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GCC Front-End for Rust

Monday, 20 September 2021 09:00 (45 minutes)

GCC Rust is a front-end project for the GNU toolchain, a work-in-progress alternative to the official Rustc compiler. Being part of GCC, the compiler benefits from the common compiler flags, available backend targets and provides insight into its distinct optimiser's impact on a modern language.

This project dates back to 2014 where Rust was still ~0.8, but the language was subject to frequent change making an effort too challenging to keep up. More recently, the core language is stable, and in early 2019 the development restarted. Since then, the project has laid out the core milestone targets to create the initial MVP with freely available status reports and is part of Google Summer of Code 2021 under the GCC organisation.

The GNU toolchain has been the foundation of the Linux ecosystem for years, but the official Rustc compiler takes advantage of LLVM for code generation; this leaves a gap in language availability between the toolchains. GCC Rust will eliminate this disparity and provide a compilation experience familiar to those who already use GCC.

As of 2021, GCCRS gained sponsorship from Open Source Security, inc and Embecosm to drive the effort forward. With this support, the project has gained mentorship from the GCC and Rust community.

In this talk, I will introduce the compiler, demonstrate its current state and discuss the goals and motivations for the project.

I agree to abide by the anti-harassment policy

I agree

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