

Big Rails

<https://github.com/josh-jacobson/Wedloom>

Refactoring towards Component-based Rails Architectures

Stephan Hagemann

Pivotal Labs
Boulder, CO

Component-based Rails architectures

#cbora





github.com/shageman/the_next_big_thing

Rails Container



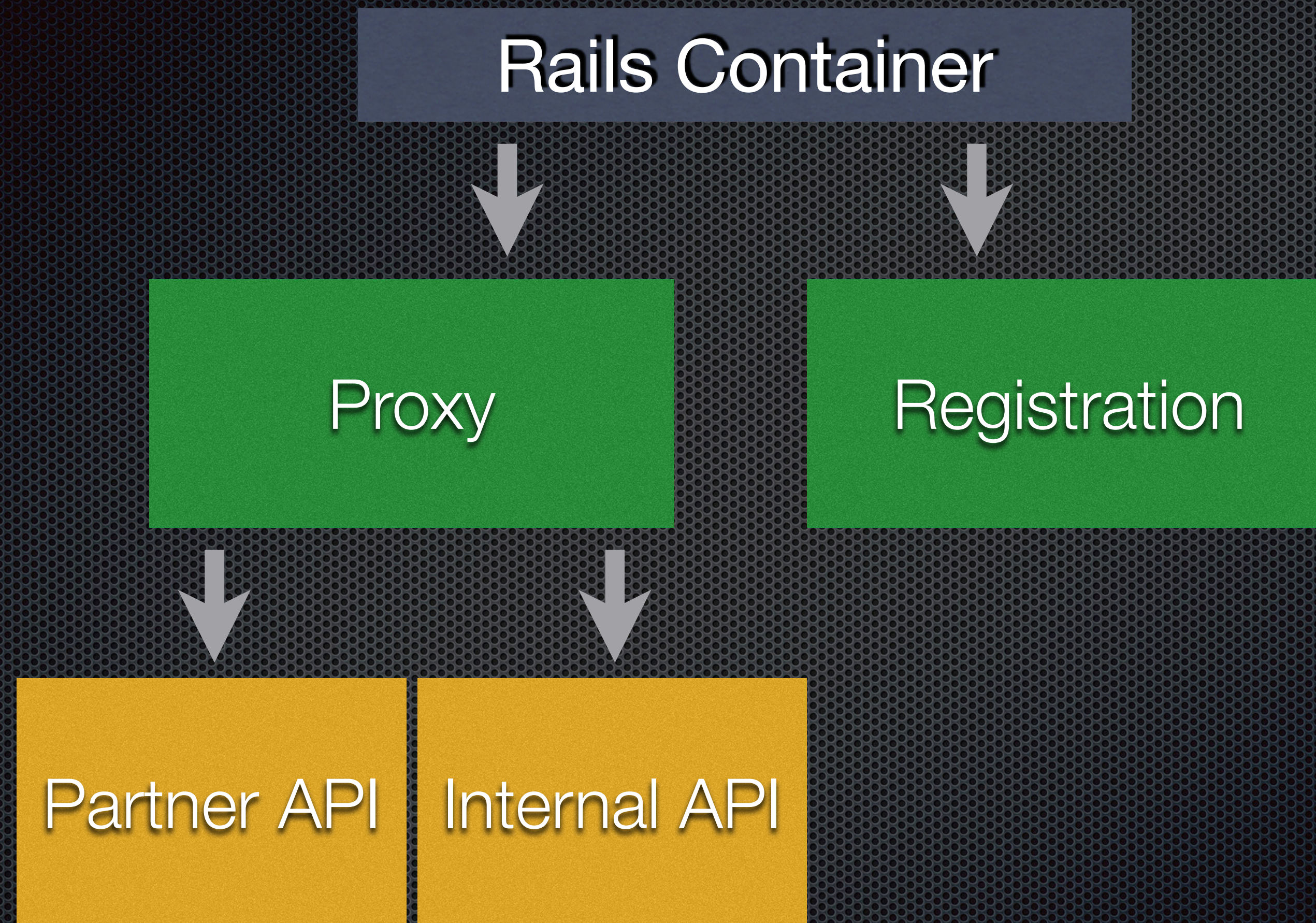
Teaser



Email
Signup

Event
Counter

Annoyance



Rails Travel Site

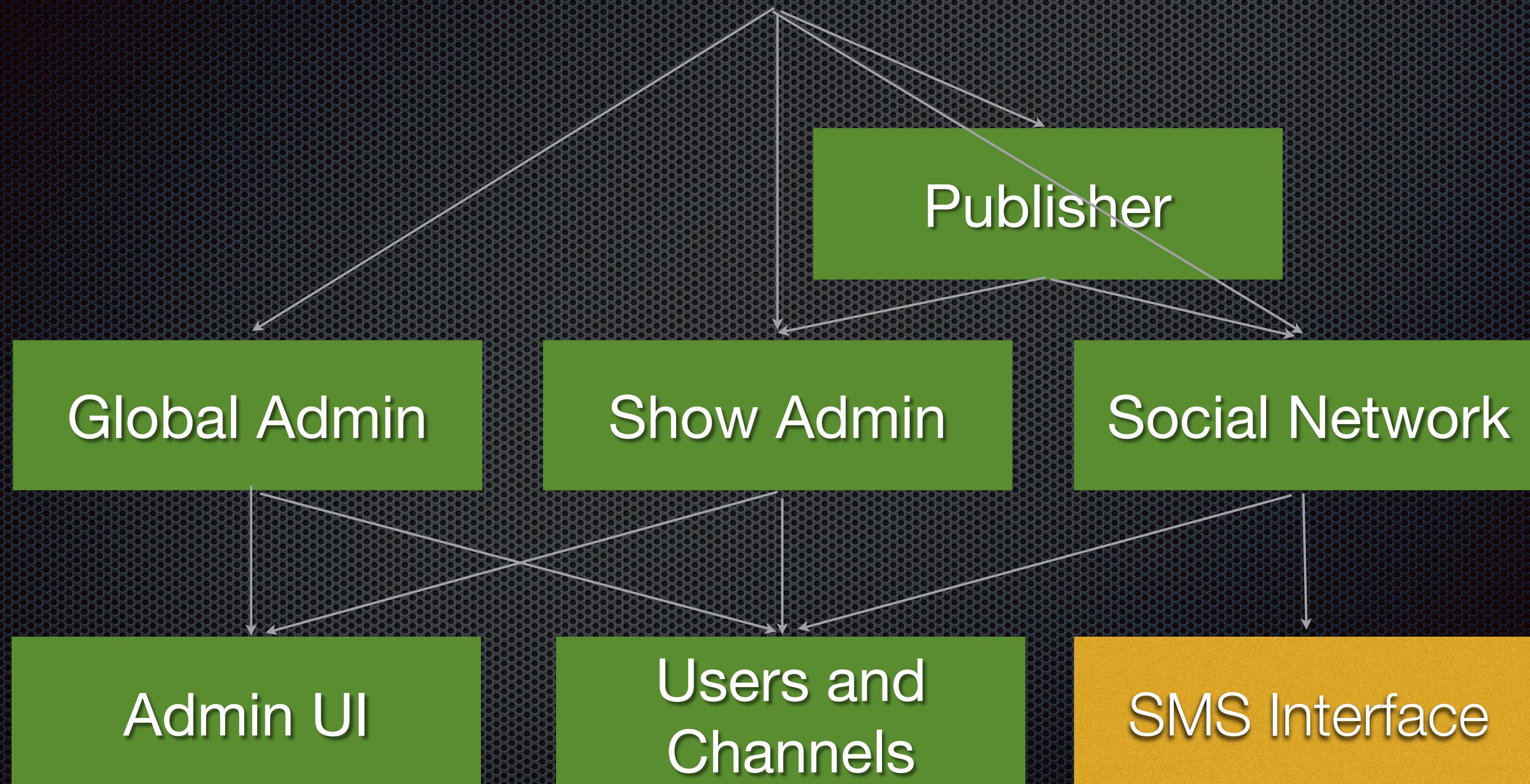
```
graph TD; A[Rails Travel Site] --> B[Availability and Booking]; A --> C[Payment Gateway]; A --> D[Conversion Tracking];
```

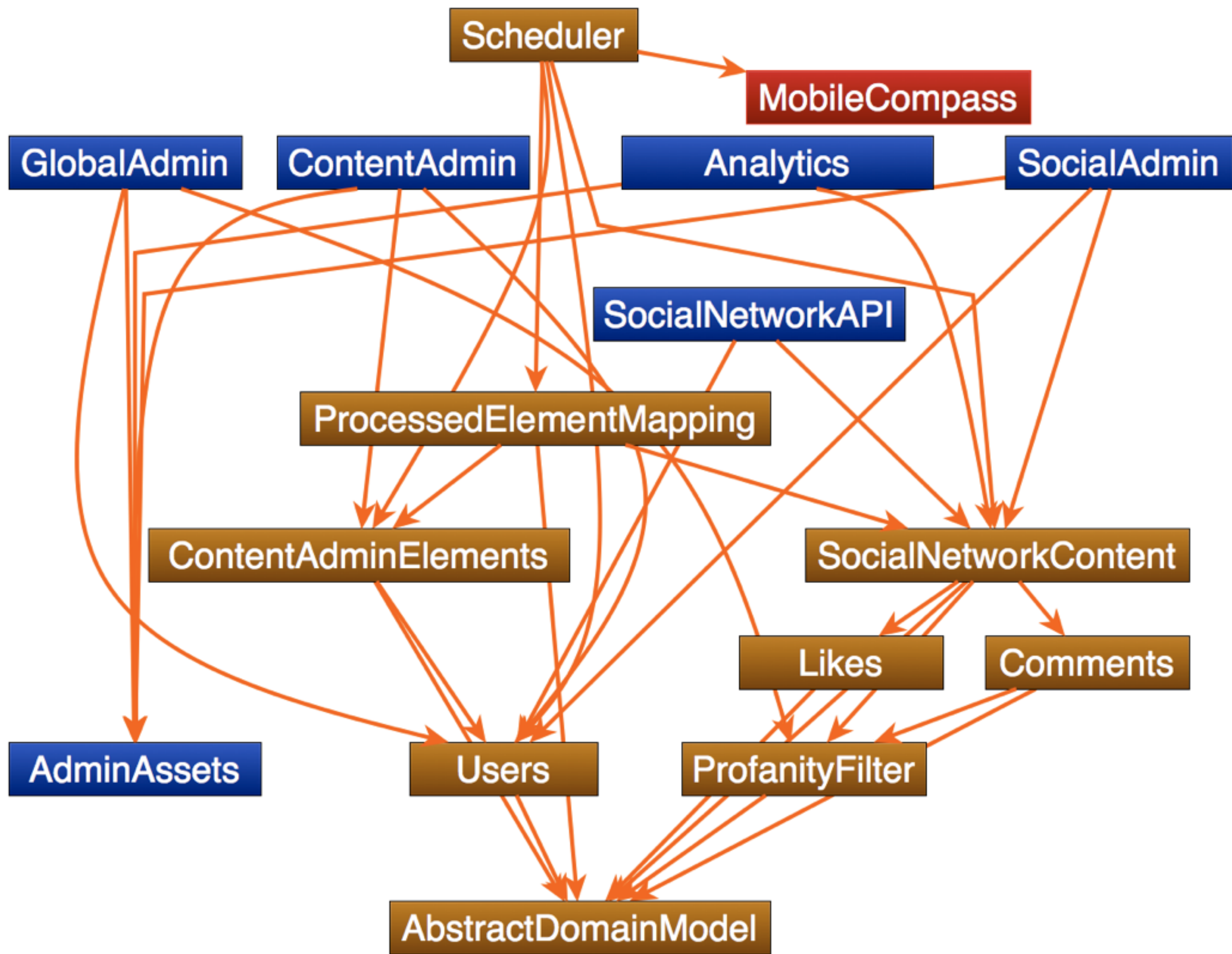
Availability and
Booking

Payment
Gateway

Conversion
Tracking

Rails TV Shows with Social Network





WAT?

Because it helps

How to write #cbra?

- ✦ [github.com/shageman/the next big thing](https://github.com/shageman/the_next_big_thing)
- ✦ <http://pivotallabs.com/tag/rails-application-suites/>
- ✦ confreaks.com/presenters/790-stephan-hagemann
- ✦ confreaks.com/presenters/784-ben-smith
- ✦ <https://leanpub.com/cbra>

Big Rails



This repository ▾

Search or type a command



[Explore](#) [Gist](#) [Blog](#) [Help](#)



shageman



PUBLIC



golive / dev-wiki

Watch ▾

3

★ Star

15

Fork

3

[Home](#)

[Pages](#)

[History](#)

New Page

Big open source Rails Apps

Edit Page

Page History

Clone URL

Rails applications well designed and/or with good test suite.

- [Spree](#)
- [Teambox](#)
- [BrowserCMS](#)
- [Canvas-lms](#)
- [Locomotive](#)
- [Spot.us](#)
- [Tracks](#)
- [RailsCollab](#)
- [Fulcrum](#)
- [Skyline](#)
- [Onebody](#)
- [FatFreeCRM](#)
- [Gitorious](#)
- [PortlandCrime](#)
- [Rubygems.org](#)
- [Opencongress.org](#)
- [Opengovernment.org](#)
- [Snorby](#)
- [Citizenry](#)
- [Calagator](#)
- [Diaspora](#)

Not mantained:

- [Unsoshi](#)
- [DataCamp](#)



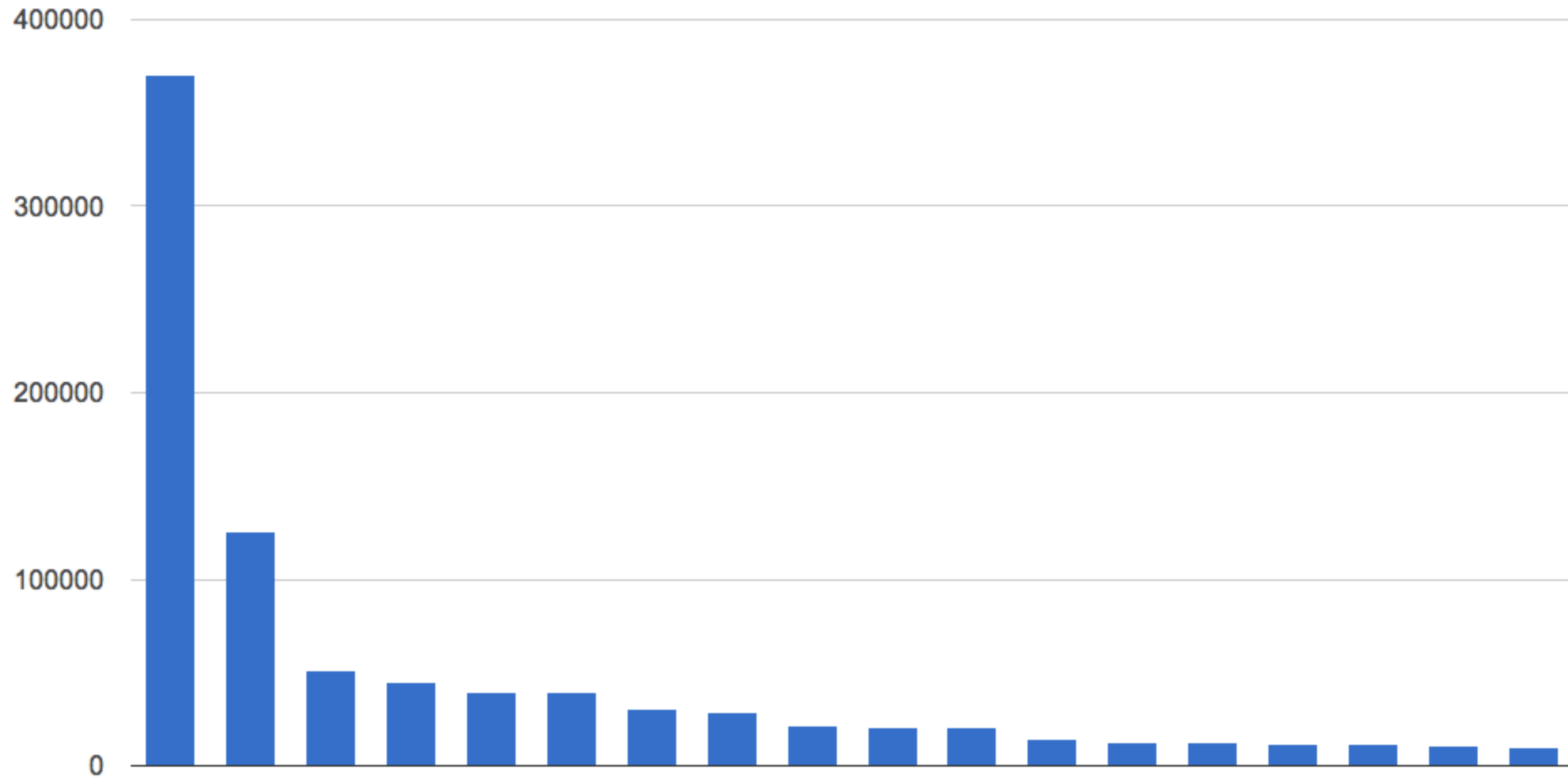
How Big?

```
find . -iname "*.rb" -type f -exec cat {} \; | wc -l
```

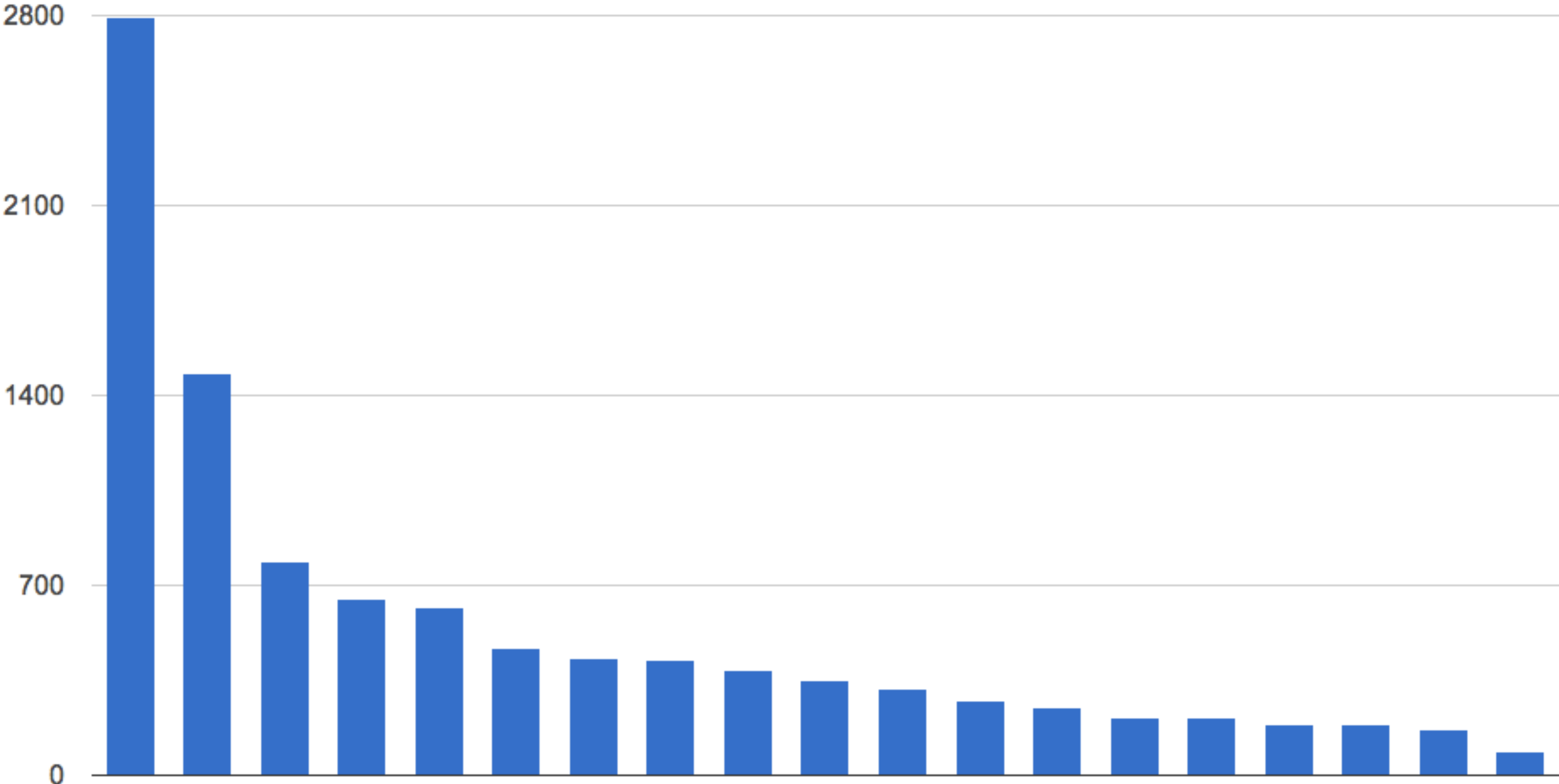
How Big?

gist.github.com/shageman/11185993

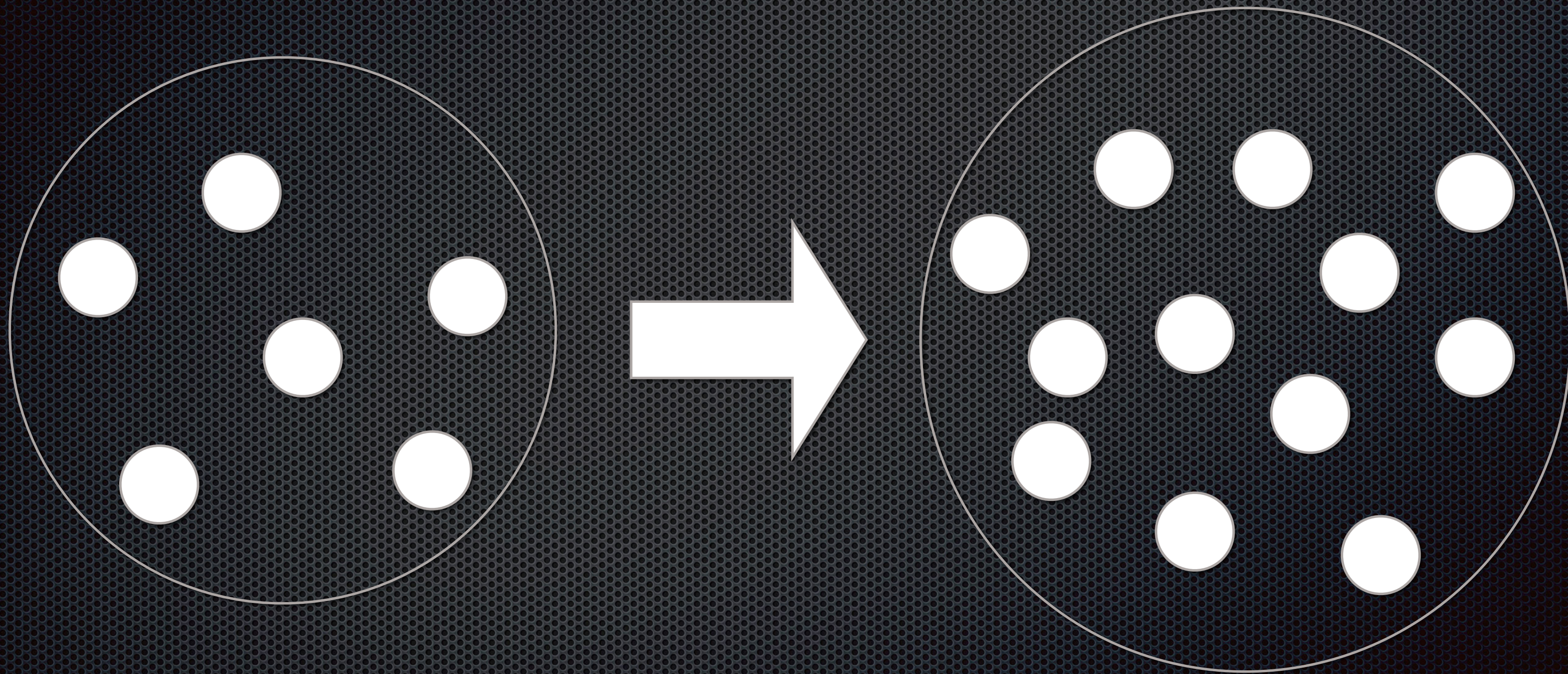
Lines of Ruby Code



Ruby files per project



Growing size

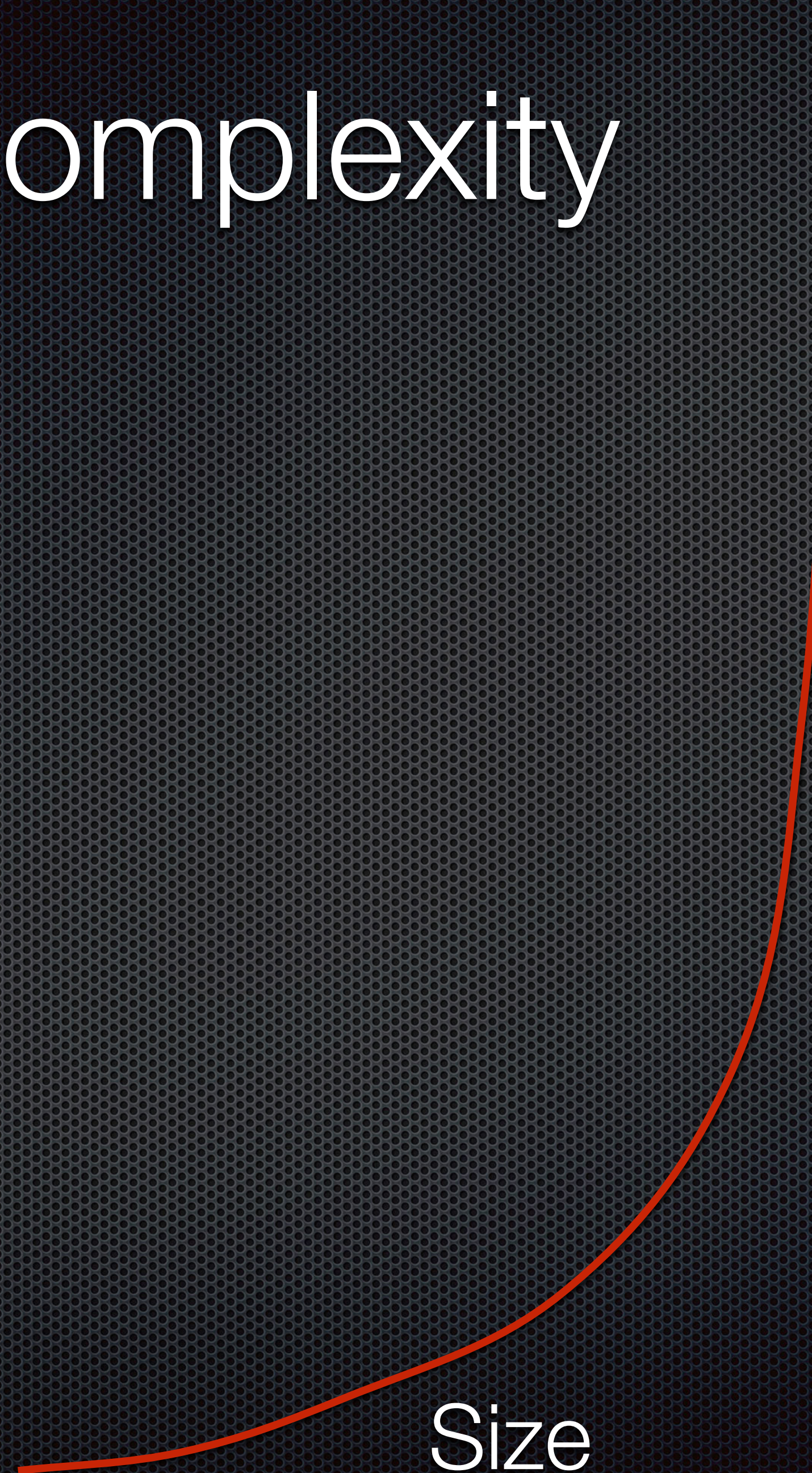






THIS IS TOO MUCH

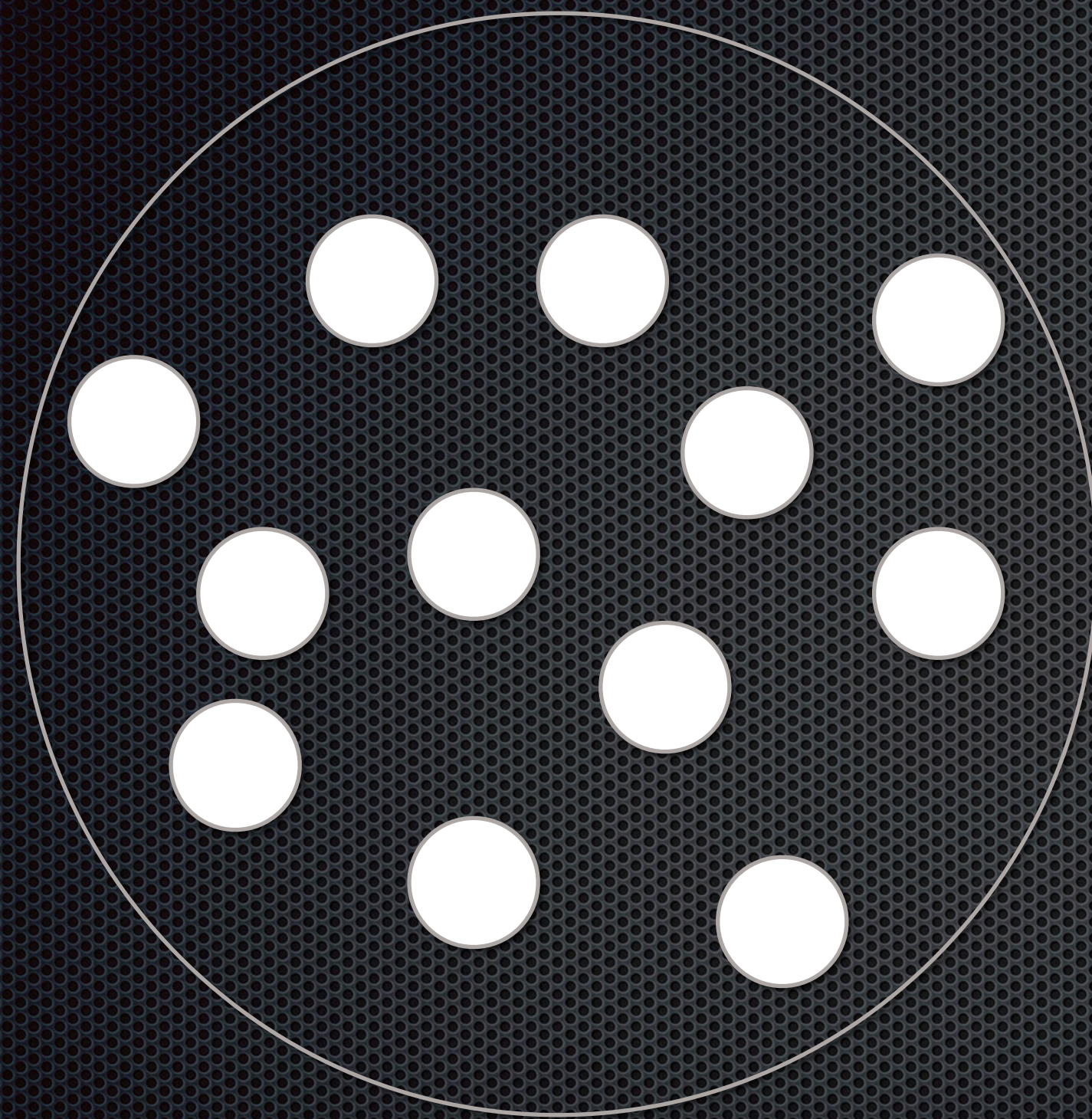
Exploding complexity



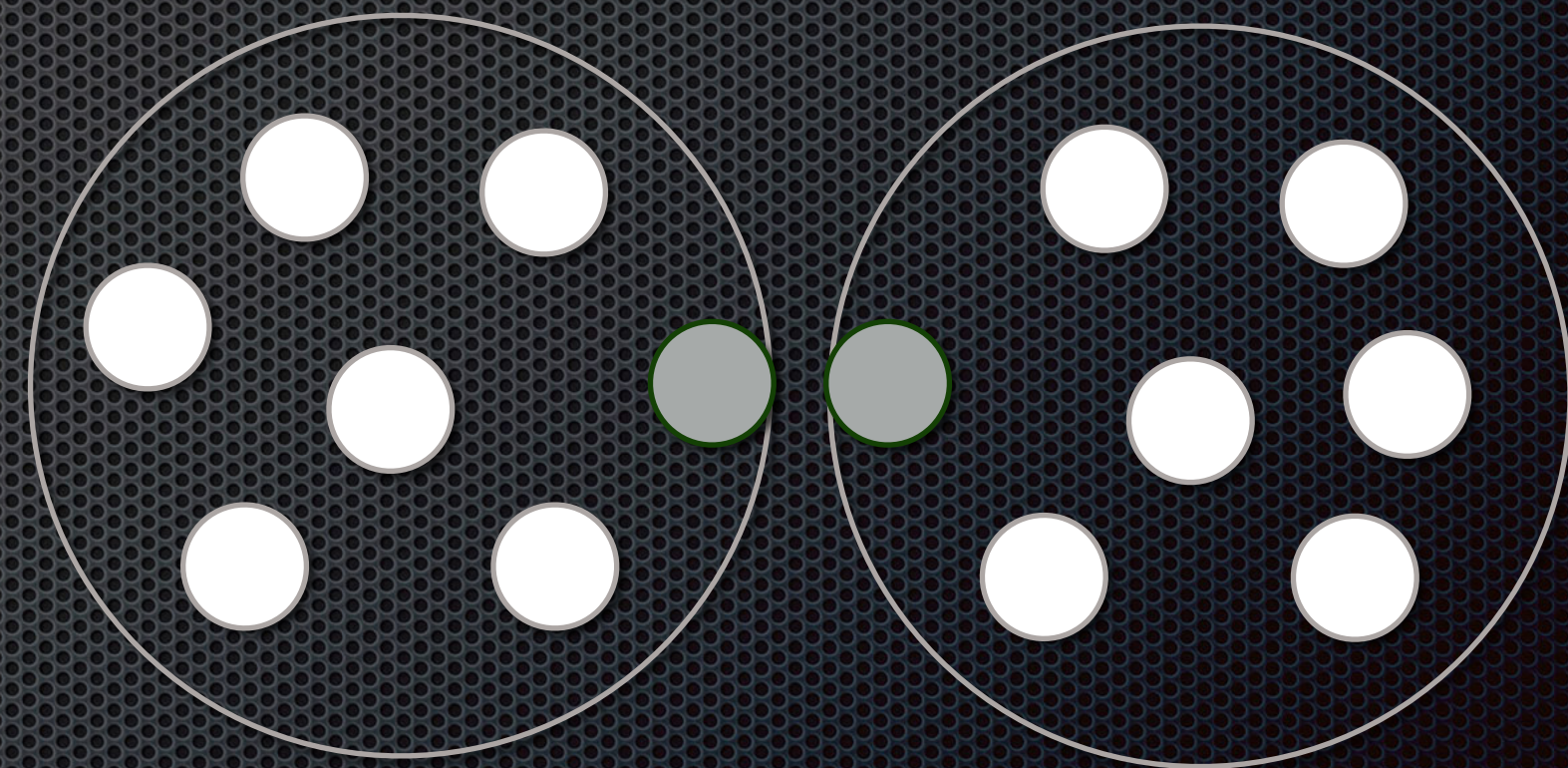
Possible
Interactions

Size

Versions of Large



vs

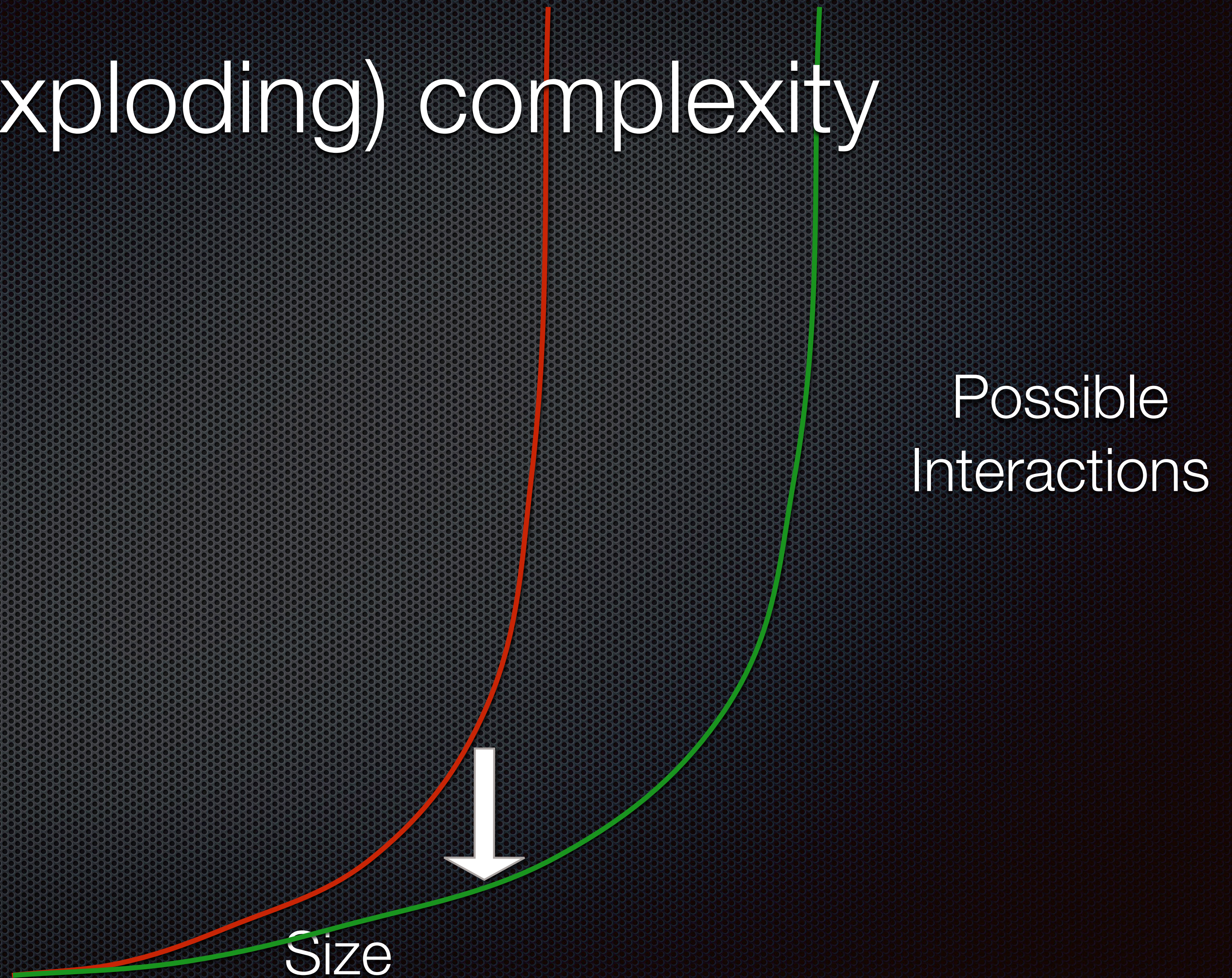






THIS IS TOO MUCH

Reduced (Exploding) complexity

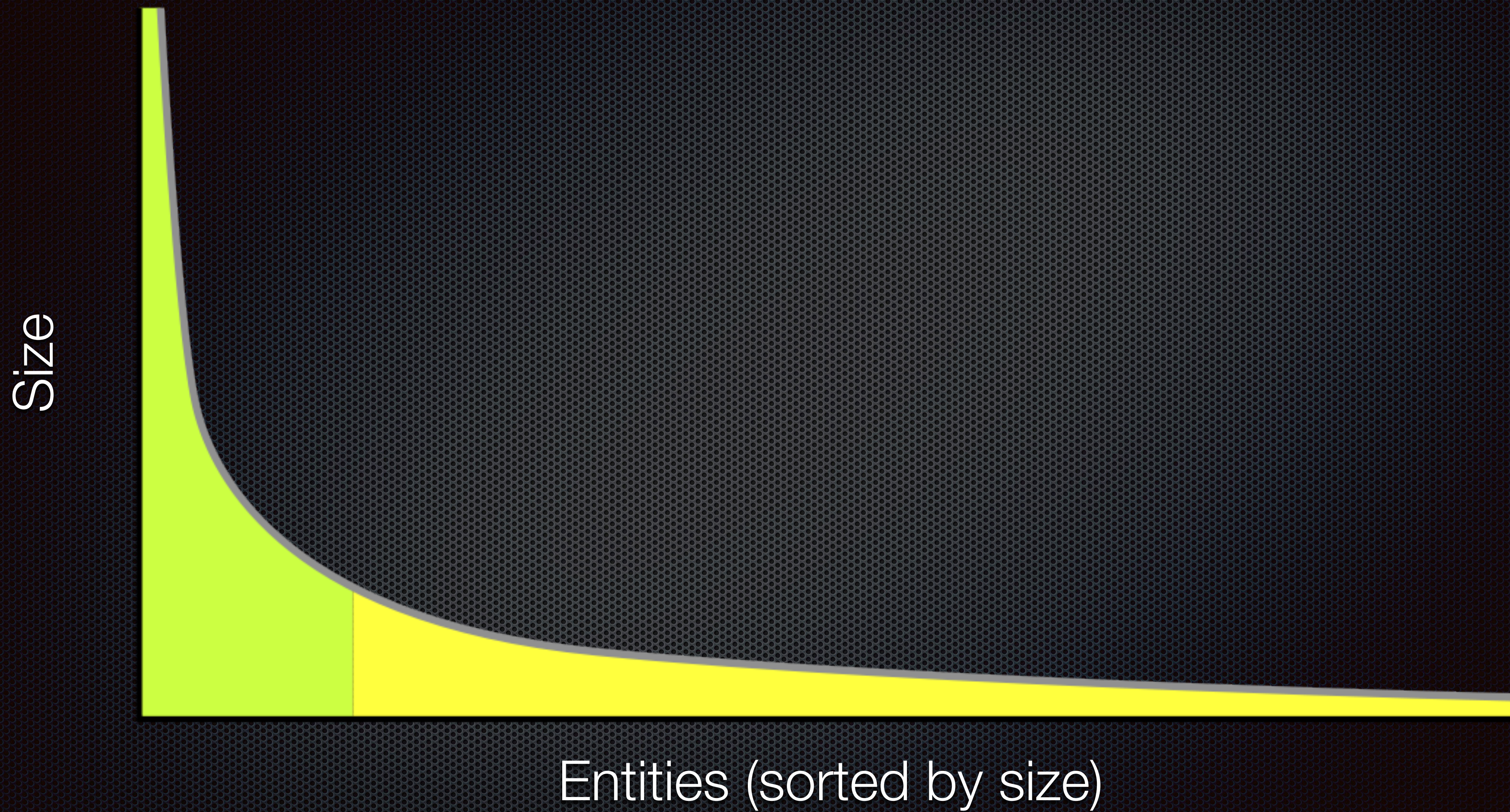


the rich get richer and the poor get

the rich get richer and the poor get—children!

- *“Ain't We Got Fun?”* - Gus Kahn, Raymond B. Egan

Preferential Attachment



Big Open-Source Rails Apps

browsercms	locomotivecms	opencongress	skyline	tracks
calagator	fat_free_crm	opengovernment	snorby	
canvas-lms	fulcrum	portlandcrime	spot-us	
citizenry	loc_counts	railscollab	spree	
diaspora	onebody	rubygems.org	teambox	

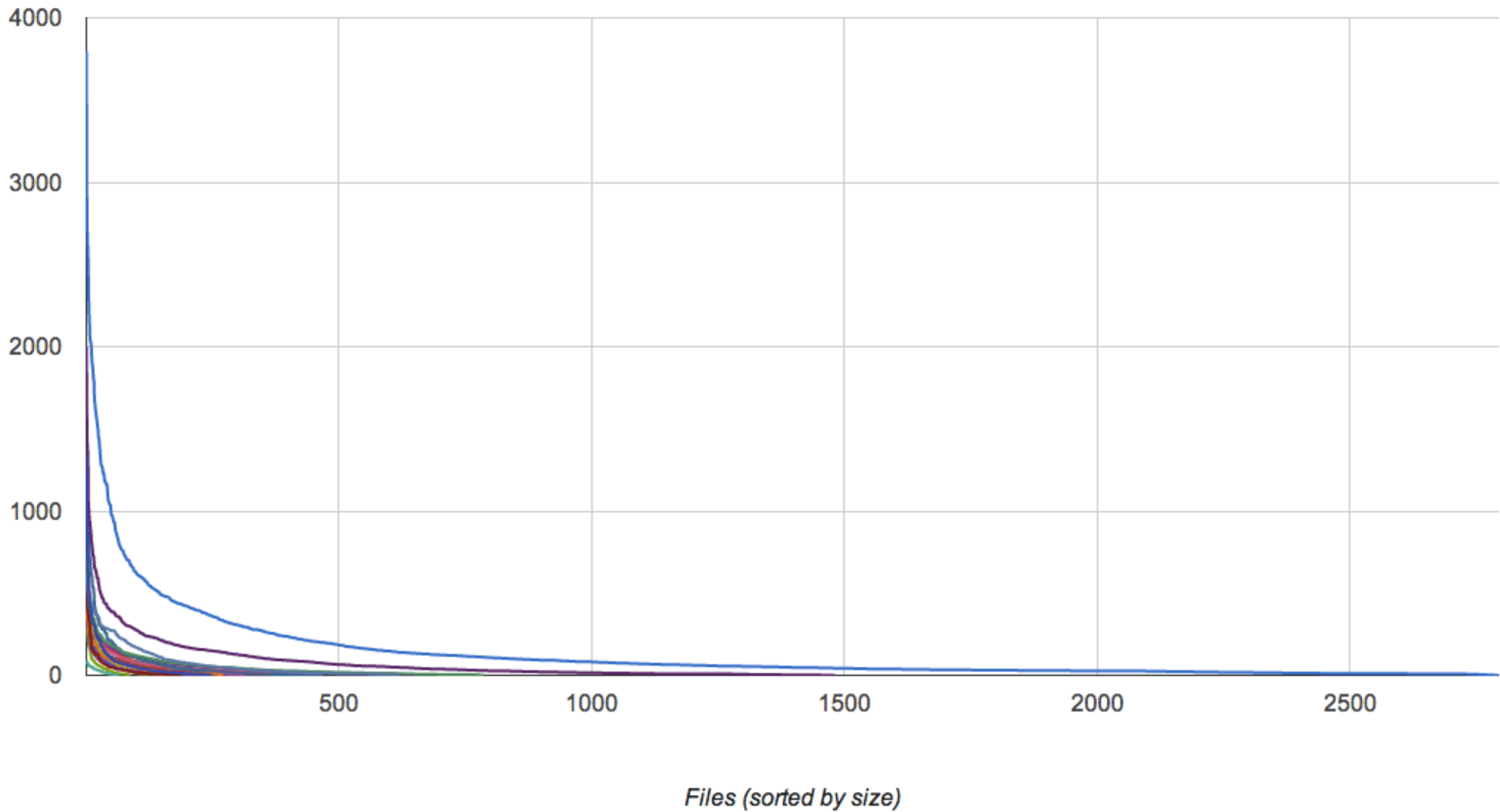
What About Code?

```
find . -iname "*.rb" -type f -exec wc -l {} \; | sort -rn
```

What About Code?

<https://gist.github.com/shageman/11190909>

LOC per Ruby file

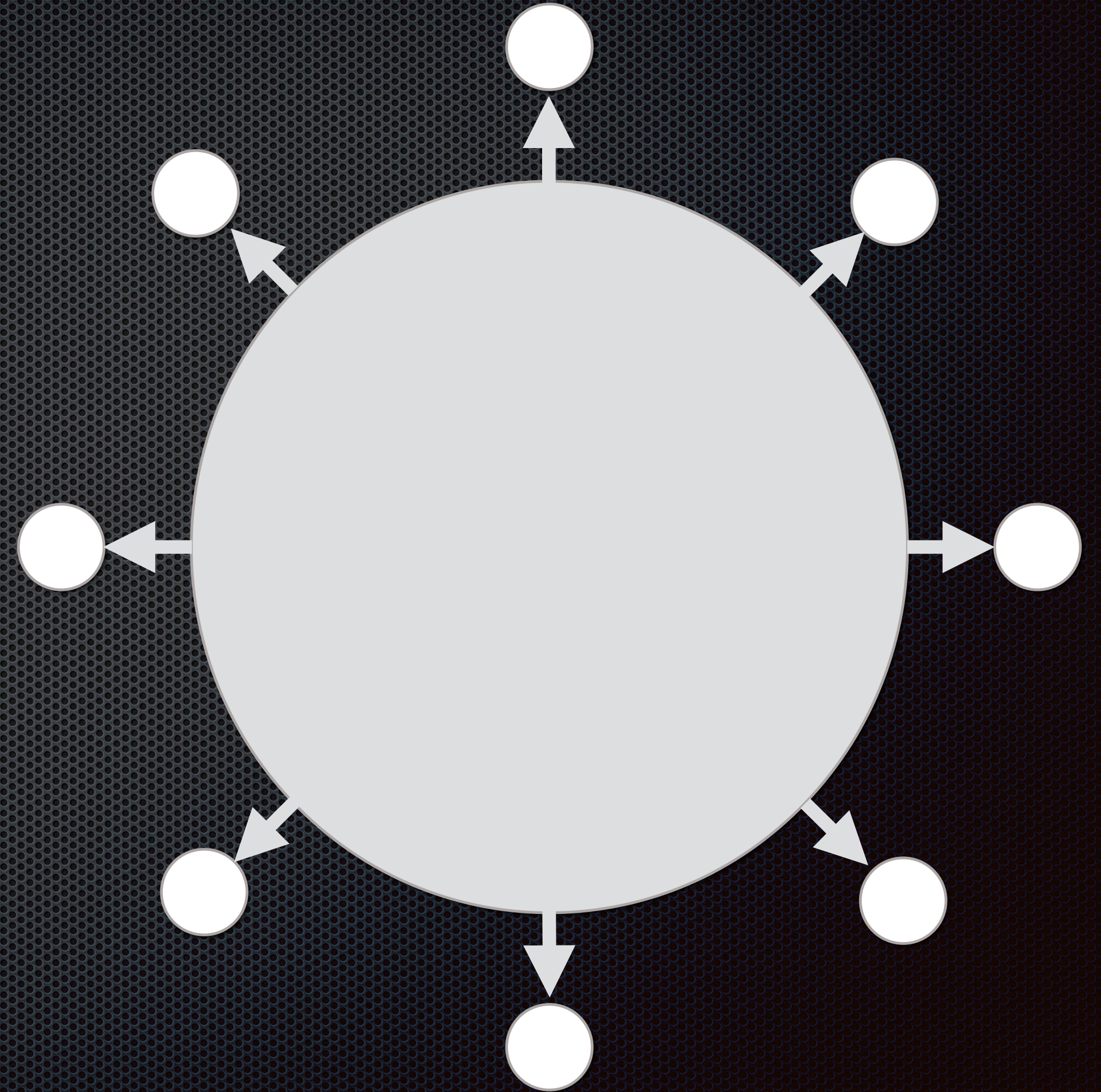




user.rb

ActiveRecord Associations

has_many



users model

```
class User < ActiveRecord::Base
  has_many :cars
  has_many :flowers
  has_many :trees
  has_many :houses
  has_many :moods
  has_many :checks
end
```

users model

```
class User < ActiveRecord::Base
  has_many :cars
  has_many :flowers
  has_many :trees
  has_many :houses
  has_many :moods
  has_many :checks
end
```

users table

id	name	home
1	Kate	Chicago
2	Pete	Boulder
3	Ian	Boulder
4	Sam	Chicago

colors model

```
class Color < ActiveRecord::Base
  has_many :cars
  has_many :flowers
  has_many :trees
  has_many :houses
  has_many :moods
  has_many :checks
end
```

colors table

id	name	code
1	red	#FF0000
2	green	#00FF00
3	blue	#0000FF
4	yellow	#FFFF00

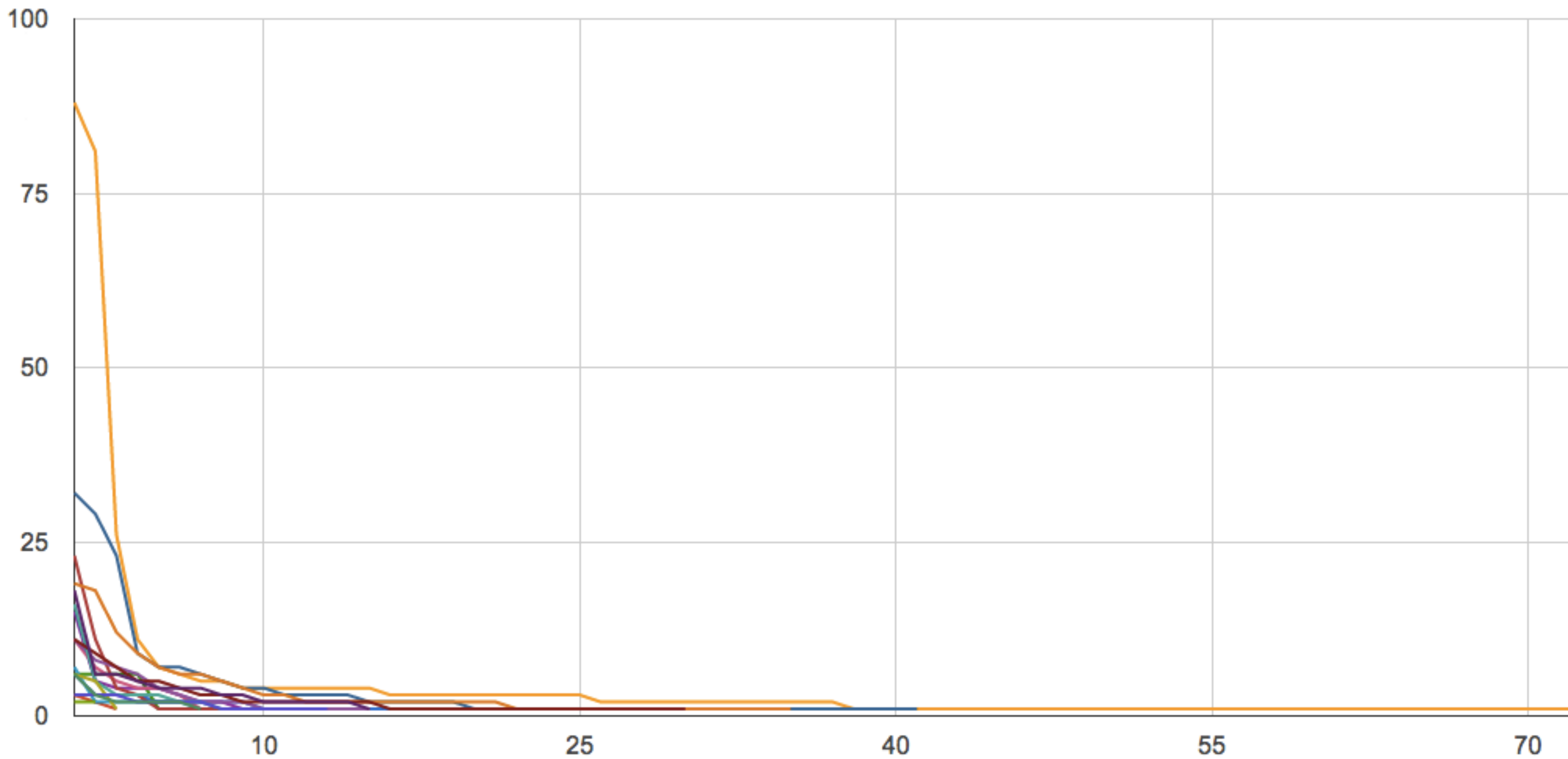
How many has many?

```
ack "has_many" -c | awk -F ":" '{print $2,$1}' | grep -v "0" | sort -rn
```

How many has many?

<https://gist.github.com/shageman/11191030>

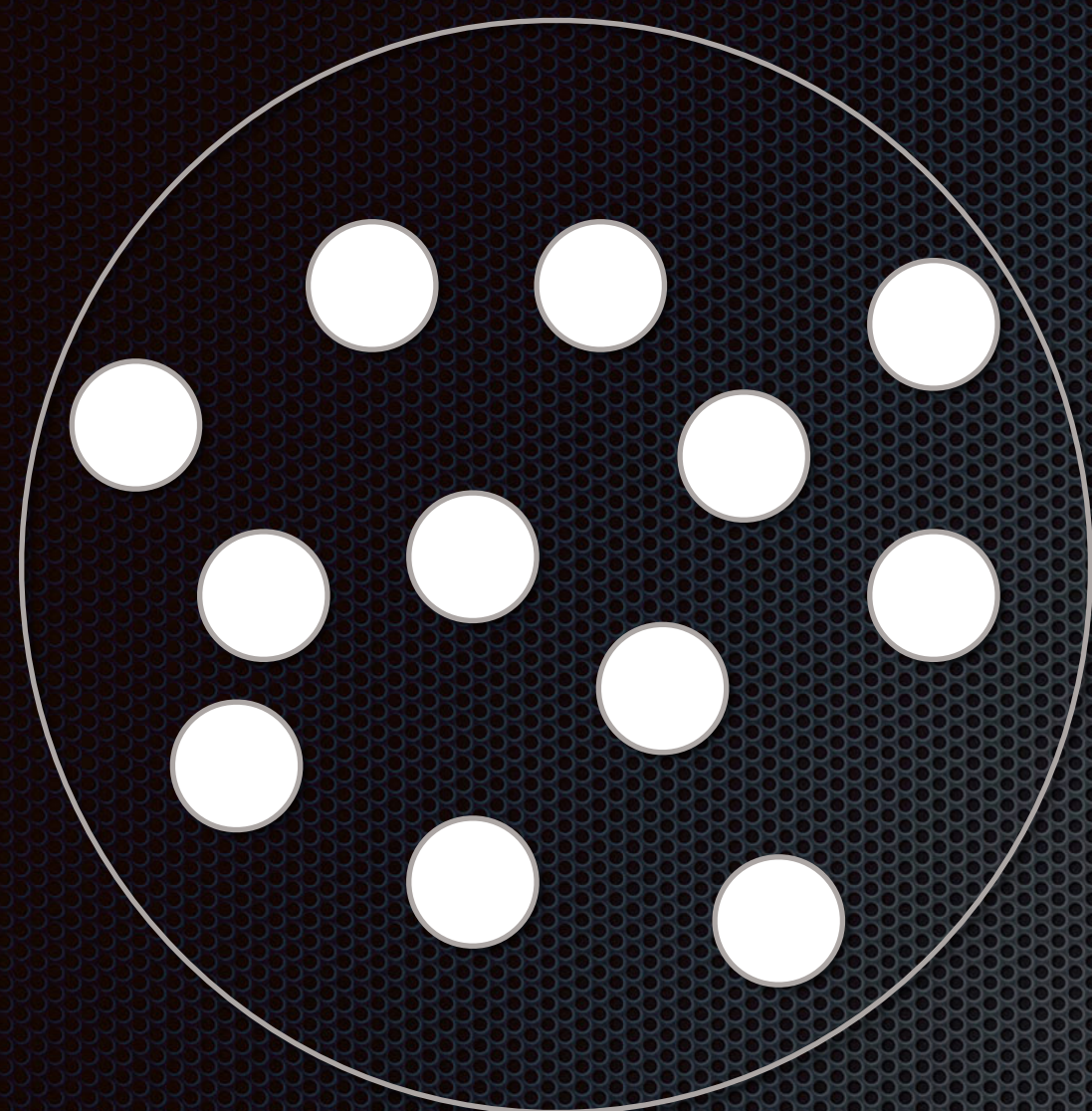
has_many per file



Files (sorted by count)

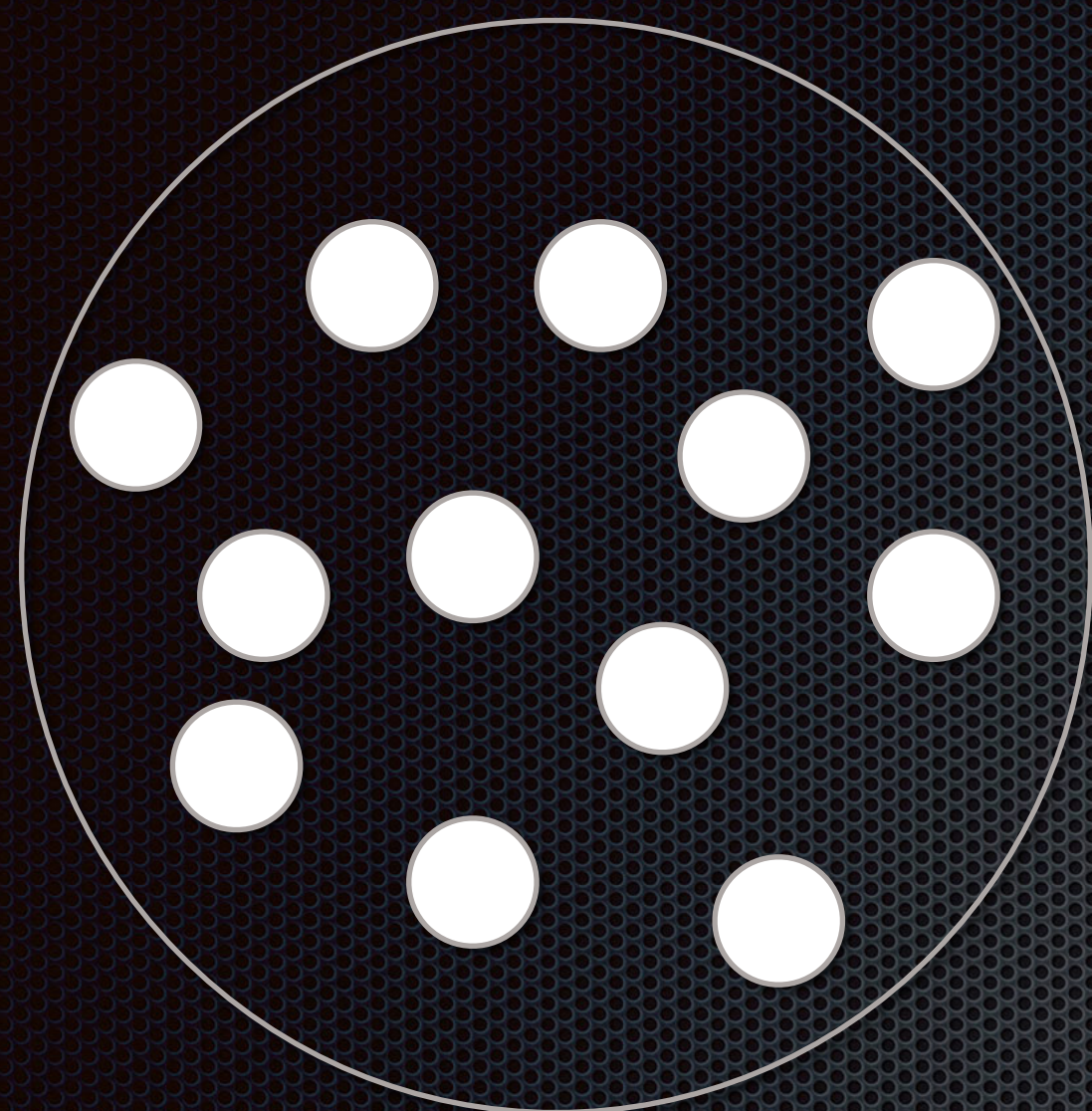


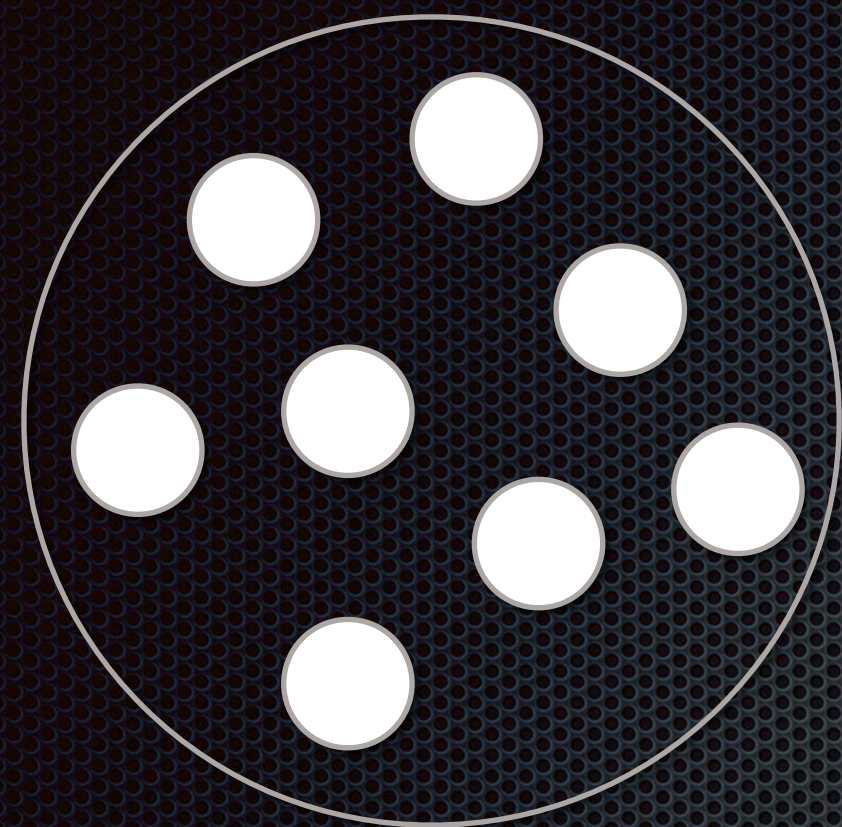
user.rb

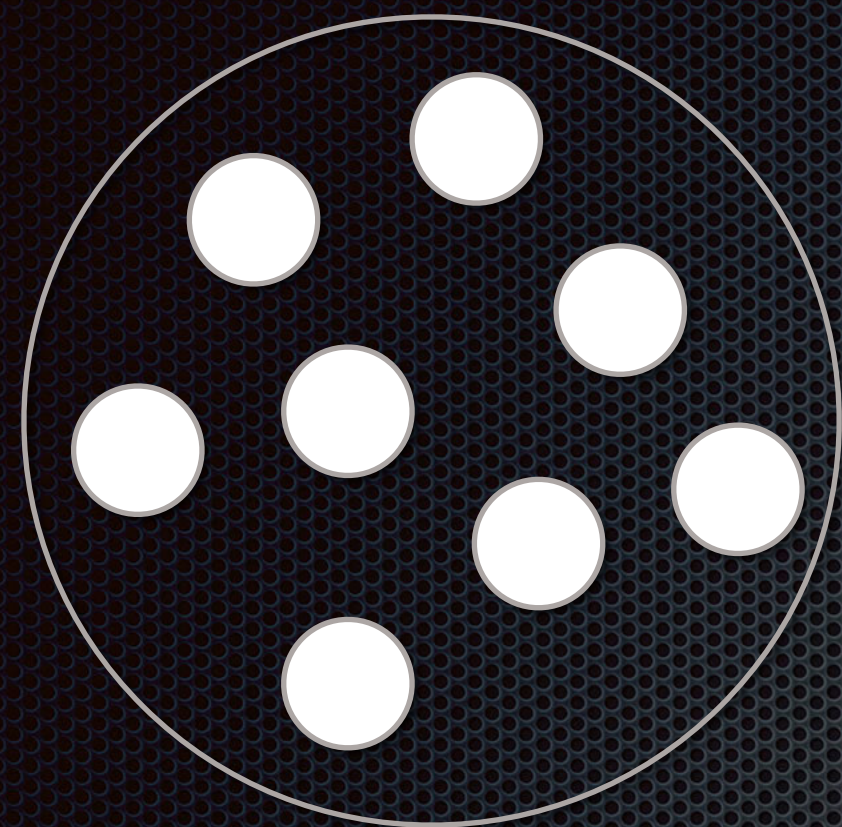


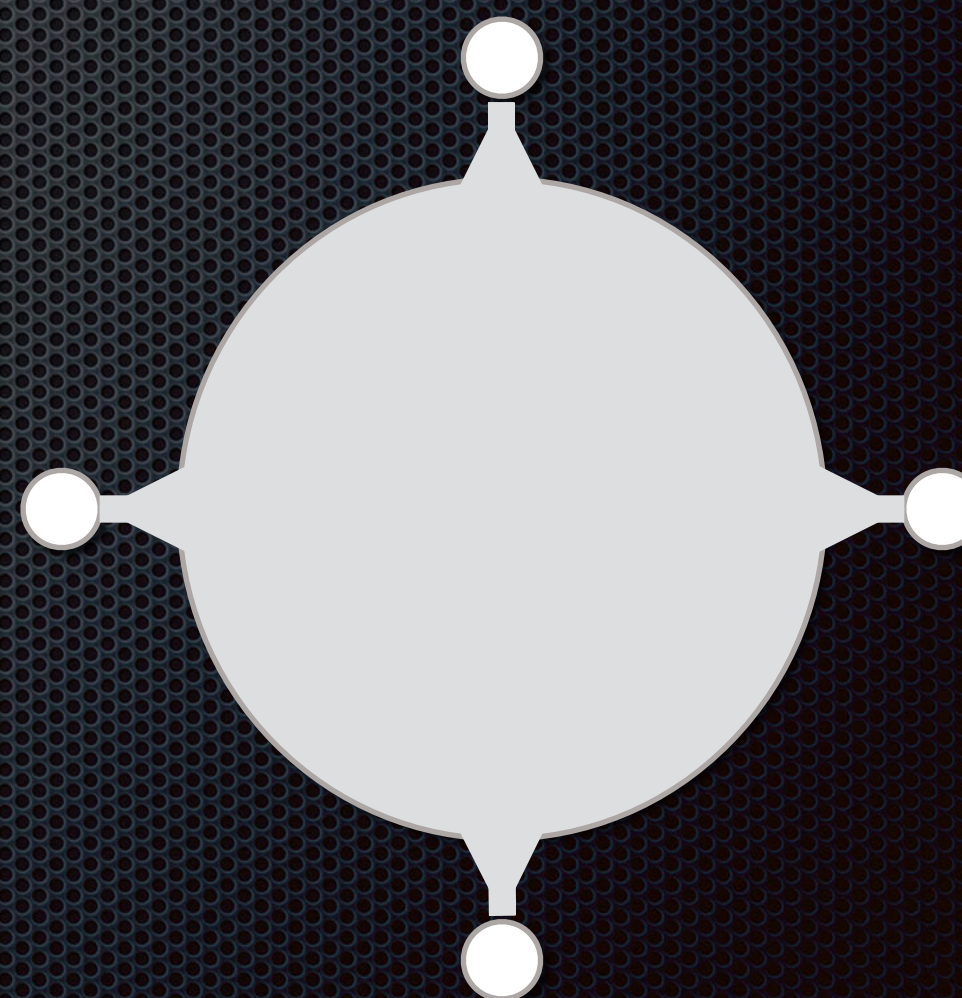
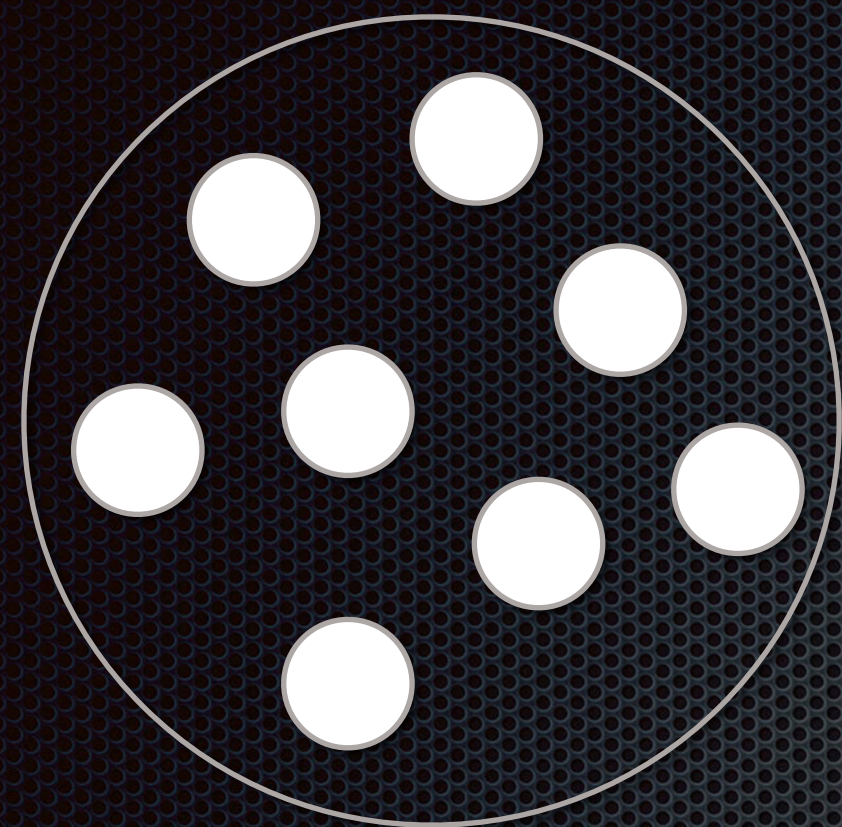


we can do better









SOLID

Single Responsibility Principle



Things that don't belong

SRP - where?

Module

Class

Yes!

Method

Yes!

SRP - where?

Namespace

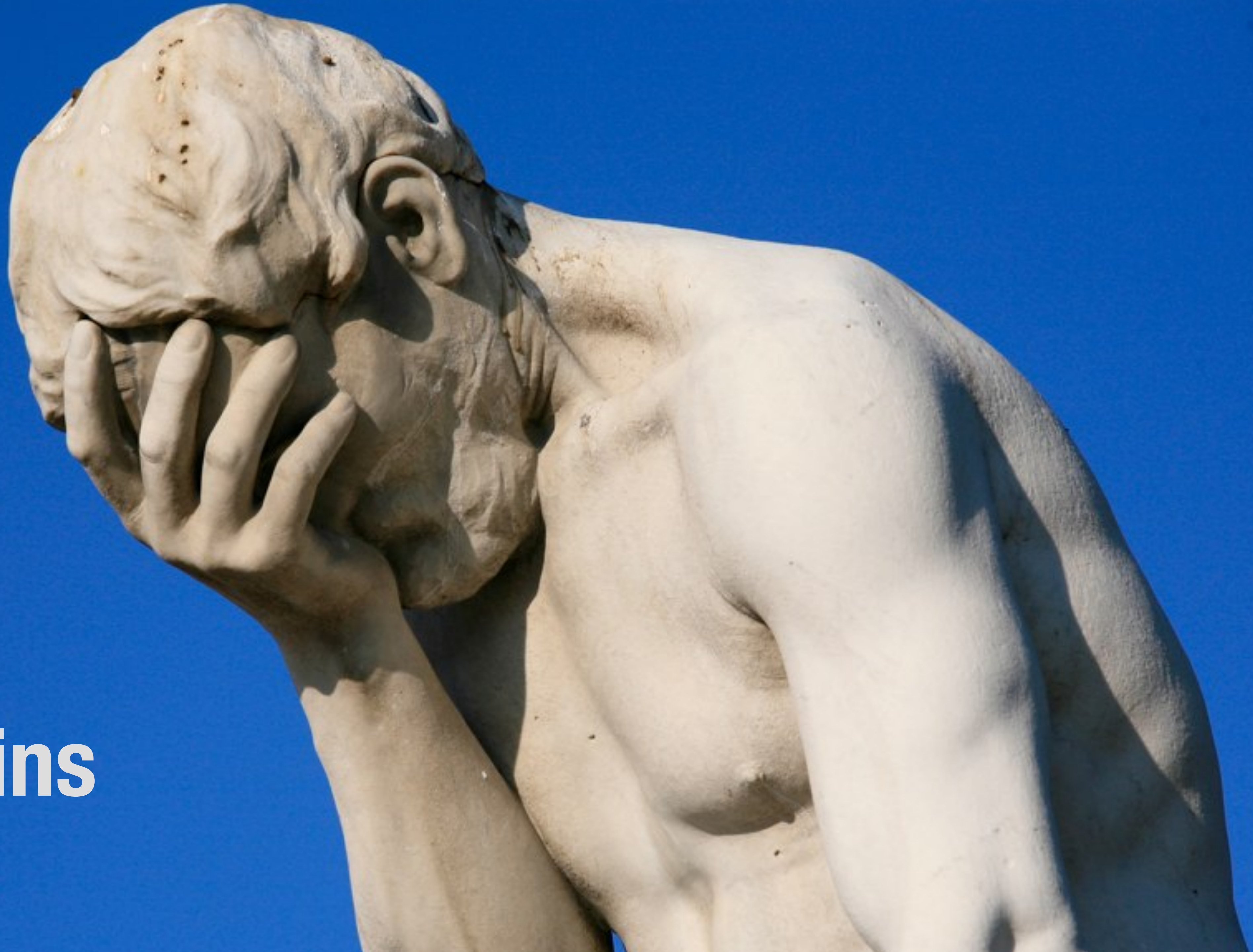
Class

Yes!

Method

Yes!

Mixins



SRP - where?

Application You should!

Component Now you can!

Namespace You should! ... Anyone?

Class Yes!

Method Yes!

Components over SOAs

- ✦ 1 repo
- ✦ 1 test suite (and splittable!)
- ✦ 1 deployment
- ✦ no additional versioning constraints
- ✦ easier refactorings between parts

Within a SOA componentize your apps

Refactoring towards #cbra



- ✧ Teasing out App Component
- ✧ Extracting Functional Component

Edit

Component-based Rails Applications

Stephan Hagemann



Component-based Rails Applications

#cbra

You can survive fast growth and accumulating technical debt. You need to start refactoring away from classic, monolithic Rails. This book will show you how and help you structure your application with components to make development happy again.

by



Stephan Hagemann

Unpublished
Coming soon

English

<https://leanpub.com/cbra>

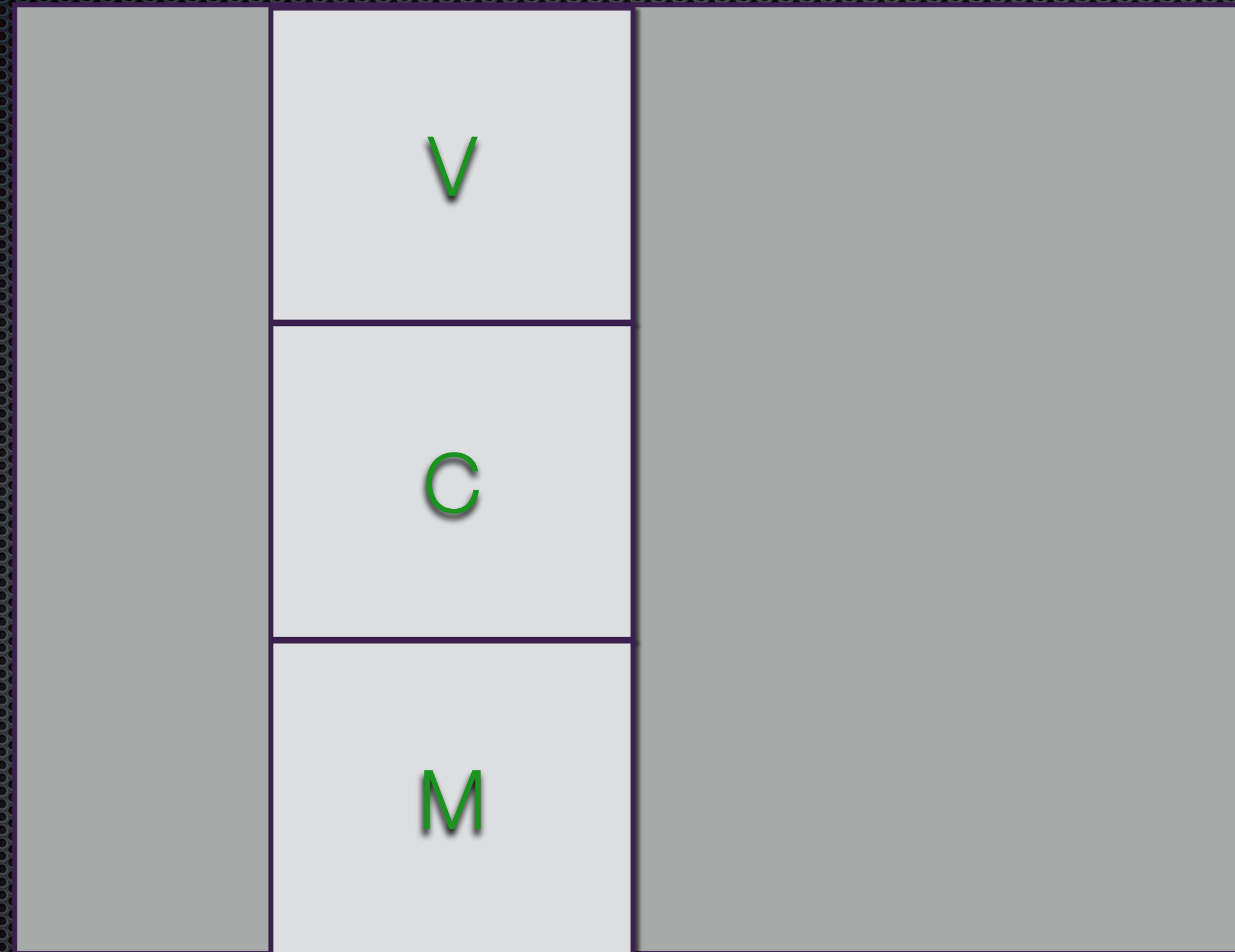
Teasing out App Component

Teasing out App Component



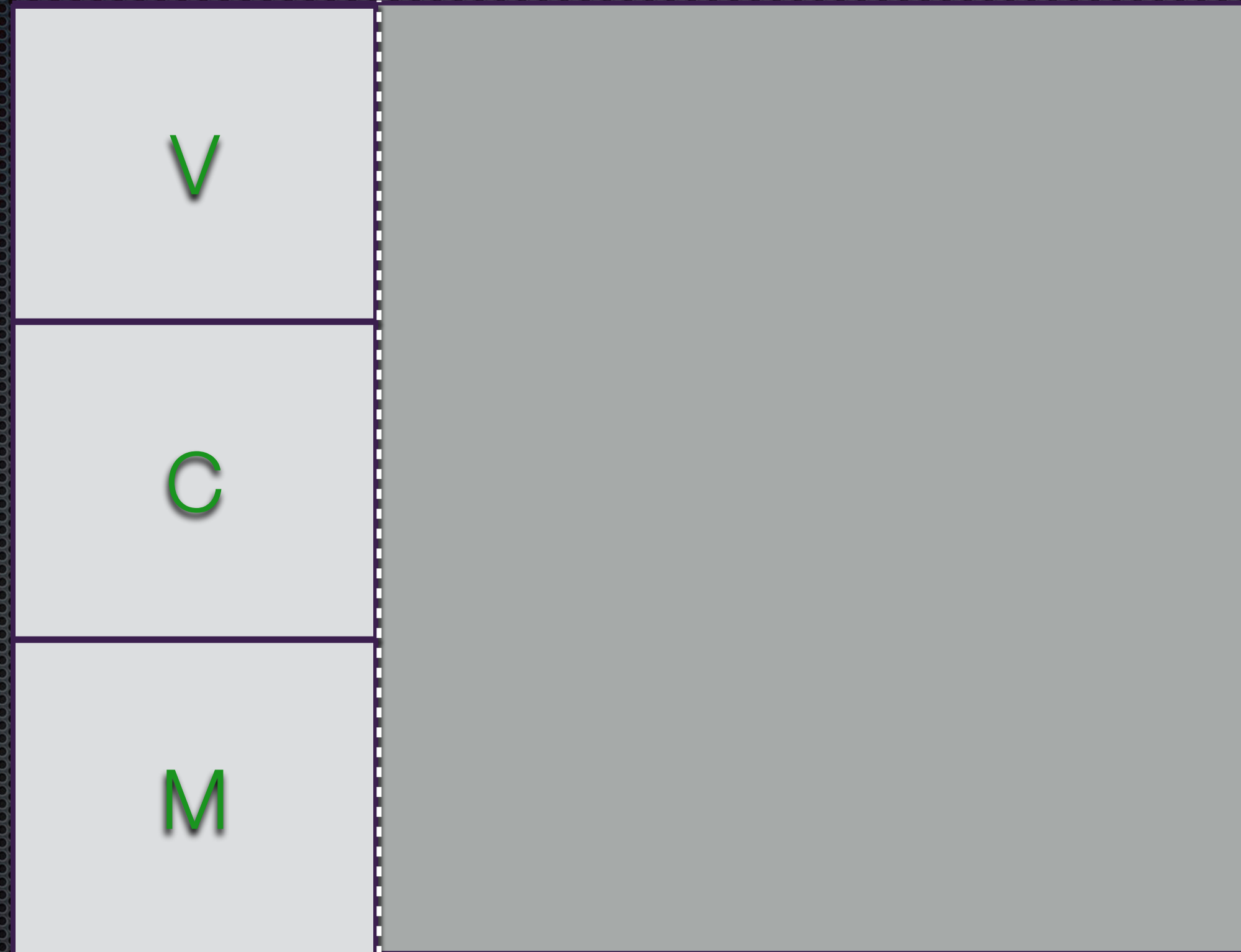
0. Got tests?

Teasing out App Component



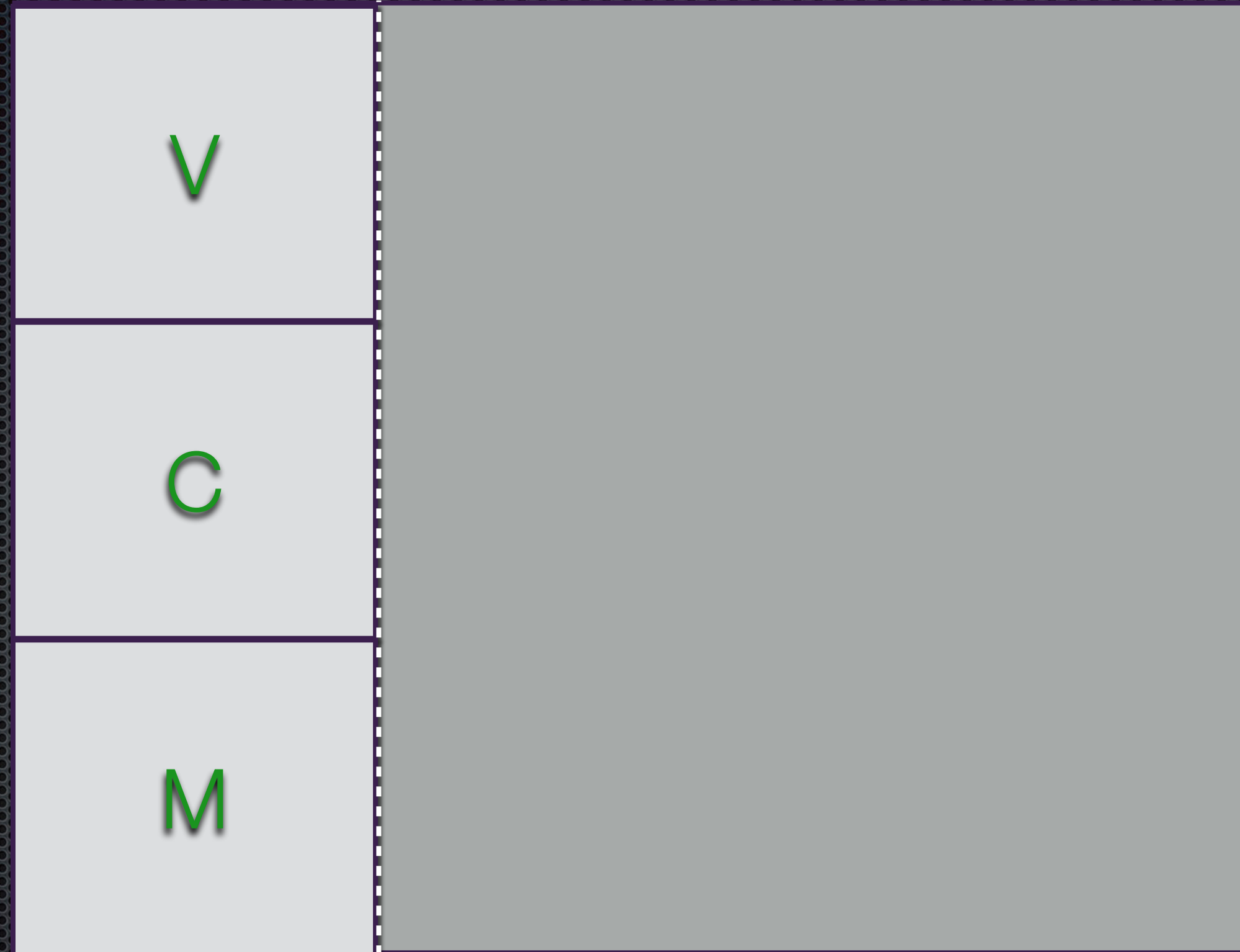
1. Find a vertical that makes sense on its own

Teasing out App Component



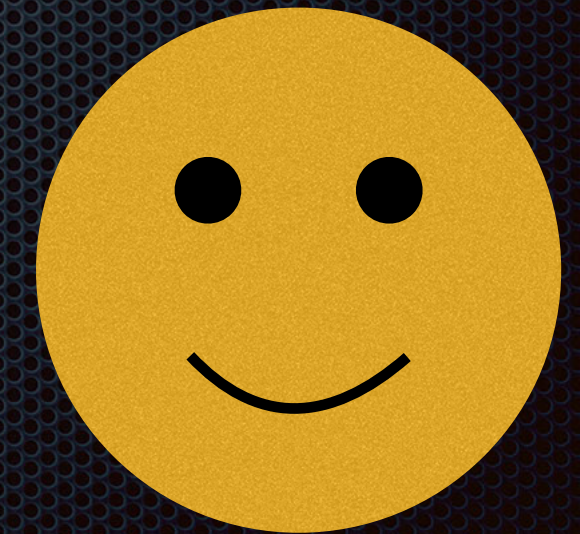
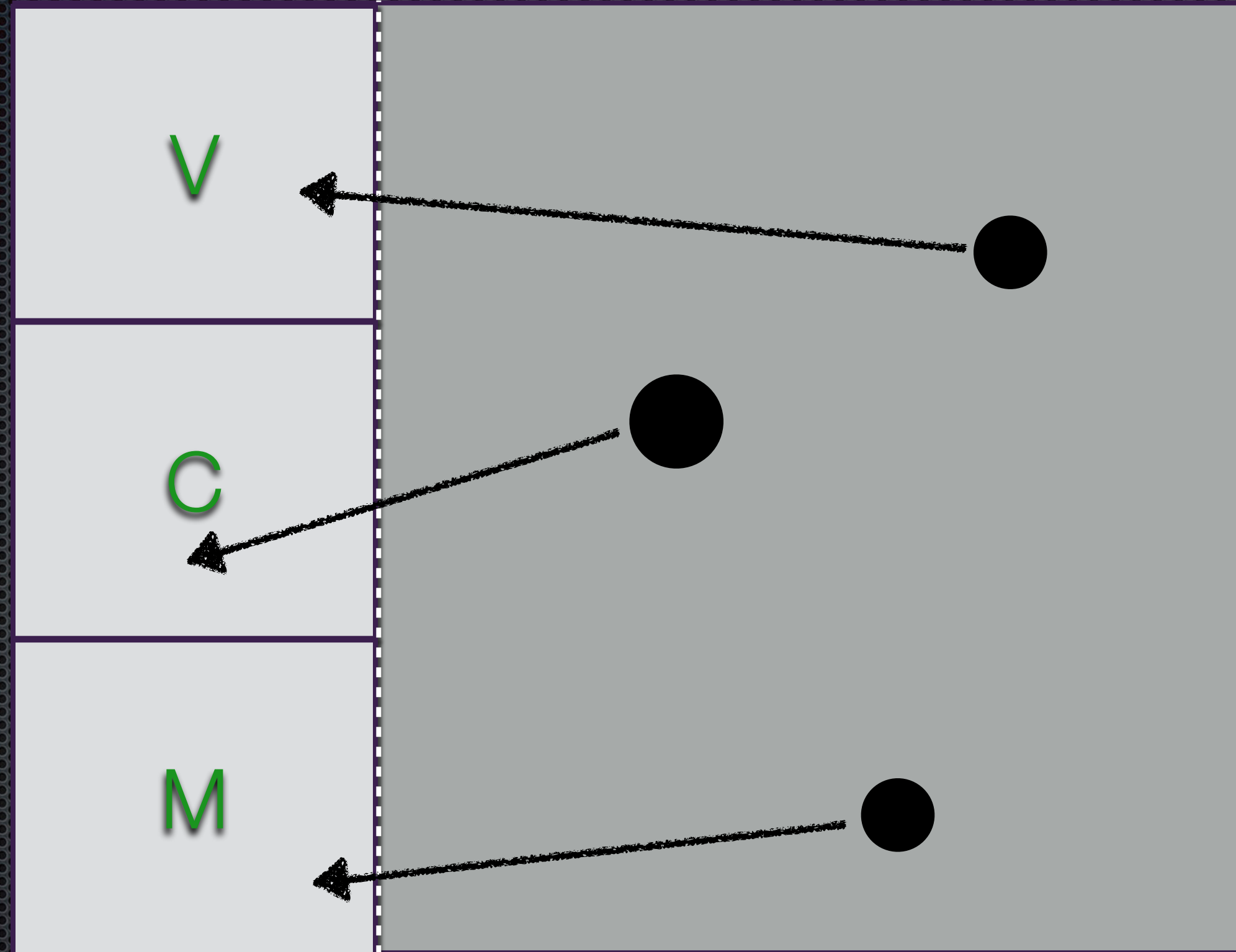
2. Namespace controllers, views, and models

Teasing out App Component



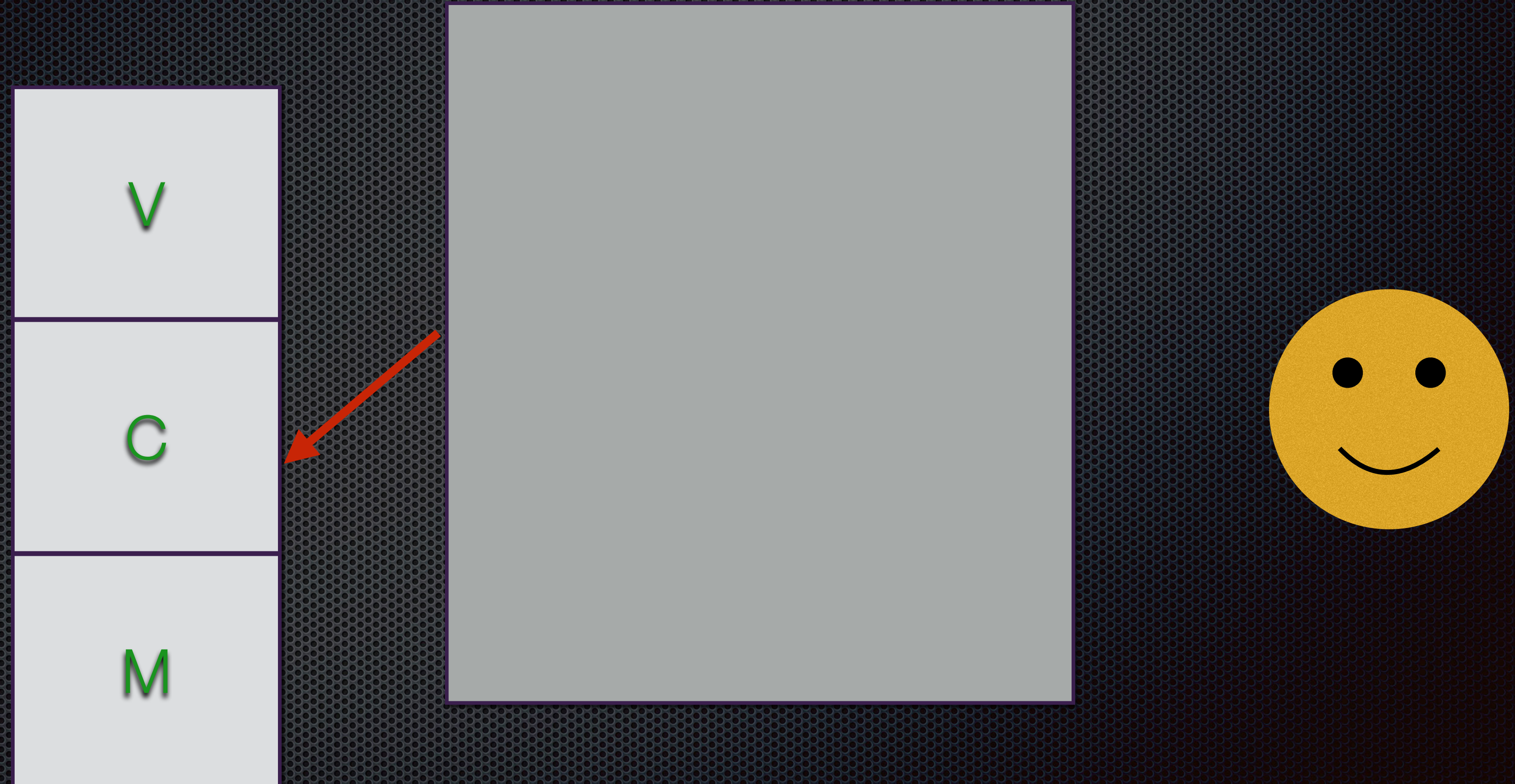
2. Namespace controllers, views, and models

Teasing out App Component



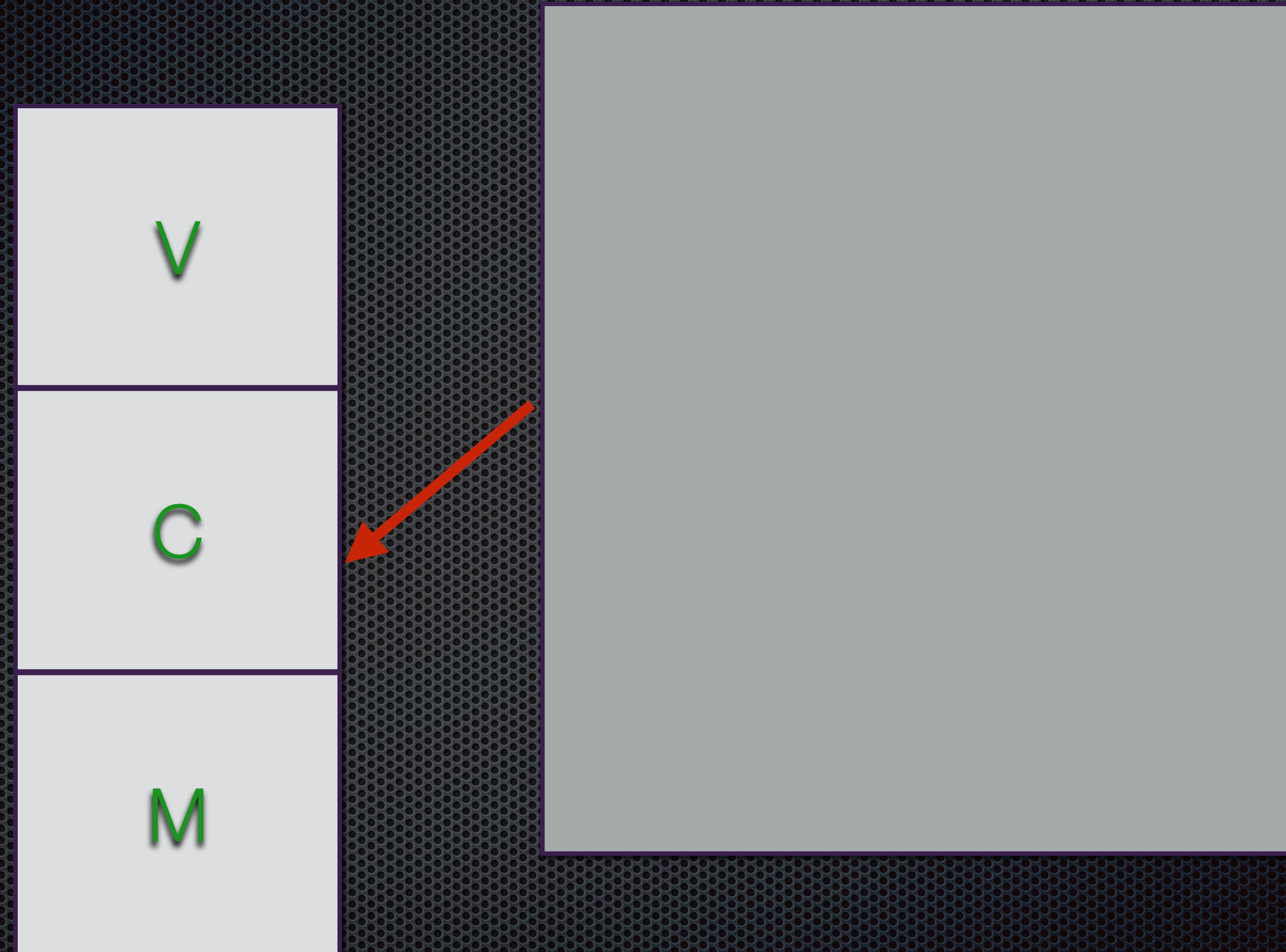
3. Hunt down other dependencies

Teasing out App Component



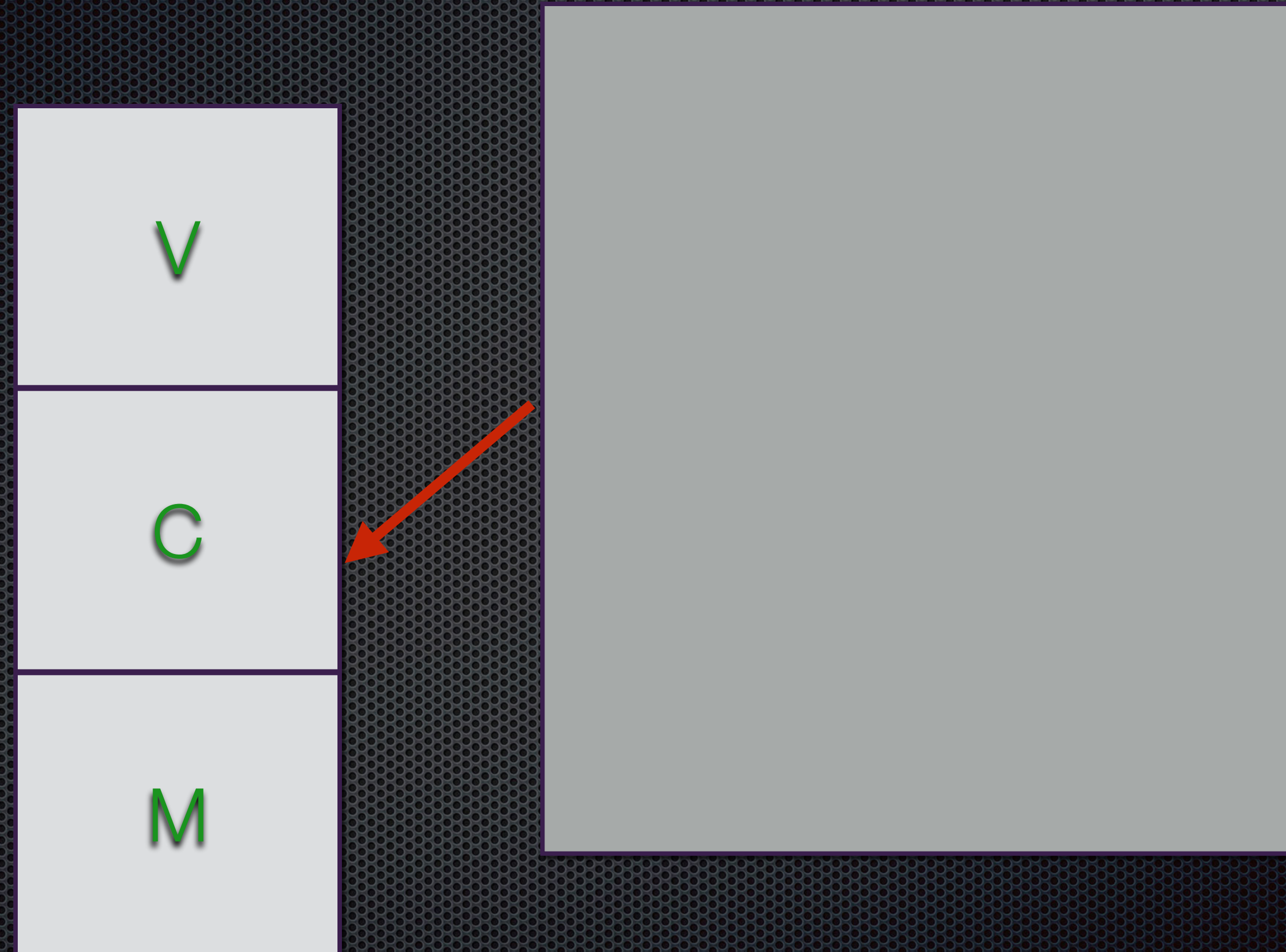
4. Move all namespaced code into an engine

Teasing out App Component



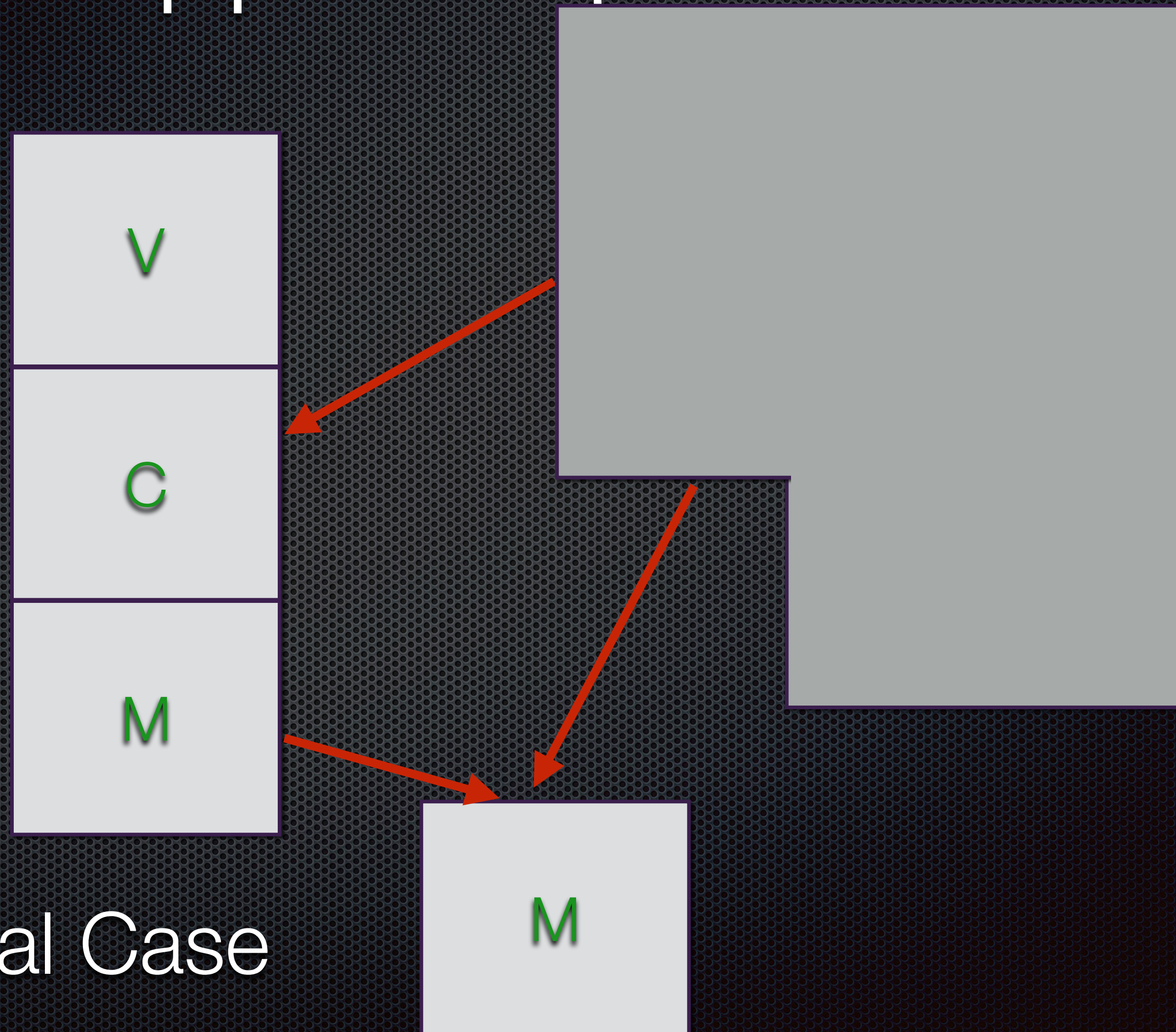
4b. rails plugin new MY_NEW_COMPONENT --full --mountable

Teasing out App Component



Step 3. PROFIT!

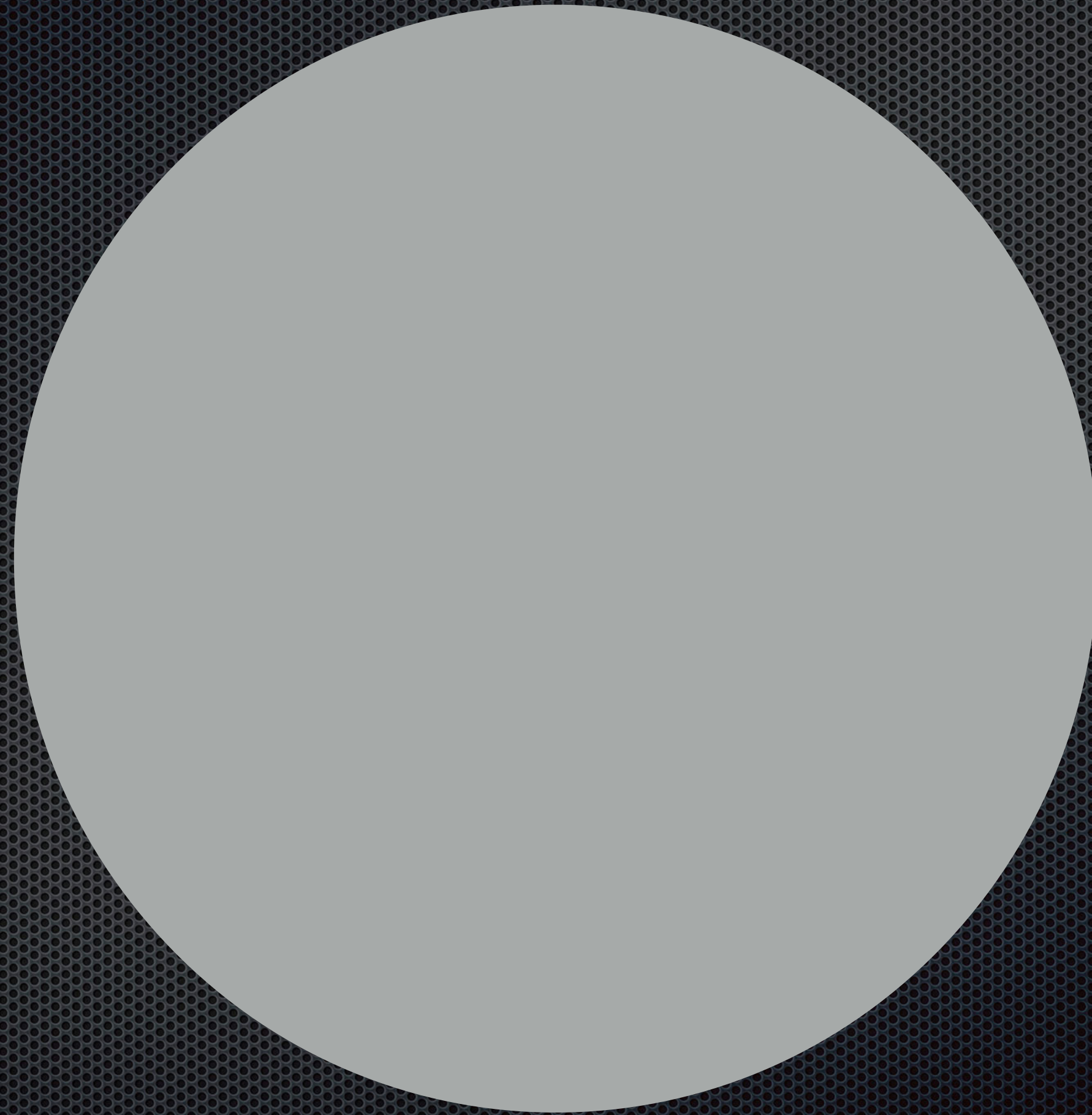
Teasing out App Component



PROTIP: Special Case

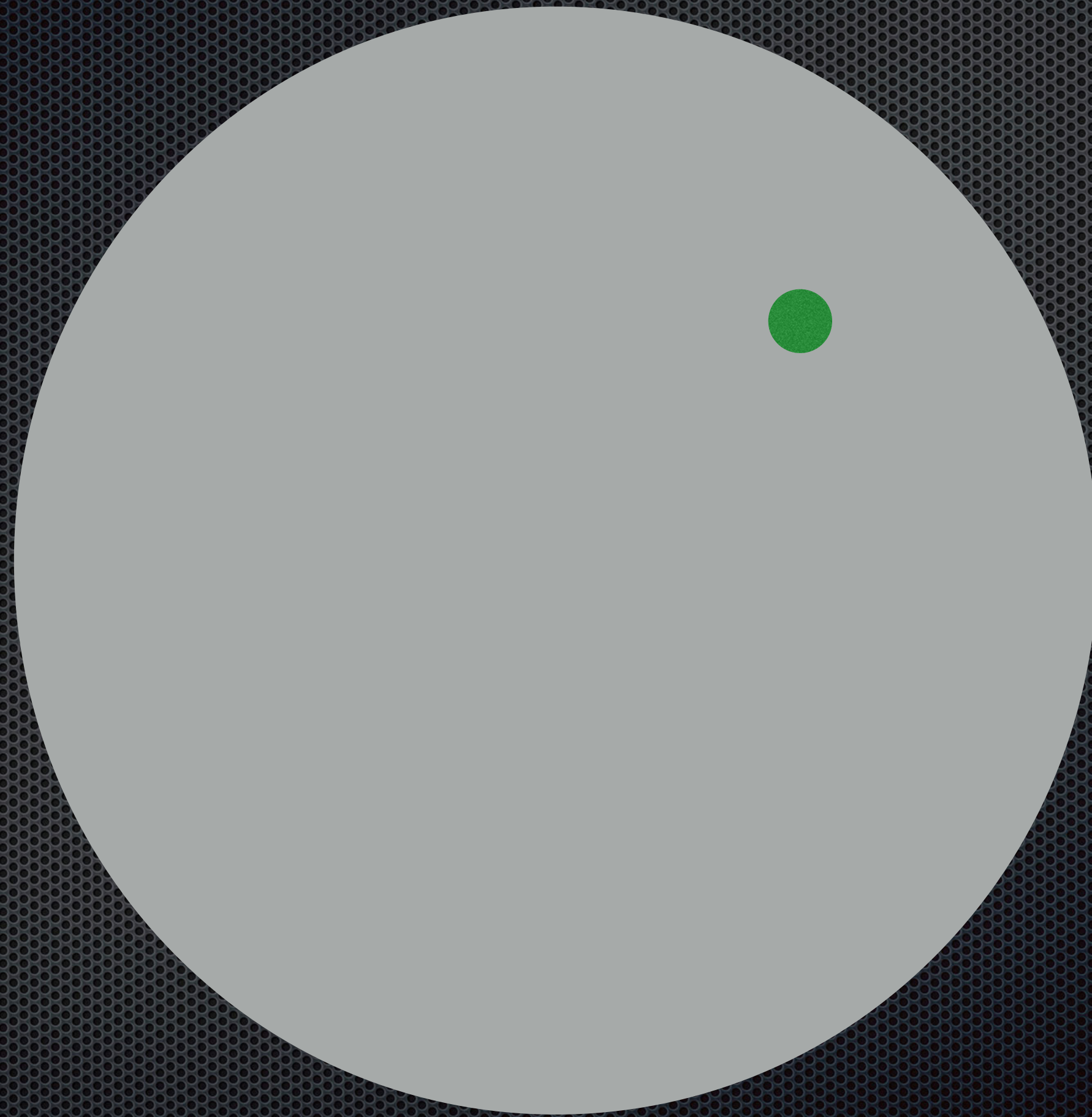
Extracting Functional Component

Extracting Functional Component



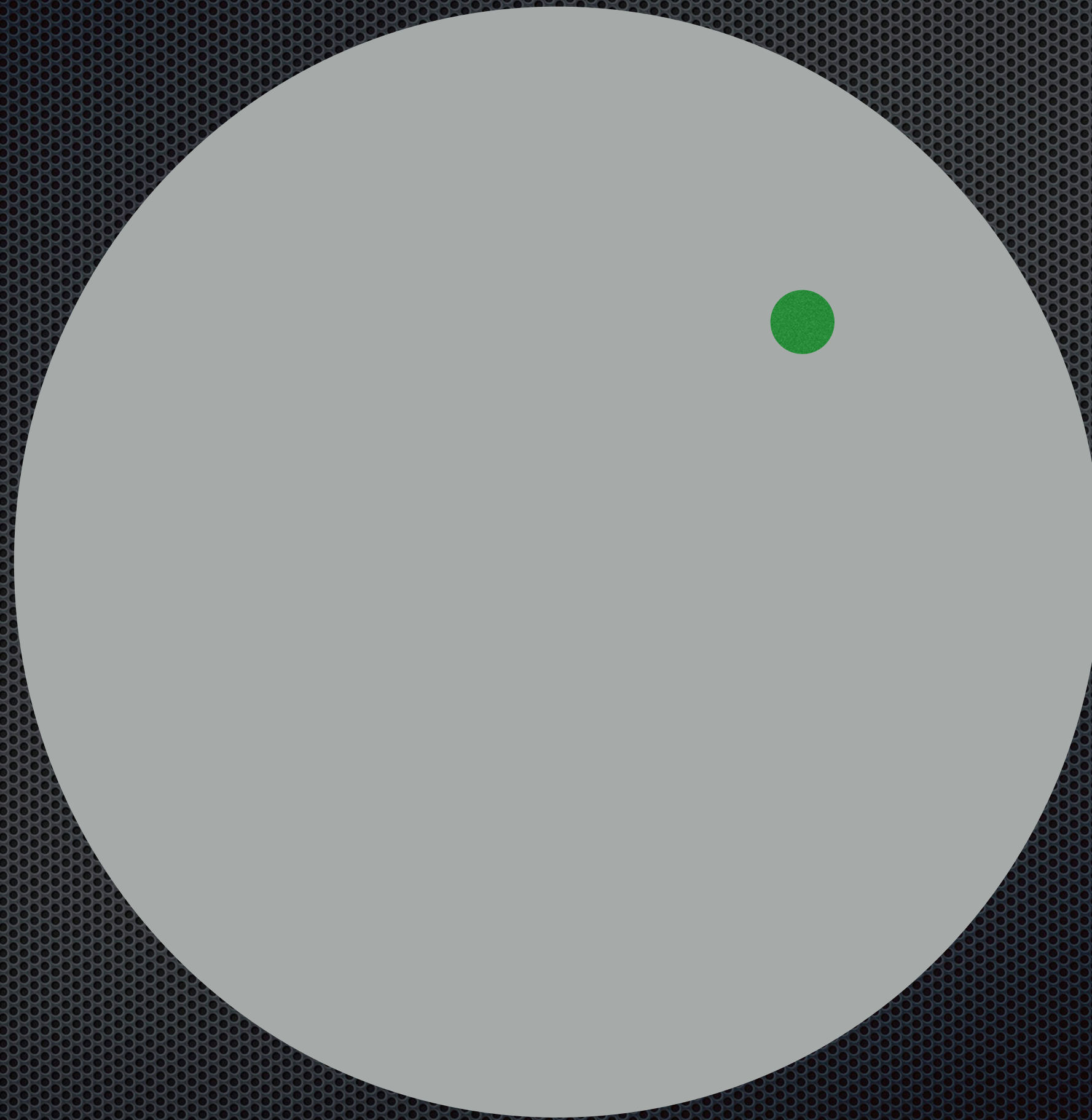
0. Got tests?

Extracting Functional Component



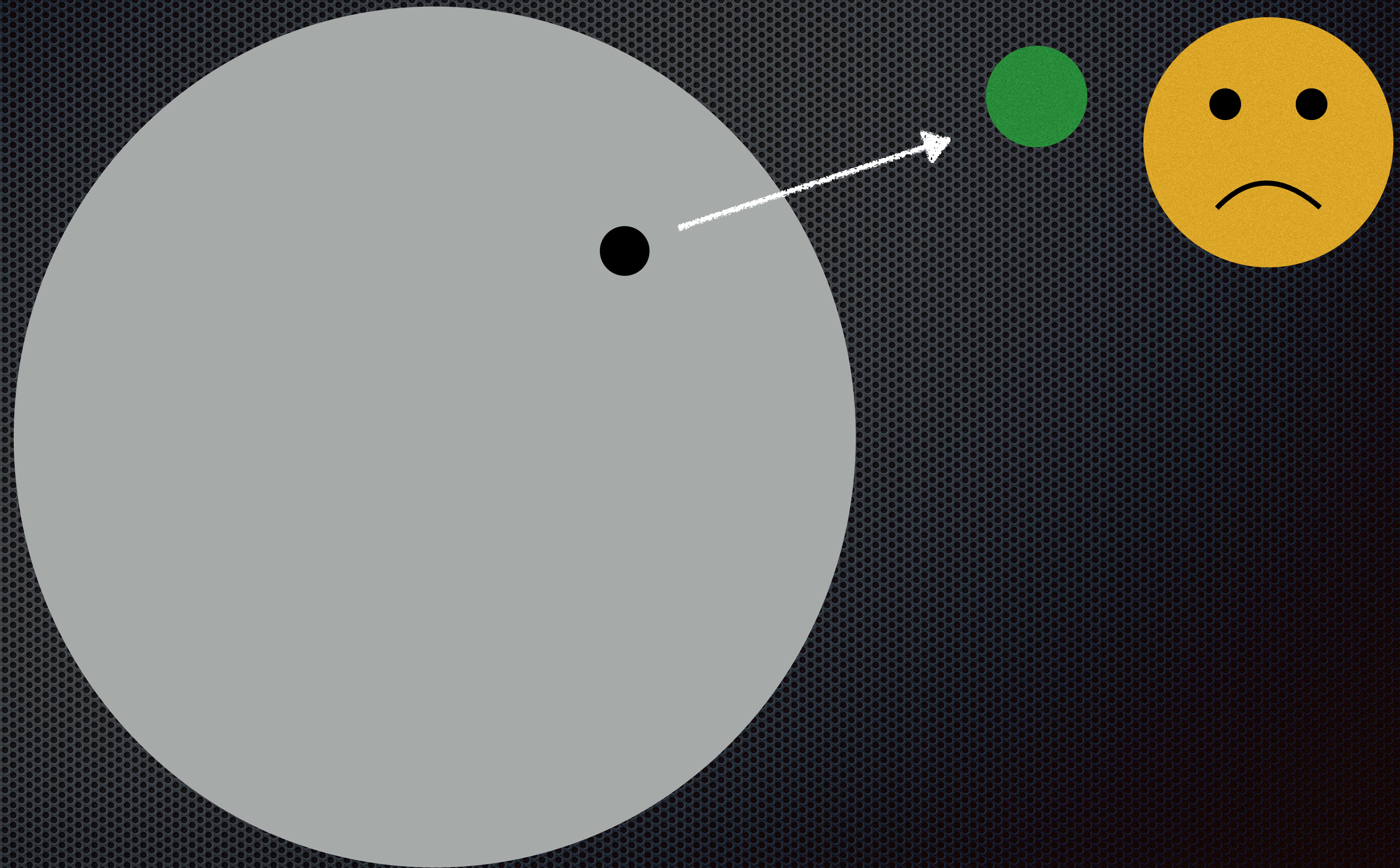
1. Find functional component

Extracting Functional Component



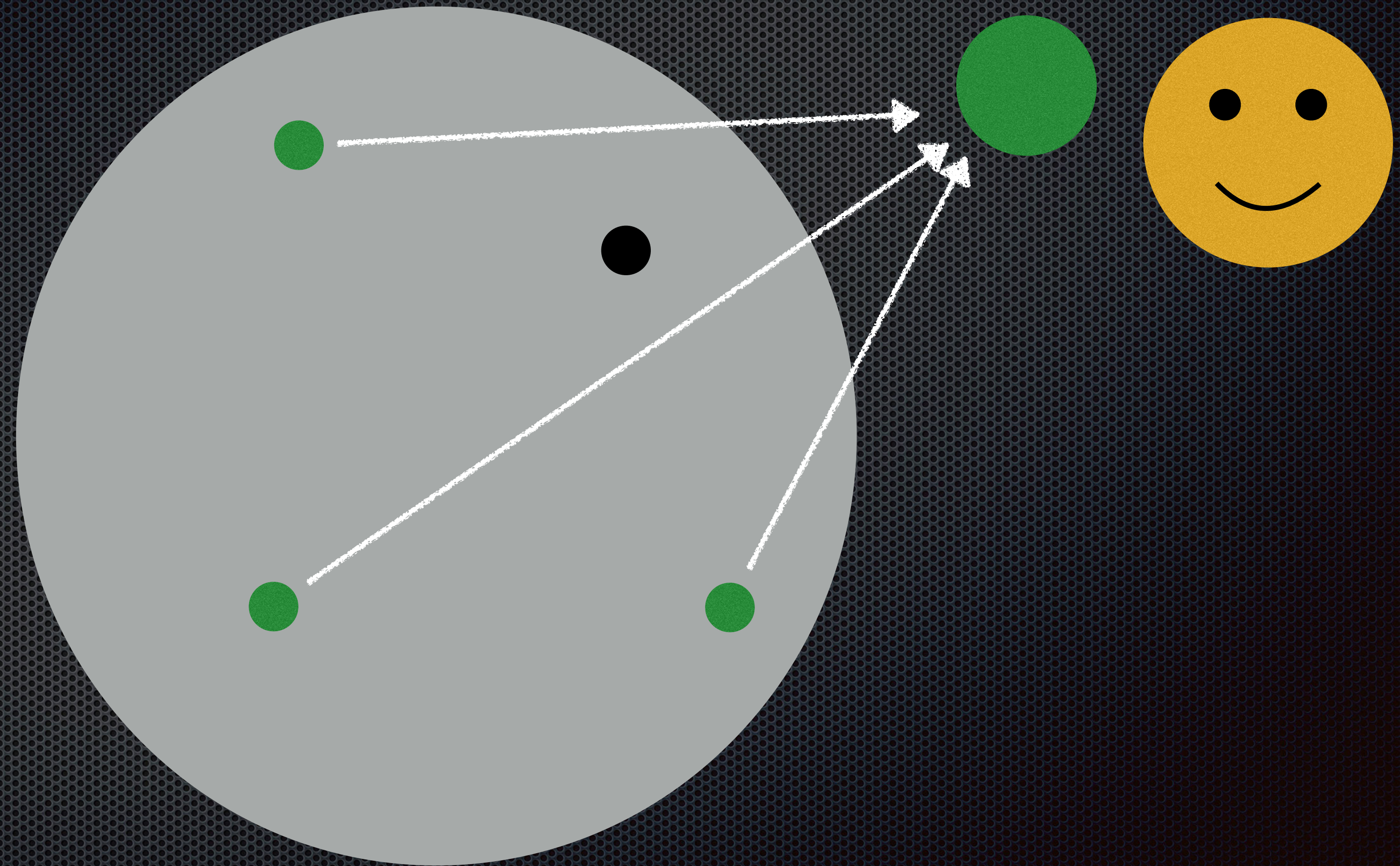
2. bundle gem MY_NEW_COMPONENT

Extracting Functional Component



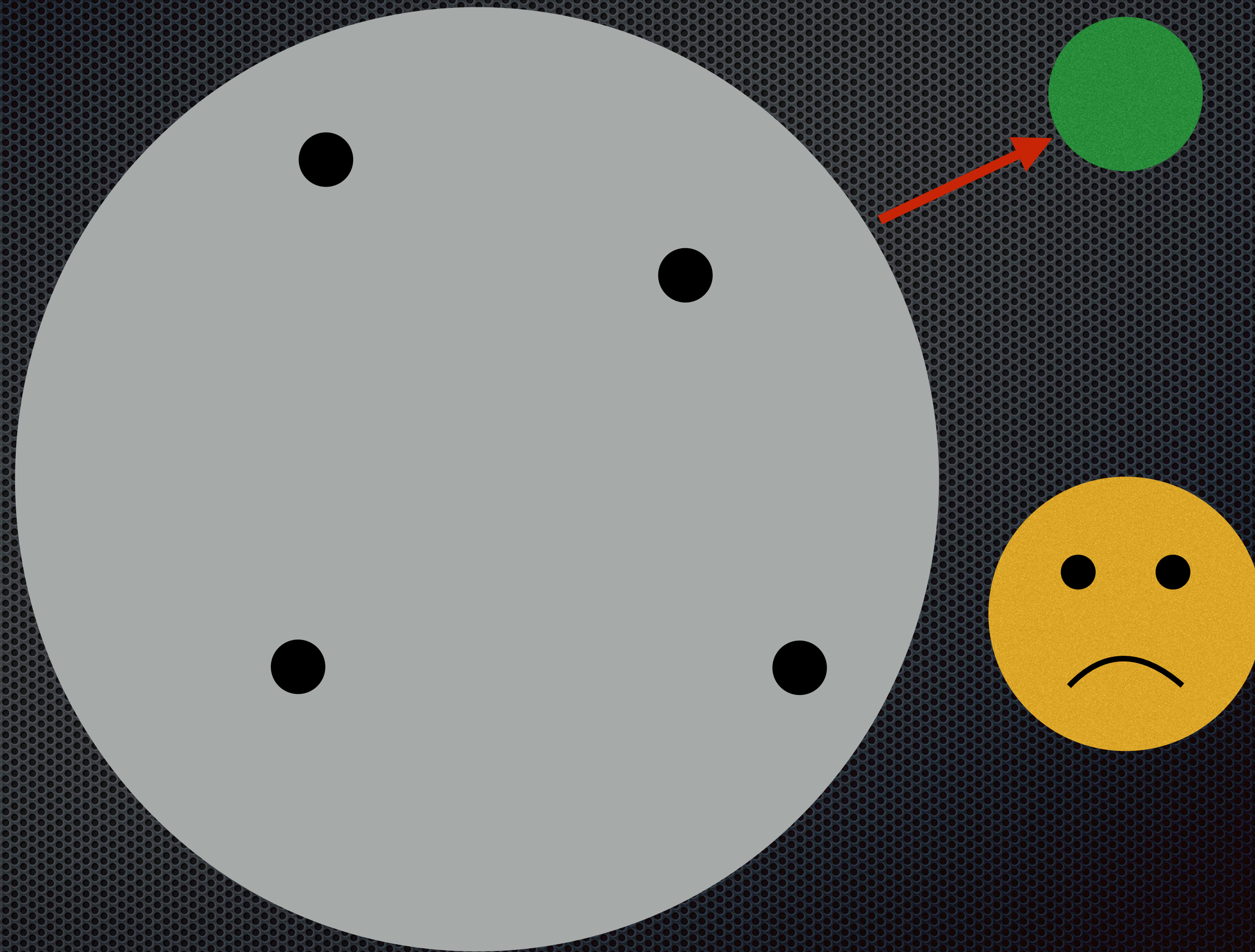
3. move all files into gem (and namespace)

Extracting Functional Component



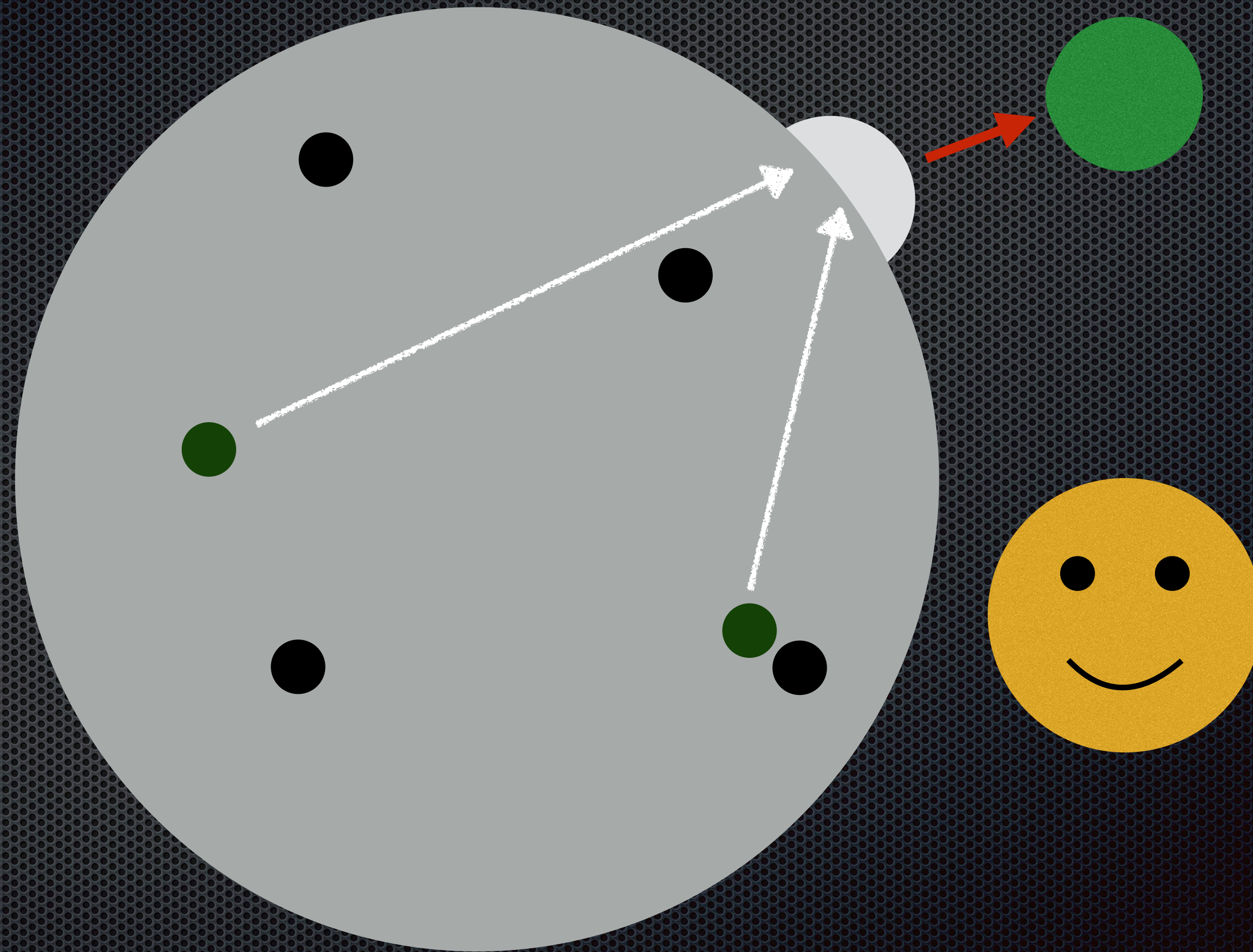
4. move the other stuff the gem needs

Extracting Functional Component



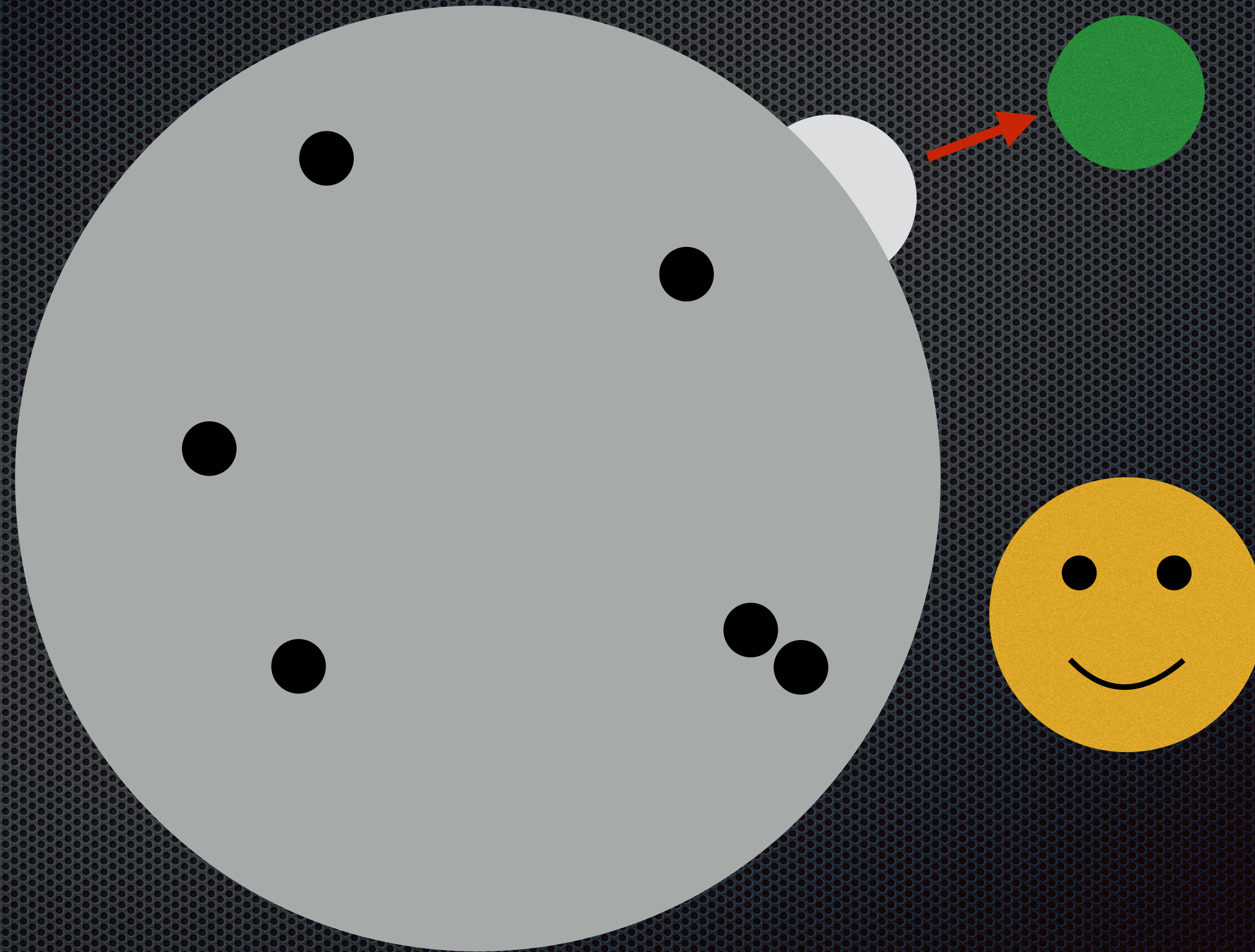
5. Require the gem from your app

Extracting Functional Component



6. Add shims/ports/adapters to make the app happy

Extracting Functional Component

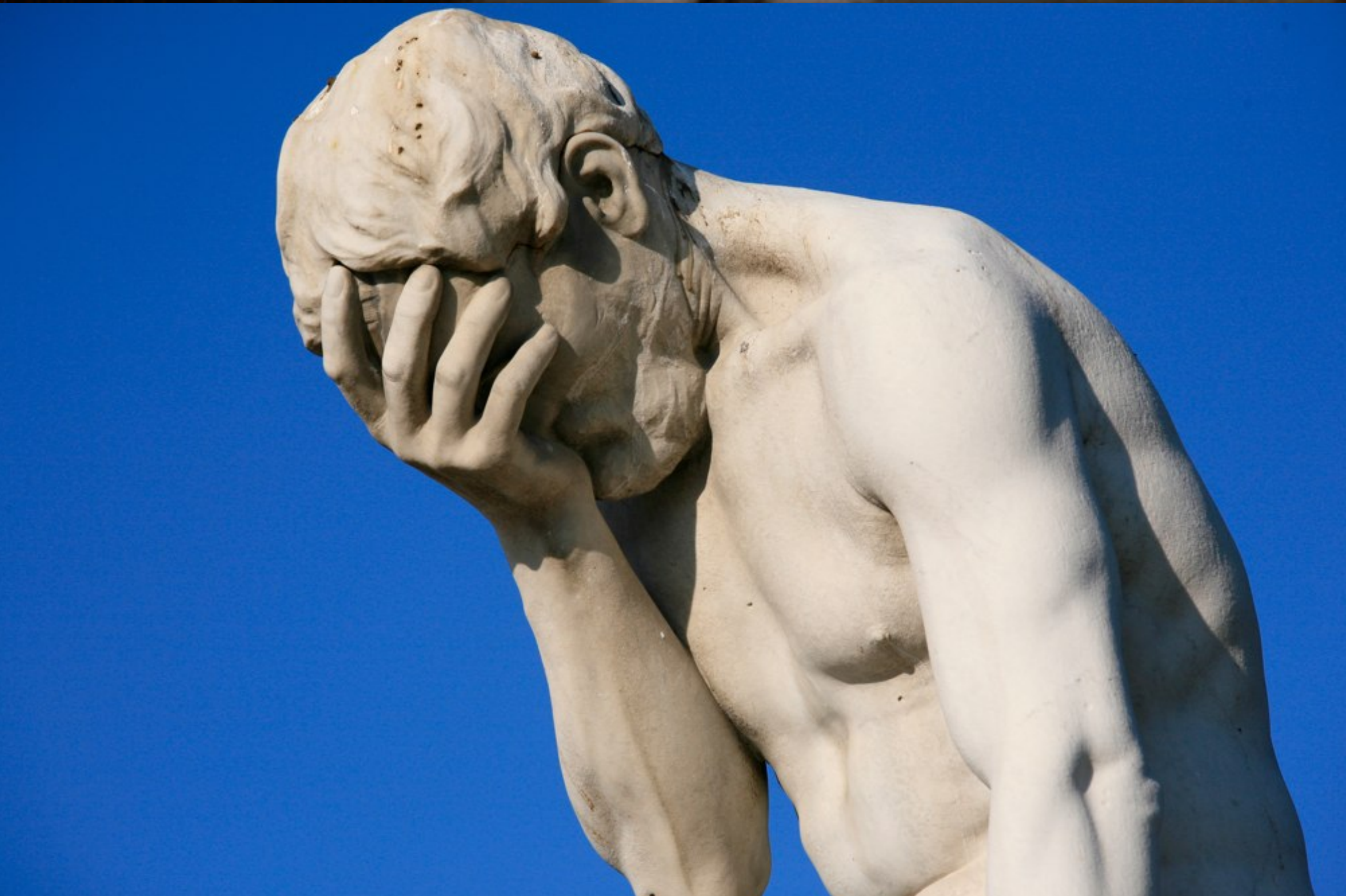


Step 3. PROFIT!



I will help

@shageman





Thanks!

@shageman