Rust and what's this thing for?

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Agenda

1. Foreword
2. What is Rust?
3. Unsafe
4. Features
5. Syntax
6. Ecosystem
7. Popularity

Foreword

Experience

- Since 1.0.0
- Scope (by time)
  - Bindings (FFI — foreign function interface)
  - Analyzers
  - CLI (TUI) tools for PC and IoT
  - GUI for fun
  - Libraries
  - RE
- Not true programmer

What is Rust?

What is Rust?

*«**Rust** is a multi-paradigm systems programming language focused on safety, especially safe concurrency».*

— Wikipedia

What is Rust?

*«**Rust** is a systems programming language that **runs blazingly fast**, **prevents nearly all segfaults**, and **guarantees thread safety**».*

— www.rust-lang.org (2015)

What is Rust?

«Empowering everyone to build reliable and efficient software».

— www.rust-lang.org

What is Rust?

What's wrong with systems languages?

What's wrong with systems languages?

- It's difficult to write secure code
- It's very difficult to write multithreaded code

Rust?

What is Rust?

Quick facts about Rust

Quick facts about Rust

- Started by Mozilla employee Graydon Hoare
- First announced by Mozilla in 2010
- Community driven development
- 88,281 commits on GitHub
- First stable release: 1.0 in May 2015
- Latest stable release: 1.31

What is Rust?

Why Rust?

Why Rust?

- Performance
  - Fast, memory-efficient
  - No runtime or garbage collector
- Reliability
  - Rich type system
  - Ownership model
- Productivity
  - Documentation
  - Friendly compiler
  - Top-notch tooling

Unsafe

Features

Syntax

Ecosystem

Ecosystem

Community

Community

Meetups

telegram

Rust in week

gitter

reddit

IRC

matrix

ru, en, all

Ecosystem

Rustup

Ecosystem

Cargo

Cargo

Cross platform

Tests

Benchmarks

Examples

Docs

Ecosystem

Additional tools

Additional tools

cargo:

- fuzz - format - llvm - asm - graph - deps - etc

Ecosystem

IDE

Popularity

Popularity

Friends

Popularity

Popular software

- CLI tools
- Web
- Servo

Summary

Summary

Questions?

References i