Experiment 2: Exploring Flutter Widgets

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

We can split the Flutter widget into two categories:

Visible (Output and Input)

Invisible (Layout and Control)

Visible widget

The visible widgets are related to the user input and output data. Some of the important types of this widget are:

1. Text

A Text widget holds some text to display on the screen. We can align the text widget by using textAlign property, and style property allow the customization of Text that includes font, font weight, font style, letter spacing, color, and many more. We can use it as like below code snippets. new Text('Hello, ALL!',   textAlign: TextAlign.center,   style: new TextStyle(fontWeight: FontWeight.bold),

2. Button

This widget allows you to perform some action on click. Flutter does not allow you to use the Button widget directly; instead, it uses a type of buttons like a FlatButton and a RaisedButton. We can use it as like below code snippets
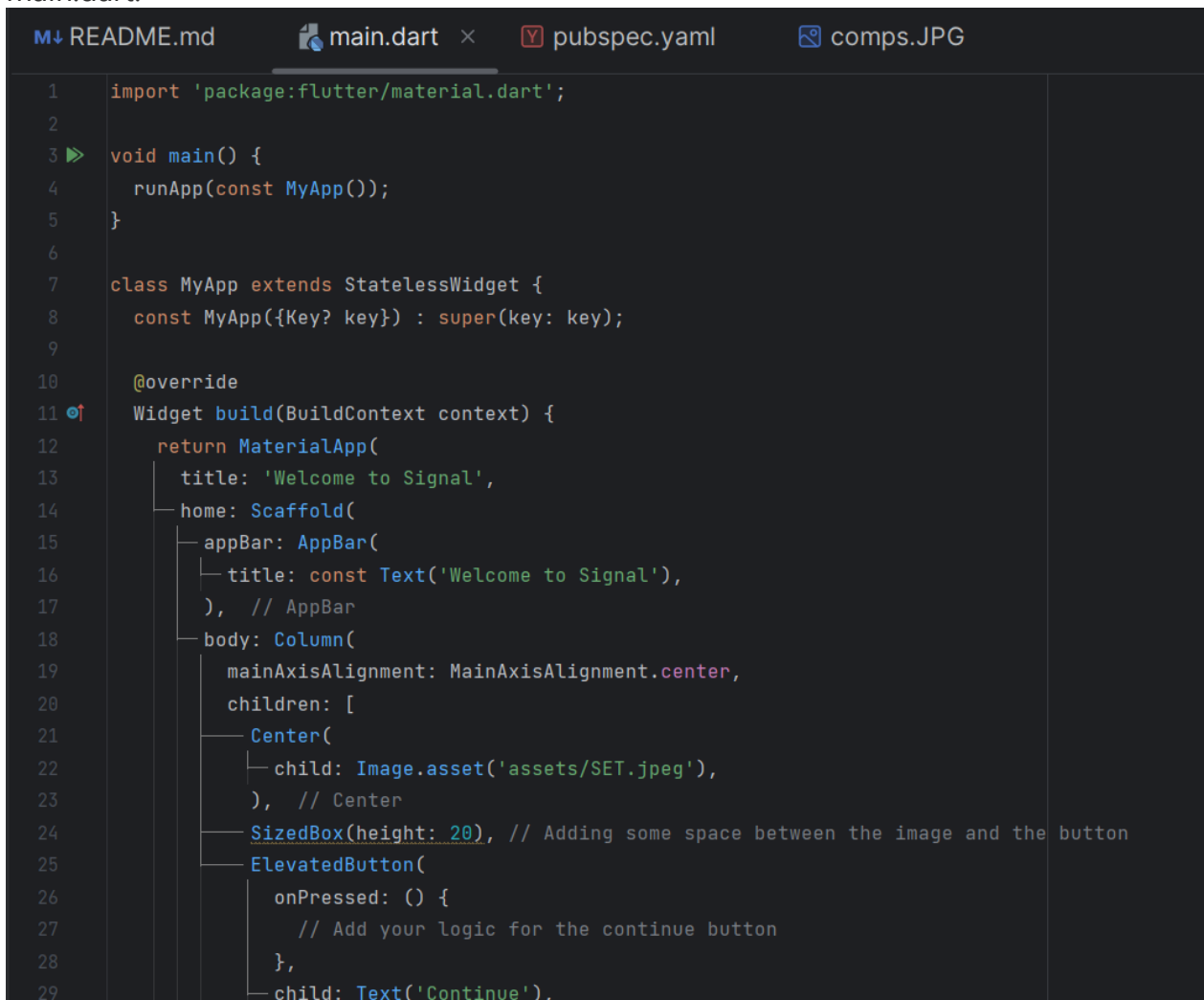
3. **Image**

This widget holds the image which can fetch it from multiple sources like from the asset folder or directly from the URL. It provides many constructors for loading image, which are given below:

- o **Image:** It is a generic image loader, which is used by **ImageProvider**.
- o **asset:** It load image from your project asset folder.
- o **file:** It loads images from the system folder.
- o **memory:** It load image from memory. o **network:** It loads images from the network.

To add an image in the project, you need first to create an assets folder where you keep your images and then add the below line in **pubspec.yaml** file.

Code:
main.dart:

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

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

class MyApp extends StatelessWidget {
  const MyApp({Key? key}) : super(key: key);

  @override
  Widget build(BuildContext context) {
    return MaterialApp(
      title: 'Welcome to Signal',
      home: Scaffold(
        appBar: AppBar(
          title: const Text('Welcome to Signal'),
        ), // AppBar
        body: Column(
          mainAxisAlignment: MainAxisAlignment.center,
          children: [
            Center(
              child: Image.asset('assets/SET.jpeg'),
            ), // Center
            SizedBox(height: 20), // Adding some space between the image and the button
            ElevatedButton(
              onPressed: () {
                // Add your logic for the continue button
              },
              child: Text('Continue'),
```

```
          ),  // ElevatedButton
        ],
      ),  // Column
    ),  // Scaffold
  );  // MaterialApp
  }
}
```

Pubspec.yaml:

```yaml
name: imagedemopwa
description: "A new Flutter project."
# The following line prevents the package from being accidentally published to
# pub.dev using `flutter pub publish`. This is preferred for private packages.
publish_to: 'none' # Remove this line if you wish to publish to pub.dev

# The following defines the version and build number for your application.
# A version number is three numbers separated by dots, like 1.2.43
# followed by an optional build number separated by a +.
# Both the version and the builder number may be overridden in flutter
# build by specifying --build-name and --build-number, respectively.
# In Android, build-name is used as versionName while build-number used as versionCode.
# Read more about Android versioning at https://developer.android.com/studio/publish/versioning
# In iOS, build-name is used as CFBundleShortVersionString while build-number is used as CFBundleVersion.
# Read more about iOS versioning at
# https://developer.apple.com/library/archive/documentation/General/Reference/InfoPlistKeyReference/Articles/CoreFoundationKeys.html
# In Windows, build-name is used as the major, minor, and patch parts
# of the product and file versions while build-number is used as the build suffix.
version: 1.0.0+1

environment:
  sdk: '>=3.2.4 <4.0.0'

# ...
dependencies:
```

```yaml
  flutter:
    sdk: flutter


  # The following adds the Cupertino Icons font to your application.
  # Use with the CupertinoIcons class for iOS style icons.
  cupertino_icons: ^1.0.2

dev_dependencies:
  flutter_test:
    sdk: flutter

  # The "flutter_lints" package below contains a set of recommended lints to
  # encourage good coding practices. The lint set provided by the package is
  # activated in the `analysis_options.yaml` file located at the root of your
  # package. See that file for information about deactivating specific lint
  # rules and activating additional ones.
  flutter_lints: ^2.0.0

# For information on the generic Dart part of this file, see the
# following page: https://dart.dev/tools/pub/pubspec

# The following section is specific to Flutter packages.
flutter:
```

```yaml
flutter:

  # The following line ensures that the Material Icons font is
  # included with your application, so that you can use the icons in
  # the material Icons class.
  uses-material-design: true

  # To add assets to your application, add an assets section, like this:
  assets:
    - assets/SET.jpeg
  #   - images/a_dot_ham.jpeg

  # An image asset can refer to one or more resolution-specific "variants", see
  # https://flutter.dev/assets-and-images/#resolution-aware

  # For details regarding adding assets from package dependencies, see
  # https://flutter.dev/assets-and-images/#from-packages

  # To add custom fonts to your application, add a fonts section here,
  # in this "flutter" section. Each entry in this list should have a
  # "family" key with the font family name, and a "fonts" key with a
  # list giving the asset and other descriptors for the font. For
  # example:
  # fonts:
  #   - family: Schyler
```
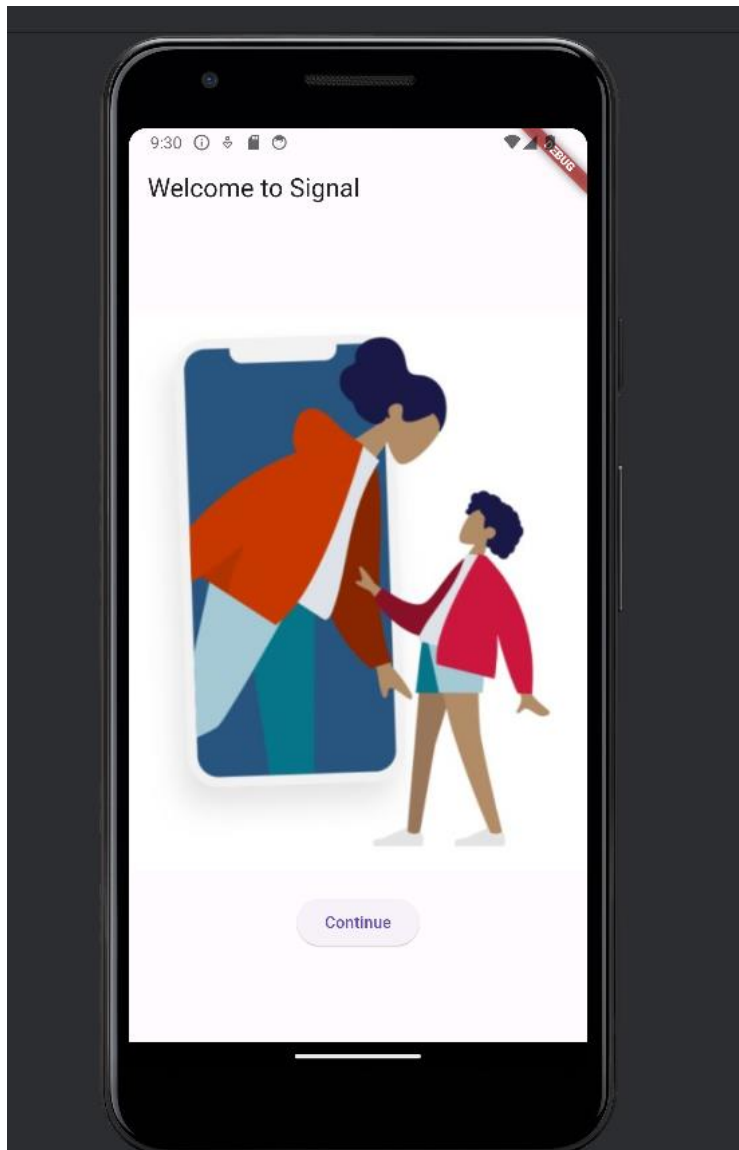
Output:

Output:

Conclusion:

In this experiment, we have succesfully imported and inerted image in the flutter and used font style to enter text and succesfully created button for it. All concept of image, font are implemented succesfully.