# What is good code?
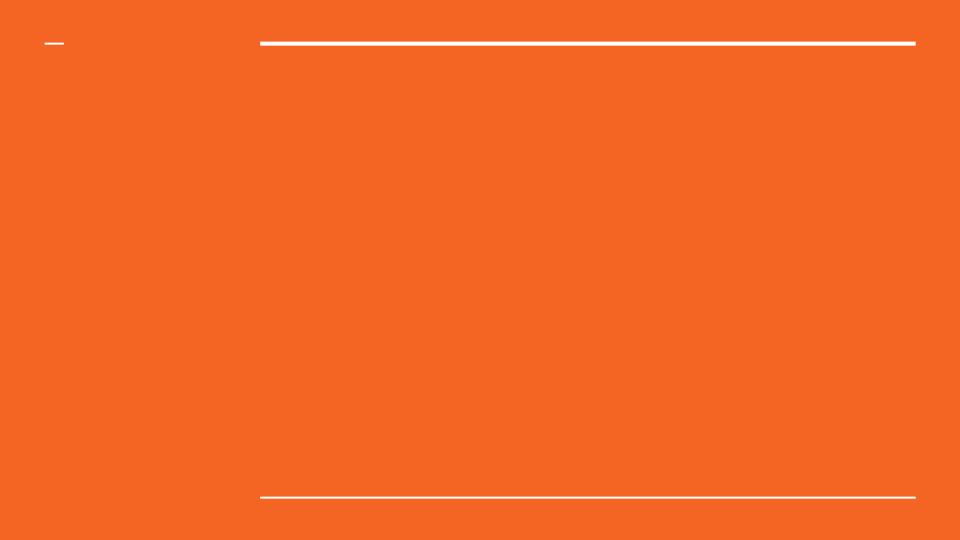## Evaluating code quality

Daniel Carral (@dcarral)
Software Craftsmanship Mallorca, 30/10/2017

github.com/dcarral/what-is-good

# Agenda

➔ **Intro**

➔ **Craft**

Let's solve the problem!

➔ **Show**

Which approach did you use?

➔ **Evaluate**

Code metrics.
What do the numbers say?

➔ **Retrospective**
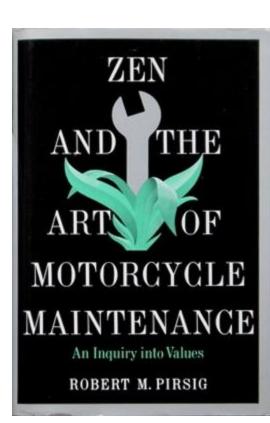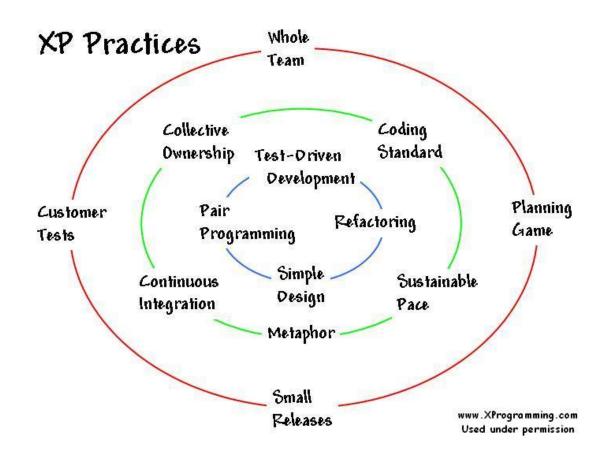
# What is good?

Good?

Better?

# ZEN AND THE ART OF MOTORCYCLE MAINTENANCE

An Inquiry into Values

ROBERT M. PIRSIG

# Craft

## The Kata

# extreme Programming explained

## EMBRACE CHANGE

Kent Beck

XP Practices

Whole Team — Coding Standard — Planning Game — Small Releases — Customer Tests — Collective Ownership — Continuous Integration — Test-Driven Development — Refactoring — Sustainable Pace — Metaphor — Pair Programming — Simple Design

# Simple design
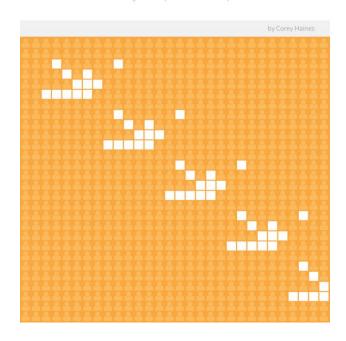
**Passes the Tests**

**Reveals Intention**

**No Duplication**

**Fewest Elements**

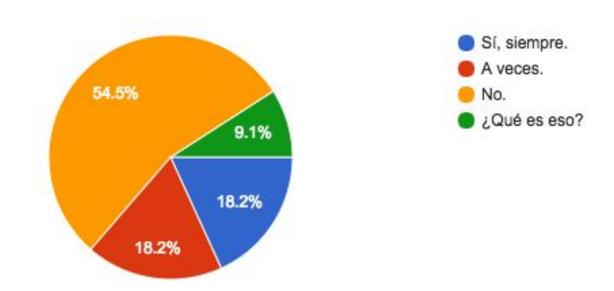Priority

UNDERSTANDING THE
# 4 RULES OF SIMPLE DESIGN

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

by Corey Haines

# TDD / Refactoring

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

11 responses



- Sí, siempre.
- A veces.
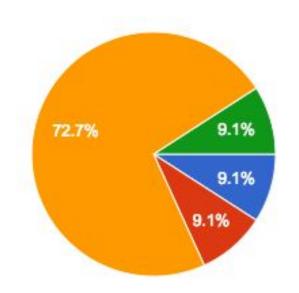- No.
- ¿Qué es eso?

54.5%

9.1%

18.2%

18.2%

# Pair programming

# ¿Sueles hacer "pair programming"?

11 responses
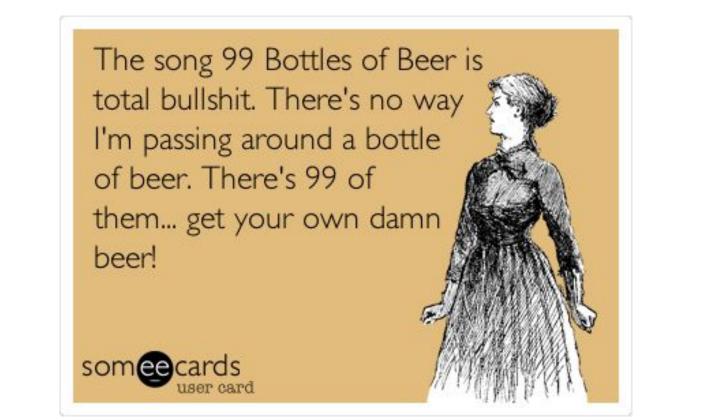


- Sí, siempre / casi siempre.
- Frecuentemente.
- Apenas.
- Nunca he hecho "pair programming".

72.7%

9.1%

9.1%

9.1%

# 99 bottles of beer

Set up:
github.com/dcarral/99bottles-polyglot

Time over :)

The song 99 Bottles of Beer is total bullshit. There's no way I'm passing around a bottle of beer. There's 99 of them... get your own damn beer!

# Show

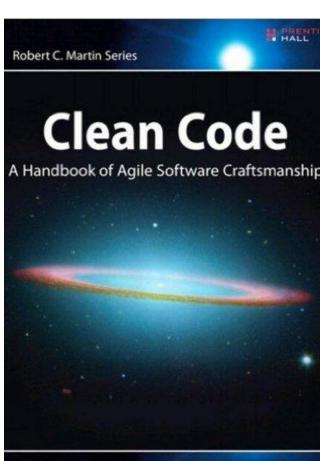**(or not ;)**

—

# 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

Robert C. Martin Series

# Clean Code

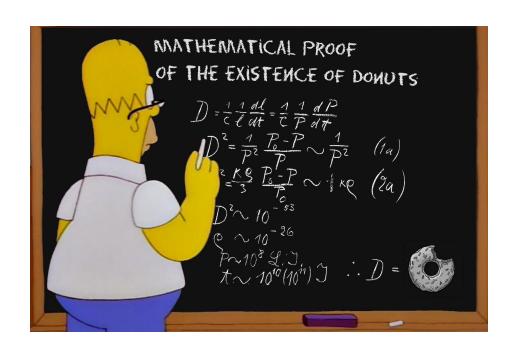## A Handbook of Agile Software Craftsmanship

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

Code Responsibly

Ruby Edition

# 99 Bottles of OOP

## A Practical Guide to Object-Oriented Design

Sandi Metz & Katrina Owen

# Beautiful
# Code

Leading Programmers Explain How They Think

Edited by Andy Oram & Greg Wilson

# Retro time

# Gracias, keep in touch? :)

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