MPL Practical 02

Aim: To design a Flutter UI by including common widgets.

Theory:

Introduction

MedLink is a mobile application designed to provide quick access to essential healthcare services. The app includes features like a symptom checker, medicine reminder, and an emergency location button with an offline map of nearby doctors. The goal is to make healthcare information and emergency support easily accessible.

Objective

The objective of this app is to assist users in managing their health by providing:
- An AI-powered symptom checker to analyze common health issues.
- A medicine reminder to help users take their medications on time.
- An emergency map to locate nearby hospitals and doctors, even offline.

Technologies Used
- Flutter: A cross-platform mobile app development framework.
- Dart: The programming language used for Flutter development.
- Material Design Widgets: Prebuilt UI components for a smooth user interface.
- Navigation in Flutter: Used to switch between different screens of the app.

Implementation Details

1. Home Screen
- This is the main page of the app, which contains buttons to navigate to different features.
- Three primary features are provided: Symptom Checker, Medicine Reminder, and Emergency Map.
- Each feature is accessed using a simple ElevatedButton wrapped inside a Column widget.
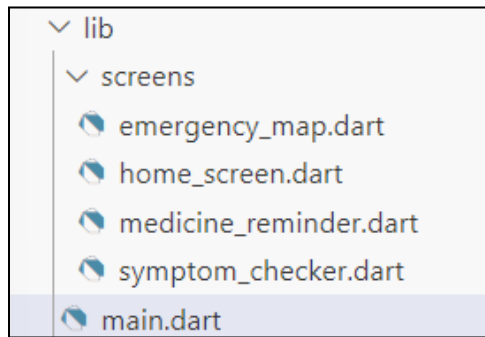
2. Symptom Checker
- This screen will analyze user-input symptoms and provide possible health conditions.
- In this implementation, we have created a placeholder screen for future AI integration.

3. Medicine Reminder
- This feature helps users keep track of their medicine schedules.
- Currently, it is a placeholder, but in future versions, we can use notifications and local storage for reminders.

4. Emergency Map
- This screen will help users locate nearby doctors and hospitals.
- Right now, we have created a placeholder, but later we can integrate Google Maps API for real-time location tracking.

Folder Structure:

```
∨ lib
  ∨ screens
      emergency_map.dart
      home_screen.dart
      medicine_reminder.dart
      symptom_checker.dart
    main.dart
```

lib/main.dart

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

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

class MedLinkApp extends StatelessWidget {
  @override
  Widget build(BuildContext context) {
    return MaterialApp(
      debugShowCheckedModeBanner: false,
      title: 'MedLink',
      theme: ThemeData(
        primarySwatch: Colors.blue,
      ),
      home: HomeScreen(),
    );
  }
}
```

lib/screens/home_screen.dart

```dart
import 'package:flutter/material.dart';
import 'symptom_checker.dart';
import 'medicine_reminder.dart';
import 'emergency_map.dart';

class HomeScreen extends StatelessWidget {
  @override
  Widget build(BuildContext context) {
    return Scaffold(
      appBar: AppBar(title: Text('MedLink - Medical Assistant')),
      body: Center(
```

```
      child: Column(
        mainAxisAlignment: MainAxisAlignment.center,
        children: [
          FeatureButton(
            title: 'Symptom Checker',
            icon: Icons.health_and_safety,
            onTap: () => Navigator.push(
              context,
              MaterialPageRoute(builder: (context) => SymptomCheckerScreen()),
            ),
          ),
          FeatureButton(
            title: 'Medicine Reminder',
            icon: Icons.alarm,
            onTap: () => Navigator.push(
              context,
              MaterialPageRoute(builder: (context) => MedicineReminderScreen()),
            ),
          ),
          FeatureButton(
            title: 'Emergency Map',
            icon: Icons.map,
            onTap: () => Navigator.push(
              context,
              MaterialPageRoute(builder: (context) => EmergencyMapScreen()),
            ),
          ),
        ],
      ),
    ),
  );
 }
}

class FeatureButton extends StatelessWidget {
  final String title;
  final IconData icon;
  final VoidCallback onTap;

  FeatureButton({required this.title, required this.icon, required this.onTap});

  @override
  Widget build(BuildContext context) {
    return Padding(
      padding: const EdgeInsets.all(8.0),
      child: ElevatedButton.icon(
        onPressed: onTap,
```

```
      icon: Icon(icon),
      label: Text(title),
      style: ElevatedButton.styleFrom(
        padding: EdgeInsets.symmetric(vertical: 12, horizontal: 20),
      ),
    ),
  );
 }
}
```

lib/screens/symptom_checker.dart

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

class SymptomCheckerScreen extends StatelessWidget {
 @override
 Widget build(BuildContext context) {
   return Scaffold(
     appBar: AppBar(title: Text('Symptom Checker')),
     body: Center(child: Text('Symptom Checker Coming Soon!')),
   );
 }
}
```

lib/screens/medicine_reminder.dart

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

class MedicineReminderScreen extends StatelessWidget {
 @override
 Widget build(BuildContext context) {
   return Scaffold(
     appBar: AppBar(title: Text('Medicine Reminder')),
     body: Center(child: Text('Medicine Reminder Feature Coming Soon!')),
   );
 }
}
```
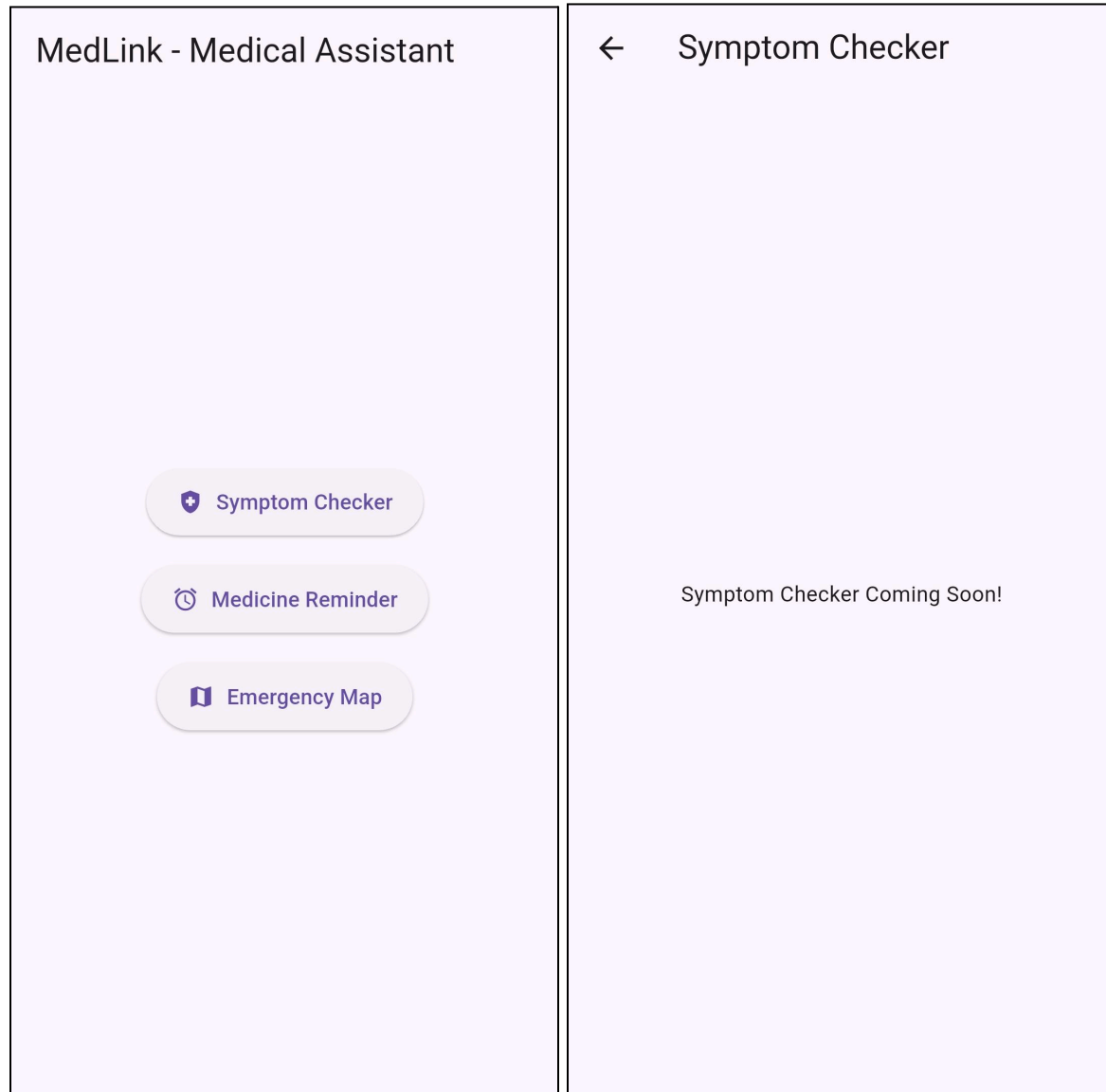
lib/screens/emergency_map.dart

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

class EmergencyMapScreen extends StatelessWidget {
 @override
 Widget build(BuildContext context) {
   return Scaffold(
     appBar: AppBar(title: Text('Emergency Map')),
```

```
    body: Center(child: Text('Emergency Map Feature Coming Soon!')),
   );
  }
}
```

MedLink - Medical Assistant	← Symptom Checker
🛡 Symptom Checker 🕐 Medicine Reminder 📖 Emergency Map	Symptom Checker Coming Soon!

Conclusion

In this project, we implemented the basic UI for MedLink using Flutter, including navigation between screens for the Symptom Checker, Medicine Reminder, and Emergency Map. During development, we faced minor issues like incorrect widget placement and navigation errors, which we resolved by understanding Flutter's widget structure and using proper navigation techniques.