

EXPERIMENT NO: - 02

Name : Anushka Shahane

Class : D15A

Roll:No : 54

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

Theory: -

Each element on the screen of the Flutter app is a widget. The view of the screen completely depends upon the choice and sequence of the widgets used to build the apps. And the structure of the code of apps is a tree of widgets.

When you made any alteration in the code, the widget rebuilds its description by calculating the difference of previous and current widget to determine the minimal changes for rendering in UI of the app. Widgets are nested with each other to build the app. It means the root of your app is itself a widget, and all the way down is a widget also. For example, a widget can display something, can define design, can handle interaction, etc.

The single child layout widget is a type of widget, which can have only **one child widget** inside the parent layout widget. These widgets can also contain special layout functionality. Flutter provides us many single child widgets to make the app UI attractive. If we use these widgets appropriately, it can save our time and makes the app code more readable.

The multiple child widgets are a type of widget, which contains **more than one child widget**, and the layout of these widgets are **unique**. For example, Row widget laying out of its child widget in a horizontal direction, and Column widget laying out of its child widget in a vertical direction. If we combine the Row and Column widget, then it can build any level of the complex widget.

Type of Widgetss

➤ StatefulWidget

A StatefulWidget has state information. It contains mainly two classes: the state object and the widget. It is dynamic because it can change the inner data during the widget lifetime. This widget does not have a build() method. It has createState() method, which returns a class that extends the Flutter's State Class. The examples of the StatefulWidget are Checkbox, Radio, Slider, InkWell, Form, and TextField.

➤ **StatelessWidget**

The StatelessWidget does not have any state information. It remains static throughout its lifecycle. The examples of the StatelessWidget are Text, Row, Column, Container, etc.

Some of the commonly used widgets

Container – A box widget used for styling with padding, margins, colors, borders, and constraints. It helps in layout structuring and positioning.

Row & Column – Used to arrange widgets in horizontal (Row) or vertical (Column) orientation. They manage spacing, alignment, and distribution of child widgets.

Stack – Overlaps widgets on top of each other, useful for creating layered UIs like banners, tooltips, or floating elements.

Text – Displays text on the screen with customizable font size, color, alignment, and styling options

Image – Loads and displays images from assets, network, or memory with scaling, fit, properties.

Scaffold – Provides a basic layout structure with an app bar, body, floating action button, and bottom navigation.

ListView – A scrollable list widget that efficiently renders large amounts of dynamic content. Supports both vertical and horizontal scrolling.

GridView – Displays widgets in a grid format, useful for galleries, product listings, or dashboards. It supports dynamic column adjustments.

SizedBox – Used to create space between widgets or define fixed width and height for layout adjustments.

ElevatedButton – A button with elevation that provides a raised effect, customizable with color, shape, and click actions.

TextField – A user input field that supports text entry, keyboard configurations, validation.

AppBar – A top navigation bar that includes a title, actions, and menu icons, commonly used in Scaffold.

BottomNavigationBar – A bar at the bottom of the screen used for navigation between different app sections with icons and labels.

Drawer – A side navigation panel that slides out from the left, typically used for app menus and quick navigation.

Card – A material design component that displays content inside a box with elevation.

Code: - home_screen.dart

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

class HomeScreen extends StatefulWidget {
  @override
  _HomeScreenState createState() => _HomeScreenState();
}

class _HomeScreenState extends State<HomeScreen> {
  int _selectedIndex = 0;
  String _selectedDate = "Select date";

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

  Future<void> _selectDate(BuildContext context) async {
    DateTimeRange? picked = await showDateRangePicker(
      context: context,
      firstDate: DateTime.now(),
      lastDate: DateTime(2030),
    );

    if (picked != null) {
      setState(() {
        _selectedDate =
          "${DateFormat('E dd MMM').format(picked.start)} -
          ${DateFormat('E dd MMM').format(picked.end)}";
      });
    }
  }

  @override
  Widget build(BuildContext context) {
    return Scaffold(
      backgroundColor: Colors.grey[100],
      appBar: AppBar(
        backgroundColor: Colors.blue[900],
        title: Text(
          'Booking.com',
          style: TextStyle(
            color: Colors.white, fontWeight: FontWeight.bold,
            fontSize: 18),
        ),
      actions: [
        IconButton(
          icon: Icon(Icons.notifications, color: Colors.white),
          onPressed: () {},
        ),
```

```
        IconButton(
          icon: Icon(Icons.account_circle, color:
Colors.white),
          onPressed: () {},
        ),
      ],
    ),
    body: SingleChildScrollView(
      child: Padding(
        padding: const EdgeInsets.all(12),
        child: Column(
          crossAxisAlignment: CrossAxisAlignment.start,
          children: [
            /**Category Title**
            Row(
              mainAxisAlignment:
MainAxisAlignment.center,
              children: [
                Icon(Icons.hotel, color: Colors.blue[900],
size: 24),
                SizedBox(width: 8),
                Text(
                  "Find your stays",
                  style: TextStyle(
                    color: Colors.blue[900],
                    fontSize: 14,
                    fontWeight: FontWeight.bold,
                  ),
                ),
              ],
            ),
            SizedBox(height: 15),
            /**Search Section**
            Container(
              padding: EdgeInsets.all(12),
              decoration: BoxDecoration(
                borderRadius: BorderRadius.circular(10),
                border: Border.all(color: Colors.orange,
width: 2),
                color: Colors.white,
              ),
              child: Column(
                children: [
                  _buildSearchField(Icons.search, "Enter your
destination"),
                  GestureDetector(
                    onTap: () => _selectDate(context),
                    child: _buildSearchField(
                      Icons.calendar_today,
                      _selectedDate,
```



```

        icon: Icon(Icons.person, size: 22), label: "My account"),
    ],
),
);
}

```

```

Widget _buildSearchField(IconData icon, String hintText,
    {bool isReadOnly = false}) {
    return Padding(
        padding: EdgeInsets.symmetric(vertical: 4),
        child: TextField(
            readOnly: isReadOnly,
            decoration: InputDecoration(
                prefixIcon: Icon(icon, color: Colors.black54, size: 20),
                hintText: hintText,
                hintStyle: TextStyle(fontSize: 12),
                border: OutlineInputBorder(borderRadius:
BorderRadius.circular(5)),
            ),
        ),
    );
}

```

```

Widget _buildDiscountCard(String title, String subtitle) {
    return Container(
        width: 150,
        margin: EdgeInsets.only(right: 8),
        padding: EdgeInsets.all(8),
        decoration: BoxDecoration(
            color: Colors.white,
            border: Border.all(color: Colors.blue),
            borderRadius: BorderRadius.circular(8),
        ),
        child: Column(
            crossAxisAlignment: CrossAxisAlignment.start,
            children: [
                Text(title,
                    style: TextStyle(fontWeight: FontWeight.bold,
fontSize: 12)),
                SizedBox(height: 4),
                Text(subtitle, style: TextStyle(fontSize: 10)),
            ],
        ),
    );
}

```

```

Widget _buildDealCard(String location, String price,
String imageUrl) {
    return Container(
        width: 180,
        margin: EdgeInsets.only(right: 8),

```

```

padding: EdgeInsets.all(8),
        decoration: BoxDecoration(
            color: Colors.white,
            borderRadius: BorderRadius.circular(8),

```

```

        boxShadow: [

```

```

            BoxShadow(color: Colors.grey.withOpacity(0.2),
blurRadius: 4)
        ],
    ),
    child: Column(
        crossAxisAlignment: CrossAxisAlignment.start,
        children: [
            ClipRRect(

```

```

borderRadius: BorderRadius.circular(8),

```

```

        child: Image.network(
            imageUrl,
            height: 80,
            width: double.infinity,
            fit: BoxFit.cover,
        ),
    ),
    SizedBox(height: 4),
    Text(location,
        style: TextStyle(fontWeight: FontWeight.bold,
fontSize: 12)),
    SizedBox(height: 4),
    Text(price, style: TextStyle(fontSize: 11, color:
Colors.black54)),
    ],
    ),
);
}
}

```

Code : welcome_screen.dart

```
import 'package:flutter/material.dart';
import 'package:google_fonts/google_fonts.dart';
import '../core/routes.dart';
import '../widgets/custom_button.dart';

class WelcomeScreen extends StatelessWidget {
  @override
  Widget build(BuildContext context) {
    return Scaffold(
      backgroundColor: Colors.white,
      appBar: AppBar(
        backgroundColor: const Color(0xFF003580),
// Booking.com Blue
        elevation: 0,
        title: Text(
          "Booking.com",
          style: GoogleFonts.montserrat(
            fontSize: 20,
            fontWeight: FontWeight.w600,
            color: Colors.white,
          ),
        ),
        centerTitle: true,
        leading: IconButton(
          icon: const Icon(Icons.arrow_back,
            color: Colors.white), // Back arrow in
white
          onPressed: () => Navigator.pop(context), //
Navigate back
        ),
        body: SingleChildScrollView(
          child: Padding(
            padding: const
EdgeInsets.symmetric(horizontal: 25, vertical: 40),
            child: Column(
              crossAxisAlignment:
CrossAxisAlignment.start,
              children: [
                // Title
                Text(
                  "Register here",
                ),
                const SizedBox(height: 30),

                border: Border.all(color:
Colors.grey.shade400),
              ),
              child: TextField(
                decoration: InputDecoration(
                  labelText: "Enter your name",
                  labelStyle: GoogleFonts.montserrat(
```

```
const SizedBox(height: 5),
                Text(
                  "We'll use this to create an account if you
don't have one yet.",
                  style: GoogleFonts.montserrat(
                    fontSize: 14,
                    color: Colors.grey[600],
                  ),
                ),
                const SizedBox(height: 30),

                // Email Entry Box
                Container(
                  padding: const
EdgeInsets.symmetric(horizontal: 12),
                  decoration: BoxDecoration(
                    borderRadius: BorderRadius.circular(8),
                    border: Border.all(color:
Colors.grey.shade400),
                  ),
                  child: TextField(
                    decoration: InputDecoration(
                      labelText: "Enter your name",
                      labelStyle: GoogleFonts.montserrat(
                        fontSize: 14, color: Colors.grey[600]),
                      border: InputBorder.none,
                    ),
                  ),
                ),
                const SizedBox(height: 30),

                // Continue Button
                CustomButton(
                  text: "Continue",
                  onTap: () => Navigator.pushNamed(context,
Routes.signUp),
                  backgroundColor: const Color(0xFF003580),
                  textColor: Colors.white,
                ),
                const SizedBox(height: 40),
```

```

Row(
  children: [
    Expanded(child: Divider(color: Colors.grey.shade400)),
    Padding(
      padding: const EdgeInsets.symmetric(horizontal: 10),
      child: Text("OR",
        style: GoogleFonts.montserrat(
          fontSize: 14, color: Colors.black87)),
    ),
    Expanded(child: Divider(color: Colors.grey.shade400)),
  ],
),
const SizedBox(height: 30),

// Continue with Google
CustomButton(
  text: "Continue with Google",
  onTap: () {},
  isOutlined: true,
  textColor: Colors.black,
  borderColor: Colors.grey.shade400,
  iconPath: "assets/images/google.png", // Add Google icon
),
const SizedBox(height: 10),

// Continue with Facebook
CustomButton(
  text: "Continue with Facebook",
  iconPath: "assets/images/facebook.png", // Add Facebook icon
),
const SizedBox(height: 10),
Center(
  child: TextButton(
    onPressed: () => Navigator.pushNamed(context, Routes.signIn),
    child: Text(
      "Already have an account? Sign In",
      style: GoogleFonts.montserrat(
        fontSize: 14,
        fontWeight: FontWeight.w500,
        color: Colors.blue,
      ),
    ),
  ),
),
}
}

```

Code: splash_screen.dart

```
import 'package:flutter/material.dart';
import 'package:google_fonts/google_fonts.dart';
import 'package:booking/core/theme.dart';
import 'package:booking/core/routes.dart';

class SplashScreen extends StatefulWidget {
  @override
  _SplashScreenState createState() => _SplashScreenState();
}

class _SplashScreenState extends State<SplashScreen>
  with SingleTickerProviderStateMixin {
  late AnimationController _controller;
  late Animation<double> _fadeInAnimation;

  @override
  void initState() {
    super.initState();

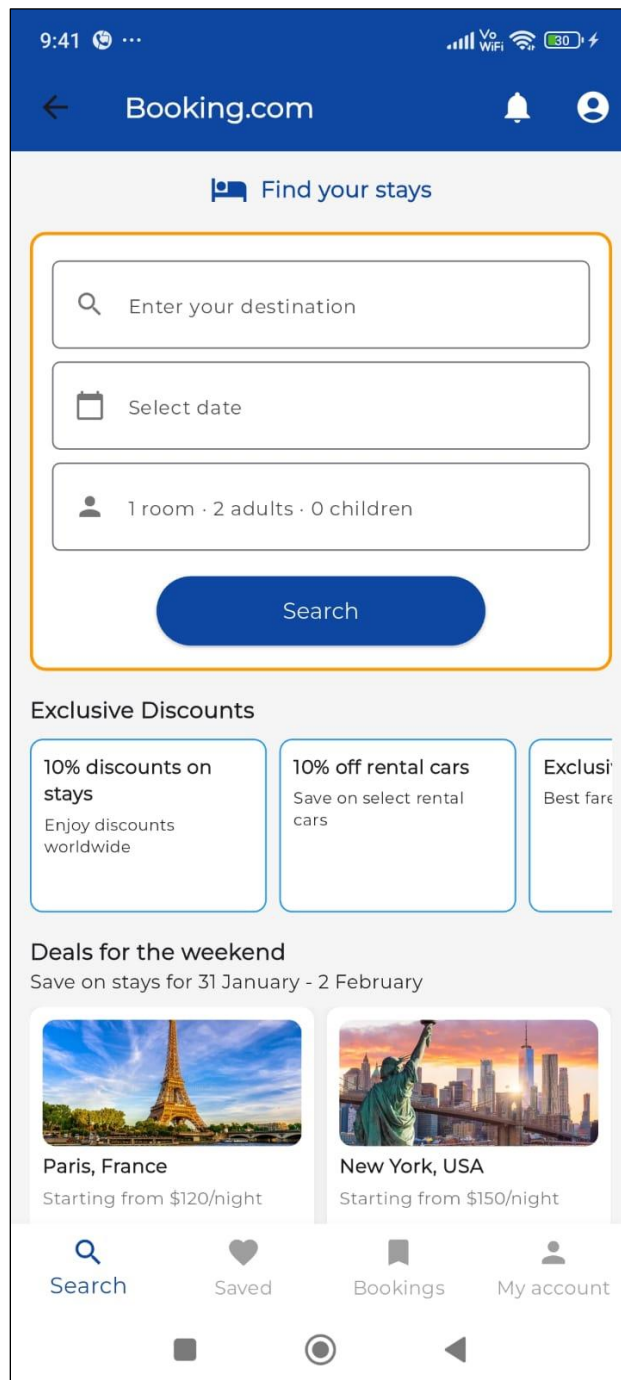
    _controller = AnimationController(
      vsync: this,
      duration: const Duration(milliseconds: 1200),
    );

    _fadeInAnimation = Tween<double>(begin: 0, end: 1).animate(_controller);

    _controller.forward();

    Future.delayed(const Duration(seconds: 3), () {
      Navigator.pushReplacementNamed(context, Routes.welcome);
    });
  }
  @override
  Widget build(BuildContext context) {
    return Scaffold(
      backgroundColor: AppColors.primaryColor,
      body: SafeArea(
        child: Center(
          child: FadeTransition(
            opacity: _fadeInAnimation,
            child: Text(
              "Booking.com",
              style: GoogleFonts.openSans(
                fontSize: 27, // Font size for visibility
                fontWeight: FontWeight.bold, // Using Open Sans Bold
                color: Colors.white,
                letterSpacing: 1.2, // Improved spacing for readability
              ),
            ),
          ),
        ),
      );
  }
  @override
  void dispose() {
    _controller.dispose();
    super.dispose();
  }
}
```


OUTPUT :



2:21



Booking.com

Register here

We'll use this to create an account if you don't have one yet.

Continue

OR



Continue with Google



Continue with Facebook

[Already have an account? Sign In](#)

9:41

Vo WiFi 30

Booking.com



