

FIXME: Add logo above in footer and header *FIXME*: Add guard page

Embecosm Rust-GCC - Fixed time mission

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Thanks

I'd like to thanks to Open Source Security and Embecosm for funding us to work on this project. Jeremy Bennett, for his management and the experience he brought to our development, and Brad Spengler, for being kind and benevolent.

I would also like to thank the entire Embecosm team for being so nice and caring towards me.

Particularly, I would like to thank Philip Herron for being my mentor, manager and especially friend when working on this project.

I would also like to thank my girlfriend for being so supportive and helpful during my stay in Germany.

Introduction

Objective and extent of the mission

Currently, not many systems programming native language. But Rust is coming. However, only one implementation! Contribute to a second implementation (no details as that is for the Subject part)

1. Not many systems programming language, Rust aims to change that
2. However, currently only one implementation which is a stark difference from other systems programming languages.
3. Work on a second implementation to add the language as a part of GCC (GNU Compiler Collection)

Context and Complexity of the task

1. Been working on this project for a year before that
2. Google Summer of Code student
3. Improve existing codebase, very big C++ project, hard to maintain and work on but worth it.

Subject

Remind the history of your subject

1. Project started in 2014
2. Philip started working on it full time in 2019
3. Steady funding and progress since then

Motivate your choice of internship

1. Extremely interesting project, that is close to my heart
2. Chance of making big changes, making a mark on a project

3. Lots of things to work on, very varied subject

Is in adequation with your major

1. No? Not embedded systems
2. However, it is low-level programming and systems programming. And that is a big part of GISTRE.

Positioning

Tether your subject and the company's field

1. Embecosm works in compilers
2. However, mostly backend
3. Open Source Security provides GCC plugins for security purposes, notably for the Linux kernel.
4. Lot of interest around a second implementation of the Rust language which could benefit from said plugins.

Present the market and its context

1. There's no market. It's not a market. Stop it.
2. People interested in funding the project maybe? ## Course of the internship

Parts of the internship

1. Development
2. Research
3. Promotion (interviews)
4. Hiring

Detailed Description

1. Same as above, detailed

Gantt Diagram

1. Add pretty diagram!

Engineering approach

One or more structured approache(s)

1. The borrow-checker
2. The macro repetitions implementation
 1. Figuring out an algorithm
 2. Issue reporting
 3. Still more to do and maintain!

Concrete explanation

1. Show and explain what you did concretely (vs the company, the project, the team, the client...)

Illustrated analysis

1. Detail 2 to 3 competences in relationship with your major

Added value of the internship

Internship's interest for the company

Internship's interest for the project

1. Qualitative and quantitative
2. Show your results

School's implication - On the school's side?

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1. Usage of concepts and methodologies used in class
2. Acquisition of new skills

Synthesis and Conclusion

Introspection

1. Between the beginning and the end of the internship

Evolution of your career plans/personal project

1. Confirmation or evolution of your professional project

Vision of the business world