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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.

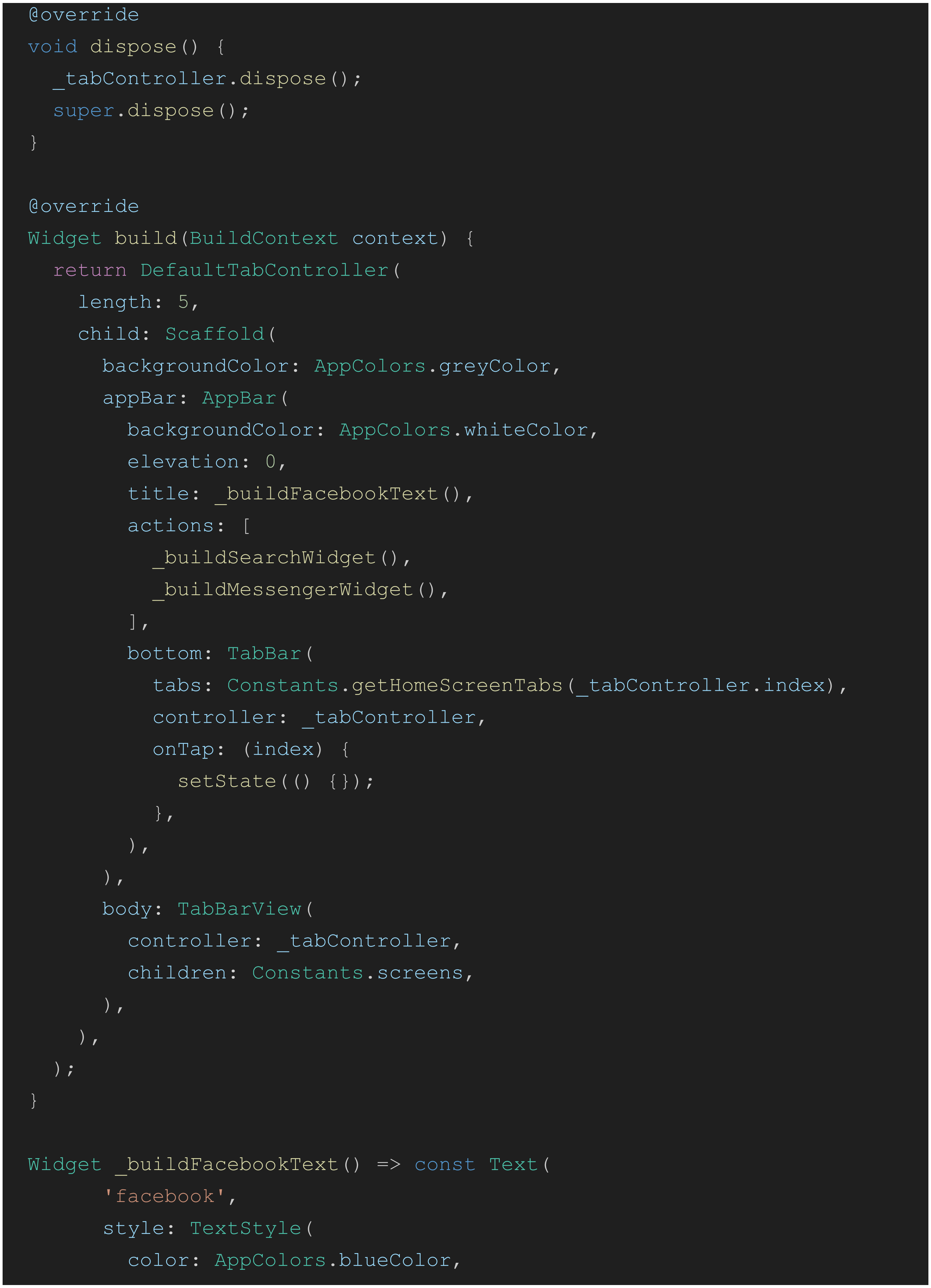
11. Stack: A widget that allows children widgets to be overlaid, facilitating complex UI designs by layering widgets on top of each other.

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.

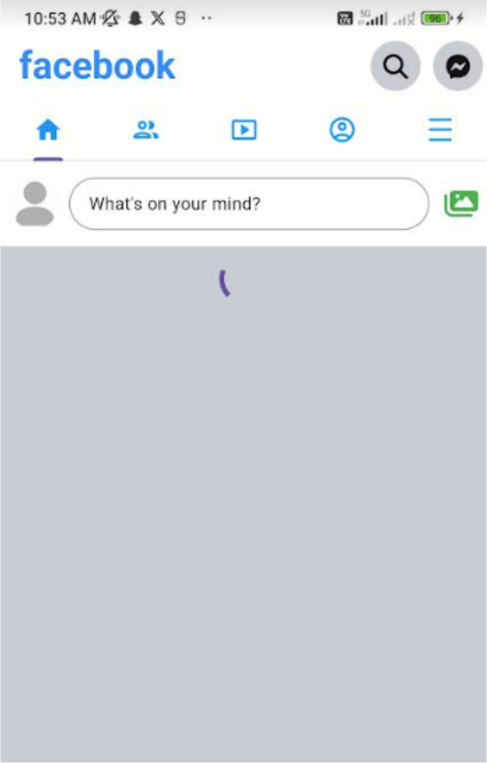
Code:

```
import 'package:facebook_clone/core/constants/app_colors.dart';
import 'package:facebook_clone/core/constants/constants.dart';
import 'package:facebook_clone/core/widgets/round_icon_button.dart';
import
'package:facebook_clone/features/chat/presentation/screens/chats_screen.da
rt';
import 'package:flutter/material.dart';
import 'package:font_awesome_flutter/font_awesome_flutter.dart';

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

  static const routeName = '/home';

  @override
  State<HomeScreen> createState() => _HomeScreenState();
}

class _HomeScreenState extends State<HomeScreen> with
TickerProviderStateMixin {
  late final TabController _tabController;

  @override
  void initState() {
    _tabController = TabController(length: 5, vsync: this);
    super.initState();
  }
```



```
  @override
  void dispose() {
    _tabController.dispose();
    super.dispose();
  }

  @override
  Widget build(BuildContext context) {
    return DefaultTabController(
      length: 5,
      child: Scaffold(
        backgroundColor: AppColors.greyColor,
        appBar: AppBar(
          backgroundColor: AppColors.whiteColor,
          elevation: 0,
          title: _buildFacebookText(),
          actions: [
            _buildSearchWidget(),
            _buildMessengerWidget(),
          ],
          bottom: TabBar(
            tabs: Constants.getHomeScreenTabs(_tabController.index),
            controller: _tabController,
            onTap: (index) {
              setState(() {});
            },
          ),
        ),
        body: TabBarView(
          controller: _tabController,
          children: Constants.screens,
        ),
      ),
    );
  }

  Widget _buildFacebookText() => const Text(
        'facebook',
        style: TextStyle(
          color: AppColors.blueColor,
          fontSize: 30,
          fontWeight: FontWeight.bold,
        ),
      );

  Widget _buildSearchWidget() => const RoundIconButton(
        icon: FontAwesomeIcons.magnifyingGlass,
      );

  Widget _buildMessengerWidget() => InkWell(
        onTap: () {
          Navigator.of(context).pushNamed(ChatsScreen.routeName);
        },
        child: const RoundIconButton(
          icon: FontAwesomeIcons.facebookMessenger,
        ),
      );
}
```

Output:


10:53 AM
facebook
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