

A close-up photograph of a person's hands shaping a clay cup on a pottery wheel. The hands are positioned to guide the clay as it rotates, creating a smooth, rounded form. The background is blurred, focusing attention on the hands and the wheel.

Refactoring

= Blockers and Code Smells =

Victor Rentea

Java Champion

♥ Simple Design, Refactoring, Unit Testing ♥

Founder of

Bucharest **Software Craftsmanship** Community

Join us on *meetup*

Blog, Talks, Goodies on

VictorRentea.ro

Independent Trainer

dedicated for companies / masterclasses for individuals

Technical Training

400 days
(100+ online)

8 years

2000 devs

40 companies

Spring 

Hibernate

Functional Prog

Design Patterns
DDD

Clean Code
Refactoring

Unit Testing
TDD

any
lang

Reactive

Java Performance

Posting
Good Stuff on:

  
@victorrentea

Training for you or your company: VictorRentea.ro



Code Smells

“If it stinks, change it.”

– Grandma Beck, discussing childrearing philosophy



Large Method

> 20 lines

Too Many Parameters

> 4

God Class

> 200 lines

Data Clumps

(String, String, Long) → Address

All numbers are arbitrary. Find your own comfort zone

Data Classes

get/set mania

Feature Envy

I ♥ your state. Can I move in?

Primitive Obsession

→ PhoneNumber, OrderId, enum



Speculative Generality

→  KISS Principle

Middle Man

~~person.getAge()~~

```
int getAge() {  
    return bio.getAge();  
}
```

person.getBio().getAge() ✓

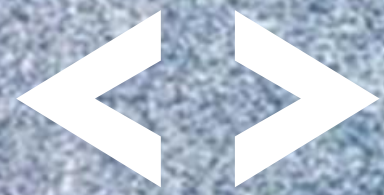


Is it a bug or a feature?



Duplicated Code

Shotgun Surgery



Divergent Changes



SRP

SRP



repeated switches

vs Polymorphism

```
for (e : list) {  
  A();  
  B();  
}
```

loops



Temporary Field

Long-Lived Mutable Data

```
x.setParam(1);
```

```
x.doStuff();
```

```
out = x.getResult();
```

```
out = x.doStuff(1);
```

**TEMPORAL
COUPLING**

+ MULTI-THREADING =





Code Smells Sheet

Defeating the Evil starts with Naming It

Code Smells Sheet

Long Method

God Class

Data Clumps

Long Parameter List

Primitive Obsession

Data Class

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Defeating the Evil starts with Naming It

Duplicated Code

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Repeated Switches

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Temporary Field

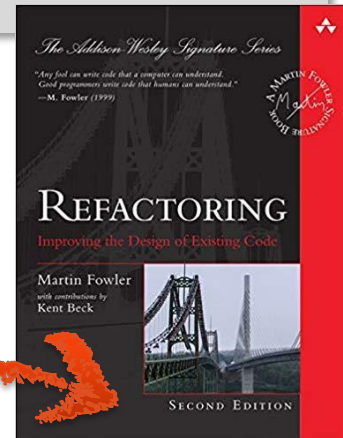
Long-Lived Mutable Data

Speculative Generality

Comments

+ many more in

CHAPTER 3



What must you do ?

Refactoring

WHAT'S THAT?

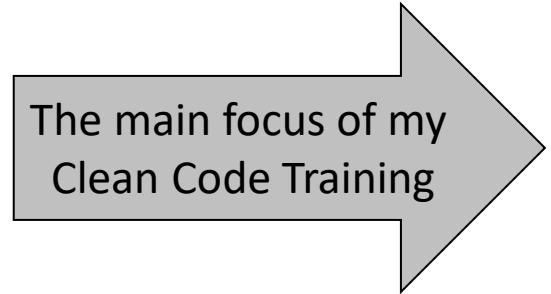
Refactoring

**Simplify existing code
without changing its external behavior**



Disciplined Refactoring

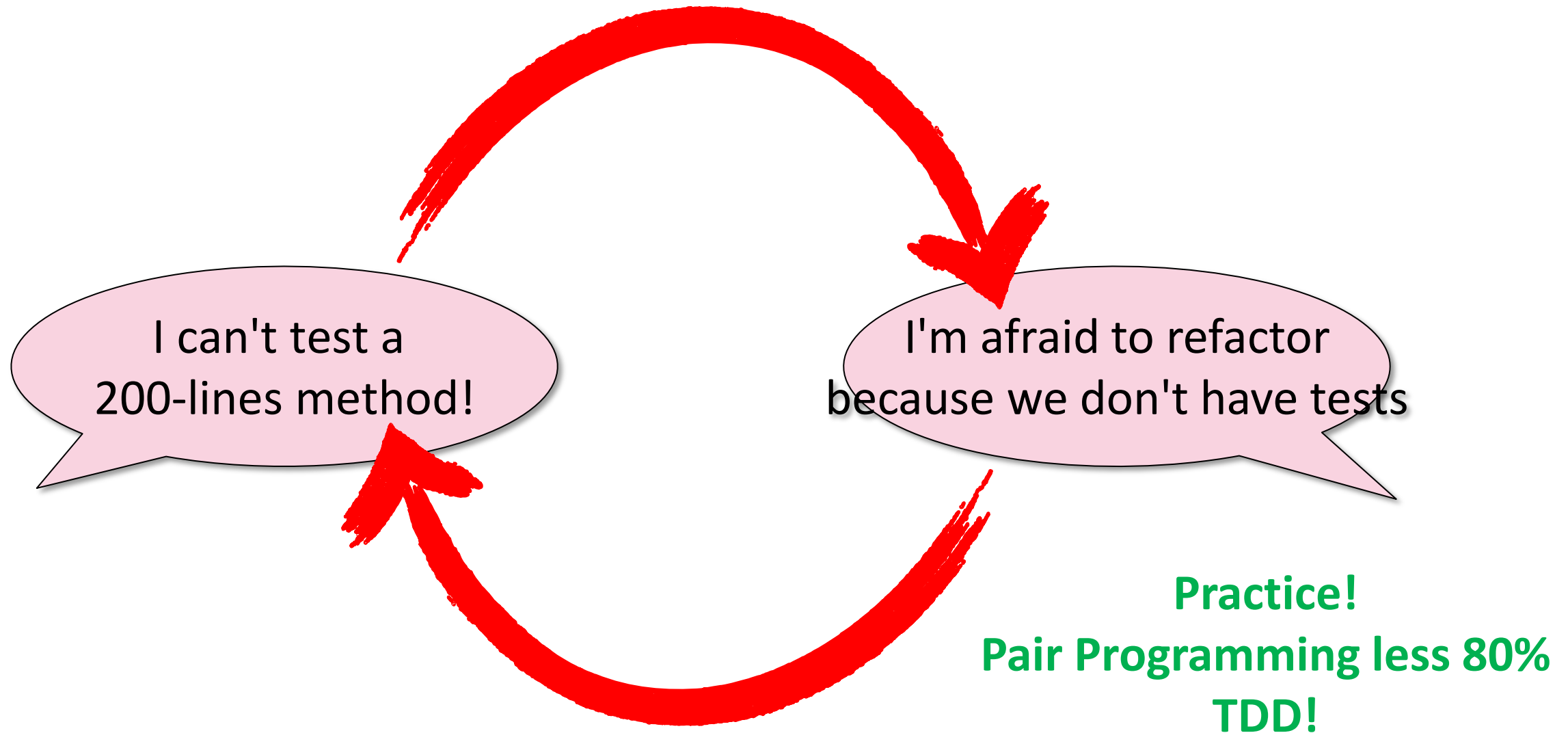
tiny safe steps



The main focus of my
Clean Code Training

FEAR
What Steps?

The Vicious Circle of Legacy Code



Time



"I don't have time. I'm too busy"

Being busy is a form of laziness

- Tim Ferriss

DO less

Automate. Reflect.



[Habbits of Efficient Developers](#)

Improve Focus

7 habits, pomodoro, no morning inbox, shorter meetings

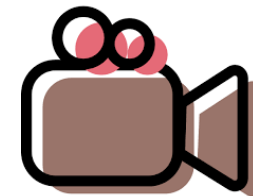
After you finish a task,

Spend 30 minutes trying to improve your design

... then 1 hour

... then 2

...



[The Well-Balanced Programmer](#)
by @jbrains

Estimates







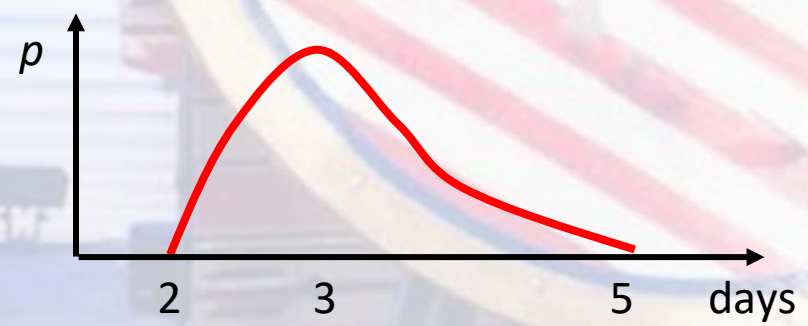
Estimates

Looking at code + an old dev

Proper Estimates, including cleanup + unit-testing

Measure It!

* `shit_factor` - per code area



Expose Risk

Estimate = {min=2, expected=3, worst=5}
if they take 2 => give them 4

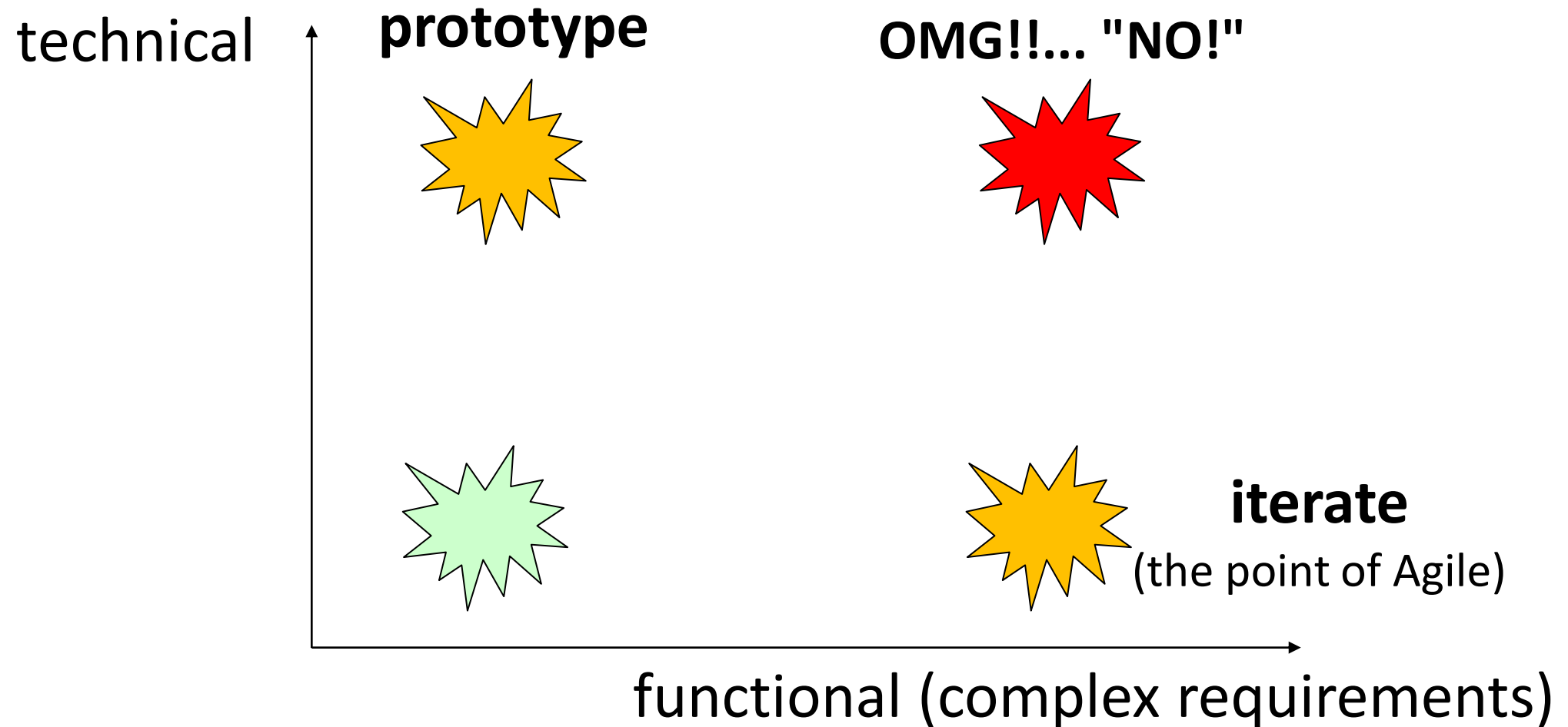
Say "NO"

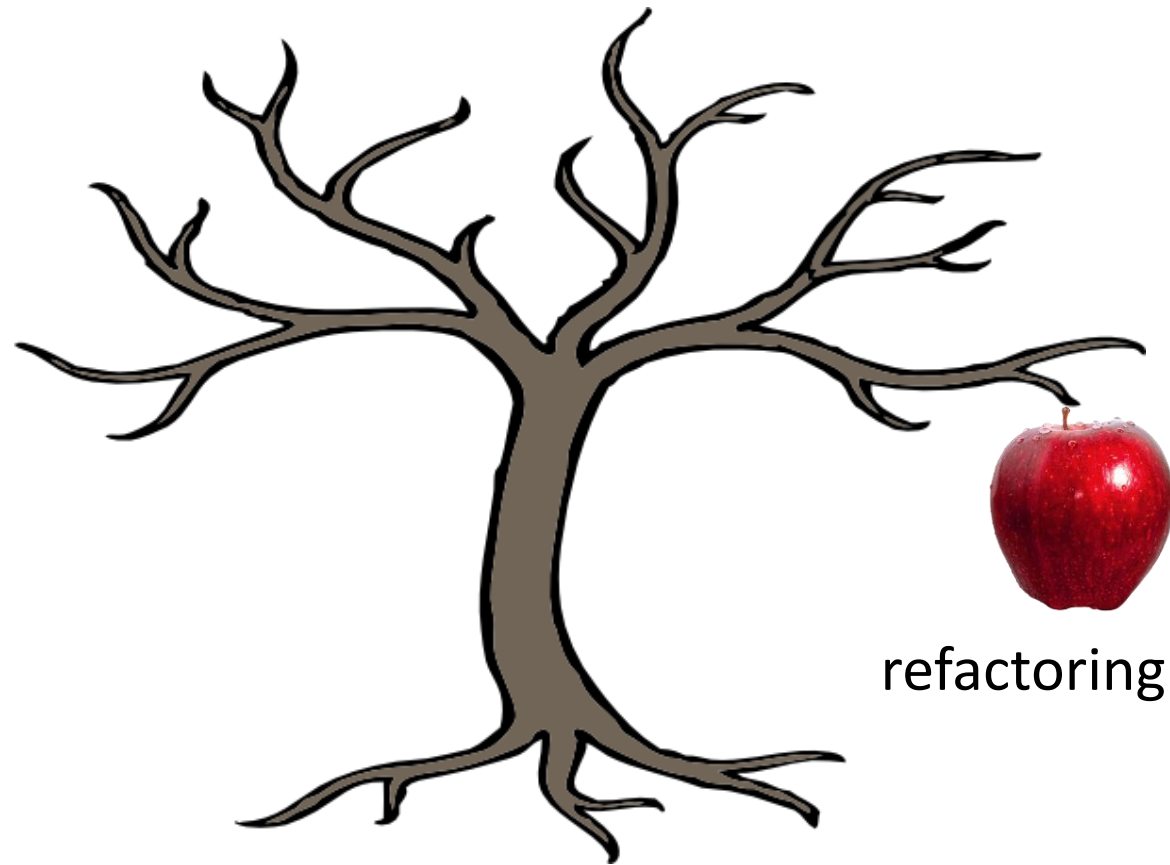
**How DARE YOU?!
suggest I'm not trying!!**

Could you at least TRY?



Estimations Risks

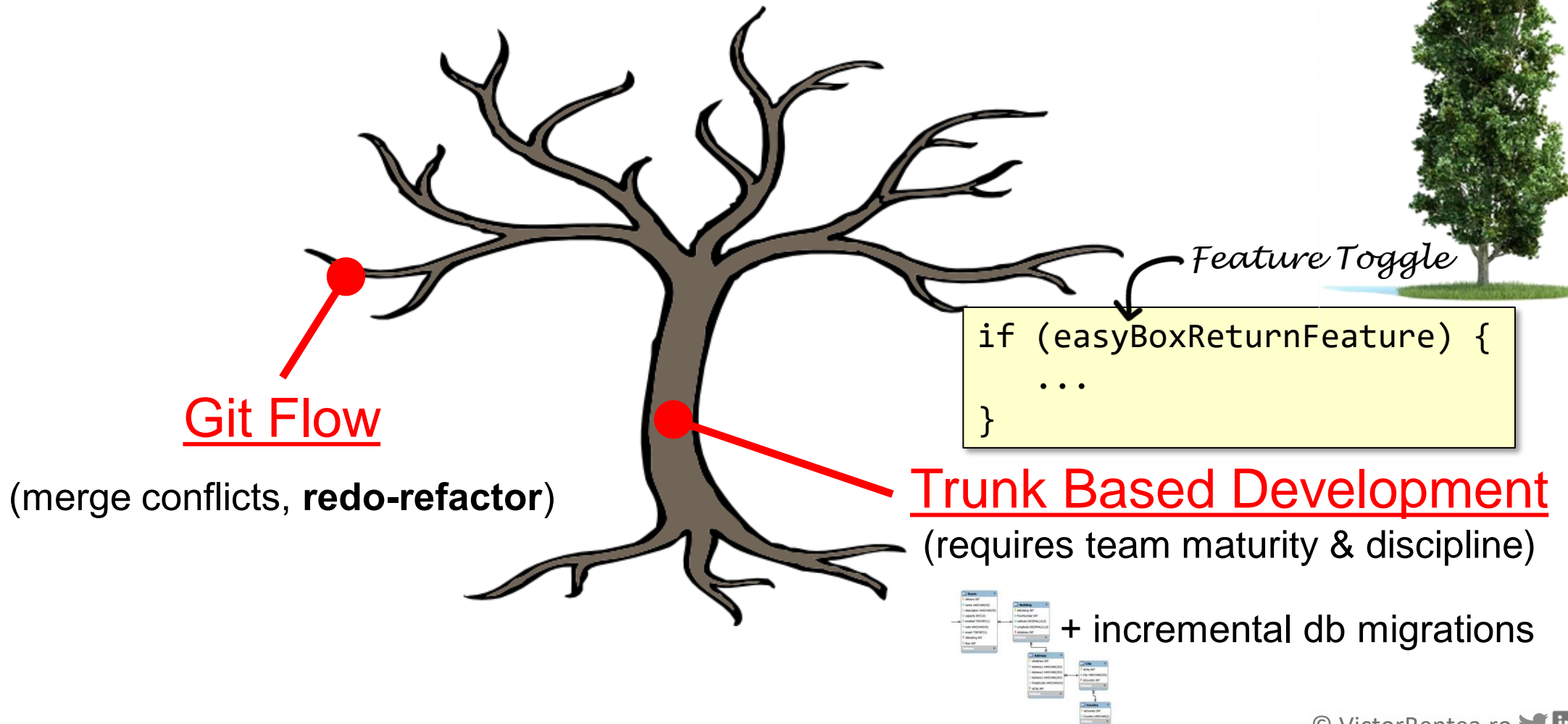




refactoring idea

Merge Conflicts

Long Branches Inhibit Refactoring



What Stops Refactoring?

Deadlines

→ Proper estimates:
(min, max), shit_factor

Fear of Bugs

→ tests > pair programming > practice

Lack of Skills

extract a method ?!!
→ Learn Code Smells

Mindset of Rushing

although your Lead tells you not to

Merge Conflicts

→ short-lived branches/trunk-based

Explicitly Forbidden!

change guard = angry bosses
= distrust
Seek redemption!

Fear of Breaking your Eggs

to make the omelet

Lack of long-term Vision

→ regular team design brainstorm

Will

A. Make it fun, play, exercise

"Refactoring"? YOLO Driven?

→ B. Legacy Experience™

Bad Cost/Benefit Ratio

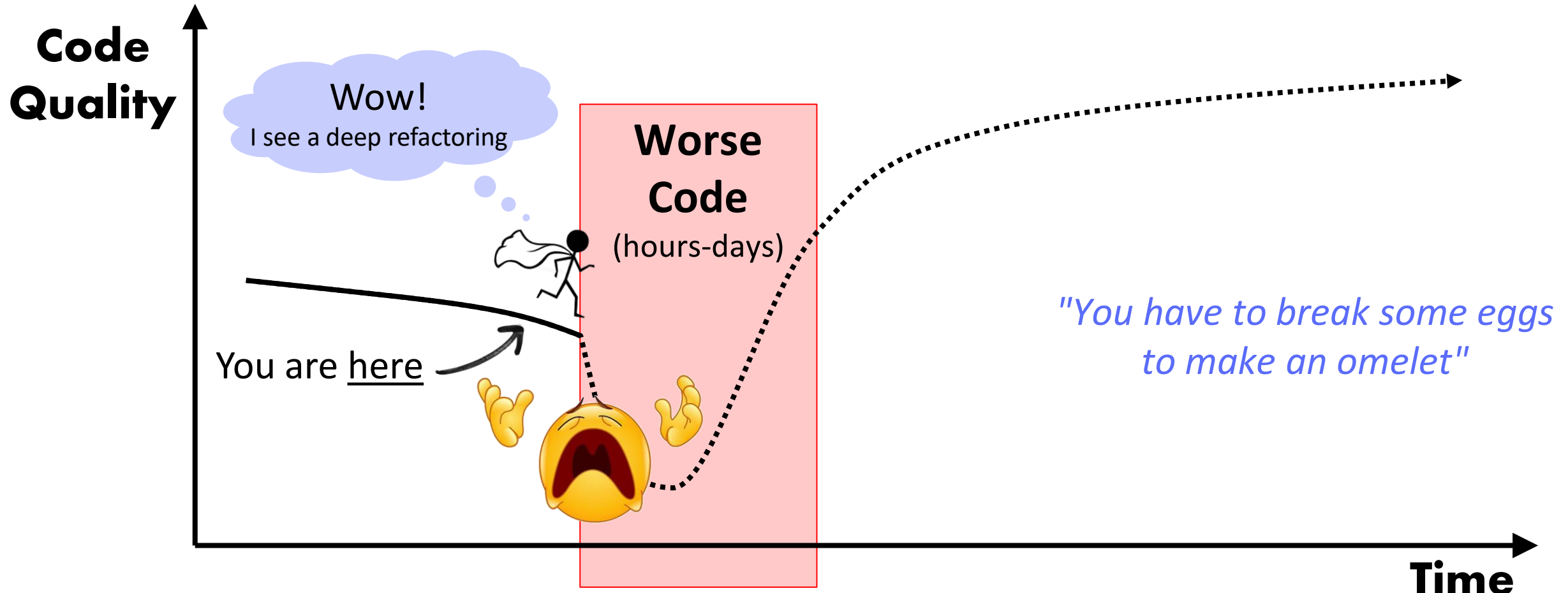
after serious consideration
<https://www.hyrumslaw.com/>

Unknown Code

Refactoring is a learning activity:
from spec/tests/code

Initial Chaos

Deeper Refactoring starts with making a mess



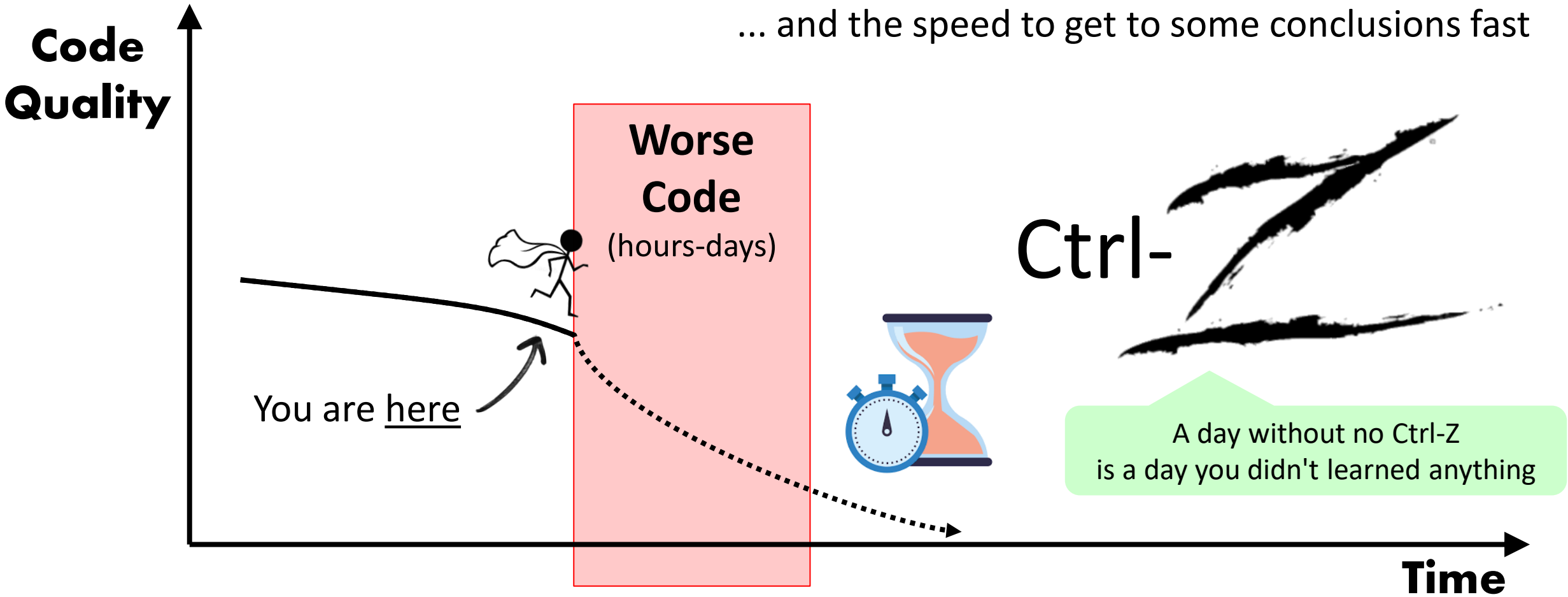
eg. join two 300-lines method → one 600-lines method

You need

The Strength to Revert

(despite emotional involvement)

... and the speed to get to some conclusions fast



Refactoring is a Learning Activity

Which do you know best:

More
Refactoring
Ideas



Admired at a museum



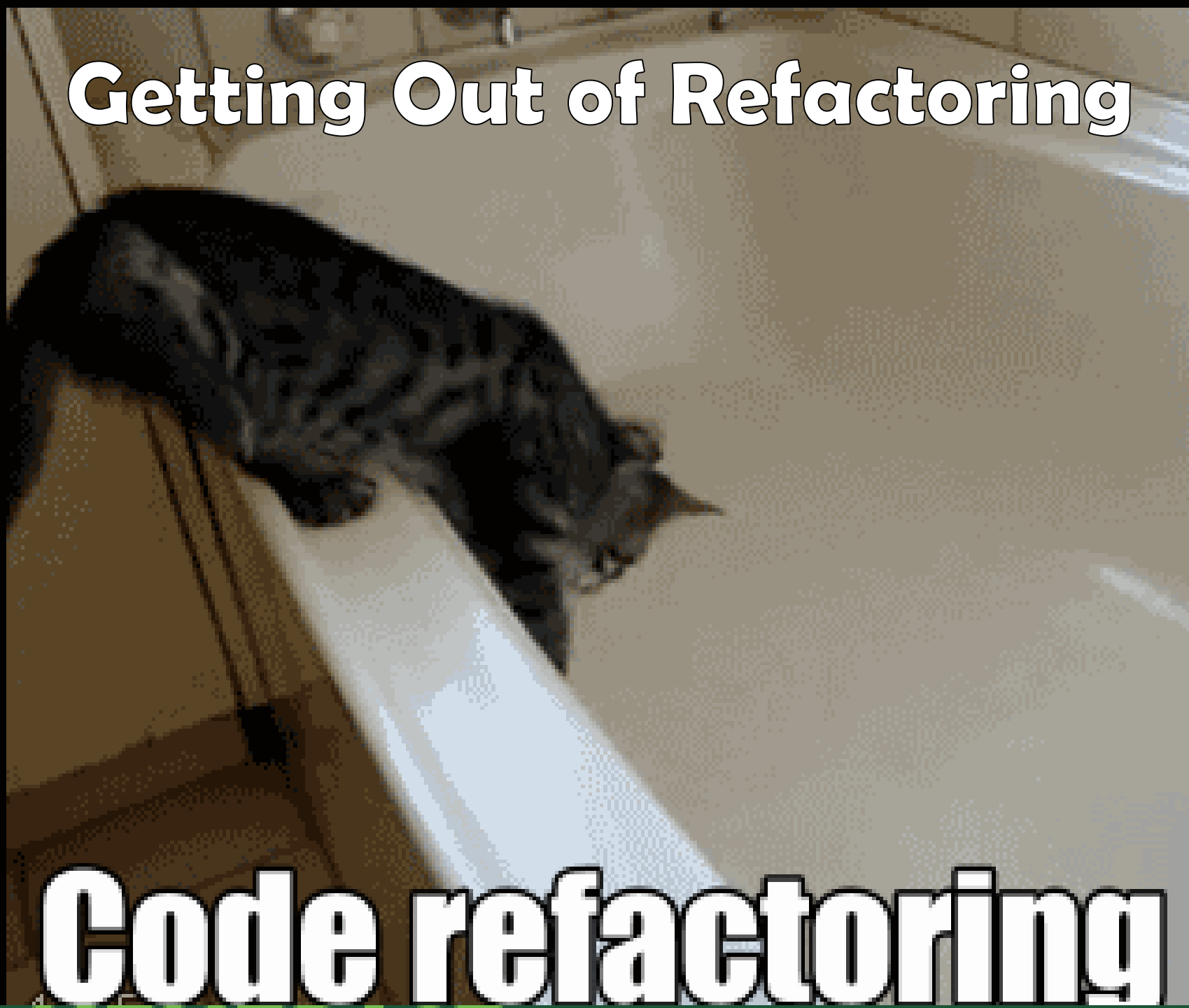
Modeled by your own hands

A multi-tiered waterfall cascading down rocks in a lush green forest. The water flows over several levels of rock formations, creating a series of small pools and rapids. The surrounding vegetation is dense and vibrant green, with trees and bushes framing the waterfall. The overall scene is serene and natural.

Falling From One Refactoring To Another

until...

Getting Out of Refactoring



Code refactoring

Getting Out of Refactoring

3 hours later, the commit message:

code improvements

refactoring

I gotta leave

A close-up photograph of a person's hands writing in a spiral-bound notebook. The person is holding a dark blue pen in their right hand and is in the process of writing on a white page. The notebook is resting on a wooden desk. The background is slightly blurred, showing another hand resting on the desk. The overall lighting is soft and natural.

Challenge

Write Down Your Next Commit Message

On a piece of paper.

With your hand.



Identify the Steps

What's Missing from our Practice:

Tentative Refactoring

Explore. Play.

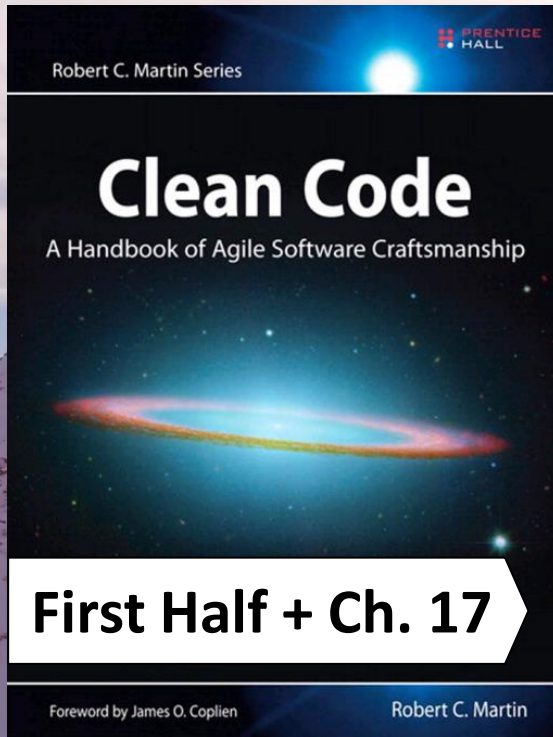
15 min.

Revert.

Ctrl -

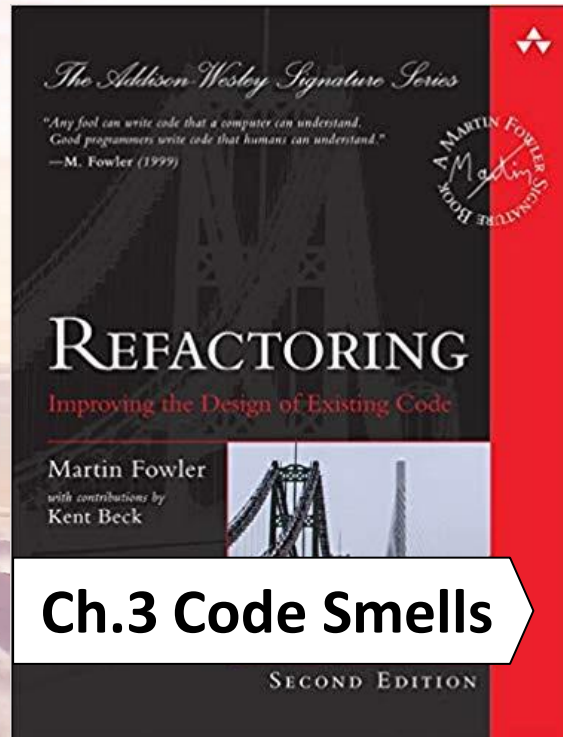
Only the Brave admit they were wrong

The End ?



First Half + Ch. 17

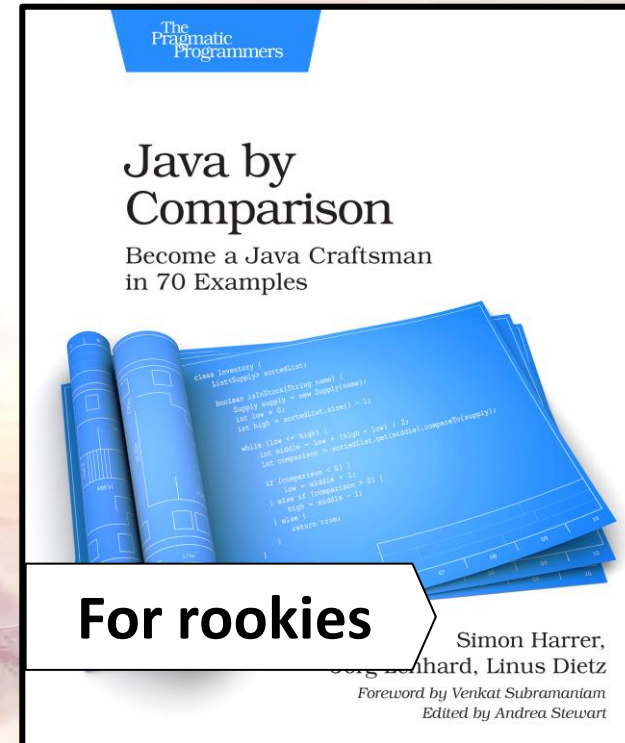
cleancoders.com



Ch.3 Code Smells

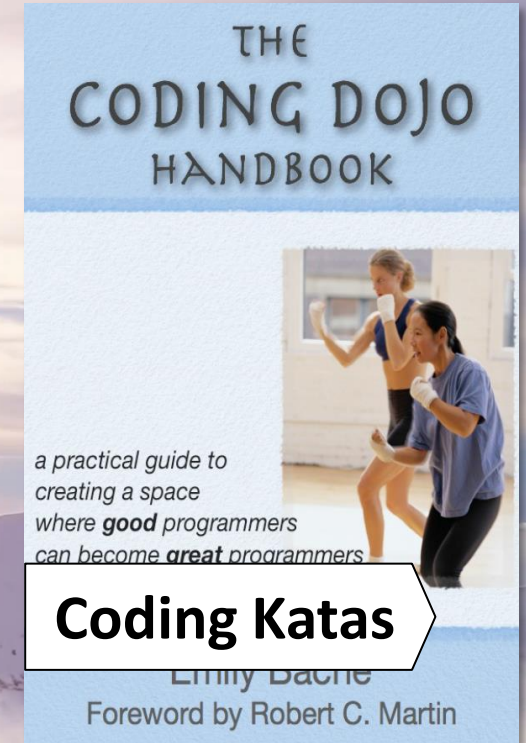
sourcemaking.com/refactoring

refactoring.guru



For rookies

Simon Harrer,
Jörg Lehmann, Linus Dietz
Foreword by Venkat Subramaniam
Edited by Andrea Stewart



Coding Katas

kata-log.rocks/refactoring

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blog, best talks, training offer

VictorRentea.ro

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