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Experiment No. 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 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:day35/pages/auth.dart';
import 'package:day35/pages/home.dart';
import 'package:day35/pages/select_service.dart';
import 'package:day35/pages/start.dart';
import 'package:flutter/material.dart';

void main() {
  runApp(MaterialApp(
    debugShowCheckedModeBanner: false,
    initialRoute: '/',
    routes: {
      '/': (context) => AuthPage(),
      '/start': (context) => StartPage(),
      '/select_service': (context) => SelectService(),
      '/home': (context) => HomePage(),
    },
  ));
}
```

Home.dart

```
import 'package:animate_do/animate_do.dart';
import 'package:day35/models/service.dart';
import 'package:flutter/material.dart';

class HomePage extends StatefulWidget {
  const HomePage({ Key? key }) : super(key: key);

  @override
  _HomePageState createState() => _HomePageState();
}

class _HomePageState extends State<HomePage> {
  List<Service> services = [
    Service('Cleaning',
      'https://img.icons8.com/external-vitaliy-gorbachev-flat-vitaliy-gorbachev/2x/external-cleaning-labour-day-vitaliy-gorbachev-flat-vitaliy-gorbachev.png'),
    Service('Plumber',
      'https://img.icons8.com/external-vitaliy-gorbachev-flat-vitaliy-gorbachev/2x/external-plumber-labour-day-vitaliy-gorbachev-flat-vitaliy-gorbachev.png'),
    Service('Electrician',
      'https://img.icons8.com/external-wanicon-flat-wanicon/2x/external-multimeter-car-service-wanicon-flat-wanicon.png'),
  ];
```

```

    Service('Painter',
'https://img.icons8.com/external-itim2101-flat-itim2101/2x/external-painter-male-occupati
on-avatar-itim2101-flat-itim2101.png'),
    Service('Carpenter', 'https://img.icons8.com/fluency/2x/drill.png'),
    Service('Gardener',
'https://img.icons8.com/external-itim2101-flat-itim2101/2x/external-gardener-male-occup
ation-avatar-itim2101-flat-itim2101.png'),
];

```

```

List<dynamic> workers = [
  ['Alfredo Schafer', 'Plumber',
'https://images.unsplash.com/photo-1506803682981-6e718a9dd3ee?ixlib=rb-0.3.5&q=8
0&fm=jpg&crop=faces&fit=crop&h=200&w=200&s=c3a31eeb7efb4d533647e3cad1de92
57', 4.8],
  ['Michelle Baldwin', 'Cleaner', 'https://uifaces.co/our-content/donated/oLkb60i_.jpg',
4.6],
  ['Brenon Kalu', 'Driver', 'https://uifaces.co/our-content/donated/VUMBKh1U.jpg', 4.4]
];

```

```

@override
Widget build(BuildContext context) {
  return Scaffold(
    appBar: AppBar(
      backgroundColor: Colors.transparent,
      title: Text('Dashboard', style: TextStyle(color: Colors.black)),
      elevation: 0,
      actions: [
        IconButton(
          onPressed: () {},
          icon: Icon(Icons.notifications_none, color: Colors.grey.shade700, size: 30),
        )
      ],
    leading: GestureDetector(
      onTap: () {
        Navigator.pushNamed(context, '/auth');
      },
      child: Padding(
        padding: const EdgeInsets.all(10.0),
        child: CircleAvatar(
          backgroundImage:
NetworkImage('https://uifaces.co/our-content/donated/NY9hnAbp.jpg'),
        ),
      ),
    ),
    body: SingleChildScrollView(
      child: Column(
        children: [

```

```

FadeInUp(child: Padding(
  padding: EdgeInsets.only(left: 20.0, top: 10.0, right: 10.0),
  child: Row(
    mainAxisAlignment: MainAxisAlignment.spaceBetween,
    children: [
      Text('Recent', style: TextStyle(fontSize: 20, fontWeight: FontWeight.bold)),
      TextButton(
        onPressed: () {},
        child: Text('View all',)
      )
    ],
  ),
)),
FadeInUp(child: Padding(
  padding: EdgeInsets.symmetric(horizontal: 20.0),
  child: Container(
    padding: EdgeInsets.all(20.0),
    height: 180,
    decoration: BoxDecoration(
      color: Colors.white,
      borderRadius: BorderRadius.circular(20.0),
      boxShadow: [
        BoxShadow(
          color: Colors.grey.shade200,
          offset: Offset(0, 4),
          blurRadius: 10.0,
        ),
      ],
    ),
    child: Column(
      mainAxisAlignment: MainAxisAlignment.center,
      children: [
        Row(
          crossAxisAlignment: CrossAxisAlignment.start,
          children: [
            ClipRRect(
              borderRadius: BorderRadius.circular(15.0),
              child:
Image.network('https://t4.ftcdn.net/jpg/04/68/74/75/360_F_468747500_VUYA3wtl0DV12
7YNq7jToCKwq9ABOTjC.jpg', width: 70,)
            ),
            SizedBox(width: 15,),
            Column(
              crossAxisAlignment: CrossAxisAlignment.start,
              children: [
                Text("Isabel Kirkland", style: TextStyle(color: Colors.black, fontSize:
20, fontWeight: FontWeight.bold)),
                SizedBox(height: 5,)
              ]
            )
          ]
        )
      ]
    )
  )
)

```

```

                Text("Cleaner Contact: 9658439558 ", style: TextStyle(color:
Colors.black.withOpacity(0.7), fontSize: 18)),
            ],
        ),
    ],
),
    SizedBox(height: 20,),
    Container(
        height: 50,
        decoration: BoxDecoration(
            color: Colors.blue,
            borderRadius: BorderRadius.circular(15.0)
        ),
        child: Center(child: Text('View Profile', style: TextStyle(color: Colors.white,
fontSize: 18))),
    ),
    ],
),
),
),
),
),
    SizedBox(height: 20,),
    FadeInUp(child: Padding(
        padding: EdgeInsets.only(left: 20.0, right: 10.0),
        child: Row(
            mainAxisAlignment: MainAxisAlignment.spaceBetween,
            children: [
                Text('Categories', style: TextStyle(fontSize: 20, fontWeight:
FontWeight.bold)),
                TextButton(
                    onPressed: () {},
                    child: Text('View all',)
                )
            ],
        ),
    ),
),
),
    Container(
        padding: EdgeInsets.symmetric(horizontal: 20, vertical: 10),
        // height: 300,
        child: GridView.builder(
            gridDelegate: SliverGridDelegateWithFixedCrossAxisCount(
                crossAxisCount: 3,
                childAspectRatio: 1.0,
                crossAxisSpacing: 10.0,
                mainAxisSpacing: 10.0,
            ),
            shrinkWrap: true, // Prevents infinite height expansion
            physics: NeverScrollableScrollPhysics(),
            itemCount: services.length,

```

```

        itemBuilder: (BuildContext context, int index) {
            return FadeInUp(
                delay: Duration(milliseconds: 500 * index),
                child: serviceContainer(services[index].imageUrl, services[index].name,
index));
        },
    ),
    SizedBox(height: 20,),
    FadeInUp(child: Padding(
        padding: EdgeInsets.only(left: 20.0, right: 10.0),
        child: Row(
            mainAxisAlignment: MainAxisAlignment.spaceBetween,
            children: [
                Text('Top Rated', style: TextStyle(fontSize: 20, fontWeight:
FontWeight.bold)),
                TextButton(
                    onPressed: () {},
                    child: Text('View all',)
                )
            ],
        ),
    )),
    Container(
        padding: EdgeInsets.symmetric(horizontal: 20, vertical: 10),
        height: 120,
        child: ListView.builder(
            scrollDirection: Axis.horizontal,
            itemCount: workers.length,
            itemBuilder: (BuildContext context, int index) {
                return FadeInUp(
                    delay: Duration(milliseconds: 500 * index),
                    child: workerContainer(workers[index][0], workers[index][1],
workers[index][2], workers[index][3]));
            }
        ),
    ),
    SizedBox(height: 20),
]
)
)
);
}

```

```

serviceContainer(String image, String name, int index) {
    return GestureDetector(
        child: Container(
            margin: EdgeInsets.only(right: 20),

```

```

padding: EdgeInsets.all(10.0),
decoration: BoxDecoration(
  color: Colors.grey.shade100,
  border: Border.all(
    color: Colors.blue.withOpacity(0),
    width: 2.0,
  ),
  borderRadius: BorderRadius.circular(20.0),
),
child: Column(
  mainAxisAlignment: MainAxisAlignment.center,
  children: <Widget>[
    Image.network(image, height: 45),
    SizedBox(height: 20,),
    Text(name, style: TextStyle(fontSize: 15),)
  ]
),
),
);
}

```

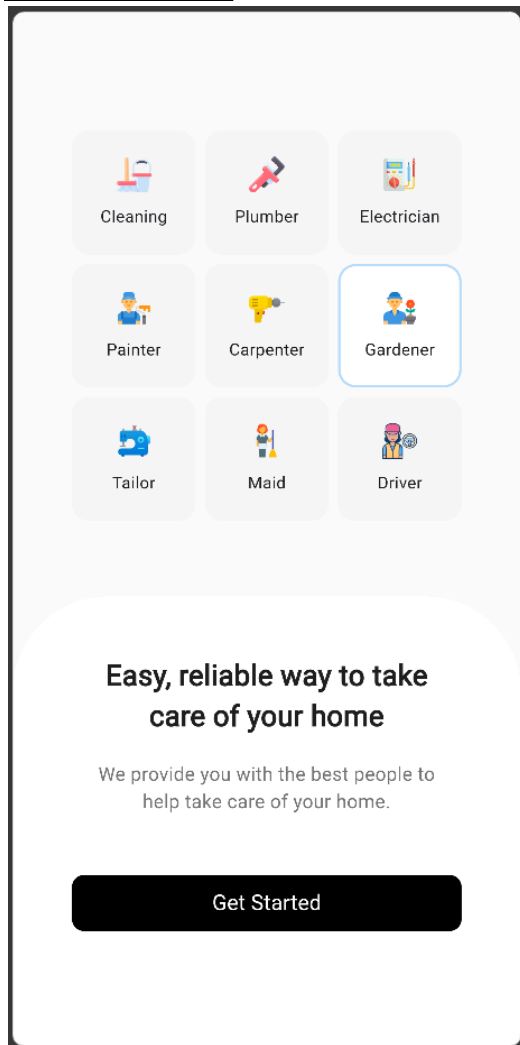
```

workerContainer(String name, String job, String image, double rating) {
  return GestureDetector(
    child: AspectRatio(
      aspectRatio: 3.5,
      child: Container(
        margin: EdgeInsets.only(right: 20),
        padding: EdgeInsets.symmetric(vertical: 15.0, horizontal: 15.0),
        decoration: BoxDecoration(
          color: Colors.white,
          border: Border.all(
            color: Colors.grey.shade200,
            width: 2.0,
          ),
          borderRadius: BorderRadius.circular(20.0),
        ),
        child: Row(
          crossAxisAlignment: CrossAxisAlignment.center,
          children: <Widget>[
            ClipRRect(
              borderRadius: BorderRadius.circular(15.0),
              child: Image.network(image)
            ),
            SizedBox(width: 20,),
            Column(
              crossAxisAlignment: CrossAxisAlignment.start,
              mainAxisAlignment: MainAxisAlignment.center,
              children: [

```

```
        Text(name, style: TextStyle(fontSize: 16, fontWeight: FontWeight.bold),),
        SizedBox(height: 5,),
        Text(job, style: TextStyle(fontSize: 15),)
    ],
),
Spacer(),
Column(
    crossAxisAlignment: CrossAxisAlignment.center,
    mainAxisAlignment: MainAxisAlignment.center,
    children: [
        Text(rating.toString(), style: TextStyle(fontSize: 16, fontWeight:
FontWeight.bold),),
        SizedBox(height: 5,),
        Icon(Icons.star, color: Colors.orange, size: 20,)
    ],
)
]
),
),
),
```


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.