ValueNotifier in Flutter

ValueNotifier is a special type of class that extends a ChangeNotifier. ValueNotifier is native to Flutter itself, it provides individual element reactivity. Flutter also has a widget by default, using which we can listen to the ValueNotifier called ValueListenableBuilder. It can also be listened using AnimationBuilder since it is Listenable

Think of ValueNotifier as a stream of data which holds to a value. We provide it a value and every listener receives a notification of the value change.

We can create a ValueNotifier of any type int, bool, list, or any custom data type. You can create a ValueNotifier object like this:

ValueNotifier<int> counter = ValueNotifier<int>(0);

We can update the value like this:

counter.value = counter.value++;

//OR counter.value++;

In addition, we can listen to the ValueNotifier like this:

counter.addListener((){ print(counter.value); });

If we want to listen to the value in a widget, we use the ValueListenableBuilder widget, which out of the box takes care of removing the subscription once out of view. Thus, when using ValueListenableBuilder we don't manually need to add and remove listeners, it automatically does that for us.

Remove Value Notifier Listener in Flutter

If we listen to a ValueNotifier manually, and we do not dispose it because it's needed somewhere in the application. We can manually remove a listener from the ValueNotifier when not in use on the current page, using the removeListener function.

ValueNotifier<int> valueNotifier = ValueNotifier(0);

```
void removeDemo() {
  valueNotifier.removeListener(doTaskWhenNotified);
}

void addDemo(){
  valueNotifier.addListener(doTaskWhenNotified);
}

void doTaskWhenNotified() {
  print(valueNotifier.value);
}
```

Disposing of ValueNotifier in Flutter

It is a good practice to dispose the Value Notifier when no longer in use, otherwise it may lead to memory leaks. The dispose method on the notifier will release any subscribed listener.

```
@override
 void dispose() {
   counter.dispose();
   super.dispose();
 }
```

What is ValueListenableBuilder?

There are many types of builders in Flutter like StreamBuilder, AnimatedBuilder, FutureBuilder, etc. Their first name suggests what type of object they consume. The ValueListenableBuilder consumes the ValueNotifier object. The builder method is executed every time we receive a value update. The ValueListenableBuilder automatically removes the listener internally when we route to another page.

```
const ValueListenableBuilder({
   @required this.valueListenable,
   @required this.builder,
   this.child,
 })
```