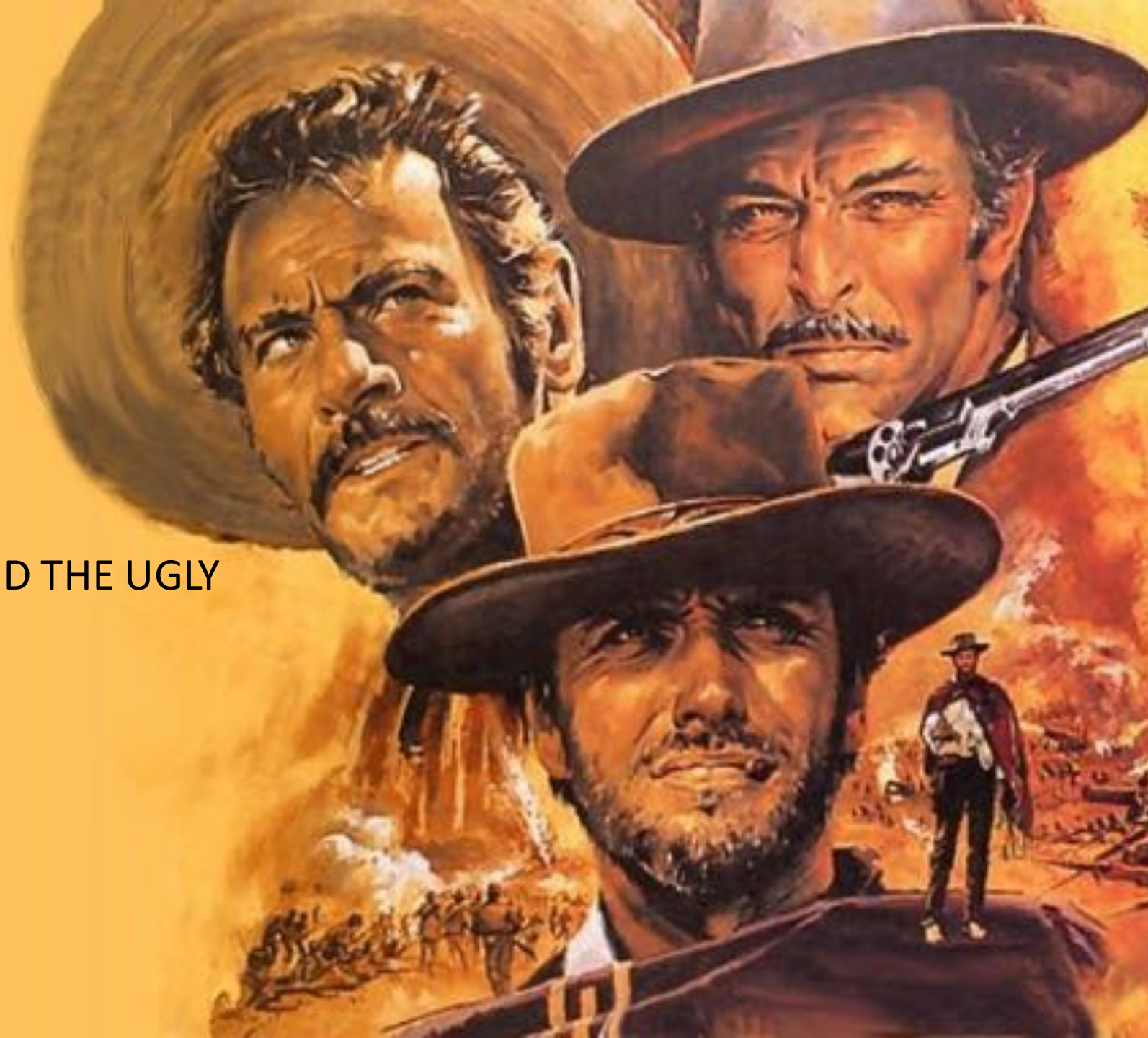


66 hours of Rust

THE GOOD, THE BAD AND THE UGLY



About Me

- Claudia Saxer
- Software Engineer



zühlke
empowering ideas

Why?

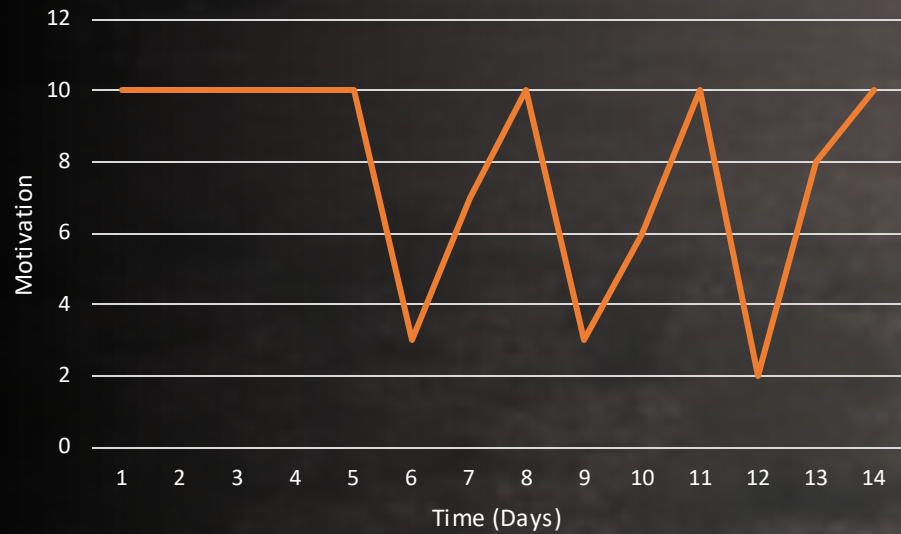


“But you know, the pity is, when I’m paid,
I always follow my job through”



Journey

- Language
- Tooling
- Frontend (Wasm)



Journey



“The way back to town is only seventy miles.
So if you save your breath,
I feel a man like you can manage it. Adios...”

Language



Language

- Easy to read
- traits / structs
- Array slices
- Loop



Language

- snake_case
- return
- ownership / borrowing



Tooling



Tooling

“I'll sleep better knowing my good friend is by my side to protect me.”



cargo

rustformat

Tooling

```
1 | / mod utils;  
2 | | use wasm_bindgen::prelude::*;  
3 | | extern crate chrono;  
4 | | extern crate timer;
```

```
...  
20 |  
21 | | #[wasm_bindgen]
```

= **note:** ...so that the types are compatible:

expected &mut Universe

found &mut Universe

= **note:** but, the lifetime must be valid for the static lifetime...

note: ...so that the type `[closure@src\lib.rs:21:1: 21:16 self:&mut Universe]` will meet its required lifetime bounds

--> src\lib.rs:21:1



“God's not on our side because he hates idiots also.”







<https://rustwasm.github.io/docs>





wasm-pack





set_panic_hook

```
#[cfg(feature = "console_error_panic_hook")]  
console_error_panic_hook::set_once();
```



Frontend



A close-up, high-angle shot of a man's face. He has a weathered, aged appearance with a thick, grey beard and mustache. He is wearing a dark, patterned headband or turban. His eyes are dark and intense, looking directly at the viewer. The lighting is dramatic, highlighting the texture of his skin and the details of his facial hair. The background is dark and out of focus.

Frontend

“Who the hell is that?
One bastard goes in,
another one comes out.”

Frontend

lib.rs

```
#[wasm_bindgen(module = "/defined-in-js.js")]  
extern "C" {  
    #[wasm_bindgen(getter)]  
    fn get_current_time_in_milliseconds() -> u32;  
}
```

defined-in-js.js

```
export function get_current_time_in_milliseconds() {  
    return (new Date()).getTime();  
}
```


Make it nice



Make it nice

```
src  
├── lib.rs  
└── utils.rs
```



```
src  
├── universe  
│   ├── apartments.rs  
│   ├── bank_sector.rs  
│   ├── city_part.rs  
│   ├── city.rs  
│   ├── docks.rs  
│   ├── education.rs  
│   ├── health_care.rs  
│   ├── helper.rs  
│   ├── local_transport.rs  
│   ├── mod.rs  
│   ├── offices.rs  
│   ├── roads.rs  
│   ├── shopping.rs  
│   ├── taxi_service.rs  
│   ├── lib.rs  
│   └── utils.rs
```

mod ...
use ...
crate ...



Make it nice

structs

trait

Generics

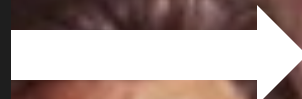


Make it nice

```
#[derive(Clone)]
pub struct Part {
    pub count: u16, ...
}

pub struct Apartments {
    pub content: Part,
    pub number: u16,
}

pub struct Roads{
    pub content: Part,
    pub length: u16,
}
```



Nested structs?

```
pub struct Part {
    pub count: u16, ...
}

pub struct Apartments for Part {
    pub number: u16,
}

pub struct Roads for Part {
    pub length: u16,
}

...
Apartments {count: 0, number: 3}
Roads {count: 0, length: 10024}
```

“I’m your friend, please don’t die”

```
* ▶ Error importing `index.js`: Error: Cannot find module 'city_inc_next' bootstrap.js:5
  at webpackMissingModule (index.js:2)
  at eval (index.js:2)
  at Module../index.js (@.bootstrap.js:11)
  at __webpack_require__ (bootstrap.js:64)
* Failed to load resource: the server responded with a status of 404 (Not Found) :8080/favicon.ico:1
[WDS] Live Reloading enabled. client:52
* ▶ [WDS] Errors while compiling. Reload prevented. client:150
* ▶ ./index.js client:159
  Module not found: Error: Can't resolve 'city_inc_next' in 'D:\zBuilds\66HoursOfRust\CityIncRust\city-inc-next\www'
```


“I’m your friend, please don’t die”



`cargo generate --git https://github.com/rustwasm/wasm-pack-template`

Key takeaways

- Recommended
- I want to learn more
- Steep learning curve



Questions?

