Aim: To design flutter ui by including common widgets.

Introduction to Flutter UI

Flutter is a UI toolkit developed by Google that helps in building natively compiled applications for mobile, web, and desktop using a single codebase. It uses the Dart programming language and provides a rich set of widgets to create beautiful and responsive user interfaces.

Common Widgets in Flutter

Flutter provides various widgets that help in designing UI easily. Some of the most commonly used widgets include:

- Scaffold: Provides a basic structure for the app, including an app bar and body.
- AppBar: Displays the title and actions at the top of the screen.
- Text: Displays text content.
- ElevatedButton: A button with elevation, used for clickable actions.
- SizedBox: Adds spacing between widgets.
- Column & Row: Arranges widgets vertically and horizontally.
- Icon: Displays icons like home, settings, or emergency symbols.
- Navigator: Handles screen navigation.

Implementation in Our Code

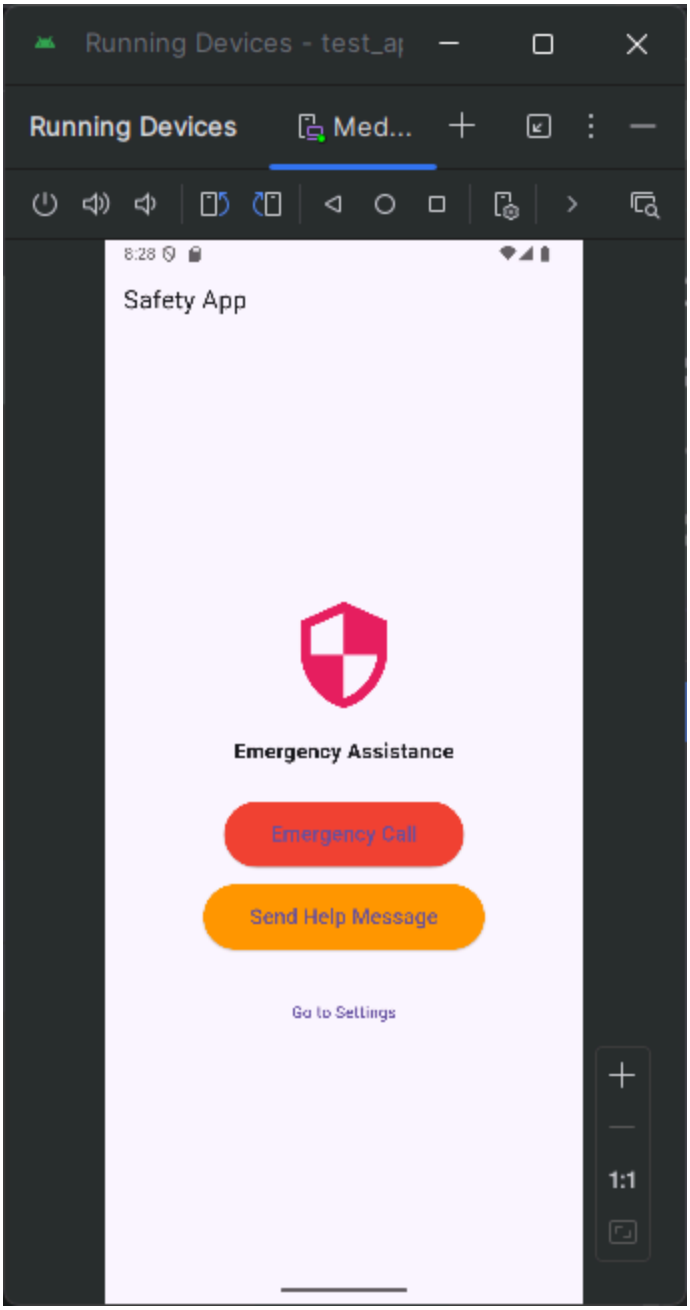
In this lab, we have designed a simple UI for a Woman Safety App using Flutter. The key features of our app include:

1. Home Screen
    - Displays an emergency assistance section.
    - Includes an Emergency Call button (simulated using a print statement).
    - Includes a Send Help Message button to alert contacts.
    - Uses ElevatedButton for interactions.
2. Navigation
    - Clicking on "Go to Settings" takes the user to another screen.
    - Navigator.push() is used to switch between screens.
3. Settings Screen
    - A simple page displaying "Settings Page" text.
    - Shows how multiple screens can be handled in Flutter.

Code :

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

void main() {
  runApp(WomanSafetyApp());
}

class WomanSafetyApp extends StatelessWidget {
  @override
  Widget build(BuildContext context) {
    return MaterialApp(
      debugShowCheckedModeBanner: false,
      title: 'Woman Safety App',
      theme: ThemeData(
        primarySwatch: Colors.pink,
      ),
      home: HomeScreen(),
    );
  }
}

class HomeScreen extends StatelessWidget {
  void sendHelpMessage() {
    // Placeholder for SMS or alert functionality
    print("Help message sent!");
  }

  @override
  Widget build(BuildContext context) {
    return Scaffold(
      appBar: AppBar(title: Text('Safety App')),
      body: Center(
        child: Column(
          mainAxisAlignment: MainAxisAlignment.center,
          children: [
            Icon(Icons.security, size: 100, color: Colors.pink),
            SizedBox(height: 20),
            Text(
              "Emergency Assistance",
              style: TextStyle(fontSize: 18, fontWeight: FontWeight.bold),
            ),
            SizedBox(height: 30),
            ElevatedButton(
              onPressed: () {
                // Placeholder for emergency call function
                print("Calling emergency number...");
              },
              style: ElevatedButton.styleFrom(
```

```
              backgroundColor: Colors.red,
              padding: EdgeInsets.symmetric(horizontal: 40, vertical: 15),
            ),
            child: Text("Emergency Call", style: TextStyle(fontSize: 18)),
          ),
          SizedBox(height: 15),
          ElevatedButton(
            onPressed: sendHelpMessage,
            style: ElevatedButton.styleFrom(
              backgroundColor: Colors.orange,
              padding: EdgeInsets.symmetric(horizontal: 40, vertical: 15),
            ),
            child: Text("Send Help Message", style: TextStyle(fontSize: 18)),
          ),
          SizedBox(height: 30),
          TextButton(
            onPressed: () {
              Navigator.push(
                context,
                MaterialPageRoute(builder: (context) => SettingsScreen()),
              );
            },
            child: Text("Go to Settings"),
          ),
        ],
      ),
    ),
  );
 }
}

class SettingsScreen extends StatelessWidget {
 @override
 Widget build(BuildContext context) {
  return Scaffold(
    appBar: AppBar(title: Text('Settings')),
    body: Center(child: Text('Settings Page')),
  );
 }
}
```



Conclusion

In this experiment, we successfully implemented a basic UI for a woman safety app using common Flutter widgets and navigation. Initially, we faced errors like missing widget structuring and incorrect navigation syntax, but we resolved them by carefully using the `Scaffold` structure and properly implementing `Navigator.push()`.