

MODUL PRAKTIK

Menampilkan koordinat latitude dan longitude secara real-time :

- Buat projek baru
- Tambahkan plugin pada file "pubspec.yaml":

```
dependencies:  
  flutter:  
    sdk: flutter  
  geolocator:
```

- Ketik code/script berikut pada file "main.dart" yang ada pada folder "lib" :

```
import 'package:flutter/material.dart';  
import 'package:geolocator/geolocator.dart';  
  
void main() {  
  runApp(const MyApp());  
}  
  
class MyApp extends StatelessWidget {  
  const MyApp({super.key});  
  @override  
  Widget build(BuildContext context) {  
    return MaterialApp(  
      title: 'Geolocator Demo',  
      home: const LocationPage(),  
      debugShowCheckedModeBanner: false,  
    );  
  }  
}  
  
class LocationPage extends StatefulWidget {  
  const LocationPage({super.key});  
  
  @override  
  State<LocationPage> createState() => _LocationPageState();  
}  
  
class _LocationPageState extends State<LocationPage> {  
  String locationMessage = "Tekan tombol untuk mendapatkan lokasi";  
  
  Future<void> _getCurrentLocation() async {  
    bool serviceEnabled;  
    LocationPermission permission;  
  
    // Cek apakah GPS aktif  
    serviceEnabled = await Geolocator.isLocationServiceEnabled();  
    if (!serviceEnabled) {  
      setState(() {  
        locationMessage = "Layanan lokasi tidak aktif.";  
      });  
    }  
  }  
}
```

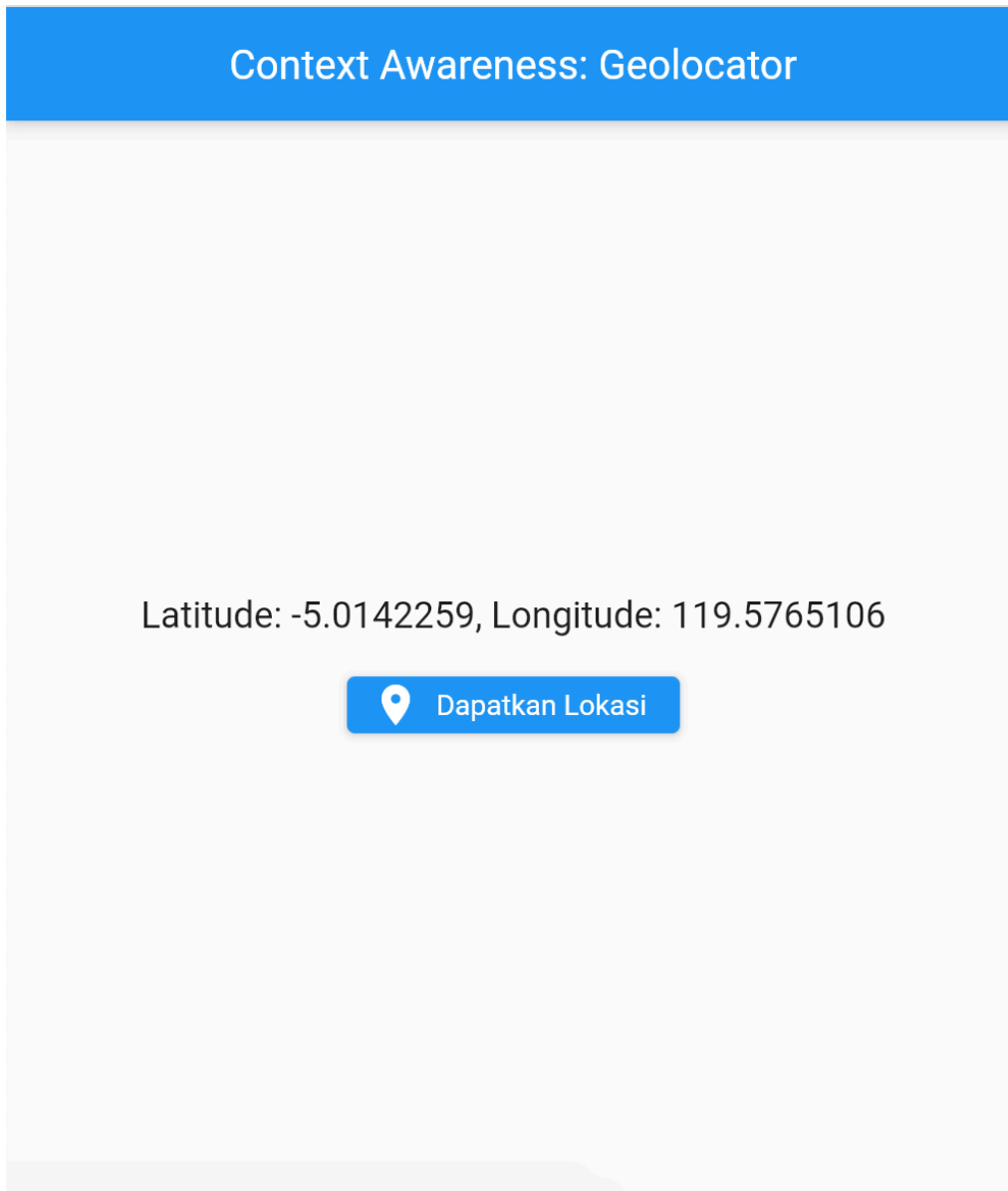
```

-     });
-     return;
- }
-
- // Cek dan minta izin lokasi
- permission = await Geolocator.checkPermission();
- if (permission == LocationPermission.denied) {
-   permission = await Geolocator.requestPermission();
-   if (permission == LocationPermission.denied) {
-     setState(() {
-       locationMessage = "Izin lokasi ditolak.";
-     });
-     return;
-   }
- }
-
- if (permission == LocationPermission.deniedForever) {
-   setState(() {
-     locationMessage = "Izin lokasi ditolak permanen.";
-   });
-   return;
- }
-
- // Dapatkan posisi
- final position = await Geolocator.getCurrentPosition(
-   desiredAccuracy: LocationAccuracy.high);
-
- setState(() {
-   locationMessage =
-     "Latitude: ${position.latitude}, Longitude:
- ${position.longitude}";
- });
- }
-
- @override
- Widget build(BuildContext context) {
-   return Scaffold(
-     appBar: AppBar(title: const Text("Context Awareness: Geolocator")),
-     body: Center(
-       child: Column(
-         mainAxisAlignment: MainAxisAlignment.center,
-         children: [
-           Text(locationMessage,
-             textAlign: TextAlign.center,
-             style: const TextStyle(fontSize: 18)),
-           const SizedBox(height: 20),
-           ElevatedButton.icon(
-             onPressed: _getCurrentLocation,
-             icon: const Icon(Icons.location_on),
-             label: const Text("Dapatkan Lokasi"),
-           ),
-         ],
-       ),
-     ),
-   );
- }

```

```
- ] ,  
- ) ,  
- ) ,  
- ) ;  
- }  
- }
```

- Silahkan jalankan aplikasi dengan perintah : flutter run
- Hasil yang diharapkan :



Menampilkan koordinat latitude dan longitude secara real-time, dan menghitung jarak pengguna dari kampus

- Buat proyek baru
- Tambahkan plugin pada file "pubspec.yaml":

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- Ketik code/script berikut pada file "main.dart" yang ada pada folder "lib" :

```
import 'package:flutter/material.dart';  
import 'package:geolocator/geolocator.dart';  
  
void main() {  
  runApp(const MyApp());  
}  
  
class MyApp extends StatelessWidget {  
  const MyApp({super.key});  
  
  @override  
  Widget build(BuildContext context) {  
    return MaterialApp(  
      title: 'Context Awareness: Geolocator',  
      theme: ThemeData(primarySwatch: Colors.indigo),  
      home: const LocationAwareApp(),  
      debugShowCheckedModeBanner: false,  
    );  
  }  
}  
  
class LocationAwareApp extends StatefulWidget {  
  const LocationAwareApp({super.key});  
  
  @override  
  State<LocationAwareApp> createState() => _LocationAwareAppState();  
}  
  
class _LocationAwareAppState extends State<LocationAwareApp> {  
  String locationMessage = "Belum ada data lokasi";  
  double? distance;  
  
  // Lokasi kampus (contoh: Universitas Negeri Makassar)  
  final double campusLat = -5.146523;  
  final double campusLon = 119.423791;  
  
  Future<void> _getLocation() async {  
    bool serviceEnabled;  
    LocationPermission permission;
```

```

- // Cek layanan GPS
- serviceEnabled = await Geolocator.isLocationServiceEnabled();
- if (!serviceEnabled) {
-     setState(() {
-         locationMessage = "Layanan lokasi tidak aktif.";
-     });
-     return;
- }
-
- // Cek izin
- permission = await Geolocator.checkPermission();
- if (permission == LocationPermission.denied) {
-     permission = await Geolocator.requestPermission();
-     if (permission == LocationPermission.denied) {
-         setState(() {
-             locationMessage = "Izin lokasi ditolak.";
-         });
-         return;
-     }
- }
-
- if (permission == LocationPermission.deniedForever) {
-     setState(() {
-         locationMessage =
-             "Izin lokasi ditolak permanen. Buka pengaturan untuk
mengizinkan.";
-     });
-     return;
- }
-
- // Dapatkan lokasi saat ini
- Position position = await Geolocator.getCurrentPosition(
-     desiredAccuracy: LocationAccuracy.high,
- );
-
- // Hitung jarak ke kampus
- double jarak = Geolocator.distanceBetween(
-     position.latitude,
-     position.longitude,
-     campusLat,
-     campusLon,
- );
-
- setState(() {
-     locationMessage =
-         "Latitude: ${position.latitude}\nLongitude:
${position.longitude}";
-     distance = jarak;
- });
- }
-

```

```

- @override
- Widget build(BuildContext context) {
-   return Scaffold(
-     appBar: AppBar(
-       title: const Text("Context Awareness: Geolocator"),
-       centerTitle: true,
-     ),
-     body: Center(
-       child: Padding(
-         padding: const EdgeInsets.all(20.0),
-         child: Column(
-           mainAxisAlignment: MainAxisAlignment.center,
-           children: [
-             const Icon(Icons.location_on, color: Colors.indigo, size: 70),
-             const SizedBox(height: 20),
-             Text(
-               locationMessage,
-               textAlign: TextAlign.center,
-               style: const TextStyle(fontSize: 16),
-             ),
-             const SizedBox(height: 10),
-             if (distance != null)
-               Text(
-                 "Jarak ke Kampus: ${distance!.toStringAsFixed(2)} meter",
-                 style: const TextStyle(
-                   fontSize: 18, fontWeight: FontWeight.bold),
-               ),
-             const SizedBox(height: 30),
-             ElevatedButton.icon(
-               onPressed: _getLocation,
-               icon: const Icon(Icons.my_location),
-               label: const Text("Dapatkan Lokasi"),
-             ),
-           ],
-         ),
-       ),
-     ),
-   );
- }

```

- Silahkan jalankan aplikasi dengan perintah : flutter run