

MAD & PWA Lab Journal

Experiment No.	03
Experiment Title.	To design Flutter UI by including common widgets
Roll No.	50
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Class	D15A
Subject	MAD & PWA Lab
Lab Outcome	LO1: Understand cross platform mobile application development using Flutter framework
Grade:	

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/sample.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:login_page.dart

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

```
class LoginPage extends StatelessWidget {  
  final _formKey = GlobalKey<FormState>();
```

```
  @override  
  Widget build(BuildContext context) {  
    return Scaffold(  
      backgroundColor:  
Colors.purple.shade50,  
      body: Center(  
        child: SingleChildScrollView(  
          child: Column(  
            mainAxisAlignment:  
MainAxisAlignment.center,  
            children: [  

```

```
SvgPicture.asset('assets/images/logo.svg',  
height: 60),  
//  
Image.asset('assets/images/logo.svg', height:  
60), // Add your logo in assets  
      const SizedBox(height: 20),  
      Padding(  
        padding: const  
EdgeInsets.symmetric(horizontal: 24),  
        child: Form(  
          key: _formKey,  
          child: Container(  
            padding: const  
EdgeInsets.all(20),  
            decoration: BoxDecoration(  
              color: Colors.white,  
              borderRadius:  
BorderRadius.circular(12),  
              boxShadow: [  

```

```

        BoxShadow(
          color: Colors.black12,
          blurRadius: 10,
          spreadRadius: 2,
        ),
      ],
    ),
    child: Column(
      children: [
        TextFormField(
          decoration: InputDecoration(
            prefixIcon: Icon(Icons.email),
            labelText: "Email",
            border: OutlineInputBorder(
              borderRadius:
                BorderRadius.circular(8),
            ),
          ),
          keyboardType:
            TextInputType.emailAddress,
          validator: (value) {
            if (value == null ||
              value.isEmpty) {
              return "Please enter
                your email";
            }
            return null;
          },
        ),
        const SizedBox(height: 15),
        TextFormField(
          decoration: InputDecoration(
            prefixIcon: Icon(Icons.lock),
            labelText: "Password",
            border: OutlineInputBorder(
              borderRadius:
                BorderRadius.circular(8),
            ),
            obscureText: true,
            validator: (value) {
              if (value == null ||
                value.isEmpty) {
                return "Please enter
                  your password";
              }

```

```

          return null;
        },
      ),
      const SizedBox(height: 20),
      SizedBox(
        width: double.infinity,
        child: ElevatedButton(
          style:
            ElevatedButton.styleFrom(
              backgroundColor:
                Colors.purple.shade100,
              shape:
                RoundedRectangleBorder(
                  borderRadius:
                    BorderRadius.circular(8),
                ),
              padding: const
                EdgeInsets.symmetric(vertical: 12),
            ),
          onPressed: () {
            if
              (_formKey.currentState!.validate()) {
                Navigator.push(
                  context,
                    MaterialPageRoute(builder: (context) =>
                      HomePage()),
                );
              }
          },
          child: const Text(
            "Log in",
            style: TextStyle(color:
              Colors.black),
          ),
        ),
        const SizedBox(height: 10),
        TextButton(
          onPressed: () {},
          child: const Text(
            "Forgot Password",
            style: TextStyle(color:
              Colors.blue),
          ),

```

```

        ),
        const Divider(),
        Row(
          mainAxisAlignment:
MainAxisAlignment.center,
          children: [
            const Text("Don't have an
account?"),
            TextButton(
              onPressed: () {},
              child: const Text(
                "Sign up",
                style: TextStyle(color:
Colors.blue),
              ),
            ),
          ],
        ),
      ],
    ),
  ),
);
}

```

Code:profile_page.dart

```

import 'package:flutter/material.dart';
import 'package:flutter_svg/flutter_svg.dart';
import
'package:google_fonts/google_fonts.dart';

class ProfilePage extends StatelessWidget {
  @override
  Widget build(BuildContext context) {
    return Scaffold(
      backgroundColor:
Colors.purple.shade50,
      body: SingleChildScrollView(
        child: Padding(
          padding: const EdgeInsets.all(20.0),
          child: Column(
            crossAxisAlignment:
CrossAxisAlignment.start,
            children: [
              Row(
                children: [
                  children: [
                    CircleAvatar(
                      radius: 40,
                      child:
SvgPicture.asset('project/assets/images/icon.s
vg'),
                    ),
                    const SizedBox(width: 16),
                    Column(
                      crossAxisAlignment:
CrossAxisAlignment.start,
                      children: const [
                        Text(
                          'Siddhant Sathe',
                          style: GoogleFonts.montserrat(
                            fontSize: 20,
                            fontWeight: FontWeight.bold,
                          ),
                        ),
                      ],
                    ),
                  ],
                ),
              ),
            ],
          ),
        ),
      ),
    ),
  ),
);

```

```

        SizedBox(height: 4),
        Text(
          'July 17 Member since 1st Feb
2025',
          style: TextStyle(
            color: Colors.grey,
            fontSize: 14,
          ),
        ),
      ],
    ),
    const SizedBox(height: 20),
    Row(
      mainAxisAlignment:
MainAxisAlignment.spaceBetween,
      children: const [
        Text(
          'About',
          style: TextStyle(
            fontSize: 18,
            fontWeight: FontWeight.bold,
          ),
        ),
        Text(
          'Log out',
          style: TextStyle(
            color: Colors.blue,
            fontWeight: FontWeight.bold,
          ),
        ),
      ],
    ),
  ],
),
const SizedBox(height: 20),
Row(
  mainAxisAlignment:
MainAxisAlignment.spaceBetween,
  children: const [
    Text(
      'Answers',
      style: TextStyle(
        fontSize: 18,
        fontWeight: FontWeight.bold,
      ),
    ),
    Text(
      'See All',

```

```

    ],
  ),
  const SizedBox(height: 10),
  Container(
    width: double.infinity,
    padding: const EdgeInsets.all(16),
    decoration: BoxDecoration(
      color: Colors.white,
      borderRadius:
BorderRadius.circular(12),
    ),
    child: const Text(
      'No about me has been yet',
      style: TextStyle(
        color: Colors.grey,
      ),
    ),
  ),
  const SizedBox(height: 20),
  Row(
    mainAxisAlignment:
MainAxisAlignment.spaceBetween,
    children: const [
      Text(
        'Answers',
        style: TextStyle(
          fontSize: 18,
          fontWeight: FontWeight.bold,
        ),
      ),
      Text(
        'See All',

```

```

        style: TextStyle(
          color: Colors.blue,
          fontWeight: FontWeight.bold,
        ),
      ),
    ],
  ),
  const SizedBox(height: 10),
  Container(
    width: double.infinity,
    padding: const EdgeInsets.all(16),
    decoration: BoxDecoration(
      color: Colors.white,
      borderRadius:
        BorderRadius.circular(12),
    ),
    child: const Text(
      'You have not answered any
questions.',
      style: TextStyle(
        color: Colors.grey,
      ),
    ),
  ),
  const SizedBox(height: 20),
  Row(
    mainAxisAlignment:
      MainAxisAlignment.spaceBetween,
    children: const [
      Text(
        'Questions',
        style: TextStyle(

```

```

      fontSize: 18,
      fontWeight: FontWeight.bold,
    ),
  ),
  Text(
    'See All',
    style: TextStyle(
      color: Colors.blue,
      fontWeight: FontWeight.bold,
    ),
  ),
],
),
const SizedBox(height: 10),
Container(
  width: double.infinity,
  padding: const EdgeInsets.all(16),
  decoration: BoxDecoration(
    color: Colors.white,
    borderRadius:
      BorderRadius.circular(12),
  ),
  child: const Text(
    'You have not asked any
questions.',
    style: TextStyle(
      color: Colors.grey,
    ),
  ),
),
],
),

```

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

Output:

