MAD & PWA Lab
Journal

Experiment No.	03
Experiment Title.	To include icons, images, fonts in Flutter app
Roll No.	14
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Class	D15A
Subject	MAD & PWA Lab
Lab Outcome	LO2: Design and Develop interactive Flutter App by using widgets, layouts, gestures and animation
Grade:	

AIM : To include icons, images, fonts in flutter app.

Theory :

Flutter provides various ways to include icons, images, and custom fonts to enhance the visual appearance of an application. These assets can be added to the app's pubspec.yaml file and used efficiently in the UI.

Icons, images, and fonts are fundamental elements of UI design that contribute to the visual appeal, usability, and branding of an application. Proper implementation of these elements ensures a seamless user experience and helps create an aesthetically pleasing interface. In Flutter, managing these assets efficiently leads to a professional and engaging application design.

A Flutter app consists of both code and assets (resources). Assets include images, icons, fonts, and configuration files, which can be used dynamically during runtime. Properly managing these assets ensures a seamless and engaging app experience. Flutter supports various image formats, including JPEG, PNG, WebP, GIF, BMP, and animated WebP/GIF. Additionally, it allows developers to use both system and custom fonts to improve the typography of the application.

1. Adding Icons in Flutter

Icons are essential UI components used to represent actions, statuses, or navigation elements.

A. Using Built-in Material Icons

Flutter provides a built-in collection of Material Design icons through the Icons class.

    Icon(Icons.home, size: 40, color: Colors.blue)

Commonly Used Icons:

- Icons.home
- Icons.settings
- Icons.search
- Icons.favorite
- Icons.shopping_cart

B. Using Custom Icons (FontAwesome, Custom TTF)

If you need custom icons, you can use external icon fonts like FontAwesome or your own .ttf icon files.

Steps to Use FontAwesome:
- Add dependency in pubspec.yaml:

    dependencies:
     flutter:

```
    sdk: flutter
    font_awesome_flutter: ^10.6.0
```

- Import and use in Dart file:

```
import 'package:font_awesome_flutter/font_awesome_flutter.dart';

IconButton(
  icon: FaIcon(FontAwesomeIcons.twitter),
  onPressed: () {},
)
```

C. Using Custom .ttf Icons

- Download a .ttf icon font and place it in the assets/fonts/ folder.
- Register it in pubspec.yaml:

```
flutter:
  fonts:
    - family: CustomIcons
      fonts:
        - asset: assets/fonts/custom_icons.ttf
```

- Use in the app:

```
Text(
  'Custom Icon',
  style: TextStyle(fontFamily: 'CustomIcons', fontSize: 24),
)
```

2. Adding Images in Flutter

Images are a crucial part of UI design, and Flutter supports images from assets and network sources.

A. Using Asset Images (Local Images)

- Place images inside the assets/images/ directory.
- Declare them in pubspec.yaml:

```
flutter:
  assets:
    - assets/images/logo.png
    - assets/images/background.jpg
```

- Use them in the app:

```
Image.asset('assets/images/logo.png', width: 100, height: 100)
```

B. Using Network Images

- To load an image from a URL:

```
Image.network(
 'https://example.com/image.png',
 width: 150,
 height: 150,
 loadingBuilder: (context, child, progress) {
  return progress == null ? child : CircularProgressIndicator();
 },
)
```

C. Using SVG Images

Flutter does not support SVGs natively, but you can use the flutter_svg package.

- Add dependency in pubspec.yaml:

```
dependencies:
 flutter_svg: ^2.0.9
```

- Use in Dart file:

```
import 'package:flutter_svg/flutter_svg.dart';

SvgPicture.asset('assets/images/vector.svg', width: 100, height: 100)
```

3. Adding Custom Fonts in Flutter

Custom fonts help in creating unique UI designs.

- Download a font file (.ttf or .otf) and place it inside the assets/fonts/ folder.
- Register it in pubspec.yaml:

```
flutter:
 fonts:
  - family: Poppins
   fonts:
    - asset: assets/fonts/Poppins-Regular.ttf
    - asset: assets/fonts/Poppins-Bold.ttf
     weight: 700
```

- Use in the app:

```
Text(
 'Hello, Flutter!',
 style: TextStyle(fontFamily: 'Poppins', fontSize: 20),
)
```

Code :

Account_page.dart

```dart
import 'package:cloud_firestore/cloud_firestore.dart';
import 'package:flutter/material.dart';
import 'package:firebase_auth/firebase_auth.dart';
import 'sign_in_page.dart';
import 'edit_profile_page.dart';
import 'user_provider.dart';
import 'package:provider/provider.dart';

class AccountPage extends StatefulWidget {
  @override
  _AccountPageState createState() =>
_AccountPageState();
}

class _AccountPageState extends
State<AccountPage> {

  final FirebaseFirestore _firestore =
FirebaseFirestore.instance;
  final FirebaseAuth _auth = FirebaseAuth.instance;

  int _magicPoints = 0;

  @override
  void initState() {
   super.initState();
   // _loadMagicPoints();
   super.initState();
   Provider.of<UserProvider>(context, listen:
false).fetchUserData();
  }

  int _selectedIndex = 2;
  // final FirebaseAuth _auth = FirebaseAuth.instance;

  Future<void> _logout() async {
   await _auth.signOut();
   // Navigator.pushReplacement(context,
MaterialPageRoute(builder: (context) =>
LoginPage()));
   Navigator.pushReplacement(context,
MaterialPageRoute(builder: (context) =>
SignInPage()));
  }

  @override
  Widget build(BuildContext context) {
   return Scaffold(
    backgroundColor: Colors.white, // Set
background color
     appBar: AppBar(
      title: Text("Account"),
      backgroundColor: Color.fromRGBO(212, 171,
250, 1),
      actions: [
       Consumer<UserProvider>(
        builder: (context, userProvider, child) {
         return Row(
          children: [
           Container(
            padding:
EdgeInsets.symmetric(horizontal: 10, vertical: 5),
             decoration: BoxDecoration(
              color: Colors.white,
              borderRadius:
BorderRadius.circular(12),
             ),
             child: Row(
              children: [
               Text("${userProvider.magicPoints}",
style: TextStyle(fontWeight: FontWeight.bold)),
               Icon(Icons.monetization_on, color:
Colors.yellow),
              ],
             ),
            ),
            SizedBox(width: 10),
            IconButton(icon:
Icon(Icons.notifications), onPressed: () {}),
          ],
         );
        },
       ),
      ],
     ),
     body: SingleChildScrollView(
      child: Column(
       crossAxisAlignment:
CrossAxisAlignment.start,
       children: [
        SizedBox(height: 5),
        Container(
         padding: EdgeInsets.all(16.0),
         decoration: BoxDecoration(
          color: Color.fromRGBO(212, 171, 250, 1),
          borderRadius: BorderRadius.only(
           bottomLeft: Radius.circular(20),
           bottomRight: Radius.circular(20),
          ),
         ),
         child: Column(
          children: [
```

```
        Row(
          children: [
            CircleAvatar(
              radius: 40,
              backgroundColor: Colors.yellow,
              child: Icon(Icons.person, size: 50,
color: Colors.white),
            ),
            SizedBox(width: 16),
            Column(
              crossAxisAlignment:
CrossAxisAlignment.start,
              children: [
                Text(
                  _auth.currentUser?.displayName ??
"User",
                  style: TextStyle(
                    fontSize: 22,
                    fontWeight: FontWeight.bold,
                    color: Colors.white,
                  ),
                ),
                Text(
                  _auth.currentUser?.email ?? "No
Email",
                  style: TextStyle(
                    fontSize: 16,
                    color: Colors.white70,
                  ),
                ),
                TextButton(
                  onPressed: () {
                    User? user =
FirebaseAuth.instance.currentUser;
                    if (user == null) {
                      print("User is not signed in");
                      return;
                    }
                    else{
                      Navigator.push(
                        context,
                        MaterialPageRoute(builder:
(context) => EditProfilePage()),
                      );
                    }
                  },
                  child: Text(
                    "Edit Profile",
                    style: TextStyle(color:
Colors.white),
                  ),
                )
              ],
            )
          ],
        ),
            ],
          ),
        ),
        Padding(
          padding: EdgeInsets.all(16.0),
          child: Column(
            children: [
              buildOption(Icons.receipt_long, "My
Transactions"),
              buildOption(Icons.support, "Customer
Support"),
              buildOption(Icons.settings, "Settings"),
              Divider(),
              buildOption(Icons.card_giftcard, "Easy
Rewards", badge: "Save More"),
              buildOption(Icons.share, "Refer & Get
Free Food"),
              buildOption(Icons.star, "Join Pro
Membership", badge: "NEW"),
              buildOption(Icons.credit_card,
"magicCredit"),
              Divider(),
              buildOption(Icons.logout, "Logout",
onTap: _logout),
            ],
          ),
        )
      ],
    ),
    ),
  );
}

Widget buildOption(IconData icon, String title,
{String? badge, VoidCallback? onTap}) {
  return ListTile(
    leading: Icon(icon, color: Colors.purple),
    title: Row(
      mainAxisAlignment:
MainAxisAlignment.spaceBetween,
      children: [
        Text(title),
        if (badge != null)
          Container(
            padding: EdgeInsets.symmetric(horizontal:
8, vertical: 4),
            decoration: BoxDecoration(
              color: Colors.red,
              borderRadius: BorderRadius.circular(8),
            ),
            child: Text(
              badge,
              style: TextStyle(color: Colors.white,
fontSize: 12),
            ),
          ),
```

```
      ],
    ),
    onTap: onTap,
```

Food_store_screen.dart

```
import 'package:flutter/material.dart';
import 'package:lucide_icons/lucide_icons.dart';
import 'package:flutter/material.dart';
import 'package:carousel_slider/carousel_slider.dart'
hide CarouselController;
import
'package:carousel_slider/carousel_controller.dart';
import 'footer.dart';
import 'package:flutter/services.dart'; // For loading
JSON
import 'dart:convert';
import 'food_store_details.dart';

class FoodStoreScreen extends StatefulWidget {
  @override
  _FoodStoreScreenState createState() =>
_FoodStoreScreenState();
}

class _FoodStoreScreenState extends
State<FoodStoreScreen> {

  final List<String> imagePaths = [
    'assets/images/food_add2.png',
    'assets/images/food_add2.png',
    'assets/images/food_add3.png',
    'assets/images/food_add4.png',
    'assets/images/food_add5.png',
    'assets/images/food_add6.png',
    'assets/images/food_add7.png',
  ];

  List<Map<String, dynamic>> foodItems = [];

  @override
  void initState() {
    super.initState();
    loadFoodItems();
  }

  Future<void> loadFoodItems() async {

    try {
      String data = await
rootBundle.loadString('assets/data/food_items/food_i
tems.json');
      print("JSON Loaded: $data"); // Debugging
      setState(() {
        foodItems = List<Map<String,
dynamic>>.from(json.decode(data));
```

```
    });
    print("Parsed Data: $foodItems"); // Debugging
  } catch (e) {
    print("Error loading JSON: $e");
  }
}

@override
Widget build(BuildContext context) {
  return Scaffold(
    backgroundColor: Colors.white, // Set
background to white or another color
    appBar: AppBar(
      backgroundColor: Color.fromRGBO(212, 171,
250,1),
      title: Column(
        crossAxisAlignment:
CrossAxisAlignment.start,
        children: [
          Text('Food Delivery', style:
TextStyle(fontSize: 18, fontWeight:
FontWeight.bold)),
          Text('Charai, Mumbai', style:
TextStyle(fontSize: 14, color: Colors.grey)),
        ],
      ),
      ,
        Container(
          padding: EdgeInsets.symmetric(horizontal:
10, vertical: 5),
          decoration: BoxDecoration(
            color: Colors.white,
            borderRadius: BorderRadius.circular(12),
          ),
          child: Row(
            children: [
              Text("300", style: TextStyle(fontWeight:
FontWeight.bold)),
              Icon(Icons.monetization_on, color:
Colors.yellow),
            ],
          ),
        ),
      ],
    ),
    body: SingleChildScrollView(
      child: Padding(
        padding: EdgeInsets.all(10.0),
        child: Column(
          crossAxisAlignment:
```

```
CrossAxisAlignment.start,
        children: [
          // Search Bar
          TextField(
            decoration: InputDecoration(
              hintText: 'Search for delivery outlets near
you...',
              prefixIcon: Icon(Icons.search),
              border: OutlineInputBorder(borderRadius:
BorderRadius.circular(10)),
            ),
          ),
                  Padding(
            padding: const
EdgeInsets.symmetric(vertical: 2.0),
            child: CarouselSlider(
              options: CarouselOptions(
                height: 150.0,
                autoPlay: true,
                enlargeCenterPage: true,
                aspectRatio: 16 / 9,
                viewportFraction: 0.8,
              ),
              items: imagePaths.map((imagePath) {
                return ClipRRect(
                  borderRadius:
BorderRadius.circular(12.0),
                  child: Image.asset(
                    imagePath,
                    // fit: BoxFit.cover,
                    fit: BoxFit.contain,
                    width: double.infinity,
                  ),
                );
              }).toList(),
            ),
          ),
                  // Payment Offer Banner
          Container(
            padding: EdgeInsets.all(10),
            color: Colors.amberAccent,
            child: Row(
              children: [
                Icon(LucideIcons.megaphone, color:
Colors.red),
                SizedBox(width: 10),
                Expanded(child: Text('Flat ₹25 off, Pay
via BHIM UPI app.', style: TextStyle(fontWeight:
FontWeight.bold))),
              ],
            ),
          ),
          SizedBox(height: 15),

          // Browse by Cuisines
          Text('Browse by cuisines', style:
```

```
TextStyle(fontSize: 18, fontWeight:
FontWeight.bold)),
          SizedBox(height: 10),
          GridView.count(
            shrinkWrap: true,
            physics: NeverScrollableScrollPhysics(),
            crossAxisCount: 4,
            children: [
              _cuisineItem('Biryani',
'assets/images/biryani.png'),
              _cuisineItem('Burger',
'assets/images/burger.png'),
              _cuisineItem('Chaap',
'assets/images/chaap.png'),
              _cuisineItem('Coffee',
'assets/images/coffee.png'),
              _cuisineItem('Pizza',
'assets/images/pizza.png'),
              _cuisineItem('Cake',
'assets/images/cake.png'),
              _cuisineItem('Momos',
'assets/images/momos.png'),
              _cuisineItem('Dal',
'assets/images/dal.png'),
            ],
          )

          Text('Popular Items', style:
TextStyle(fontSize: 18, fontWeight:
FontWeight.bold)),
          SizedBox(height: 10),
          ListView.builder(
            shrinkWrap: true,
            physics: NeverScrollableScrollPhysics(),
            itemCount: foodItems.length,
            itemBuilder: (context, index) {
              final item = foodItems[index];
              return Card(
                margin: EdgeInsets.symmetric(vertical:
8),
                shape:
RoundedRectangleBorder(borderRadius:
BorderRadius.circular(10)),
                child: InkWell(
                  onTap: () {
                    Navigator.push(
                      context,
                      MaterialPageRoute(
                        builder: (context) =>
FoodShopDetailsPage(shop: item),
                      ),
                    );
                  },
                  child: Stack(
                    children: [
                      Padding(
```

```
                padding: const EdgeInsets.all(8.0),
// Added padding for better spacing
                child: Row(
                  crossAxisAlignment:
CrossAxisAlignment.start,
                  children: [
                    // Shop Image
                    ClipRRect(
                      borderRadius:
BorderRadius.circular(8),
                      child: Image.asset(
                        item['image'],
                        width: 60,
                        height: 60,
                        fit: BoxFit.cover,
                      ),
                    ),
                    SizedBox(width: 10), // Space
between image and text

                    // Shop Details
                    Expanded(
                      child: Column(
                        crossAxisAlignment:
CrossAxisAlignment.start,
                        children: [
                          Text(
                            item['name'],
                            style: TextStyle(fontWeight:
FontWeight.bold, fontSize: 16),
                          ),
                          SizedBox(height: 4), // Space
between name and price
                          Text(
                            "₹${item['price_for_two']}
for two",
                            style: TextStyle(color:
Colors.redAccent, fontWeight: FontWeight.bold),
                          ),
                          SizedBox(height: 4), // Space
between price and distance

                          // Distance & Delivery Time
                          Text(
                            "${item['distance']} •
${item['deliveryTime']}",
                            style: TextStyle(fontSize:
12, color: Colors.grey[600]),
                          ),

                          SizedBox(height: 4), // Space
between delivery time and address

                          // Address
                          Row(
                            children: [
                              Icon(Icons.location_on,
size: 14, color: Colors.grey),
                              SizedBox(width: 4),
                              Expanded(
                                child: Text(
                                  item['location'], // Ensure
`address` is included in item
                                  style:
TextStyle(fontSize: 12, color: Colors.grey[700]),
                                  maxLines: 1,
                                  overflow:
TextOverflow.ellipsis, // Prevents overflow issues
                                ),
                              ),
                            ],
                          ),

                          SizedBox(height: 4), // Space
before rating row
                          Row(
                            children: [
                              Icon(Icons.star, color:
Colors.orange, size: 16),
                              SizedBox(width: 4),
                              Text(
                                item['rating'].toString(),
                                style: TextStyle(fontSize:
14, fontWeight: FontWeight.bold),
                              ),
                            ],
                          ),
                        ],
                      ),
                    ),
                  ],
                ),
              ),

              // Discount Tag
              Positioned(
                top: 8,
                right: 8,
                child: Container(
                  padding:
EdgeInsets.symmetric(horizontal: 8, vertical: 4),
                  decoration: BoxDecoration(
                    color: Colors.blue,
                    borderRadius:
BorderRadius.circular(5),
                  ),
                  child: Text(
                    "${item['discount']}",
                    style: TextStyle(color:
Colors.white, fontSize: 15, fontWeight:
FontWeight.bold),
                  ),
```

```
            ),
           ),
          ],
         ),
        ),
       );
       ;
      },
     ),
      AppFooter(),

   ],
  ),
 ),
),
floatingActionButton: FloatingActionButton(
  onPressed: () {
```

```
      Navigator.pushNamed(context, '/cart');
     },
     child: Icon(Icons.shopping_cart),
   ),
 );
}

Widget _cuisineItem(String name, String imgUrl) {
 return Column(
  children: [
   Image.asset(imgUrl, height: 50),
   SizedBox(height: 5),
   Text(name, style: TextStyle(fontSize: 12)),
  ],
 );
}
}
```

ScreenShots :