LAPORAN PRAKTIKUM

PEMROGRAMAN PERANGKAT BERGERAK

MODUL 12

API PERANGKAT KERAS

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PROGRAM STUDI S1 SOFTWARE ENGINEERING

FAKULTAS INFORMATIKA

TELKOM UNIVERSITY PURWOKERTO

2024

A. GUIDED

Codingan

homepage.dart

```dart
import 'package:flutter/material.dart';
import 'package:google_maps_flutter/google_maps_flutter.dart';

class MapsScreen extends StatefulWidget {
  @override
  _MapsScreenState createState() => _MapsScreenState();
}

class _MapsScreenState extends State<MapsScreen> {
  static final LatLng _kMapCenter =
      LatLng(19.018255973653343, 72.84793849278007);
  static final CameraPosition _kInitialPosition = CameraPosition(
    target: _kMapCenter,
    zoom: 11.0,
  );
  @override
  Widget build(BuildContext context) {
    return Scaffold(
      appBar: AppBar(
        title: Text('Google Maps Demo'),
      ),
      body: GoogleMap(
        initialCameraPosition: _kInitialPosition,
        myLocationEnabled: true,
      ),
    );
  }
}
```

main.dart

```dart
import 'package:flutter/material.dart';
import 'package:pertemuan12/homepage.dart';

void main() {
  runApp(const MyApp());
}

class MyApp extends StatelessWidget {
  const MyApp({super.key});

  // This widget is the root of your application.
  @override
  Widget build(BuildContext context) {
    return MaterialApp(
      title: 'Flutter Demo',
      theme: ThemeData(
        colorScheme: ColorScheme.fromSeed(seedColor: Colors.deepPurple),
        useMaterial3: true,
      ),
```

```
      home: MapsScreen(),
    );
  }
}
```

Deskripsi Program

Kode ini pakai widget **GoogleMap** dari paket **google_maps_flutter** buat nampilin peta. Posisi awal kameranya diatur sama konstanta _kInitialPosition dengan zoom level 11. Ada dua marker yang ditambahin lewat metode _createMarker, masing-masing punya lokasi, ID, dan InfoWindow yang nunjukin judul. Fitur buat nampilin lokasi pengguna juga aktif dengan set myLocationEnabled: true. Peta ini dibungkus dalam widget **Expanded**, jadi tampilannya fleksibel sesuai ukuran layar. Markernya ada di posisi yang udah ditentuin, jadi bisa jadi patokan di peta.

B. UNGUIDED

Code

```
import 'dart:convert';
import 'package:flutter/material.dart';
import 'package:google_maps_flutter/google_maps_flutter.dart';
import 'package:place_picker_google/place_picker_google.dart'; // Pastikan ini versi
terbaru
import 'package:http/http.dart' as http;

void main() {
  runApp(MyApp());
}

class MyApp extends StatelessWidget {
  @override
  Widget build(BuildContext context) {
    return MaterialApp(
      debugShowCheckedModeBanner: false,
      home: MapsScreen(),
    );
  }
}

class MapsScreen extends StatefulWidget {
  @override
  _MapsScreenState createState() => _MapsScreenState();
}

class _MapsScreenState extends State<MapsScreen> {
  static const String apiKey =
      'AIzaSyCcgQMxcxRNqGTzL1shPmHq8CGKYsg80Qc'; // Ganti dengan API key Anda
  static final LatLng _kInitialLocation =
      LatLng(19.018255973653343, 72.84793849278007);
```

```dart
LatLng? _pickedLocation;
GoogleMapController? _mapController;
List<dynamic> _nearbyPlaces = [];
bool _showNearbyPlaces = false; // Flag untuk kontrol tampilan lokasi terdekat

// Fetch nearby places
Future<void> _fetchNearbyPlaces(LatLng location) async {
  final url = Uri.parse(
    'https://maps.googleapis.com/maps/api/place/nearbysearch/json'
    '?location=${location.latitude},${location.longitude}'
    '&radius=1500'
    '&key=$apiKey',
  );

  final response = await http.get(url);
  if (response.statusCode == 200) {
    final data = json.decode(response.body);
    print("Nearby places response: $data"); // Debugging Response
    setState(() {
      if (data['results'] != null && data['results'].isNotEmpty) {
        _nearbyPlaces = data['results'];
        _showNearbyPlaces = true;
      } else {
        _showNearbyPlaces = false; // Menangani kasus jika tidak ada tempat
      }
    });
  } else {
    throw Exception('Failed to fetch nearby places');
  }
}

// Navigate to Place Picker
Future<void> _pickPlace() async {
  Navigator.push(
    context,
    MaterialPageRoute(
      builder: (context) => PlacePicker(
        apiKey: apiKey,
        initialLocation:
            _kInitialLocation, // Gunakan initialPosition yang benar
        onPlacePicked: (result) {
          Navigator.of(context).pop();
          setState(() {
            _pickedLocation = LatLng(
              result.geometry!.location.lat,
              result.geometry!.location.lng,
            );
          });
        },
      ),
    ),
  );
}
```

```dart
@override
Widget build(BuildContext context) {
  return Scaffold(
    appBar: AppBar(
      title: Text('Place Picker Demo'),
      actions: [
        IconButton(
          icon: Icon(Icons.search),
          onPressed: _pickPlace,
        ),
      ],
    ),
    body: Stack(
      children: [
        GoogleMap(
          initialCameraPosition: CameraPosition(
            target: _kInitialLocation,
            zoom: 11.0,
          ),
          onMapCreated: (controller) {
            _mapController = controller;
          },
          onTap: (LatLng location) {
            setState(() {
              _pickedLocation = location;
            });
          },
          markers: _pickedLocation == null
              ? {}
              : {
                  Marker(
                    markerId: MarkerId('picked-location'),
                    position: _pickedLocation!,
                  ),
                },
        ),
        if (_pickedLocation != null)
          Positioned(
            bottom: 100,
            left: 10,
            right: 10,
            child: ElevatedButton(
              onPressed: () async {
                if (_pickedLocation != null) {
                  await _fetchNearbyPlaces(_pickedLocation!);
                }
              },
              child: Text('Show Nearby Places'),
            ),
          ),
        if (_showNearbyPlaces)
          Positioned(
```

```
              bottom: 10,
              left: 10,
              right: 10,
              child: Container(
                height: 250, // Sesuaikan dengan tinggi yang diinginkan
                child: ListView.builder(
                  itemCount: _nearbyPlaces.length,
                  itemBuilder: (context, index) {
                    final place = _nearbyPlaces[index];
                    return ListTile(
                      title: Text(place['name']),
                      subtitle: Text(place['vicinity'] ?? ''),
                    );
                  },
                ),
              ),
            ),
        ],
      ),
    );
  }
}

extension on LocationResult {
  get geometry => null;
}
```

Output

Deskripsi Program

Kode ini pakai widget **GoogleMap** dari paket **google_maps_flutter** buat nampilin peta. Posisi awal kameranya diatur sama konstanta _kInitialPosition dengan zoom level 11. Ada dua marker yang ditambahin lewat metode _createMarker, masing-masing punya lokasi, ID, dan InfoWindow yang nunjukin judul. Fitur buat nampilin lokasi pengguna juga aktif dengan set myLocationEnabled: true. Peta ini dibungkus dalam widget **Expanded**, jadi tampilannya fleksibel sesuai ukuran layar. Markernya ada di posisi yang udah ditentuin, jadi bisa jadi patokan di peta.