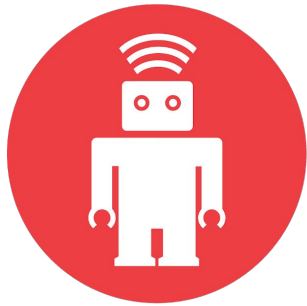




How to authenticate a user without
a username, password or database





thoughtbot

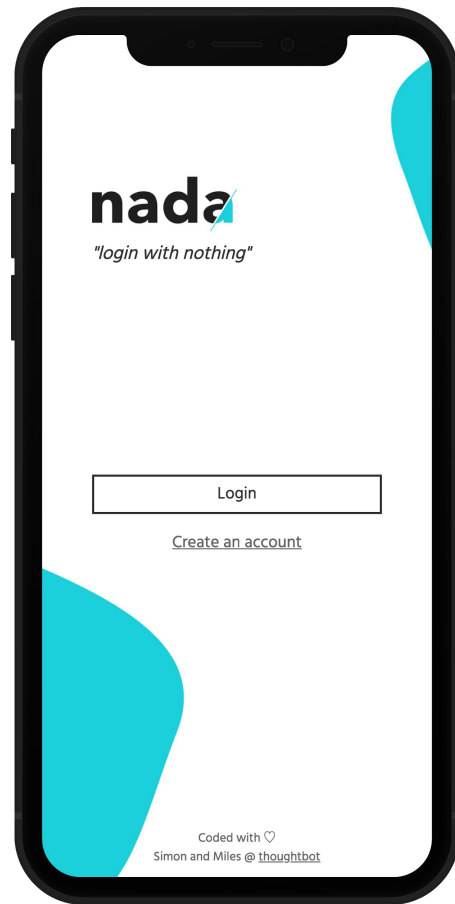
nada

"This app literally does nothing."

TechCrunch



this
app
does
nothing
.com





Ricardo García Vega
@bigardone



Joe Armstrong
@joeerl



Sarah Drasner
@sarah_edo



Some backstory

made

I really hate computers

made a

**This is ~~serious business~~
a little fun**

made a

Open your mind

How does authentication work?

- i. Identity claim
- ii. Identity verification
- iii. Identity storage

Claim

How would you do identity claim?

- a. Don't be silly, just use OAuth
- b. Gait analysis
- c. Use their face
- d. Security is a lie

Verify

Store



Claim

How would you do identity claim?

- a. Don't be silly, just use OAuth
- b. Gait analysis
- c. Use their face
- d. Security is a lie

Verify

Store



Claim

How would you do identity verification?

- a. Obviously a blood test
- b. OAuth, you will be assimilated
- c. Send them an OTP
- d. Fingerprint or retinal scan

Verify

Store



Claim

How would you do identity verification?

Verify

- a. Obviously a blood test
- b. OAuth, you will be assimilated
- c. Send them an OTP
- d. Fingerprint or retinal scan

Store



Claim

How would you do identity storage?

Verify

- a. Throw it in a file - that's not a database is it?
- b. Mechanical turk: an army of humans write it out on paper
- c. Machine learning serverless blockchain™
- d. Keep it in memory and never let the server die

Store

Claim

How would you do identity storage?

Verify

- a. Throw it in a file - that's not a database is it?
- b. Mechanical turk: an army of humans write it out on paper
- c. Machine learning serverless blockchain™
- d. Keep it in memory and never let the server die

Store



How does nada work?

Claim

Facial recognition

Face to email mapping used to identify a user

Verify

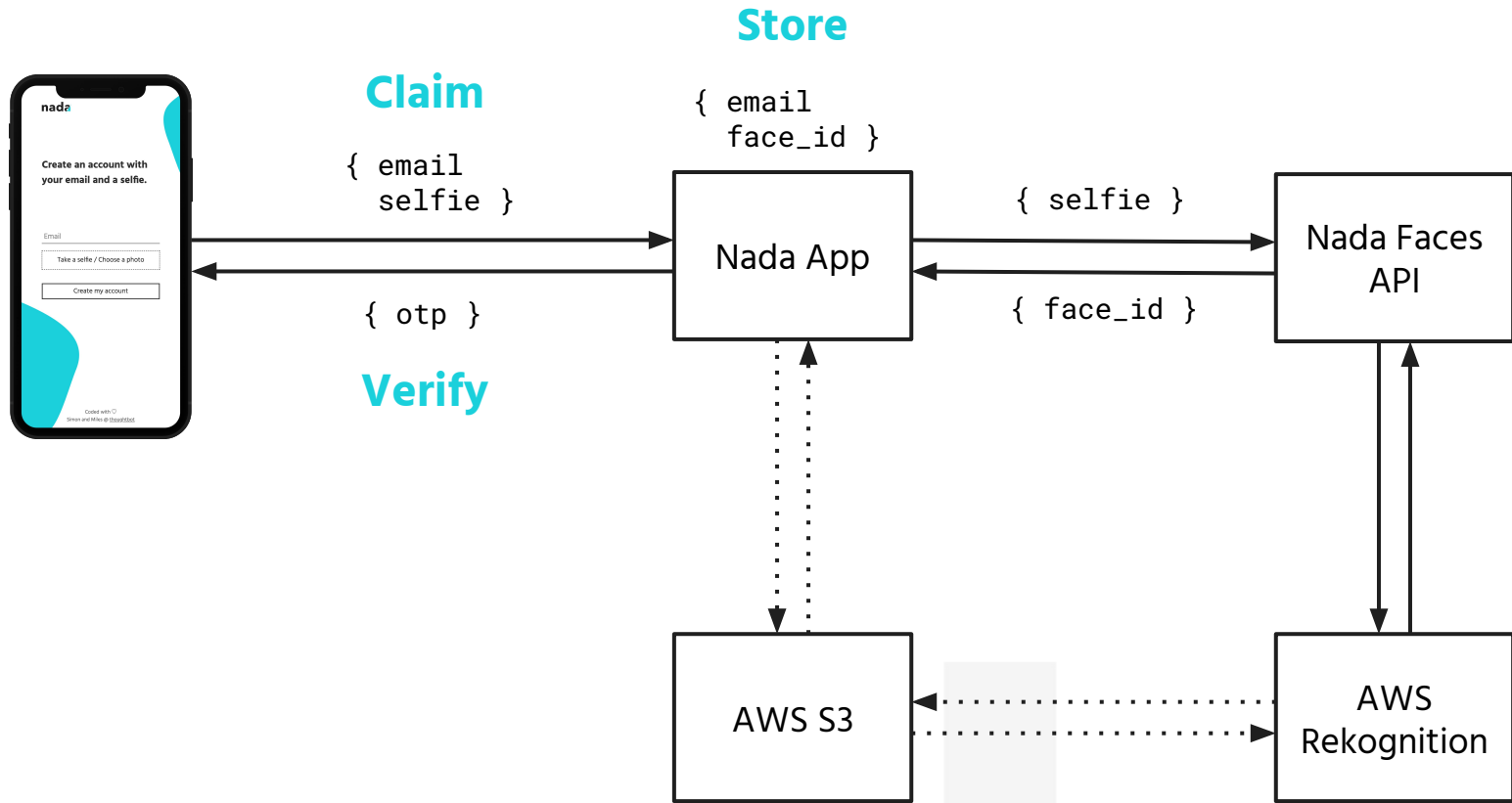
One time pin

Slack's "magic links" or an OTP sent to an email address

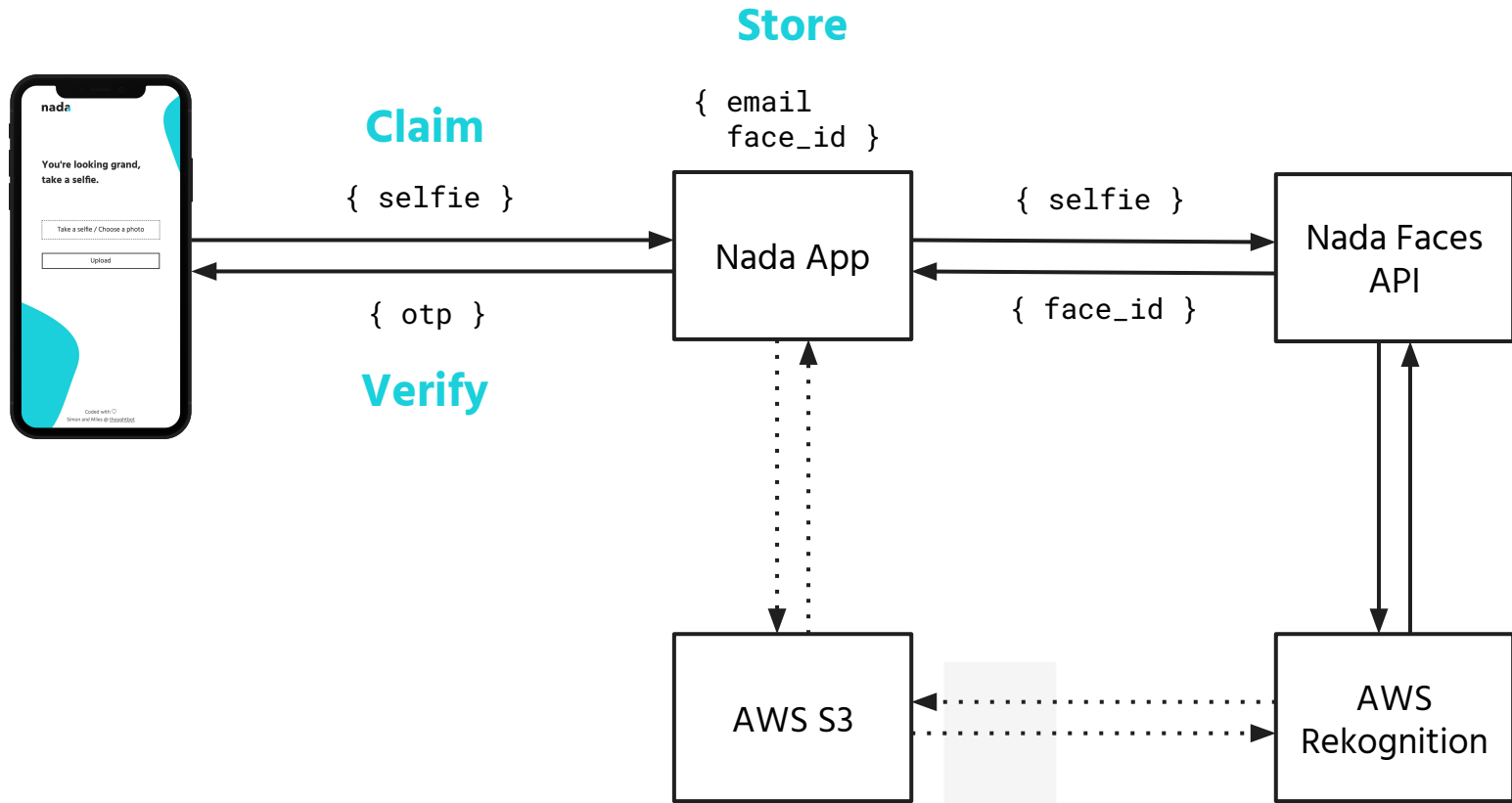
Store

Memory storage

Erlang process storing face to email mapping in memory



Sign up



Log in

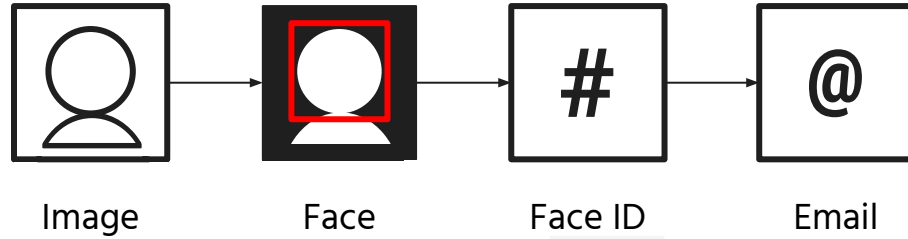
Facial recognition

Face to email mapping used to identify a user

Claim

Verify

Store



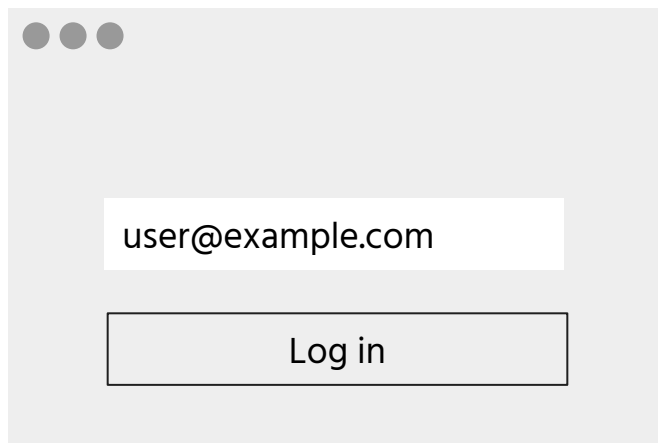
One time pin

Slack's "magic links" or an OTP sent to an email address

Claim

Verify

Store



A mockup of a login form. It features a light gray background with three dark gray circles in the top-left corner. Below these is a white input field containing the text "user@example.com". Underneath the input field is a gray button with a black border and the text "Log in".

One time pin

Slack's "magic links" or an OTP sent to an email address

Claim

Verify

Store

TO	user@example.com
FROM	mail@nada.com
thisappdoesnothing.com/djtufy	

One time pin

Slack's "magic links" or an OTP sent to an email address

Claim

Verify

Store

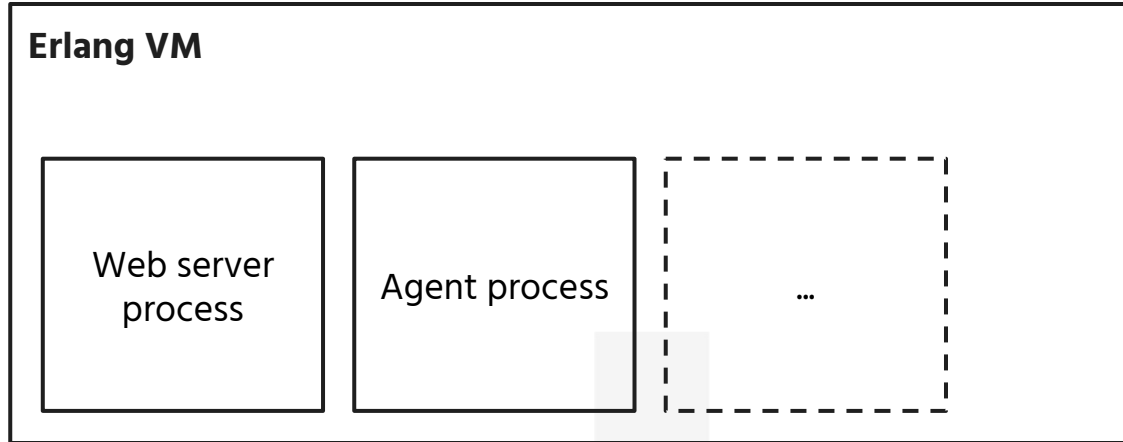


Memory storage

Claim

Erlang process storing face to email mapping in memory

Verify



Store

Memory storage

Claim

Erlang process storing face to email mapping in memory

Verify

Erlang VM

Web server
process

```
"a7j3hgdg" : "bob@gold.com"  
"jmd739sh" : "sam@mail.com"
```

Store

Demo

Data storage with Erlang/Elixir

Fault-tolerance

Java

“Write once, run **anywhere.**”

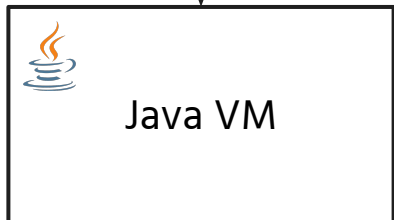
Erlang

“Write once, run **forever.**”

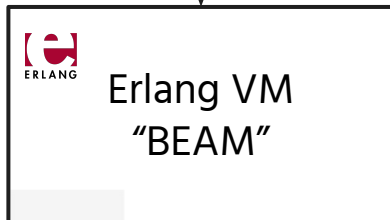




Clojure



Elixir



Erlang



elixir



1986

33 years ago

2011

~8 years ago

2019

Today

na d a

Object-oriented




```
Object.new
```

Functional



```
(x, y) => {}
```

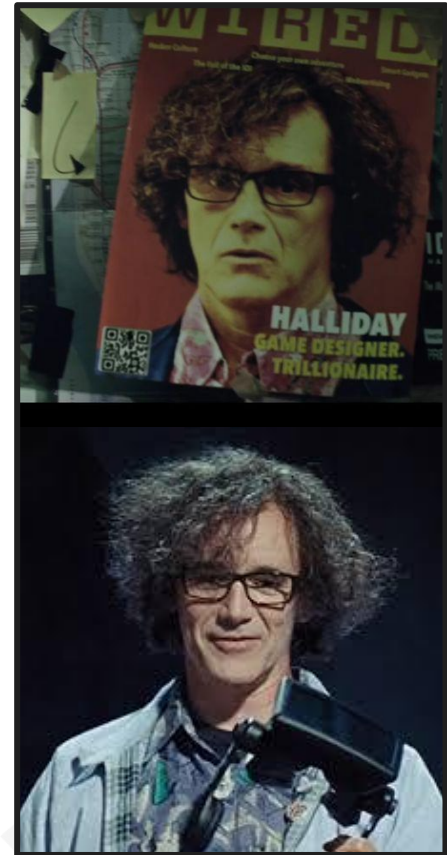
Process-oriented



```
spawn(fn -> 1 + 2 end)
```

“[Erlang] is the language of the system.”

Rich Hickey



Erlang data stores

- Mnesia
- ETS (Erlang Term Storage)
- Process state (GenServer/**Agent**)
- *Riak

How do you intend to query the data?

- Are there relationships between the data you store?
- Are you storing time-related data?
- Do you need to be able to look at the database in the past?

Typical data storage options by query

- Relational
- Object / Document
- Graph
- Key-Value
- Time series
- Fact tables



What have we learned?

Have fun

made

You can do “AI”

made

A new programming model

made a

~~Choose a database~~

made

Don't cargo-cult software design

reads

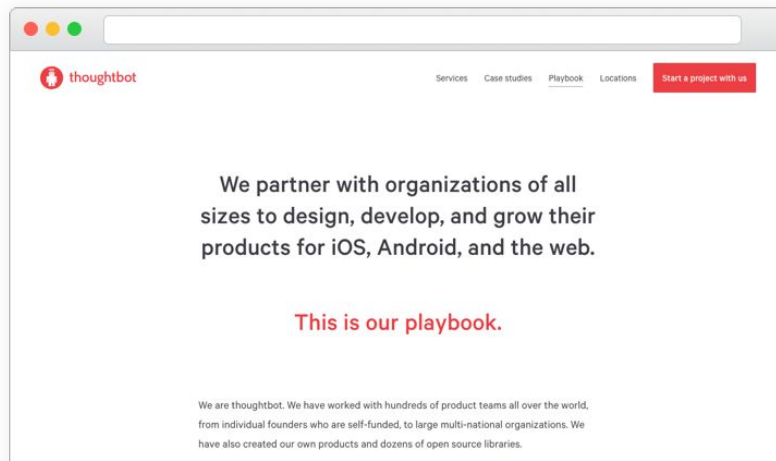
Make a responsible decision

made

that's it



thoughtbot



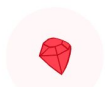
UPCASE



Clean Code



Git



Ruby on Rails



Testing



iOS



Haskell



JavaScript



Vim



tmux



Design

12 results for public repositories written in Elixir

Clear filter

constable

Better company announcements

elixir communication webapp elixir-phoenix thoughtbot

Elixir ★ 369 🍴 41 📄 AGPL-3.0 Updated 3 hours ago



ex_machina

Create test data for Elixir applications

testing elixir factories factory-definitions

Elixir ★ 1,146 🍴 111 📄 MIT Updated 5 hours ago



whiteboard

A remote whiteboard

Elixir Updated 5 hours ago



bamboo

Testable, composable, and adapter based Elixir email library for devs that love piping.

elixir email bamboo elixir-phoenix

Elixir ★ 1,086 🍴 215 📄 MIT Updated 8 days ago



formulator

A form library for Phoenix

elixir phoenix formulator form thoughtbot



thank you



Simon van Dyk
@siefi



thoughtbot

