Sistem Informasi Geografis

Persiapan:

- API Key Google Console
- Fitur Maps SDK Android dari Google Console

Langkah-langkahnya:

1. Buatlah project di https://console.developers.google.com/
2. Buat **API Key** di menu Credential

Setelah selesai akan muncul seperti ini

Dianjurkan untuk Restrict Key.

3. Cari **Maps SDK for Android**

Maps SDK for Android

Google

Maps for your native Android app.

ENABLE

OVERVIEW   DOCUMENTATION   SUPPORT

4. Berikutnya, buat project Flutter seperti biasa
5. Pada file **android/app/src/main** terdapat file **Android Manifest**
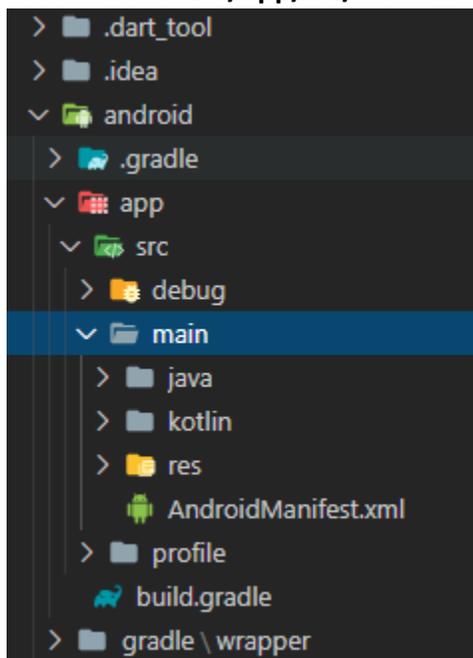
Tambahkan tag meta-data berikut

```xml
<application
    android:name="io.flutter.app.FlutterApplication"
    android:label="maps_flutter"
    android:icon="@mipmap/ic_launcher">
    <meta-data android:name="com.google.android.geo.API_KEY"
            android:value="YOUR_API_KEY_GOES_HERE"/>


    <activity
        android:name=".MainActivity"
```

6. Tambahkan **Google Maps Flutter** di **pubspec.yaml**

Berikut contoh program dengan menggunakan Maps SDK for Android
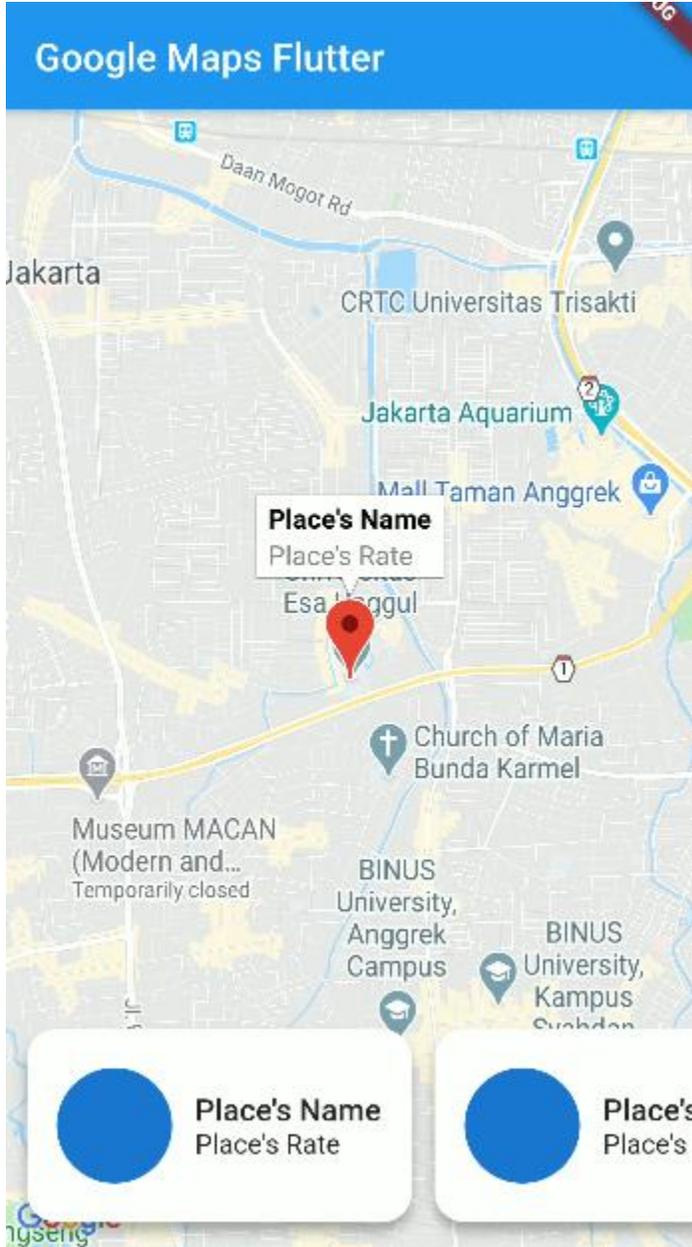
Code:

1. Main

```dart
lib > 🔷 main.dart > ...
 1    import 'package:flutter/material.dart';
 2    import 'homescreen.dart';
 3
 4    void main() => runApp(MyApp());
 5
 6    class MyApp extends StatelessWidget {
 7      @override
 8      Widget build(BuildContext context) {
 9        return MaterialApp(
10          home: HomeScreen(),
11        ); // MaterialApp
12      }
13    }
14
```

2. Homescreen

```dart
lib > 🔷 homescreen.dart > ...
 1    import 'package:flutter/material.dart';
 2    import 'package:google_maps_flutter/google_maps_flutter.dart';
 3    import 'container_info.dart';
 4
 5    class HomeScreen extends StatefulWidget {
 6      @override
 7      _HomeScreenState createState() => _HomeScreenState();
 8    }
 9
10    class _HomeScreenState extends State<HomeScreen> {
11      final Set<Marker> _markers = {};
12      final LatLng _currentPosition = LatLng(-6.185595, 106.778812);
13      final InfoWindow _infoWindow = InfoWindow(
14        title: "Place's Name",
15        snippet: "Place's Rate",
16      );
17
18      @override
19      void initState() {
20        _markers.add(
21          Marker(
22            markerId: MarkerId("-6.185595, 106.778812" /**Esa Unggul */),
23            position: _currentPosition,
24            icon: BitmapDescriptor.defaultMarker,
25            infoWindow: _infoWindow,
26          ), // Marker
27        );
28        super.initState();
29      }
30
31      @override
32      Widget build(BuildContext context) {
33        return Scaffold(
34          appBar: AppBar(
35            title: Text('Google Maps Flutter'),
36          ), // AppBar
37          body: Stack(
38            children: <Widget>[
39              GoogleMap(
```

```dart
lib > 🔷 homescreen.dart > ...
       children: <Widget>[
39        GoogleMap(
40          onTap: (position) {
41            setState(() {
42              _markers.add(
43                Marker(
44                  markerId:
45                    MarkerId("${position.latitude}, ${position.longitude}"),
46                  icon: BitmapDescriptor.defaultMarker,
47                  position: position,
48                  infoWindow: _infoWindow,
49                ), // Marker
50              );
51            });
52          },
53          mapType: MapType.normal,
54          initialCameraPosition: CameraPosition(
55            target: _currentPosition,
56            zoom: 14.0,
57          ), // CameraPosition
58          markers: _markers,
59        ), // GoogleMap
60        Align(
61          alignment: Alignment.bottomCenter,
62          child: Container(
63            height: 130.0,
64            child: ListView(
65              scrollDirection: Axis.horizontal,
66              padding: EdgeInsets.fromLTRB(
67                12.0,
68                15.0,
69                12.0,
70                15.0,
71              ), // EdgeInsets.fromLTRB
72              children: <Widget>[
73                ContainerInfo(),
74                SizedBox(width: 12.0),
75                ContainerInfo(),
76              ], // <Widget>[]
```

```
59          ), // GoogleMap
60          Align(
61            alignment: Alignment.bottomCenter,
62            child: Container(
63              height: 130.0,
64              child: ListView(
65                scrollDirection: Axis.horizontal,
66                padding: EdgeInsets.fromLTRB(
67                  12.0,
68                  15.0,
69                  12.0,
70                  15.0,
71                ), // EdgeInsets.fromLTRB
72                children: <Widget>[
73                  ContainerInfo(),
74                  SizedBox(width: 12.0),
75                  ContainerInfo(),
76                ], // <Widget>[]
77              ), // ListView
78            ), // Container
79          ) // Align
80        ], // <Widget>[]
81      ), // Stack
82    ); // Scaffold
83  }
84 }
```

3. Container Info

```
lib >  container_info.dart > ...
1    import 'package:flutter/material.dart';
2
3    class ContainerInfo extends StatelessWidget {
4      @override
5      Widget build(BuildContext context) {
6        return Container(
7          width: 200.0,
8          decoration: BoxDecoration(
9            boxShadow: [
10             BoxShadow(
11               color: Colors.black.withOpacity(.3),
12               offset: Offset(0, 5.0),
13               blurRadius: 5.0,
14             ) // BoxShadow
15           ],
16           borderRadius: BorderRadius.circular(15.0),
17           color: Colors.white,
18         ), // BoxDecoration
19         child: Padding(
20           padding: const EdgeInsets.all(8.0),
21           child: Align(
22             child: Row(
23               mainAxisAlignment: MainAxisAlignment.center,
24               children: <Widget>[
25                 CircleAvatar(
26                   radius: 30.0,
27                 ), // CircleAvatar
28                 SizedBox(width: 12.0),
29                 Column(
30                   crossAxisAlignment: CrossAxisAlignment.start,
31                   mainAxisAlignment: MainAxisAlignment.center,
32                   children: <Widget>[
33                     Text(
34                       "Place's Name",
35                       style: TextStyle(
36                         fontWeight: FontWeight.w600,
37                         fontSize: 16.0,
38                       ), // TextStyle
39                     ), // Text
```

```
20             padding: const EdgeInsets.all(8.0),
21             child: Align(
22               child: Row(
23                 mainAxisAlignment: MainAxisAlignment.center,
24                 children: <Widget>[
25                   CircleAvatar(
26                     radius: 30.0,
27                   ), // CircleAvatar
28                   SizedBox(width: 12.0),
29                   Column(
30                     crossAxisAlignment: CrossAxisAlignment.start,
31                     mainAxisAlignment: MainAxisAlignment.center,
32                     children: <Widget>[
33                       Text(
34                         "Place's Name",
35                         style: TextStyle(
36                           fontWeight: FontWeight.w600,
37                           fontSize: 16.0,
38                         ), // TextStyle
39                       ), // Text
40                       Text("Place's Rate")
41                     ], // <Widget>[]
42                   ) // Column
43                 ], // <Widget>[]
44               ), // Row
45             ), // Align
46           ), // Padding
47         ); // Container
48       }
49     }
```