

MAD & PWA LAB

Experiment 5

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

Theory:

1. Navigation in Flutter

Navigation allows users to move between screens in an app. It is managed using the Navigator and a stack-based system. The most common navigation actions include:

- Push Navigation: Moves to a new screen.
- Pop Navigation: Goes back to the previous screen.
- Named Routes: Uses predefined names for navigation instead of directly creating new screen instances.

2. Routing in Flutter

Routing defines the path and logic for screen transitions. There are two main types:

- Static Routing: Predefined routes set in MaterialApp.
- Dynamic Routing: Routes created dynamically using onGenerateRoute, allowing flexible screen navigation.

3. Gestures in Flutter

Gestures enable user interactions such as tapping, swiping, and dragging. Flutter provides:

- GestureDetector: Detects custom gestures like tap, double-tap, and long press.
- InkWell: Adds ripple effects for a better touch response.

Code:

Bottom Navigation

```
bottomNavigationBar:  
BottomNavigationBar(  
  items: const  
<BottomNavigationBarItem>[  
    BottomNavigationBarItem(icon:  
Icon(Icons.chat), label: 'Chats'),  
    BottomNavigationBarItem(icon:  
Icon(Icons.person), label: 'Profile'),  
    BottomNavigationBarItem(  
      icon: Icon(Icons.settings),  
      label: 'Settings',  
    ),  
  ],  
  currentIndex: _selectedIndex,  
  onTap: _onItemTapped,  
)
```

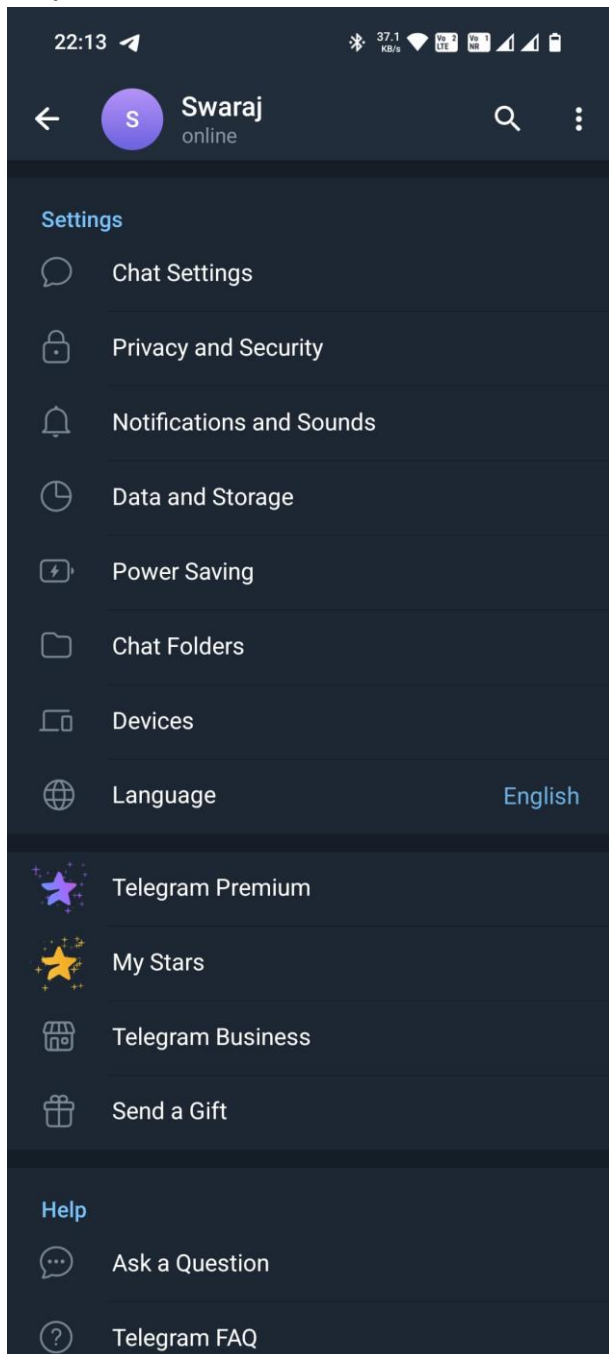
Navigation to Detail Screen

```
onTap: () {  
  Navigator.push(  
    context,   
    MaterialPageRoute(  
      builder: (context) => DemoChatScreen(userName: 'User ${index + 1}'),  
    ),  
  );  
}
```

Navigation with Replacement

```
Navigator.of(context).pushReplacement(  
  MaterialPageRoute(  
    builder: (context) => const DemoLoginScreen(),  
  ),  
);
```

Output:



22:13

16.3 KB/s Vo 2 LTE Vo 1 NR



Swaraj

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Mar 29

19



My Profile



New Group



Contacts



Calls



Saved Messages



Settings



Invite Friends



Telegram Features



22:13

4.97 KB/s Vo 2 Vo 1



Saved Messages



Your cloud storage

- Forward messages here to save them
- Send media and files to store them
- Access this chat from any device
- Use search to quickly find things



Message



