

EXPERIMENT 2

AIM: To design Flutter UI using common widgets

THEORY:

Flutter is Google's open-source UI toolkit for building natively compiled applications for mobile, web, and desktop from a single codebase. One of Flutter's core strengths lies in its widget-based architecture, where everything—layout, styling, and even app structure—is built using widgets.

Widgets in Flutter

Widgets are the building blocks of a Flutter app's UI. Flutter provides a rich set of pre-designed widgets that can be composed, customized, and nested to build complex user interfaces. Widgets in Flutter fall into two main categories:

- **Stateless Widgets:** These are immutable and do not store any state. They are redrawn only when their parent changes.
- **Stateful Widgets:** These maintain state across rebuilds and can dynamically change during the app's lifecycle.

Common Flutter Widgets

1. **Container**
Used to create rectangular visual elements. It supports styling, padding, margins, borders, and more.
2. **Text**
Displays a string of text with optional styling like font size, color, weight, etc.
3. **Row and Column**
Used for horizontal (Row) and vertical (Column) layouts. They are essential for UI structuring.
4. **Image**
Displays images from assets, network, or memory.

5. **ElevatedButton / TextButton / IconButton**
Various buttons used to handle user interactions.
6. **Scaffold**
Provides a basic structure for material design apps. It supports elements like AppBar, Drawer, BottomNavigationBar, etc.
7. **ListView**
Used to display scrollable lists of widgets dynamically or statically.
8. **TextField**
Used for accepting user input.
9. **Stack**
Allows overlapping widgets (e.g., for adding a floating action button over an image).
10. **Card**
Creates a material design card with rounded corners and shadows.

CODE:

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

class CustomAppBar extends
StatelessWidget implements
PreferredSizeWidget {
  final String title;
  final GlobalKey<ScaffoldState>
scaffoldKey;

  const CustomAppBar({super.key,
required this.title, required
this.scaffoldKey});

  @override
  Widget build(BuildContext context)
{
    return AppBar(
      backgroundColor: Colors.black,
      title: Text(title, style:
const TextStyle(color:
Colors.white)),
      actions: [
        IconButton(icon: const
Icon(Icons.search, color:
Colors.white), onPressed: () {}),
        Padding(
          padding: const
EdgeInsets.symmetric(horizontal:
8.0),
          child: GestureDetector(
            onTap: () {
              scaffoldKey.currentState?.openEndDra
wer(); // Opens right-side drawer
            }
          )
        )
      ]
    );
  }
}
```

```

        },
        child: const
CircleAvatar(
        backgroundColor:
Colors.blue,
        child: Text("R",
style: TextStyle(color:
Colors.white))),
    ),
    ),
  ],
);
}

@override
Size get preferredSize => const
Size.fromHeight(kToolbarHeight);
}

custom_drawer.dart:
import
'package:flutter/material.dar
t';
import
'package:reddit_clone/screens
/login_screen.dart'; //
Import your login screen

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

  @override
  Widget build(BuildContext
context) {
    return Drawer(

```

```

        backgroundColor:
Colors.black,
        child: ListView(
          padding:
EdgeInsets.zero,
          children: [
            const DrawerHeader(
              decoration:
BoxDecoration(color:
Colors.blue),
              child:
Text("Menu", style:
TextStyle(color:
Colors.white, fontSize: 20)),
            ),
            ListTile(
              leading: const
Icon(Icons.home, color:
Colors.white),
              title: const
Text("Home", style:
TextStyle(color:
Colors.white)),
              onTap: () {},
            ),
            ListTile(
              leading: const
Icon(Icons.settings, color:
Colors.white),
              title: const
Text("Settings", style:
TextStyle(color:
Colors.white)),
              onTap: () {},
            ),

```

```

        ListTile(
          leading: const
Icon(Icons.logout, color:
Colors.white),
          title: const
Text("Logout", style:
TextStyle(color:
Colors.white)),
          onTap: () {

Navigator.pushReplacement(
          context,

```

```

MaterialPageRoute(builder:
(context) => const
RedditLoginPage()),
        );
      },
    ),
  ],
),
);
}
}

```

OUTPUT:

