/>
89
90
91 </RelativeLayout>
```

Output

