Day 5:

Topic:

Introduction to Flutter components- Overview of Widgets (Statefull and Stateless).

Topics:

What is widget?

Widget life cycle.

Types of widget?

* Statefull
* Stateless
* Inherited

**What is Widget?**

Answer:

A widget is an immutable description of part of a user interface.

Widget is a way to declare and construct UI.

Also describe the configuration for an element. Widget is a one blueprint, We have to use that blue print to create any kind of view or UI.

In Android we have a view, in iOS we have a UIViews

Widget can be anything like button, text, imageview like normal component

Or can be anything like margin, padding, sizebox, divider

In flutter everything is a widget, whatever you can see in the screen that is widget, even the your app is one widget.

When we add this widget, we have to follow some syntax, some inbuilt properties like key, runtimeType, createElement.

Widget will identify via KEY (a unique id)

**Widget life cycle.**

Answer:

initState, didChangeDependency, build, didUpdateWidget, setState, deactivate, dispose

**Types of widget**

Answer:

When a widget’s state changes, the widget rebuilds its description, which the framework diffs against the previous description in order to determine the minimal changes needed in the underlying render tree to transition from one state to the next.

1. Stateless widget

* A widget can build differently several times over timeframe
* If widget does not doing anything after creation then its stateless widget
* Dataless widget or not storing any real-time data
* Ex. Text, Icon, IconButton

1. Statefull widget

* A widget is dynamic in nature
* If widget doing something with his own state after creation then its statefull widget
* Radio button – selected vs not selected state
* Ex. Checkbox, Slder, Inkwell, TextField or Input box

1. Inherited widget

* You have multiple widgets nested in a widget tree and you are trying to access the data which is somewhere up in the tree.
* We can send the same data through the constructor
* If your widget is a child of inherited widget then you can access data anywhere in the widget tree
* We can access via .of( ) method
* Ex. Theme, MediaQuery.

Reference Links:

1. <https://medium.com/jay-tillu/4-what-is-widget-in-flutter-lets-clear-the-basics-first-82f501c8d0f0>
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3. <https://api.flutter.dev/flutter/widgets/Widget-class.html>
4. Widget : <https://www.youtube.com/watch?v=FU2Eeizo95o>
5. Widget render : <https://www.youtube.com/watch?v=996ZgFRENMs>
6. Inherited widget: <https://betterprogramming.pub/exploring-inherited-widget-in-flutter-10ab959017cb>
7. <https://medium.flutterdevs.com/explore-widget-lifecycle-in-flutter-e36031c697d0>