



FLUTTER BOOTCAMP

STATE MANAGEMENT

Workshop 4

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Main kaun Hoon? 😊

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I am a:

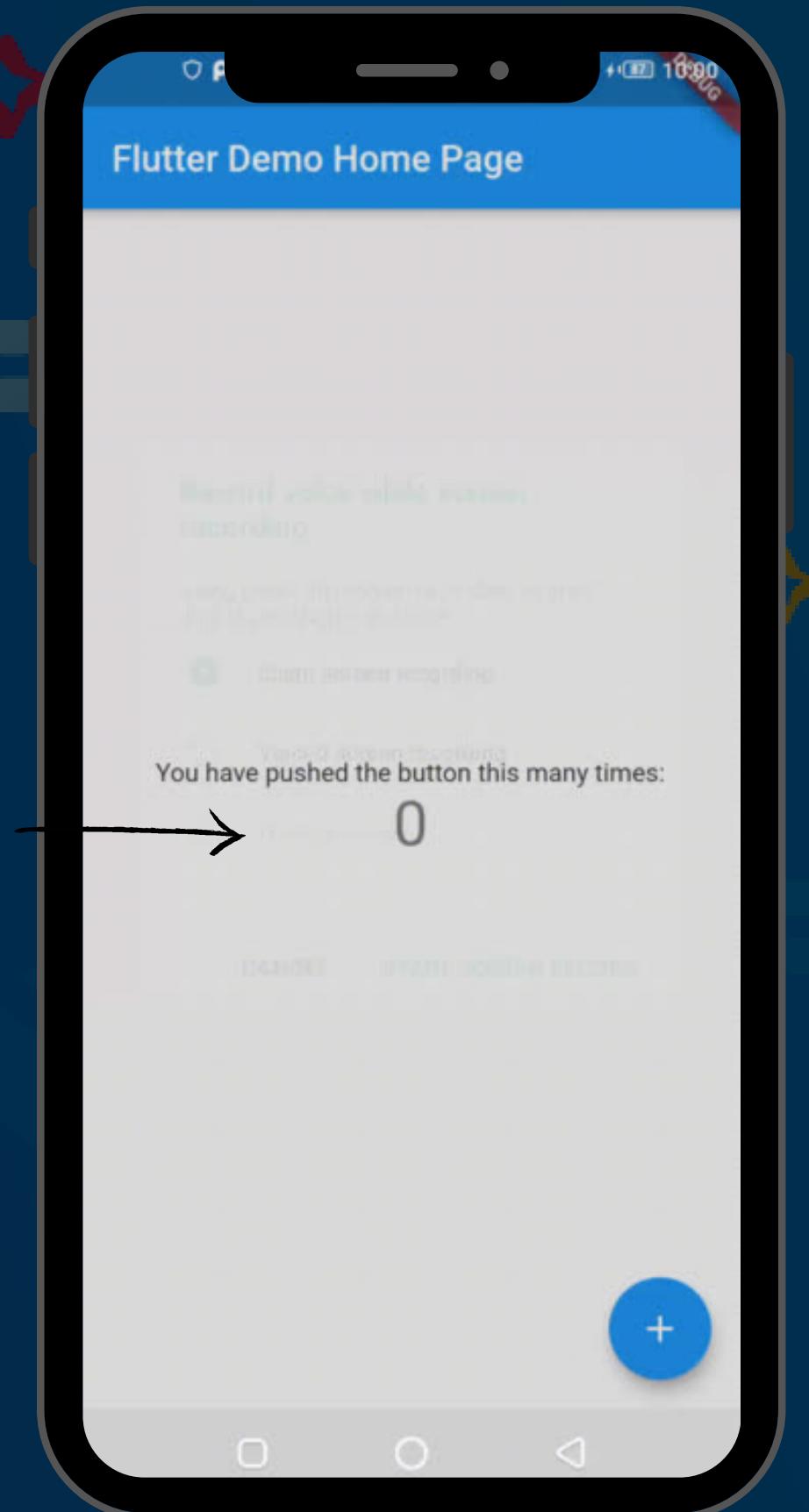
- Flutter Developer at **IsaaTech** (2yr exp)
- Google Developer Student Clubs Lead
- Microsoft Learn Student Ambassador
- Member @ **Strapi.io** & Appwrite.io
- Tech Enthusiast & Evangelist
- Occasional **Freelancer**
- Above all that, a proud **Pakistani**

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What is State?

- In the software development world, the state is the information you required to rebuild your UI at any moment.



Why State Management?

Does it make any difference??

State management is very important in application development. It centralizes all the states of various UI controls to handle data flow across the application. A proper state management can save a lot of computational overhead by avoiding rebuilding of unnecessary widgets.

Thora Declaratively Socho!!!

When the state of your app changes (for example, you press that increment counter button), you change the state, and that triggers a redraw of the user interface. There is no imperative changing of the UI itself (like `widget.setText`)—you change the state, and the UI rebuilds from scratch.



Flutter is declarative. This means that Flutter builds its user interface to reflect the current state of your app:

$$\text{UI} = f(\text{state})$$

The layout
on the screen

Your
build
methods

The application state

State - Types

1

Ephemeral State

Ephemeral state (sometimes called UI state or local state) is the state you can neatly contain in a single widget.

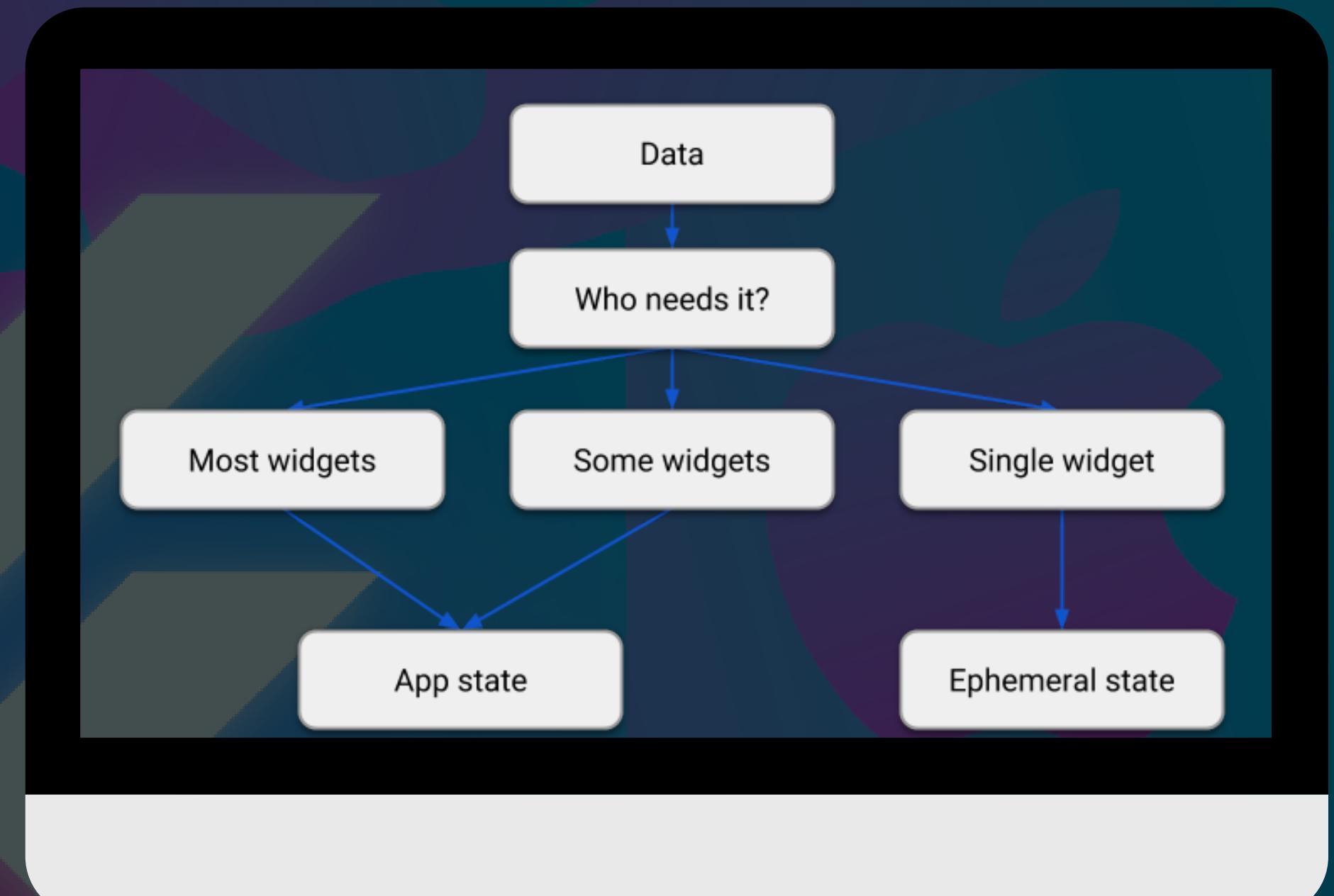
Example: on/off state of a switch.

2

App State

State that is not ephemeral, that you want to share across many parts of your app, and that you want to keep between user sessions, is what we call application state (sometimes also called shared state).

Example: user login info.



Managing the State

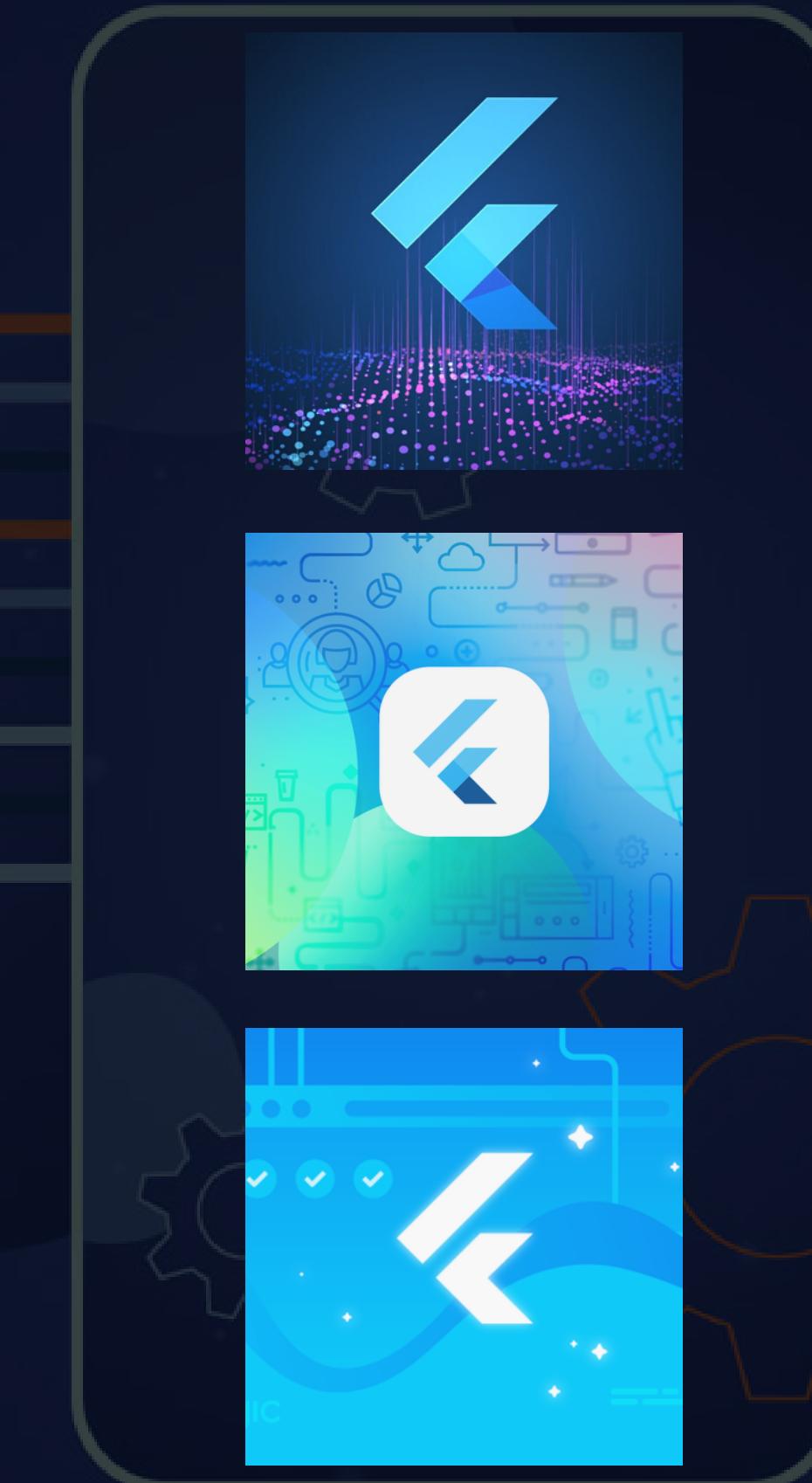
Consider an e-commerce app, you added a product in cart and you want your orders screen (cart screen) or any screen where changes need to me made to update it's state without calling `setState()` in that screen's widget hierarchy.

“The rule of thumb is: Do whatever is less awkward.”



Flutter SM Options...

- Provider
- InheritedWidget
- SetState
- Redux
- Fish-Redux
- BLoC/Rx
- MobX
- Riverpod
- GetX



Provider dash-overflow.net

Google recommended. Simple & Beginner Friendly.

Bloc [Google](#)

Promotes code reusability.
Business logic & presentation separation,

GetX getx.site

Extra-light and powerful solution. High-performance state management

Provider

State Management in Flutter

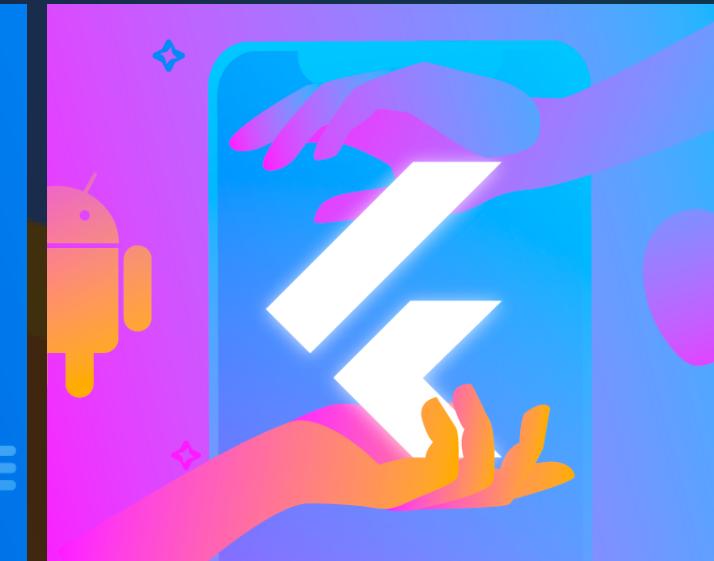
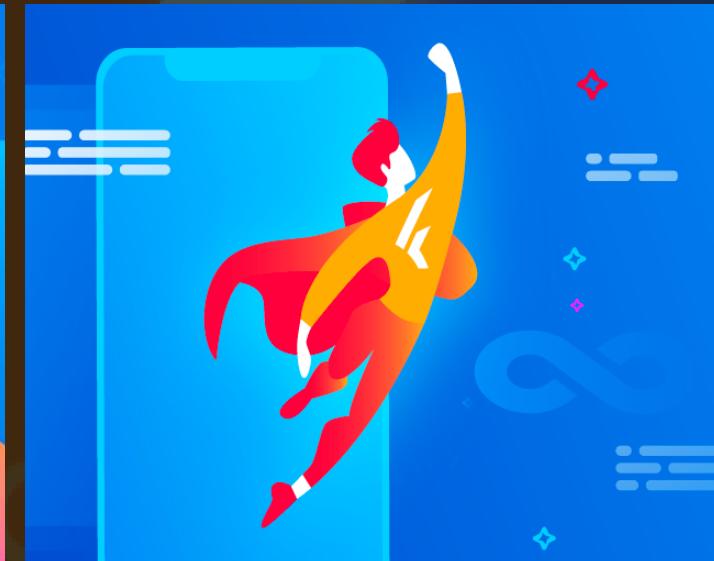


provider 6.0.2



Published 23 days ago · [dash-overflow.net](#) Null safety

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The Provider Package

Provider is the state management solution that Google recommends to beginners.



Popularity
100%

SM with Provider

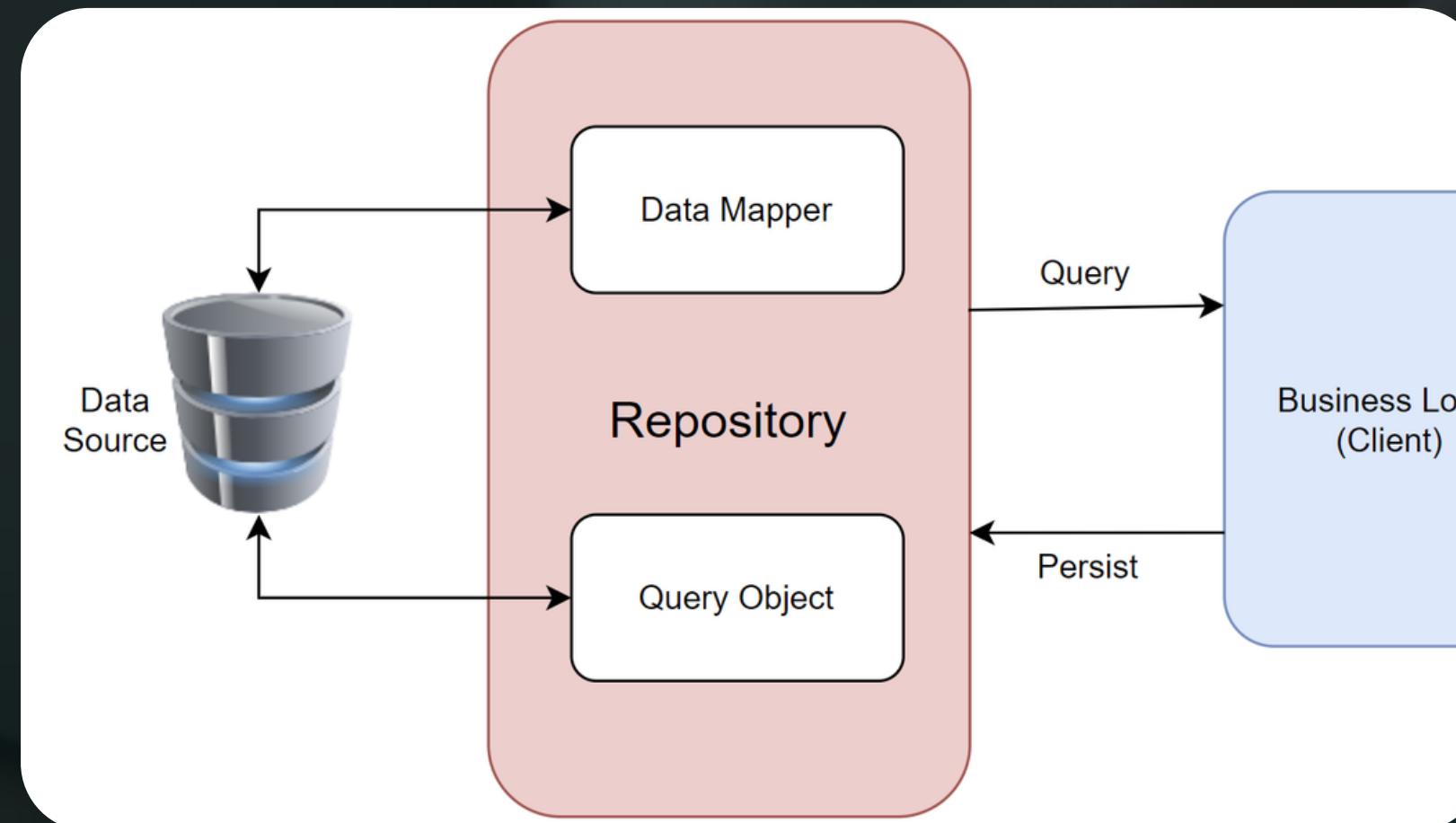
Provider package works on principles of inherited widget, the process goes like this...



Repository Pattern

A façade before complexity

Repository pattern separates the data access logic and maps it to the business entities in the business logic. Communication between the data access logic and the business logic is done through interfaces.



Some Best Practices

Naming

File names should be in snake_case

Function and field names in camelCase

Class names in PascalCase

Routing

Use named routes to avoid confusions while adding navigations.



Components

Always prefer class components over functional components,

Use **const** keyword most often.

Use of Const

Use of 'const' keyword is essential to avoid unnecessary widget builds.

Some Useful Takeaways

PNGTree

The best place to get free image assets.

Flaticon

Marketplace to get royalty free icons for your projects.

01

02

03

04



Lottie Anims

Lightweight animations for Flutter projects.

VS Code Plugins

Flutter vs code plugins help you in whole development process.

For help, Mentorship & Tech Discussion

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