

MAD & PWA LAB

EXP- 2

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Class: D15A

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Aim: To design Flutter UI by including common widgets

Theory:

Stateful Widget vs. Stateless Widget:

- Flutter UI can be built using either stateful or stateless widgets.
- Stateful widgets are dynamic and can change their state over time, while stateless widgets are static and don't change once built.
- In this code, the Home widget is a stateful widget because it maintains the state of selected food categories.

Material Design:

- Flutter follows the Material Design guidelines for creating visually appealing and consistent UI across platforms.
- Widgets like Scaffold, AppBar, Text, Container, etc., are part of the Material Design framework in Flutter.

Gesture Detection:

- Flutter provides the GestureDetector widget to detect gestures like taps, swipes, etc., on UI elements.
- In this code, GestureDetector is used to handle taps on food category icons and navigate to the details screen.

Navigation:

- Flutter's navigation system allows moving between different screens or routes within an app.
- The Navigator class is used for navigation management, and Navigator.push is used to navigate to a new route.

Layout Management:

- Flutter provides various layout widgets (Row, Column, SingleChildScrollView, etc.) to arrange UI elements in different ways.

- In this code, Column and Row widgets are used to vertically and horizontally align UI elements, respectively.

Styling:

- Flutter allows styling UI elements using various properties like TextStyle, BoxDecoration, etc.
- In this code, text styles are defined using the AppWidget class, which presumably contains predefined styles for text.

Image Handling:

- Flutter supports image rendering using the Image.asset widget, which loads images from the app's asset bundle.
- Images can be resized and fit using properties like height, width, and fit.

State Management:

- State management is crucial for handling dynamic data and updating UI accordingly.
- In this code, the state variables (icecream, pizza, salad, burger) are updated using the setState method to trigger UI updates when a food category is selected.

Code:

```
import 'package:flutter/material.dart';
import 'package:fooddeliveryapp/pages/details.dart';
import 'package:fooddeliveryapp/widgets/widget_support.dart';

class Home extends StatefulWidget {
  const Home({super.key});

  @override
  State<Home> createState() => _HomeState();
}

class _HomeState extends State<Home> {
  bool icecream = false, pizza = false, salad = false, burger = false;
  @override
  Widget build(BuildContext context) {
    return Scaffold(
      body: SingleChildScrollView(
        child: Container(
          margin: EdgeInsets.only(top: 50.0, left: 20.0),
          child: Column(
```

```
crossAxisAlignment: CrossAxisAlignment.start,
children: [
  Row(
    mainAxisAlignment: MainAxisAlignment.spaceBetween,
    children: [
      Text("Hello Himanshu Lohote,",
        style: AppWidget.boldTextFeildStyle()),
      Container(
        margin: EdgeInsets.only(right: 20.0),
        padding: EdgeInsets.all(3),
        decoration: BoxDecoration(
          color: Colors.black,
          borderRadius: BorderRadius.circular(8)),
        child: Icon(
          Icons.shopping_cart_outlined,
          color: Colors.white,
        ),
      ),
    ],
  ),
  SizedBox(
    height: 20.0,
  ),
  Text("Delicious Food", style: AppWidget.HeadlineTextFeildStyle()),
  Text("Discover and Get Great Food",
    style: AppWidget.LightTextFeildStyle()),
  SizedBox(
    height: 20.0,
  ),
  Container(
    margin: EdgeInsets.only(right: 20.0), child: showItem()),
  SizedBox(
    height: 30.0,
  ),
  SingleChildScrollView(
    scrollDirection: Axis.horizontal,
    child: Row(
      children: [
        GestureDetector(
          onTap: () {
            Navigator.push(context,
              MaterialPageRoute(builder: (context) => Details()));
          },
        ),
        child: Container(
```

```
margin: EdgeInsets.all(4),
child: Material(
  elevation: 5.0,
  borderRadius: BorderRadius.circular(20),
  child: Container(
    padding: EdgeInsets.all(14),
    child: Column(
      crossAxisAlignment: CrossAxisAlignment.start,
      children: [
        Image.asset(
          "images/salad2.png",
          height: 150,
          width: 150,
          fit: BoxFit.cover,
        ),
        Text("Veggie Taco Hash",
          style:
            AppWidget.semiBoldTextFeildStyle()),
        SizedBox(
          height: 5.0,
        ),
        Text("Fresh and Healthy",
          style: AppWidget.LightTextFeildStyle()),
        SizedBox(
          height: 5.0,
        ),
        Text(
          "$25",
          style: AppWidget.semiBoldTextFeildStyle(),
        )
      ]),
    ),
  ),
),
SizedBox(
  width: 15.0,
),
Container(
  margin: EdgeInsets.all(4),
  child: Material(
    elevation: 5.0,
    borderRadius: BorderRadius.circular(20),
    child: Container(
```

```
padding: EdgeInsets.all(14),
child: Column(
  crossAxisAlignment: CrossAxisAlignment.start,
  children: [
    Image.asset(
      "images/salad4.png",
      height: 150,
      width: 150,
      fit: BoxFit.cover,
    ),
    Text("Mix Veg Salad",
      style: AppWidget.semiBoldTextFeildStyle()),
    SizedBox(
      height: 5.0,
    ),
    Text("Spicy with Onion",
      style: AppWidget.LightTextFeildStyle()),
    SizedBox(
      height: 5.0,
    ),
    Text(
      "$28",
      style: AppWidget.semiBoldTextFeildStyle(),
    )
  ]),
),
),
),
],
),
),
SizedBox(
  height: 30.0,
),
Container(
  margin: EdgeInsets.only(right: 20.0),
  child: Material(
    elevation: 5.0,
    borderRadius: BorderRadius.circular(20),
    child: Container(
      padding: EdgeInsets.all(5),
      child: Row(
        crossAxisAlignment: CrossAxisAlignment.start,
        children: [
```

```
Image.asset(
  "images/salad4.png",
  height: 120,
  width: 120,
  fit: BoxFit.cover,
),
SizedBox(
  width: 20.0,
),
Column(
  children: [
    Container(
      width: MediaQuery.of(context).size.width / 2,
      child: Text(
        "Mediterranean Chickpea Salad",
        style: AppWidget.semiBoldTextFeildStyle(),
      )),
    SizedBox(
      height: 5.0,
    ),
    Container(
      width: MediaQuery.of(context).size.width / 2,
      child: Text(
        "Honey goot cheese",
        style: AppWidget.LightTextFeildStyle(),
      )),
    SizedBox(
      height: 5.0,
    ),
    Container(
      width: MediaQuery.of(context).size.width / 2,
      child: Text(
        "\$28",
        style: AppWidget.semiBoldTextFeildStyle(),
      ))
  ],
)
],
),
),
),
),
SizedBox(
  height: 30.0,
```

```
),
Container(
  margin: EdgeInsets.only(right: 20.0),
  child: Material(
    elevation: 5.0,
    borderRadius: BorderRadius.circular(20),
    child: Container(
      padding: EdgeInsets.all(5),
      child: Row(
        crossAxisAlignment: CrossAxisAlignment.start,
        children: [
          Image.asset(
            "images/salad2.png",
            height: 120,
            width: 120,
            fit: BoxFit.cover,
          ),
          SizedBox(
            width: 20.0,
          ),
          Column(
            children: [
              Container(
                width: MediaQuery.of(context).size.width / 2,
                child: Text(
                  "Veggie Taco Hash",
                  style: AppWidget.semiBoldTextFeildStyle(),
                )),
              SizedBox(
                height: 5.0,
              ),
              Container(
                width: MediaQuery.of(context).size.width / 2,
                child: Text(
                  "Honey goot cheese",
                  style: AppWidget.LightTextFeildStyle(),
                )),
              SizedBox(
                height: 5.0,
              ),
              Container(
                width: MediaQuery.of(context).size.width / 2,
                child: Text(
                  "\$28",
```

```

                style: AppWidget.semiBoldTextFeildStyle(),
            ))
        ],
    )
    ],
    ),
    ),
    ),
    ),
    ],
    ),
    ),
    ),
);
}

```

```

Widget showItem() {
  return Row(
    mainAxisAlignment: MainAxisAlignment.spaceBetween,
    children: [
      GestureDetector(
        onTap: () {
          icecream = true;
          pizza = false;
          salad = false;
          burger = false;
          setState(() {});
        },
        child: Material(
          elevation: 5.0,
          borderRadius: BorderRadius.circular(10),
          child: Container(
            decoration: BoxDecoration(
              color: icecream ? Colors.black : Colors.white,
              borderRadius: BorderRadius.circular(10)),
            padding: EdgeInsets.all(8),
            child: Image.asset(
              "images/ice-cream.png",
              height: 40,
              width: 40,
              fit: BoxFit.cover,
              color: icecream ? Colors.white : Colors.black,
            ),
          ),
        ),
      ),
    ],
  );
}

```



```
    ),  
    ),  
    GestureDetector(  
      onTap: () {  
        icecream = false;  
        pizza = true;  
        salad = false;  
        burger = false;  
        setState(() {});  
      },  
      child: Material(  
        elevation: 5.0,  
        borderRadius: BorderRadius.circular(10),  
        child: Container(  
          decoration: BoxDecoration(  
            color: pizza ? Colors.black : Colors.white,  
            borderRadius: BorderRadius.circular(10)),  
          padding: EdgeInsets.all(8),  
          child: Image.asset(  
            "images/pizza.png",  
            height: 40,  
            width: 40,  
            fit: BoxFit.cover,  
            color: pizza ? Colors.white : Colors.black,  
          ),  
        ),  
      ),  
    ),  
    ),  
    GestureDetector(  
      onTap: () {  
        icecream = false;  
        pizza = false;  
        salad = true;  
        burger = false;  
        setState(() {});  
      },  
      child: Material(  
        elevation: 5.0,  
        borderRadius: BorderRadius.circular(10),  
        child: Container(  
          decoration: BoxDecoration(  
            color: salad ? Colors.black : Colors.white,  
            borderRadius: BorderRadius.circular(10)),  
          padding: EdgeInsets.all(8),
```

```
        child: Image.asset(
          "images/salad.png",
          height: 40,
          width: 40,
          fit: BoxFit.cover,
          color: salad ? Colors.white : Colors.black,
        ),
      ),
    ),
  ),
  GestureDetector(
    onTap: () {
      icecream = false;
      pizza = false;
      salad = false;
      burger = true;
      setState(() {});
    },
    child: Material(
      elevation: 5.0,
      borderRadius: BorderRadius.circular(10),
      child: Container(
        decoration: BoxDecoration(
          color: burger ? Colors.black : Colors.white,
          borderRadius: BorderRadius.circular(10)),
        padding: EdgeInsets.all(8),
        child: Image.asset(
          "images/burger.png",
          height: 40,
          width: 40,
          fit: BoxFit.cover,
          color: burger ? Colors.white : Colors.black,
        ),
      ),
    ),
  ),
],
);
}
```

Output: