



Leibniz  
Universität  
Hannover



# Testing Culture on a Social Coding Site

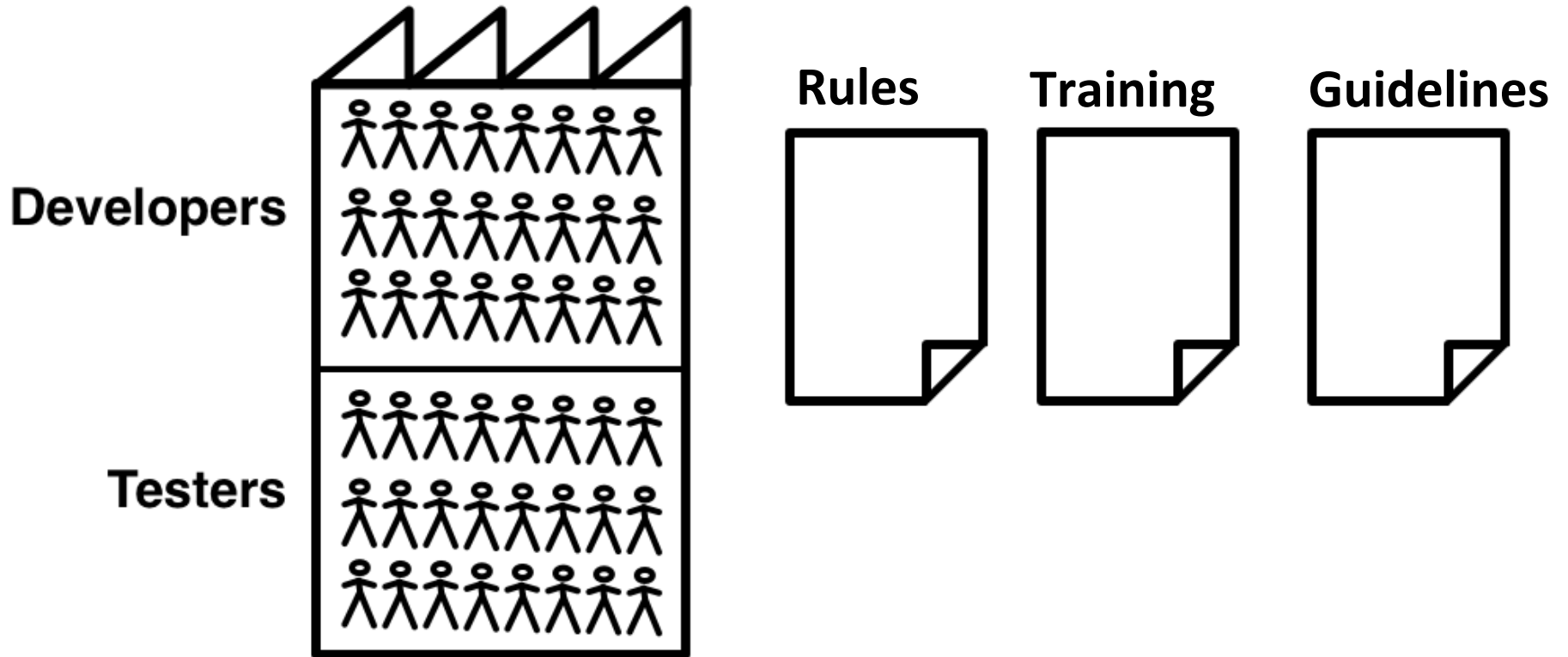
Raphael Pham, Leif Singer, Olga Liskin,  
Fernando Figueira Filho, and Kurt Schneider



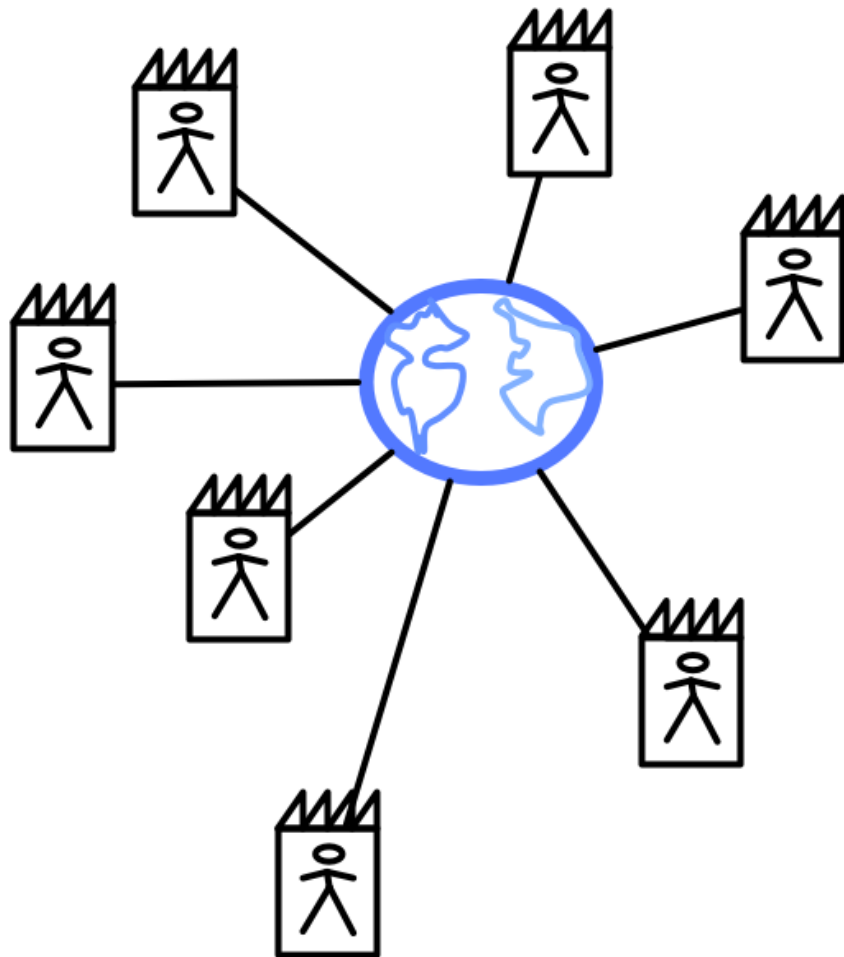
*Original Paper Title:*

***Creating a Shared Understanding of Testing Culture on a Social Coding Site***

# Testing Culture?



# Testing Culture?



- unknown devs
- voluntarism
- different skills
- ...

+

**Social  
Transparency**



# GitHub

GitHub

Search or type a command



Explore

Features

Blog

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## Explore GitHub

Explore

Repositories

Languages

Timeline

### Trending Repos

Today | [Week](#) | [Month](#)

[dtao](#) / [lazy.js](#)

Like underscore.js, but lazier

★ 199 | 🍴 8

[Polymer](#) / [polymer](#)

Leverage the future of the web platform today.

★ 878 | 🍴 50

[FredKSchott](#) / [CoVim](#)

Collaborative Editing for Vim

★ 550 | 🍴 17

[django](#) / [django](#)

The Web framework for perfectionists with deadlines.

★ 6,393 | 🍴 2,162

[Grouper](#) / [FlatUIKit](#)

A collection of awesome flat UI components for iOS.

★ 1,069 | 🍴 77

### Featured Repos

[heygrady](#) / [scss-blend-modes](#)

Using standard color blending functions in SASS.

★ 536 | 🍴 75

[libgit2](#) / [libgit2](#)

The Library

★ 1,549 | 🍴 371

[mitsuhiko](#) / [flask](#)

A microframework based on Werkzeug, Jinja2 and good intentions

★ 6,003 | 🍴 1,164

[creative](#) / [rainbarf](#)

CPU/RAM/battery stats chart bar for tmux (and GNU screen)

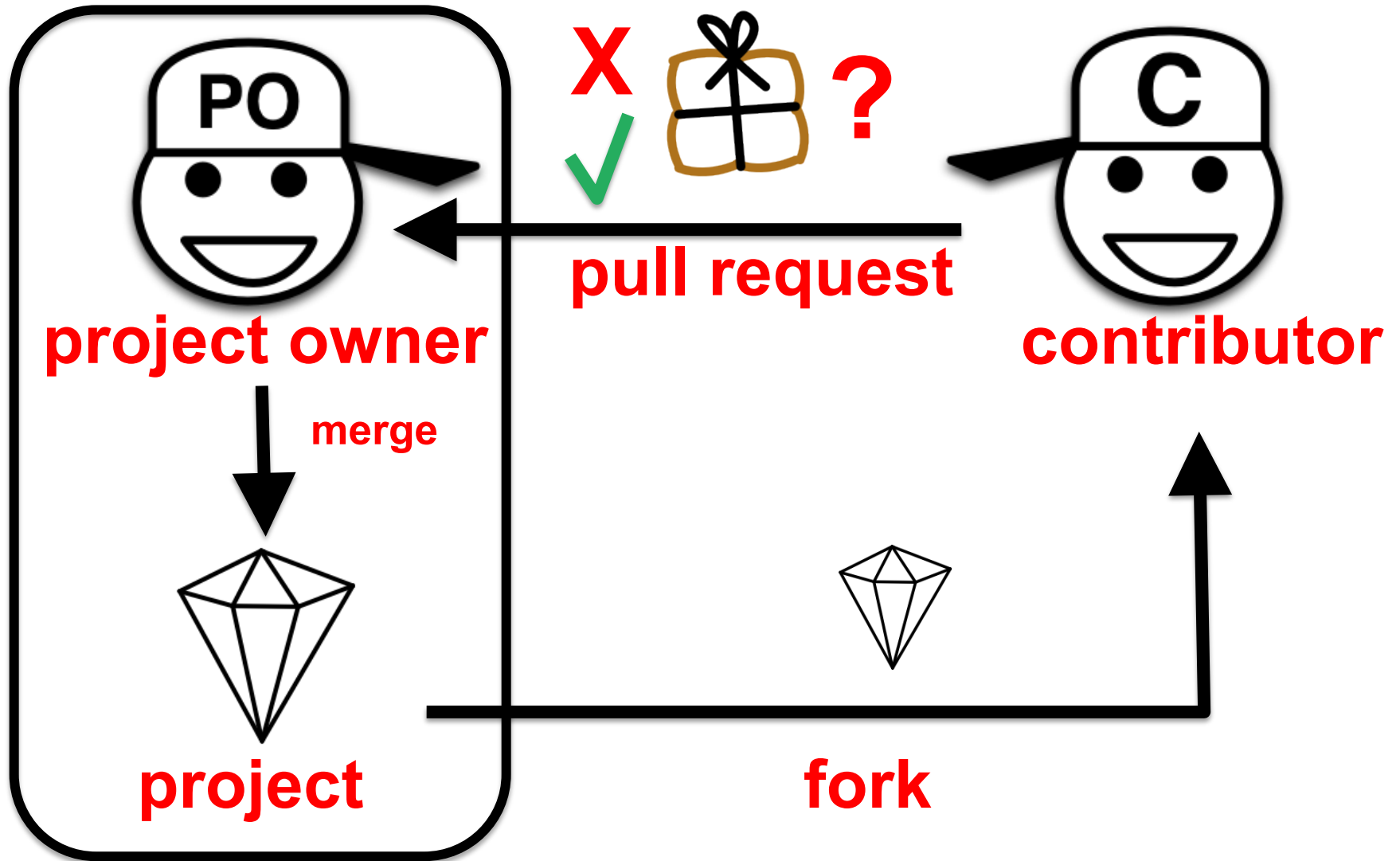
★ 561 | 🍴 46

[AFNetworking](#) / [AFNetworking](#)

A delightful iOS and OS X networking framework

★ 7,136 | 🍴 1,627

# Collaboration on GitHub



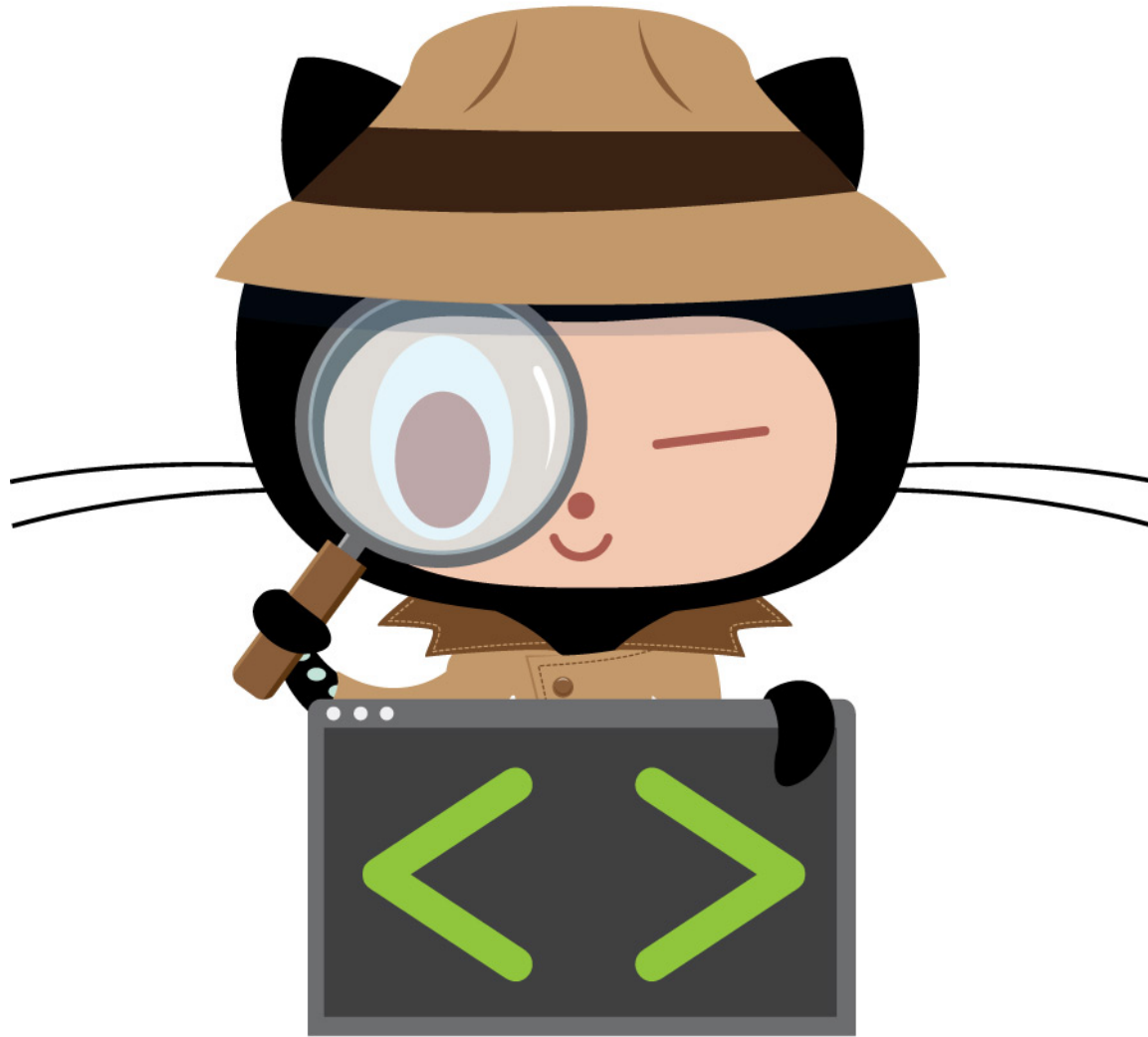
# **How do developers collaborate on GitHub regarding testing?**

# Research Approach

**We used Grounded Theory.**

- Initial interviews (10 random, 3 Coderwall)
  - no lonely wolves
- Focus interviews (20 Intw.)
- Validation by questionnaire (569 assessments)
  - 569 users assessed findings

# What we found ...

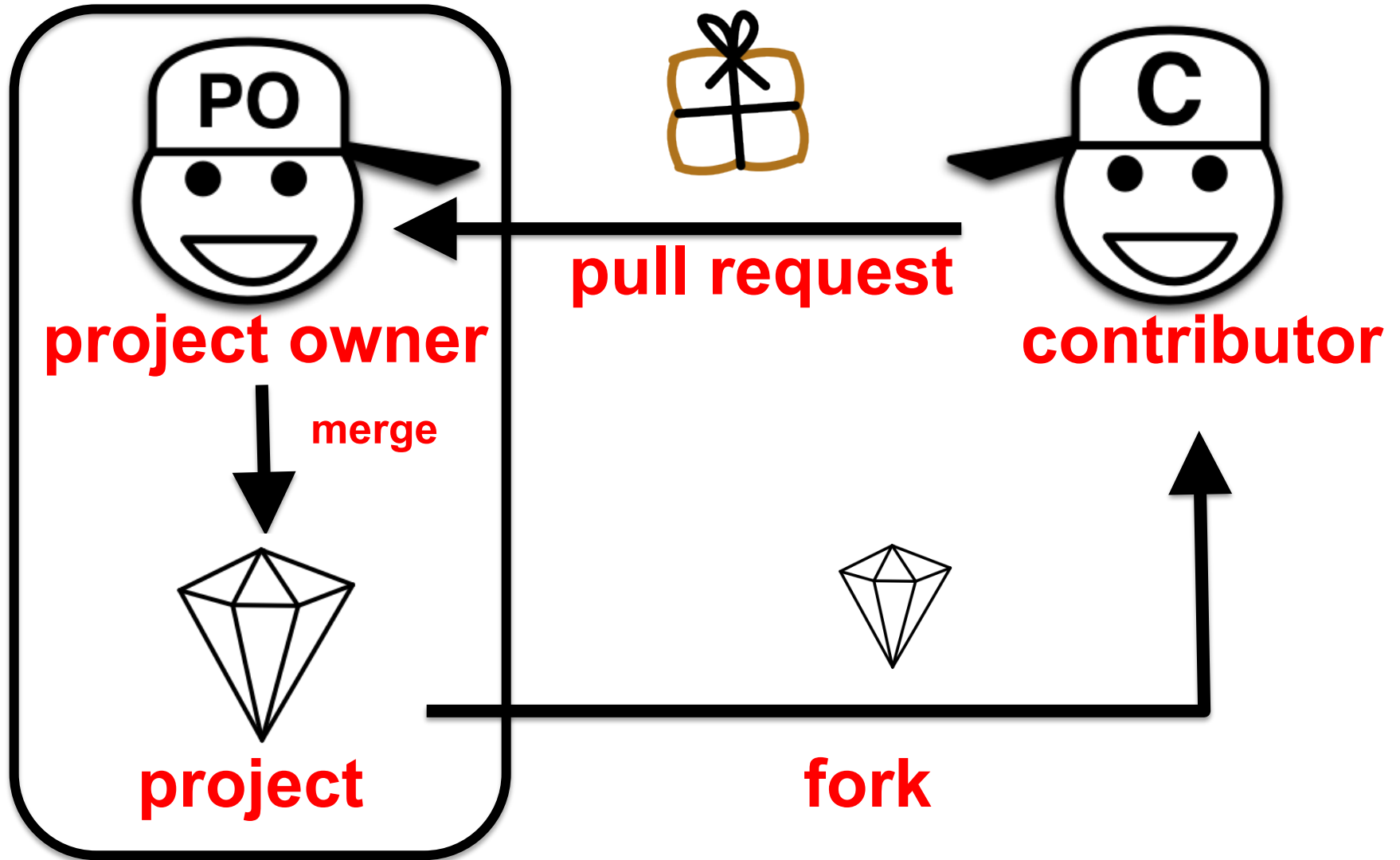


Octocat taken from: <http://octodex.github.com>

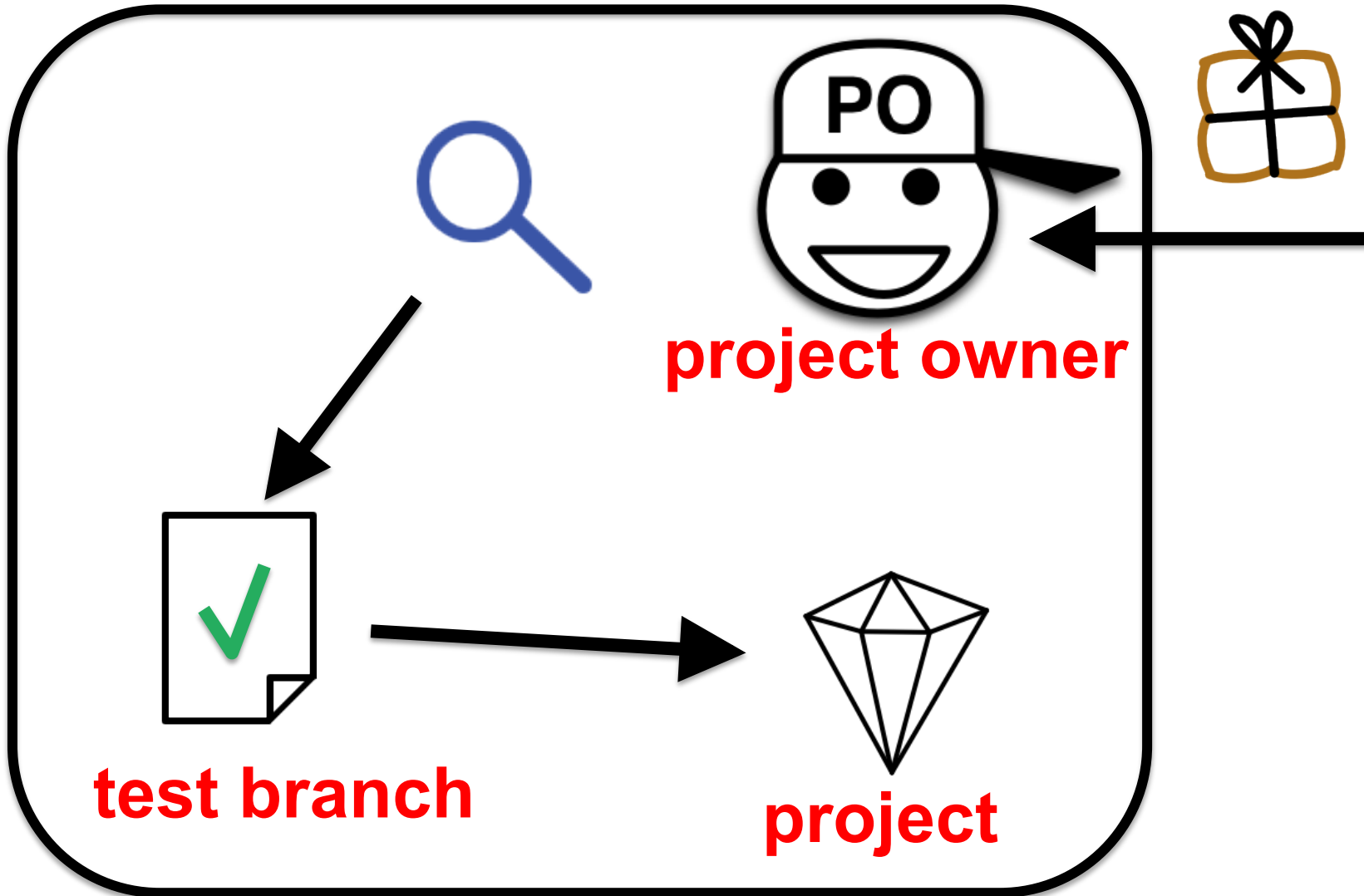
Raphael Pham - Creating a Shared Understanding of Testing Culture on a Social Coding Site - ICSE 2013 in SF



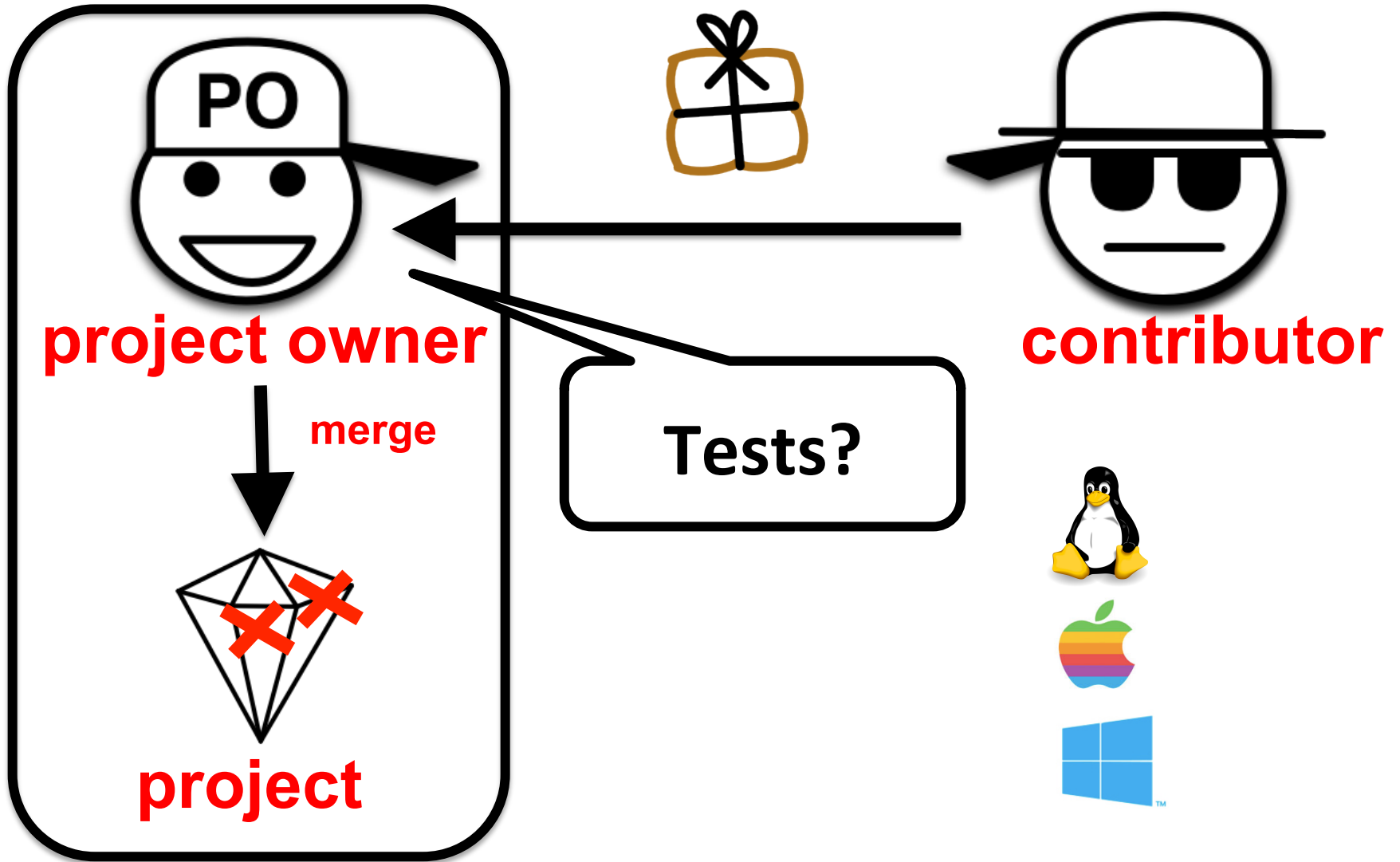
# Contribution Process



# Contribution Process



# Assessment



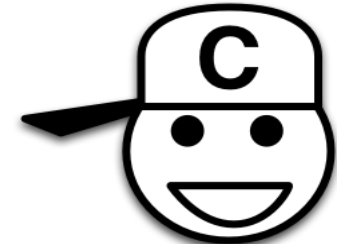
# Motivation for Testing Effort

- feeling obliged to



project owner

- highlight value
- confidence
- feeling obliged to
  - seeing other tests



contributor

“[There were no guidelines set up], not so much formally, but it was **pretty clear how it was supposed to be tested** and there was already an existing spec file [...] with a pretty **substantial list of tests**”

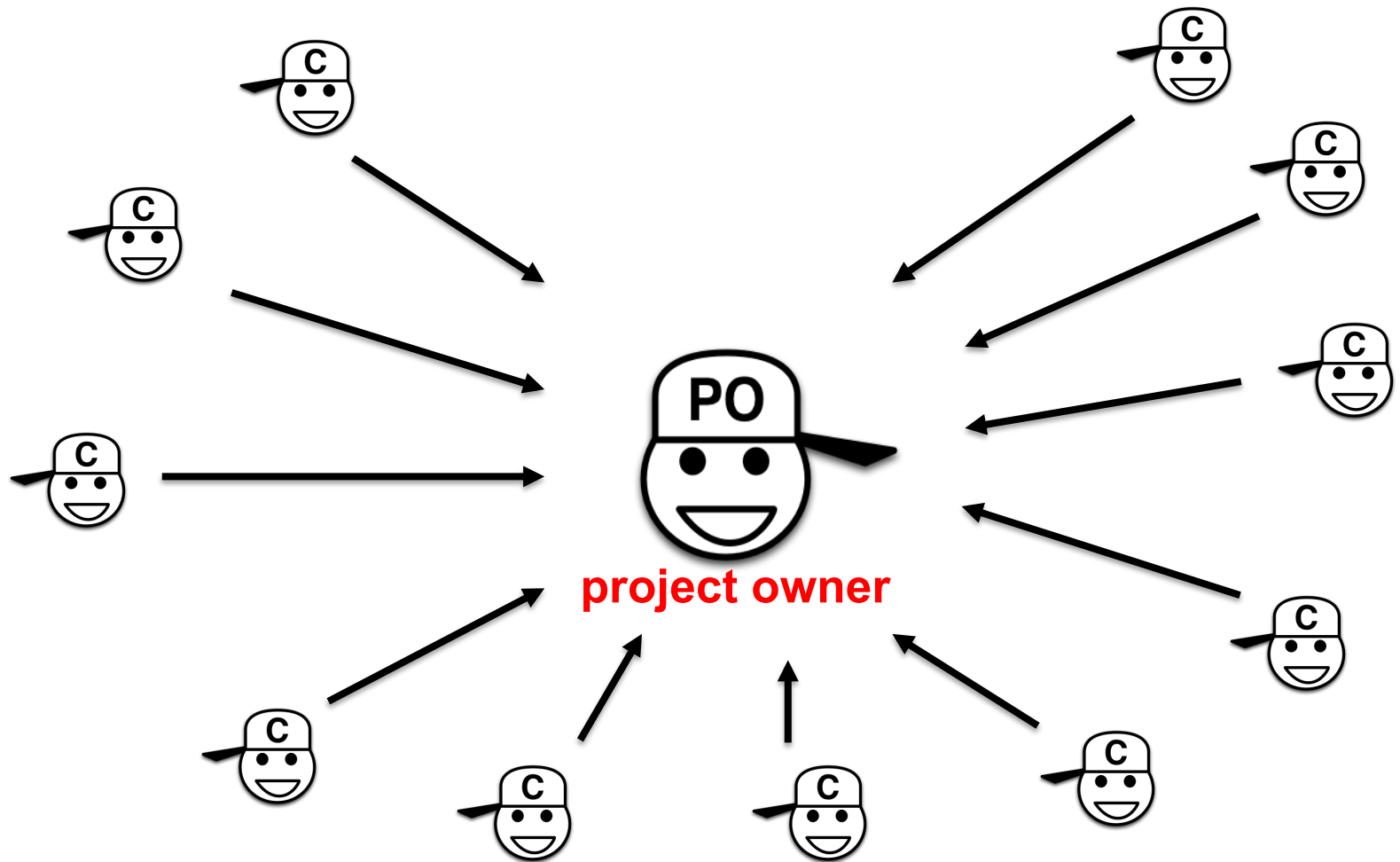
# Challenges and Risks



project owner

“... a lot of people are contributing to [the project] and quality control is becoming more and more important to us. **Automated testing** is the **only way** to get that...”

# Challenges and Risks



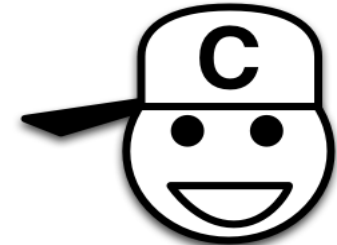
# Coping Strategies and Impact

- test frameworks
- educate



project owner

- confident, eager to experiment
- use existing tests for own test cases



contributor

“I can **point** them to one of the **existing tests**. «Check this one, it is really similar to what you need», and in most cases it’s enough. Sometimes, [...] I do Skype conferences with screen sharing where I can **explain**, show.”

# Coping Strategies and Impact

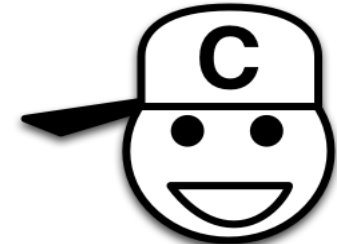
- set up guidelines

Now I know!

- make testing visible
- show explicit testing signals



project owner



contributor

“if you see that image, it **immediately rings the bell** that there is continuous integration in this project, and as such, there is some kind of automated testing.”



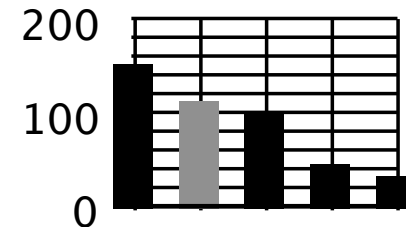
# Final Questionnaire Results



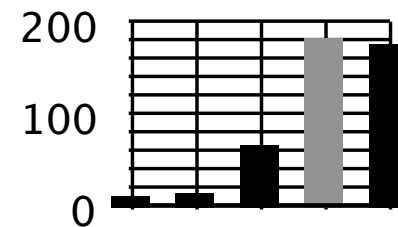
Octocat taken from: <http://octodex.github.com>

# Final Questionnaire Results

I need automated testing for this amount of pull requests.



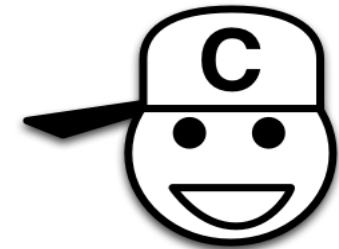
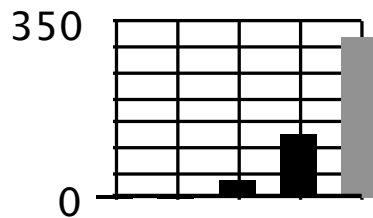
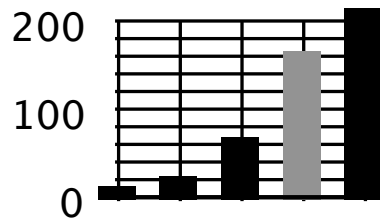
project owner



Tests in my project help contributors in writing tests.

# Final Questionnaire Results

When I see tests, I will write tests.



**contributor**

I heavily use existing tests for my tests.

# Take Home



high employee churn ...

efficiently convey testing culture ?

- make your testing culture visible
- guidelines

- existing tests
- education sources, tutorials
- frameworks, easy setup

- discussions, issues, good solution

