EXPERIMENT NO: - 03

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AIM: - To include icons, images, fonts in Flutter app.

Theory: -

Flutter is a versatile open-source UI framework , which allows developers to build natively compiled applications for mobile, web, and desktop platforms from a single codebase. One of the key strengths of Flutter is its flexibility in creating highly customizable UIs. This practical focuses on incorporating essential visual elements—icons, images, and custom fonts—into a Flutter application. These elements enhance the visual appeal and usability of the app, providing an engaging experience for users.

A flutter app when built has both assets (resources) and code. Assets are available and deployed during runtime. The asset is a file that can include static data, configuration files, icons, and images. The Flutter app supports many image formats, such as JPEG, WebP, PNG, GIF, animated WebP/GIF, BMP, and WBMP.

Visual elements play a significant role in app development.

- **Enhanced User Experience**: Images and icons make your app visually appealing and user-friendly.
- **Information Conveyance**: They convey information quickly and intuitively. A well-chosen icon can replace lengthy text.
- **Branding**: Custom icons and images reinforce your app's branding, making it memorable.

▯ Adding Icons in Flutter

Flutter provides built-in material design icons through the Icons class. Custom icons can also be added using third-party packages such as flutter_launcher_icons and font_awesome_flutter.

```
Icon(
  Icons.home,
  size: 40,
);
```

□ Adding Images in Flutter

Flutter supports images from three sources:

1. **Assets** (Stored locally in the project)

- Place the image inside the assets/images folder in the project.
- Declare the image in pubspec.yaml

```
flutter:
  assets:
    - assets/images/doctor1.png
```

- Display the image in the app

```
Image.asset('assets/images/sample.png');
```

2. **Network** (Fetched from the internet)

   Displaying images from the internet or network is very simple. Flutter provides a built-in method Image.network to work with images from a URL. The Image.network method also allows you to use some optional properties, such as height, width, color, fit, and many more.

```
Image.network('https://example.com/sample.jpg');
```

3. **Memory or File** (Stored on the device)

□ Adding Custom Fonts in Flutter

By default, Flutter uses the Roboto font, but custom fonts can be added for a unique UI.

- Download the font and place it in the assets/fonts/ folder.
- Declare the font in pubspec.yaml
- Use the font in the app

```
Text(
  'Custom Font Example',
  style: TextStyle(fontFamily: 'CustomFont', fontSize: 24),
);
```

Code: -

support_page.dart

```
import 'dart:convert';
import 'package:flutter/services.dart';
import 'package:flutter/material.dart';
import 'crop_detail_page.dart';

class CropListPage extends StatelessWidget {
 Future<List<Map<String, dynamic>>>
loadCrops() async {
  // Load the JSON file
  String jsonString = await
rootBundle.loadString('assets/crops.json');
  List<dynamic> jsonResponse =
json.decode(jsonString);
  return jsonResponse.map((crop) => crop as
Map<String, dynamic>).toList();
 }

 @override
 Widget build(BuildContext context) {
  return Scaffold(
   appBar: AppBar(title: Text('Crop
Practices')),
   body: FutureBuilder<List<Map<String,
dynamic>>>(
    future: loadCrops(),  // Load crops data
from JSON
    builder: (context, snapshot) {
     if (snapshot.connectionState ==
ConnectionState.waiting) {
      return Center(child:
CircularProgressIndicator());
     } else if (snapshot.hasError) {
      return Center(child: Text('Error:
${snapshot.error}'));
     } else if (!snapshot.hasData ||
snapshot.data!.isEmpty) {
```

```
      return Center(child: Text('No crops
available.'));
     } else {
      var crops = snapshot.data!;
      return GridView.builder(
       padding: EdgeInsets.all(10),
       gridDelegate:
SliverGridDelegateWithFixedCrossAxisCount(
        crossAxisCount: 2,
        crossAxisSpacing: 10,
        mainAxisSpacing: 15,
        childAspectRatio: 1.2,
       ),
       itemCount: crops.length,
       itemBuilder: (context, index) {
        return GestureDetector(
         onTap: () {
          Navigator.push(
           context,
           MaterialPageRoute(
            builder: (context) =>
CropDetailPage(crop: crops[index]),
           ),
          );
         },
         child: Column(
          crossAxisAlignment:
CrossAxisAlignment.center,
          children: [
           ClipRRect(
            borderRadius:
BorderRadius.circular(15),
            child: Image.asset(
             crops[index]["image"],
             height: 130,
             width: 180,
                          fit: BoxFit.cover,
                        ),
                      ),
                      SizedBox(height: 5),
                      Text(
                        crops[index]["name"],
                        style: TextStyle(fontSize: 16,
fontWeight: FontWeight.bold),
                      ),
                    ],
                  ),
                );
              },
            );
          }
        },
      ),
    );
  }
}
```

crop_details_page.dart

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

class CropDetailPage extends StatelessWidget {
  final Map<String, dynamic> crop;

  CropDetailPage({required this.crop});

  @override
  Widget build(BuildContext context) {
    return Scaffold(
      appBar: AppBar(title: Text(crop["name"])),
      body: ListView(
        children: [
          Image.asset(
            crop["image"],
            height: 250,
            width: double.infinity,
            fit: BoxFit.cover,
          ),
          SizedBox(height: 20),
          buildListTile(context, "Introduction",
crop["introduction"]),
          buildListTile(context, "Climate",
crop["climate"]),
          buildListTile(context, "Soil",
crop["soil"]),
          buildListTile(context, "Sowing",
crop["sowing"]),
          buildListTile(context, "Land Preparation",
crop["land preparation"]),
          buildListTile(context, "Fertilizers",
crop["fertilizers"]),
          buildListTile(context, "Major Diseases
and their Management", crop["disease"]),
          buildListTile(context, "Harvesting",
crop["harvesting"]),
          buildListTile(context, "Yield",
crop["yield"]),
        ],
      ),
    );
  }

  Widget buildListTile(BuildContext context,
String label, String content) {
    return ListTile(
      title: Text(label),
      onTap: () {
        Navigator.push(
          context,
          MaterialPageRoute(
            builder: (context) => DetailsPage(label:
label, content: content),
          ),
        );
      },
    );
  }
}
```

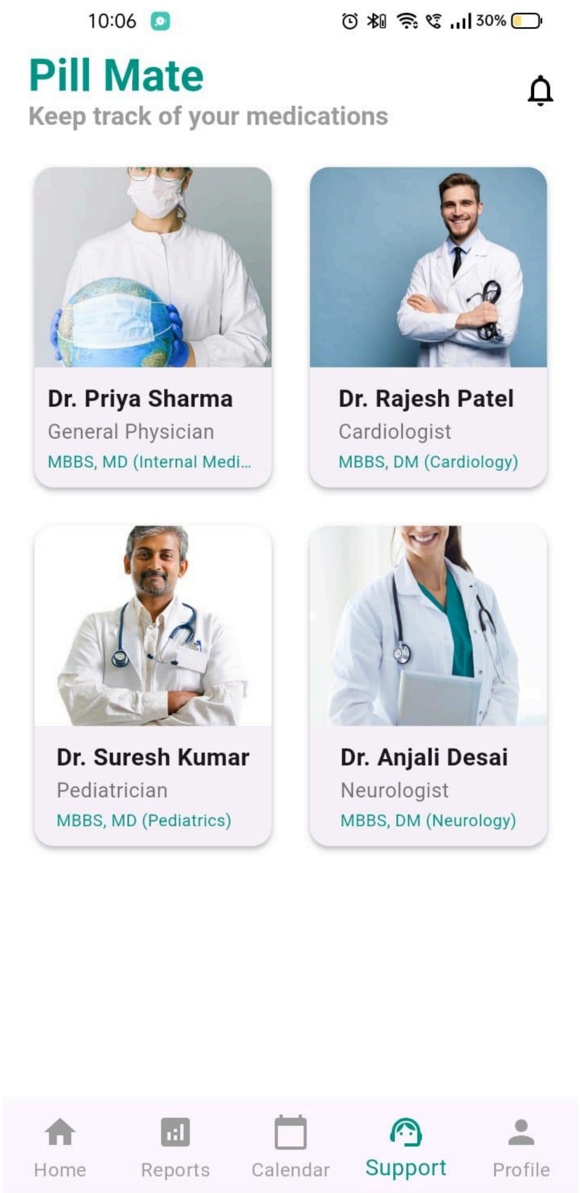
details_page.dart

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

class DetailsPage extends StatelessWidget {
  final String label;
  final String content;

  DetailsPage({required this.label, required this.content});

  @override
  Widget build(BuildContext context) {
    return Scaffold(
      appBar: AppBar(title: Text('$label')),
      body: Padding(
        padding: const EdgeInsets.all(16.0),
        child: SingleChildScrollView(
          child: Text(
            content,
            style: TextStyle(fontSize: 18),
          ),
        ),
      ),
    );
  }
}
```

pubspec.yaml

```
flutter:
  assets:
    - assets/crops.json
    - assets/images/logo.png
    - assets/images/banner.jpg
    - assets/images/offers.png
    - assets/images/crop_tonics.png
    - assets/images/fertilizer.png
    - assets/images/pesticides.png
    - assets/images/delivery.png
    - assets/images/product1.png
    - assets/images/product2.png
    - assets/images/product3.png
    - assets/images/product4.png
    - assets/images/product5.png
    - assets/images/product6.png
    - assets/images/product7.png
    - assets/images/product8.png
    - assets/images/product9.png
    - assets/images/product10.png
    - assets/images/product11.png
    - assets/images/product12.png
    - assets/images/wheat.png
    - assets/images/paddy.png
    - assets/images/maize.jpg
    - assets/images/pearl_millet.png
    - assets/images/tomato.jpg
    - assets/images/cauliflower.jpg
    - assets/images/potato.jpg
    - assets/images/brinjal.jpg
    - assets/images/cabbage.jpg
    - assets/images/chilli.jpg
    - assets/images/onion.jpg
    - assets/images/coriander.jpg
    - assets/images/garlic.png
    - assets/images/sugarcane.png
```

OUTPUT: -



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Dr. Suresh Kumar
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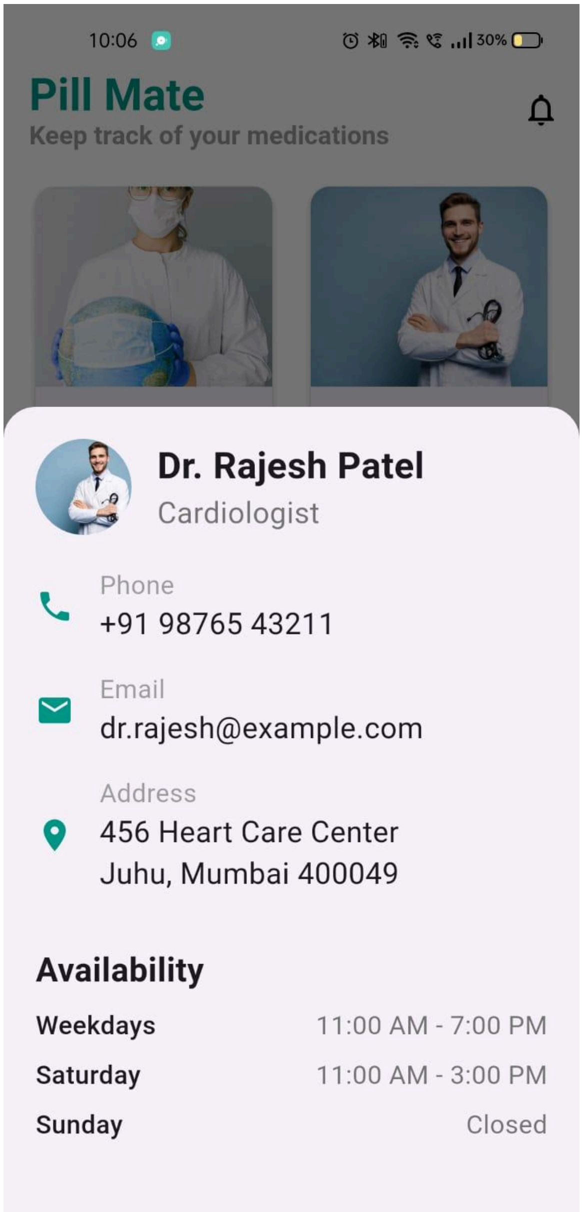
MBBS, MD (Pediatrics)

Dr. Anjali Desai
Neurologist
MBBS, DM (Neurology)



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Keep track of your medications

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Availability

Weekdays	11:00 AM - 7:00 PM
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Sunday	Closed