

EX-9

Google Maps Integration

Aim

To develop an application by integrating google maps using flutter.

Definitions

Flutter

Flutter is not a programming language. It's a software development kit (SDK) with prewritten code, consisting of ready-to-use and customizable widgets, as well as libraries, tools, and documentation that together serve to build cross-platform apps.

Flutter plugin

A Flutter plugin is a special kind of package that enables Flutter apps to interact with platform-specific APIs (iOS, Android, web, desktop). Plugins can include Dart code, but crucially, they also contain platform-specific implementation code written in Kotlin/Java for Android and Swift/Objective-C for iOS.

Dart plugin

The Dart plugin adds Dart support to IntelliJ Platform-based IDEs developed by JetBrains. These IDEs provide features unique to specific development technologies. The IDEs recommended for Dart and Flutter development include: IntelliJ IDEA which specializes in JVM-based language development.

Flutter SDK

Flutter is Google's free, open-source software development kit (SDK) for cross-platform mobile application development. Using a single platform-agnostic codebase, Flutter helps developers build high-performance, scalable applications with attractive and functional user interfaces for Android or iOS.

Google Maps

Google Maps is a web-based and mobile mapping application that provides users with detailed geographical information and navigation services worldwide.

Procedure

1. Open android studio
2. Click 'new flutter project'
3. Select 'flutter' at the left side of the window
4. Add 'flutter sdk' from the desired location
5. Click 'next' and specify the project name and select language 'java', check only Android, Web and Windows under platforms then click 'create'
6. Create a new dart file under 'lib' folder in the projects window (right click over lib folder -> new -> dart file -> specify the file name as 'map' -> press 'enter')
7. Open terminal in android -> type "flutter pub add google_maps_flutter" (This command will add google_maps_flutter dependency in pubspec.yaml file) -> press enter
8. Open index.html file in "web folder" -> type the following code under <head> tag

```
<script  
src="https://maps.googleapis.com/maps/api/js?key=AIzaSyCDBIv3Y6HKOE4ZEIO-  
j_6LD62Wsj6JKqA "></script>
```

9. Type the following codes in the map.dart file

map.dart

```
import 'dart:async';  
import 'package:flutter/material.dart';  
import 'package:google_maps_flutter/google_maps_flutter.dart';  
void main() => runApp(const MyApp());  
class MyApp extends StatelessWidget {  
  const MyApp({Key? key}) : super(key: key);  
  @override  
  Widget build(BuildContext context) {  
    return const MaterialApp(  
      title: 'Flutter Google Maps Demo',  
      home: MapSample(),  
    );  
  }  
}  
class MapSample extends StatefulWidget {  
  const MapSample({Key? key}) : super(key: key);  
  @override  
  State<MapSample> createState() => MapSampleState();  
}  
class MapSampleState extends State<MapSample> {
```

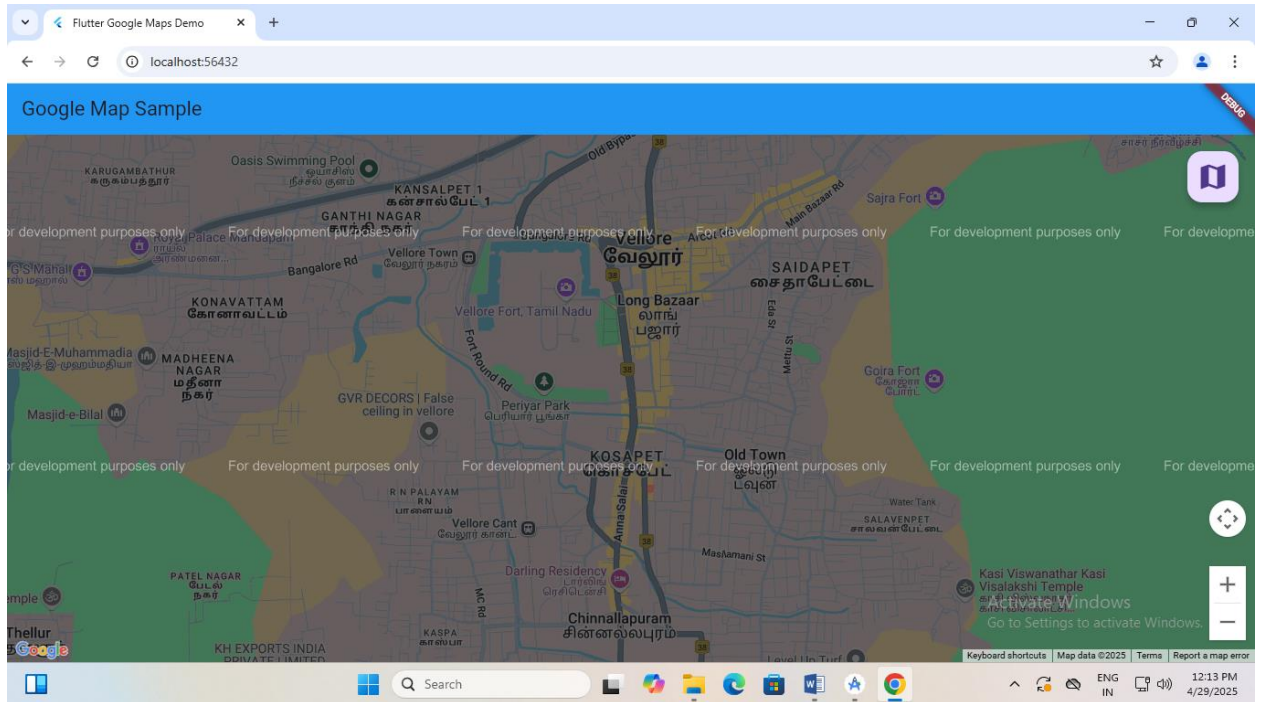
```

final Completer<GoogleMapController> _controller = Completer();
static const CameraPosition _velloreLocation = CameraPosition(
  target: LatLng(12.9166, 79.1325), // Vellore coordinates
  zoom: 15,
);
MapType _currentMapType = MapType.normal;
void _onMapType() {
  setState() {
    _currentMapType = _currentMapType == MapType.normal ? MapType.satellite :
    MapType.normal;
  });
}
@override
Widget build(BuildContext context) {
  return Scaffold(
    appBar: AppBar(
      title: const Text('Google Map Sample'),
      backgroundColor: Colors.blue,
    ),
    body: Stack(
      children: [
        GoogleMap(
          mapType: _currentMapType,
          initialCameraPosition: _velloreLocation,
          onMapCreated: (GoogleMapController controller) {
            _controller.complete(controller);
          },
        ),
        Padding(
          padding: const EdgeInsets.all(18),
          child: Align(
            alignment: Alignment.topRight,
            child: FloatingActionButton(
              onPressed: _onMapType,
              child: const Icon(Icons.map, size: 36),
            ),
          ),
        ),
      ],
    ),
  );
}
}

```

10. Save the file map.dart (click main menu -> saveall)
11. Select device as 'chrome(web)'
12. Click on run/debug configuration -> edit configurations -> specify dart file name (map.dart) -> browse and set dart entrypoint as map.dart -> click ok -> click run

Output



Result

Thus, an application by integrating google maps has been developed.