

EXPERIMENT NO 2

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CLASS-D15A

ROLL NO-04

AIM-To design Flutter UI by including common widgets

THEORY-

Flutter is an open-source UI framework by Google that allows developers to build natively compiled applications for mobile, web, and desktop using a single codebase. It uses the Dart programming language and follows a widget- based architecture. In Flutter, everything is a widget, from layout components to UI elements.

Some of the common widgets

- **Container** – A flexible box that can hold other widgets and be styled with padding, margins, borders, and background colors. It is often used for layout structuring.
- **Text** – Used to display text with various styles, such as font size, color, weight, and alignment.
- **Image** – Loads and displays images from different sources like assets, networks, and memory.
- **Row & Column** – These layout widgets help arrange child widgets horizontally (Row) or vertically (Column). They are essential for structuring UI components.
- **Scaffold** – Provides a basic page structure, including an AppBar, body, floating action button, and drawer. It is the foundation of most Flutter screens.
- **AppBar** – A top navigation bar that usually contains a title, icons, and action buttons.
- **ListView** – A scrollable list widget that efficiently displays multiple items, often used for dynamic content like messages or product lists.

- **Text Field** – Allows users to input text, commonly used in forms and search fields.

SYNTAX-

AppBar creates a top navigator bar with title and icons.

```
AppBar (
  title: Text("Title"),
  leading: IconButton(
    icon: Icon(Icons.menu),
    onPressed: () {},
  ),
  bottom: TabBar(),
)
```

Scaffold creates the basic layout structure of the app.

```
Scaffold (
  appBar: AppBar(),
  body: Widget(),
  drawer: Drawer(),
  bottomNavigationBar: BottomNavigationBar(),
)
```

TabBar creates tabs for switching views

```
TabBar(
  tabs: [
    Tab(text: "Tab 1"),
    Tab(text: "Tab 2"),
  ],
)
```

Drawer a side menu that slides in from left

```
Drawer(
  child: ListView(
    children: [
      DrawerHeader(
        decoration: BoxDecoration(color: Colors.blue),
        child: Text("Header"),
      ),
      ListTile(
        leading: Icon(Icons.star),
```

```

        title: Text("Menu Item"),
        onTap: () {},
      ),
    ],
  ),
)

```

ListView creates a scrollable list dynamically

```

ListView.builder(
  itemCount: items.length,
  itemBuilder: (context, index) {
    return ListTile(
      title: Text(items[index]),
    );
  },
)

```

Widget Properties

Scaffold

key → Used to manage state
 appBar → Adds a top navigation bar
 body → The main content of the screen
 drawer → A slide-out menu on the left
 bottomNavigationBar → A navigation bar at the bottom

AppBar

title → Sets a title or an icon
 leading → Adds an icon or button on the left
 backgroundColor → Changes the background color
 elevation → Controls the shadow effect
 centerTitle → Aligns the title in the center
 bottom → Adds a TabBar

Drawer

child → Contains a list of menu items
 ListView → Displays menu options in a scrollable list

ListView

padding → Controls spacing around the list children
 → Contains multiple widgets inside the list

ListTile

leading → Adds an icon on the left

title → The main text of the item

trailing → Adds an icon on the right

onTap → Defines what happens when tapped

CODE

```
import 'package:cloud_firestore/cloud_firestore.dart';
import 'package:firebase_auth/firebase_auth.dart';
import 'package:flutter/material.dart';
import 'package:tinder_clone/component/profile_feature.dart';
import 'package:tinder_clone/component/profile_setting.dart';
import 'package:tinder_clone/component/profile_overall.dart';

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

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

class _ProfileScreenState extends State<ProfileScreen> {
  final FirebaseAuth _auth = FirebaseAuth.instance;
  final FirebaseFirestore _firestore = FirebaseFirestore.instance;
  String name = "User";
  String profilePic = "";
  int age = 20;
  String bio = "Add your bio!";

  @override
  void initState() {
    super.initState();
    _getUserData();
  }
}
```

```

}

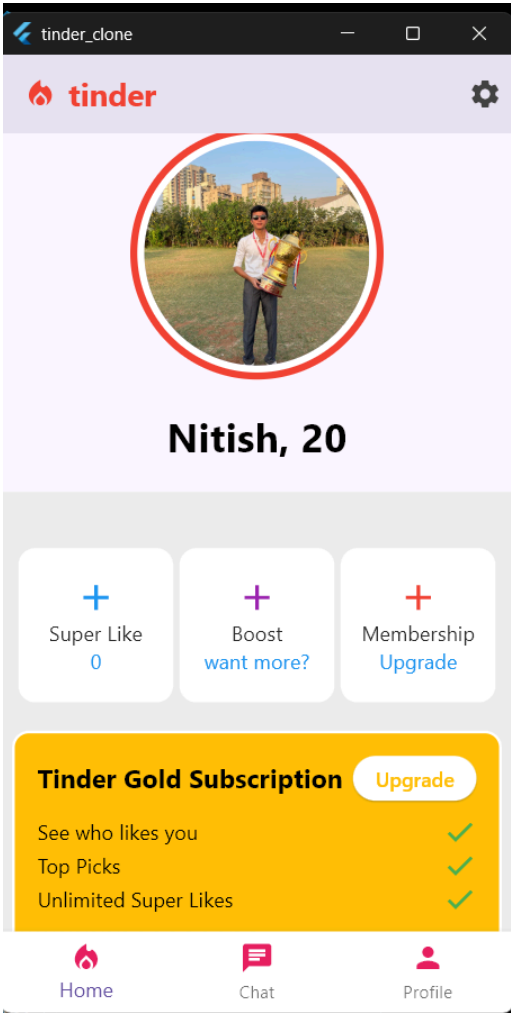
void _getUserData() async {
  User? user = _auth.currentUser;
  if (user != null) {
    DocumentSnapshot userData =
      await _firestore.collection('users').doc(user.uid).get();
    setState(() {
      name = userData['name'] ?? "User";
      profilePic = userData['profilePic'] ?? "";
      age = userData['age'] ?? 20;
      bio = userData['bio'] ?? "Add your bio!";
    });
  }
}

@override
Widget build(BuildContext context) {
  return Scaffold(
    appBar: AppBar(
      title: const Text("Profile"),
      actions: [
        IconButton(
          icon: Icon(Icons.settings),
          onPressed: () {
            Navigator.push(
              context,
              MaterialPageRoute(builder: (context) =>
ProfileSetting()),
            );
          },
        ),
      ],
    ),
    body: Column(
      crossAxisAlignment: CrossAxisAlignment.center,
      children: [
        ProfileOverall(

```

```
        imageUrl: profilePic,
        userName: name,
        userAge: age,
        completionPercentage: 90,
    ),
    SizedBox(height: 20),
    Text(
        bio,
        style: TextStyle(fontSize: 16, color: Colors.grey),
    ),
    SizedBox(height: 20),
    ProfileFeature(),
],
),
);
}
```

OUTPUT



```

import 'package:firebase_auth/firebase_auth.dart';
import 'package:flutter/material.dart';
import 'package:tinder_clone/component/swipecard.dart';
import 'package:tinder_clone/screen/login_screen.dart';

class HomeScreen extends StatelessWidget {
  final FirebaseAuth _auth = FirebaseAuth.instance;

  void _logout(BuildContext context) async {
    await _auth.signOut();
    Navigator.pushReplacement(
      context,
      MaterialPageRoute(builder: (context) => LoginScreen()),
    );
  }

  @override
  Widget build(BuildContext context) {
    User? user = _auth.currentUser;

    return Scaffold(
      appBar: AppBar(
        title: Row(
          children: [
            Icon(Icons.local_fire_department, color: Colors.red),
            SizedBox(width: 8),
            Text(
              "tinder",
              style: TextStyle(color: Colors.red, fontWeight:
FontWeight.bold),
            ),
          ],
        ),
        actions: [
          if (user != null)
            CircleAvatar(
              backgroundImage: NetworkImage(user.photoURL ?? ""),
            ),
            IconButton(
              icon: Icon(Icons.logout, color: Colors.pink),
              onPressed: () => _logout(context),
            ),
        ],
      ),
    );
  }
}

```



```

    ),
    body: Column(
      mainAxisAlignment: MainAxisAlignment.center,
      children: [
        Expanded(
          child: TinderSwipeCard(),
        ),
      ],
    ),
  );
}
}

```

