Fakultas Informatika

D:\Matkul Semester 7\ASPRAK - PPB - RPL - Mas Yudha\
lengkap-utama.png

Telkom University

PEMROGRAMAN PERANGKAT BERGERAK

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PRAKTIKUM 7 :

NAVIGASI DAN NOTIFIKASI

Telkom
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NAVIGASI DAN NOTIFIKASI

Tujuan Praktikum
Mahasiswa mampu memahami konsep layout pada Flutter
Mahasiswa dapat mengimplementasikan desain user interface pada Flutter

1. Model

Pada umumnya, hampir seluruh aplikasi yang dibuat akan bekerja dengan data. Data dalam sebuah aplikasi memiliki sangat banyak bentuk, tergantung dari aplikasi yang dibuat. Setiap data yang diterima atau dikirimkan akan lebih baik apabila memiliki standar yang sama. Hampir mustahil melakukan peneliharaan *project* yang kompleks tanpa model.

GUIDED

Main.dart

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

import 'package:praktikum_7/pages/mypage.dart';

import 'package:praktikum_7/systems/local_notifications.dart';


void main() async {

  WidgetsFlutterBinding.ensureInitialized(); // Inisialisasi Flutter binding

  await LocalNotifications.init(); // Inisialisasi notifikasi lokal

  runApp(const MyApp()); // Menjalankan aplikasi

}


class MyApp extends StatelessWidget {

  const MyApp({super.key});


  @override

  Widget build(BuildContext context) {
```

```dart
    return MaterialApp(
      title: 'Flutter Demo',
      theme: ThemeData(
        primaryColor: const Color(0xFF952491), // Warna utama aplikasi
        colorScheme: ColorScheme.fromSeed(
          seedColor: const Color(0xFF952491),
        ),
        useMaterial3: true,
      ),
      home: const MyPage(),
    );
  }
}
```

MY.Page.dart

```dart
import 'package:flutter/material.dart';
import 'package:praktikum_7/models/product.dart';
import 'package:praktikum_7/pages/detailpage.dart';

class MyPage extends StatelessWidget {
  MyPage({super.key});

  final List<Product> products = [
    Product(
      id: 1,
      nama: 'Mouse Gaming',
      harga: 300000.00,
      gambarUrl:
          'https://resource.logitechg.com/w_386,ar_1.0,c_limit,f_auto,q_auto,dpr_2.0/d_transparent.gif/content/dam/gaming/en/products/g502x-plus/gallery/g502x-plus-gallery-1-black.png?v=1',
```

```
      deskripsi: 'Mouse gaming kualitas lumayan'),
  Product(
    id: 2,
    nama: 'Keyboard Kantor',
    harga: 150000.00,
    gambarUrl:
      'https://resource.logitech.com/w_1600,c_limit,q_auto,f_auto,dpr_1.0/d_transparent.gif/cont
ent/dam/logitech/en/products/keyboards/mx-mechanical/gallery/mx-mechanical-keyboard-top-
view-graphite-us.png?v=1&quot%27',
    deskripsi: 'Untuk kebutuhan profesional dengan harga terjangkau'),
  Product(
    id: 3,
    nama: 'Headset Gaming',
    harga: 249000.00,
    gambarUrl:
      'https://m.media-amazon.com/images/I/61CGHv6kmWL.AC_UF894,1000_QL80.jpg',
    deskripsi: 'Sensasi nyaman dengan suara jernih'),
  Product(
    id: 4,
    nama: 'Flashdisk 64GB',
    harga: 140000.00,
    gambarUrl:
      'https://www.bhphotovideo.com/cdn-cgi/image/fit=scale-
down,width=500,quality=95/https://www.bhphotovideo.com/images/images500x500/sandisk_sdcz7
3_064g_a46_64gb_ultra_flair_usb_1448799616_1203371.jpg',
    deskripsi: 'Penyimpanan besar dengan harga terjangkau'),
  Product(
    id: 5,
    nama: 'TWS M10',
    harga: 45000.00,
    gambarUrl:
      'https://res.cloudinary.com/pusatroxymas/image/upload/w_1024/v1696922978/prod_mprod
ucts/chxx390574_/2023/fpb_231010_ba4d08af-06a4-435c-ae1b-d0f58089857f.jpg.jpg',
```

```dart
      deskripsi: 'Hf tws M10 bluetooth'),
];


@override
Widget build(BuildContext context) {
  return Scaffold(
    appBar: AppBar(
      title: Text('Class Model'),
      centerTitle: true,
      backgroundColor: Color(0xFF952491), // Warna header
    ),
    body: ListView.builder(
      itemCount: products.length,
      itemBuilder: (context, index) {
        final product = products[index];
        return Container(
          margin:
            EdgeInsets.symmetric(vertical: 5.0), // Margin antar ListTile
          child: ListTile(
            tileColor: Color(0xFF632B30),
            leading: Container(
              color: Color(0xFFFEF250), // Background foto produk
              child: Image.network(
                product.gambarUrl,
                width: 70,
                height: 70,
              ),
            ),
            title: Text(
              product.nama,
              style: TextStyle(color: Color(0xFFE6AF2E)), // Teks judul produk
```

```
          ),
        subtitle: Column(
          crossAxisAlignment: CrossAxisAlignment.start,
          children: [
            Text(
              'Rp${product.harga}',
              style: TextStyle(color: Color(0xFFFEF250)), // Teks harga
            ),
            Text(
              product.deskripsi,
              style: TextStyle(
                color: Color(0xFFE7EB90)), // Teks deskripsi produk
            ),
          ],
        ),
        onTap: () {
          Navigator.push(
            context,
            MaterialPageRoute(
              builder: (_) => DetailPage(product: product),
            ),
          );
        },
      ),
    );
  }
}
```

Local.notification.dart

```dart
import 'package:flutter_local_notifications/flutter_local_notifications.dart';

class LocalNotifications {
  static final FlutterLocalNotificationsPlugin
      _flutterLocalNotificationsPlugin = FlutterLocalNotificationsPlugin();

  // Inisialisasi Notifikasi Lokal
  static Future init() async {
    AndroidInitializationSettings initializationSettingsAndroid =
        AndroidInitializationSettings('@mipmap/ic_launcher');
    final DarwinInitializationSettings initializationSettingsDarwin =
        DarwinInitializationSettings(
      onDidReceiveLocalNotification: (id, title, body, payload) => null,
    );
    final LinuxInitializationSettings initializationSettingsLinux =
        LinuxInitializationSettings(defaultActionName: 'Open notification');
    final InitializationSettings initializationSettings =
        InitializationSettings(
            android: initializationSettingsAndroid,
            iOS: initializationSettingsDarwin,
            linux: initializationSettingsLinux);
    _flutterLocalNotificationsPlugin.initialize(
      initializationSettings,
      onDidReceiveNotificationResponse: (details) => null,
    );
  }

  // Menampilkan notifikasi sederhana
  static Future showSimpleNotification({
    required String title,
```

```dart
    required String body,

    required String payload,
  }) async {
    AndroidNotificationDetails androidNotificationDetails =
        AndroidNotificationDetails(
      'your_channel_id', // Ganti dengan ID channel Anda
      'your_channel_name', // Ganti dengan nama channel Anda
      channelDescription: 'your_channel_description', // Deskripsi channel
      importance: Importance.max,
      priority: Priority.high,
      ticker: 'ticker',
      styleInformation: BigTextStyleInformation(
        body, // Teks yang ditampilkan saat diperluas
        contentTitle: title, // Judul notifikasi
        summaryText: 'Tap to see more', // Teks ringkasan
      ),
    );

    NotificationDetails notificationDetails =
        NotificationDetails(android: androidNotificationDetails);

    await _flutterLocalNotificationsPlugin.show(
      0,
      title,
      body,
      notificationDetails,
      payload: payload,
    );
  }
}
```

Detail.page.dart

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

import 'package:praktikum_7/models/product.dart';

import 'package:praktikum_7/systems/local_notifications.dart';


class DetailPage extends StatelessWidget {
  const DetailPage({super.key, required this.product});


  final Product product;


  @override
  Widget build(BuildContext context) {
    return Scaffold(
      appBar: AppBar(
        title: Text('Detail Page'),
        centerTitle: true,
        backgroundColor: Color(0xFF952491), // Warna header
      ),
      body: Center(
        child: Column(
          mainAxisAlignment: MainAxisAlignment.center,
          children: [
            Card(
              margin: EdgeInsets.all(16.0),
              elevation: 4,
              color: Color(0xFF650000), // Background Card
              shape: RoundedRectangleBorder(
                borderRadius: BorderRadius.circular(10), // Sudut tumpul
              ),
              child: Padding(
                padding: const EdgeInsets.all(16.0),
```

```dart
child: Column(
  mainAxisSize: MainAxisSize.min,
  children: [
    Stack(
      alignment: Alignment.center,
      children: [
        Container(
          width: double.infinity,
          height: 150, // Sesuaikan tinggi
          color: Color(0xFFFEF250), // Background untuk gambar
        ),
        Image.network(
          product.gambarUrl,
          width: 150, // Sesuaikan ukuran
          height: 150, // Sesuaikan ukuran
          fit: BoxFit.cover, // Untuk menjaga proporsi gambar
        ),
      ],
    ),
    SizedBox(height: 10),
    Text(
      product.nama,
      style: TextStyle(
        fontSize: 24,
        color: Color(0xFFE6AF2E)), // Teks judul produk
      textAlign: TextAlign.center,
    ),
    Text(
      'Rp${product.harga}',
      style: TextStyle(
        fontSize: 20, color: Color(0xFFFEF250)), // Teks harga
```

```dart
          ),
          Padding(
            padding: const EdgeInsets.all(8.0),
            child: Text(
              product.deskripsi,
              style: TextStyle(
                color: Color(0xFFE7EB90)), // Teks deskripsi produk
            ),
          ),
        ],
      ),
    ),
  ),
),
SizedBox(height: 12),
ElevatedButton(
  onPressed: () {
    LocalNotifications.showSimpleNotification(
      title: product.nama,
      body: 'Harga: Rp${product.harga}\n${product.deskripsi}',
      payload: 'Detail untuk ${product.nama}',
    );
  },
  style: ElevatedButton.styleFrom(
    backgroundColor: Color(0xFF2274A5), // Background tombol
  ),
  child: Text(
    'Tampilkan Notifikasi',
    style: TextStyle(color: Color(0xFFFADF63)), // Teks pada tombol
  ),
),
],
```

```dart
      ),
    ),
  );
 }
}
```

Produc.dart

```dart
class Product {
  final int id;
  final String nama;
  final double harga;
  final String gambarUrl;
  final String deskripsi;

  // Constructor
  Product({
    required this.id,
    required this.nama,
    required this.harga,
    required this.gambarUrl,
    required this.deskripsi,
  });

  // Method untuk mengkonversi JSON => object product
  factory Product.fromJson(Map<String, dynamic> json) {
    return Product(
      id: json['id'],
      nama: json['nama'],
      harga: json['harga'],
```

```dart
      gambarUrl: json['gambarUrl'],

      deskripsi: json['deskripsi'],

    );

  }


  // Method untuk mengkonversi object product => JSON

  Map<String, dynamic> toJson() {

    return {

      'id': id,

      'nama': nama,

      'harga': harga,

      'gambarUrl': gambarUrl,

      'deskripsi': deskripsi,

    };

  }

}
```
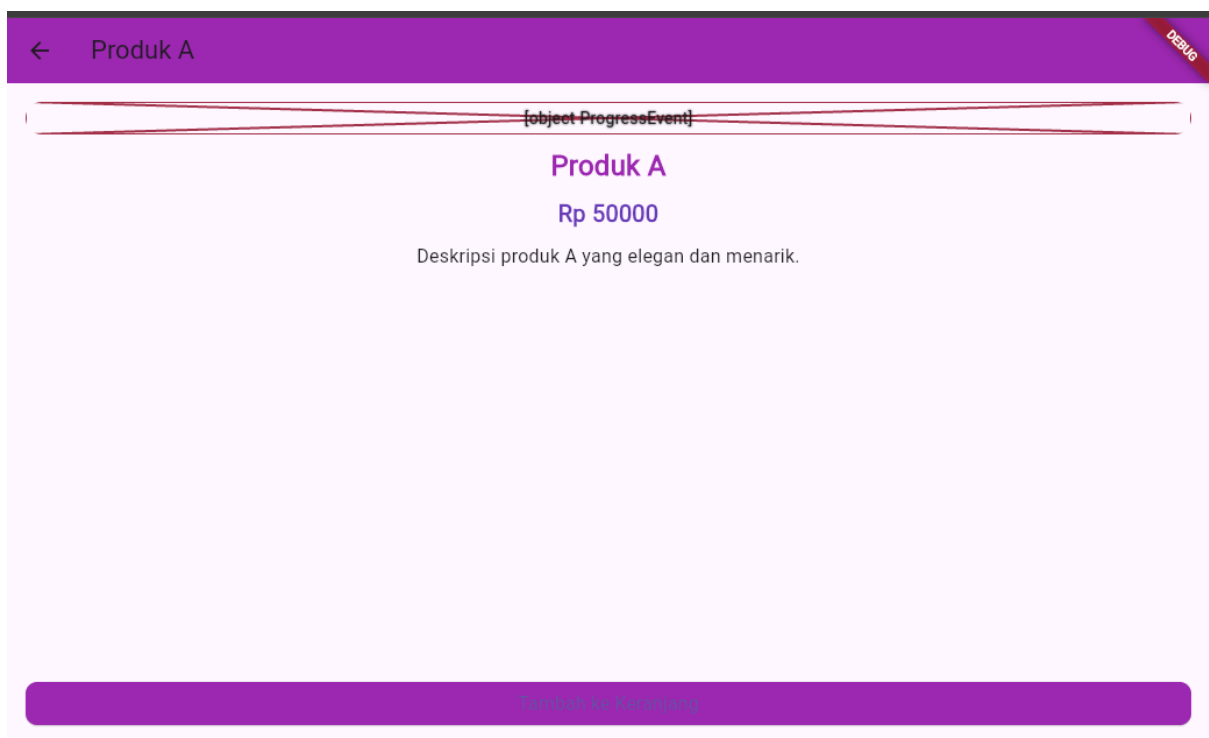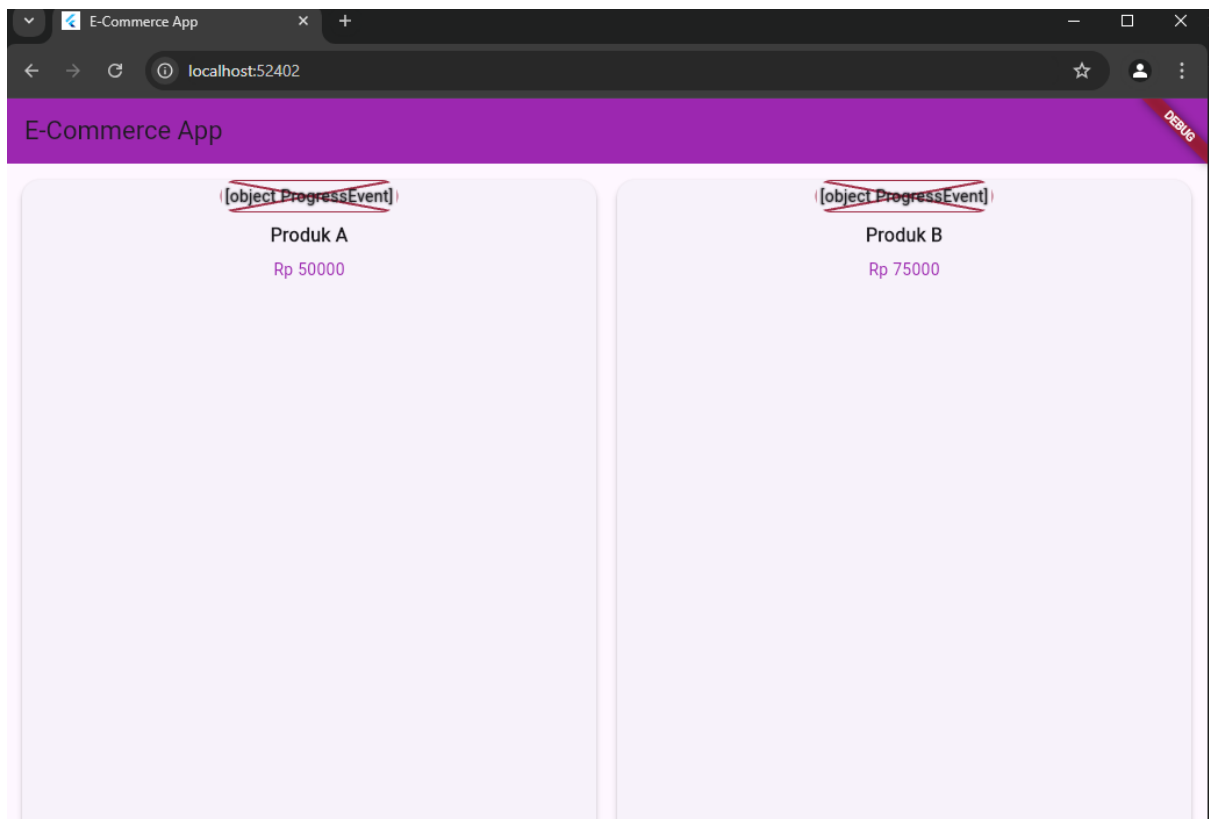
UNGUIDED

1. (Soal) Buatlah satu project untuk menampilkan beberapa produk dan halaman

e-commerce dengan menerapkan class model serta navigasi halaman.

Note: Jangan lupa sertakan source code, screenshoot output, dan deskripsi program. Kreatifitas menjadi nilai tambah.

Source code

Main.dart

```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(
      title: 'E-Commerce App',
      theme: ThemeData(
        primarySwatch: Colors.purple,
        visualDensity: VisualDensity.adaptivePlatformDensity,
      ),
      home: const HomePage(),
    );
  }
}

// Model Produk
class Product {
  final String name;
  final String description;
  final double price;
  final String imageUrl;

  Product({
```

```dart
    required this.name,

    required this.description,

    required this.price,

    required this.imageUrl,

  });
}


// Data Produk
final List<Product> products = [

  Product(

    name: 'Produk A',

    description: 'Deskripsi produk A yang elegan dan menarik.',

    price: 50000,

    imageUrl: 'https://via.placeholder.com/150',

  ),

  Product(

    name: 'Produk B',

    description: 'Produk B dengan kualitas terbaik.',

    price: 75000,

    imageUrl: 'https://via.placeholder.com/150',

  ),

  Product(

    name: 'Produk C',

    description: 'Produk C ini sangat populer di kalangan remaja.',

    price: 65000,

    imageUrl: 'https://via.placeholder.com/150',

  ),

  // Tambahkan produk lainnya sesuai kebutuhan

];


// Halaman Utama
```

```dart
class HomePage extends StatelessWidget {
  const HomePage({super.key});

  @override
  Widget build(BuildContext context) {
    return Scaffold(
      appBar: AppBar(
        title: const Text("E-Commerce App"),
        backgroundColor: Colors.purple,
      ),
      body: GridView.builder(
        padding: const EdgeInsets.all(10),
        gridDelegate: const SliverGridDelegateWithFixedCrossAxisCount(
          crossAxisCount: 2,
          childAspectRatio: 3 / 4,
          crossAxisSpacing: 10,
          mainAxisSpacing: 10,
        ),
        itemCount: products.length,
        itemBuilder: (ctx, i) => GestureDetector(
          onTap: () {
            Navigator.push(
              context,
              MaterialPageRoute(
                builder: (context) => ProductDetailPage(product: products[i]),
              ),
            );
          },
          child: Card(
            elevation: 4,
            shape: RoundedRectangleBorder(
```

```dart
              borderRadius: BorderRadius.circular(15),
            ),
          child: Column(
            children: [
              ClipRRect(
                borderRadius: BorderRadius.circular(15),
                child: Image.network(
                  products[i].imageUrl,
                  height: 120,
                  width: double.infinity,
                  fit: BoxFit.cover,
                ),
              ),
              Padding(
                padding: const EdgeInsets.all(8.0),
                child: Text(
                  products[i].name,
                  style: const TextStyle(fontSize: 16, fontWeight: FontWeight.bold),
                ),
              ),
              Text(
                'Rp ${products[i].price.toString()}',
                style: const TextStyle(color: Colors.purple, fontSize: 14),
              ),
            ],
          ),
        ),
      ),
    );
}
```

```dart
}

// Halaman Detail Produk
class ProductDetailPage extends StatelessWidget {
  final Product product;

  const ProductDetailPage({super.key, required this.product});

  @override
  Widget build(BuildContext context) {
    return Scaffold(
      appBar: AppBar(
        title: Text(product.name),
        backgroundColor: Colors.purple,
      ),
      body: Padding(
        padding: const EdgeInsets.all(16.0),
        child: Column(
          crossAxisAlignment: CrossAxisAlignment.stretch,
          children: [
            ClipRRect(
              borderRadius: BorderRadius.circular(15),
              child: Image.network(
                product.imageUrl,
                height: 200,
                fit: BoxFit.cover,
              ),
            ),
            const SizedBox(height: 10),
            Text(
              product.name,
```

```dart
        style: const TextStyle(
          fontSize: 24,
          fontWeight: FontWeight.bold,
          color: Colors.purple,
        ),
        textAlign: TextAlign.center,
      ),
      const SizedBox(height: 10),
      Text(
        'Rp ${product.price.toString()}',
        style: const TextStyle(
          fontSize: 20,
          color: Colors.deepPurple,
          fontWeight: FontWeight.w600,
        ),
        textAlign: TextAlign.center,
      ),
      const SizedBox(height: 10),
      Text(
        product.description,
        style: const TextStyle(fontSize: 16),
        textAlign: TextAlign.center,
      ),
      const Spacer(),
      ElevatedButton(
        onPressed: () {
          ScaffoldMessenger.of(context).showSnackBar(
            const SnackBar(content: Text('Produk ditambahkan ke keranjang!')),
          );
        },
        style: ElevatedButton.styleFrom(
```

```dart
                backgroundColor: Colors.purple,
                shape: RoundedRectangleBorder(
                  borderRadius: BorderRadius.circular(10),
                ),
                padding: const EdgeInsets.symmetric(vertical: 15),
              ),
              child: const Text(
                'Tambah ke Keranjang',
                style: TextStyle(fontSize: 16),
              ),
            ),
          ],
        ),
      ),
    );
  }
}
```