

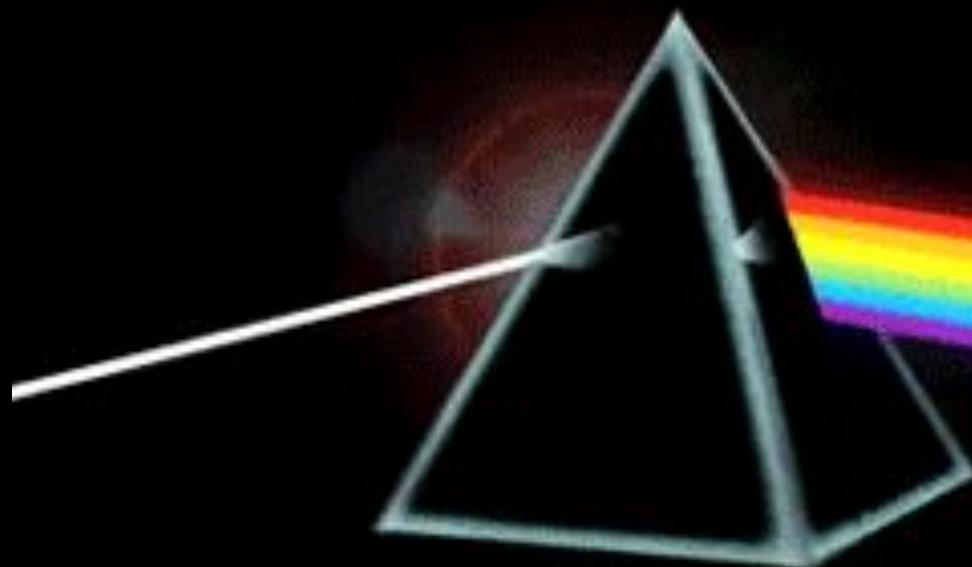
Building Modular Mobile Applications in Flutter

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Do you do Flutter?



The screenshot shows the homepage of the **Flutter Belgium** website. At the top left is the logo for **Flutter Belgium**. At the top right are links for **Projects**, **Companies**, and a GitHub icon. The main title is **made in (Flutter) Belgium**. Below the title is a descriptive text: "This collection of applications developed, published or contributed by Belgian developers or companies using the Flutter technology. This showcases the innovative and creative work of local developers and companies in the mobile/web app space." A grid of 15 app icons is displayed in three rows. The first row contains five icons: a blue circle with a checkmark and ".be", a blue circle with a car and ".be", the ENGIE logo, a red circle with a shield and ".be", and a blue square with a grid of colored circles. The second row contains five icons: a red square with a white 'S' logo, a blue speech bubble with ".be", a white square with a blue and orange abstract logo, a purple square with a white tree and "1737", and a blue square with a person recycling. The third row contains two visible icons: an orange rectangle and a dashed white rectangle.

madein.flutterbelgium.be/projects

Lumen

What is Lumen?

We measure your metabolism.

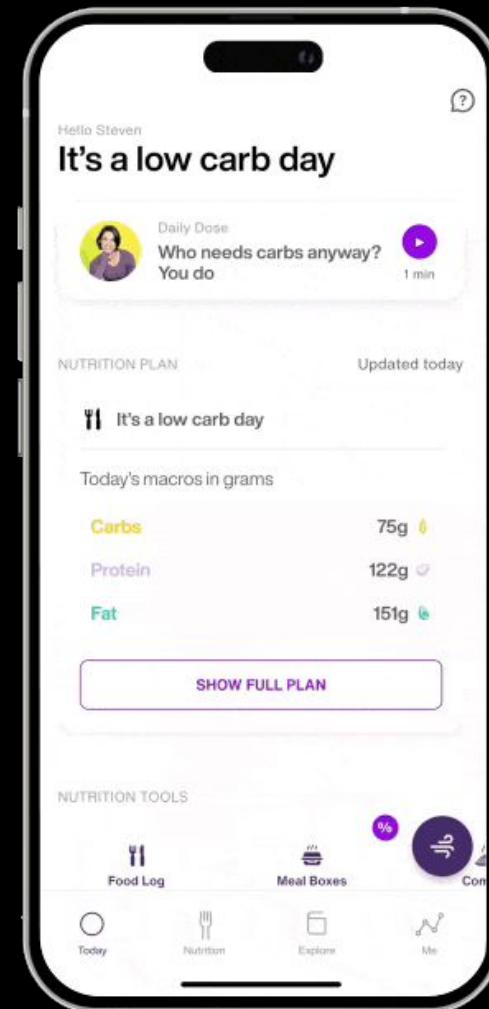


The Problem:

Some apps are
Complex

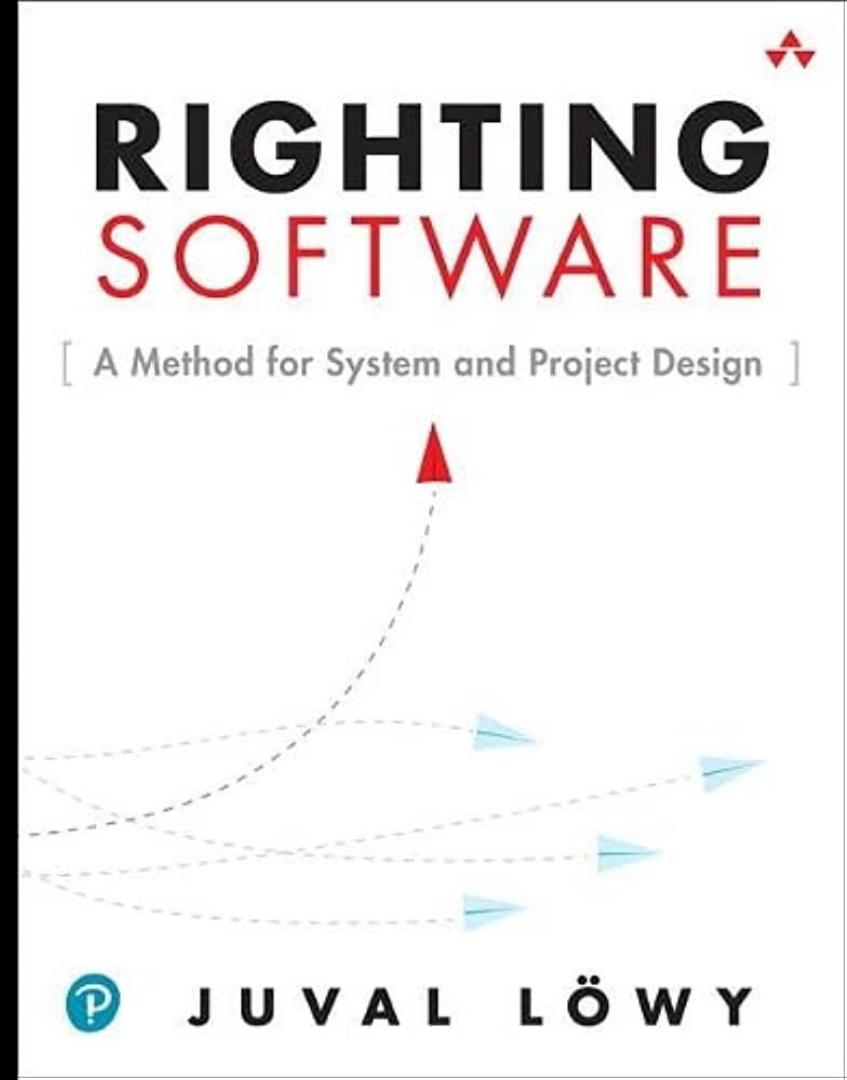
Reference:

The Lumen App



A solution:

“Good” Architecture



Functional decomposition

Example: Building a House

Cooking

Playing

Resting

Sleeping

Eating

Bathing

Growing

Cleaning

Fixing

Working

2



Functional decomposition

Example: Building a House



Volatility decomposition

Example: Building a House

Electricity	Furniture	Occupants
Structure	Neighbors	City



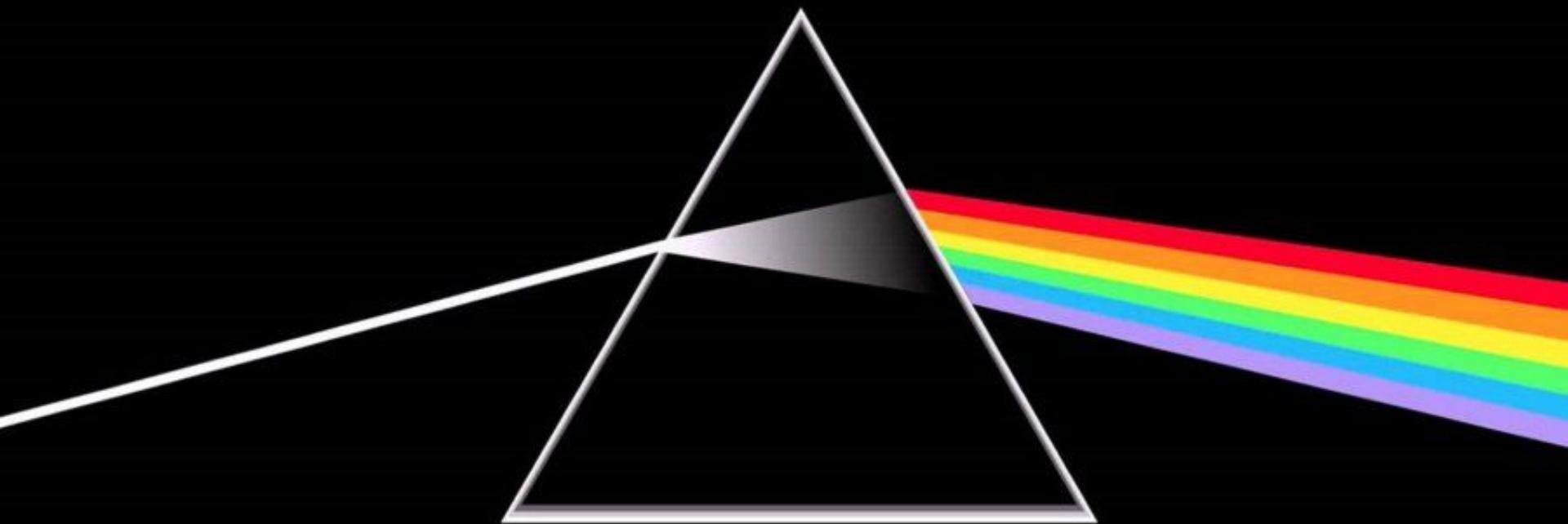
Lumen

“Good” Architecture

Volatility decomposition >
Functional decomposition



“Prism” Composite Application Guidance



“Prism” Composite Application Guidance Modules



“Prism” Composite Application Guidance

Modules

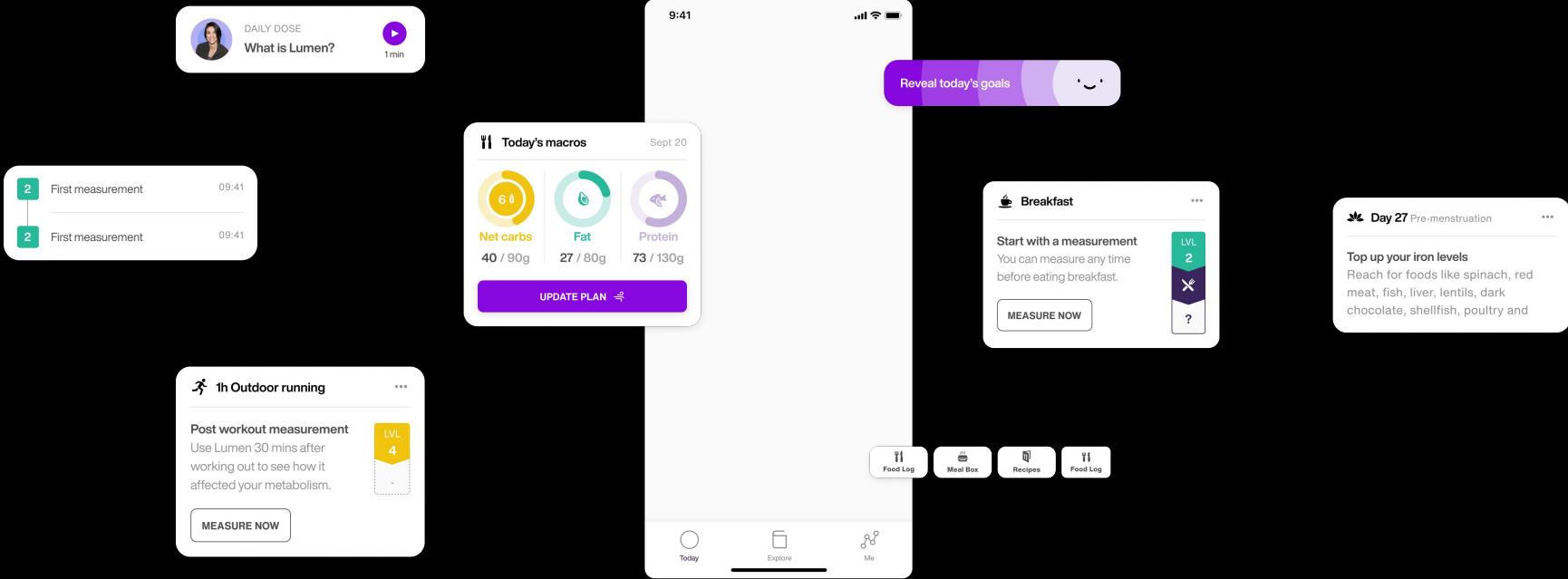
The diagram consists of two purple arrows pointing right. The first arrow is longer and contains the word "Bootstrapper". The second arrow is shorter and contains the word "Modules".

Bootstrapper

Modules

- Setting up modules to boot.
- Initializing startup components:
navigation, etc
- Initializing app “features”.
- Registering services,
widgets, events, etc.

“Prism” Composite Application Guidance Regions



“Prism” Composite Application Guidance

Regions



```
final regionManager = container<RegionManager>();  
  
regionManager.registerView(  
    RegionNames.actionArea.name,  
    RegionWidgetRegistration(  
        metadata: RegionMetadata("addDevice"),  
        registration: (context) => const  
            FloatingAddDeviceWidget(),  
    ),  
) ;
```

“Prism” Composite Application Guidance

Publisher-Subscriber



“Prism” Composite Application Guidance

Publisher-Subscriber

Register

Subscribe

Publish

```
...
class DeviceAddedEvent extends Event<String> {}

...
locator<EventAggregator>().register(DeviceAddedEvent());
```

“Prism” Composite Application Guidance

Publisher-Subscriber

Register

Subscribe

Publish

```
...
locator<EventAggregator>().getEvent<DeviceAddedEvent>(
)? .subscribe((payload) => ...);
```

“Prism” Composite Application Guidance

Publisher-Subscriber

Register

Subscribe

Publish

```
...
locator<EventAggregator>().getEvent<DeviceAddedEvent>(
)? .publish(widget.deviceId);
```

“Prism” Composite Application Guidance Navigation



“Prism” Composite Application Guidance

Navigation

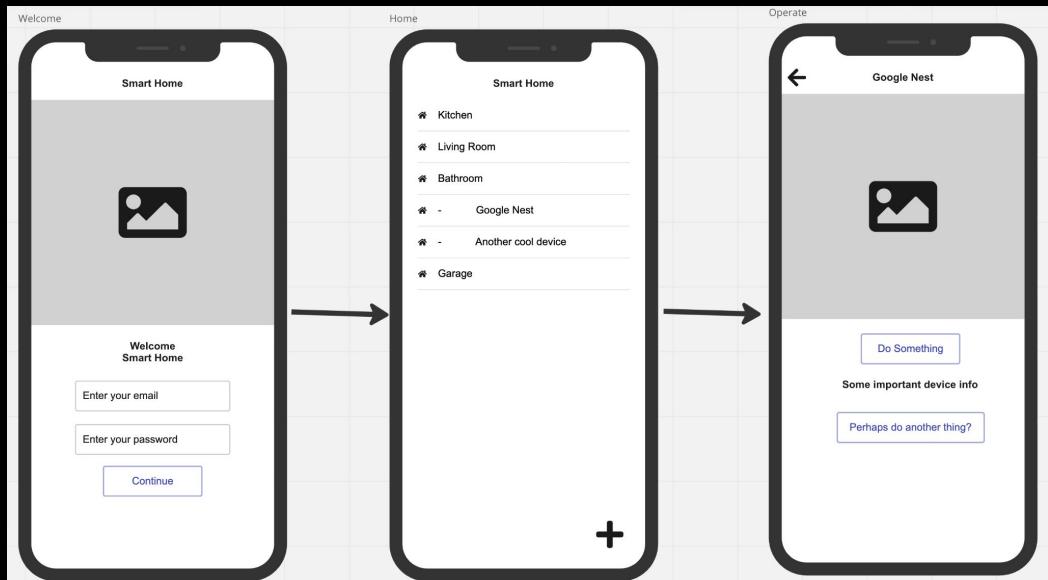
The diagram consists of two large, overlapping purple arrows pointing from left to right. The first arrow is positioned higher and contains the text "Bootstrapper". The second arrow is positioned lower and contains the text "Modules".

Bootstrapper

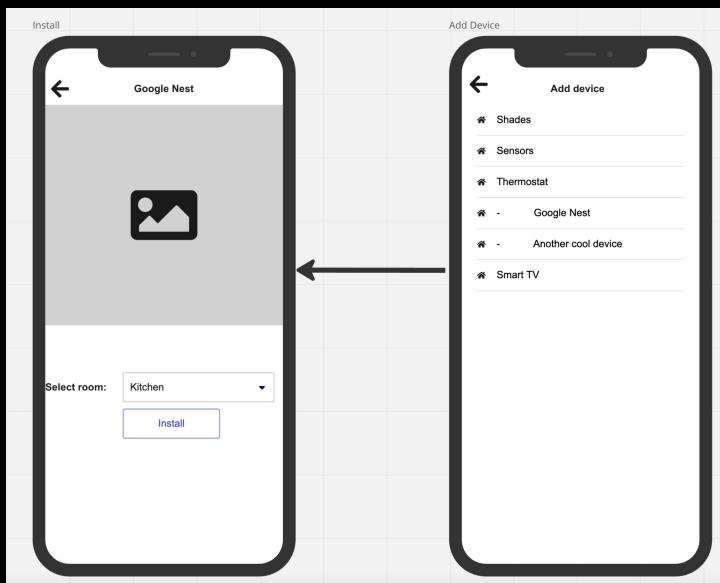
Modules

- Setting up Shell area: Tabs as regions, eg.
- Defining routes and enforcing isolation between modules.

Demo: Smart Home



Demo: Smart Home



DEMO

Q&A

Thank you!

Looking for the code and slides?

github.com/arielbh/SmartHomeApp

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