

## **MAD PWA Lab**

### **Experiment - 5**

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**Aim: To apply navigation, routing and gestures in Flutter App**

#### **Theory:**

##### **Navigation:**

Navigation is a fundamental aspect of mobile app development that involves transitioning between different screens or pages. In Flutter, the Navigator class plays a central role in managing the navigation stack, allowing developers to push and pop routes as users move through the app.

##### **Navigator Class:**

The Navigator class handles the navigation stack, maintaining a history of routes. The push method adds a new route to the stack, typically triggered by user actions. The pop method removes the current route from the stack, enabling backward Navigation.

##### **Routing:**

Routing in Flutter involves defining and organizing the paths or routes within the application. Routes represent different screens or pages, and their effective use is crucial for structuring the app's architecture.

##### **MaterialPageRoute and CupertinoPageRoute:**

MaterialPageRoute is employed in apps following Material Design principles, providing a standard Android-style transition between screens.

CupertinoPageRoute is used for iOS-style designs, ensuring a consistent and native user experience.

##### **Named Routes:**

Named routes offer a more organized and readable approach to navigation. By assigning names to routes, such as '/details', developers can easily navigate to specific screens using Navigator.pushNamed.

##### **Gestures in Flutter:**

Gestures enhance user interaction by allowing the app to respond to touch or mouse inputs. In Flutter, the GestureDetector widget is instrumental in recognizing and handling various gestures.

**GestureDetector Widget:**

The GestureDetector widget is used to detect a variety of gestures, including taps, drags, and long presses. By wrapping UI components with GestureDetector, developers can specify callback functions to execute when specific gestures are detected.

**Gesture Recognizers:**

Flutter provides gesture recognizers for more complex gestures, such as panning, pinching, and swiping. These recognizers, when combined with a GestureDetector, enable the app to respond to a broader range of user inputs.

**InkWell and InkResponse:**

The InkWell and InkResponse widgets bring a material ripple effect to touchable UI components. Integrating these widgets enhances the visual feedback during user interactions, contributing to a more polished and intuitive user experience.

**CODE:** Routing/Navigation and Gesture Detector between **home.dart** and **details.dart**  
**Home.dart**

🔗 Click here to ask Blackbox to help you code faster

```
1 import 'package:flutter/material.dart';
2 import 'package:food_panda/pages/details.dart';
3 import 'package:food_panda/widget/widget_support.dart';
4
5 class Home extends StatefulWidget {
6   const Home({super.key});
7
8   @override
9   State<Home> createState() => _HomeState();
10 }
11
12 class _HomeState extends State<Home> {
13   bool icecream = false, pizza = false, salad = false, burger = false;
14   @override
15   Widget build(BuildContext context) {
16     return Scaffold(
17       body: SingleChildScrollView(
18         scrollDirection: Axis.vertical,
19         child: Container(
20           margin: const EdgeInsets.only(top: 50.0, left: 20.0),
21           child: Column(
22             crossAxisAlignment: CrossAxisAlignment.start,
23             children: [
24               Row(
25                 mainAxisAlignment: MainAxisAlignment.spaceBetween,
26                 children: [
27                   Text("We Proudly Welcome You", style: AppWidget.boldTextFiledStyle()),
28                   Container(
29                     margin: const EdgeInsets.only(right: 20.0),
30                     padding: const EdgeInsets.all(3),
31                     decoration: BoxDecoration(
32                       color: Colors.black,
33                       borderRadius: BorderRadius.circular(8)), // BoxDecoration
34                   child: const Icon(
35                     Icons.shopping_cart_outlined,
36                     color: Colors.white,
37                   ), // Icon
38                 ], // Container
39               ), // Row
40               const SizedBox(
41                 height: 20.0,
42               ), // SizedBox
43               Text("Delicious Food", style: AppWidget.HeadlineTextFiledStyle()),
44               Text("Discover and Get Great Food",
```

```

45 Text("Discover and Get Great Food",
46   style: AppWidget.LightTextFieldStyle()), // Text
47 const SizedBox(
48   height: 20.0,
49 ), // SizedBox
50 Container(
51   margin: const EdgeInsets.only(right: 20.0),
52   child: showItem(), // Container
53 const SizedBox(
54   height: 30.0,
55 ), // SizedBox
56 SingleChildScrollView(
57   scrollDirection: Axis.horizontal,
58   child: Row(
59     children: [
60       GestureDetector(
61         onTap: () {
62           Navigator.push(context,
63             MaterialPageRoute(builder: (context) => Details()));
64         },
65         child: Container(
66           margin: const EdgeInsets.all(4),
67           child: Material(
68             elevation: 5.0,
69             borderRadius: BorderRadius.circular(20),
70             child: Container(
71               padding: const EdgeInsets.all(14),
72               child: Column(
73                 crossAxisAlignment: CrossAxisAlignment.start,
74                 children: [
75                   Image.asset(
76                     "images/wafflee.png",
77                     height: 150,
78                     width: 150,
79                     fit: BoxFit.cover,
80                   ), // Image.asset
81                   Text("taco waffles",
82                     style:
83                       AppWidget.semiBoldTextFieldStyle()), // Text
84                   const SizedBox(
85                     height: 5.0,
86                   ), // SizedBox
87                   Text("Fresh and Healthy",
88                     style: AppWidget.LightTextFieldStyle()), // Text
89                   const SizedBox(
90                     height: 5.0,

```

## OUTPUT:

