# What is good code? Evaluating code quality

Daniel Carral (@dcarral)
@ AsturiasHacking, Oviedo, 07/11/2017







### Agenda

- → Intro
- Craft

  Let's solve the problem!
- Show
  Which approach did you use?
- EvaluateCode metrics.What do the numbers say?
- → Retrospective

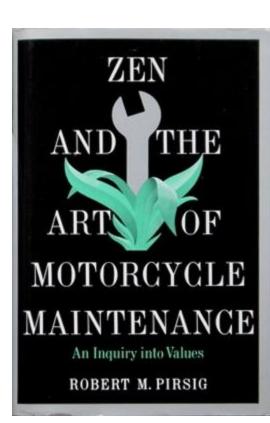
## What is good?









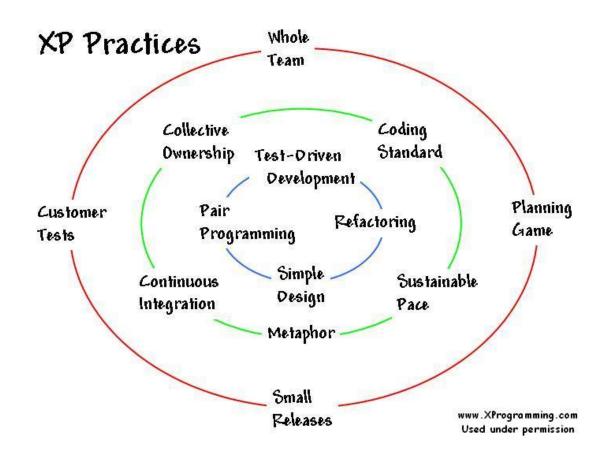


# **Craft**The Kata



**EMBRACE CHANGE** 

Kent Beck



## Simple design

### **Passes the Tests**

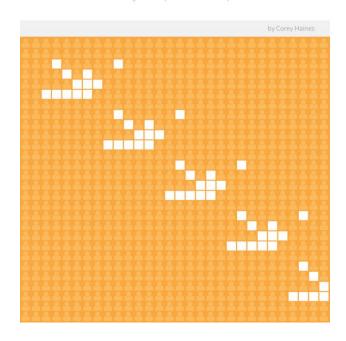
**Reveals Intention** 

**No Duplication** 

**Fewest Elements** 

### UNDERSTANDING THE 4 RULES OF SIMPLE DESIGN

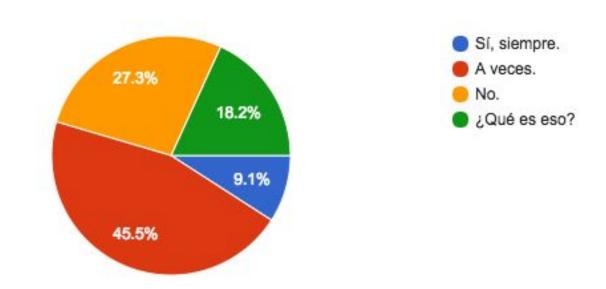
And other lessons from watching 1000's of pairs work on Conway's Game of Life



## **TDD / Refactoring**

#### ¿Sueles trabajar en modo "red / green / refactor"?

22 responses

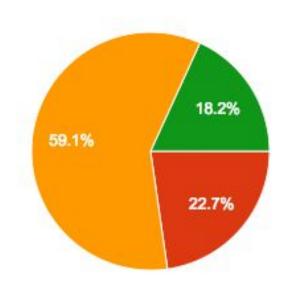


## Pair programming



#### ¿Sueles hacer "pair programming"?

22 responses

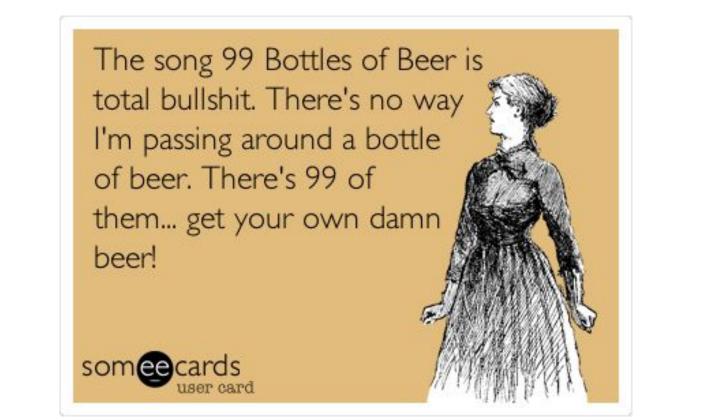


- Sí, siempre / casi siempre.
- Frecuentemente.
- Apenas.
- Nunca he hecho "pair programming".

## 99 bottles of beer







Show (or not;)

# How did you solve it? Why?



#### Reminder

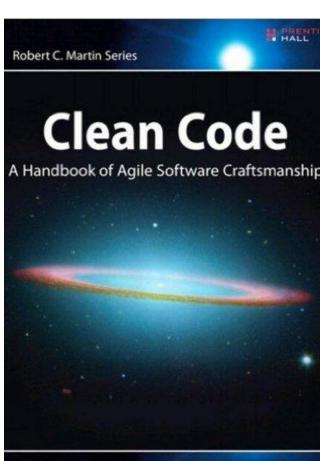
The goal is not to judge our coding skills.

We're discussing how to evaluate code quality.

# Evaluating code quality

## **Based on opinion**

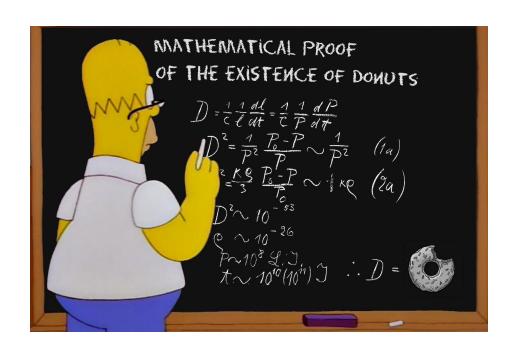




Foreword by James O. Coplien

Robert C. Martin

### **Based on facts**



### Some metrics

• Ca 1960: LOC

• 1976: Cyclomatic complexity

• 1997: ABC

### **ABC**

Assignments

Branches (of control)

Conditions

### 99 solutions (nah, just 4)

### What do the numbers say?

Solution	LOC	Flog total	Flog worst bit
#1 Incomprehensibly concise	19	42.5	36.2 (#verse)
#2 Speculatively general	63	54.8	28.5 (lambdas)
#3 Concretely abstract	92	67	15.3 (#challenge)
#4 Shameless green	34	25.6	19.3 (#verse)

### **Metrics**

"Metrics are fallible but human opinion is no more precise. Checking metrics regularly will keep you humble and improve your code."

Sandi Metz, Katrina Owen



**Ruby Edition** 

#### 99 Bottles of OOP

A Practical Guide to Object-Oriented Design



Sandi Metz & Katrina Owen

## sandimetz.com/99bottles/postcard

Beautiful Code Leading Programmers Explain How They Think

O'REILLY"

## Retro time

### **Gracias:**)

twitter.com/dcarral dan@dcarral.org