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| American University of SharjahCollege of Engineering Dept of Computer Science & Engg  P. O. Box 26666  Sharjah, UAE |  | Instructors: Dr. Tamer [Shanableh](javascript:detailw('detail.asp?ID=@00010457')) **Lab Instructor:** Ms. Praveena Kolli  **Office** EB2-126  **Phone**: 971-6-5152352  **e-mail**: [pkolli@aus.edu](mailto:pkolli@aus.edu)  **Semester**: Spring 2023 |

**CMP354 -** [**Mobile Application Development**](https://banner.aus.edu/axp3b21h/owa/bwckschd.p_disp_detail_sched?term_in=201410&crn_in=11136)

**Lab11**

**Topics:**

* Maps
* Placing Markers
* Saving in the database

Update Lab10 App with the followings:

1. Add another menu item Map.

Graphical user interface, application, Teams

Description automatically generated

1. Menu Map opens Maps activity that reads all locations from the database and displays the markers on the map.

Map

Description automatically generated

1. On long click of the map a custom dialogue opens to allow user to enter the description. Place a marker. Save the location along with the description in the database.

Map

Description automatically generatedMap

Description automatically generated

**Note: submit java codes, screenshots and *APK*.**

**MapsActivity.java**

package com.example.lab\_11\_gps\_db;  
  
import androidx.annotation.NonNull;  
import androidx.appcompat.app.AppCompatActivity;  
import androidx.fragment.app.FragmentActivity;  
  
import android.app.Activity;  
import android.app.AlertDialog;  
import android.content.DialogInterface;  
import android.database.Cursor;  
import android.os.Bundle;  
import android.view.LayoutInflater;  
import android.view.View;  
import android.widget.EditText;  
  
import com.example.lab\_11\_gps\_db.databinding.ActivityMapsBinding;  
import com.google.android.gms.maps.CameraUpdateFactory;  
import com.google.android.gms.maps.GoogleMap;  
import com.google.android.gms.maps.OnMapReadyCallback;  
import com.google.android.gms.maps.SupportMapFragment;  
import com.google.android.gms.maps.model.LatLng;  
import com.google.android.gms.maps.model.MarkerOptions;  
  
public class MapsActivity extends FragmentActivity implements OnMapReadyCallback {  
  
 private GoogleMap mMap;  
 private ActivityMapsBinding binding;  
  
 @Override  
 protected void onCreate(Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState);  
  
 binding = ActivityMapsBinding.*inflate*(getLayoutInflater());  
 setContentView(binding.getRoot());  
  
 SupportMapFragment mapFragment = (SupportMapFragment) getSupportFragmentManager().findFragmentById(R.id.*map*);  
 mapFragment.getMapAsync(this);  
 }  
  
 @Override  
 public void onMapReady(@NonNull GoogleMap googleMap) {  
 mMap = googleMap;  
 mMap.getUiSettings().setZoomControlsEnabled(true);  
  
 DatabaseConnector dbconnector = new DatabaseConnector(MapsActivity.this);  
 dbconnector.open();  
  
 Cursor result = dbconnector.getAllEntries();  
 result.moveToFirst();  
 int x = result.getCount();  
 for (int i = 1; i<=x;++i){  
 int latiIndex = result.getColumnIndex("LATITUDE");  
 int longiIndex = result.getColumnIndex("LONGITUDE");  
 int descIndex = result.getColumnIndex("DESCRIPTION");  
  
 LatLng sydney = new LatLng(Float.*valueOf*(result.getString(latiIndex)), Float.*valueOf*(result.getString(longiIndex)));  
 String ads = result.getString(descIndex) + "\n";  
 mMap.addMarker(new MarkerOptions().position(sydney).title(ads));  
 float zoomLevel = 10.0f;  
 mMap.moveCamera(CameraUpdateFactory.*newLatLngZoom*(sydney, zoomLevel));  
 result.moveToNext();  
  
 }  
  
 mMap.setOnMapLongClickListener(new GoogleMap.OnMapLongClickListener() {  
 @Override  
 public void onMapLongClick(@NonNull LatLng latLng) {  
 DatabaseConnector db = new DatabaseConnector(MapsActivity.this);  
 db.open();  
 AlertDialog.Builder builder = new AlertDialog.Builder(MapsActivity.this);  
 LayoutInflater inflater = getLayoutInflater();  
 View viewInflated = inflater.inflate(R.layout.*alert\_dialog\_text\_entry*, null);  
 EditText et\_note = (EditText) viewInflated.findViewById(R.id.*et\_note*);  
 builder.setCancelable(true);  
 builder.setView(viewInflated);  
 builder.setPositiveButton("Done", new DialogInterface.OnClickListener(){  
 @Override  
 public void onClick(DialogInterface dialog, int id){  
 db.insertEntry(String.*valueOf*(latLng.latitude), String.*valueOf*(latLng.longitude), et\_note.getText().toString());  
 mMap.addMarker(new MarkerOptions().position(latLng).title(et\_note.getText().toString()));  
 mMap.moveCamera(CameraUpdateFactory.*newLatLng*(latLng));  
 }  
  
 });  
  
 builder.setNegativeButton("Cancel", new DialogInterface.OnClickListener(){  
 @Override  
 public void onClick(DialogInterface dialog, int id){  
 dialog.cancel();  
 }  
 });  
  
 builder.create();  
 builder.show();  
  
  
 }  
});}  
}

**Screenshots**





