

MPL EXP 2

Aim: To design Flutter UI by including common widgets

Theory:

Flutter UI is built using widgets, which are the basic building blocks of the application. Widgets in Flutter are classified into two types:

- Stateless Widgets – Do not change state once built. Example: Text, Icon, Container.
- Stateful Widgets – Can change state dynamically. Example: TextField, Checkbox, Switch

Common Widgets in Flutter

1.Container

Used to hold other widgets and apply styling like padding, margin, and decoration.

2.Text

Displays text in the application with different styles.

3.Image

Displays images from assets, network, or memory.

4.Button Widgets

Includes ElevatedButton, TextButton, and OutlinedButton.

5.ListView

Used for displaying a scrollable list of widgets.

6.GridView

Used for displaying a collection of items in a grid format.

Syntax for Common Widgets

1. Container Widget

```
Container(
  width: 200,
  height: 100,
  color: Colors.blue,
  child: Center(
    child: Text('Hello Flutter!', style: TextStyle(color: Colors.white)),
  ),
)
```

2.Text Widget

```
Text(
  'Welcome to Flutter',
  style: TextStyle(fontSize: 20, fontWeight: FontWeight.bold),
)
```

3. Image Widget

```
Image.asset('assets/flutter_logo.png', width: 100, height: 100)
```

4. ElevatedButton Widget

```
ElevatedButton(  
  onPressed: () {  
    print('Button Pressed');  
  },  
  child: Text('Click Me'),  
)
```

5. ListView Widget

```
ListView(  
  children: [  
    ListTile(title: Text('Item 1')),  
    ListTile(title: Text('Item 2')),  
    ListTile(title: Text('Item 3')),  
  ],  
)
```

6. GridView Widget

```
GridView.count(  
  crossAxisCount: 2,  
  children: [  
    Container(color: Colors.red, height: 100),  
    Container(color: Colors.green, height: 100),  
    Container(color: Colors.blue, height: 100),  
    Container(color: Colors.yellow, height: 100),  
  ],  
)
```

Code:

main.dart

```
import 'package:flutter/material.dart';  
import 'package:blinkit/screens/signin_screen.dart';  
import 'package:blinkit/screens/homepage.dart';  
import 'package:blinkit/screens/categories.dart' show CategoriesScreen;  
import 'package:blinkit/screens/bakery_biscuits.dart';  
import 'package:blinkit/screens/otp_screen.dart';
```

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

```
class MyApp extends StatelessWidget {
```

```

@override
Widget build(BuildContext context) {
  return MaterialApp(
    debugShowCheckedModeBanner: false,
    title: 'Grocery App',
    theme: ThemeData(
      primarySwatch: Colors.green,
    ),
    initialRoute: '/',
    routes: {
      '/': (context) => SignInScreen(),
      '/otp': (context) => OTPScreen(),
      '/home': (context) => HomePage(),
      '/categories': (context) => CategoriesScreen(),
      '/bakery_biscuits': (context) => BakeryBiscuitsPage(),
    },
  );
}
}

```

signin_screen.dart

```

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

class SignInScreen extends StatelessWidget {
  const SignInScreen({Key? key}) : super(key: key);

  @override
  Widget build(BuildContext context) {
    return Scaffold(
      backgroundColor: Colors.white,
      body: Stack(
        children: [
          // 📌 Background Image at the Top
          Positioned(
            top: 0,
            left: 0,
            right: 0,
            child: Container(
              width: double.infinity,
              height: MediaQuery.of(context).size.height *
                0.45, // Takes 45% of screen
              decoration: BoxDecoration(
                image: DecorationImage(
                  image: AssetImage("assets/blinkit_onboarding_screen.png"),
                  fit: BoxFit.fitHeight,
                ),
              ),
            ),
          ),
        ],
      ),
    );
  }
}

```

```
),  
),  
),
```

```
// 🍷 Bottom White Login Section
```

```
Positioned(  
  bottom: 0,  
  left: 0,  
  right: 0,  
  child: Container(  
    width: double.infinity,  
    height: MediaQuery.of(context).size.height * 0.55,  
    decoration: BoxDecoration(  
      color: Colors.white,  
      borderRadius: BorderRadius.vertical(top: Radius.circular(20)),  
    ),  
    child: Column(  
      mainAxisAlignment: MainAxisAlignment.min,  
      children: [  
        // Blinkit Logo  
        Image.asset("assets/blinkit_logo.png", height: 50),  
        SizedBox(height: 16),  
  
        // Title  
        Text(  
          "India's last minute app",  
          style: GoogleFonts.lato(  
            fontSize: 20, fontWeight: FontWeight.bold),  
          ),  
        SizedBox(height: 8),  
        Text(  
          "Log in or sign up",  
          style: TextStyle(fontSize: 16, color: Colors.grey[600]),  
        ),  
        SizedBox(height: 20),  
  
        // Mobile Number Input  
        TextField(  
          keyboardType: TextInputType.phone,  
          decoration: InputDecoration(  
            prefixText: "+91 ",  
            hintText: "Enter mobile number",  
            border: OutlineInputBorder(  
              borderRadius: BorderRadius.circular(10)),  
            filled: true,  
            fillColor: Colors.grey[200],  
          ),  
        ),  
      ],  
    ),  
  ),  
),
```

```

        SizedBox(height: 20),

        // Continue Button
        SizedBox(
          width: double.infinity,
          height: 50,
          child: ElevatedButton(
            onPressed: () {
              // Navigate to Home Screen
              Navigator.pushNamed(context, '/otp');
            },
            style: ElevatedButton.styleFrom(
              backgroundColor: Colors.grey[700],
              foregroundColor: Colors.white,
              shape: RoundedRectangleBorder(
                borderRadius: BorderRadius.circular(8)),
            ),
            child: Text("Continue", style: TextStyle(fontSize: 18)),
          ),
        ),

        SizedBox(height: 16),

        // Terms & Conditions
        Text(
          "By continuing, you agree to our Terms of service & Privacy policy",
          textAlign: TextAlign.center,
          style: TextStyle(fontSize: 12, color: Colors.grey[600]),
        ),
      ],
    ),
  ),
],
),
);
}
}

```

otpscreen.dart

```

import 'package:flutter/material.dart';

class OTPScreen extends StatefulWidget {
  @override
  _OTPScreenState createState() => _OTPScreenState();
}

class _OTPScreenState extends State<OTPScreen> {

```

```
final TextEditingController otpController = TextEditingController();
```

```
@override
```

```
Widget build(BuildContext context) {
```

```
  return Scaffold(
```

```
    backgroundColor: Colors.white,
```

```
    body: Padding(
```

```
      padding: const EdgeInsets.all(24.0),
```

```
      child: Column(
```

```
        mainAxisAlignment: MainAxisAlignment.center,
```

```
        crossAxisAlignment: CrossAxisAlignment.center,
```

```
        children: [
```

```
          // Title
```

```
          Text(
```

```
            "Enter OTP",
```

```
            style: TextStyle(fontSize: 22, fontWeight: FontWeight.bold),
```

```
          ),
```

```
          SizedBox(height: 10),
```

```
          // Instructions
```

```
          Text(
```

```
            "We have sent a 6-digit code to your phone number.",
```

```
            textAlign: TextAlign.center,
```

```
            style: TextStyle(fontSize: 16, color: Colors.grey[600]),
```

```
          ),
```

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

```
          // OTP Input Field
```

```
          TextField(
```

```
            controller: otpController,
```

```
            keyboardType: TextInputType.number,
```

```
            textAlign: TextAlign.center,
```

```
            maxLength: 6,
```

```
            style: TextStyle(fontSize: 24, letterSpacing: 8),
```

```
            decoration: InputDecoration(
```

```
              counterText: "",
```

```
              hintText: "-----",
```

```
              hintStyle: TextStyle(fontSize: 24, letterSpacing: 8),
```

```
              border: OutlineInputBorder(
```

```
                borderRadius: BorderRadius.circular(12),
```

```
            ),
```

```
          ),
```

```
        ),
```

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

```
        // Verify Button
```

```
        SizedBox(
```

```
          width: double.infinity,
```



```

Widget build(BuildContext context) {
  return MaterialApp(
    debugShowCheckedModeBanner: false,
    initialRoute: '/home',
    routes: {
      '/home': (context) => HomePage(),
      '/categories': (context) => CategoriesScreen(),
    },
  );
}

```

```

class HomePage extends StatefulWidget {
  @override
  _HomePageState createState() => _HomePageState();
}

```

```

class _HomePageState extends State<HomePage> {
  int _selectedIndex = 0;

```

```

  void _onItemTapped(int index) {
    if (index == 2) {
      Navigator.pushNamed(context, '/categories');
    } else {
      setState(() {
        _selectedIndex = index;
      });
    }
  }
}

```

```

@override
Widget build(BuildContext context) {
  return Scaffold(
    backgroundColor: Colors.white,
    bottomNavigationBar: BottomNavigationBar(
      currentIndex: _selectedIndex,
      selectedItemColor: Colors.green,
      unselectedItemColor: Colors.black,
      showUnselectedLabels: true,
      onTap: _onItemTapped,
      items: [
        BottomNavigationBarItem(icon: Icon(Icons.home), label: "Home"),
        BottomNavigationBarItem(
          icon: Icon(Icons.shopping_bag), label: "Order Again"),
        BottomNavigationBarItem(
          icon: Icon(Icons.category), label: "Categories"),
        BottomNavigationBarItem(icon: Icon(Icons.print), label: "Print"),
      ],

```



```

),
body: SingleChildScrollView(
  child: Column(
    crossAxisAlignment: CrossAxisAlignment.start,
    children: [
      Container(
        color: Colors.yellow[700],
        padding: const EdgeInsets.only(
          top: 50, left: 16, right: 16, bottom: 10),
        child: Column(
          crossAxisAlignment: CrossAxisAlignment.start,
          children: [
            Row(
              children: [
                Icon(Icons.timer, color: Colors.black),
                const SizedBox(width: 5),
                Text(
                  "Blinkit in",
                  style: GoogleFonts.poppins(
                    fontSize: 14, fontWeight: FontWeight.w500),
                ),
                const SizedBox(width: 5),
                Text(
                  "10 minutes",
                  style: GoogleFonts.poppins(
                    fontSize: 18, fontWeight: FontWeight.bold),
                ),
                Spacer(),
                Icon(Icons.shopping_cart, color: Colors.black),
                const SizedBox(width: 10),
                CircleAvatar(
                  backgroundColor: Colors.white,
                  child: Icon(Icons.person, color: Colors.black),
                ),
              ],
            ),
            const SizedBox(height: 5),
            Text(
              "HOME - Ria Chaudhari, 202, Coral Nirmal ▼",
              style: GoogleFonts.poppins(
                fontSize: 14, fontWeight: FontWeight.w500),
            ),
            const SizedBox(height: 10),
            Container(
              padding: EdgeInsets.symmetric(horizontal: 10),
              decoration: BoxDecoration(
                color: Colors.white,
                borderRadius: BorderRadius.circular(10),

```

```

    ),
    child: Row(
      children: [
        Icon(Icons.search, color: Colors.black54),
        Expanded(
          child: TextField(
            decoration: InputDecoration(
              hintText: "Search 'cookies'",
              border: InputBorder.none,
              contentPadding:
                EdgeInsets.symmetric(vertical: 10),
            ),
          ),
        ),
        Icon(Icons.mic, color: Colors.black54),
      ],
    ),
  ],
),
Container(
  padding: EdgeInsets.symmetric(vertical: 10),
  child: Row(
    mainAxisAlignment: MainAxisAlignment.spaceEvenly,
    children: [
      _CategoryItem(icon: Icons.shopping_bag, label: "All"),
      _CategoryItem(icon: Icons.favorite, label: "Weddings"),
      _CategoryItem(icon: Icons.tv, label: "Electronics"),
      _CategoryItem(icon: Icons.brush, label: "Beauty"),
      _CategoryItem(icon: Icons.child_care, label: "Kids"),
      _CategoryItem(icon: Icons.card_giftcard, label: "Gifting"),
    ],
  ),
),
Container(
  padding: EdgeInsets.all(16),
  decoration: BoxDecoration(
    color: Colors.yellow[100],
    borderRadius: BorderRadius.circular(10),
  ),
  child: Column(
    children: [
      Text("Welcome",
        style: GoogleFonts.poppins(
          fontSize: 22, fontWeight: FontWeight.bold)),
      Text("Order now to avail exciting offers!",
        style: GoogleFonts.poppins(fontSize: 14)),
    ],
  ),
),

```

```

Row(
  mainAxisAlignment: MainAxisAlignment.spaceEvenly,
  children: [
    Text("Flat ₹50 OFF",
      style: GoogleFonts.poppins(
        fontSize: 16,
        fontWeight: FontWeight.bold,
        color: Colors.green)),
    Text("+", style: GoogleFonts.poppins(fontSize: 20)),
    Text("Free Delivery",
      style: GoogleFonts.poppins(
        fontSize: 16,
        fontWeight: FontWeight.bold,
        color: Colors.green)),
  ],
),
],
),
),
Padding(
  padding: const EdgeInsets.symmetric(horizontal: 16),
  child: Text(
    "Bestsellers",
    style: GoogleFonts.poppins(
      fontSize: 18, fontWeight: FontWeight.bold),
  ),
),
GridView.count(
  padding: const EdgeInsets.all(16),
  crossAxisCount: 3,
  shrinkWrap: true,
  physics: NeverScrollableScrollPhysics(),
  children: [
    _BestsellerItem(image:
"https://via.placeholder.com/400x300.png?text=Placeholder+Image", count: "+135 more"),
    _BestsellerItem(
      image: "https://via.placeholder.com/400x300.png?text=Placeholder+Image",
      count: "+320 more"),
    _BestsellerItem(image:
"https://via.placeholder.com/400x300.png?text=Placeholder+Image", count: "+23 more"),
    _BestsellerItem(
      image: "https://via.placeholder.com/400x300.png?text=Placeholder+Image",
      count: "+137 more"),
    _BestsellerItem(image:
"https://via.placeholder.com/400x300.png?text=Placeholder+Image", count: "+114 more"),
    _BestsellerItem(
      image: "https://via.placeholder.com/400x300.png?text=Placeholder+Image",
      count: "+135 more"),
  ],
),

```

```

        ],
      ),
    ],
  ),
);
}
}

```

```

class _CategoryItem extends StatelessWidget {
  final IconData icon;
  final String label;
  _CategoryItem({required this.icon, required this.label});

  @override
  Widget build(BuildContext context) {
    return Column(
      children: [
        Icon(icon, size: 28, color: Colors.black),
        Text(label, style: GoogleFonts.poppins(fontSize: 12)),
      ],
    );
  }
}

```

```

class _BestsellerItem extends StatelessWidget {
  final String image;
  final String count;
  _BestsellerItem({required this.image, required this.count});

  @override
  Widget build(BuildContext context) {
    return Column(
      children: [
        Image.asset(image, height: 50, fit: BoxFit.cover),
        Text(count, style: GoogleFonts.poppins(fontSize: 12)),
      ],
    );
  }
}

```

bakery_biscuit.dart

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

```

class BakeryBiscuitsPage extends StatelessWidget {
  @override
  Widget build(BuildContext context) {
    return Scaffold(

```

```

appBar: AppBar(
  backgroundColor: Colors.amber.shade100,
  elevation: 0,
  title: Text(
    "Bakery & Biscuits",
    style: TextStyle(
      fontSize: 20, fontWeight: FontWeight.bold, color: Colors.black),
  ),
  leading: IconButton(
    icon: Icon(Icons.arrow_back, color: Colors.black),
    onPressed: () {
      Navigator.pop(context);
    },
  ),
),
body: Row(
  children: [
    // Sidebar Categories with Images
    Container(
      width: 100,
      color: Colors.white,
      child: ListView(
        children: [
          CategoryTile(
            label: 'Cookies',
            image: 'https://via.placeholder.com/400x300.png?text=Placeholder+Image',
            isSelected: true),
          CategoryTile(
            label: 'Cream Biscuits',
            image: 'https://via.placeholder.com/400x300.png?text=Placeholder+Image'),
          CategoryTile(
            label: 'Healthy & Digestive',
            image: 'https://via.placeholder.com/400x300.png?text=Placeholder+Image'),
          CategoryTile(
            label: 'Sweet & Salty', image:
'https://via.placeholder.com/400x300.png?text=Placeholder+Image'),
          CategoryTile(
            label: 'Glucose & Marie',
            image: 'https://via.placeholder.com/400x300.png?text=Placeholder+Image'),
          CategoryTile(
            label: 'Rusks & Wafers', image:
'https://via.placeholder.com/400x300.png?text=Placeholder+Image'),
          CategoryTile(
            label: 'Cakes & Rolls', image:
'https://via.placeholder.com/400x300.png?text=Placeholder+Image'),
          CategoryTile(
            label: 'Baking Ingredients',
            image: 'https://via.placeholder.com/400x300.png?text=Placeholder+Image'),

```

```

    ],
  ),
),
Expanded(
  child: Column(
    children: [
      Expanded(
        child: GridView.builder(
          padding: EdgeInsets.all(8),
          gridDelegate: SliverGridDelegateWithFixedCrossAxisCount(
            crossAxisCount: 2,
            crossAxisSpacing: 10,
            mainAxisSpacing: 10,
            childAspectRatio: 0.7,
          ),
          itemCount: products.length,
          itemBuilder: (context, index) {
            return ProductTile(product: products[index]);
          },
        ),
      ),
    ],
  ),
),
],
),
),
],
),
);
}
}

```

```

class CategoryTile extends StatelessWidget {
  final String label;
  final String image;
  final bool isSelected;

```

```

  CategoryTile(
    {required this.label, required this.image, this.isSelected = false});

```

```

  @override
  Widget build(BuildContext context) {
    return Padding(
      padding: const EdgeInsets.symmetric(vertical: 8.0),
      child: Column(
        children: [
          Container(
            height: 50,
            width: 50,
            decoration: BoxDecoration(

```

```

        borderRadius: BorderRadius.circular(10),
        image: DecorationImage(
          image: AssetImage(image),
          fit: BoxFit.cover,
        ),
      ),
    ),
    SizedBox(height: 5),
    Text(
      label,
      textAlign: TextAlign.center,
      style: TextStyle(
        color: isSelected ? Colors.green : Colors.black,
        fontWeight: isSelected ? FontWeight.bold : FontWeight.normal,
      ),
    ),
  ],
),
);
}
}

```

```

class ProductTile extends StatelessWidget {
  final Product product;

```

```

  ProductTile({required this.product});

```

```

  @override

```

```

  Widget build(BuildContext context) {
    return Card(
      shape: RoundedRectangleBorder(borderRadius: BorderRadius.circular(10)),
      child: Column(
        crossAxisAlignment: CrossAxisAlignment.start,
        children: [
          Expanded(
            child: Image.network(
              product.imageUrl,
              fit: BoxFit.cover,
              width: double.infinity,
            ),
          ),
          Padding(
            padding: const EdgeInsets.all(8.0),
            child: Text(
              product.name,
              style: TextStyle(fontWeight: FontWeight.bold),
            ),
          ),
        ],
      ),
    );
  }
}

```

```

        Padding(
            padding: const EdgeInsets.symmetric(horizontal: 8.0),
            child: Row(
                mainAxisAlignment: MainAxisAlignment.spaceBetween,
                children: [
                    Text(
                        '₹${product.price}',
                        style: TextStyle(
                            color: Colors.green, fontWeight: FontWeight.bold),
                    ),
                    ElevatedButton(
                        onPressed: () {},
                        child: Text('ADD'),
                    ),
                ],
            ),
        ),
    ],
);
}

```

```

class Product {
    final String name;
    final String imageUrl;
    final double price;

```

```

    Product({required this.name, required this.imageUrl, required this.price});
}

```

```

List<Product> products = [
    Product(
        name: 'Sunfeast Baked Creations Walnut & Choco Chip Cookies',
        imageUrl: 'https://via.placeholder.com/400x300.png?text=Placeholder+Image',
        price: 134.0),
    Product(
        name: 'Hide & Seek Chocolate Chip Cookies (100 g)',
        imageUrl: 'https://via.placeholder.com/400x300.png?text=Placeholder+Image',
        price: 29.0),
    Product(
        name: 'Hide & Seek Chocolate Chip Cookies (200 g)',
        imageUrl: 'https://via.placeholder.com/400x300.png?text=Placeholder+Image',
        price: 45.0),
    Product(
        name: 'Britannia Good Day Cashew Biscuit',
        imageUrl: 'https://via.placeholder.com/400x300.png?text=Placeholder+Image',
        price: 49.0),

```


];

Output:



