

## MPL Experiment 5

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**Roll no:**28

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

### **Theory:**

#### **Navigation & Routing:**

Flutter provides multiple ways to navigate between screens (pages):

1. **Using Navigator.push() and Navigator.pop()**  
Push a new screen onto the stack and pop it to return to the previous one.
2. **Named Routes**  
Define routes in MaterialApp and navigate using Navigator.pushNamed().
3. **GoRouter Package**  
A declarative approach to handle navigation more efficiently.

#### **Gestures:**

Flutter's GestureDetector and InkWell widgets help in detecting user interactions like taps, swipes, and long presses. Some common gestures include:

- **onTap:** Detects a tap event.
- **onDoubleTap:** Recognizes double taps.
- **onLongPress:** Detects a long press on a widget.
- **onHorizontalDrag & onVerticalDrag:** Detects drag/swipe motions.

#### **Steps:**

**Step 1:** Create a Flutter project and define multiple screens.

**Step 2:** Set up named routes in MaterialApp.

**Step 3:** Implement navigation using Navigator.push() and Navigator.pushNamed().

**Step 4:** Use GestureDetector to detect taps, swipes, and long presses.

**Step 5:** Add buttons or swipes to navigate between screens.

#### **Code:**

```
//bottom_tab.dart
import 'package:flutter/material.dart';
import 'package:dmart/screens/home/home_page.dart';
import 'package:dmart/screens/category/category_page.dart';
import 'package:dmart/screens/favorite/favorite_page.dart';
import 'package:dmart/screens/myaccount/account_page.dart';
```

```

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

  @override
  State<BottomTab> createState() => _BottomTabState();
}

class _BottomTabState extends State<BottomTab> {
  int _currentIndex = 0;
  final PageController _pageController = PageController();

  final List<Widget> _pages = [
    const HomePage(),
    const CategoryPage(),
    const FavoritePage(),
    const MyAccountPage(),
  ];

  @override
  void dispose() {
    _pageController.dispose();
    super.dispose();
  }

  @override
  Widget build(BuildContext context) {
    return Scaffold(
      body: SizedBox(
        height: double.infinity,
        child: PageView(
          controller: _pageController,
          physics:
            const NeverScrollableScrollPhysics(), // Prevent swipe
navigation
          children: _pages,
          onPageChanged: (index) {
            setState(() {

```

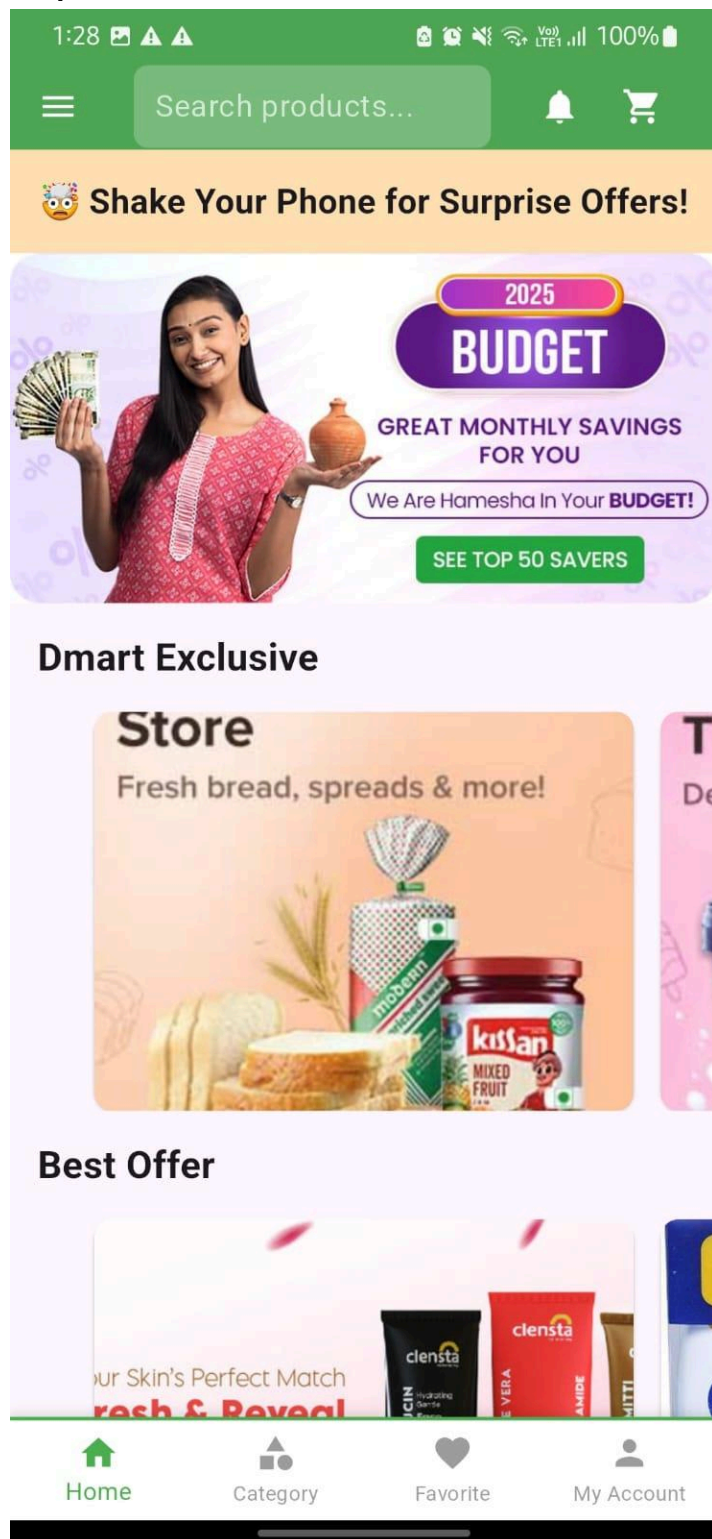
```

        _currentIndex = index;
    });
    },
),
),
bottomNavigationBar: Container(
  decoration: const BoxDecoration(
    border: Border(
      top: BorderSide(
        width: 2, color: Colors.green), // Green border at the
top
    ),
    boxShadow: [
      BoxShadow(
        color: Colors.black12,
        blurRadius: 5,
        offset: Offset(0, -2), // Slight elevation effect
      ),
    ],
  ),
  child: BottomNavigationBar(
    type: BottomNavigationBarType.fixed,
    backgroundColor: Colors.white,
    elevation: 10,
    selectedItemColor: Colors.green, // Active icon color
    unselectedItemColor: Colors.grey, // Inactive icon color
    showUnselectedLabels: true,
    showSelectedLabels: true,
    currentIndex: _currentIndex,
    onTap: (int index) {
      _pageController.jumpToPage(index);
    },
    items: const [
      BottomNavigationBarItem(
        icon: Icon(Icons.home),
        label: 'Home',
      ),
      BottomNavigationBarItem(

```

```
        icon: Icon(Icons.category),
        label: 'Category',
      ),
      BottomNavigationBarItem(
        icon: Icon(Icons.favorite),
        label: 'Favorite',
      ),
      BottomNavigationBarItem(
        icon: Icon(Icons.person),
        label: 'My Account',
      ),
    ],
  ),
),
);
}
```

Output:



1:28

VoLTE 100%

## Shop By Category



Dairy &  
Beverages

Electronics &  
Appliances

Grocery

Home &  
Kitchen

Packaged  
Foods

Sports &  
Fitness



Juices



Soft Drinks



Milk & Dairy



Tea & Coffee



Home



Category



Favorite



My Account

1:29

VoLTE 100%



## Soft Drinks



### Thumbs Up

Qty: 2.25 L

**DMart: ₹75**

MRP: ₹100

₹25 OFF



—

1

+



### Sprite

Qty: 2.25 L

**DMart: ₹62**

MRP: ₹100

₹38 OFF



ADD

1:29

VoLTE 100%

## My Cart



### Thumbs Up

Qty: 2.25 L

DMart: ₹75.0

MRP: ₹100.0

₹25 OFF



−

1

+

Total Amount:

₹75.00

Clear Cart

Checkout



1:28

VoLTE 100%

## Favorites



### Real Fruit Power Mixed Fruit

Qty: 1 L

**DMart: ₹96.00**

MRP: ₹115.20

₹19.20 OFF



### B Natural Mixed Fruit Beverage

Qty: 1 L

**DMart: ₹70.00**

MRP: ₹84.00

₹14.00 OFF



Home

Category

Favorite

My Account

