INVESTIGATION OF CULTURAL DIFFERENCES BETWEEN RUST AND GO PROGRAMMING COMMUNITIES

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SCOPE/BACKGROUND

- overall goal: improved ability to reason about programmer behavior
- not immediately related to software quality
- explorative study
- small-scale
RESEARCH GOAL

Find systematic differences concerning the culture of communities that are relevant to software development using voluntary expression of culture.
RESEARCH APPROACH

THE PLAN

1. acquire data like software development artifacts and public communication to develop base hypotheses
2. revise hypotheses using interviews
3. reflect on methods and findings
4. rinse and repeat
CULTURE?

- behavior, rituals
- values, beliefs
- interpersonal nature

.. emerges from ambiguous of difficult situations
CULTURE AND SE?

‘wicked problems’

• elusive, interdependent requirements
• unclear success state
• ..

  collaboration

• agree on compromises
• convey meaning to other programmers
• ..
HOW TO START LOOKING FOR CULTURE? (THE BAD)

- analysis of code solving similar problems
- let developers find and explain differences in code
HOW TO START LOOKING FOR CULTURE? (THE BETTER)

- public discussions
- publications from language authorities
- teaching material
- conferences and talks
RUST AND GO - SAFETY

- both aim to supersede C++
- similar goals
- similar choices
- different approaches

Simplicity, safety, and readability are paramount. (Go)

Safety in the systems space is Rust’s raison d'être. (Rust)
What language did you use instead of Go for this project?

n = 233

- Rust: 25%
- Python: 17%
- Java: 12%
- TypeScript: 8%
- C#: 8%
- C++: 7%
- JavaScript: 4%
- Ruby: 3%
- Scala: 3%
- PHP: 3%
- Kotlin: 3%
- C: 2%
- Other: 6%

% of respondents
When evaluating Go for the project, which of the following prevented you from adopting Go? (select all that apply)

n = 235

- Go lacks features I need: 39%
- Another language is better supported by my existing tools/infrastructure: 34%
- The Go ecosystem lacks libraries I need: 34%
- Lack of personal/team experience with Go: 23%
- Other: 20%
- Go tooling doesn't meet my needs: 19%
- Go isn't performant enough: 17%
- Difficulty hiring Go developers: 14%
- Concern about Google sponsorship and stewardship of Go: 10%
- Difficulty getting approval to adopt a new language: 9%
- Go lacks educational/support: 8%
IDENTITY

- Go and Rust programmers identify with their platform’s values
- all said they were either Go/Rust programmers
- but
  - All Rust programmers said they were Rustaceans
  - Go programmers wouldn’t say they were Gophers
- Go programmers avoided answering a question about their liking of the community
INTERVIEW SHORTAGE

- too few candidates
- setting up interviews took very long
- => I was waiting for interviews a lot

The time was used for literature research and finding more base data.
CLOSING REMARKS

- list of more differences, ideas, comments, and approaches in the thesis paper
- balancing of open-ended and purposive questions is difficult
- same for selection and the arrangement interviews
  - underestimated organisation effort for finding a date
  - might have overthought the selection process
- get help from sociology and psychology!

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