# Flutter UI:Scaffold & SafeArea

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## 1 Scaffold & SafeArea

The Scaffold widget is the base of the screen for a single page. It is used to implement the basic functional layout structure of an app. You can easily implement functional widgets like AppBar, FloatingActionButton, ButtonNavigationBar, Drawer, and many more widgets on the app using the Scaffold widget[1]. Some of the properties supported by the scaffold widgets are,

1. appBar: It is a horizontal bar displayed at the top of the screen. The app bar is one of the main components in your app, without it, your app may seem incomplete. The appBar widget has its own properties like elevation, title, actions, etc.

```
Scaffold(
  appBar: AppBar(
      title:Text("AppBar"), //title aof appbar
      backgroundColor: Colors.redAccent, //background color of appbar
  ),
)
```

2. backgroundColor: This property on Scaffold is used to change the background color of the Scaffold screen.

```
Scaffold(
    backgroundColor: Colors.blue, //set background color of scaffold to blue
)
```

3. body: This is the main content property on Scaffold. You have to pass the widget and it will be displayed on the screen.

```
Scaffold(
  body: Center( //content body on scaffold
       child: Text("Scaffold Widget")
  ),)
```

4. floatingActionButton: It is a floating button that is used for quick action.

```
Scaffold(
    floatingActionButton:FloatingActionButton( //Floating action button on Scaffold
        onPressed: (){
            //code to execute on button press
        },
```

[1]https://www.fluttercampus.com/tutorial/9/flutter-scaffold/

```
      child: Icon(Icons.send), //icon inside button
    ),)
```

SafeArea is basically a glorified Padding widget. If you wrap another widget with SafeArea, it adds any necessary padding needed to keep your widget from being blocked by the system status bar, notches, holes, rounded corners and other "creative" features by manufactures. Setting them all to false would be the same as not using SafeArea. The default for all sides is true.One can define SafeArea to any child and the properties that can be set is as shown below,

```
SafeArea(
  left: false,
  top: false,
  right: false,
  bottom: false,
  child: Text('My Widget: ...'),
)
```

# 2 Exercise-I

**Create a Flutter App to demonstrate the usage of SafeArea.**
To build an app to demonstrate the usage of SafeArea, First we build an app without using SafeArea and then we build another using SafeArea. The following are the steps,

- Create a new flutter app, modify the main.dart file according to the widget tree shown in 1(a).

```
import 'package:flutter/material.dart';
void main() {
  runApp(MaterialApp(
    home: Text(
      'Without SafeArea', // Text to display
      textAlign: TextAlign.center, //align the text to center
      style: TextStyle(
        fontSize: 40, // fontSize in px
        fontWeight: FontWeight.w800, // font weight
        color: Colors.deepOrangeAccent, // Setting up the color font
      ),
    ),
  ));
}
```

- To see the usage of SafeArea, wrap the Text Widget around SafeArea Widget according to the figure 1(b) and make the Text Widget as child of SafeArea as shown below

```
import 'package:flutter/material.dart';
void main() {
  runApp(MaterialApp(
    home: SafeArea(
      child: Text(
        'Without SafeArea',
        textAlign: TextAlign.center,
        style: TextStyle(
          fontSize: 40,
```

```
          fontWeight: FontWeight.w800,
          color: Colors.deepOrangeAccent,
        ),
      ),
    ),
  ));
}
```

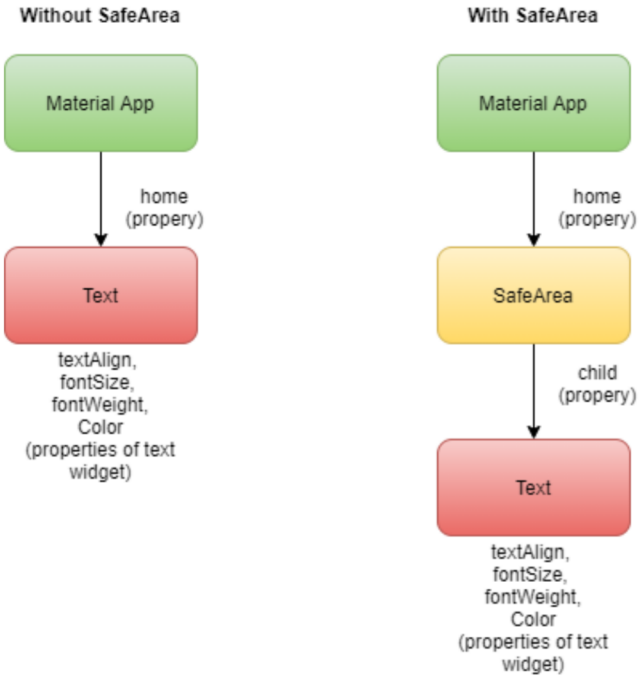


Figure 1: Widget Tree:SafeArea

# 3 Exercise-II

**Create a Flutter App to demonstrate the usage of Scaffold.**
To implement the app, Follow the widget tree as shown 2. The Root element of the app is a MaterialApp itself whose child points to Scaffold which acts as a container for the widgets such as AppBar, Text widgets. The code following the Widget Tree is as shown below,

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

void main() {
  runApp(
    MaterialApp(
      home:Scaffold(
        appBar: AppBar(
          title: Text("First Flutter App"),
        ),
        body: Center(
          child: Text(
            'This is a first App',
            style: TextStyle(
              fontSize: 40.0,
              fontStyle: FontStyle.italic,
              fontWeight: FontWeight.bold,
```