



# Swift Montréal Meetup

Meet. Learn. Improve.

@swift\_mtl | [meetup.com/swift-mtl](https://meetup.com/swift-mtl)

Swift Montréal Meetup

Beyond MVC

Better  
application  
architecture

with



Fatih Nayebi, Ph.D. | 2017-02-02 17:30 | BDC

I have an  
idea!

29

ideas!





**THIS IS THE BEST!**

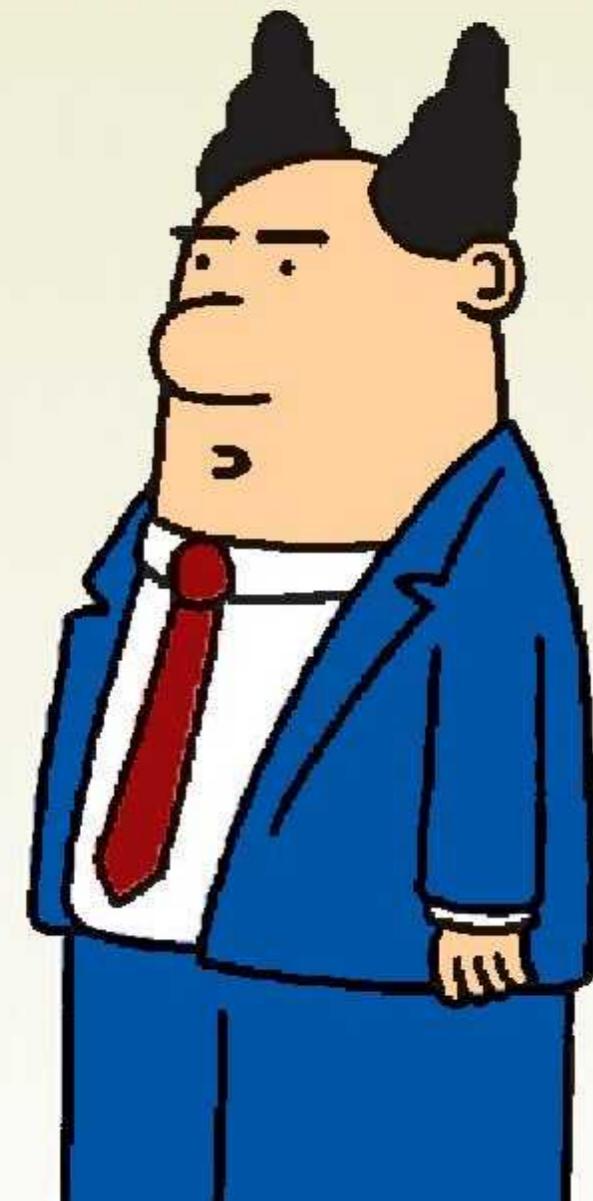
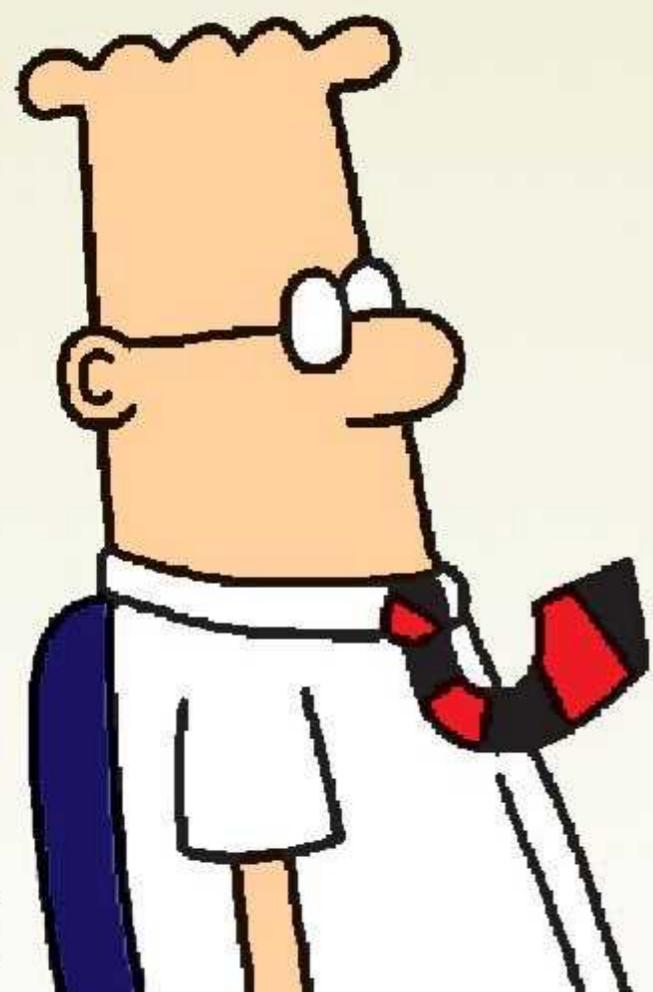


We made VCs  
great again!!!



- Model-View binding
- Subview allocation
- Data fetching
- Data transformation
- Navigation flow
- Layout
- User input
- Keyboard
- TableView and CollectionView protocols

THAT'S NOT  
HOW IT WORKS.

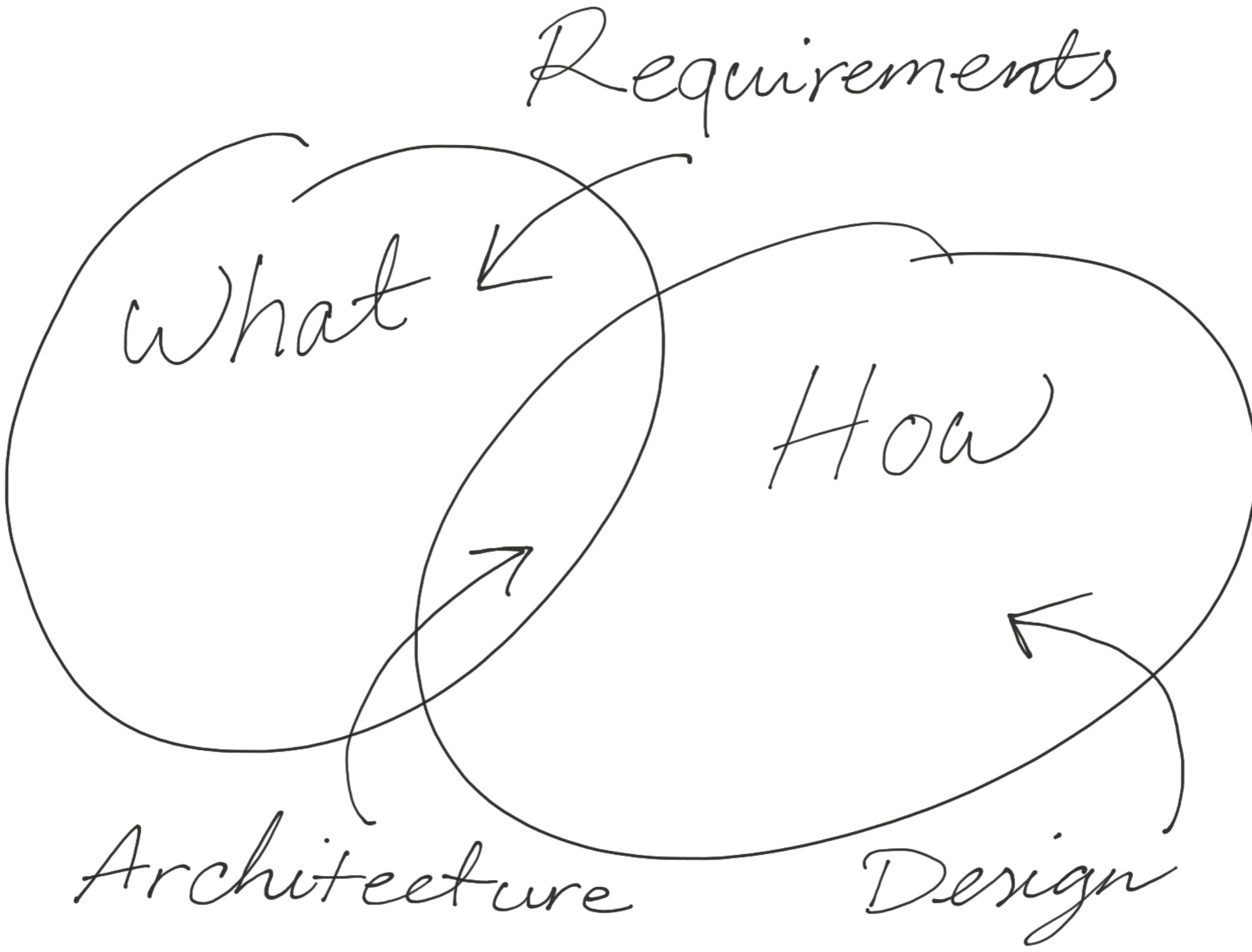


# RESET

Can we just  
start over?

The code is the  
truth, but it is not  
the whole truth.

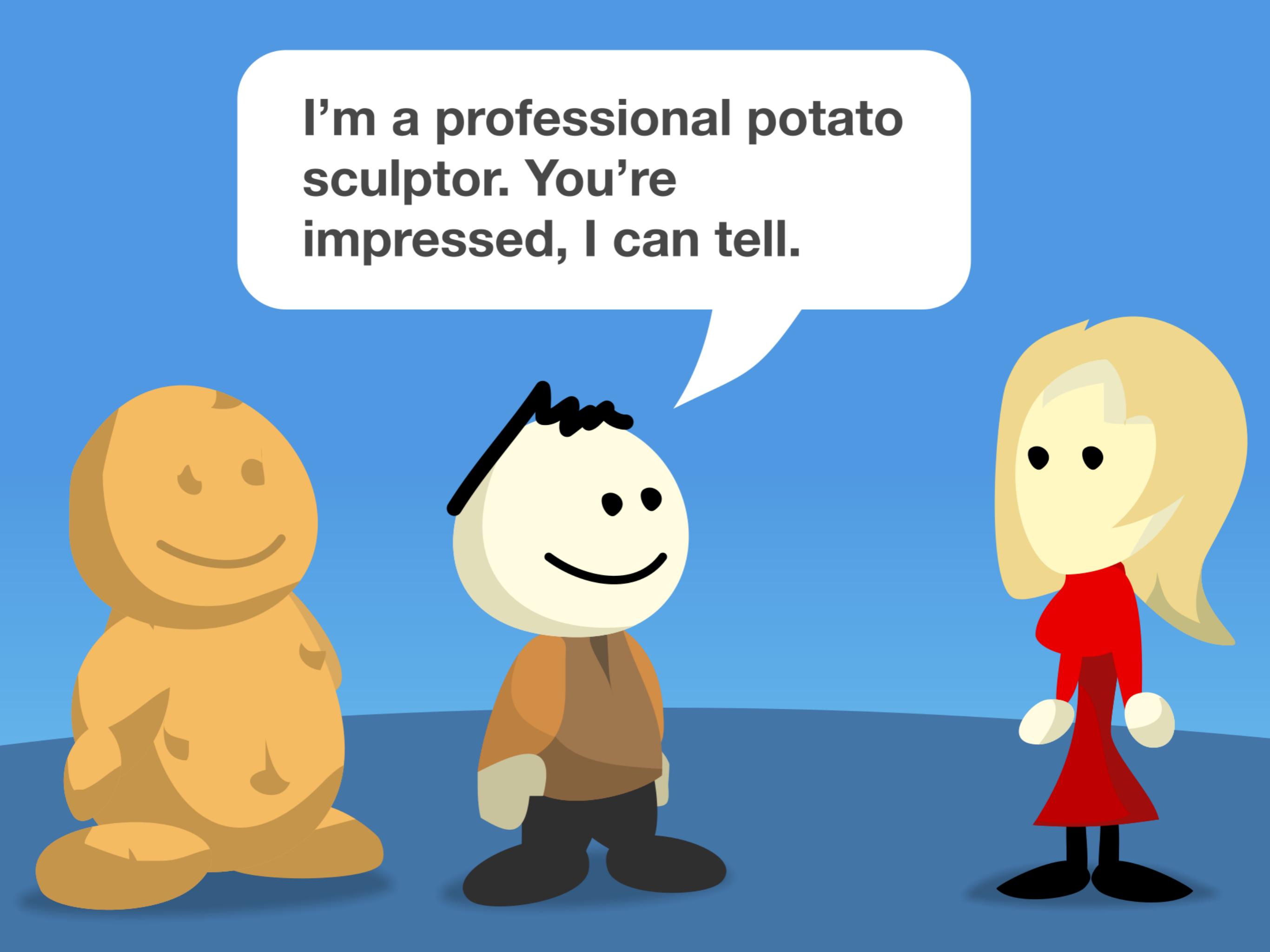
– Grady Booch



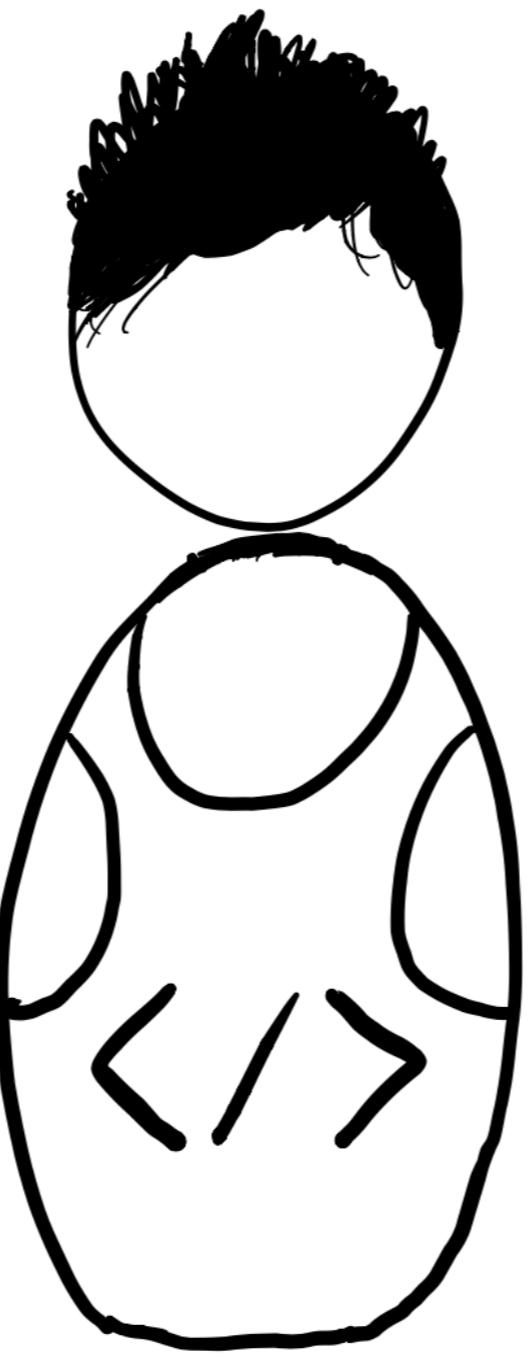
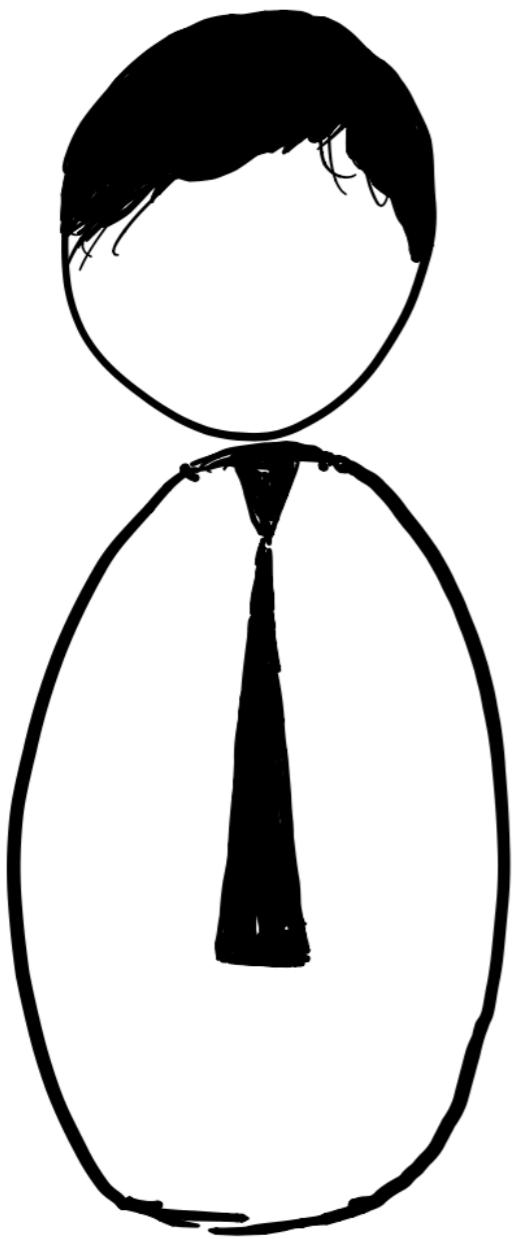
All architecture is  
design, but not  
all design is  
architecture

– Grady Booch

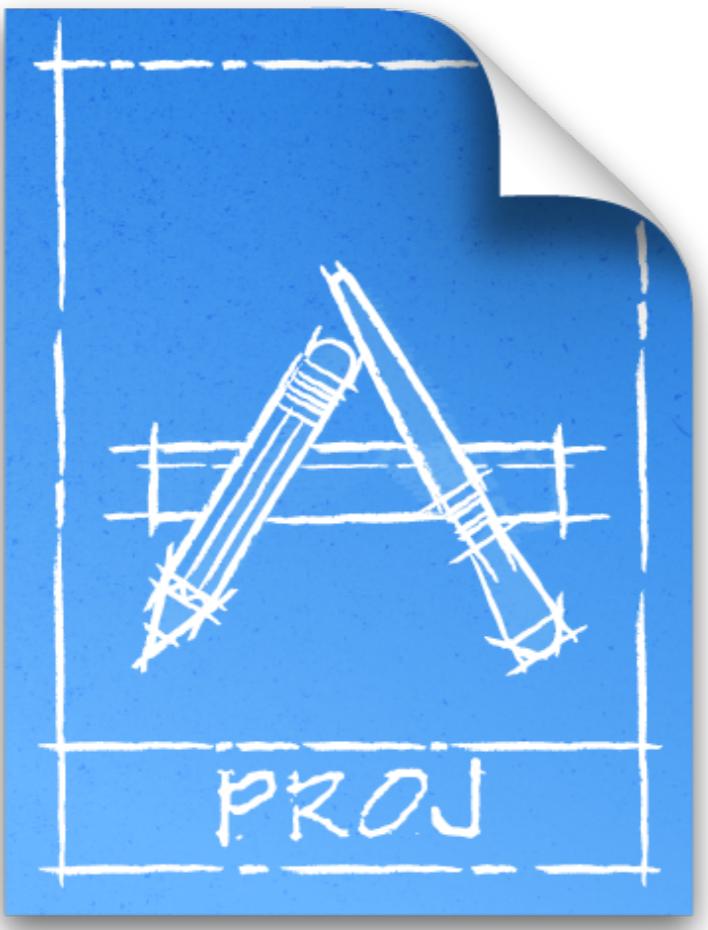
**SOFTWARE  
ARCHITECT**  
— WE DO —  
**PRECISION  
GUESS WORK**  
BASED ON UNRELIABLE DATA  
PROVIDED BY THOSE OF  
**QUESTIONABLE  
KNOWLEDGE**



**I'm a professional potato  
sculptor. You're  
impressed, I can tell.**







V.S.





The word "SOLID" is written in large, bold, outlined letters. Each letter is a different color: S is dark red, O is purple, I is gold, L is green, and D is orange-red. The letters are slightly overlapping and slanted to the right.

S O L I D

# Principles

Single responsibility

Open/closed

Liskov substitution

Interface segregation

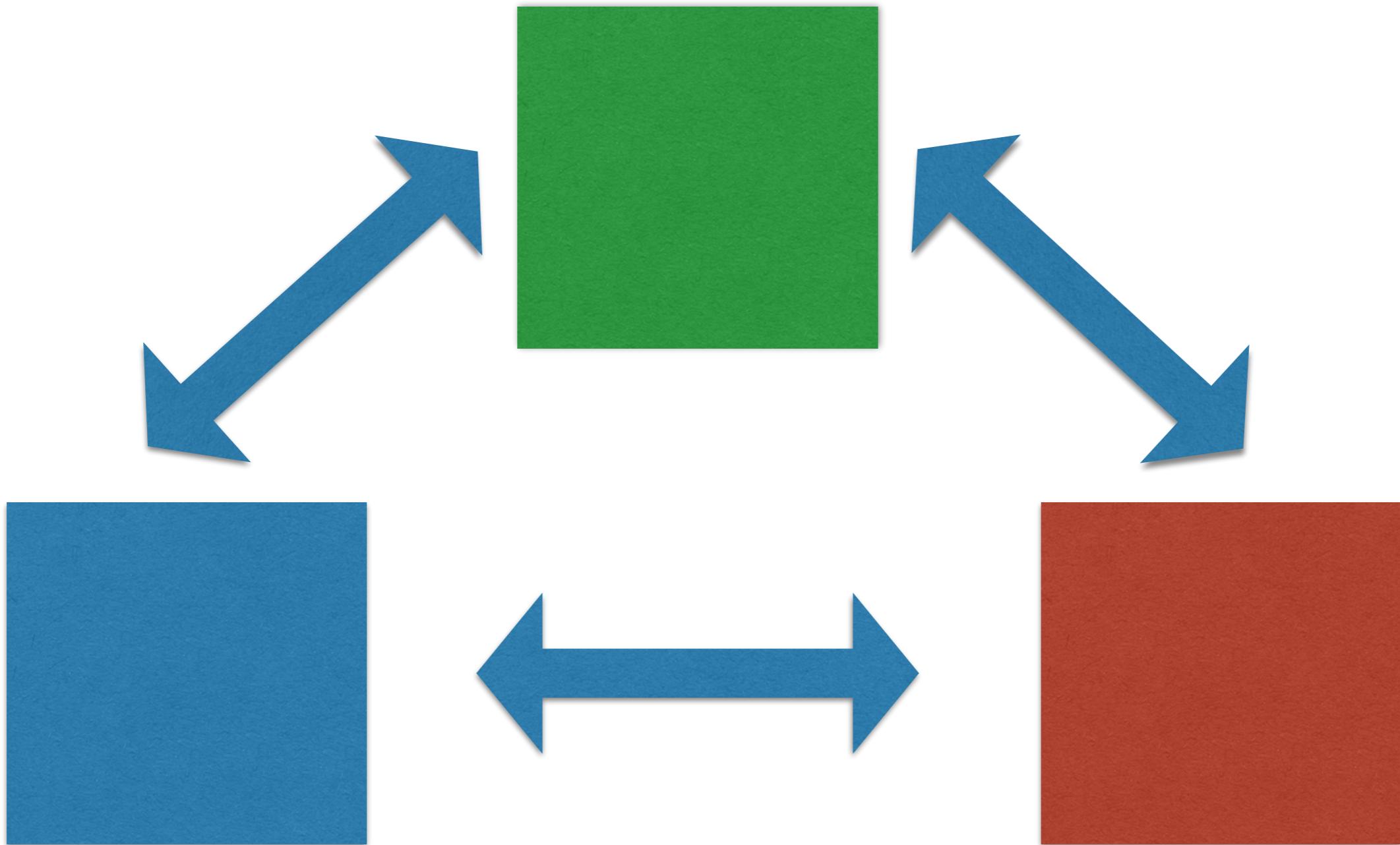
Dependency inversion

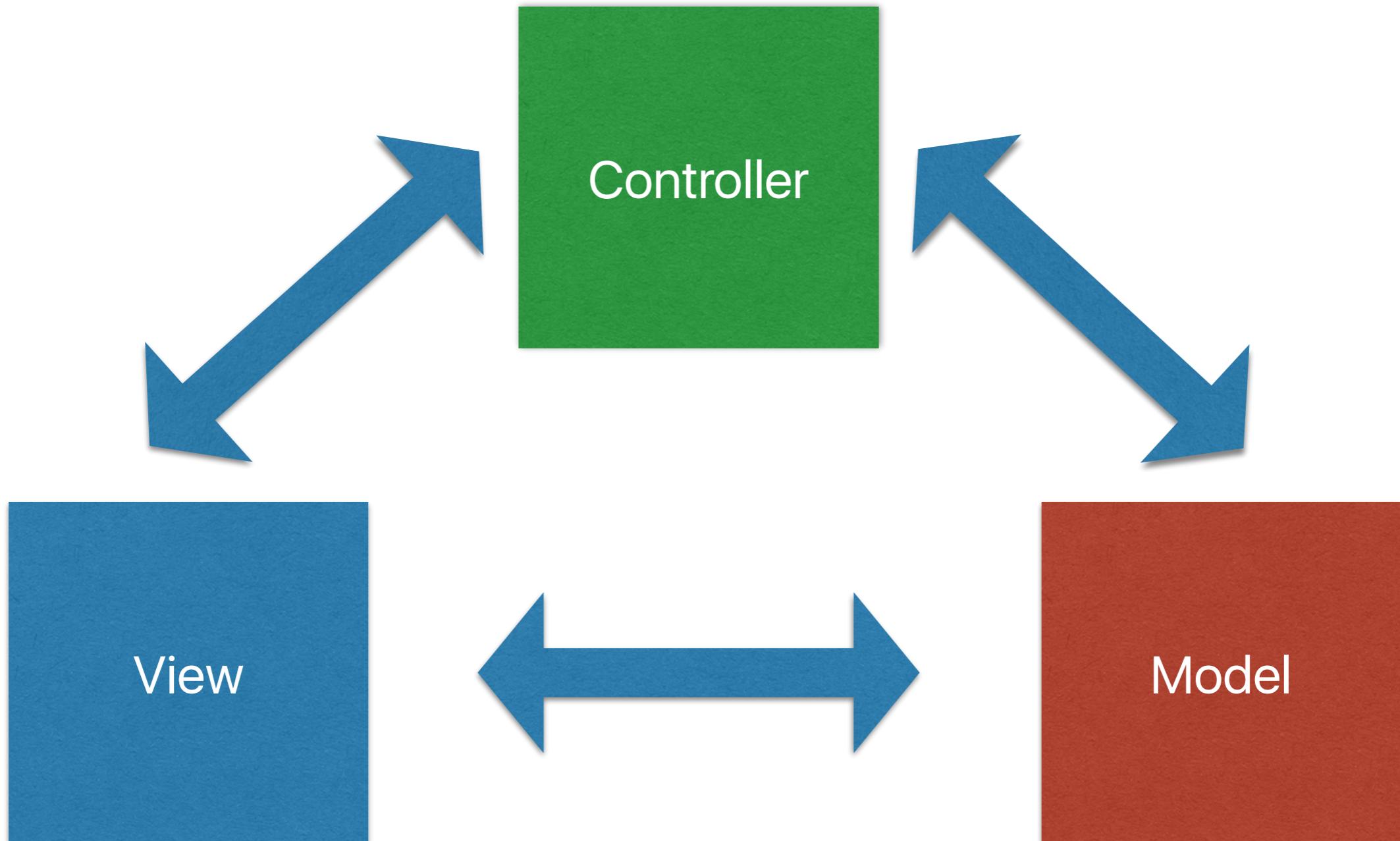


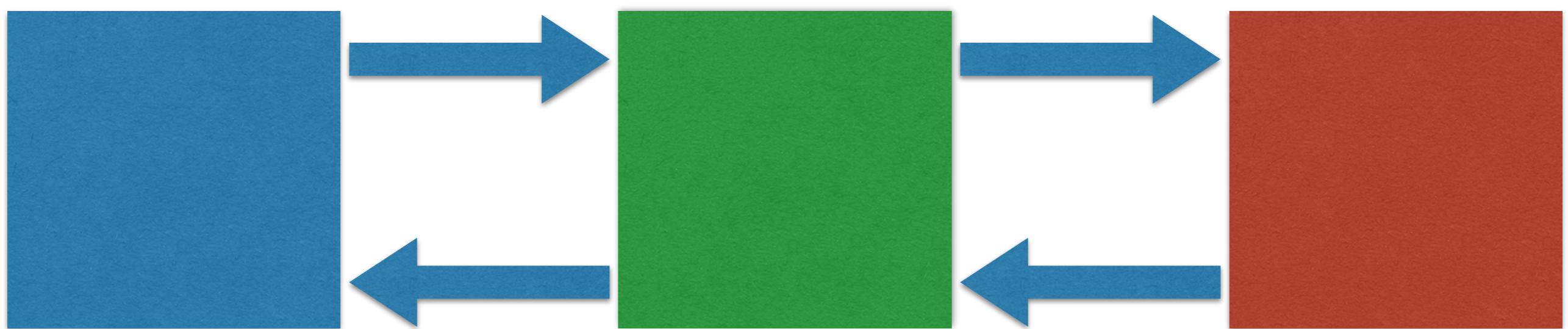


Ease of Use

# Architectural Patterns



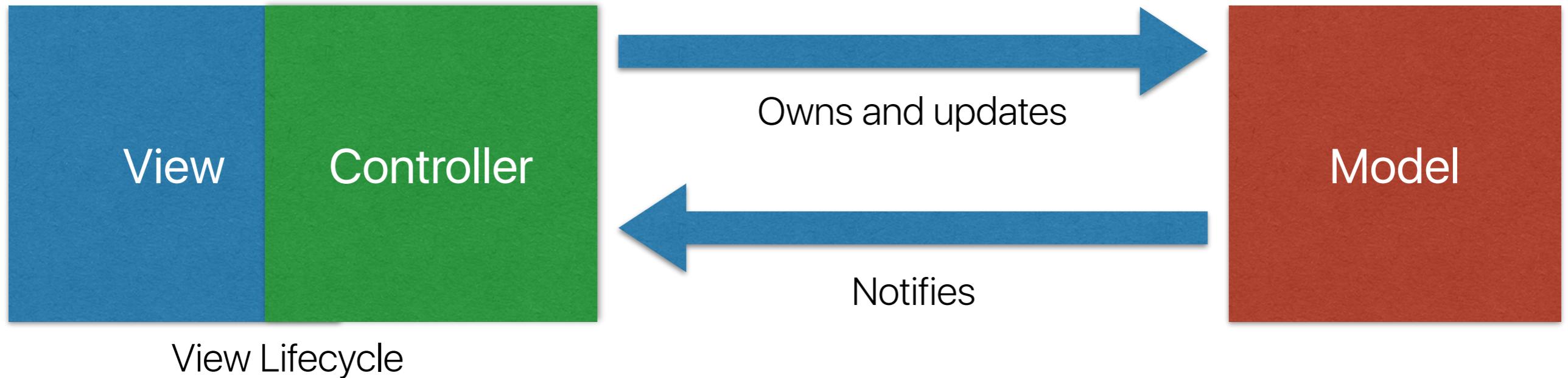






UIView

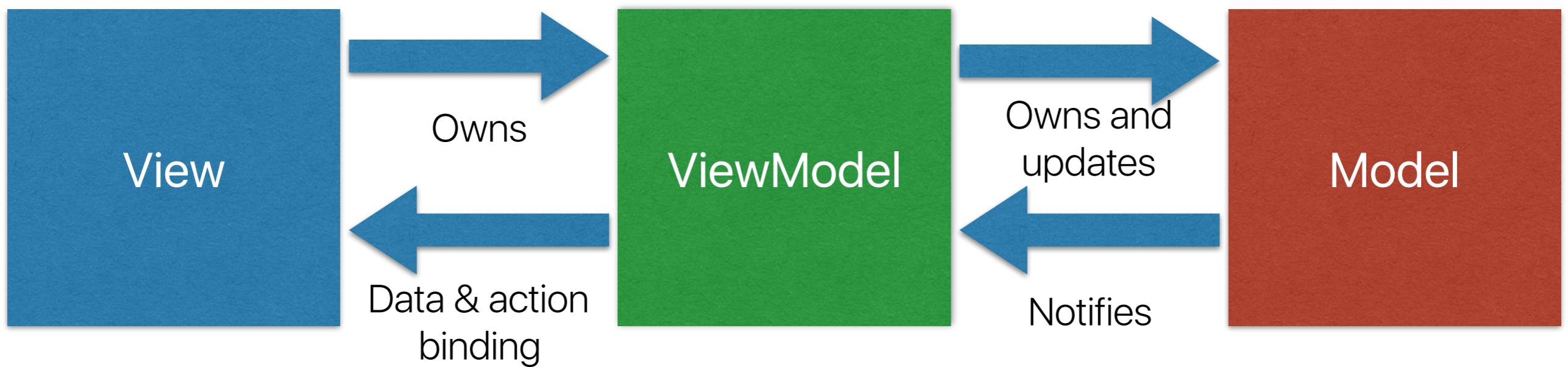
UIViewController



UIView or/ and  
UIViewController



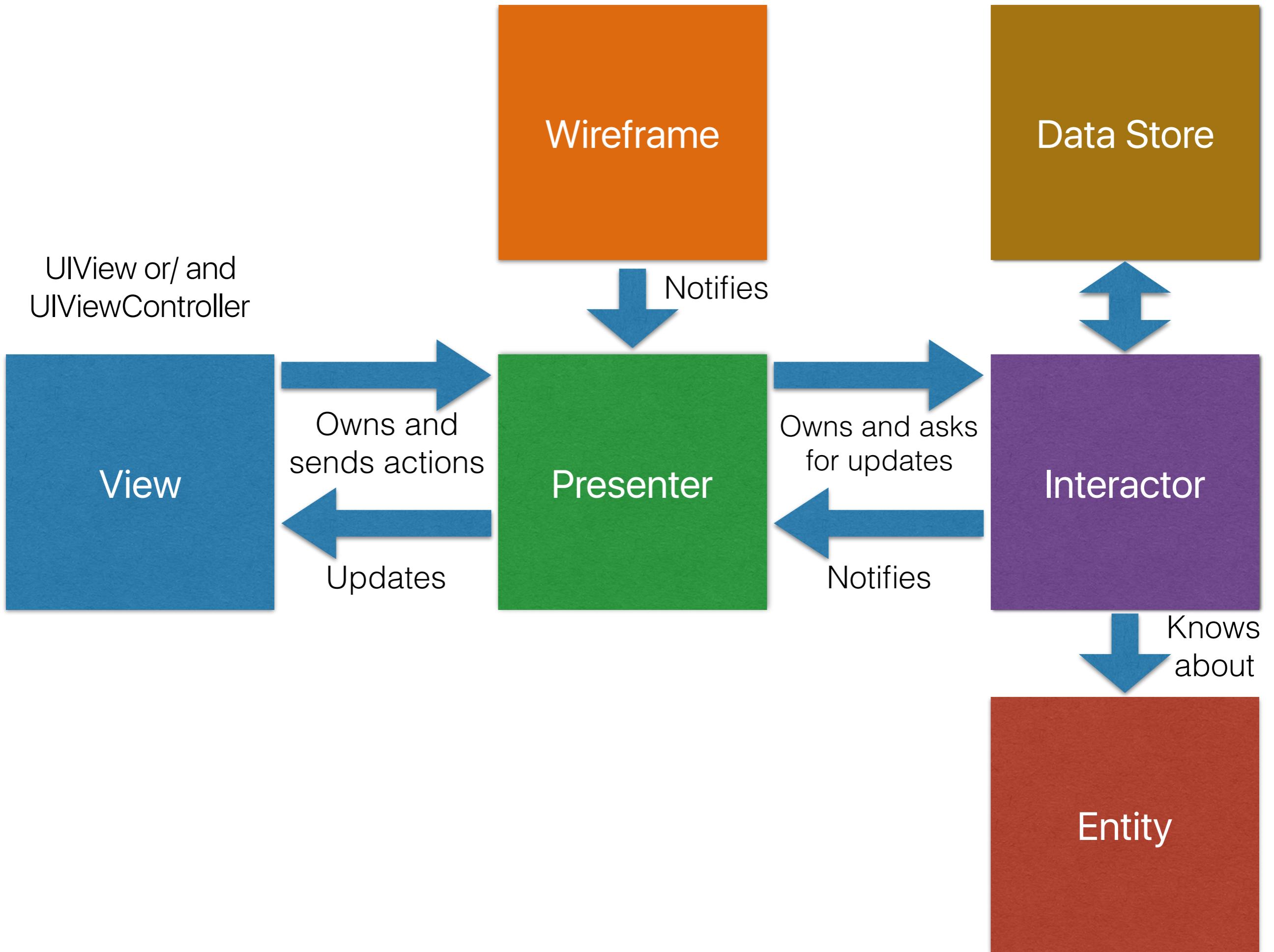
UIView or/ and  
UIViewController

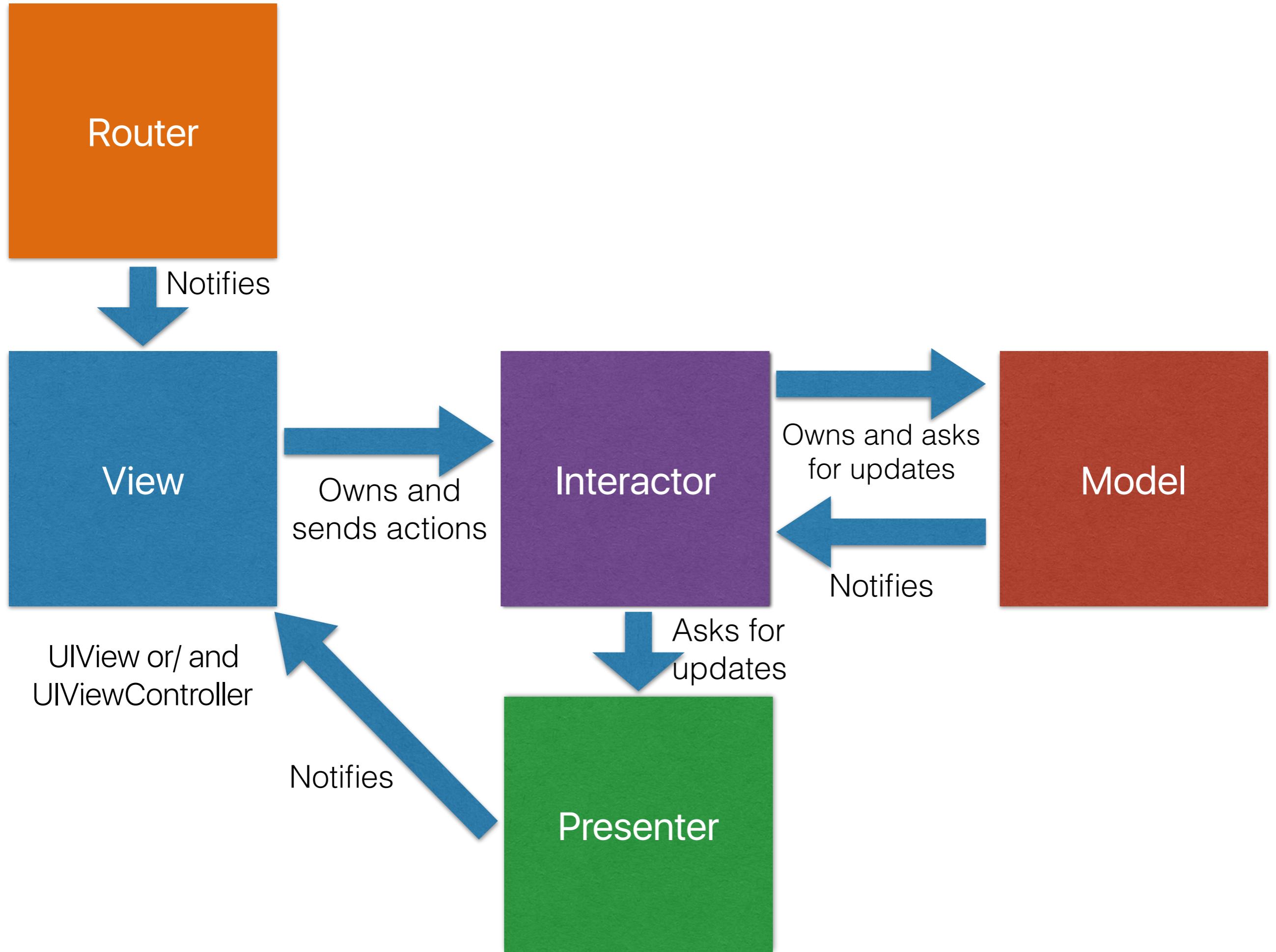


**I HAVE NO IDEA**



**WHAT YOU'RE TALKING ABOUT**





Communication  
/Persistence  
Managers

UIView or/ and  
UIViewController

View

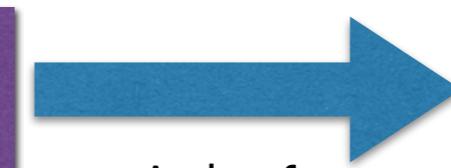


Asks for  
updates



Provides  
ViewModel

Manager

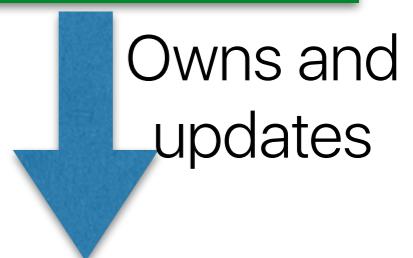


Asks for  
updates



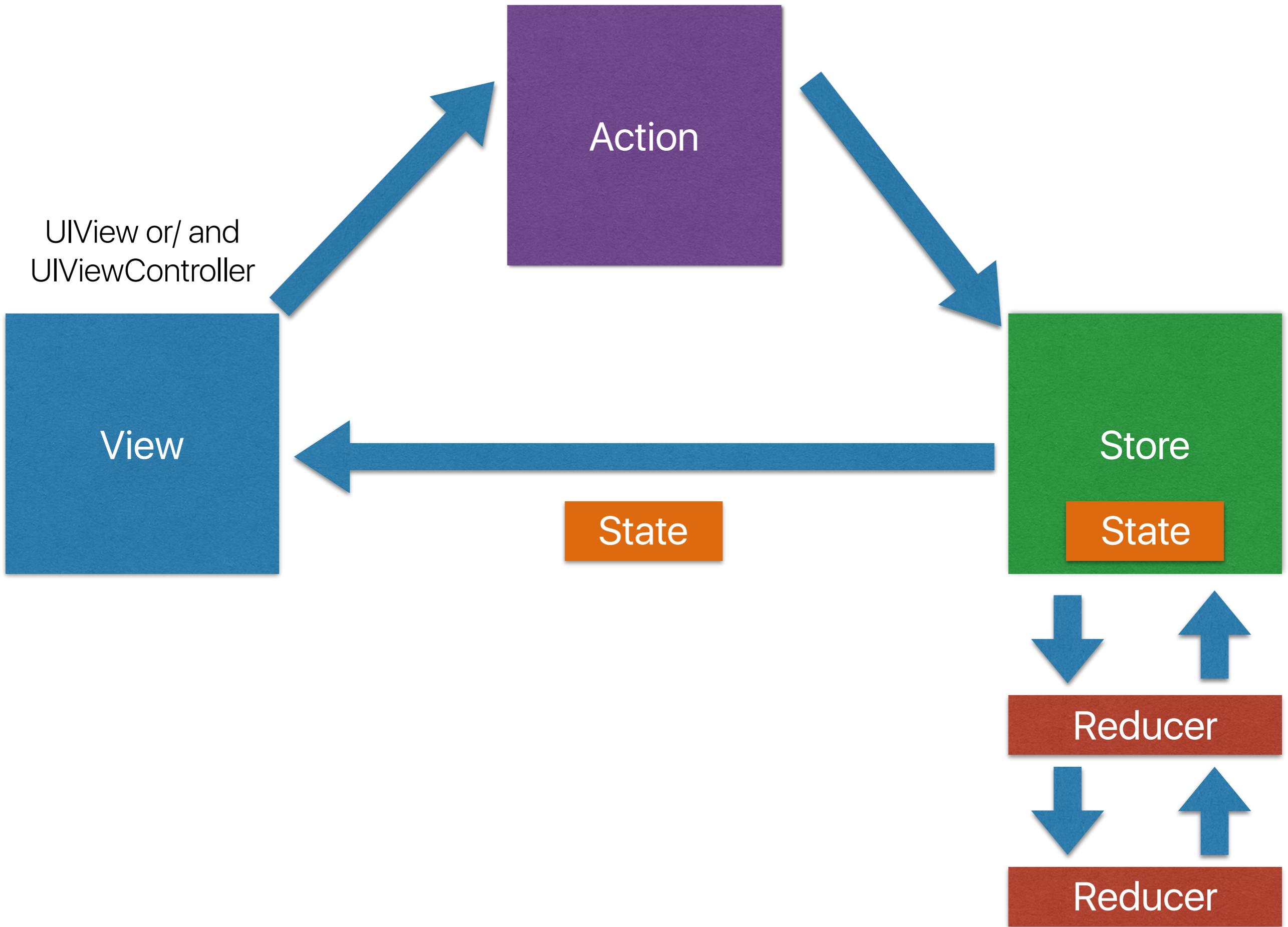
Provides  
Model

Store



Owns and  
updates

Model





Responsibilities

ViewController

Information flow

Testability

State

Ease of use

Refactoring

Debugging

Reusability

Size and number  
of files

Extendability

Maintainability

I have no idea

what I'm doing



- Patterns of Enterprise Architecture by Martin Fowler et al.
- Functional Reactive Programming
  - ReactiveCocoa
  - RxSwift
  - ReactiveKit
- Binding framework
  - Bond, Swift Bond
- Redux-like unidirectional data flow architecture
  - ReSwift
  - Delta



# BEST PRACTICES

DRY

KISS

YAGNI

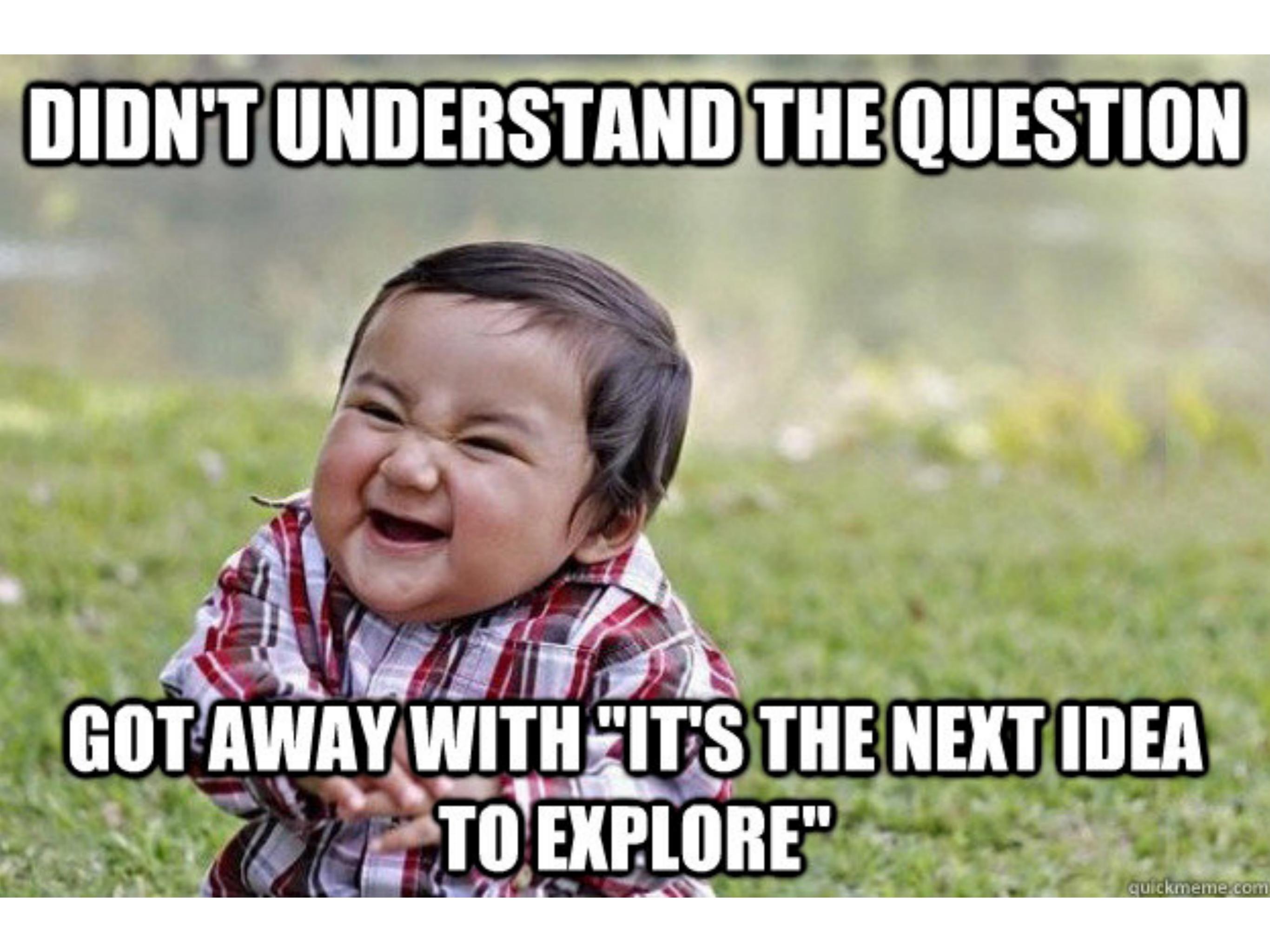
- Communication Manager
- State Controller/Manager
- Stores
- Actions
- ViewController Composition/Containment
- Custom Views
- Presenter/Manager

- Binding Pattern
- Interaction Pattern
- Keyboard Manager
- Navigation Manager
- TableView and CollectionView Protocols
  - DataSource Pattern
  - Delegate Pattern



Thanks for listening!

**DIDN'T UNDERSTAND THE QUESTION**

A close-up photograph of a baby with dark hair, wearing a red and white plaid shirt. The baby is laughing heartily, with their mouth wide open and eyes squinted. The background is a soft-focus green field.

**GOT AWAY WITH "IT'S THE NEXT IDEA  
TO EXPLORE"**

# Upcoming Meetup Topics

- Protocol-Oriented Programming
- Web Application Development
- Functional Programming
- Machine Learning
- Game Development
- Secure Application Dev
- iOS, Mac OS X, tvOS, watchOS App Dev
- Internet of Things

Please vote: <http://www.meetup.com/swift-mtl/polls/1218681/>

# Contact Us

- **Slack:** [swift-mtl.slack.com/](https://swift-mtl.slack.com/)
- **Twitter:** @swift\_mtl
- **Meetup:** [meetup.com/swift-mtl/](https://www.meetup.com/swift-mtl/)
- **GitHub:** <https://github.com/swift-mtl/>