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**ROLL NO.:52**  
**CLASS:D15A/BATCH C**

## **EXP 2**

**AIM:** To design Flutter UI by including common widgets.

### **THEORY:**

Designing a Flutter UI involves using a variety of widgets – the basic building blocks of a Flutter application. Widgets in Flutter are organized into a tree, which can be thought of as the blueprint for the UI.

Designing a Flutter UI involves using a variety of widgets – the basic building blocks of a Flutter application. Widgets in Flutter are organized into a tree, which can be thought of as the blueprint for the UI. Here's a theoretical overview to help you understand the process:

### **Widgets:**

Flutter uses widgets for everything. They describe what their view should look like given their current configuration and state.

### **Types of Widgets:**

- Stateless Widgets: Unchanging widgets that do not depend on any data change or user interaction.
- Stateful Widgets: Dynamic widgets that manage state and can change during runtime based on user interaction or data changes.

### **Basic Widgets:**

- Text: For displaying a string of text with style.
- Column and Row: For creating flexible layouts in the vertical and horizontal directions respectively.
- Container: A multi-purpose widget which can be used for padding, margins, borders, or to give a specific height/width to a widget.
- Image: For displaying images.
- Icon: To show icons from a predefined set of icons like Material or Cupertino.
- Form, TextField: For input forms and text fields.
- Buttons (FlatButton, RaisedButton, IconButton, etc.): For user interactions.

### **App Structure Widgets:**

Scaffold: Provides the basic material design visual layout structure.

## CODE:

// **main.dart**

```
import 'package:flutter/material.dart';
import 'package:flutter_application/pages/home.dart';
```

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

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

@override

```
Widget build(BuildContext context) {
  return MaterialApp(
    title: 'Discord',
    themeMode: ThemeMode.dark,
    theme: ThemeData(
      primarySwatch: Colors.blue,
      visualDensity: VisualDensity.adaptivePlatformDensity,
    ),
    darkTheme: ThemeData(
      primarySwatch: Colors.blue,
      visualDensity: VisualDensity.adaptivePlatformDensity,
      scaffoldBackgroundColor: const Color.fromARGB(255, 21, 21, 21),
      appBarTheme: const AppBarTheme(
        color: Colors.black,
      ),
    ),
    home: const HomePage(),
  );
}
```

// **home.dart**

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

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

@override

```

Widget build(BuildContext context) {
  // Get screen width
  double screenWidth = MediaQuery.of(context).size.width;

  return Scaffold(
    body: SingleChildScrollView(
      child: Column(
        children: [
          // Profile Banner Image
          Container(
            width: screenWidth,
            height: 200,
            decoration: const BoxDecoration(
              image: DecorationImage(
                image: AssetImage('assets/images/banner1.jpg'),
                fit: BoxFit.cover,
              ),
            ),
          ),
          child: Stack(
            children: [
              Container(
                // Profile Image
                padding: const EdgeInsets.fromLTRB(10, 50, 10, 10),
                alignment: Alignment.bottomLeft,
                child: const CircleAvatar(
                  backgroundImage:
                    AssetImage('assets/images/profile_image.jpg'),
                  radius: 40,
                ),
              ),
              // Settings Icon
              Positioned(
                top: 10,
                right: 10,
                child: Container(
                  decoration: BoxDecoration(
                    color: Colors.grey[400],
                    shape: BoxShape.circle,
                  ),
                  child: IconButton(
                    icon: const Icon(Icons.settings, color: Colors.white),
                    onPressed: () {},
                  ),
                ),
              ),
            ],
          ),
        ],
      ),
    ),
  );
}

```

```

    ),
  ),
],
),
),

// Bio Section
Container(
  margin: const EdgeInsets.all(16.0),
  padding: const EdgeInsets.all(16.0),
  decoration: BoxDecoration(
    color:
      const Color.fromARGB(255, 39, 38, 38), // Dark shade color
    borderRadius: BorderRadius.circular(10.0), // Rounded borders
  ),
  alignment: Alignment.centerLeft,
  child: Column(
    crossAxisAlignment: CrossAxisAlignment.start,
    children: [
      const Text(
        'Susmita Santi',
        style: TextStyle(
          fontSize: 20,
          color: Colors.white,
          fontWeight: FontWeight.bold,
        ),
      ),
      const SizedBox(height: 4),
      const Text(
        'susmitasanti04',
        style: TextStyle(
          fontSize: 16,
          color: Colors.grey,
        ),
      ),
      const SizedBox(height: 10),
      const Text(
        'This is a short bio of myself. It like listening to music.',
        style: TextStyle(
          fontSize: 16,
          color: Colors.grey,
        ),
      ),
      const SizedBox(height: 10),
    ],
  ),
),

```

```

Row(
  children: [
    Expanded(
      child: ElevatedButton.icon(
        onPressed: () {},
        icon: const Icon(Icons.edit),
        label: const Text('Edit Status'),
        style: ElevatedButton.styleFrom(
          backgroundColor: Colors.grey.shade300,
          foregroundColor: Colors.black,
        ),
      ),
    ),
    const SizedBox(width: 10),
    Expanded(
      child: ElevatedButton.icon(
        onPressed: () {},
        icon: const Icon(Icons.person),
        label: const Text('Edit Profile'),
        style: ElevatedButton.styleFrom(
          backgroundColor: Colors.grey.shade300,
          foregroundColor: Colors.black,
        ),
      ),
    ),
  ],
),
],
),
),

```

// About Me Section

```

Container(
  margin: const EdgeInsets.only(
    left: 16.0, right: 16.0, top: 8.0, bottom: 16.0),
  padding: const EdgeInsets.all(16.0),
  decoration: BoxDecoration(
    color: const Color.fromARGB(255, 39, 38, 38),
    borderRadius: BorderRadius.circular(10.0),
  ),
  alignment: Alignment.centerLeft,
  child: const Column(
    crossAxisAlignment: CrossAxisAlignment.start,
    children: [

```



```

const SizedBox(width: 16.0),

// Picture Description
const Expanded(
  child: Column(
    crossAxisAlignment: CrossAxisAlignment.start,
    children: [
      Text(
        'Picture Title',
        style: TextStyle(
          fontSize: 18.0,
          fontWeight: FontWeight.bold,
          color: Colors.white,
        ),
      ),
      SizedBox(height: 8.0),
      Text(
        'The description of Rose in the corresponding picture.',
        style: TextStyle(
          fontSize: 16.0,
          color: Colors.white,
        ),
      ),
    ],
  ),
),
],
),
],
),
],
),
),
],
),
),

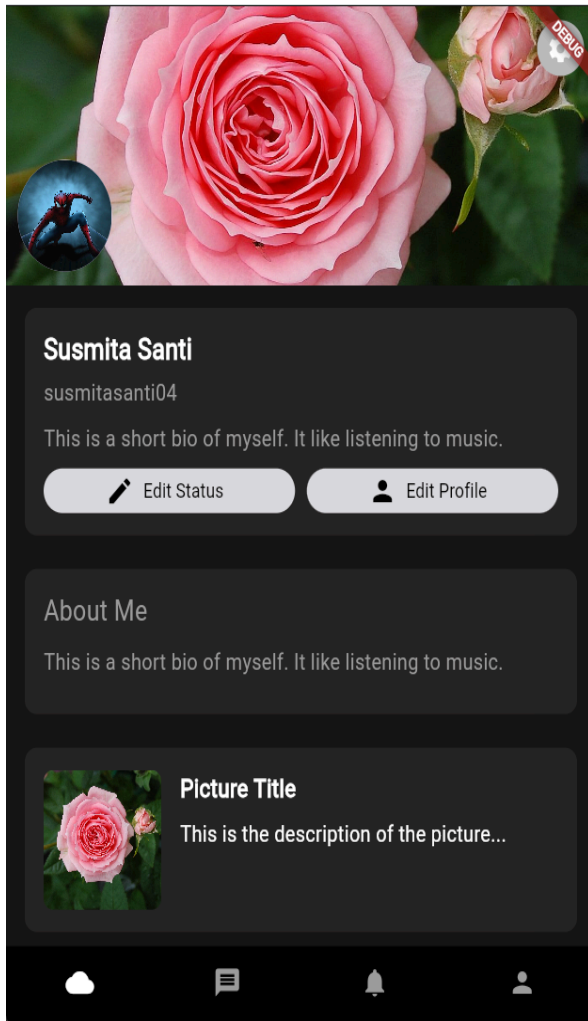
// Bottom navigation bar
bottomNavigationBar: BottomNavigationBar(
  type: BottomNavigationBarType.fixed,
  backgroundColor: Colors.black87,
  selectedItemColor: Colors.white,
  unselectedItemColor: Colors.grey,
  showSelectedLabels: false,
  showUnselectedLabels: false,
  items: const [
    BottomNavigationBarItem(

```

```
        icon: Icon(Icons.cloud),
        label: 'Servers',
      ),
      BottomNavigationBarItem(
        icon: Icon(Icons.message),
        label: 'Messages',
      ),
      BottomNavigationBarItem(
        icon: Icon(Icons.notifications),
        label: 'Notifications',
      ),
      BottomNavigationBarItem(
        icon: Icon(Icons.person),
        label: 'You',
      ),
    ],
  ),
);
}
```



### **SCREENSHOT:**



### **CONCLUSION:**

Flutter's widget-based architecture offers great flexibility for building complex UIs. Understanding key widgets and concepts is essential for effective Flutter development.