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D15A 47

Experiment 2

AIM: To design Flutter UI by including common widgets.

### Theory:

In summary, Flutter widgets are fundamental components in constructing the user interface of a Flutter application. They can be broadly categorized into two types: `StatelessWidget` representing immutable parts of the UI and `StatefulWidget` representing mutable components that can change over time.

Some key Flutter widgets include:

1. Scaffold: The basic structure for a Flutter app, providing layout elements such as AppBar, BottomNavigationBar, and a body for main content.
2. Container: A versatile box model used for layout, padding, margin, decoration, and constraints, capable of containing other widgets.
3. Row & Column: Widgets for arranging child widgets horizontally (Row) or vertically (Column), essential for creating flexible and responsive layouts.
4. Text: Used for displaying text on the screen with support for various styling options like font size, color, and alignment.
5. TextField: Captures user input, such as text, numbers, or passwords, with the `onChanged` property for dynamic updates based on user input.
6. Buttons: Various button widgets like `ElevatedButton` or `TextButton` trigger actions when pressed, providing a means for user interaction.
7. Forms: The `Form` widget manages a group of `TextFormField` widgets, facilitating input validation and submission.
8. Icons: The `Icon` widget displays icons from libraries, enhancing visual elements and conveying meaning through symbols.

Key Design Principles highlighted include:

- Consistency: Common widget usage fosters a consistent design language throughout the app.
- Responsive Layouts: Widgets like `Row` and `Column` aid in creating responsive and flexible layouts, adapting to different screen sizes.
- User Input Handling: `TextField` and `Form` widgets facilitate proper handling, ensuring data integrity and validation.
- Interactive Elements: Buttons and icons contribute to interactivity and user engagement within the app.
- Visual Styling: The `Container` widget and styling properties of other widgets allow for visual customization and theming.

Common widgets is used for different type of fonts:

```
// ignore_for_file: prefer_const_constructors, non_constant_identifier_names
```

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

```

class AppWidget {
  static TextStyle boldTextFieldStyle() {
    return TextStyle(
      color: Color.fromARGB(255, 50, 32, 32),
      fontSize: 20.0,
      fontWeight: FontWeight.bold,
      fontFamily: 'Poppins');
  }

  static TextStyle HeadlineTextFieldStyle() {
    return TextStyle(
      color: Color.fromARGB(255, 50, 32, 32),
      fontSize: 24.0,
      fontWeight: FontWeight.bold,
      fontFamily: 'Poppins');
  }

  static TextStyle LightTextFieldStyle() {
    return TextStyle(
      color: Color.fromARGB(255, 50, 32, 32),
      fontSize: 15.0,
      fontWeight: FontWeight.w500,
      fontFamily: 'Poppins');
  }

  static TextStyle semiBoldTextFieldStyle() {
    return TextStyle(
      color: Color.fromARGB(255, 50, 32, 32),
      fontSize: 15.0,
      fontWeight: FontWeight.bold,
      fontFamily: 'Poppins');
  }
}

```

The above code is used in following below code of  
home.dart

```

import 'package:flutter/material.dart';
import 'package:food_panda/pages/details.dart';
import 'package:food_panda/widget/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(

```

```

scrollDirection: Axis.vertical,
child: Container(
  margin: const EdgeInsets.only(top: 50.0, left: 20.0),
  child: Column(
    crossAxisAlignment: CrossAxisAlignment.start,
    children: [
      Row(
        mainAxisAlignment: MainAxisAlignment.spaceBetween,
        children: [
          Text("Hello Pranav,", style: AppWidget.boldTextFieldStyle()),
          Container(
            margin: const EdgeInsets.only(right: 20.0),
            padding: const EdgeInsets.all(3),
            decoration: BoxDecoration(
              color: Colors.black,
              borderRadius: BorderRadius.circular(8)),
            child: const Icon(
              Icons.shopping_cart_outlined,
              color: Colors.white,
            ),
          ),
        ],
      ),
      const SizedBox(
        height: 20.0,
      ),
      Text("Delicious Food", style: AppWidget.HeadlineTextFieldStyle()),
      Text("Discover and Get Great Food",
        style: AppWidget.LightTextFieldStyle()),
      const SizedBox(
        height: 20.0,
      ),
      Container(
        margin: const EdgeInsets.only(right: 20.0),
        child: showItem(),
      ),
      const SizedBox(
        height: 30.0,
      ),
      SingleChildScrollView(
        scrollDirection: Axis.horizontal,
        child: Row(
          children: [
            GestureDetector(
              onTap: () {
                Navigator.push(context,
                  MaterialPageRoute(builder: (context) => Details()));
              },
            ),
            Container(
              margin: const EdgeInsets.all(4),
              child: Material(
                elevation: 5.0,
                borderRadius: BorderRadius.circular(20),
                child: Container(
                  padding: const 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.semiBoldTextFieldStyle()),
      const SizedBox(
        height: 5.0,
      ),
      Text("Fresh and Healthy",
        style: AppWidget.LightTextFieldStyle()),
      const SizedBox(
        height: 5.0,
      ),
      Text(
        "\$25",
        style: AppWidget.semiBoldTextFieldStyle(),
      )
    ]),
  ),
),
),
),
const SizedBox(
  width: 15.0,
),
Container(
  margin: const EdgeInsets.all(4),
  child: Material(
    elevation: 5.0,
    borderRadius: BorderRadius.circular(20),
    child: Container(
      padding: const 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.semiBoldTextFieldStyle()),
          const SizedBox(
            height: 5.0,
          ),
          Text("Spicy with Onion",
            style: AppWidget.LightTextFieldStyle()),
          const SizedBox(
            height: 5.0,
          ),
          Text(
            "\$28",
            style: AppWidget.semiBoldTextFieldStyle(),
          )
        ]),
      ),
    ),
  ),
),
],
),

```

```

),
const SizedBox(
  height: 30.0,
),
Container(
  margin: const EdgeInsets.only(right: 20.0),
  child: Material(
    elevation: 5.0,
    borderRadius: BorderRadius.circular(20),
    child: Container(
      padding: const EdgeInsets.all(5),
      child: Row(
        crossAxisAlignment: CrossAxisAlignment.start,
        children: [
          Image.asset(
            "images/salad4.png",
            height: 120,
            width: 120,
            fit: BoxFit.cover,
          ),
          const SizedBox(
            width: 20.0,
          ),
          Column(
            children: [
              Container(
                width: MediaQuery.of(context).size.width / 2,
                child: Text(
                  "Mediterranean Chickpea Salad",
                  style: AppWidget.semiBoldTextFieldStyle(),
                ),
              ),
              const SizedBox(
                height: 5.0,
              ),
              Container(
                width: MediaQuery.of(context).size.width / 2,
                child: Text(
                  "Honey goot cheese",
                  style: AppWidget.LightTextFieldStyle(),
                ),
              ),
              const SizedBox(
                height: 5.0,
              ),
              Container(
                width: MediaQuery.of(context).size.width / 2,
                child: Text(
                  "\$28",
                  style: AppWidget.semiBoldTextFieldStyle(),
                ),
              ),
            ],
          ),
        ],
      ),
    ),
  ),
const SizedBox(
  height: 30.0,
),
Container(
  margin: const EdgeInsets.only(right: 20.0),

```

```

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

```

```

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: const 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: const 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(

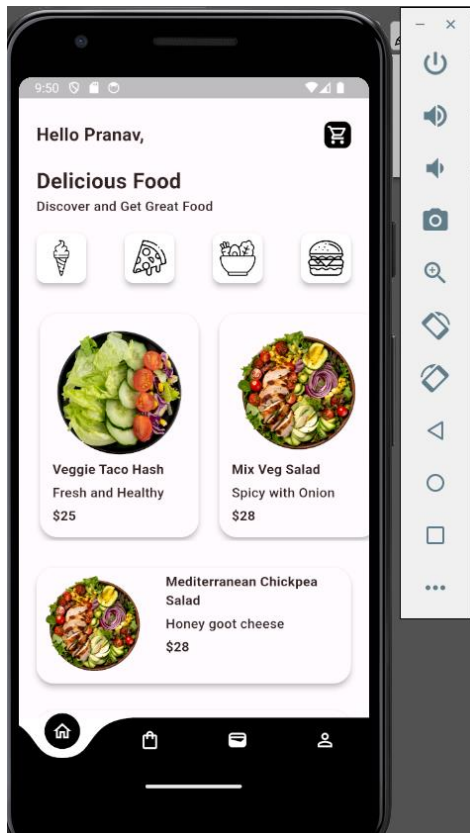
```

```

        elevation: 5.0,
        borderRadius: BorderRadius.circular(10),
        child: Container(
          decoration: BoxDecoration(
            color: salad ? Colors.black : Colors.white,
            borderRadius: BorderRadius.circular(10)),
          padding: const 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: const EdgeInsets.all(8),
          child: Image.asset(
            "images/burger.png",
            height: 40,
            width: 40,
            fit: BoxFit.cover,
            color: burger ? Colors.white : Colors.black,
          ),
        ),
      ),
    ),
  ],
);
}
}

```





Conclusion :Thus I learnt to create and use common widgets