

Experiment : 05

AIM : To apply navigation, routing and gestures in Flutter App

THEORY:

Navigation and Routing:

Navigation refers to moving between different screens or pages within a Flutter app, while routing involves defining the paths or routes between those screens. Flutter provides a flexible and powerful navigation system with the help of the Navigator class and Route objects.

Navigator Class: The Navigator manages a stack of routes (screens/pages) and provides methods to push, pop, and replace routes.

Routes: A route represents a screen or page in the app. Flutter offers two types of routes: named routes and unnamed routes.

- **Named Routes:** Named routes provide a way to define routes with unique names, making it easier to navigate within the app using those names.
- **Unnamed Routes:** Unnamed routes are typically used for simple applications or when the route doesn't need a unique identifier.

MaterialPageRoute and CupertinoPageRoute: Flutter provides MaterialPageRoute for Material Design apps and CupertinoPageRoute for iOS-style apps. These classes handle animations and transitions when navigating between routes.

Navigation Methods: Common methods include **Navigator.push()**, **Navigator.pop()**, **Navigator.pushReplacement()**, etc. These methods allow you to navigate forward, backward, or replace the current route.

Steps:

1. **Create two routes. (In Flutter, screens and pages are called routes.)**
2. **Navigate to the second route using Navigator.push().**
3. **Return to the first route using Navigator.pop().**

Code:

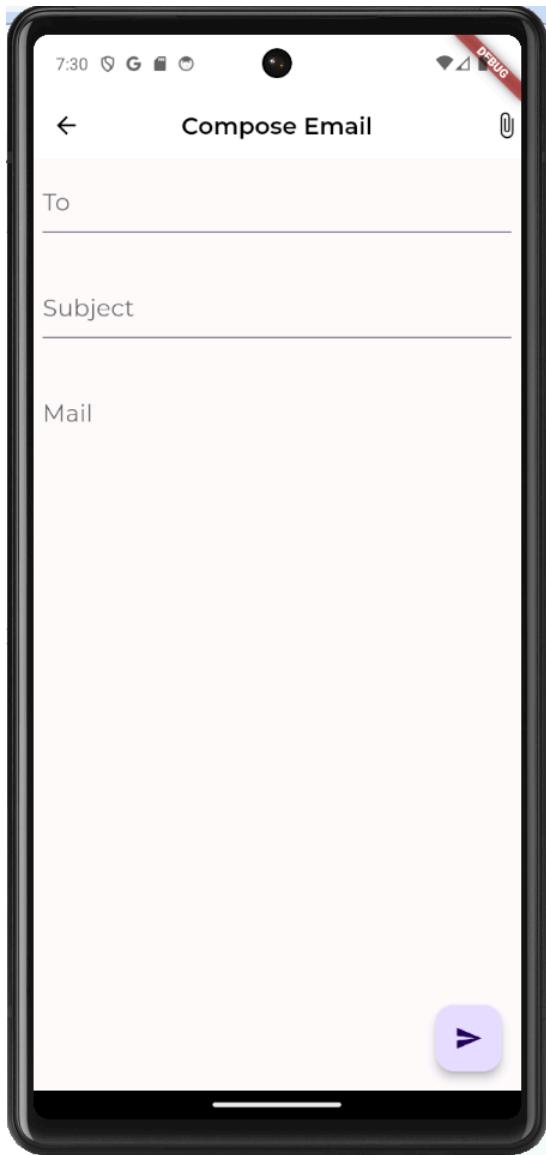
Mails.dart:

For navigation to Addmail.dart using '+' icon floatingActionButton

```
floatingActionButton: FloatingActionButton(  
  backgroundColor: Colors.white,  
  onPressed: () => Navigator.push(  
    context, MaterialPageRoute(builder: (context) => AddMail()),  
  child: Icon(  
    Icons.add,  
    size: 45,  
    color: Colors.red,  
  ),  
)
```



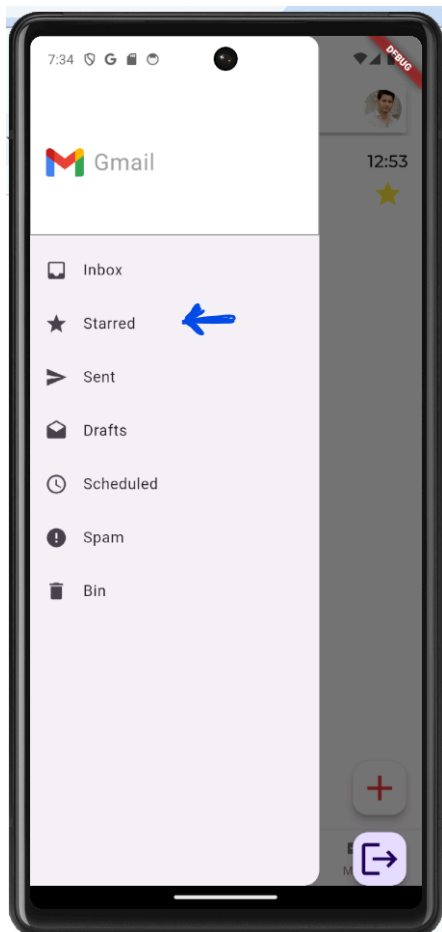
Output:
Navigated to Addmail.dart



Mails.dart:

From the left side bar,when clicked on Starred mails,it will navigate to starred mails page:

```
ListTile(  
  leading: Icon(Icons.star),  
  title: Text('Starred'),  
  onTap: () {  
    Navigator.pop(context);  
    Navigator.push(  
      context,  
      MaterialPageRoute(  
        builder: (context) => StarredMailsScreen(),  
      ),  
    ); // Close the drawer  
    // Add your logic to navigate to Starred screen  
  },  
),
```



Starredmails.dart:

```
class _StarredMailsScreenState extends State<StarredMailsScreen> {
  String? usermail;
  Stream? mystream;
  int _currentIndex = 0;
  @override
  void initState() {
    super.initState();
    getuserdata();
    getStarredMailsStream();
  }

  getStarredMailsStream() {
    setState(() {
      mystream = usercollection
        .doc(usermail)
        .collection('inbox')
        .where('stared', isEqualTo: true)
        .snapshots();
    });
  }

  getuserdata() async {
    var firebaseuser = FirebaseAuth.instance.currentUser;
    setState(() {
      usermail = firebaseuser!.email;
    });
  }

  @override
  Widget build(BuildContext context) {
    return Scaffold(
      appBar: AppBar(
        title: Text('Starred Mails'),
      ),
      body: StreamBuilder(
        stream: mystream,
        builder: (context, snapshot) {
          if (!snapshot.hasData) {
            return CircularProgressIndicator();
          }

          return ListView.builder(
            itemCount: snapshot.data!.docs.length,
```

```

itemBuilder: (BuildContext context, int index) {
  DocumentSnapshot email = snapshot.data!.docs[index];

  return InkWell(
    onTap: () {
      // Handle tap on a starred email
      // You can navigate to a detailed view or perform any action
      // based on the selected starred email.
    },
    child: Padding(
      padding: EdgeInsets.all(14),
      child: Row(
        mainAxisAlignment: MainAxisAlignment.spaceBetween,
        children: <Widget>[
          Row(
            children: [
              CircleAvatar(
                backgroundImage: NetworkImage(email['profilepic']),
                radius: 24,
              ),
              SizedBox(width: 15.0),
              Column(
                crossAxisAlignment: CrossAxisAlignment.start,
                children: <Widget>[
                  Text(
                    email['username'],
                    style: mystyle(22, Colors.black),
                  ),
                  Text(
                    email['subject'],
                    overflow: TextOverflow.ellipsis,
                    style: mystyle(18, Colors.black),
                  )
                ],
              ),
            ],
          ),
          SizedBox(width: 5.0),
          Column(
            children: <Widget>[
              Text(
                DateFormat.Hm()
                  .format(email['time'].toDate())
                  .toString(),

```

```

        style: mystyle(18, Colors.black),
      ),
      SizedBox(height: 5.0),
    ],
  ),
  ],
),
),
);
},
);
},
),

```

Output:



Conclusion: Understood how to apply navigation, routing and gestures in Flutter App
