

Practical 2

Design a Flutter UI by including Common Widgets

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

Theory:

Introduction

Flutter is a popular framework for building cross-platform mobile applications. It uses a widget-based approach, where everything is a widget, making UI design flexible and efficient. Common widgets like AppBar, Container, TextField, GridView, and ListView help in creating responsive and visually appealing interfaces.

A Flutter UI is structured using widgets, which can be broadly classified into:

- StatelessWidget: A widget that does not change over time.
- StatefulWidget: A widget that can update dynamically based on user interaction.

Flutter applications typically use a Scaffold widget, which provides a structure that includes an AppBar, body, floating action buttons, bottom navigation bars, and other UI elements.

Implementation

In this experiment, we designed a Flutter UI for the Lifeline App, which helps users find hospitals based on their symptoms. The UI includes:

- App Bar: Displays the user's selected location and profile icon.
- Search Bar: Allows users to search for clinics.
- Appointment Section: Provides options for booking an in-clinic appointment or instant video consultation.
- Doctor Specialization Grid: Displays different medical specializations using GridView.
- Featured Services Section: Highlights important healthcare services.

We used StatelessWidget to create reusable components like AppointmentCard and DoctorCategoryCard. The UI follows a structured layout using Column, Row, and Padding for spacing and alignment.

CODE:

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

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

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

class HomeScreen extends StatelessWidget {
  @override
  Widget build(BuildContext context) {
    return Scaffold(
      backgroundColor: Colors.white,
      appBar: AppBar(
        backgroundColor: Colors.indigo,
        title: Row(
          children: [
            Icon(Icons.location_on, color: Colors.white),
            SizedBox(width: 5),
            Text("Bangalore", style: TextStyle(color: Colors.white)),
            Icon(Icons.keyboard_arrow_down, color: Colors.white),
          ],
        ),
        actions: [
          IconButton(
            icon: Icon(Icons.account_circle, color: Colors.white),
            onPressed: () {},
          ),
        ],
      ),
    );
  }
}
```

```
body: SingleChildScrollView(
  child: Padding(
    padding: EdgeInsets.all(16.0),
    child: Column(
      crossAxisAlignment: CrossAxisAlignment.start,
      children: [
        // Search Bar
        Container(
          padding: EdgeInsets.symmetric(horizontal: 10),
          decoration: BoxDecoration(
            color: Colors.grey[200],
            borderRadius: BorderRadius.circular(10),
          ),
          child: TextField(
            decoration: InputDecoration(
              hintText: "Search for clinics",
              border: InputBorder.none,
              prefixIcon: Icon(Icons.search, color: Colors.grey),
            ),
          ),
        ),
        SizedBox(height: 20),

        // Appointment & Consultation
        Row(
          mainAxisAlignment: MainAxisAlignment.spaceBetween,
          children: [
            Expanded(
              child: AppointmentCard(
                title: "Book In-Clinic Appointment",
                imagePath: "assets/images/doctor_1.jpg",
              ),
            ),
            Expanded(
              child: AppointmentCard(
                title: "Instant Video Consultation",
                imagePath: "assets/images/doctor_2.jpg",
              ),
            ),
          ],
        ),
        SizedBox(height: 20),
```

```
// Find a Doctor Section
Text(
  "Find a Doctor for your Health Problem",
  style: TextStyle(fontSize: 18, fontWeight: FontWeight.bold),
),
SizedBox(height: 10),

// Categories
GridView.builder(
  shrinkWrap: true,
  physics: NeverScrollableScrollPhysics(),
  gridDelegate: SliverGridDelegateWithFixedCrossAxisCount(
    crossAxisCount: 4,
    crossAxisSpacing: 10,
    mainAxisSpacing: 10,
    childAspectRatio: 0.9,
  ),
  itemCount: doctorCategories.length,
  itemBuilder: (context, index) {
    return DoctorCategoryCard(doctorCategories[index]);
  },
),

SizedBox(height: 20),

// Featured Services
Text(
  "Featured services",
  style: TextStyle(fontSize: 18, fontWeight: FontWeight.bold),
),
SizedBox(height: 10),

Container(
  width: double.infinity,
  height: 120,
  decoration: BoxDecoration(
    color: Colors.indigo,
    borderRadius: BorderRadius.circular(10),
  ),
  child: Center(
    child: Text(
      "Affordable Procedures by Expert Doctors",
      style: TextStyle(color: Colors.white, fontSize: 16),
      textAlign: TextAlign.center,
```

```

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

```

```

class AppointmentCard extends StatelessWidget {
  final String title;
  final String imagePath;

  AppointmentCard({required this.title, required this.imagePath});

  @override
  Widget build(BuildContext context) {
    return Container(
      height: 100,
      decoration: BoxDecoration(
        color: Colors.white,
        borderRadius: BorderRadius.circular(10),
        boxShadow: [
          BoxShadow(
            color: Colors.grey.shade300,
            blurRadius: 5,
            spreadRadius: 2,
          ),
        ],
      ),
      child: Column(
        children: [
          Expanded(
            child: Image.asset(imagePath, fit: BoxFit.cover),
          ),
          Padding(
            padding: const EdgeInsets.all(8.0),
            child: Text(
              title,
              textAlign: TextAlign.center,
              style: TextStyle(fontSize: 14, fontWeight: FontWeight.bold),
            ),
          ),
        ],
      ),
    );
  }
}

```

```

    ),
  ],
),
);
}
}

```

```

class DoctorCategoryCard extends StatelessWidget {
  final DoctorCategory category;

```

```

  DoctorCategoryCard(this.category);

```

```

  @override

```

```

  Widget build(BuildContext context) {

```

```

    return Column(

```

```

      children: [

```

```

        Container(

```

```

          padding: EdgeInsets.all(10),

```

```

          decoration: BoxDecoration(

```

```

            color: Colors.blue[50],

```

```

            borderRadius: BorderRadius.circular(10),

```

```

          ),

```

```

          child: Icon(category.icon, color: Colors.indigo, size: 30),

```

```

        ),

```

```

        SizedBox(height: 5),

```

```

        Text(category.title, textAlign: TextAlign.center, style: TextStyle(fontSize: 12)),

```

```

      ],

```

```

    );

```

```

  }

```

```

}

```

```

class DoctorCategory {

```

```

  final String title;

```

```

  final IconData icon;

```

```

  DoctorCategory({required this.title, required this.icon});

```

```

}

```

```

List<DoctorCategory> doctorCategories = [

```

```

  DoctorCategory(title: "General Physician", icon: Icons.local_hospital), // Alternative for
  stethoscope

```

```

  DoctorCategory(title: "Skin & Hair", icon: Icons.face),

```

```

  DoctorCategory(title: "Women's Health", icon: Icons.pregnant_woman),

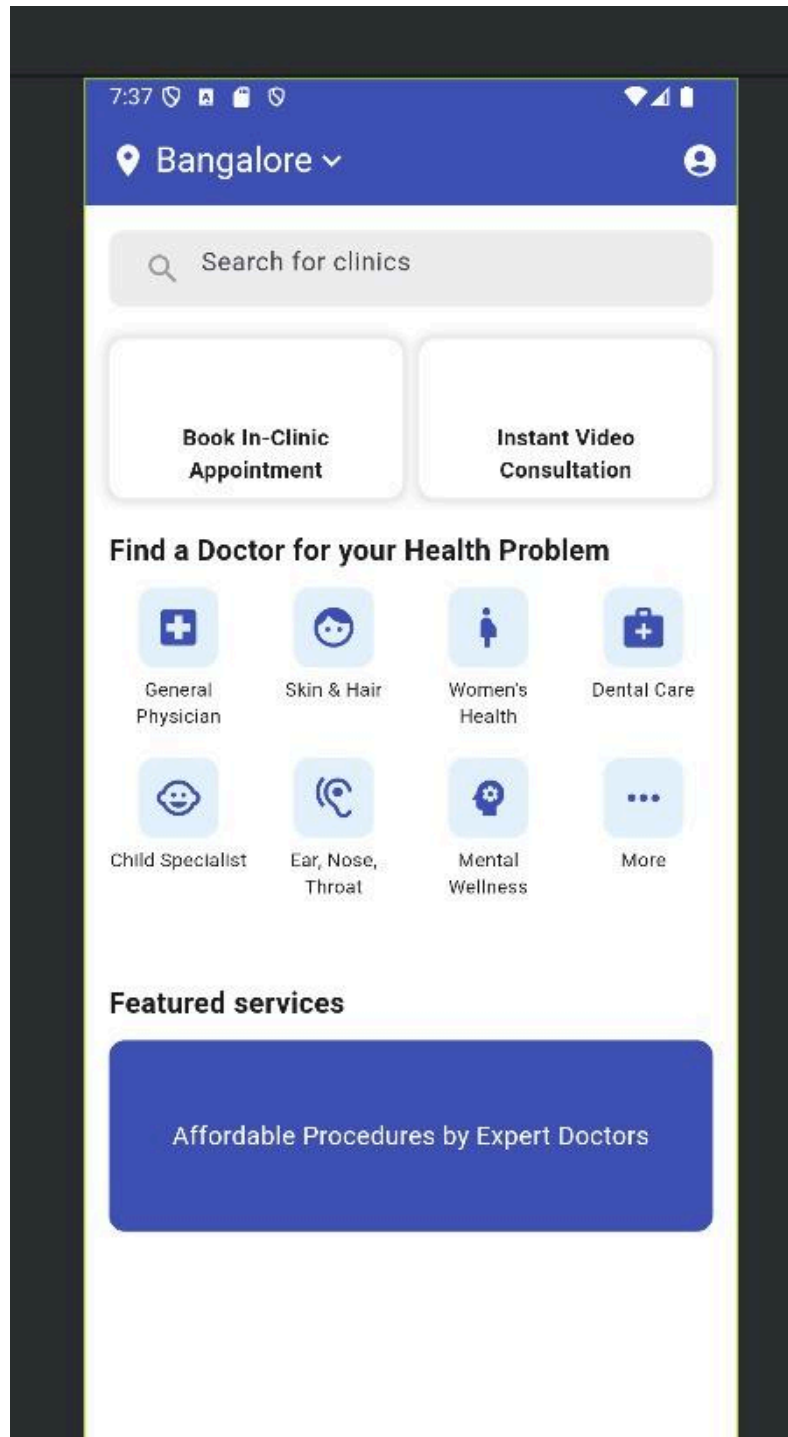
```

```

  DoctorCategory(title: "Dental Care", icon: Icons.medical_services),

```

```
DoctorCategory(title: "Child Specialist", icon: Icons.child_care),  
DoctorCategory(title: "Ear, Nose, Throat", icon: Icons.hearing),  
DoctorCategory(title: "Mental Wellness", icon: Icons.psychology),  
DoctorCategory(title: "More", icon: Icons.more_horiz),  
];
```

Screenshot:

Conclusion:

In this experiment, we implemented a Flutter UI for the Lifeline App using common widgets like AppBar, GridView, and Column. We initially faced an issue with the Icons.stethoscope not being available, which we resolved by replacing it with alternative icons like Icons.local_hospital and Icons.medical_services.