MINAB IT SOLUTIONS

Bahir Dar University

Mobile App Development Class 03, Series 04

Mobile App

HahuJobs

CLASS 02

01 State

02 Managing a state

03 State management tools

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State in Flutter

What is it?

is an information that can be read synchronously when the widget is built and might change during the lifetime of the widget. a state can be divided in two categories

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State in Flutter

Types of state

- Immutable - is a state whose value can't be adjusted after it is made or instantiated once.
- Mutable - is an opposite of immutable state , its value can be changed after its has been instantiated.

```dart
class WidgetWithMutableState extends StatefulWidget {
  WidgetWithMutableState({Key? key}) : super(key: key);

  @override
  State<WidgetWithMutableState> createState() => _WidgetWithMutableStateState();
}

class _WidgetWithMutableStateState extends State<WidgetWithMutableState> {
  int value = 0;
  @override
  Widget build(BuildContext context) {
    return Container(
      child: ElevatedButton(
          onPressed: () {
            setState(() {
              value++;
            });
          },
          child: Text("increment")),
    );
  }
}
```

```dart
class WidgetWithImmutableState extends StatelessWidget {
  final int value;
  const WidgetWithImmutableState({Key? key,required this.value}) : super(key: key);

  @override
  Widget build(BuildContext context) {
    return Container(
      child: Text("$value"),
    );
  }
}
```

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State in Flutter

Scope/level of state

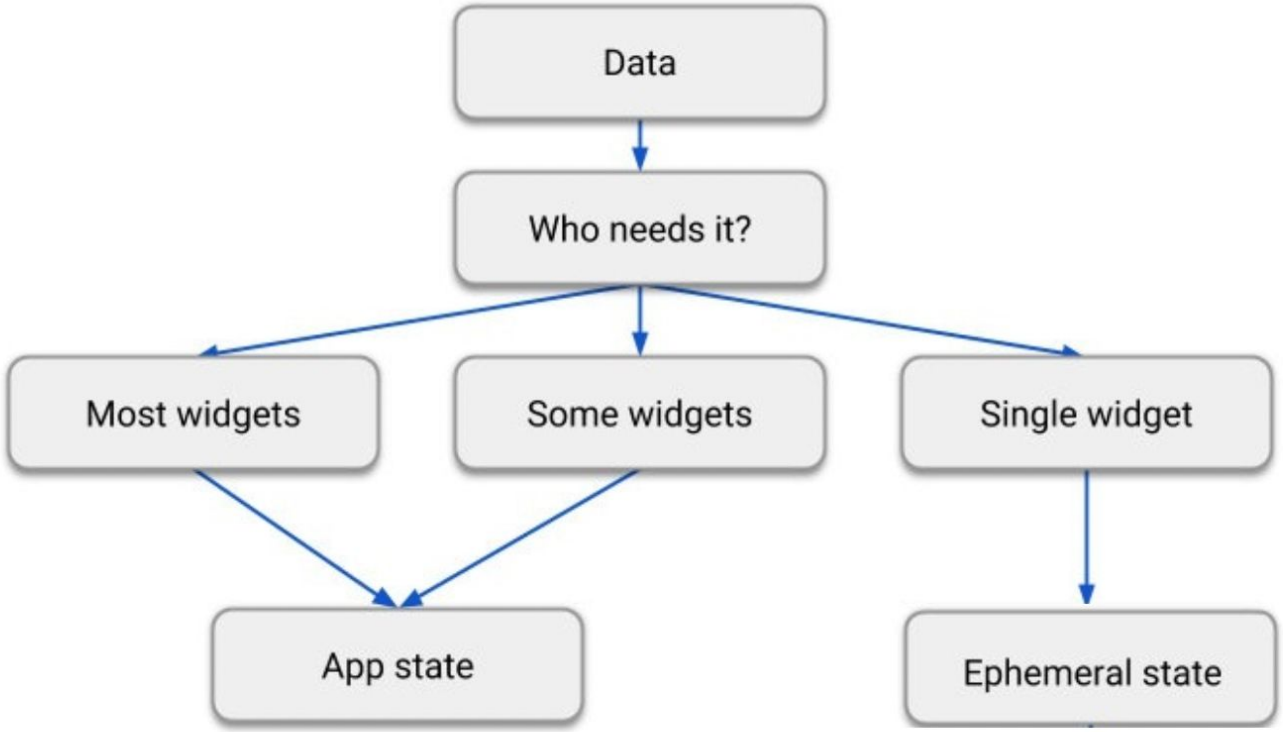
Depending on the use and type; a state can have two levels, those levels govern the reach of that particular state and which widgets are binded to it.

- Local(UI State) - It is a state which can be manageable in a single widget. There is no need for state management techniques(Bloc, redux, etc) on this kind of state a Stateful Widget would suffice.

- App Level -is a state that is not local and is accessible across our application, is what is known as App-wide state or Shared state..

State in Flutter

Scopes of a State



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State Management Tools

What is state management?

State-Management is the implementation of a Design Pattern, with the help of this design pattern we can synchronize the state of the application throughout all components of the application. This design pattern makes the implementation of services and handling of data coming from the database very easy.

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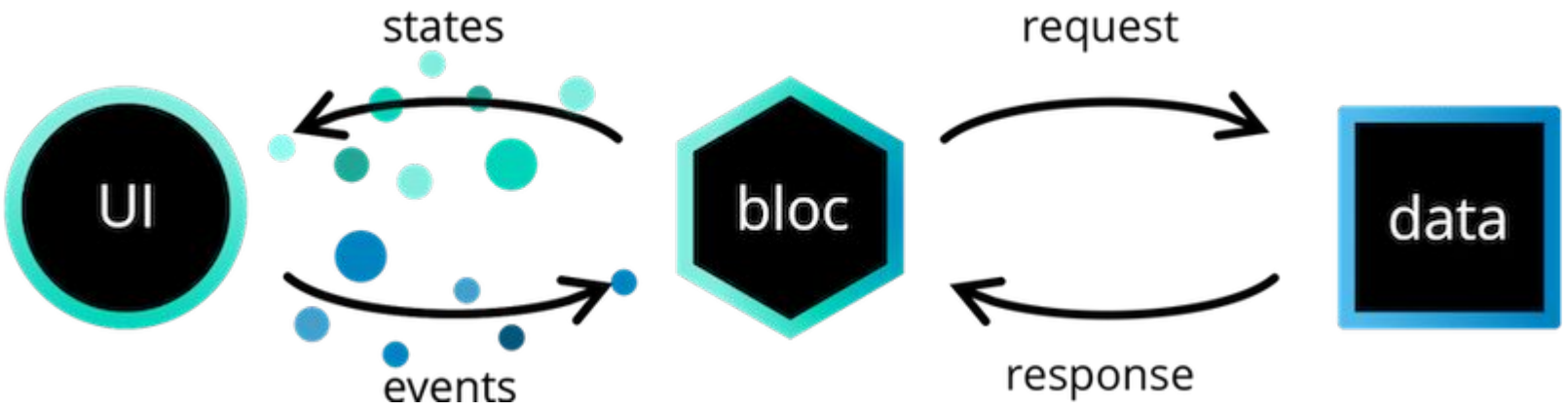
State Management Tools

BloC

BLoC stands for Business Logic Components. The gist of BLoC is that everything in the app should be represented as a stream of events: Widgets submit events, and other widgets will respond. BLoC sits in the middle, managing the conversation.



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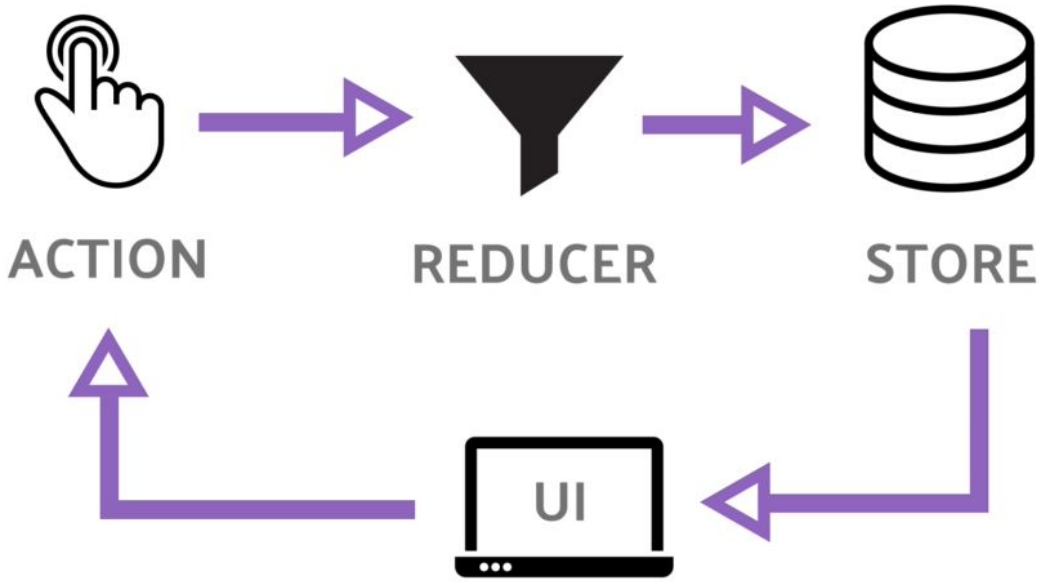
State Management Tools

Redux

is a predictable state container that yields a state based on an action from the user, unlike other tools above redux has on main state or single source of truth.



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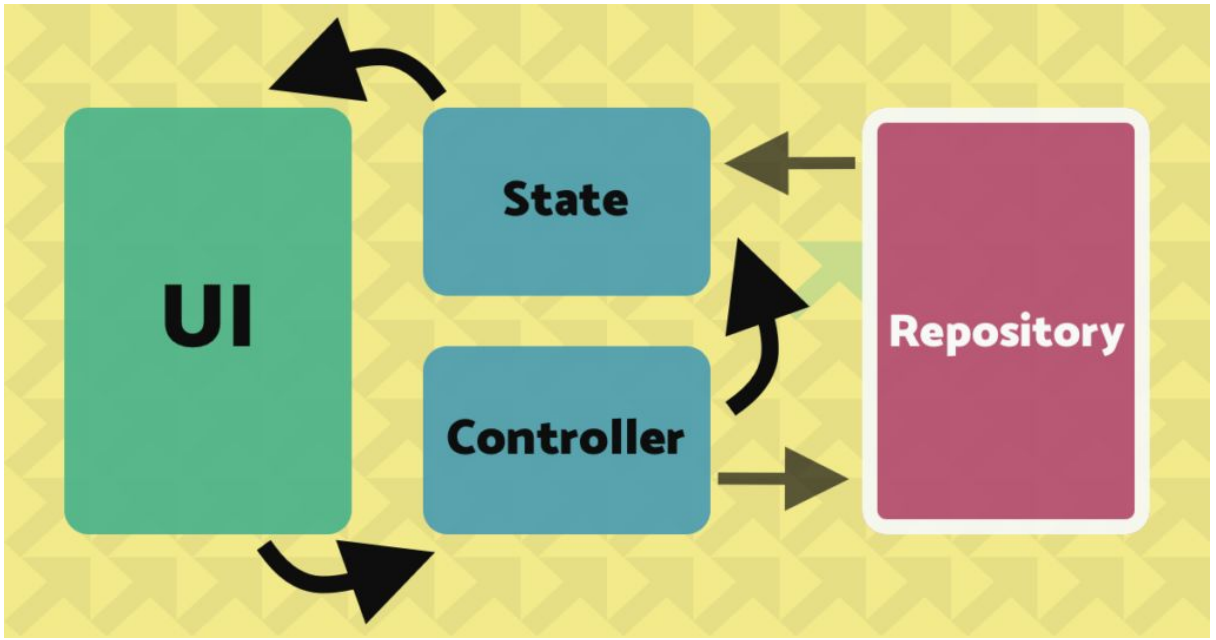
State Management Tools

Riverpod

is a package based on provider but without the limits of provider , riverpod provides a compile-safe and robust way to handle your state.



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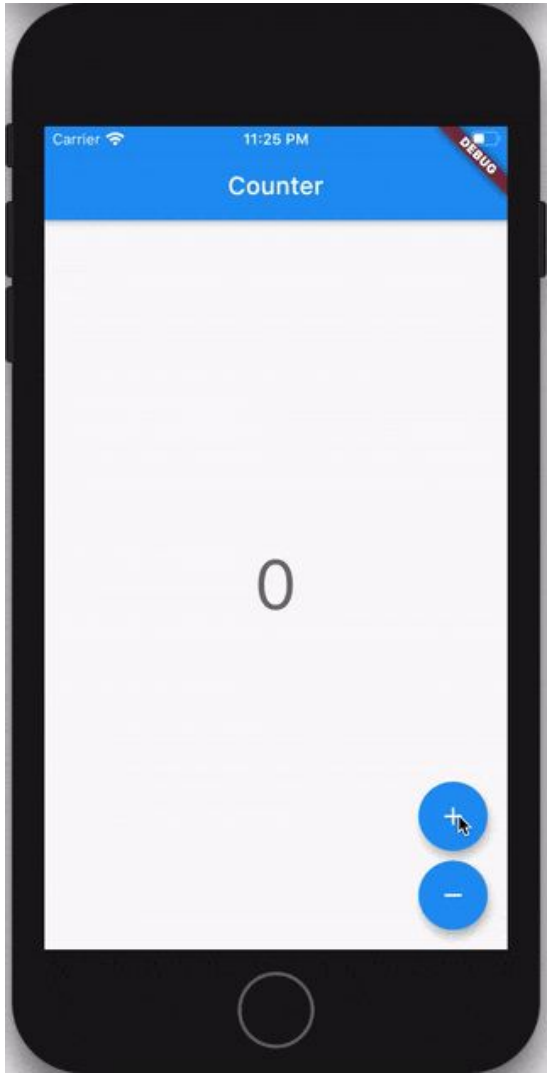
Codealong - Make a counter app using the tools mentioned above.



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Reading Assignment

- local databases
- shared preferences
- sqlite
- http requests

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Thank you!

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Tesfahun Kebede
tesfahunkebede336@gmail.com