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Experiment-3

Aim:

To explore and understand the usage of basic Flutter widgets such as Text, Button, Image, and various Single Child Widgets to build simple and interactive UIs.

Theory:

Flutter is a UI toolkit for building natively compiled applications using widgets. Widgets are the basic building blocks of a Flutter app's user interface. Understanding and using fundamental widgets like Text, Button, Image, and Single Child Widgets is essential for any Flutter developer.

1. Text Widget:

- Used to display a string of text with styling options.

dart

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Text(

 'Hello, Flutter!',

 style: TextStyle(fontSize: 20, fontWeight: FontWeight.bold),

)

2. Button Widgets:

Flutter offers several types of buttons like:

- ElevatedButton

- TextButton

- OutlinedButton

Example:

dart

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ElevatedButton(

 onPressed: () {

  print('Button Pressed');

```dart
  },
  child: Text('Click Me'),
)
```

3. Image Widget:

- Used to display images from assets or network.

dart

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```dart
Image.asset('assets/images/logo.png')

Image.network('https://example.com/image.jpg')
```

4. Single Child Widgets:

Widgets that can hold only one child are called Single Child Widgets. Some common examples include:

- Container
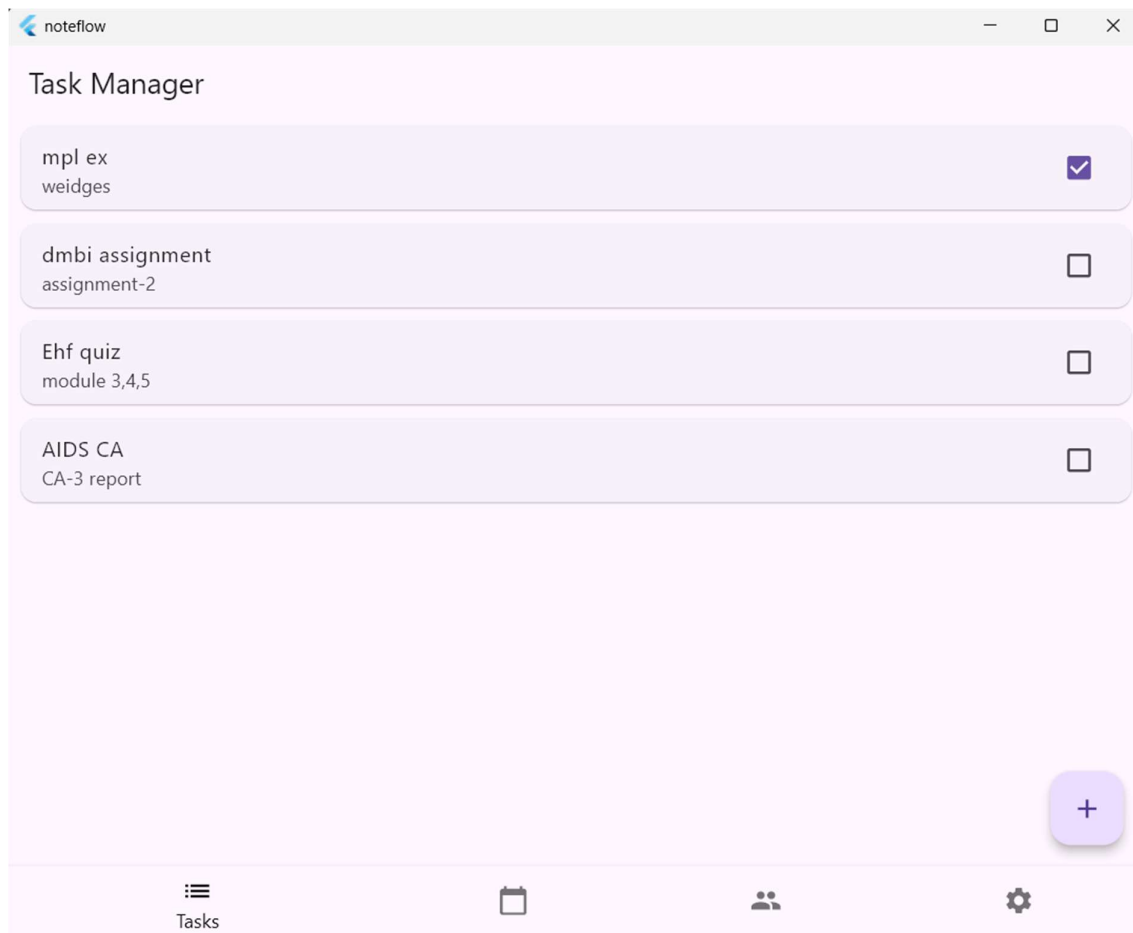- Center
- Padding
- Align
- SizedBox

Example:

dart

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```dart
Center(
  child: Text('Centered Text'),
)
```

These widgets are used to control layout, alignment, spacing, and positioning of elements in the UI.

Conclusion:

By exploring basic Flutter widgets such as Text, Button, Image, and single-child layout widgets, we gain the foundational skills needed to build simple, clean, and interactive user interfaces. These widgets form the core of most Flutter apps and understanding their use is essential for developing more complex UI structures in the future. Mastery of these basic widgets also enables developers to create responsive and visually appealing applications with ease.