

**TUGAS PENDAHULUAN  
PEMROGRAMAN PERANGKAT BERGERAK**

**MODUL VI  
INTERAKSI PENGGUNA**



**Disusun Oleh :**

**GANES GEMI PUTRA / 2311104075**

**S1SE-07-02**

**Asisten Praktikum :**

**Yoga Eka Pratama**

**Zulfa Mustafa Akhyar Iswahyud**

**Dosen Pengampu :**

**Yudha Islami Sulistya, S.Kom., M.Cs.**

**PROGRAM STUDI S1 SOFTWARE ENGINEERING**

**FAKULTAS INFORMATIKA**

**TELKOM UNIVERSITY PURWOKERTO**

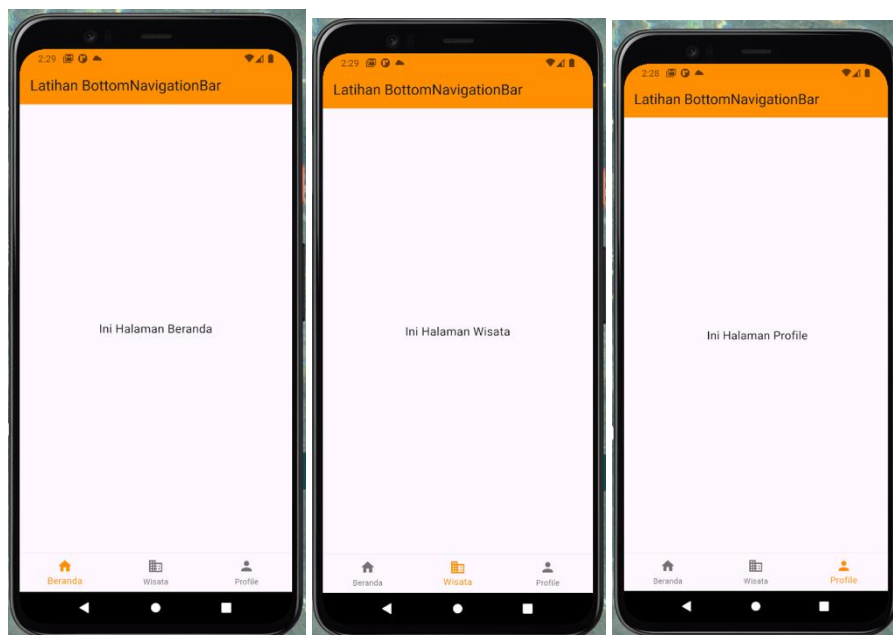
**2025**

## TUGAS PENDAHULUAN

### A. SOAL NOMOR 1

- a) Pada tugas pendahuluan ini, buat project Flutter baru
- b) Implementasi Bottom Navigation Bar:
  - Tambahkan BottomNavigationBar pada halaman aplikasi.
  - BottomNavigationBar memiliki 3 item menu dengan label: "Home", "Wisata", dan "Profil".
  - Setiap kali memilih salah satu menu di BottomNavigationBar, halaman yang ditampilkan berubah sesuai menu yang dipilih.
  - Home: Menampilkan teks "Ini adalah halaman Home".
  - Wisata: Menampilkan teks "Ini adalah halaman Wisata".
  - Profile: Menampilkan teks "Ini adalah halaman Profil".
- c) Referensi
  - Website : <https://api.flutter.dev/flutter/material/BottomNavigationBar-class.html>
  - Youtube : [https://www.youtube.com/watch?v=xKeyCJgK\\_MM](https://www.youtube.com/watch?v=xKeyCJgK_MM)

### Contoh Output



## Source code

### Main.dart :

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

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

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

  @override
  Widget build(BuildContext context) {
    return MaterialApp(
      debugShowCheckedModeBanner: false,
      theme: ThemeData(
        fontFamily: 'Poppins',
        primarySwatch: Colors.blue,
      ),
      home: const MyHomePage(),
    );
  }
}

class MyHomePage extends StatefulWidget {
  const MyHomePage({super.key});

  @override
  State<MyHomePage> createState() => _MyHomePageState();
}

class _MyHomePageState extends State<MyHomePage> {
  int _selectedIndex = 0;
```

*// Warna untuk setiap halaman*

```
final List<Color> _pageColors = [  
    const Color(0xFF2196F3), // Biru untuk Beranda  
    const Color(0xFF4CAF50), // Hijau untuk Wisata  
    const Color(0xFF9C27B0), // Ungu untuk Profile  
];
```

```
final List<Widget> _pages = [
```

*// Halaman Beranda*

```
    _buildPageContent(  
        title: 'Latihan BottomNavigationBar',  
        time: '22.0',  
        content: 'Ini Halaman Beranda',  
        color: Color(0xFF2196F3),  
        lightColor: Color(0xFFE3F2FD),  
    ),
```

*// Halaman Wisata*

```
    _buildPageContent(  
        title: 'Latihan BottomNavigationBar',  
        time: '22.8',  
        content: 'Ini Halaman Wisata',  
        color: Color(0xFF4CAF50),  
        lightColor: Color(0xFFE8F5E8),  
    ),
```

*// Halaman Profile*

```
    _buildPageContent(  
        title: 'Latihan BottomNavigationBar',  
        time: '22.8',  
        content: 'Ini Halaman Profile',
```

```

        color: Color(0xFF9C27B0),
        lightColor: Color(0xFFFF3E5F5),
    ),
];

static Widget _buildPageContent({
    required String title,
    required String time,
    required String content,
    required Color color,
    required Color lightColor,
}) {
    return Scaffold(
        backgroundColor: Colors.white,
        body: SafeArea(
            child: Padding(
                padding: const EdgeInsets.all(20.0),
                child: Column(
                    crossAxisAlignment: CrossAxisAlignment.start,
                    children: [
                        // Header dengan title dan time
                        Row(
                            mainAxisAlignment: MainAxisAlignment.spaceBetween,
                            children: [
                                Text(
                                    title,
                                    style: const TextStyle(
                                        fontSize: 18,
                                        fontWeight: FontWeight.w600,
                                        color: Colors.black87,
                                    ),
                                ),
                                Text(

```

```
time,  
style: TextStyle(  
  fontSize: 14,  
  fontWeight: FontWeight.w500,  
  color: Colors.grey[600],  
),  
,  
],  
),
```

```
const SizedBox(height: 8),
```

```
// Garis pemisah
```

```
Container(  
  height: 1,  
  color: Colors.grey[300],  
),
```

```
const SizedBox(height: 20),
```

```
// Konten utama
```

```
Text(  
  title,  
  style: const TextStyle(  
    fontSize: 16,  
    fontWeight: FontWeight.w400,  
    color: Colors.black54,  
  ),  
,
```

```
const SizedBox(height: 30),
```

```
// Container dengan warna
```

```

Container(
  width: double.infinity,
  padding: const EdgeInsets.symmetric(vertical: 40, horizontal: 20),
  decoration: BoxDecoration(
    color: lightColor,
    borderRadius: BorderRadius.circular(12),
    border: Border.all(
      color: color.withValues(alpha: 0.3),
      width: 1,
    ),
  ),
  child: Column(
    children: [
      Icon(
        _getIconForContent(content),
        size: 40,
        color: color,
      ),
      const SizedBox(height: 12),
      Text(
        content,
        style: TextStyle(
          fontSize: 20,
          fontWeight: FontWeight.w600,
          color: color,
        ),
        textAlign: TextAlign.center,
      ),
    ],
  ),
),

const Spacer(),

```

```

        // Footer text
const Center(
  child: Text(
    'Flutter BottomNavigationBar Example',
    style: TextStyle(
      fontSize: 12,
      color: Colors.grey,
      fontStyle: FontStyle.italic,
    ),
  ),
),
),
],
),
),
),
),
);
}

static IconData _getIconForContent(String content) {
  if (content.contains('Beranda')) return Icons.home;
  if (content.contains('Wisata')) return Icons.explore;
  if (content.contains('Profile')) return Icons.person;
  return Icons.help;
}

void _onItemTapped(int index) {
  setState(() {
    _selectedIndex = index;
  });
}

@override

```



```

Widget build(BuildContext context) {
  return Scaffold(
    body: _pages[_selectedIndex],
    bottomNavigationBar: Container(
      decoration: BoxDecoration(
        boxShadow: [
          BoxShadow(
            color: Colors.black.withValues(alpha: 0.1),
            blurRadius: 10,
            offset: const Offset(0, -2),
          ),
        ],
      ),
    child: BottomNavigationBar(
      backgroundColor: Colors.white,
      selectedItemColor: _pageColors[_selectedIndex],
      unselectedItemColor: Colors.grey[600],
      currentIndex: _selectedIndex,
      onTap: _onItemTapped,
      elevation: 0,
      type: BottomNavigationBarType.fixed,
      selectedLabelStyle: const TextStyle(
        fontWeight: FontWeight.w500,
        fontSize: 12,
      ),
      unselectedLabelStyle: const TextStyle(
        fontWeight: FontWeight.w400,
        fontSize: 12,
      ),
      items: const [
        BottomNavigationBarItem(
          icon: Icon(Icons.home_outlined),
          activeIcon: Icon(Icons.home),

```

```

        label: 'Beranda',
      ),
      BottomNavigationBarItem(
        icon: Icon(Icons.explore_outlined),
        activeIcon: Icon(Icons.explore),
        label: 'Wisata',
      ),
      BottomNavigationBarItem(
        icon: Icon(Icons.person_outlined),
        activeIcon: Icon(Icons.person),
        label: 'Profile',
      ),
    ],
  ),
),
);
}
}

```

widget\_test.dart :

```

// This is a basic Flutter widget test.
//
// To perform an interaction with a widget in your test, use the WidgetTester
// utility in the flutter_test package. For example, you can send tap and scroll
// gestures. You can also use WidgetTester to find child widgets in the widget
// tree, read text, and verify that the values of widget properties are correct.

import 'package:flutter/material.dart';
import 'package:flutter_test/flutter_test.dart';

```

```
import 'package:advancelayout/main.dart';

void main() {
  testWidgets('BottomNavigationBar navigation test', (WidgetTester tester)
  async {
    // Build our app and trigger a frame.
    await tester.pumpWidget(const MyApp());

    // Verify that the initial page is Beranda
    expect(find.text('Ini Halaman Beranda'), findsOneWidget);
    expect(find.text('Ini Halaman Wisata'), findsNothing);
    expect(find.text('Ini Halaman Profile'), findsNothing);

    // Tap the Wisata tab
    await tester.tap(find.byIcon(Icons.explore_outlined));
    await tester.pump();

    // Verify that the page changed to Wisata
    expect(find.text('Ini Halaman Beranda'), findsNothing);
    expect(find.text('Ini Halaman Wisata'), findsOneWidget);
    expect(find.text('Ini Halaman Profile'), findsNothing);

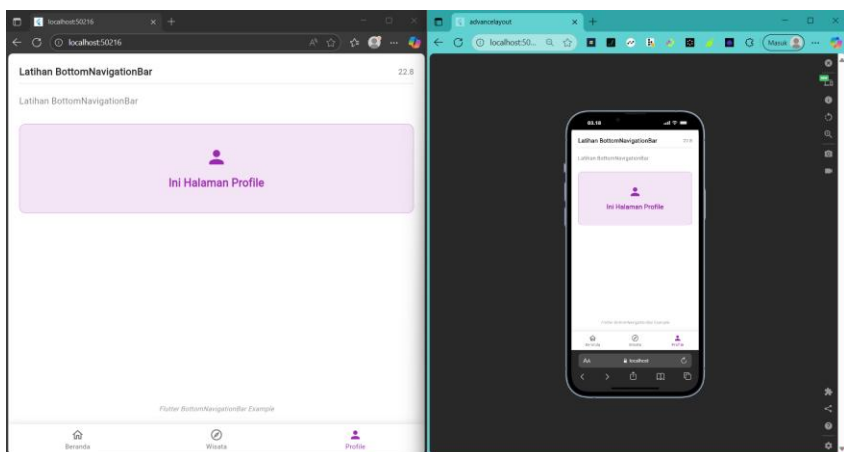
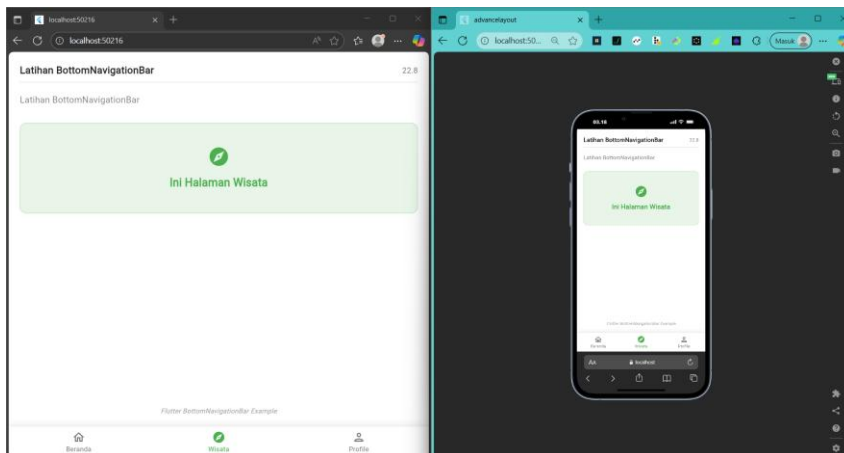
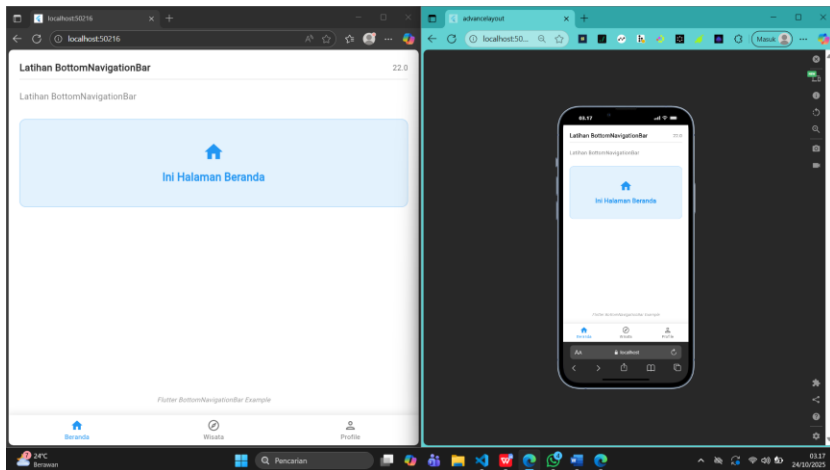
    // Tap the Profile tab
    await tester.tap(find.byIcon(Icons.person_outlined));
    await tester.pump();

    // Verify that the page changed to Profile
    expect(find.text('Ini Halaman Beranda'), findsNothing);
    expect(find.text('Ini Halaman Wisata'), findsNothing);
    expect(find.text('Ini Halaman Profile'), findsOneWidget);
  });
}
```

## Screenshoot Output

```
OUTPUT  DEBUG CONSOLE  TERMINAL  PORTS
PS D:\VPSB_231104075_GAMES_GEMPUTRA\06_Interaksi_Pengguna\IP\advanceLayout> flutter run
• Hot reload.
• Hot restart.
• List all available interactive commands.
• Detach (terminate "flutter run" but leave application running).
• Clear the screen.
• Quit (terminate the application on the device).

A Dart VM Service on Edge is available at: http://127.0.0.1:57650/5jchdF3K6a=
Starting application from main method in: org.dartlang-app:web.entrypoint.dart.
The Flutter DevTools debugger and profiler on Edge is available at: http://127.0.0.1:9102?uri=http://127.0.0.1:57650/5jchdF3K6a=
```



## Deskripsi Program :

### Deskripsi Program: Aplikasi Flutter BottomNavigationBar

**Nama Aplikasi:** advancelayout

**Platform:** Flutter (Cross-platform: Android, iOS, Web, Desktop)

**Bahasa Pemrograman:** Dart

**Framework:** Flutter SDK ^3.9.2

### Fungsi Utama:

Aplikasi ini adalah contoh implementasi BottomNavigationBar di Flutter dengan 3 halaman utama:

- **Beranda** (Home): Halaman utama dengan konten berwarna biru
- **Wisata** (Explore): Halaman wisata dengan konten berwarna hijau
- **Profile**: Halaman profil dengan konten berwarna ungu

### Fitur:

1. **Navigasi BottomNavigationBar:** Navigasi antar halaman dengan ikon dan label
2. **UI Dinamis:** Setiap halaman memiliki warna tema yang berbeda
3. **Responsive Design:** Layout yang menyesuaikan dengan berbagai ukuran layar
4. **Modern UI:** Menggunakan Material Design dengan shadow dan animasi

### Struktur Kode:

- lib/main.dart: Kode utama aplikasi dengan implementasi BottomNavigationBar
- test/widget\_test.dart: Test otomatis untuk memverifikasi fungsi navigasi
- pubspec.yaml: Konfigurasi dependencies dan metadata aplikasi

### Cara Kerja:

1. Aplikasi dimulai dengan halaman Beranda sebagai default
2. User dapat menekan tab di BottomNavigationBar untuk berpindah halaman
3. Setiap halaman menampilkan konten dengan warna dan ikon yang berbeda

4. `BottomNavigationBar` mengubah warna aktif sesuai halaman yang dipilih

#### **Teknologi yang Digunakan:**

- **Flutter:** Framework UI untuk membuat aplikasi cross-platform
- **Dart:** Bahasa pemrograman utama
- **Material Design:** Sistem desain dari Google
- **Widget Testing:** Framework testing untuk Flutter

Aplikasi ini cocok digunakan sebagai contoh pembelajaran implementasi

`BottomNavigationBar` di Flutter atau sebagai template untuk aplikasi mobile dengan navigasi tab.