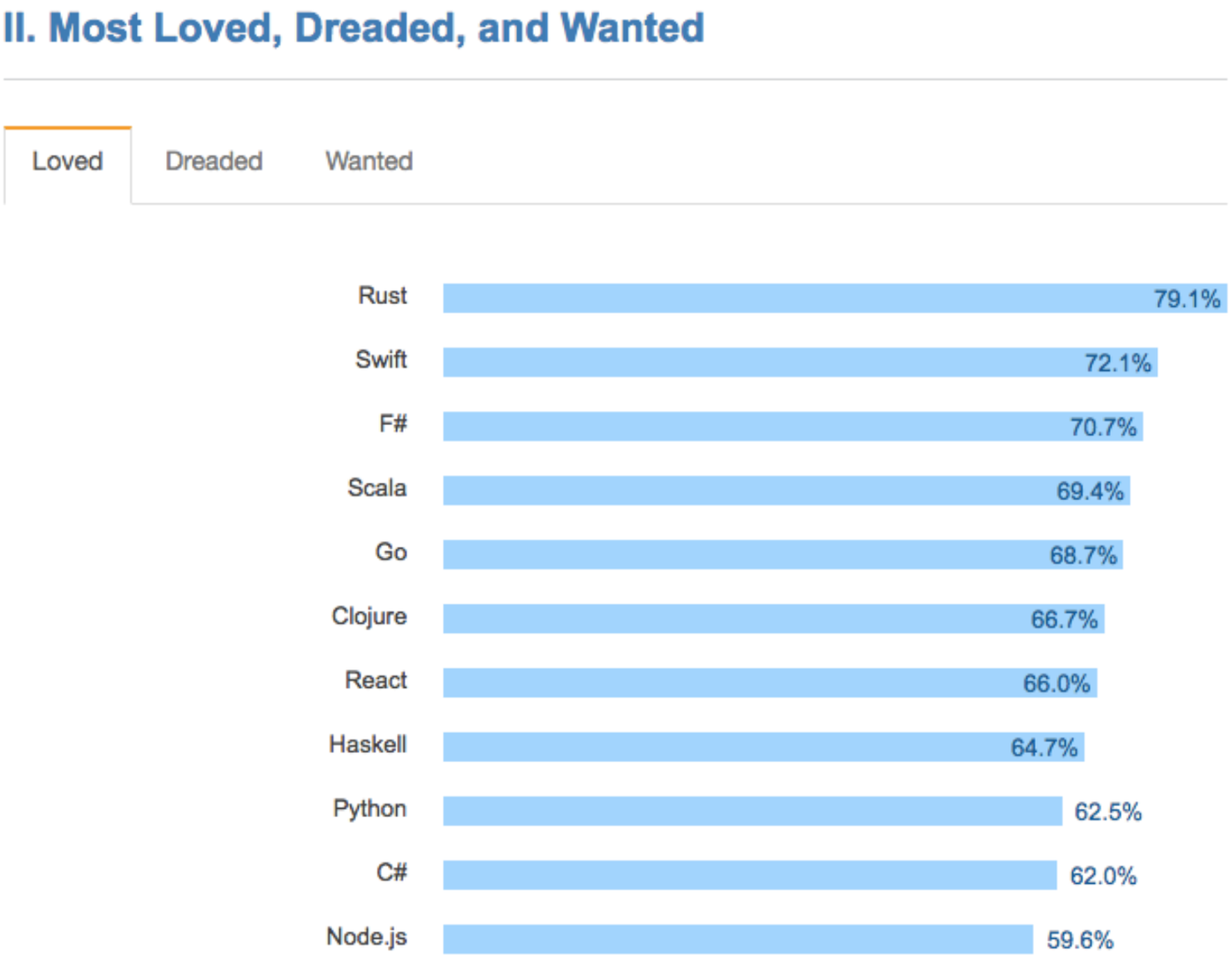
Why you should take a look at

Antonin Carette - R&D Engineer @ Dernier Cri

= ***Rust***, *a modern, safe, fast, and multi-core processor aware programming language*

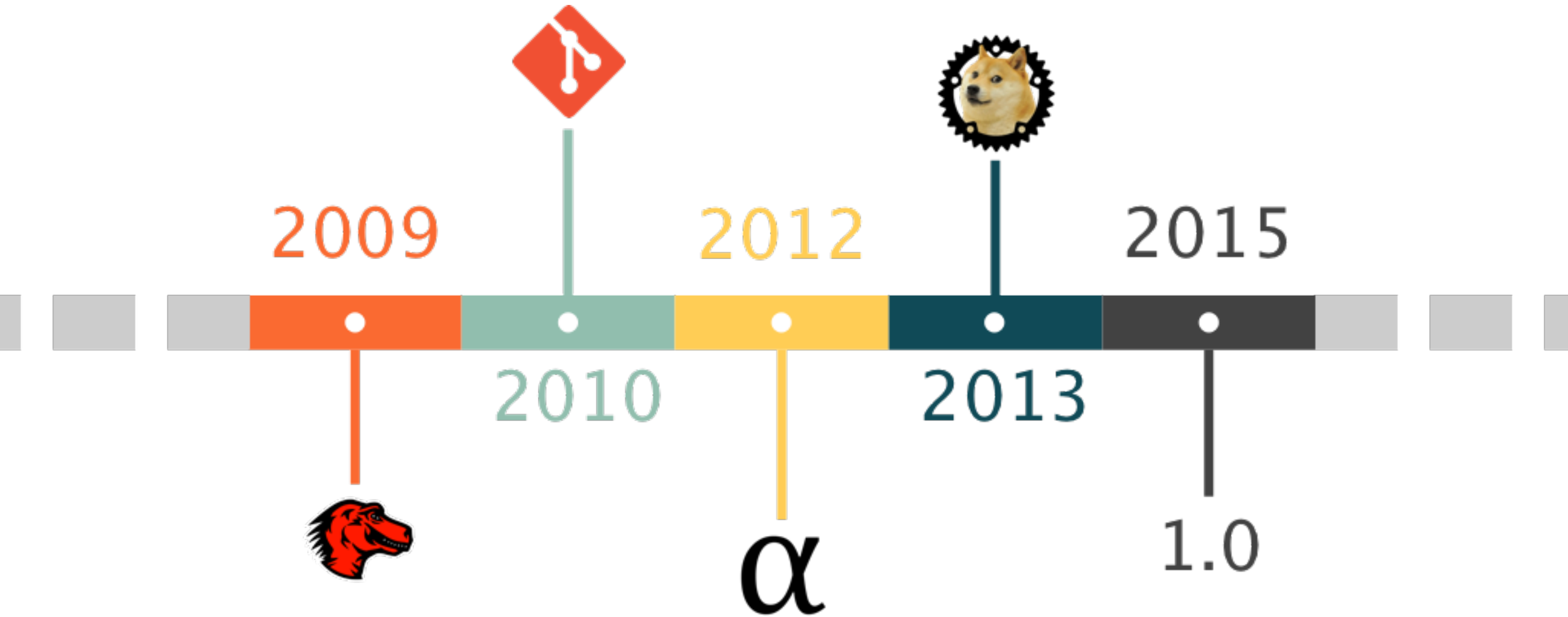
Developers <3 Rust



http://stackoverflow.com/research/developer-survey-2016#community

I had your curiosity, but now…

Timeline



Promesses

Modern

- General-purpose
- Multi-paradigm
- Built-it packet manager
- …

Safe

- Statically typed
- Type safe
- Memory safe
- Data safe
- Data races safe
- …

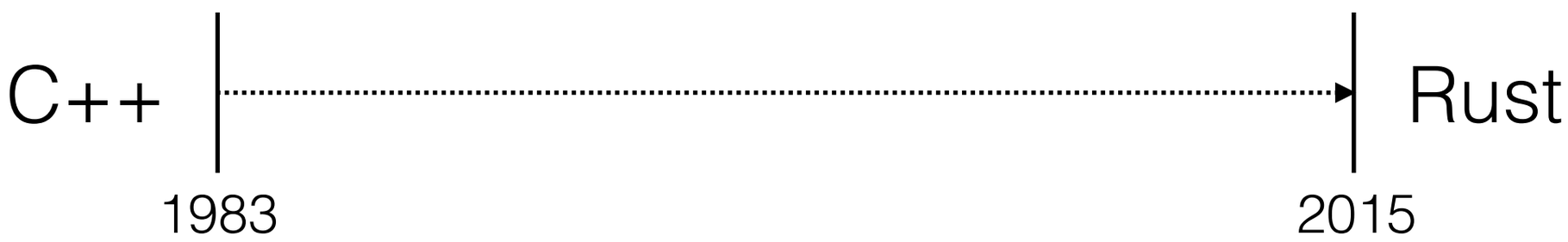
Fast

- LLVM back end
- No GC
- As fast as C++

Data race

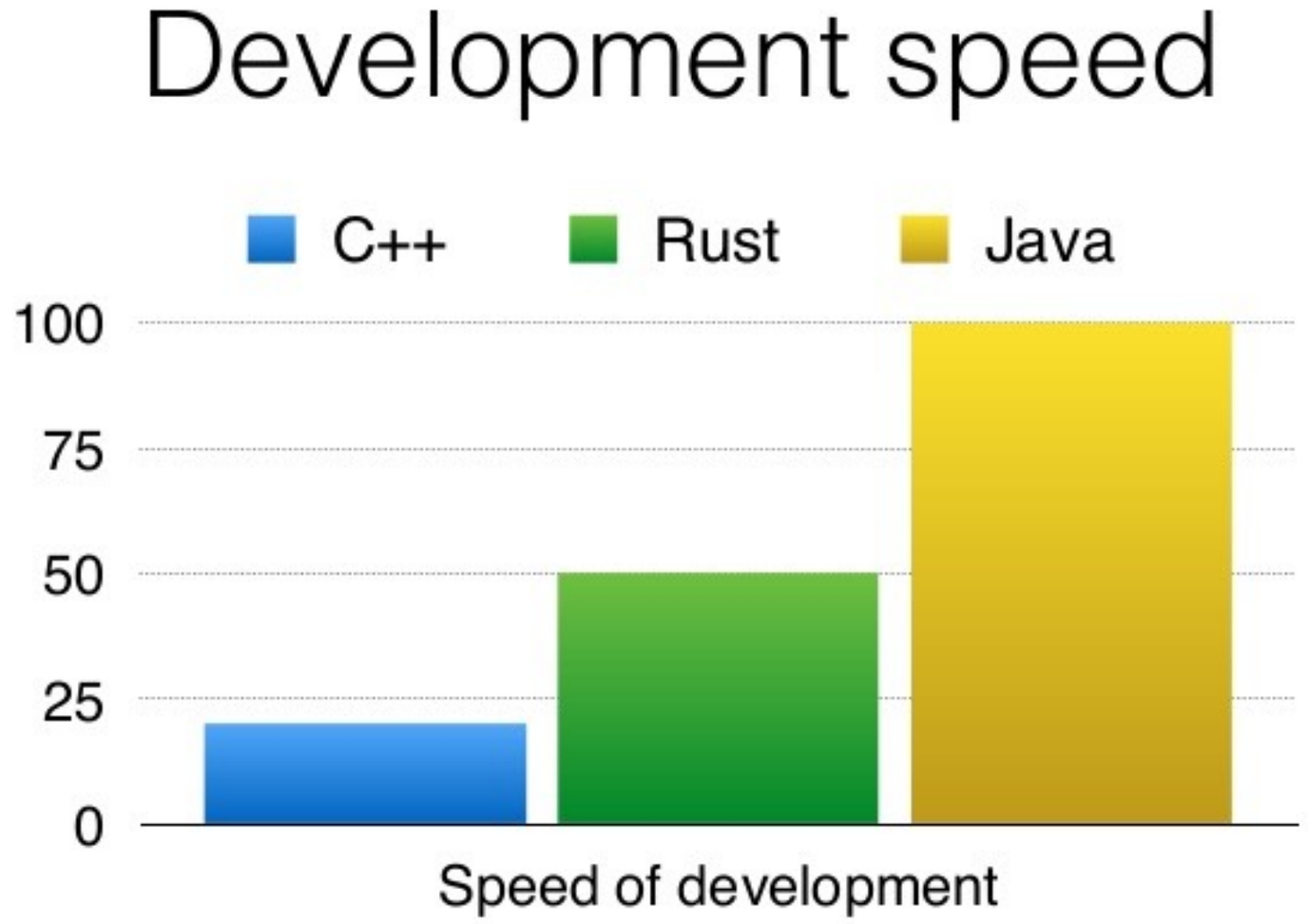
- Concurrent
- Parallelism

Ambitious



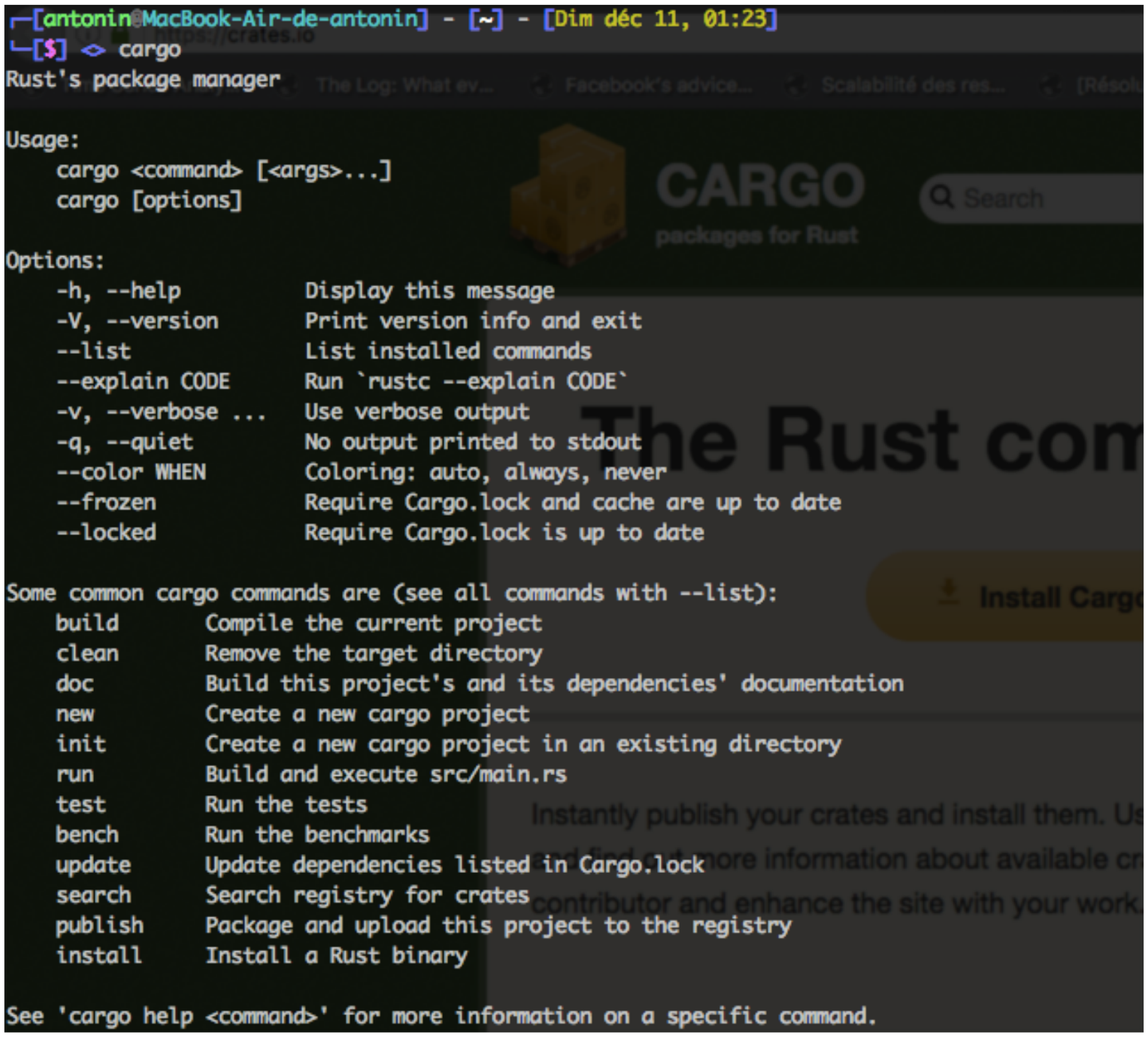
Inspired by popular technologies

Good development speed



http://www.slideshare.net/yandex/rust-c

Cargo, the perfect companion



Sun 12/11: **7,098** crates in stock / **92,105,502** downloads

Cargo, the perfect companion

```
# The release profile, used for `cargo build --release`.
[profile.release]
opt-level = 3
debug = false
rpath = false
lto = false
debug-assertions = false
codegen-units = 1
panic = 'unwind'

# The testing profile, used for `cargo test`.
[profile.test]
opt-level = 0
debug = true
rpath = false
lto = false
debug-assertions = true
codegen-units = 1
panic = 'unwind'

# The benchmarking profile, used for `cargo bench`.
[profile.bench]
opt-level = 3
debug = false
rpath = false
lto = false
debug-assertions = false
codegen-units = 1
panic = 'unwind'
```

Rust, for web developers

Databases

Templating

APIs

Client frameworks

Websocket

Server frameworks

and more…

Rust to Emscripten

https://github.com/flosse/rust-web-framework-comparison

https://medium.com/mozilla-tech/rust-for-web-developers-1b0f4326e8b8#.f3e7mz8k0

Rust, for web developers

Hans Koch
4 days ago

I really like Rust, and i use it for some of my web project whether via iron webframework or via neon-binding as nodejs module. The speed up at some sections of my code is enormous, and mutability helps fighting some problems with asyncronity.

Big thanks to the folks of Mozilla Research.

Code examples

```rust
fn main() {
    println!("Hello World!");
}
```

```rust
fn factorial_recursive (n: u64) -> u64 {
    match n {
        0 => 1,
        _ => n * factorial_recursive(n-1)
    }
}

fn factorial_iterative(n: u64) -> u64 {
    (1..n+1).fold(1, |p, n| p*n)
}

fn main () {
    for i in 1..10 {
        println!("{}", factorial_recursive(i))
    }
    for i in 1..10 {
        println!("{}", factorial_iterative(i))
    }
}
```

Code examples

```rust
use std::net::{TcpListener, TcpStream};
use std::io::{BufReader, BufRead, Write};
use std::thread;

fn main() {
    let listener = TcpListener::bind("127.0.0.1:12321").unwrap();
    println!("server is running on 127.0.0.1:12321 ...");

    for stream in listener.incoming() {
        let stream = stream.unwrap();
        thread::spawn(move || handle_client(stream));
    }
}

fn handle_client(stream: TcpStream) {
    let mut stream = BufReader::new(stream);
    loop {
        let mut buf = String::new();
        if stream.read_line(&mut buf).is_err() {
            break;
        }
        stream
            .get_ref()
            .write(buf.as_bytes())
            .unwrap();
    }
}
```

Code examples

```
fn as_str(data: &u32) -> &str {
    // compute the string
    let s = format!("{}", data);
    &s
}

fn main() {
    let x : u32 = 42;
    let x_str = as_str(&x);
    println!("Wow, {} is still {}!!", x, x_str);
}
```

Code examples

```rust
fn as_str(data: &u32) -> &str {
    // compute the string
    let s = format!("{}", data);
    &s
}

fn main() {
    let x : u32 = 42;
    let x_str = as_str(&x);
    println!("Wow, {} is still {}!!", x, x_str);
}
```

```rust
fn as_str(data: &u32) -> String {
    // compute the string
    let s = format!("{}", data);
    s.to_string()
}

fn main() {
    let x : u32 = 42;
    let x_str = as_str(&x);
    println!("Wow, {} is still {}!!", x, x_str);
}
```

Code examples

```rust
fn first_word<'a>(sentence: &'a str) -> &'a str {
    let first_space = sentence.find(' ').unwrap_or(0);
    let word = &sentence[..first_space];
    return word;
}

fn main() {
    println!("{}", first_word("Hello world from 'Dernier Cri'!"));
}
```

Play with Rust @ https://play.rust-lang.org/

(Big) Rust projects

Alphabet

mozilla Firefox®

Dropbox

OpenDNS

Redox

(Big) Rust projects

… and more awesome projects!

https://this-week-in-rust.org/

So, welcome on board!

Do you want more ?

https://www.rust-lang.org/fr/

https://www.codementor.io/rust/tutorial/steve-klabnik-rust-vs-c-go-ocaml-erlang

http://www.slideshare.net/yandex/rust-c

https://doc.rust-lang.org/stable/book/

http://rustbyexample.com/

http://thenewstack.io/safer-future-rust/

http://www.arewewebyet.org/

Please, click here!