Name: Jatin talreja
Division: D15A
Roll no: 61
Batch: C

Experiment No 2

Aim: To design flutter UI by including common widgets.

Theory: In Flutter, widgets are the building blocks of the user interface, and several common widgets play crucial roles in creating engaging and interactive applications. Here's a brief overview of some fundamental Flutter widgets:

1. Container: The most basic building block, a container is a box model that can contain other widgets, allowing you to customize its dimensions, padding, and decoration.

2. Row and Column: These widgets help organize children widgets horizontally (Row) or vertically (Column), facilitating the creation of flexible and responsive layouts.

3. AppBar: AppBar is a material design widget providing a top app bar that typically includes the app's title, leading and trailing icons, and actions.

4. ListView: Used to create scrollable lists of widgets, ListView is versatile for displaying a large number of items efficiently.

5. TextField: Enables users to input text, providing a text editing interface with options for validation, styling, and interaction.

6. RaisedButton and FlatButton: These button widgets create interactive elements for users to trigger actions, with RaisedButton offering a raised appearance and FlatButton a flat design.

7. Image: The Image widget displays images from various sources, supporting both local and network images.

8. Scaffold: A top-level container for an app's visual elements, Scaffold provides a structure that includes an AppBar, body, and other optional features like drawers and bottom navigation.

9. Card: Representing a material design card, this widget displays information in a compact and visually appealing format, often used for grouping related content.

10. GestureDetector: Allows detection of various gestures like taps, drags, and long presses, enabling interactive responses to user input.

11. Stack: A widget that allows children widgets to be overlaid, facilitating complex UI designs by layering widgets on top of each other.

12. FutureBuilder: Ideal for handling asynchronous operations, FutureBuilder simplifies the management of UI updates based on the completion of a Future, making it valuable for fetching and displaying data.

These are just a few of the many widgets available in Flutter, each serving a unique purpose in crafting dynamic and user-friendly interfaces.

Code:

```
 import 'package:chatgpt/constants/constants.dart';
import 'package:chatgpt/services/assets_manager.dart';
import 'package:flutter/material.dart';

import 'text_widget.dart';

class ChatWidget extends StatelessWidget{
  const ChatWidget({super.key, required this.msg, required
this.chatIndex});
final String msg;
  final int chatIndex;
  @override
  Widget build(BuildContext context){
    return Column(
      children: [
      Material(
        color: chatIndex == 0 ? scaffoldBackgroundColor : cardColor,
        child: Padding(
          padding: const EdgeInsets.all(8.0),
          child: Row(
             crossAxisAlignment: CrossAxisAlignment.start,
            children: [
              Image.asset(
                chatIndex == 0
                      ? AssetsManager.userImage
                      : AssetsManager.botImage,
                height: 30,
```

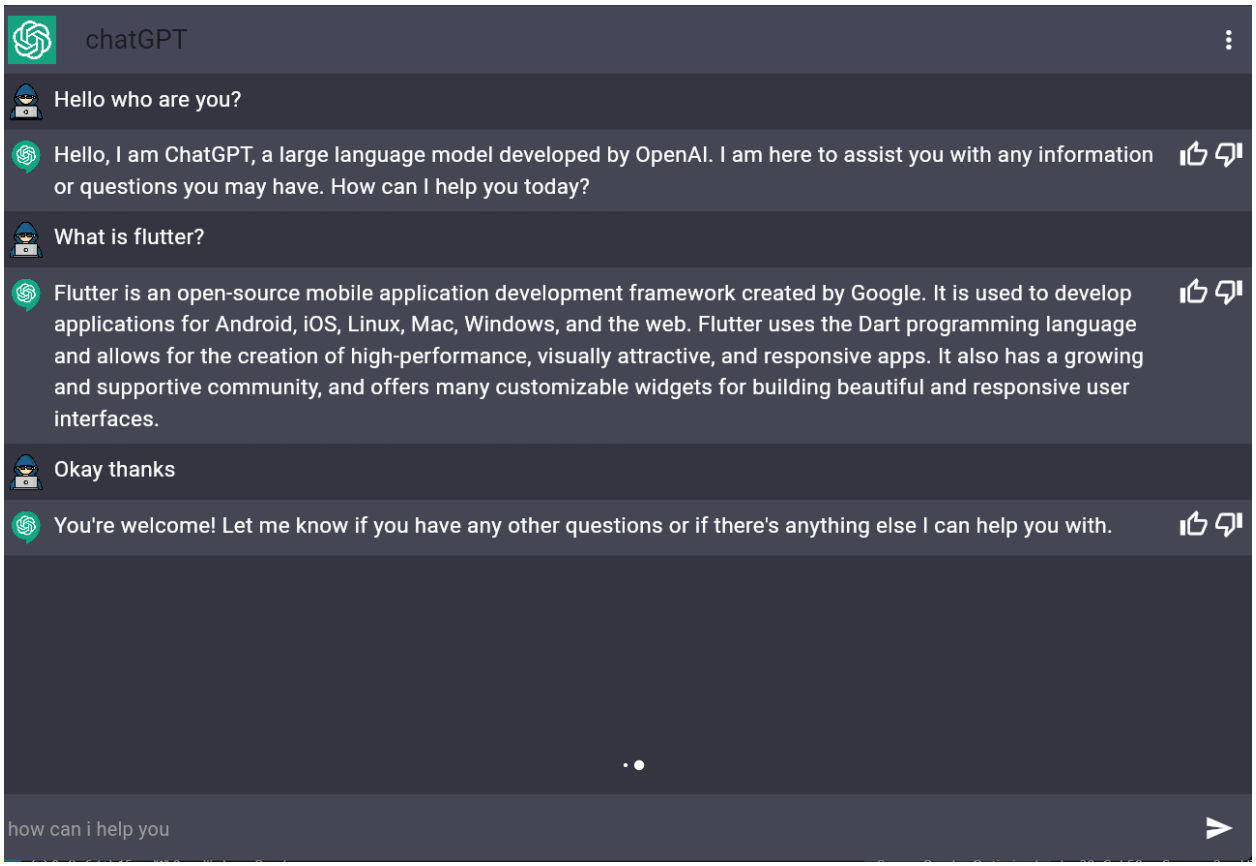
```
              width: 30,
              ),
              const SizedBox(
                width: 8,
              ),
              Expanded(
                child: TextWidget(
                  label: msg,
                  ),
              ),
                chatIndex == 0
                  ? const SizedBox.shrink()
                  : Row(
                      mainAxisAlignment: MainAxisAlignment.end,
                      mainAxisSize: MainAxisSize.min,
                      children: const [
                        Icon(
                          Icons.thumb_up_alt_outlined,
                          color: Colors.white,
                        ),
                        SizedBox(
                          width: 5,
                        ),
                        Icon(Icons.thumb_down_alt_outlined,
                            color: Colors.white)
                      ],
                    ),

              ],
              ),
        ),
      ),
          ],
          );
        }
       }
```

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

class TextWidget extends StatelessWidget {
  const TextWidget(
      {Key? key,
      required this.label,
      this.fontSize = 18,
      this.color,
      this.fontWeight})
      : super(key: key);

  final String label;
  final double fontSize;
  final Color? color;
  final FontWeight? fontWeight;
  @override
  Widget build(BuildContext context) {
    return Text(
      label,
      // textAlign: TextAlign.justify,
      style: TextStyle(
        color: color ?? Colors.white,
        fontSize: fontSize,
        fontWeight: fontWeight ?? FontWeight.w500,
      ),
    );
  }
}
```

```dart
import 'package:chatgpt/services/api_service.dart';
import 'package:chatgpt/widgets/text_widget.dart';
import 'package:flutter/material.dart';

import '../constants/constants.dart';
import '../models/models_model.dart';




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

  @override
  State<ModelsDrowDownWidget> createState() =>
_ModelsDrowDownWidgetState();
}

class _ModelsDrowDownWidgetState extends State<ModelsDrowDownWidget> {
  String currentModel="gpt-3.5-turbo";
  @override
  Widget build(BuildContext context) {
    return  FutureBuilder<List<ModelsModel>>(
      future: ApiService.getModels(),
      builder: (context,snapshot){
        if (snapshot.hasError) {
          return Center(child: TextWidget(label:
snapshot.error.toString()),);
        }
        return snapshot.data == null || snapshot.data!.isEmpty
        ? const SizedBox.shrink()
        :DropdownButton(
          dropdownColor: scaffoldBackgroundColor,
```

```
          iconEnabledColor: Colors.white,
          items:  List<DropdownMenuItem<String>>.generate(
          snapshot.data!.length,
          (index) => DropdownMenuItem(
              value: snapshot.data![index].id,
              child: TextWidget(
                label: snapshot.data![index].id,
                fontSize: 15,
              ))),
          onChanged: (value) {
          setState(() {
            currentModel=value.toString();
      });
    },
    );
      });
  }
}
```

Output -


chatGPT
Hello who are you?
Hello, I am ChatGPT, a large language model developed by OpenAI. I am here to assist you with any information or questions you may have. How can I help you today?
What is flutter?
Flutter is an open-source mobile application development framework created by Google. It is used to develop applications for Android, iOS, Linux, Mac, Windows, and the web. Flutter uses the Dart programming language and allows for the creation of high-performance, visually attractive, and responsive apps. It also has a growing and supportive community, and offers many customizable widgets for building beautiful and responsive user interfaces.
Okay thanks
You're welcome! Let me know if you have any other questions or if there's anything else I can help you with.
how can i help you