EXPERIMENT NO 5

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CLASS-D15A

ROLL NO-04

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

THEORY-

Navigation in Flutter allows users to move between different screens (or pages) in the app. Flutter uses the Navigator widget to handle navigation between routes (screens).

Types of Navigation

- Push Navigation (Forward Navigation) → Moves to a new screen.
- Pop Navigation (Backward Navigation) → Moves back to the previous screen.
- PushReplacement → Replaces the current screen with a new one.
- PushAndRemoveUntil → Moves to a new screen and removes previous screens from the stack.

Routing in Flutter manages different screens in the app. It helps organize and structure navigation efficiently.

Types of Routing

1. Direct Route Navigation (MaterialPageRoute)-Used for simple page-to-page navigation.
2. Named Routes (Predefined Routes in main.dart)-Defined in the MaterialApp widget and used throughout the app.

Flutter uses the GestureDetector widget to detect user interactions like taps, swipes, pinches, and long presses. This is essential for making an app interactive.

Common Gestures & Their Uses:

- Tap → Detects simple taps on a widget.
- Double Tap → Recognizes double-clicking.
- Long Press → Triggers an action when the user presses and holds.
- Swipe (Drag) → Detects horizontal or vertical dragging.
- Pinch (Zoom In/Out) → Detects two-finger pinch for zooming.

SYNTAX

Navigator

```
Navigator.push(
context,
  MaterialPageRoute(builder: (context) => SecondPage()),
);
Navigator.pushReplacement(
  context,
  MaterialPageRoute(builder: (context) => NewPage()),
);
```

Routing

```
void main() {
  runApp(MaterialApp
  ( initialRoute: '/',
  routes: {
      '/': (context) => HomePage(),
      '/profile': (context) => ProfilePage(),
```

```
    },
  ));
}
```

Gestures

```
GestureDetector(
onTap: () {
    print("Widget Tapped!");
  },
  child: Container(
    width: 100,
    height: 100,
    color: Colors.blue,
  ),
);
```

Widget Properties

Navigator

context → The current build context for navigation.

MaterialPageRoute → Creates a transition animation between pages.

builder → Defines the widget to navigate to.

Navigator.push() → Pushes a new screen on top of the stack.

Navigator.pop() → Removes the top screen and goes back.

Navigator.pushReplacement() → Replaces the current screen with a new one.

Routing

initialRoute → Sets the first screen when the app starts.

routes → Defines a map of route names and corresponding widgets.

Navigator.pushNamed() → Navigates using a predefined route.

Navigator.pop() → Closes the current screen and returns to the previous one.

Gestures

onDoubleTap → Detects a double tap.

onLongPress → Detects when the user presses and holds.

onHorizontalDragStart → Detects when a horizontal drag begins.

onHorizontalDragUpdate → Detects movement during a horizontal drag.

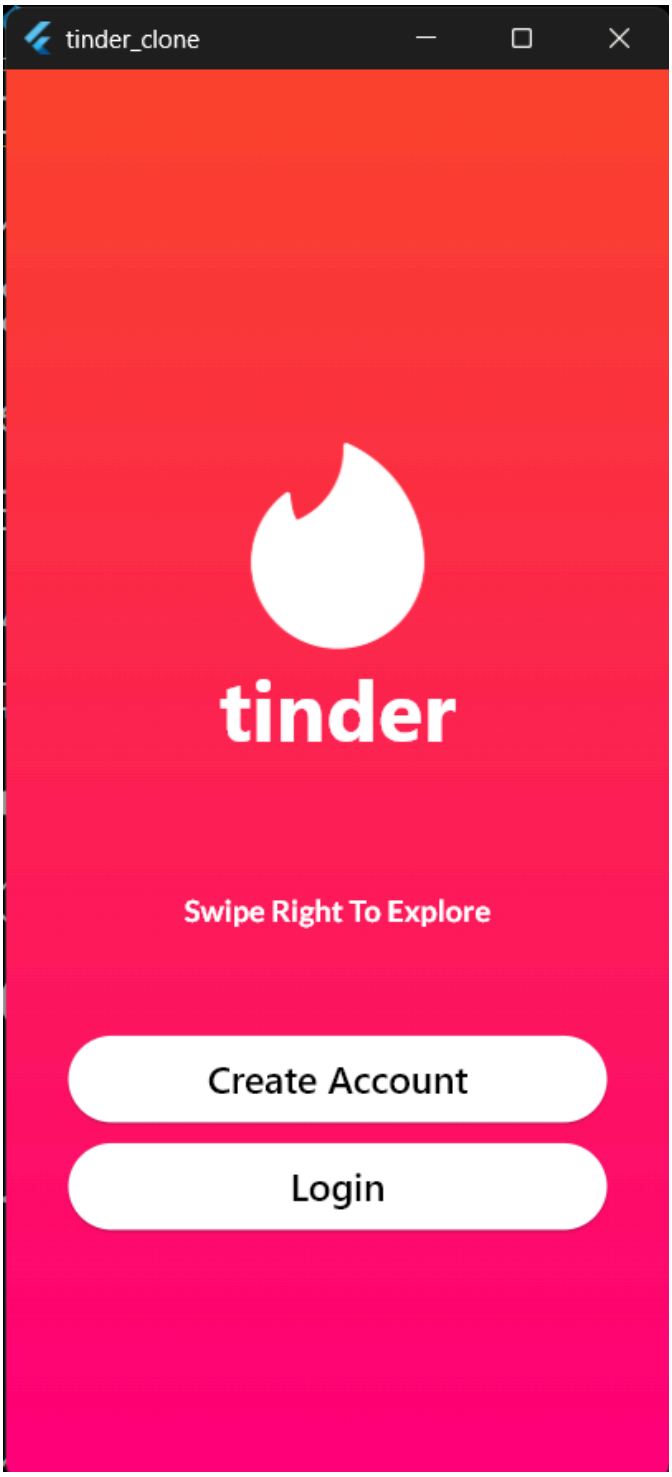
onHorizontalDragEnd → Detects when a horizontal drag stops.

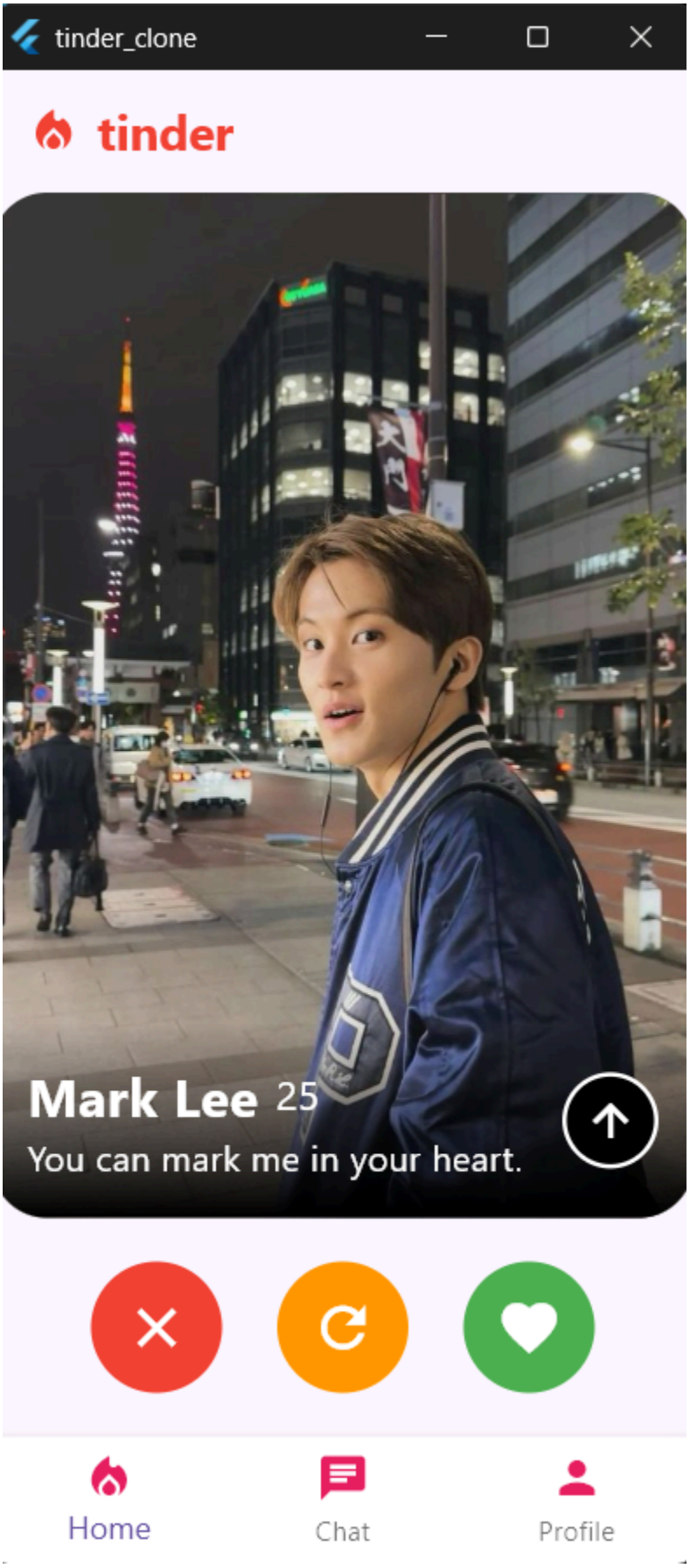
CODE

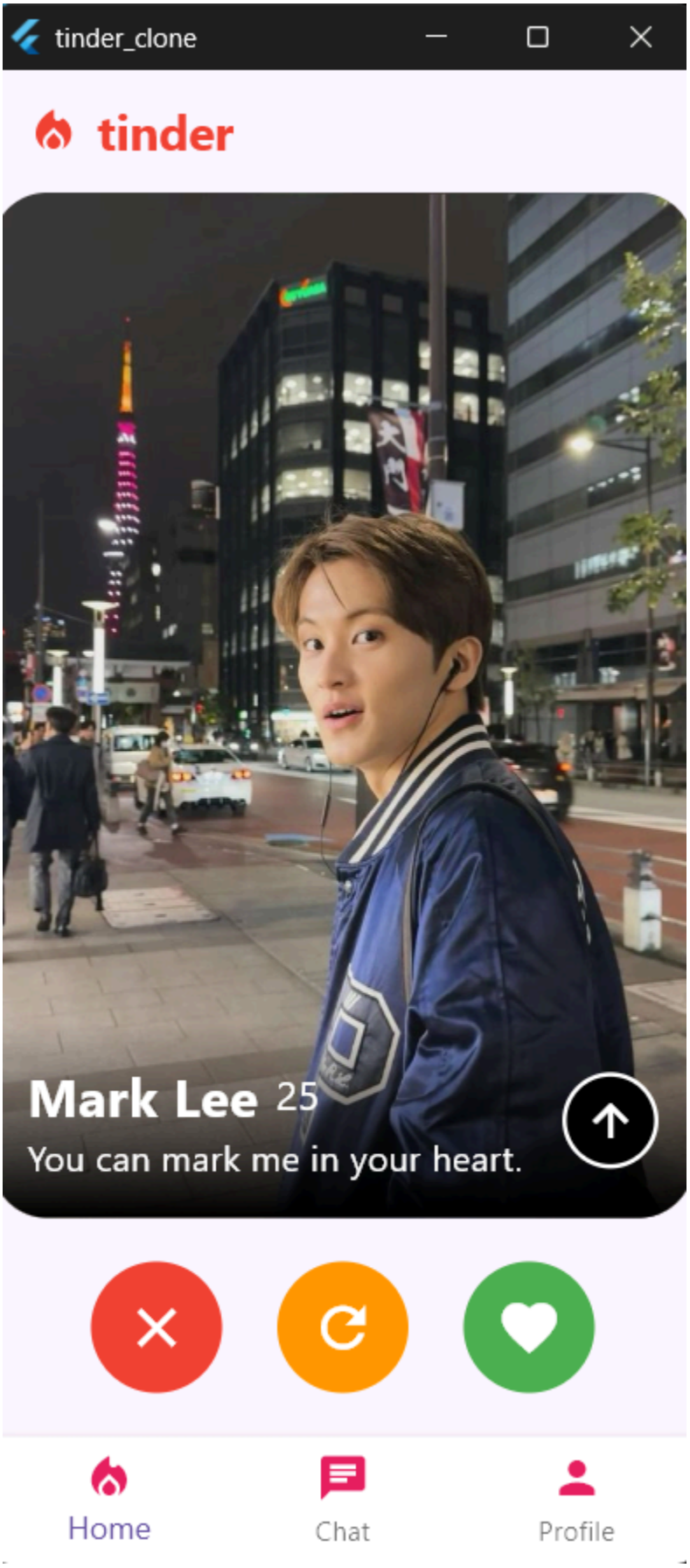
```
import 'dart:async';


import 'package:flutter/material.dart';
import 'package:flutter_screenutil/flutter_screenutil.dart';


import 'package:tinder_clone/screen/login_screen.dart';




class SplashScreen extends StatefulWidget {


  @override
  _SplashScreenState createState() => _SplashScreenState();
}
```

```
class _SplashScreenState extends State<SplashScreen> {

  @override

  void initState() {

    super.initState();

    Timer(new Duration(seconds: 2),(){

      Navigator.pop(context);

      Navigator.push(context, MaterialPageRoute(builder: (context)
=> LoginScreen())) ;

    });

  }



  @override

  Widget build(BuildContext context) {

    ScreenUtil.init(context) ;



    return Scaffold(

      backgroundColor: Colors.white,

      body: new Center(

        child: new Image(

          width: ScreenUtil().setWidth(100.0),

          height: ScreenUtil().setHeight(100.0),

          image: new AssetImage('assets/images/tinder.png'),

        ),

      ),

    );

  }

}
```

OUTPUT


tinder_clone
tinder
Swipe Right To Explore
Create Account
Login


tinder_clone
tinder
Mark Lee 25
You can mark me in your heart.
Home
Chat
Profile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