

MPL Practical 03

Aim: To include icons, images, fonts in Flutter app.

Theory:

Introduction

Flutter allows developers to enhance the UI of an app by incorporating icons, images, and custom fonts. This improves the app's visual appeal and usability.

1. Icons in Flutter

Icons are used to represent actions, status, or navigation elements in an app. Flutter provides built-in icons using the Icons class and allows adding custom icons.

Implementation in Our Code:

- We used the Icons.health_and_safety for analysis results in the dialog box.
- The AppBar also includes an icon for navigation.

2. Images in Flutter

Images enhance UI by adding visual elements. Flutter supports images from assets, network, and memory.

Implementation in Our Code:

- We added an asset image (symptom_checker.png) at the top of the symptom checker screen.
- Used Image.asset() to load images stored in the assets/images directory.

3. Custom Fonts in Flutter

Custom fonts improve the app's appearance and branding. Fonts are added via the pubspec.yaml file and applied using the TextStyle widget.

Implementation in Our Code:

- We used Poppins and Montserrat fonts for headings and text elements to enhance readability and design.

lib/main.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(
        // Custom colors from your theme
        primaryColor: Color(0xFF007BFF),
        colorScheme: ColorScheme.light(
          primary: Color(0xFF007BFF),
          secondary: Color(0xFF20C997),
          background: Color(0xFFF5F5F5),
          surface: Colors.white,
        ),
        // Custom font
        fontFamily: 'Montserrat',
        textTheme: TextTheme(
          headlineLarge: TextStyle(
            fontFamily: 'Poppins',
            fontWeight: FontWeight.bold,
          ),
          headlineMedium: TextStyle(
            fontFamily: 'Poppins',
            fontWeight: FontWeight.w600,
          ),
          bodyLarge: TextStyle(fontFamily: 'Montserrat'),
          bodyMedium: TextStyle(fontFamily: 'Montserrat'),
        ),
        // Button theme
        elevatedButtonTheme: ElevatedButtonThemeData(
          style: ElevatedButton.styleFrom(
            backgroundColor: Color(0xFF007BFF),
```

```
        foregroundColor: Colors.white,
        padding: EdgeInsets.symmetric(vertical: 12, horizontal: 20),
        shape: RoundedRectangleBorder(
          borderRadius: BorderRadius.circular(10),
        ),
      ),
    ),
  ),
  home: HomeScreen(),
);
}
```

lib/screens/home_screen.dart

```
import 'package:flutter/material.dart';
import 'package:font_awesome_flutter/font_awesome_flutter.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',
          style: TextStyle(
            fontFamily: 'Poppins',
            fontWeight: FontWeight.bold,
          ),
        ),
      ),
      backgroundColor: Theme.of(context).colorScheme.primary,
      elevation: 0,
    ),
    body: Container(
      decoration: BoxDecoration(
        color: Theme.of(context).colorScheme.background,
      ),
    ),
    child: Column(
      children: [
```

```
// Header with logo image
Container(
  padding: EdgeInsets.all(20),
  color: Theme.of(context).colorScheme.primary,
  child: Center(
    child: Column(
      children: [
        Icon(
          FontAwesomeIcons.stethoscope, // Adjusted Icon
          size: 80,
          color: Colors.white,
        ),
        SizedBox(height: 16),
        Text(
          'Your Medical Assistant',
          style: TextStyle(
            color: Colors.white,
            fontSize: 18,
            fontFamily: 'Montserrat',
          ),
        ),
      ],
    ),
  ),
),

Expanded(
  child: Padding(
    padding: const EdgeInsets.all(20.0),
    child: Column(
      crossAxisAlignment: CrossAxisAlignment.start,
      children: [
        Text(
          'Medical Services',
          style: Theme.of(context).textTheme.headlineMedium?.copyWith(
            color: Theme.of(context).colorScheme.primary,
          ),
        ),
        SizedBox(height: 24),
        Expanded(
          child: GridView.count(
            crossAxisCount: 2,
```

```

crossAxisSpacing: 16,
mainAxisSpacing: 16,
children: [
  FeatureTile(
    title: 'Symptom Checker',
    icon: FontAwesomeIcons.diagnoses, // Adjusted Icon
    color: Theme.of(context).colorScheme.primary,
    onTap: () => Navigator.push(
      context,
      MaterialPageRoute(builder: (context) => SymptomCheckerScreen()),
    ),
  ),
  FeatureTile(
    title: 'Medicine Reminder',
    icon: FontAwesomeIcons.pills, // Adjusted Icon
    color: Theme.of(context).colorScheme.secondary,
    onTap: () => Navigator.push(
      context,
      MaterialPageRoute(builder: (context) => MedicineReminderScreen()),
    ),
  ),
  FeatureTile(
    title: 'Emergency Map',
    icon: FontAwesomeIcons.mapMarkedAlt, // Adjusted Icon
    color: Color(0xFFFFF6B6B),
    onTap: () => Navigator.push(
      context,
      MaterialPageRoute(builder: (context) => EmergencyMapScreen()),
    ),
  ),
  FeatureTile(
    title: 'SOS Alert',
    icon: FontAwesomeIcons.exclamationTriangle, // Adjusted Icon
    color: Color(0xFFFFB347),
    onTap: () => _showSOSDialog(context),
  ),
],
),
),
),
],
),
),

```

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

```
void _showSOSDialog(BuildContext context) {  
  showDialog(  
    context: context,  
    builder: (BuildContext context) {  
      return AlertDialog(  
        title: Text('SOS Alert'),  
        content: Text('This feature will be available soon!'),  
        actions: [  
          TextButton(  
            child: Text('OK'),  
            onPressed: () {  
              Navigator.of(context).pop();  
            },  
          ),  
        ],  
      );  
    },  
  );  
}
```

```
class FeatureTile extends StatelessWidget {  
  final String title;  
  final IconData icon;  
  final Color color;  
  final VoidCallback onTap;
```

```
  const FeatureTile({  
    required this.title,  
    required this.icon,  
    required this.color,  
    required this.onTap,  
  });
```

```
@override
```

1,

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

lib/screens/symptom_checker.dart

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

```
class SymptomCheckerScreen extends StatefulWidget {  
  @override  
  _SymptomCheckerScreenState createState() => _SymptomCheckerScreenState();  
}
```

```
class _SymptomCheckerScreenState extends State<SymptomCheckerScreen> {  
  final List<String> commonSymptoms = [  
    'Headache',  
    'Fever',  
    'Cough',  
    'Sore Throat',  
    'Fatigue',  
    'Shortness of Breath',  
    'Nausea'  
  ];
```

```
  final List<bool> selectedSymptoms = List.filled(7, false);
```

```
  @override  
  Widget build(BuildContext context) {  
    return Scaffold(  
      appBar: AppBar(  
        title: Text('Symptom Checker'),  
        backgroundColor: Theme.of(context).colorScheme.primary,  
      ),  
      body: SingleChildScrollView(  
        child: Padding(  
          padding: const EdgeInsets.all(16.0),  
          child: Column(  
            crossAxisAlignment: CrossAxisAlignment.start,  
            children: [  
              // Header with image
```



```
Center(  
  child: Column(  
    children: [  
      Image.asset(  
        'assets/images/symptom_checker.png',  
        height: 150,  
      ),  
      SizedBox(height: 16),  
      Text(  
        'How are you feeling today?',  
        style: TextStyle(  
          fontFamily: 'Poppins',  
          fontSize: 20,  
          fontWeight: FontWeight.bold,  
          color: Theme.of(context).colorScheme.primary,  
        ),  
      ),  
      SizedBox(height: 8),  
      Text(  
        'Select your symptoms below',  
        style: TextStyle(  
          fontFamily: 'Montserrat',  
          fontSize: 16,  
          color: Colors.grey[600],  
        ),  
      ),  
    ],  
  ),  
)
```

```
SizedBox(height: 24),
```

```
// Symptoms list
```

```
Text(  
  'Common Symptoms',  
  style: TextStyle(  
    fontFamily: 'Poppins',  
    fontSize: 18,  
    fontWeight: FontWeight.w600,  
  ),  
)  
  
SizedBox(height: 12),
```

```
ListView.builder(  
  shrinkWrap: true,  
  physics: NeverScrollableScrollPhysics(),  
  itemCount: commonSymptoms.length,  
  itemBuilder: (context, index) {  
    return CheckboxListTile(  
      title: Text(  
        commonSymptoms[index],  
        style: TextStyle(fontFamily: 'Montserrat'),  
      ),  
      value: selectedSymptoms[index],  
      activeColor: Theme.of(context).colorScheme.primary,  
      onChanged: (bool? value) {  
        setState(() {  
          selectedSymptoms[index] = value ?? false;  
        });  
      },  
    );  
  },  
);  
  
SizedBox(height: 24),  
  
// Check button  
Center(  
  child: ElevatedButton(  
    onPressed: () {  
      // Show a dialog with a placeholder result  
      _showResultDialog(context);  
    },  
    child: Padding(  
      padding: const EdgeInsets.symmetric(horizontal: 32.0, vertical: 12.0),  
      child: Text(  
        'Check Symptoms',  
        style: TextStyle(  
          fontFamily: 'Montserrat',  
          fontSize: 16,  
          fontWeight: FontWeight.bold,  
        ),  
      ),  
    ),  
  ),  
);
```

```

    ),
    ),
  ],
),
),
),
);
}

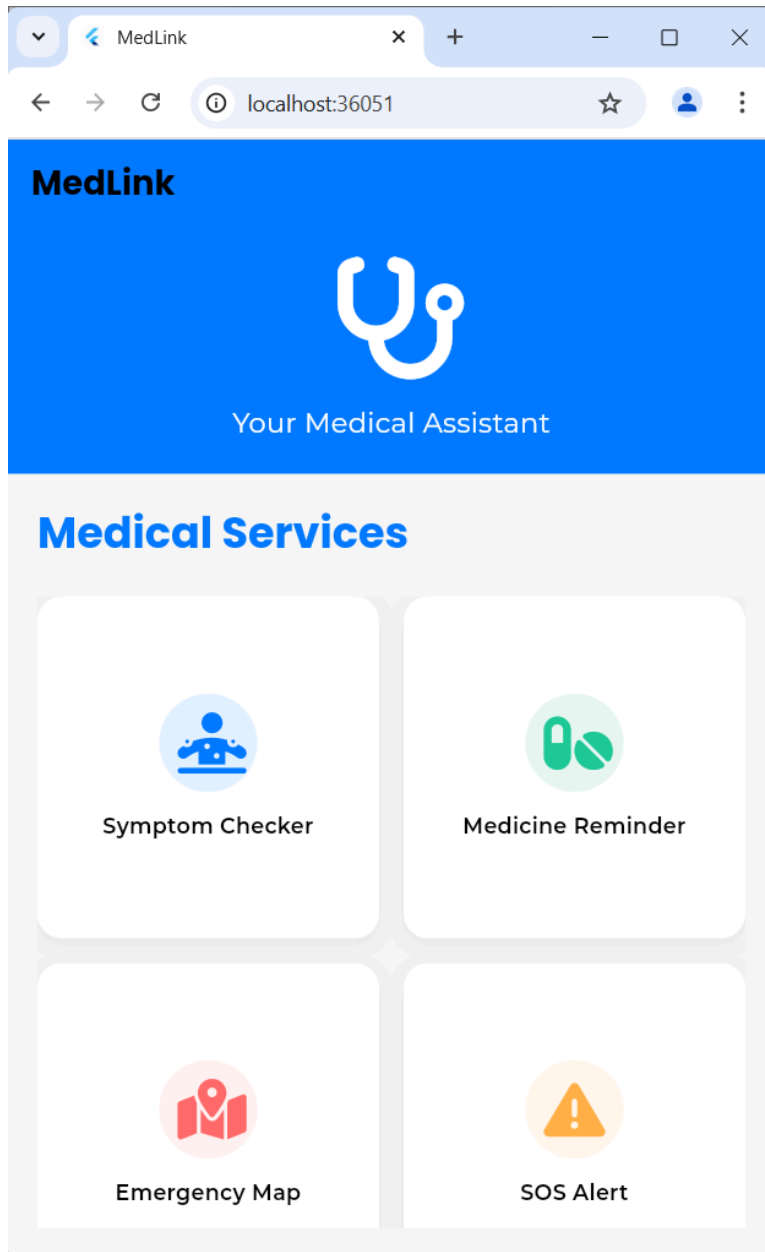
```

```

void _showResultDialog(BuildContext context) {
  showDialog(
    context: context,
    builder: (BuildContext context) {
      return AlertDialog(
        title: Row(
          children: [
            Icon(
              Icons.health_and_safety,
              color: Theme.of(context).colorScheme.primary,
            ),
            SizedBox(width: 8),
            Text(
              'Analysis Result',
              style: TextStyle(
                fontFamily: 'Poppins',
                fontWeight: FontWeight.bold,
                color: Theme.of(context).colorScheme.primary,
              ),
            ),
          ],
        ),
        content: Text(
          'Based on your symptoms, you may have a common cold. Please consult with a healthcare professional for proper diagnosis.',
          style: TextStyle(
            fontFamily: 'Montserrat',
          ),
        ),
        actions: [
          TextButton(
            child: Text('OK'),
            onPressed: () {

```

```
Navigator.of(context).pop();  
  },  
  ),  
  ],  
);  
},  
);  
}  
}
```



Conclusion

In this experiment, we successfully implemented icons, images, and custom fonts to enhance our Flutter app's UI. Initially, we faced issues with icons not displaying properly, which we resolved by ensuring the correct icon usage and asset paths in our project.