VIPER

architecture

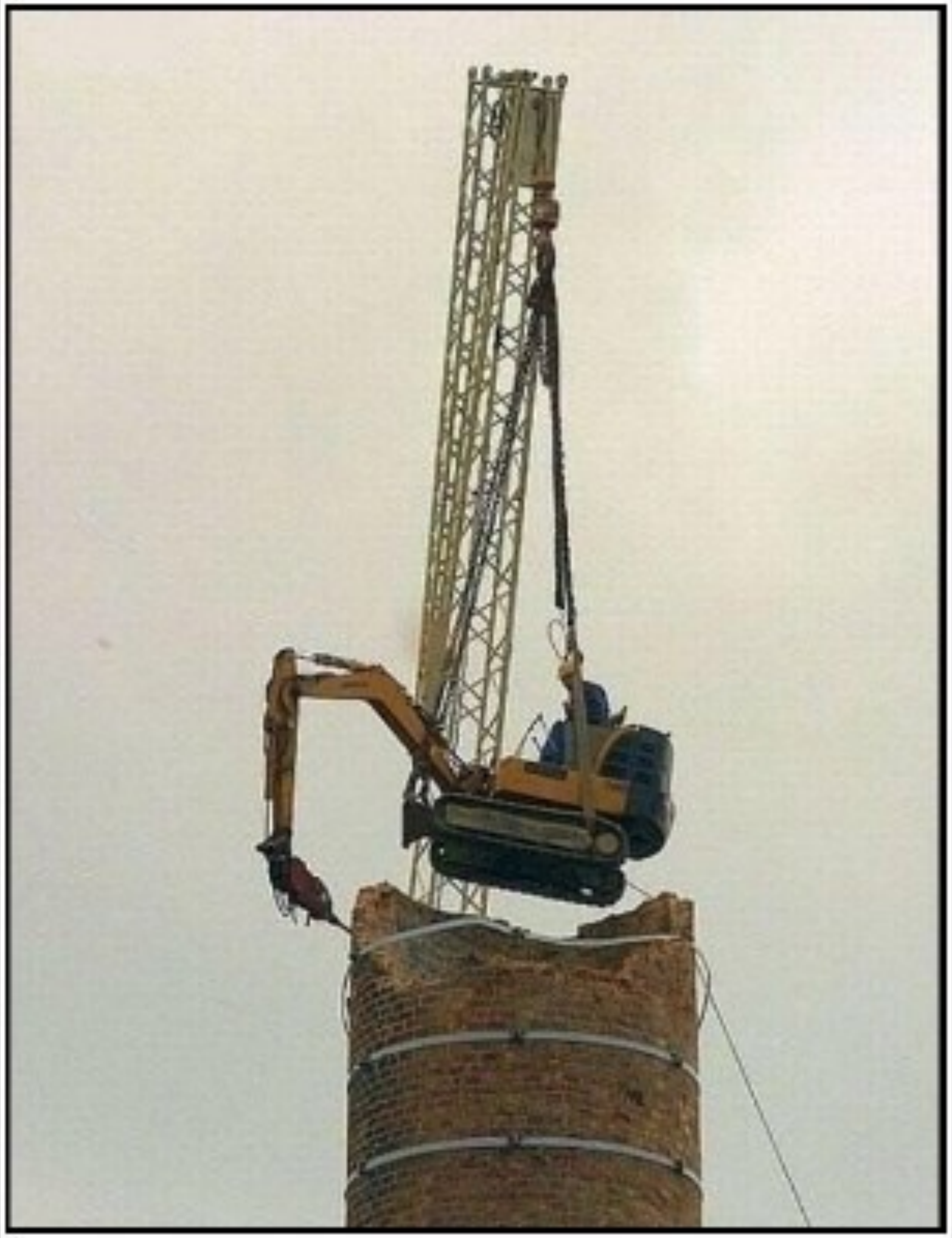
Options

- MVC (Apple-style)
- MVP
- MVVM

MV(C/P/VM) approaches

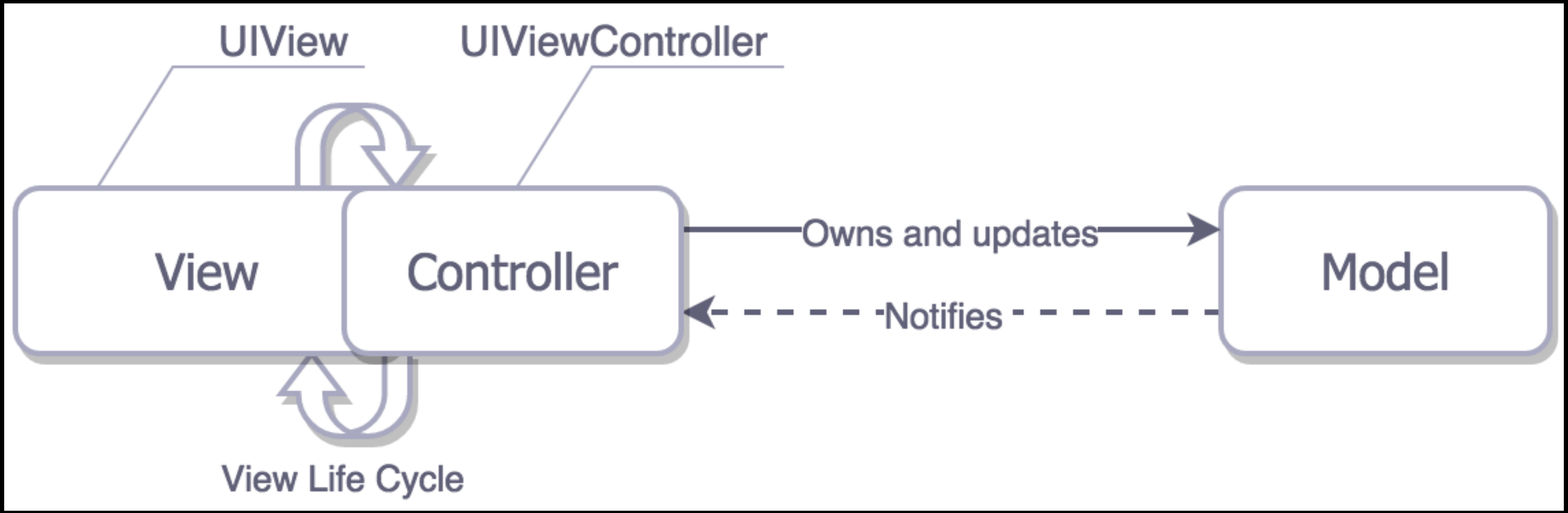
- Model – domain entities or data access layer (“Person” or “PersonDataProvider” classes)
- View – presentation tier (everything that begins with UI-)
- Controller/Presenter/View Model – “glue” or mediator that connects together View and Model

- a lot of unstructured code
- monster files (+1000 lines)
- baffling complexity
- untestable code



TRUST ME

I'm an Engineer



"Apple-style" MVC

Why should you think about architecture?

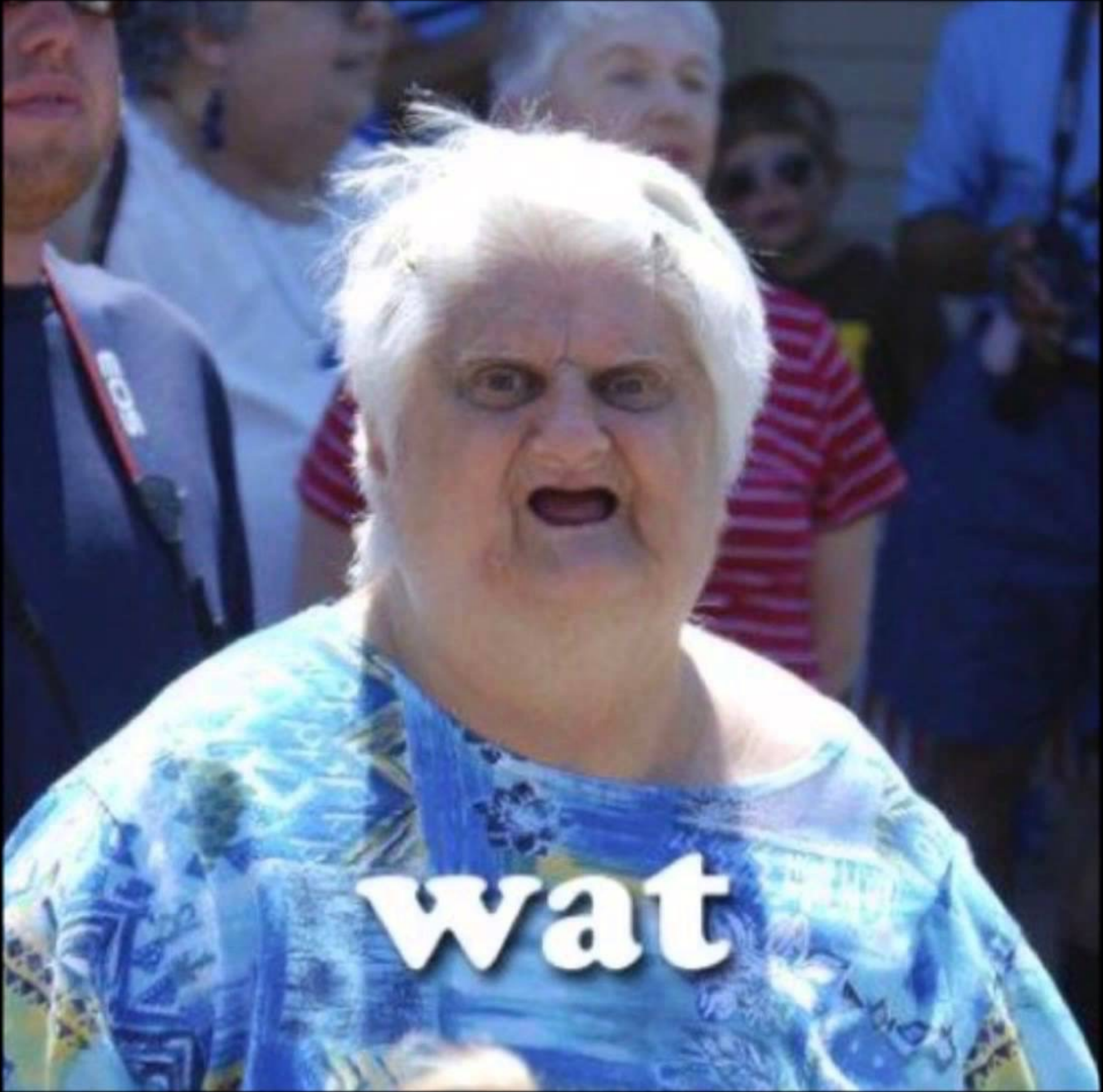
- balanced distribution of the responsibilities among entities with strictly defined roles
- testability
- implementation speed and support of the existing code

Clean architecture

Clean architecture

- independent from frameworks
- testable
- independent from UI
- independent from database
- independent from external entities

VIPER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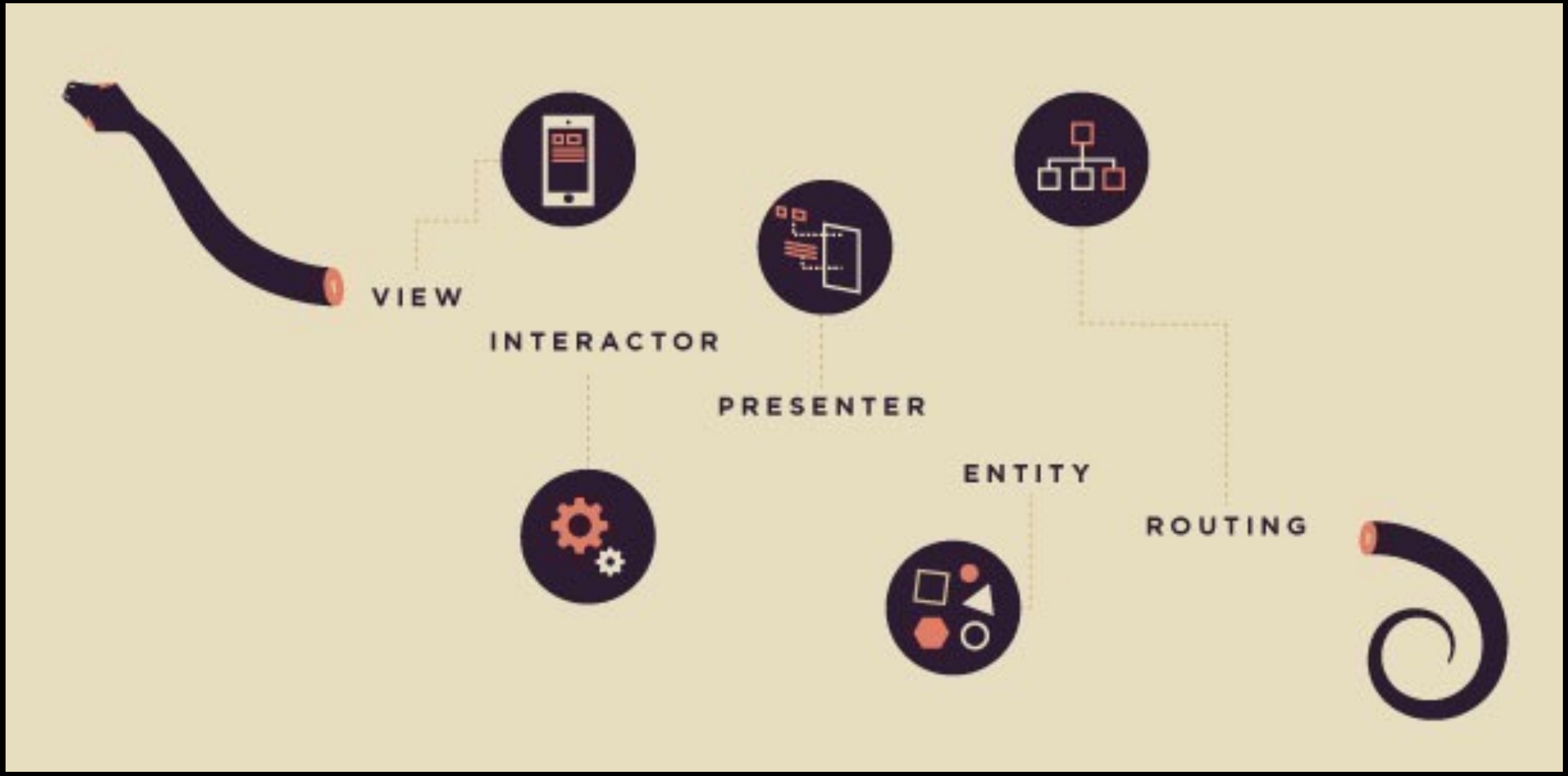
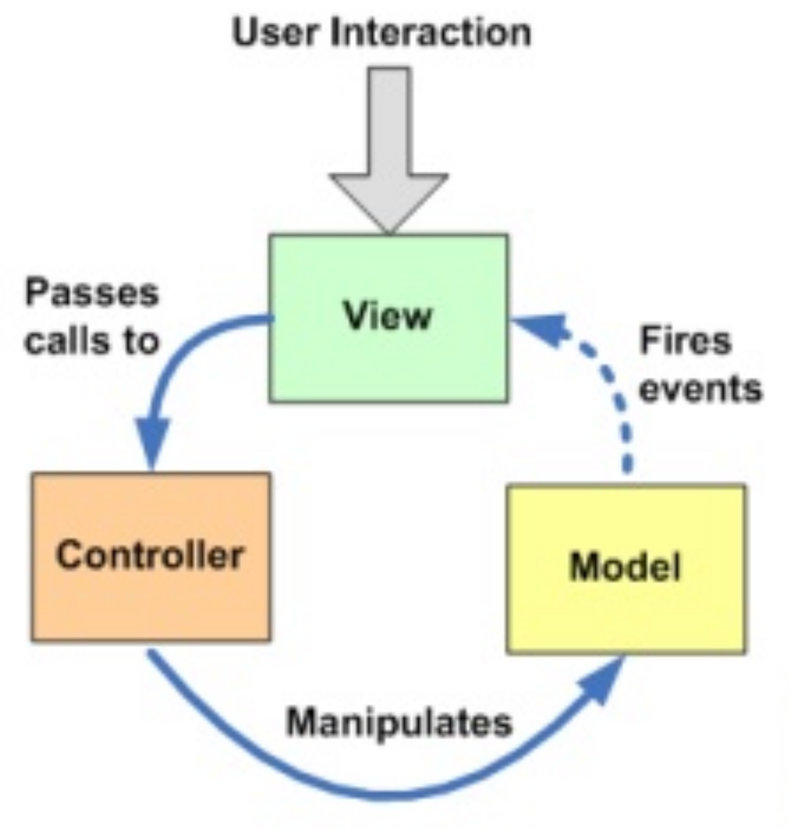
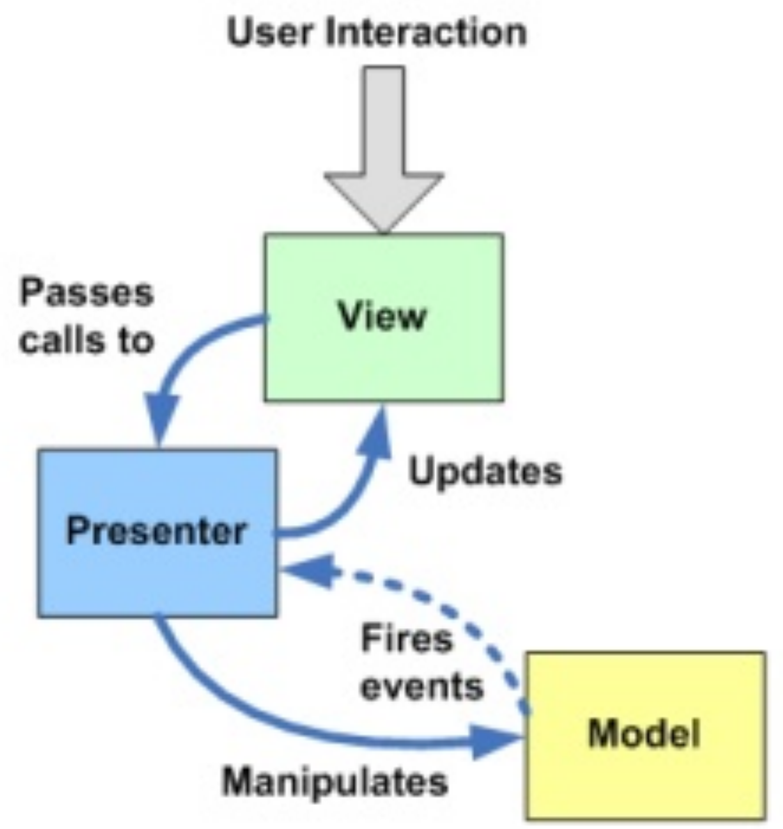
What IS Viper?

- View
- Interactor
- Presenter
- Entity
- Routing

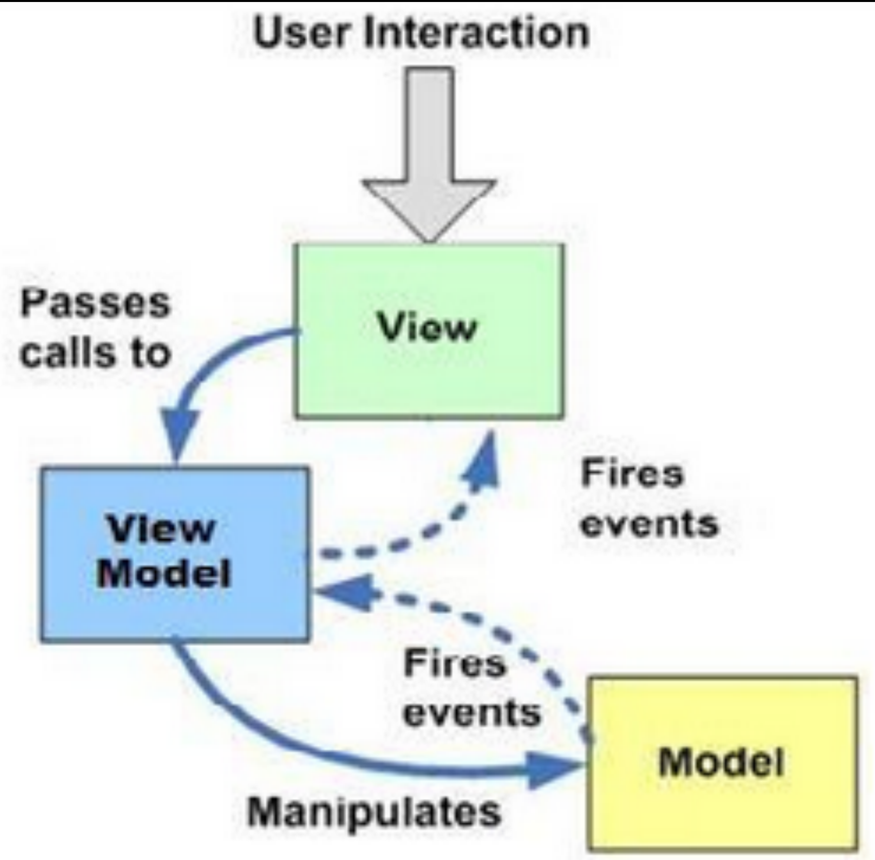




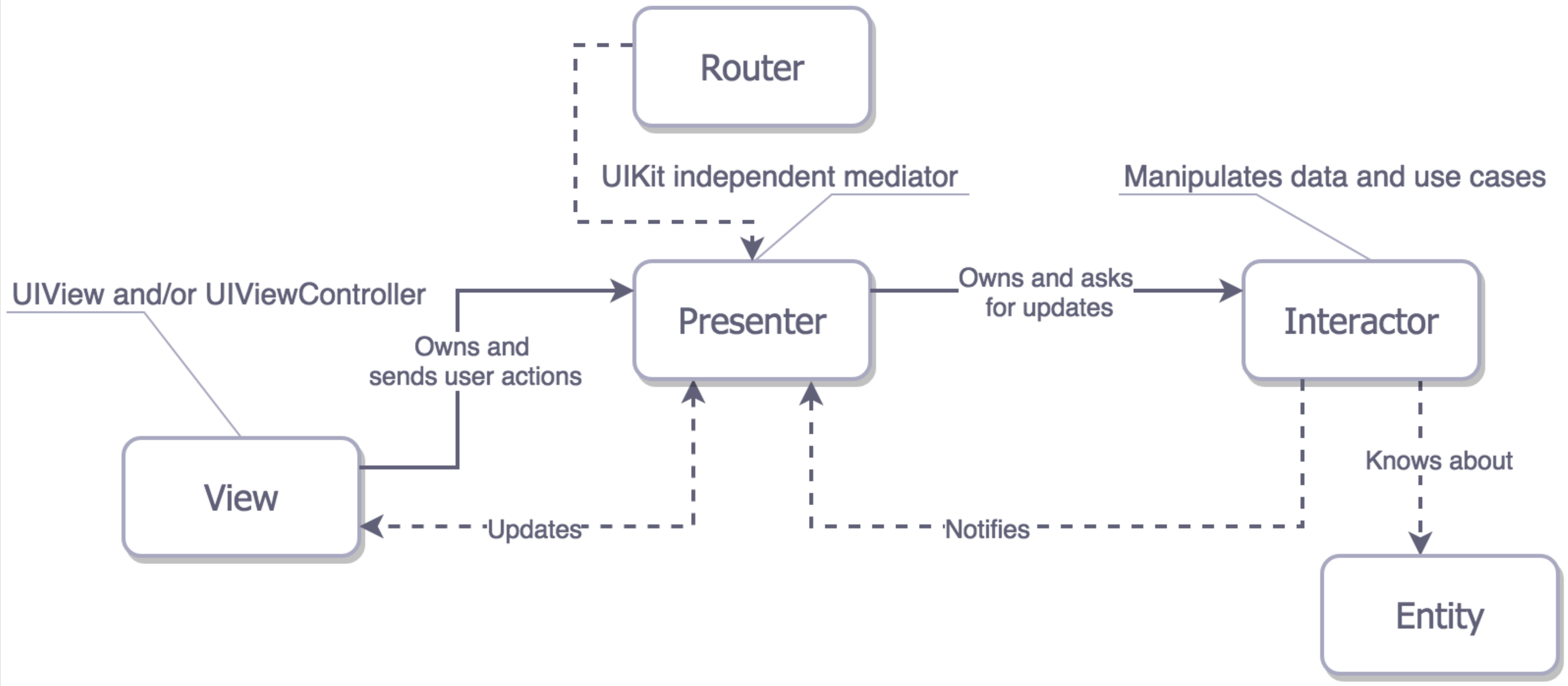
Model-View-Controller

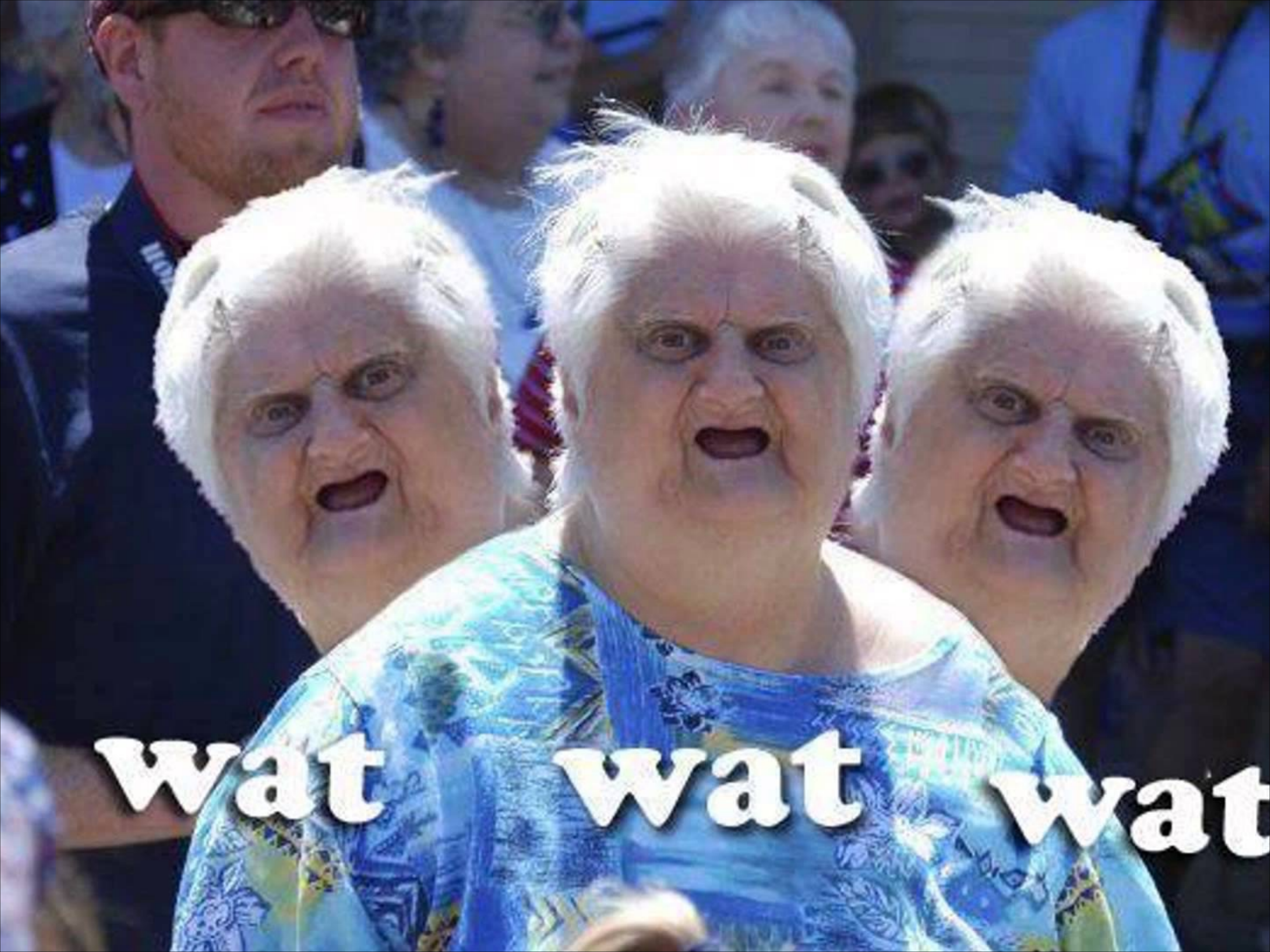


Model-View-Presenter



Model - View - ViewModel


Router
UIKit independent mediator
Manipulates data and use cases
UIView and/or UIViewController
Presenter
Owns and asks for updates
Interactor
Owns and sends user actions
Knows about
View
Updates
Notifies
Entity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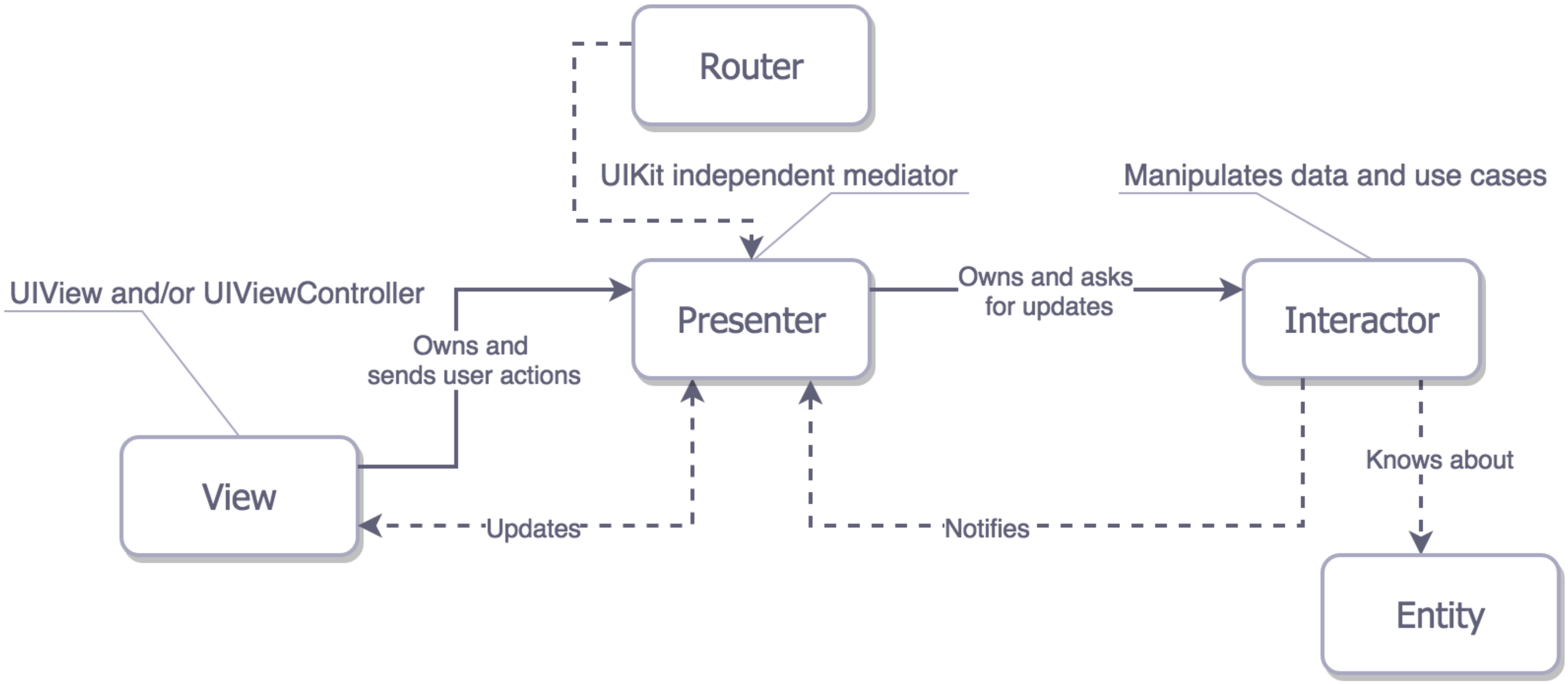
View

deals with data presentation and notifies the Presenter about user’s actions. It’s absolutely passive, never asks for the data by itself, only receives it from the Presenter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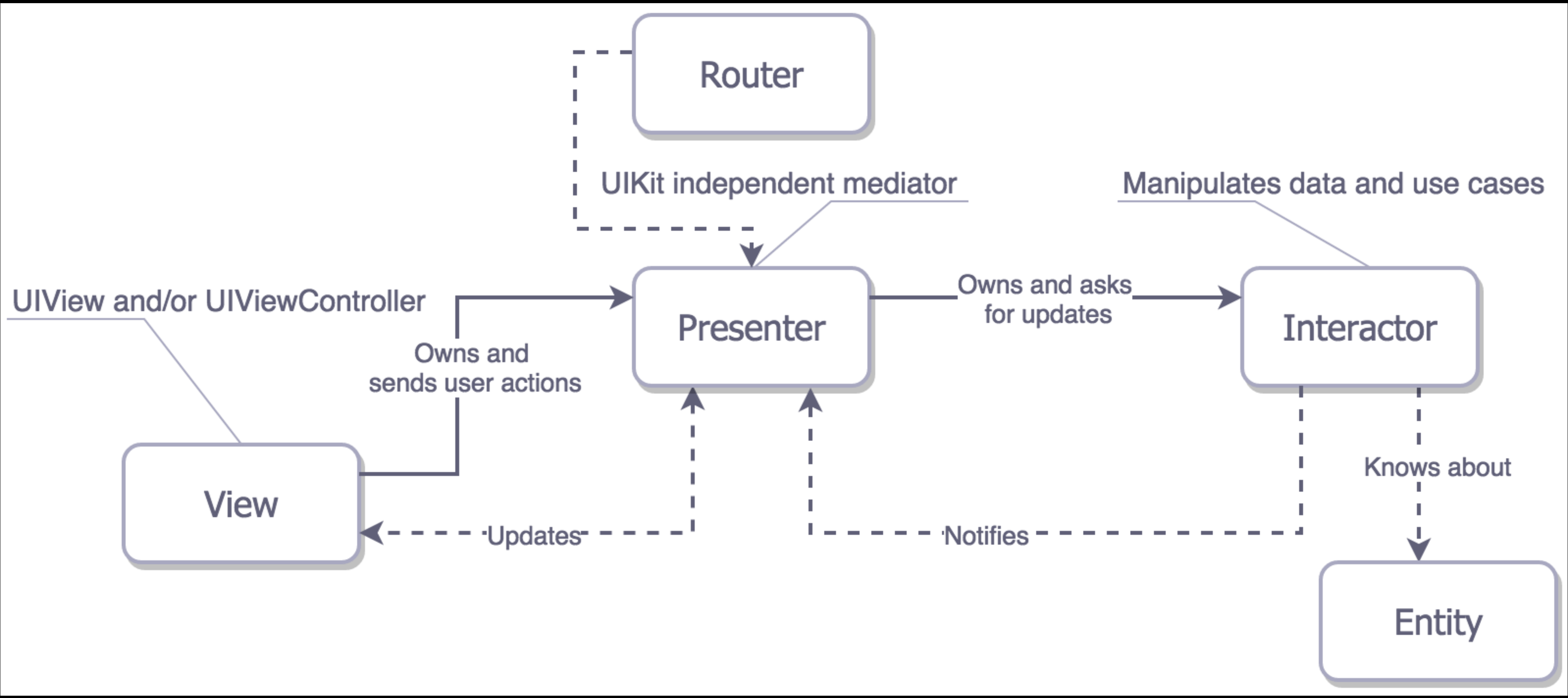
Interactor

contains all business logic needed for a module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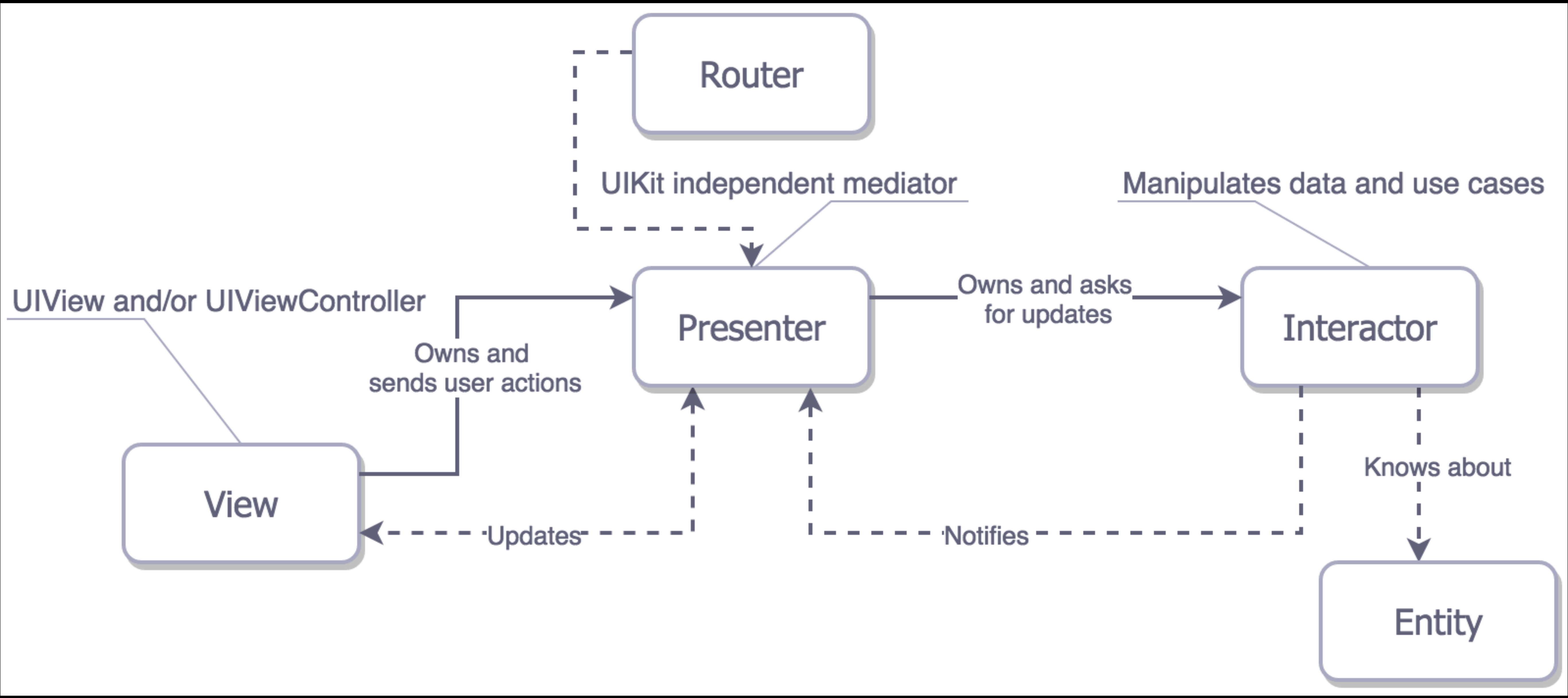
Presenter

receives information from View about user’s actions and transforms it into Router & Interactor requests as well as receives data from the Interactor, prepares it and sends to View for displaying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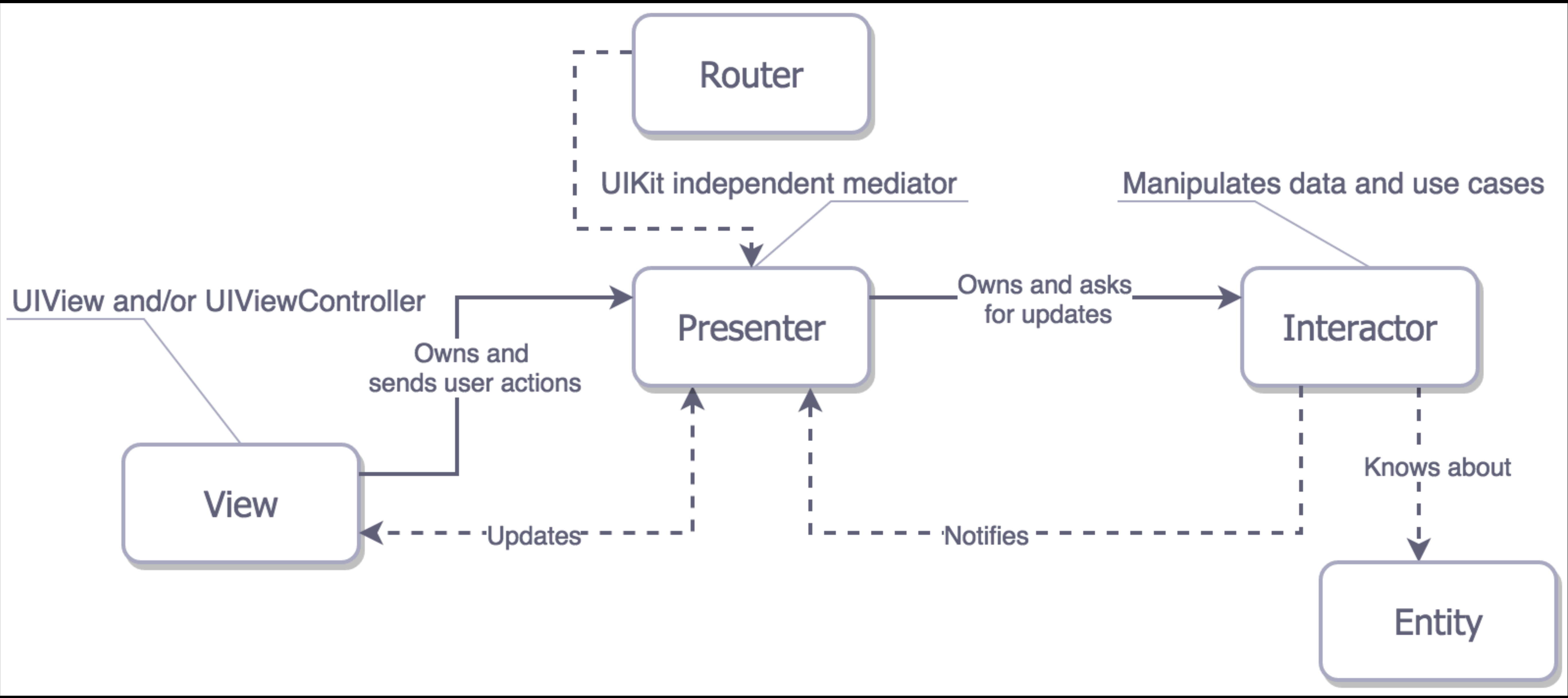
Entity

domain models that don’t contain any business logic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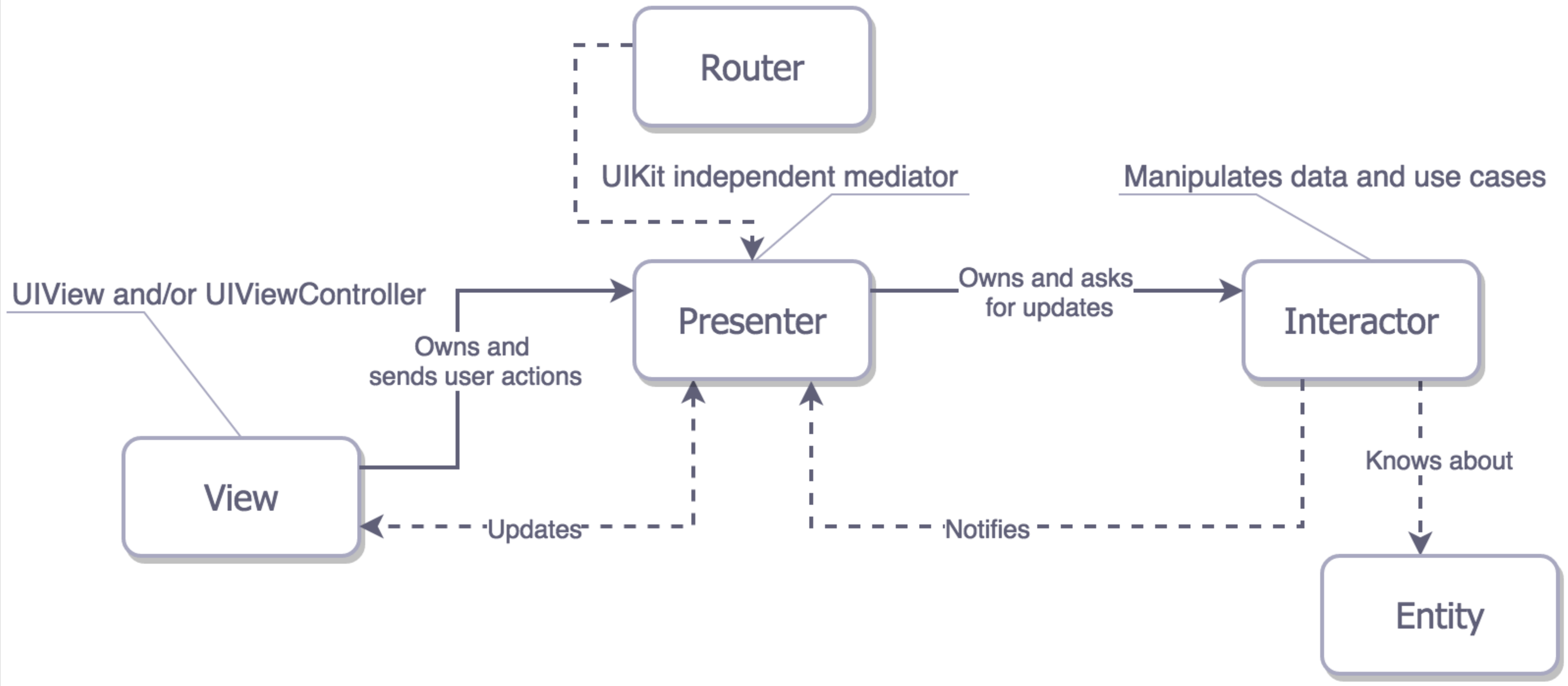
Router

deals with navigation between modules



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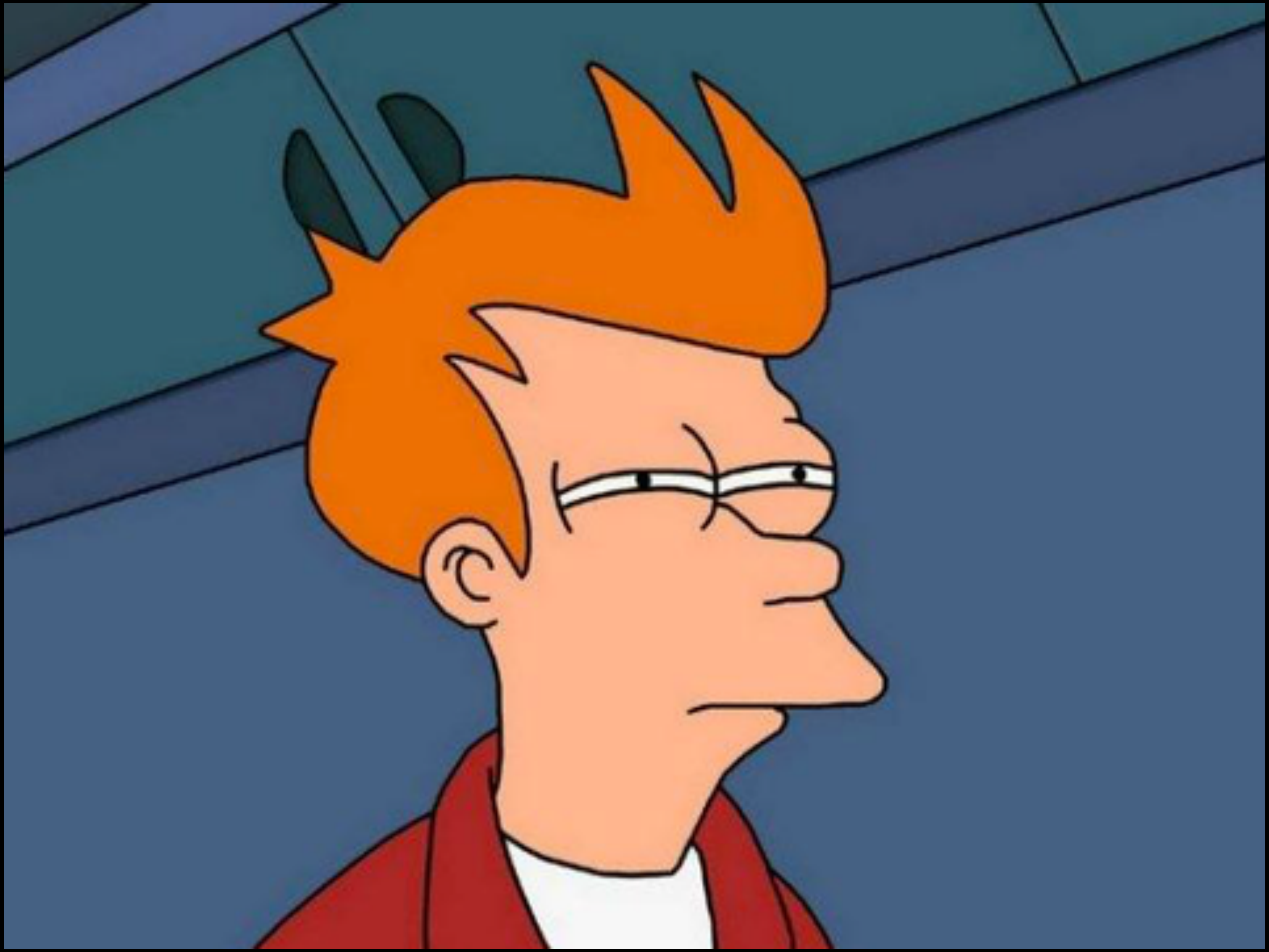
Main principles

- protocols
- dependency injection
- interface segregation



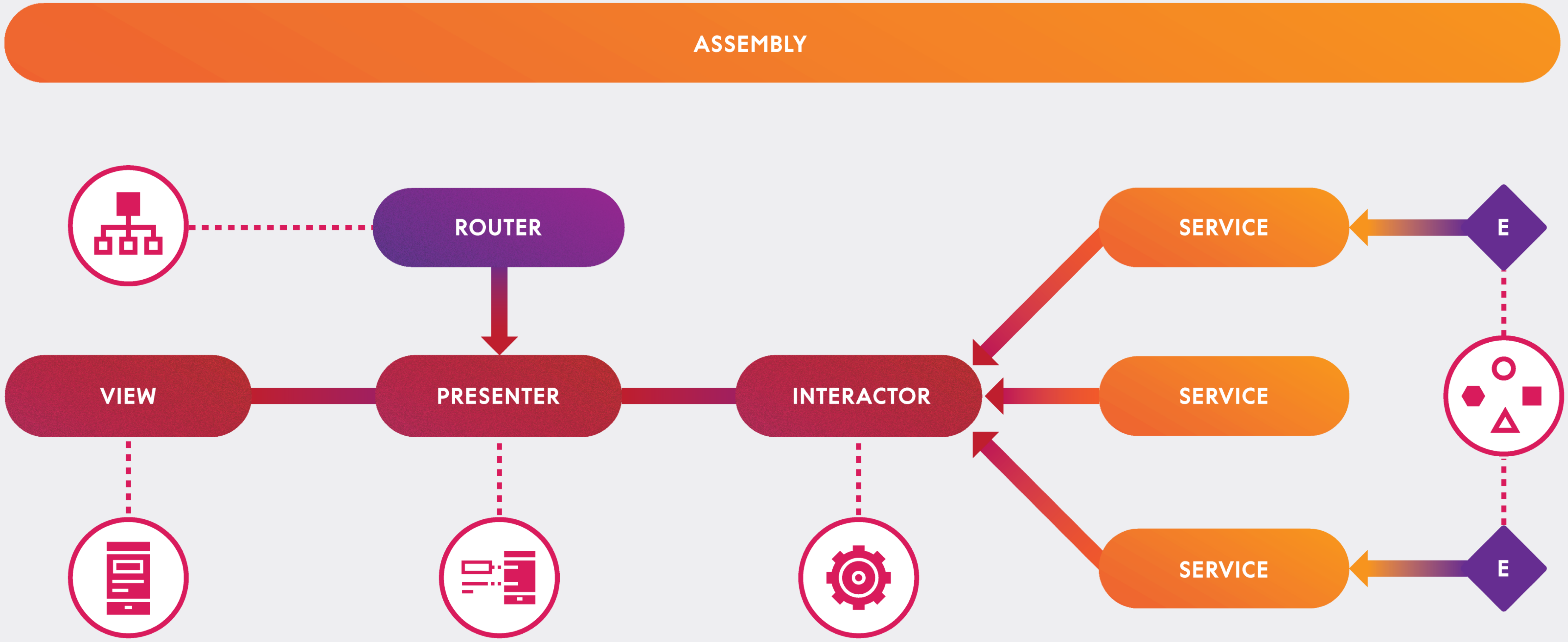
BUT…

We’ve lost something

- Wireframe knows too much
- Interactors are still difficult
- ViewControllers process tables and collections
- doesn’t have well defined communication between modules

There is a solution

rambler-style VIPER


ASSEMBLY
ROUTER
SERVICE
E
VIEW
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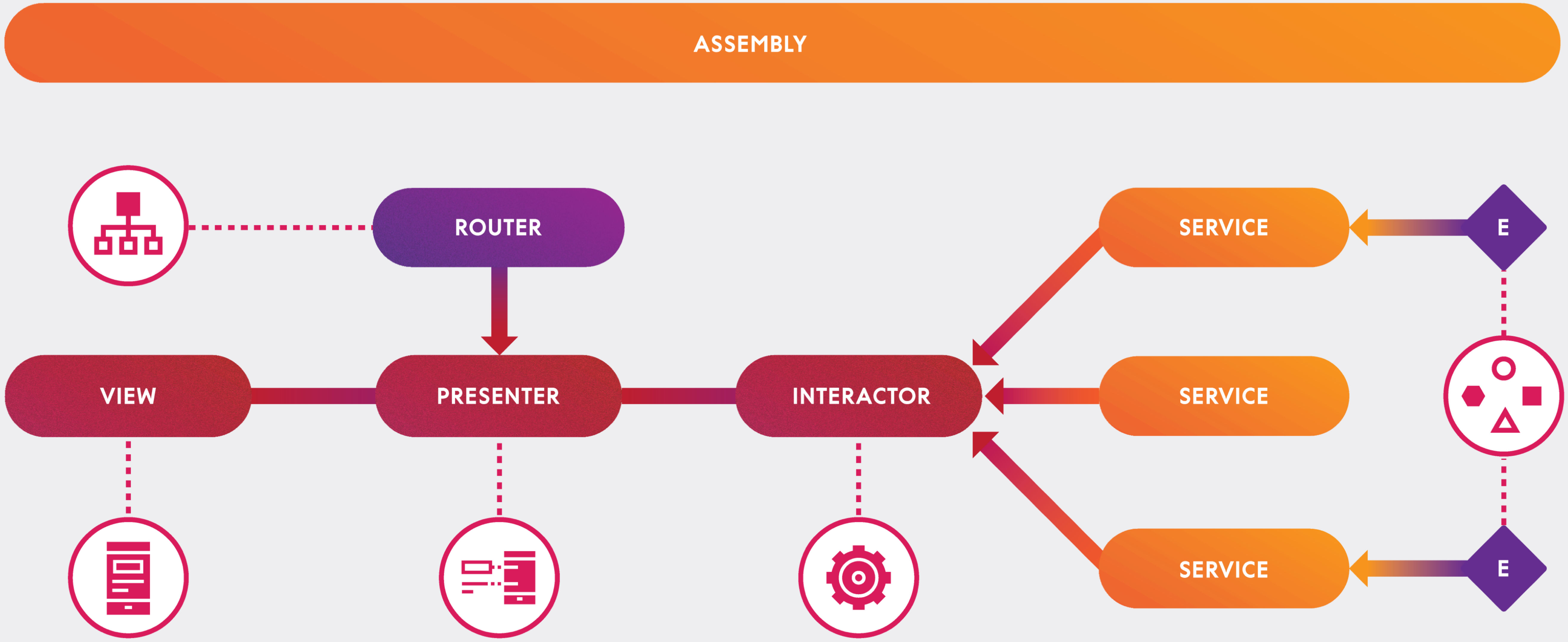
E

Problem No 1: Wireframe

- splits up into two entities: Router and Assembly
- Router - transitions between modules
- Assembly – gets components together with dependency injection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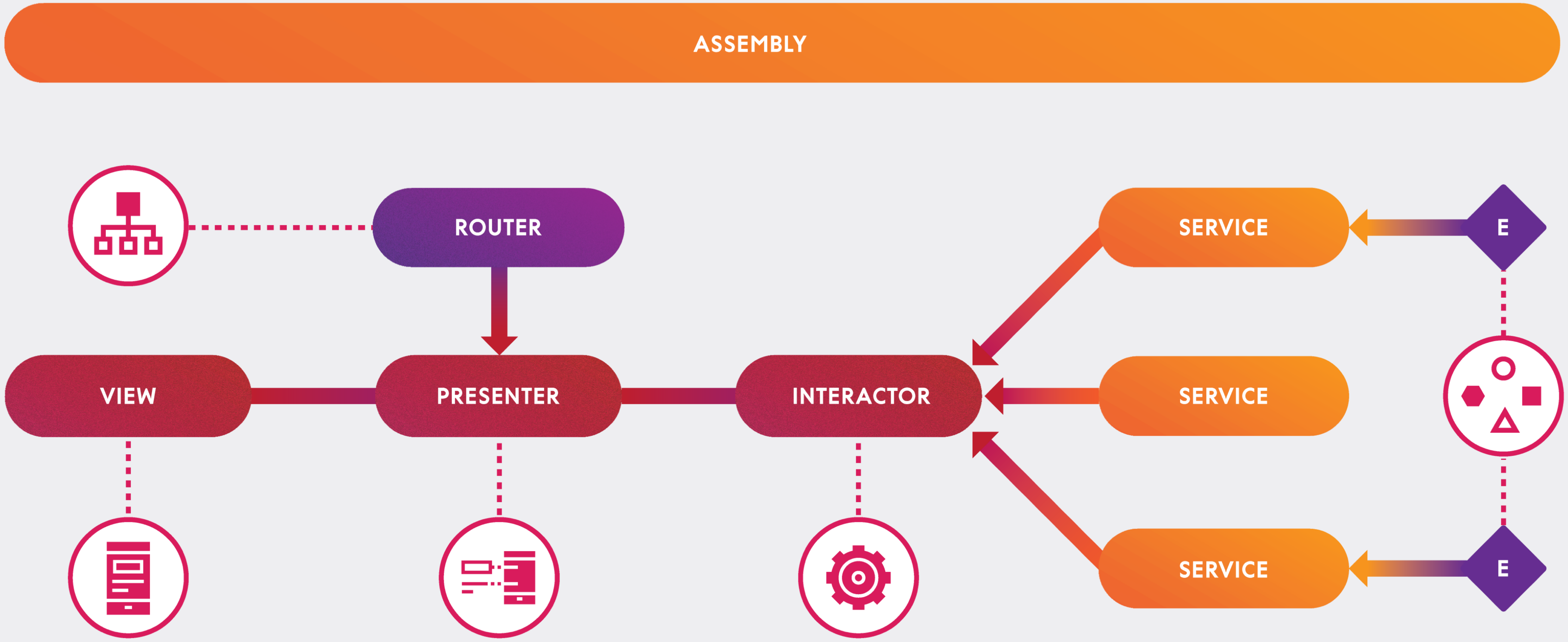
Problem No 2: Interactor

- introduce the additional services tier
- each of the services is responsible for dealing with a certain type of domain models
- Interactor becomes a facade for services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Problem No 3: ViewControllers

- remove a logic which is not suitable to the View role into separate tier called DataDisplay
- these objects implement the methods for UITableViewDelegate and UITableViewDataSource as well as their versions for collections

Problem No 4: Transferring data between modules

- two protocols **ModuleInput** and **ModuleOutput**

a LOT of files

Code generation

Generamba, VIPER gen, Boa

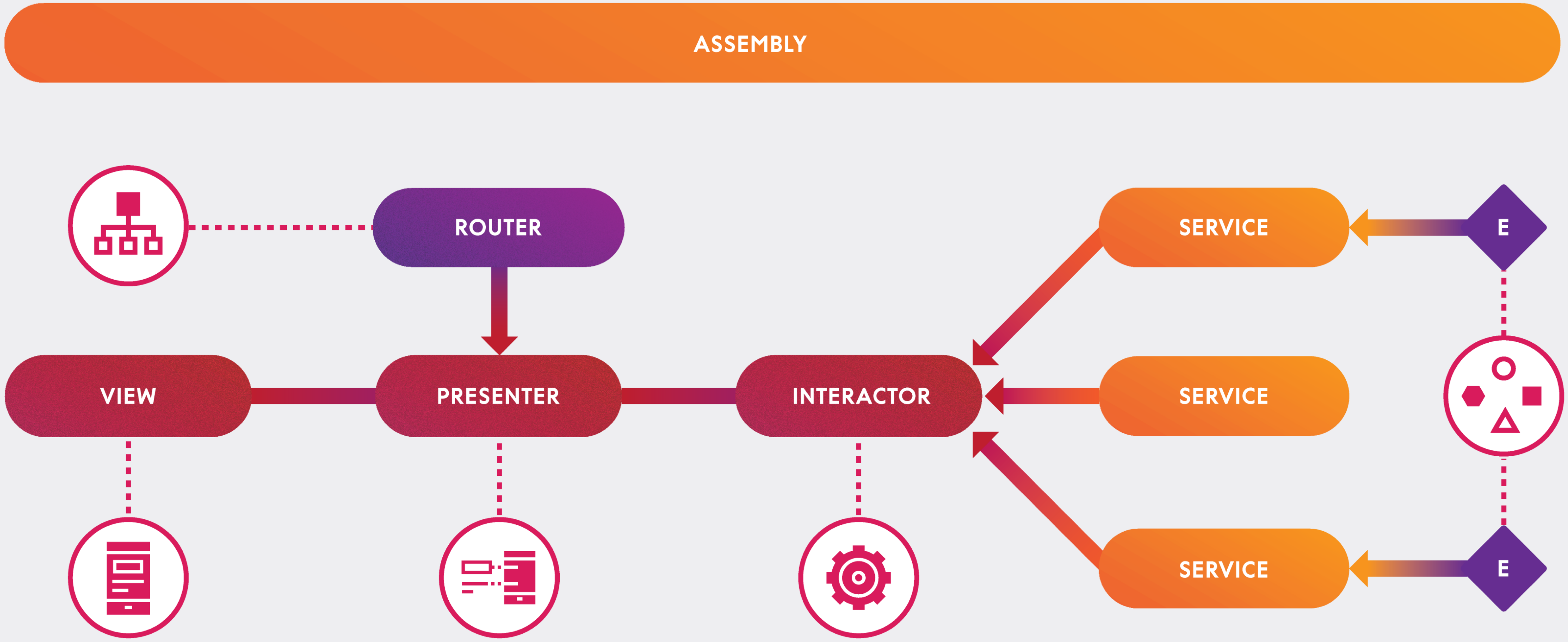
WAIT A MINUTE

This isnt my RPG

Testings

It is all about mocks

- services
- interactors
- presenters
- views
- routers
- assemblies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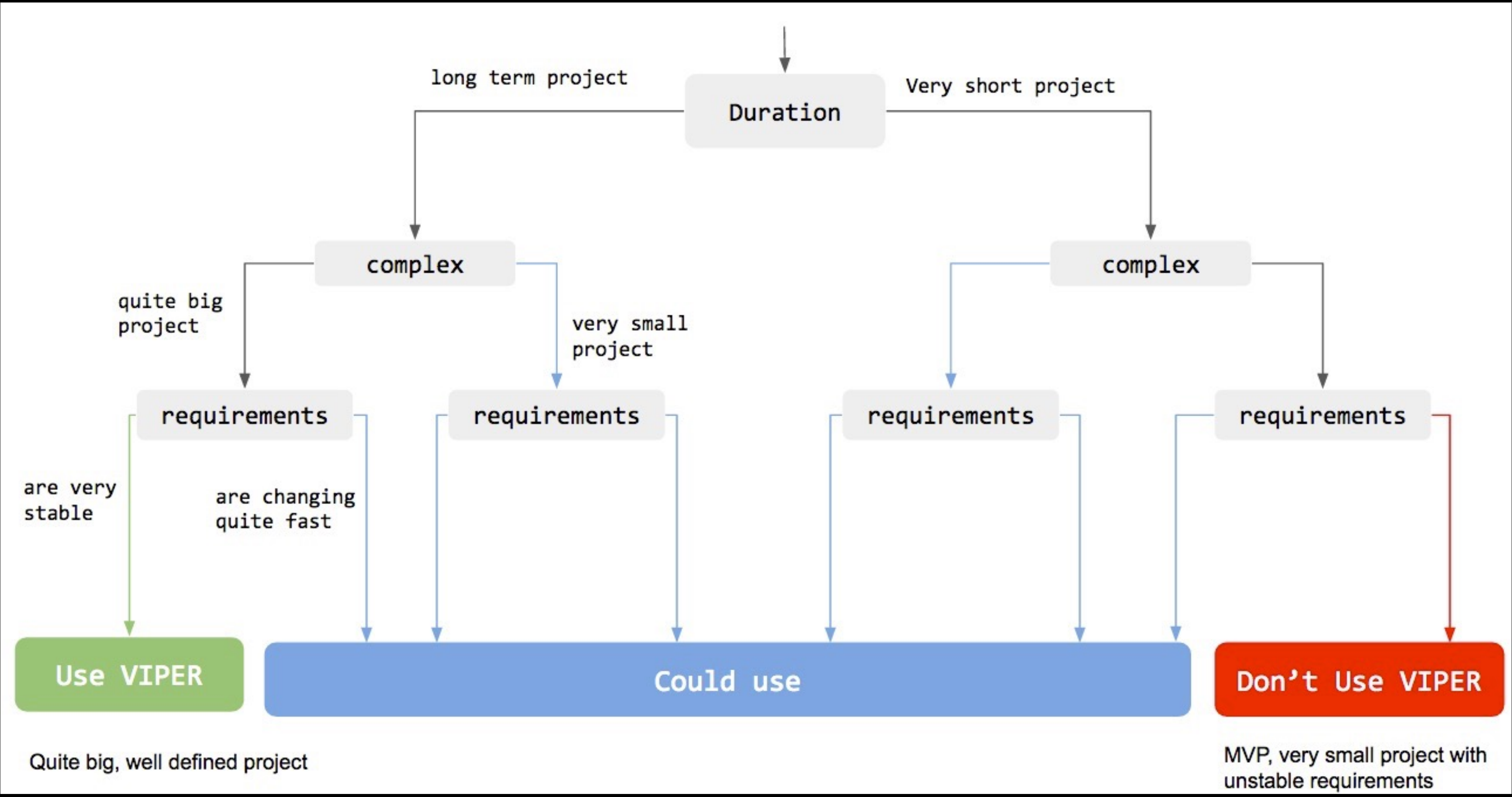
Some conclusions

- “lighter”, stricter classes
- excellent scalability of the tasks among developers
- no excuse for making tests

VIPER vs. MV(C/P)



"Everything should be made as simple as possible, but no simpler"

–Albert Einstein

Resources

- architecture patterns
- objc.io/viper
- clean architecture
- rambler-viper
- viper

Questions?

Thank you!