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Experiment No -05
Navigation ,Routing and Gestures

Aim - To Apply navigation ,routing and gestures in Flutter App.

Theory -

Navigation:
- Navigation refers to moving between different screens or pages within a Flutter app.
- Flutter provides a Navigator widget to manage navigation between routes.
- Routes are identified by a unique string, which is used to push or pop routes onto/from the navigation stack.

Routing:
- Routing in Flutter refers to the process of defining and managing the routes within your app.
- You can define routes using a MaterialApp widget's routes property or by using named routes with the Navigator.
- With named routes, you define a mapping of route names to builder functions that return the corresponding widgets for each route.

Gestures:
Flutter provides gesture recognizers like GestureDetector for handling user gestures such as taps, swipes, etc. Here's a simple example of detecting a tap gesture.

Code And Output :
Foodinfo.dart

```dart
import 'package:flutter/material.dart';
import 'package:food/cart/cart2.dart';
import 'package:food/screen/category.dart';
import 'package:food/widgets/item_widgets.dart';
import 'package:food/widgets/item_widgets2.dart';
import 'package:food/widgets/item_widget2.dart';
import 'package:food/widgets/item_widgets3.dart';
import 'package:food/widgets/item_widgets4.dart';
import 'package:food/widgets/item_widgets5.dart';
import 'package:food/widgets/item_widgets6.dart';
import 'package:food/widgets/item_widgets7.dart';

class FoodInfo extends StatefulWidget {
  @override
  _FoodInfoState createState() => _FoodInfoState();
}

class _FoodInfoState extends State<FoodInfo> {
  int _currentIndex = 0;

  // Define the list of headings for the containers
  List<String> containerHeadings = [
    "Beverages and Cakes",
    "Breakfast",
    "Lunch",
    "Noddles",
    "Sandwitch",
    "Soup and Salad",
  ];

  // List of routes corresponding to each tab
```

```dart
  List<Widget> _tabRoutes = [
    // Add your routes here for each tab
    ItemWidget2(), // For example
    // Dummy route for demonstration, replace with your desired routes
    ItemWidgets3(),
    ItemWidgets4(),
    ItemWidgets5(),
    ItemWidgets6(),
    ItemWidgets7(),
  ];

  @override
  Widget build(BuildContext context) {
    return DefaultTabController(
      length: 6,
      child: Scaffold(
        backgroundColor: Colors.black,
        appBar: AppBar(
          backgroundColor: Colors.black,
          iconTheme: IconThemeData(
            color: Colors.white, // Change the color of the drawer icon here
          ),
          actions: [
            Padding(
              padding: const EdgeInsets.symmetric(horizontal: 10.0),
              child: Container(
                width: MediaQuery.of(context).size.width * 0.7,
                child: TextField(
                  style: TextStyle(color: Colors.white),
                  decoration: InputDecoration(
                    hintText: 'Menu is for ....',
                    hintStyle: TextStyle(color: Colors.white.withOpacity(0.5), fontSize: 25),
                    border: InputBorder.none,
                  ),
                  cursorColor: Colors.white,
                  // Add any search functionality here
```

```dart
          ),
        ),
      ),
    ],
  ),
),
drawer: Drawer(
  backgroundColor: Colors.black,
  child: ListView(
    children: [
      ListTile(
        title: const Text("Address",style: TextStyle(color: Colors.white),),
        onTap: () {},
      ),
      Divider(
        color: Colors.white,
        thickness: 1,
      ),
      ListTile(
        title: const Text("Personal Information",style: TextStyle(color: Colors.white),),
        onTap: () {},
      ),
      Divider(
        color: Colors.white,
        thickness: 1,
      ),
      ListTile(
        title: const Text("View Cart",style: TextStyle(color: Colors.white),),
        onTap: () {
          Navigator.push(
            context,
            MaterialPageRoute(builder: (context) => (CartView1())),
          );


        }
        ,
```

```dart
        ),
      ],
    ),
  ),
  body: SafeArea(
    child: Stack(
      children: [
        Column(
          crossAxisAlignment: CrossAxisAlignment.start,
          children: [
            Padding(
              padding: const EdgeInsets.symmetric(horizontal: 15.0),
              child: SingleChildScrollView(
                scrollDirection: Axis.horizontal,
                child: Row(
                  children: [
                    SizedBox(height: 50),
                    Padding(
                      padding: EdgeInsets.symmetric(horizontal: 15),
                      child: Image(
                        image: AssetImage('assets/images/upper1.jpg'),
                        width: 150,
                        height: 150,
                        fit: BoxFit.cover,
                      ),
                    ),
                    SizedBox(width: 10),
                    Padding(
                      padding: EdgeInsets.symmetric(horizontal: 15),
                      child: Image(
                        image: AssetImage('assets/images/valentine.jpg'),
                        width: 150,
                        height: 150,
                        fit: BoxFit.contain,
                      ),
                    ),
                    SizedBox(width: 10),
```

```
              // Add more images here
              Padding(
                padding: EdgeInsets.symmetric(horizontal: 15),
                child: Image(
                  image: AssetImage('assets/images/dinner.jpg'),
                  width: 150,
                  height: 150,
                  fit: BoxFit.contain,
                ),
              ),
              // Add more images as needed
            ],
          ),
        ),
      ),
    ),
    SizedBox(height: 10),
    Padding(
      padding: const EdgeInsets.symmetric(horizontal: 15.0),
      child: Text(
        "TODAY ' S  MENU",
        style: TextStyle(color: Colors.white, fontSize: 20, fontWeight:
FontWeight.bold),
      ),
    ),
    Padding(
      padding: const EdgeInsets.symmetric(horizontal: 15.0),
      child: Text(
        "Chef-Crafted Daily Specials",
        style: TextStyle(color: Colors.grey, fontSize: 18),
      ),
    ),
    Padding(
      padding: EdgeInsets.symmetric(horizontal: 15),
      child: TabBar(
        isScrollable: true,
        indicator: BoxDecoration(),
        labelStyle: TextStyle(fontSize: 20,color: Colors.orange),
```

```dart
        labelPadding: EdgeInsets.symmetric(horizontal: 20),
        tabs: [
          for (var heading in containerHeadings)
            Tab(text: heading),
        ],
        onTap: (index) {
          setState(() {
            _currentIndex = index;
          });
          // Navigate to corresponding page
          Navigator.push(
            context,
            MaterialPageRoute(builder: (context) => _tabRoutes[index]),
          );
        },
      ),
    ),
    Flexible(
      flex:1,
      child:TabBarView(
        children: [
          for (var i = 0; i < containerHeadings.length; i++)
            _currentIndex == i
              ? Container(
                color: Colors.black,
                child: Column(
                  children: [
                    Padding(
                      padding: const EdgeInsets.all(8.0),
                      child: Text(
                        containerHeadings[i],
                        style: TextStyle(color: Colors.white, fontSize: 24),
                      ),
                    ),
                    Expanded(
                      child: Container(
                        decoration: BoxDecoration(
```

```dart
                  border: Border.all(color: Colors.grey),
                ),
                child: ItemWidgets(),
              ),
            ),
          ],
        ),
      )
            : Container(),
        ],
      ),
    ),
  ],
),
Positioned(
  bottom: 16,
  right: 16,
  child: FloatingActionButton(
    onPressed: () {
      Navigator.push(
        context,
        MaterialPageRoute(builder: (context) => (CateGory())),
      );
    },
    child: Icon(Icons.search, color: Colors.orange),
    backgroundColor: Colors.grey[900], // Change the color as needed
    shape: CircleBorder(), // Make the button circular
  ),
),
      ],
    ),
   ),
  ),
 );
 }
}
```
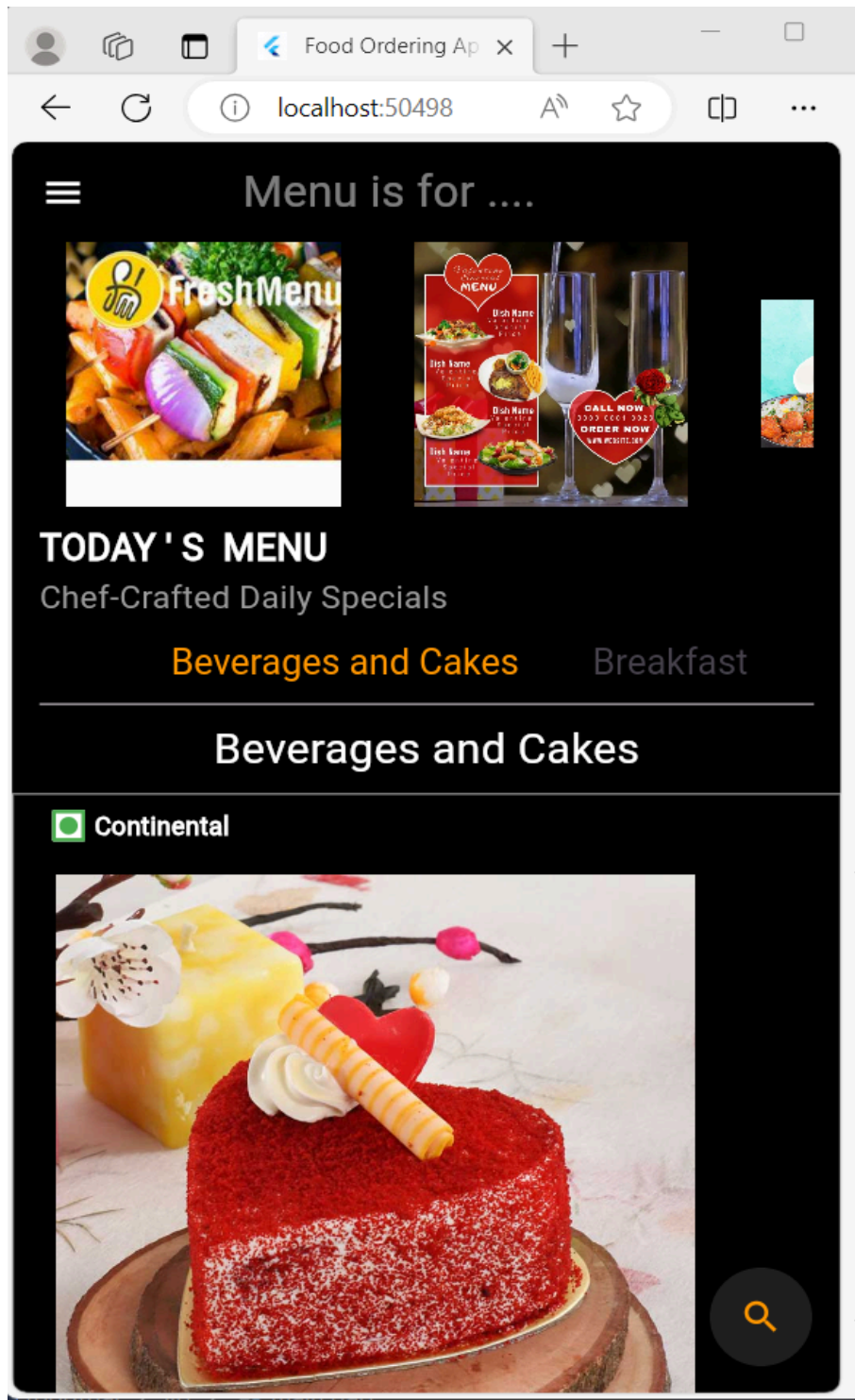
Output

After click on the image I change from this page to another page using the navigation

Redvalvet Cake

Add to Cart

₹199   ~~₹250~~   **10 % offer**

23	50	1	20	2
Fat(g)	Fiber(g)	Carbs(g)	Protein(g)	Energy(g)

Savor the rich, velvety delight of our Red Velvet Cake, crafted with layers of cocoa-infused goodness and creamy, indulgent frosting. A

View Cart

Conclusion - In this experiment I learned how to navigate from one page to another using Navigation.push() and successfully implemented it.