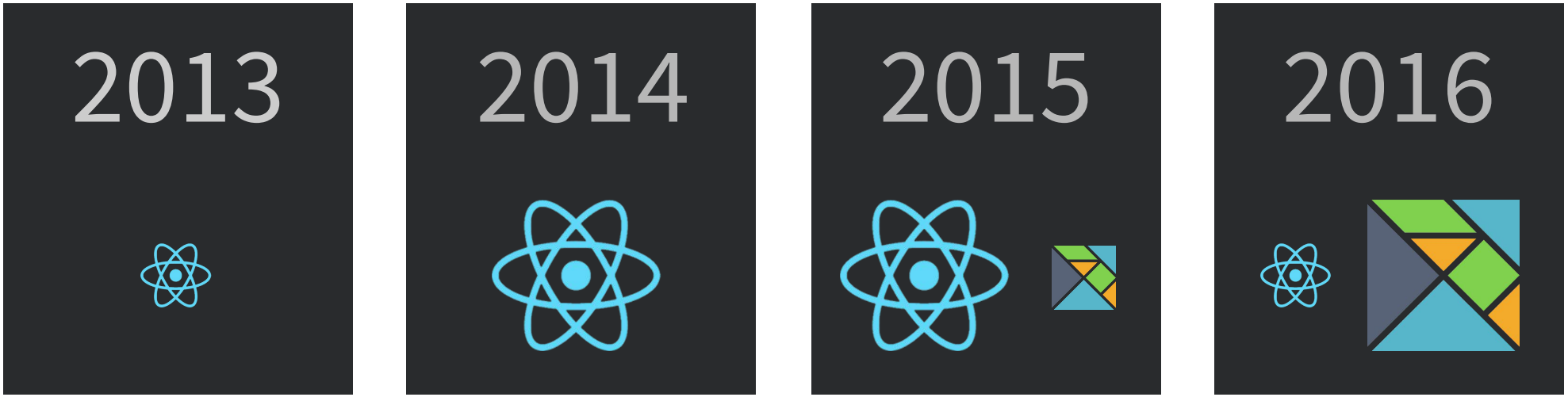
FULL-SCALE elm IN PRODUCTION
@rtfeldman

noredink


2013
2014
2015
2016

Rollbar

noredink IN PRODUCTION

2 billion questions answered

100,000 lines of elm code

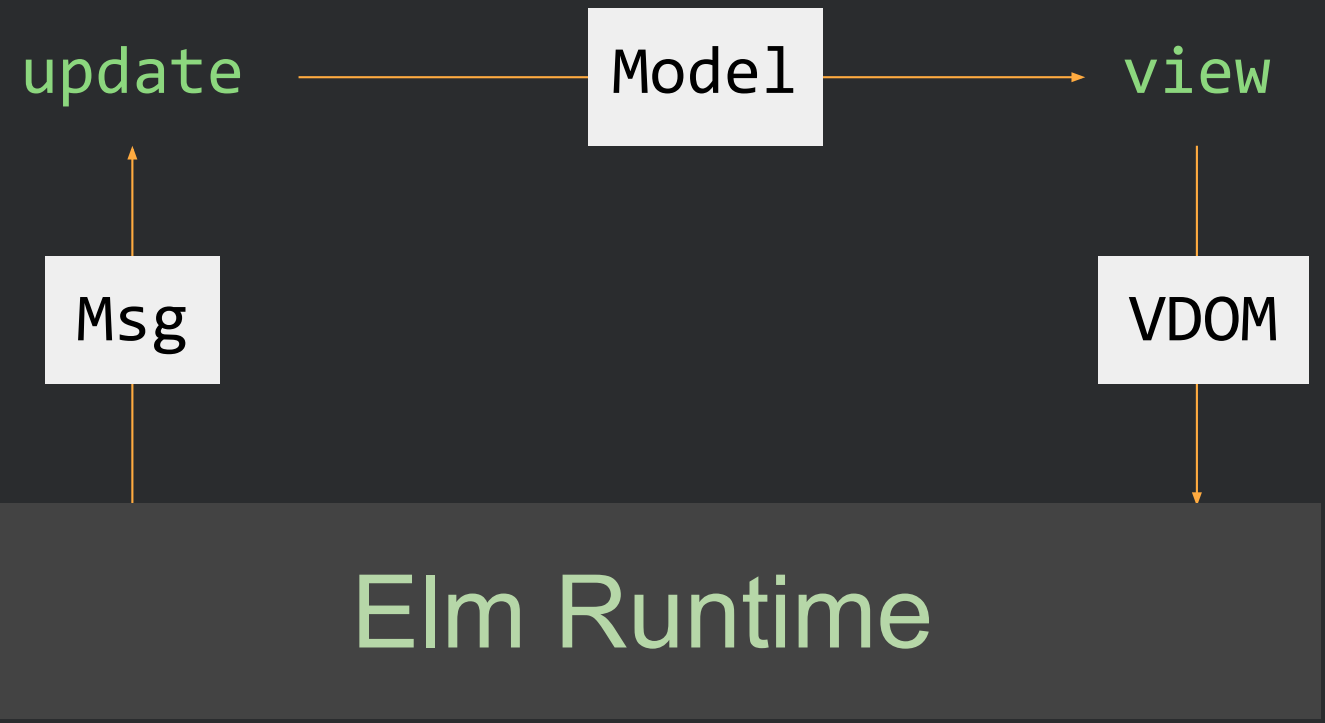
0 runtime exceptions

Ellie

VIEW FUNCTION

ARGUMENTS → VIRTUAL DOM

the elm architecture

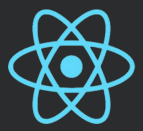


APPLICATION STATE

JavaScript DOM + globals

React components + stores

Elm 1 immutable value



Object-Oriented vs Functional

Elm has no **components**

different paradigm to learn

Dynamic Types vs Type-Checked

“if it compiles, it usually just **works**”

cheaper refactoring → **less technical debt**

more time in the console, less in the browser

IMPACT ON VELOCITY

JS: Quicker to get something on the screen

Elm: Higher overall velocity

Interoprerating with JavaScript

Elm code talks to JavaScript
the way it talks to servers

JAVASCRIPT AS A SERVICE

MAINTAIN GUARANTEES

while accessing the huge

JAVASCRIPT ECOSYSTEM

npm

much bigger than elm-package ecosystem

publish JavaScript, binaries, etc.

may also install keyloggers

elm-package

installing packages can’t install keyloggers

supports Elm code, not arbitrary JavaScript

semantic versioning automatically enforced

elm-package

less available off-the-shelf, more DIY

~~write a wrapper around moment.js~~

write a Date library in pure Elm

long-term ecosystem quality

Full-Scale Elm

begins with

Small-Scale Elm

SHIP SOMETHING SMALL

GET IT INTO

PRODUCTION

how will we...

INTEGRATE it into our code?

TEACH it to our teammates?

BUILD and deploy it?

MINIMAL RISK

MAJOR REWARD

how will we **BUILD** it?

~~Sprockets (Rails)~~

Webpack loader

`elm-make`

ADVANCED BUILDS?

What about...

Code Splitting

Server-Side Elm

Server-Side Rendering

“Why not use _____ instead?”

delight

```
Detected errors in 1 module.


-- ALIAS PROBLEM ------------------------------------------------------ ./Maze.elm

This type alias is recursive, forming an infinite type!

21|>type alias Node =
22|>    { x : Int
23|>    , y : Int
24|>    , children : List Node
25|>    }

When I expand a recursive type alias, it just keeps getting bigger and bigger.
So dealiasing results in an infinitely large type! Try this instead:

    type Node
        = Node { x : Int, y : Int, children : List Node }

This is kind of a subtle distinction. I suggested the naive fix, but you can
often do something a bit nicer. So I would recommend reading more at:
<https://github.com/elm-lang/elm-compiler/blob/0.17.0/hints/recursive-alias.md>
```

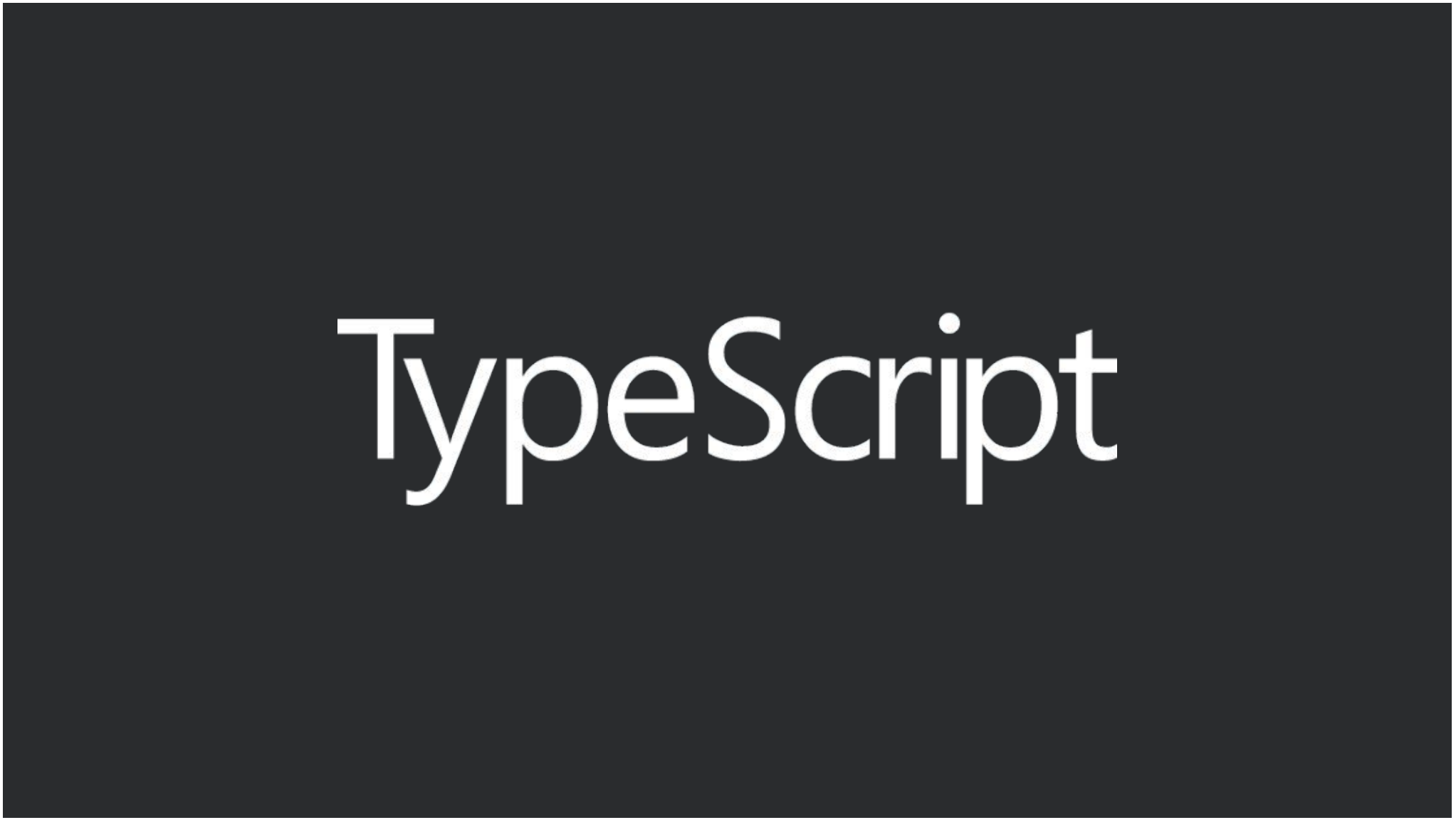
"That should be an inspiration for every error message." —John Carmack

reliability

(optional types)

(optional types)

(optional types)


TypeScript

any

“just don’t use it”

“also don’t use libraries that use it”

DefinitelyTyped

The repository for high quality TypeScript type definitions

any is considered part of best practices

LESS CRASHING THAN PLAIN JS

ZERO RUNTIME EXCEPTIONS

“Why not use a different FP language?”

Haskell PURESCRIPT (or GHCjs)

OCaml + BuckleScript

Scala

Clojure ClojureScript

optional typing

ClojureScript

anything can be `null`

ClojureScript

Scala.js

anything can run arbitrary JS code

ClojureScript

Scala.js

PURESCRIPT

+ BuckleScript

how will we **HIRE** anyone?

11 developers hired in 2016

9 cited Elm as a reason for applying

hiring was much harder before we used Elm!

WHICH JOB POSTS STAND OUT?

Hiring for React, Redux, Immutable.js, Babel

Hiring for Angular 2, TypeScript, Ramda

Want to come write Elm full-time?

how will we **TEACH** it?

more new hires already know React than Elm

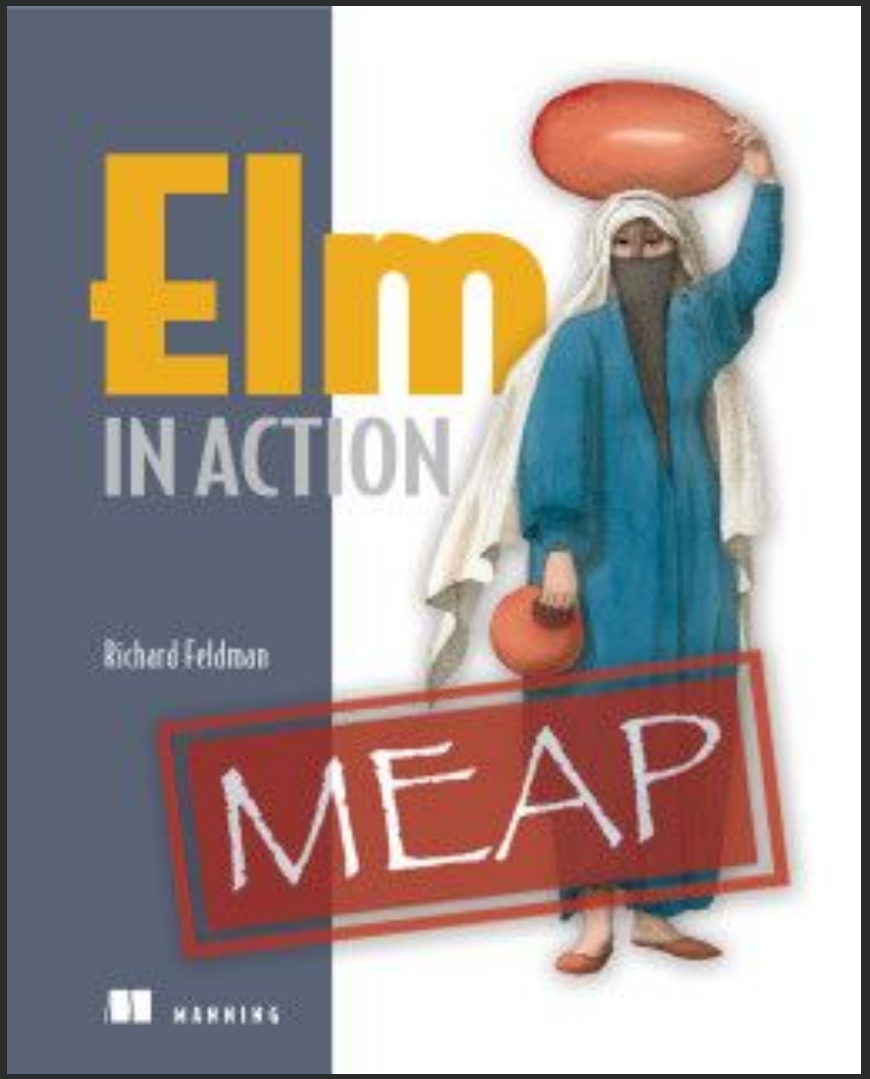
similar time to becoming prod contributor

compiler aids beginner learning a **LOT**

RESOURCES

`guide.elm-lang.org`

How to Use Elm at Work
elm-lang.org/blog


Elm
IN ACTION
Richard Feldman
MEAP
MANNING

Luke Westby
humblespark.com
created ***Ellie***

TRAINING

Brian Hicks
aster.is
created elm-benchmark

Kris Jenkins
jenkster.com
created elm-remote-data

Elm Town Podcast

elmtown.github.io

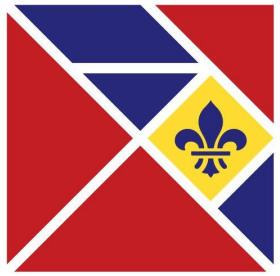
beginner-friendly community

REDDIT **(weekly beginner questions thread)**
`reddit.com/r/elm`

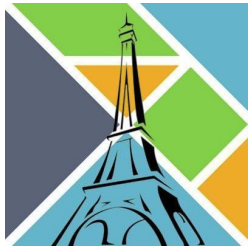
SLACK **(5,000+ members, #beginners channel)**
`elmlang.herokuapp.com`

London

Zürich

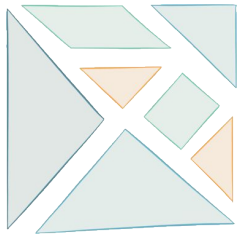


St. Louis



Paris

Seattle



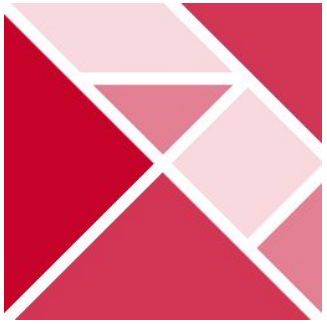
Helsinki

Denver

DC

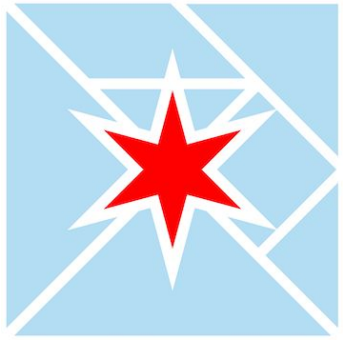
Utrecht

San Francisco



Copenhagen

Hamburg



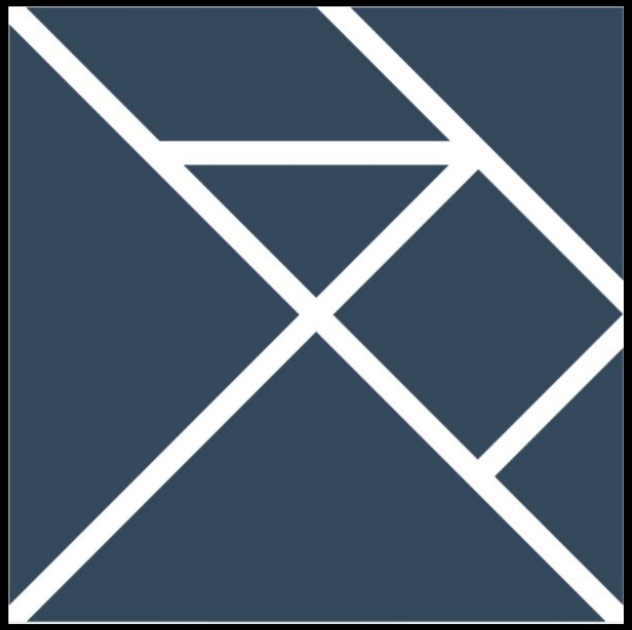
Chicago

elm-conf
St. Louis, Missouri
September 15, 2016

Elm Europe 2017 About Speakers Schedule Tickets Getting There Sponsors Buy Tickets »

Elm Europe 2017

June 8 - 9, 2017 — Villejuif, France



HOW CAN **OUR TEAM** DO THIS?

Full-Scale Elm

begins with

Small-Scale Elm

SHIP SOMETHING SMALL

GET IT INTO

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