

## Experiment 3

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

**Theory:** In a Flutter application, visual elements like icons, images, and custom fonts enhance the user experience. These assets can be bundled within the app or loaded from external sources. Below is an explanation of how to include and manage them in Flutter.

1. **Icons in Flutter:** Icons are used to visually represent actions, statuses, or branding elements in a Flutter app. Flutter provides different ways to use icons:
  - a. **Default Material Icons:** Flutter includes the Icons class, which provides access to Google's Material Design icons.  
Eg. `Icon(Icons.home, size: 40, color: Colors.blue)` These icons are vector-based and scalable and it doesn't require any additional setup.
  - b. **Custom Icons from External Packages:** Flutter allows using custom icon packs through packages like `flutter_icons` or `font_awesome_flutter`.
    - i. **Add the dependency in pubspec.yaml:**  
dependencies:  
`font_awesome_flutter: ^10.5.0`
    - ii. **Use it in your widget tree:**  
`import 'package:font_awesome_flutter/font_awesome_flutter.dart';`  
`Icon(FontAwesomeIcons.twitter, size: 40, color: Colors.blue)`
  - c. **Custom Icon Fonts (TTF/OTF):** You can also include your own icon font (like a .ttf or .otf file) and reference it in pubspec.yaml under the fonts section.
2. **Images in Flutter** Flutter allows displaying images from various sources:
  - a. **Local Images (Assets)**
    - i. **Place images inside the assets/ folder.**
      - a. Declare them in pubspec.yaml:  
flutter:  
assets:  
- assets/images/logo.png
    - ii. **Use it in your app:**  
`Image.asset('assets/images/logo.png', width: 100, height: 100)`
  - b. **Network Images:** To load an image from a URL:  
`Image.network('https://example.com/image.jpg', width: 100, height: 100)`  
For this, ensure you have internet permissions for mobile apps.

- c. **SVG Images:** Flutter does not support SVG natively, but you can use the flutter\_svg package.
  - i. **Add dependency:**  
dependencies:  
flutter\_svg: ^2.0.9
  - ii. **Use in your app:**  
import 'package:flutter\_svg/flutter\_svg.dart';  
SvgPicture.asset('assets/images/icon.svg', width: 50, height: 50)

**3. Fonts in Flutter:** To use custom fonts:

- a. **Add the font file (.ttf or .otf) in assets/fonts/. Then declare it in pubspec.yaml:**

flutter:

fonts:

- family: CustomFont

fonts:

- asset: assets/fonts/CustomFont-Regular.ttf

- asset: assets/fonts/CustomFont-Bold.ttf

weight: 700

- b. **Use it in your app:**

Text( 'Hello, Flutter!',style: TextStyle(fontFamily: 'CustomFont', fontSize: 24),)

**Code in home.dart:**

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

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

```
class HomePage extends StatelessWidget {
```

```
  final List<Map<String, dynamic>> features = [
```

```
  {
```

```
    "title": "Goal Creation & Tracking",
```

"description": "Set SMART goals and log progress daily.",

"image":

"https://plus.unsplash.com/premium\_vector-1727955579504-b6e00adbf23c?q=80&w=1800&auto=format&fit=crop&ixlib=rb-4.0.3&ixid=M3wxMjA3fDB8MHxwaG90by1wYWdlfHx8fGVufDB8fHx8fA%3D%3D"

},

{

"title": "Accountability Partners",

"description": "Add friends, family, or mentors to track progress.",

"image":

"https://plus.unsplash.com/premium\_vector-1682269939460-1e7d742aaa7f?q=80&w=1800&auto=format&fit=crop&ixlib=rb-4.0.3&ixid=M3wxMjA3fDB8MHxwaG90by1wYWdlfHx8fGVufDB8fHx8fA%3D%3D"

},

{

"title": "Virtual Nudges",

"description": "Receive motivating messages from partners.",

"image":

"https://images.unsplash.com/vector-1738325063642-ca6a57d8743e?q=80&w=1800&auto=format&fit=crop&ixlib=rb-4.0.3&ixid=M3wxMjA3fDB8MHxwaG90by1wYWdlfHx8fGVufDB8fHx8fA%3D%3D"

},

{

"title": "Collaborative Goals",

"description": "Work on shared goals like fitness challenges.",

"image":

"https://plus.unsplash.com/premium\_vector-1727274000289-99ec6fa1f744?w=600&auto=forma

t&fit=crop&q=60&ixlib=rb-4.0.3&ixid=M3wxMjA3fDB8MHxzZWZyY2h8N3x8Y29sbGFicmF0aXZlJTlwd29ya3xlbmwHwwfHx8MA%3D%3D"

}

];

@override

Widget build(BuildContext context) {

return Scaffold(

appBar: AppBar(

title: Row(

mainAxisAlignment: MainAxisAlignment.spaceBetween,

children: [

Text(

"Activibe",

style: TextStyle(fontSize: 24, fontWeight: FontWeight.bold),

),

Icon(Icons.account\_circle, size: 30), // Profile Icon

],

),

backgroundColor: Color.fromARGB(255, 243, 255, 139),

elevation: 4,

shape: RoundedRectangleBorder(

borderRadius: BorderRadius.vertical(bottom: Radius.circular(15)),

),

```

),
backgroundColor: Color.fromARGB(255, 250, 255, 201),
body: Padding(
  padding: const EdgeInsets.all(10.0),
  child: Column(
    children: [
      // Carousel Section
      CarouselSlider.builder(
        itemCount: features.length,
        itemBuilder: (context, index, realIndex) {
          return Card(
            shape: RoundedRectangleBorder(
              borderRadius: BorderRadius.circular(15),
            ),
            elevation: 5,
            child: Container(
              decoration: BoxDecoration(
                borderRadius: BorderRadius.circular(15),
                image: DecorationImage(
                  image: NetworkImage(features[index]["image"]),
                  fit: BoxFit.cover,
                  colorFilter: ColorFilter.mode(
                    const Color.fromARGB(255, 255, 255, 255).withOpacity(0.4),
                    BlendMode.darken),

```

),

),

child: Padding(

padding: EdgeInsets.all(20),

child: Column(

mainAxisAlignment: MainAxisAlignment.center,

children: [

Text(

features[index]["title"],

style: TextStyle(

fontSize: 22,

fontWeight: FontWeight.bold,

color: const Color.fromARGB(255, 29, 28, 28),

),

textAlign: TextAlign.center,

),

SizedBox(height: 10),

Text(

features[index]["description"],

style: TextStyle(

fontSize: 16,

color: const Color.fromARGB(179, 0, 0, 0),

),

```
        textAlign: TextAlign.center,

        ),

        ],

        ),

        ),

        ),

        );

    },

    options: CarouselOptions(

        height: 300,

        autoPlay: true,

        enlargeCenterPage: true,

        enableInfiniteScroll: true,

        ),

        ),

        ],

        ),

        ),

        );

    }

}
```

## OUTPUT:



**Conclusion:** This Flutter implementation successfully demonstrates how to incorporate various visual elements into an app. The code creates an engaging home page for the "Activibe" app featuring a custom app bar and an auto-playing image carousel. The implementation properly utilizes Flutter's widget system to display network images with text overlays, custom styling, and interactive elements. The carousel slider effectively showcases the app's key features through a combination of images and descriptive text, enhancing the overall user experience.