



and the future of JavaScript

Read these slides on your device:

<https://slides.com/seldo/npm-future-of-javascript-qcon>

QCon SF, 2018-11-05

Who is this guy?

Laurie Voss

COO & co-founder, npm Inc.

 @seldo

This talk is about you

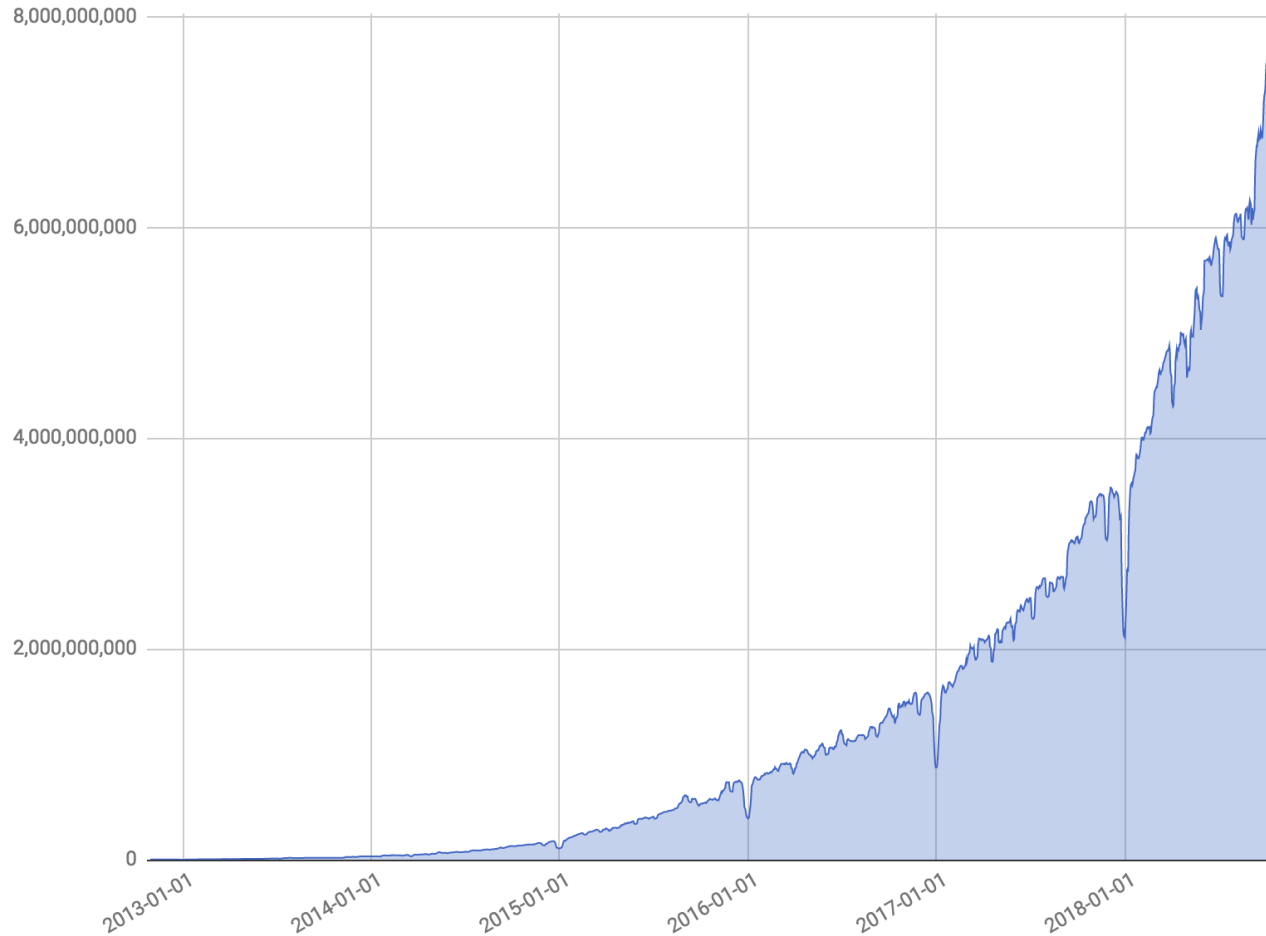
Three parts:

1. What you should know about npm
2. What npm knows about you
3. The future of JavaScript

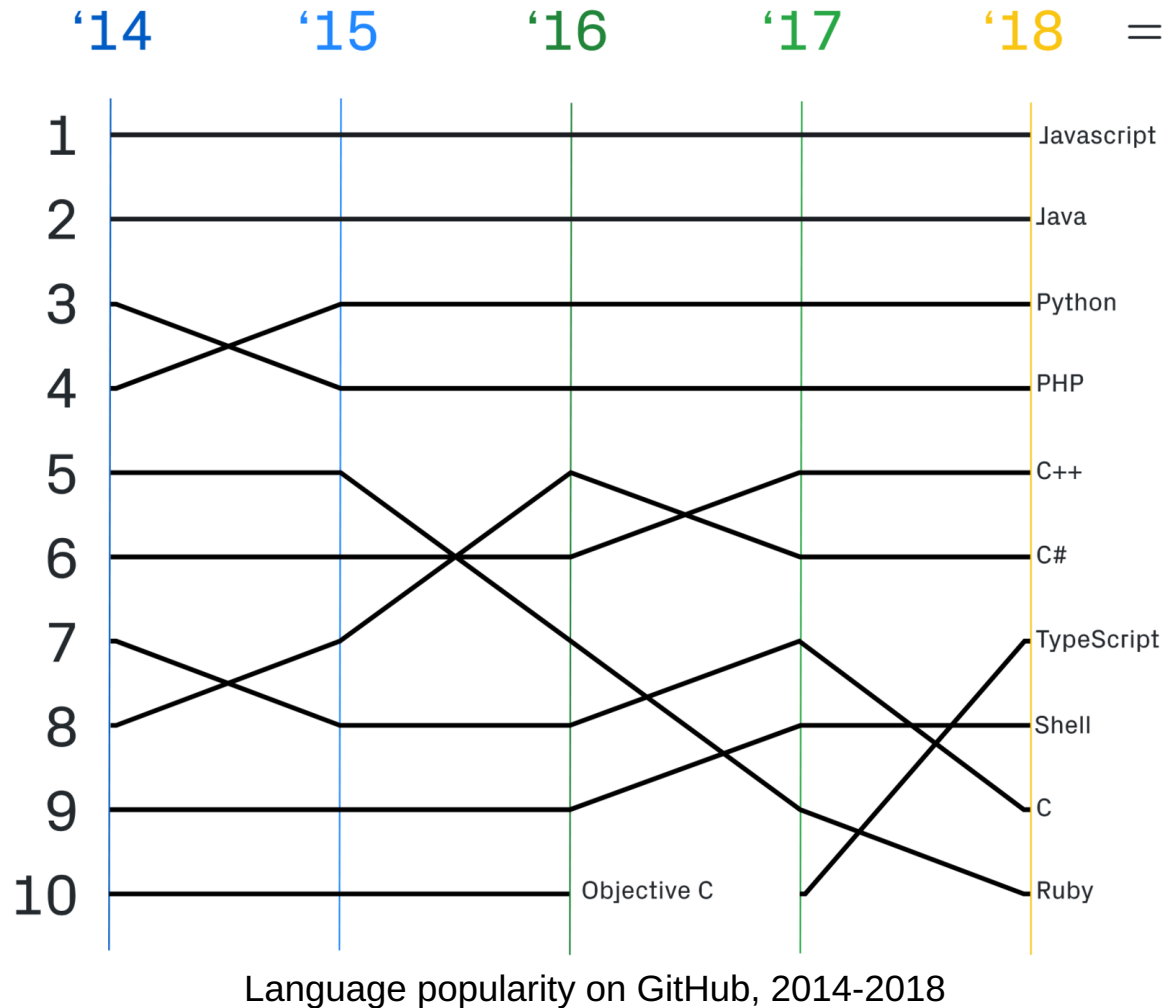
Part 1: what you should know about npm

npm is popular

Rolling weekly downloads of npm packages



JavaScript is enormously popular



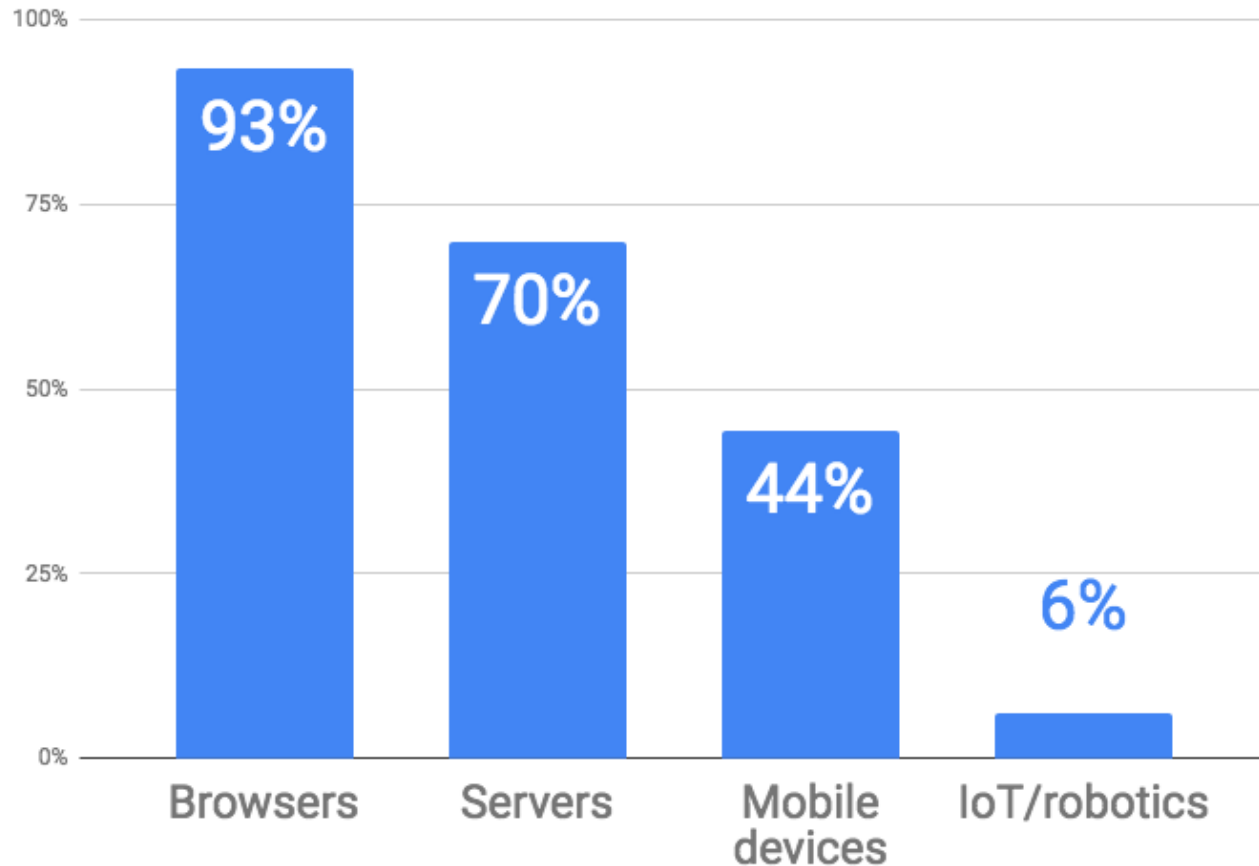
Who's using npm?

- All 50 of the Fortune 50 (we checked!)
- All 50 of the 50 biggest banks
- All 50 of the 50 biggest tech companies
- All 500 of the Fortune 500

JavaScript
is the most important
programming language
in the world

npm is the package manager for all JavaScript

The JavaScript I write runs on...



But npm is especially
for web developers

97%

of the code in a
modern web app
comes from npm

npm is super fast now

Why not destroy the conference wifi by upgrading right now?

```
npm install npm -g
```

Is npm faster than
Yarn?

npm 6

locks by default

npm ci will double the speed of your builds

You can use

```
npm ci
```

anywhere you used to use

```
npm install
```

and it will be twice as fast

npm Security

A bunch of new features

npm 6 has 2FA: two-factor auth

Secure your npm account in 30 seconds:

<http://go.npm.me/2fa>

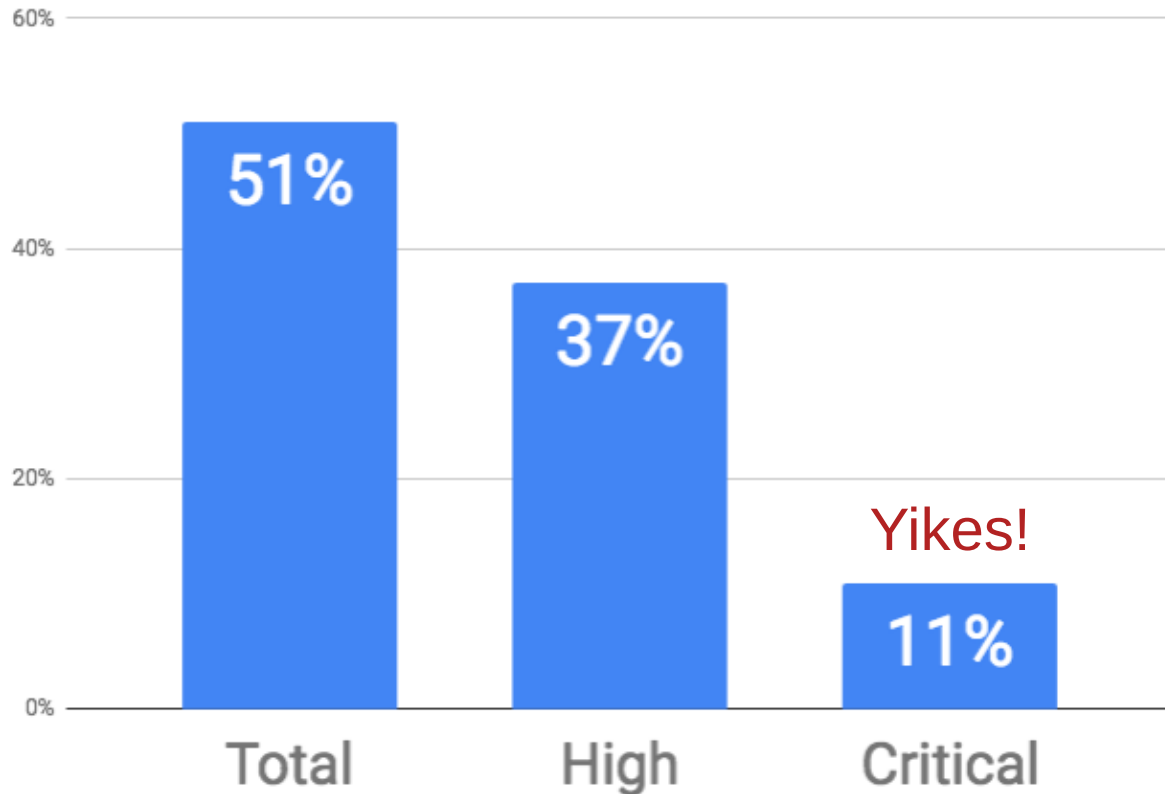
npm Quick Audits

Just run `npm install!`

npm Quick Audit stats

4 million scans per week

Percentage of modules downloaded with vulnerabilities



npm audit

Just run in your current project:

```
npm audit
```

Learn more:

<http://go.npm.me/audits>

npm audit fix

Just run in your current project:

```
npm audit fix
```

or

```
npm audit fix --force
```

for the adventurous

Security has become
central to npm Inc.

Use npm because npm is safer than Yarn

BREAKING NEWS: Company recommends own product.

A user journey from Yarn back to npm:

<https://mixmax.com/blog/to-yarn-and-back-again-npm>

Yarn to npm migration tool:

<https://npm.im/deyarn>

npm.community

npm is a company
that sells good and
services that you will
find useful

npm Organizations

Private packages and security for teams

npm Enterprise

A full-featured private registry for your company.

npm Security

is worth paying for

Part 2:

What npm knows about you

- **1.5 billion** log events per day
- **16,000+** survey responses

Part 2A: demographics

Please stand up!

(If you can't stand up, raise a hand)

Sit down if you don't match the description.

Stay standing if you

use npm

Stay standing if you

**write JavaScript that
runs in browsers**

Stay standing if you

**write JavaScript
at work**

Stay standing if you

are concerned about
security of open
source code

Stay standing if you

mostly taught
yourself JavaScript

Stay standing if you

**also write PHP or
Java sometimes**

Stay standing if you

work at a company
that isn't considered
a "tech company"

Stay standing if you

**started using npm
less than 2 years ago**

Stay standing if you

use webpack

Stay standing if you

use babel

Stay standing if you

work on a React app

Stay standing if you

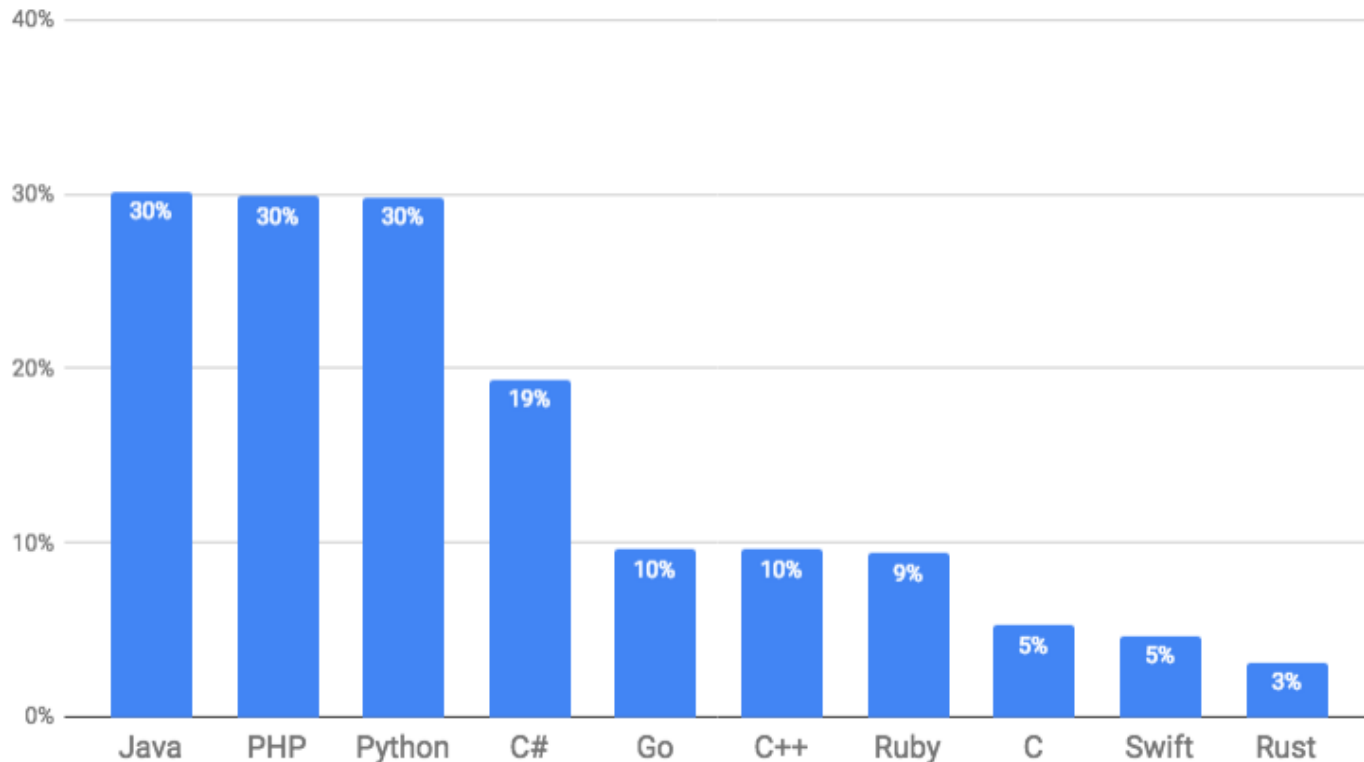
use TypeScript



So we know some
stuff about you

npm users don't always write JavaScript

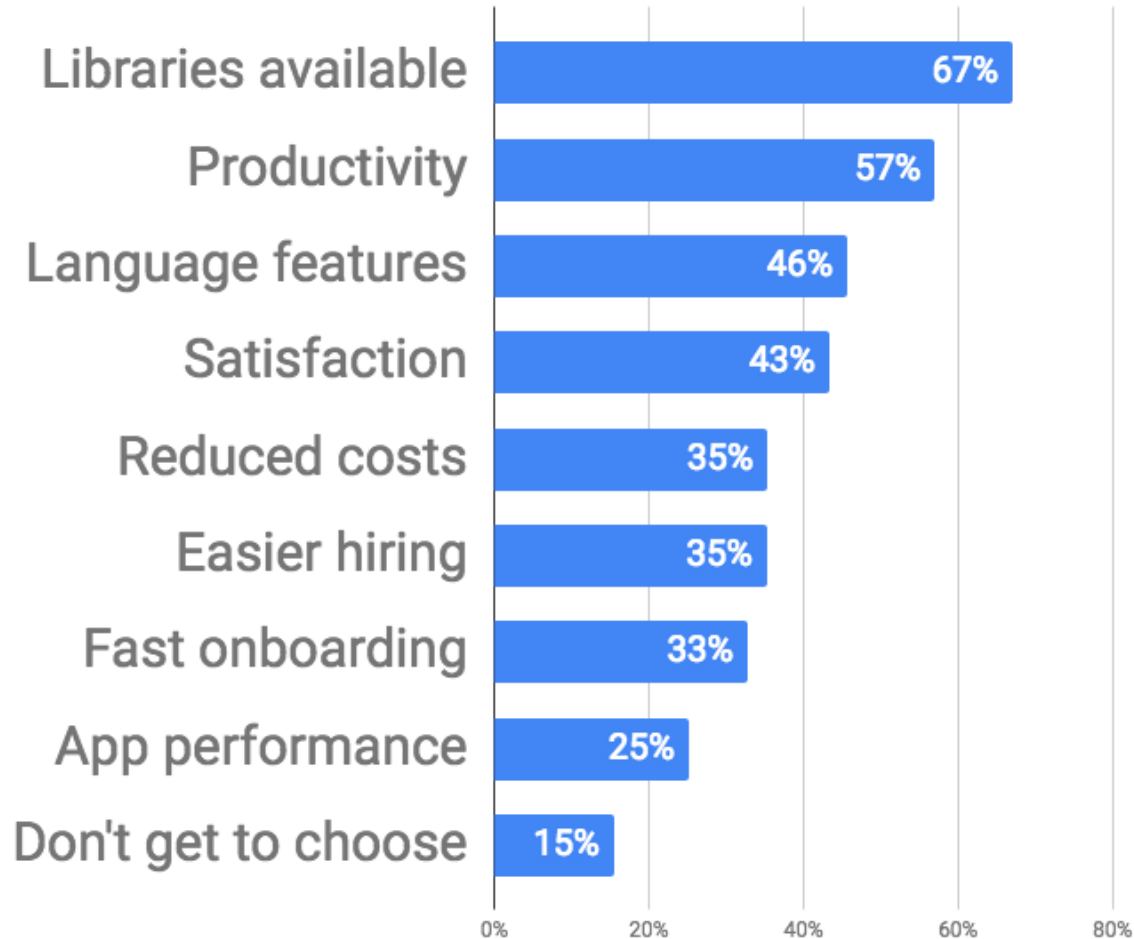
What languages do you use in addition to JavaScript?



The programming language you pick is determined by the libraries available

<http://sns.cs.princeton.edu/docs/asr-oopsla13.pdf>

Devs pick JavaScript because of npm



npm users are concerned about security

- **77%** are concerned
- **52%** said current tools aren't adequate

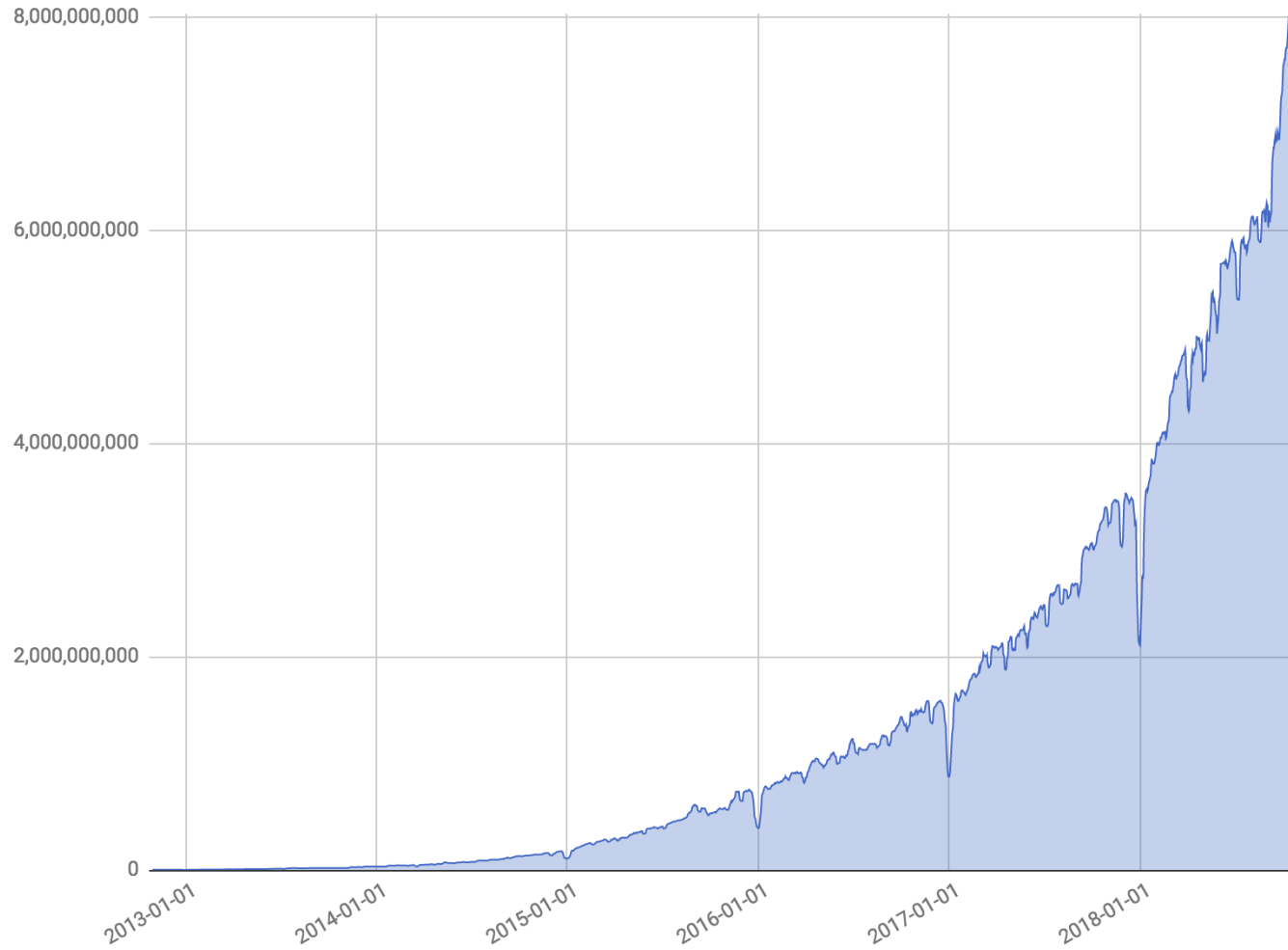
Part 2B: the tools we use

I am about to make
you angry

with graphs

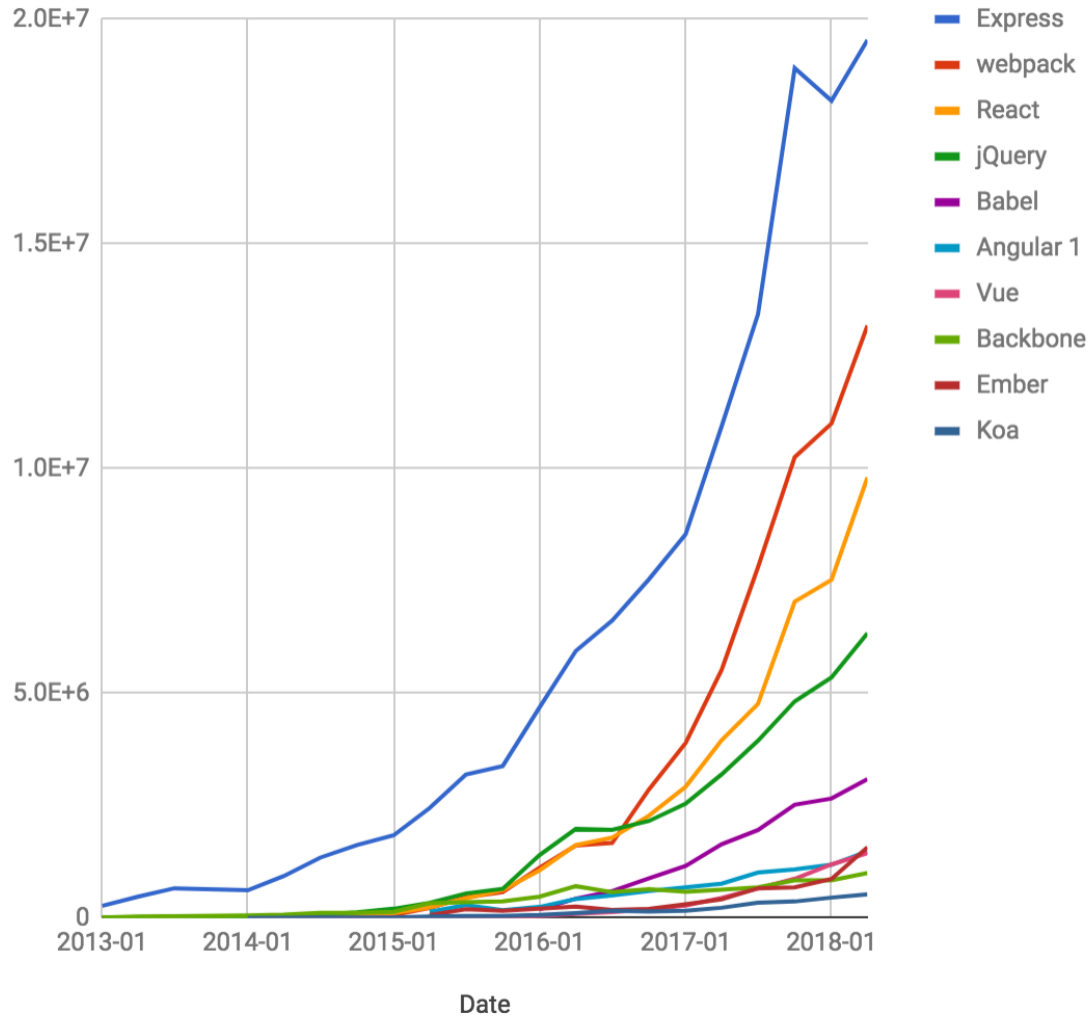
Growth in context

Rolling weekly downloads of npm packages



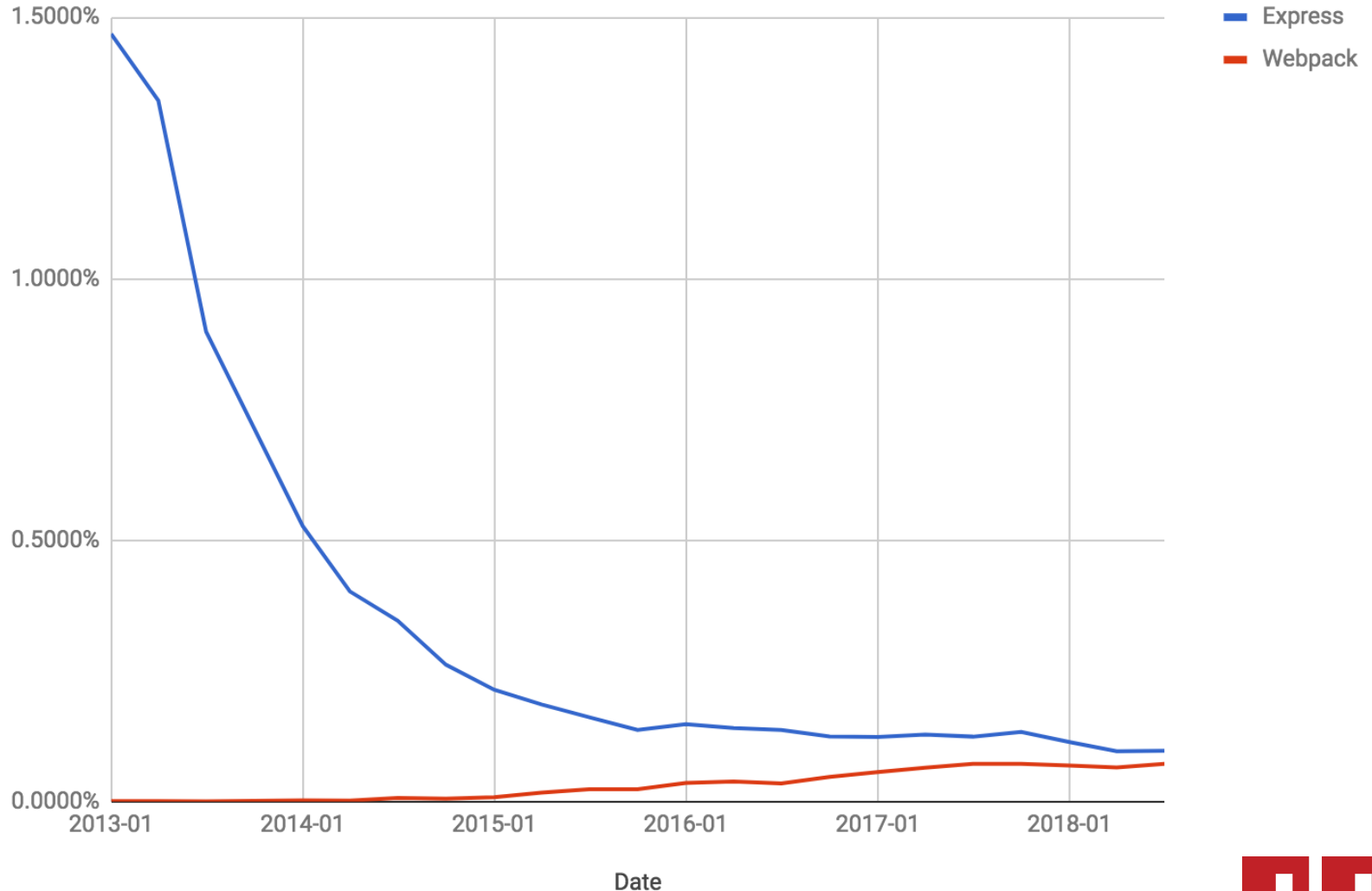
Everything in npm grows

Absolute growth of npm frameworks



Share of registry

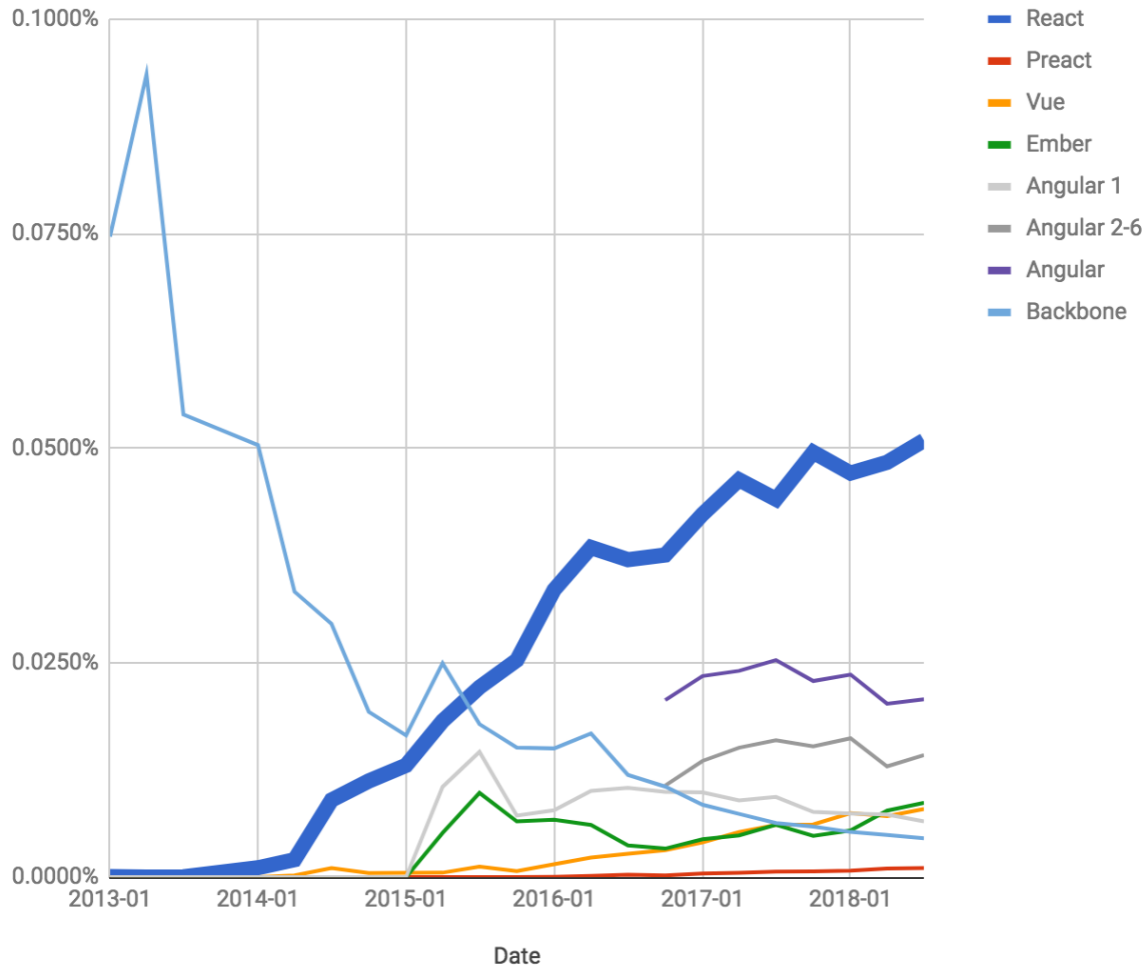
Express vs Webpack



React

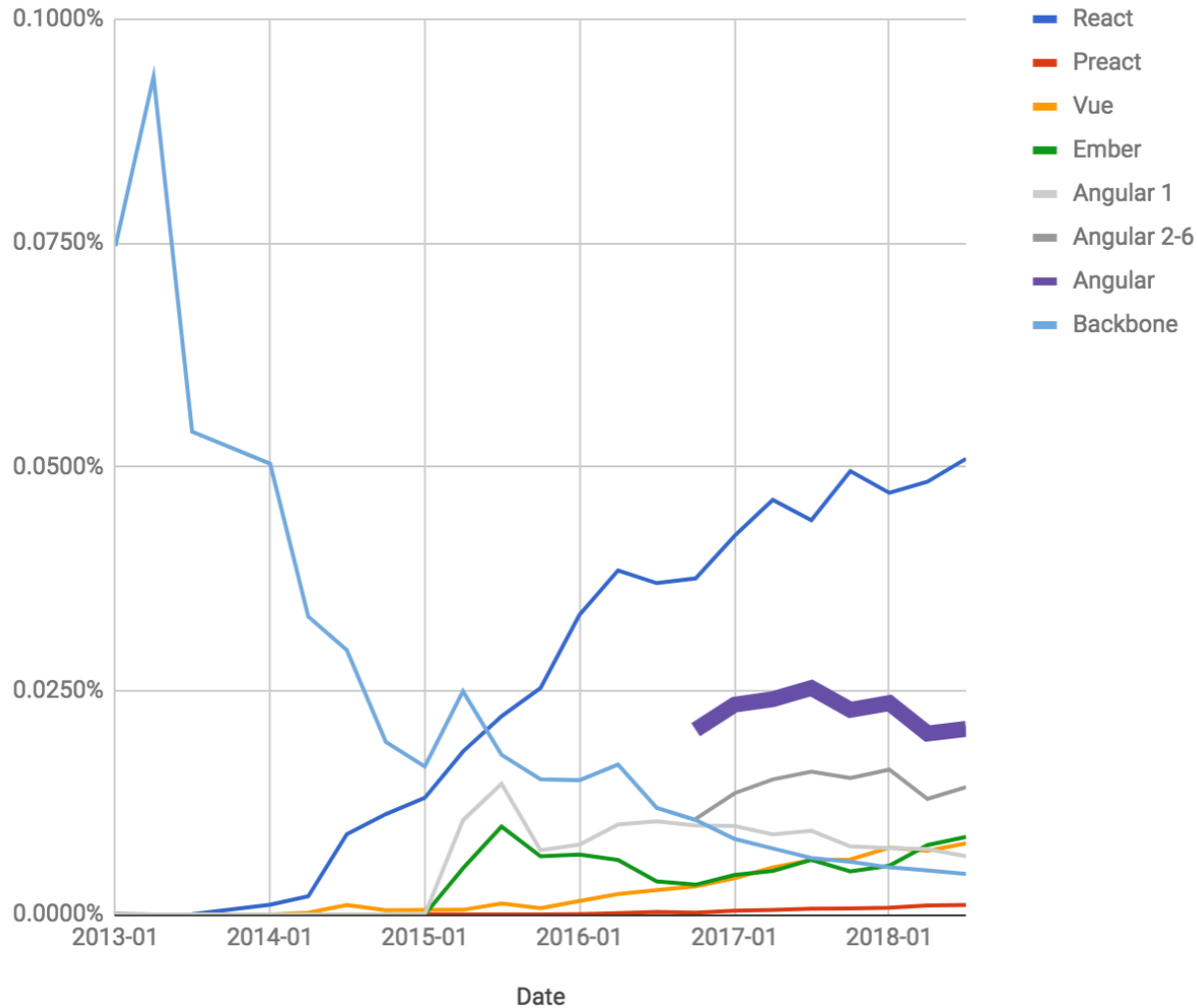
60% of npm users say they use React

Major FE frameworks, share of registry



Angular

Major FE frameworks, share of registry



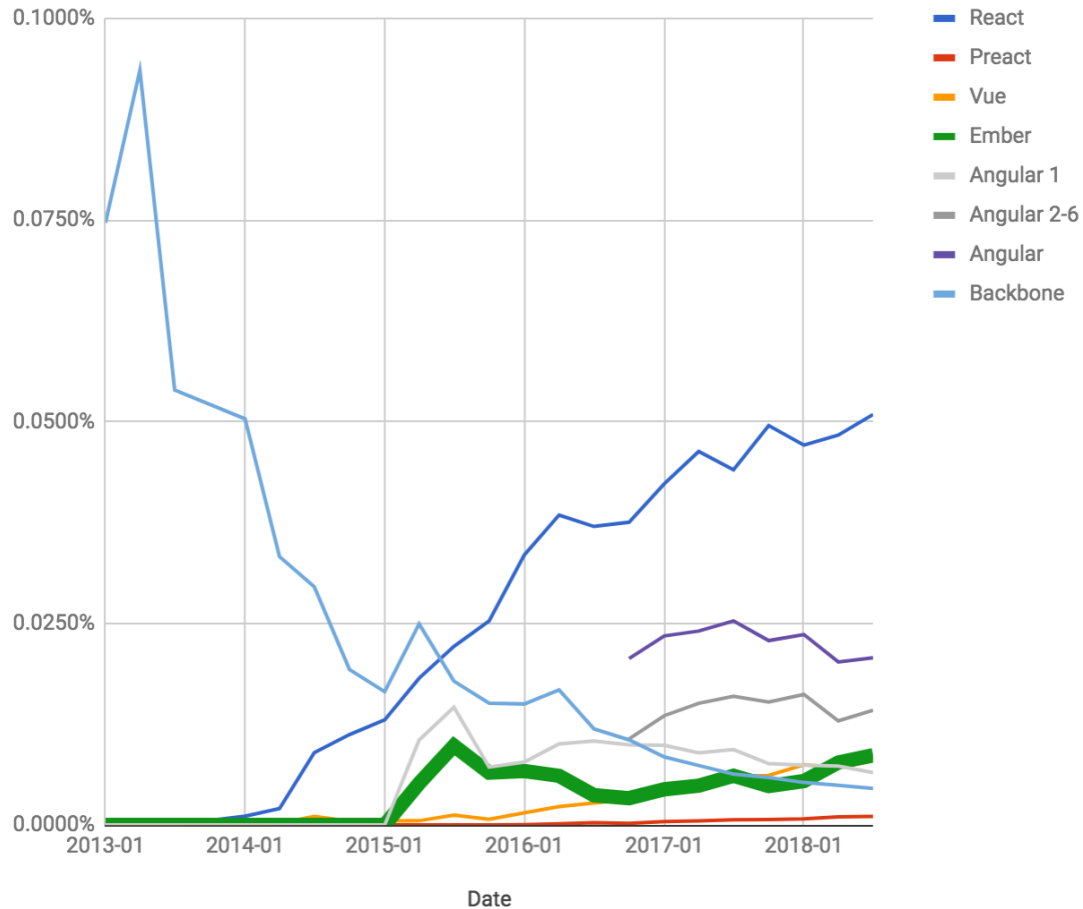
Angryler

Angular is seeing fewer downloads,
please don't yell at me about it.

Ember

The comeback kid

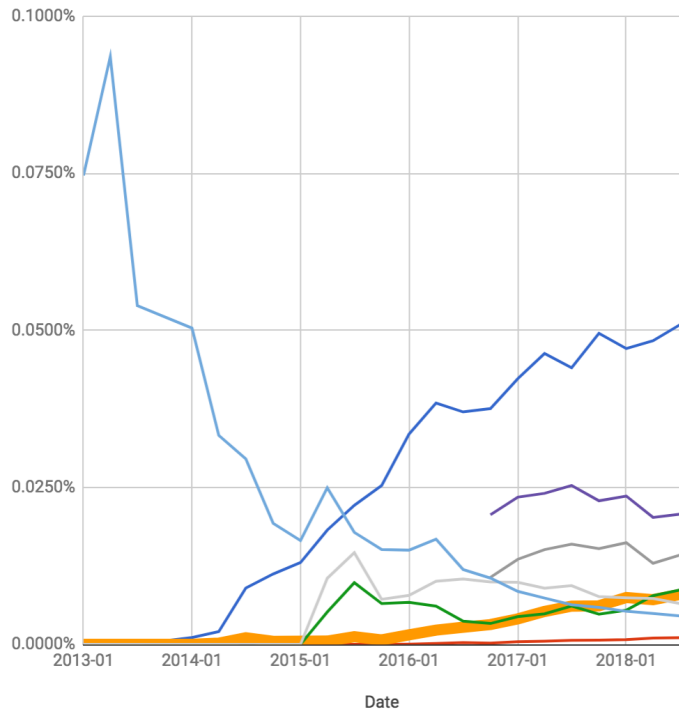
Major FE frameworks, share of registry



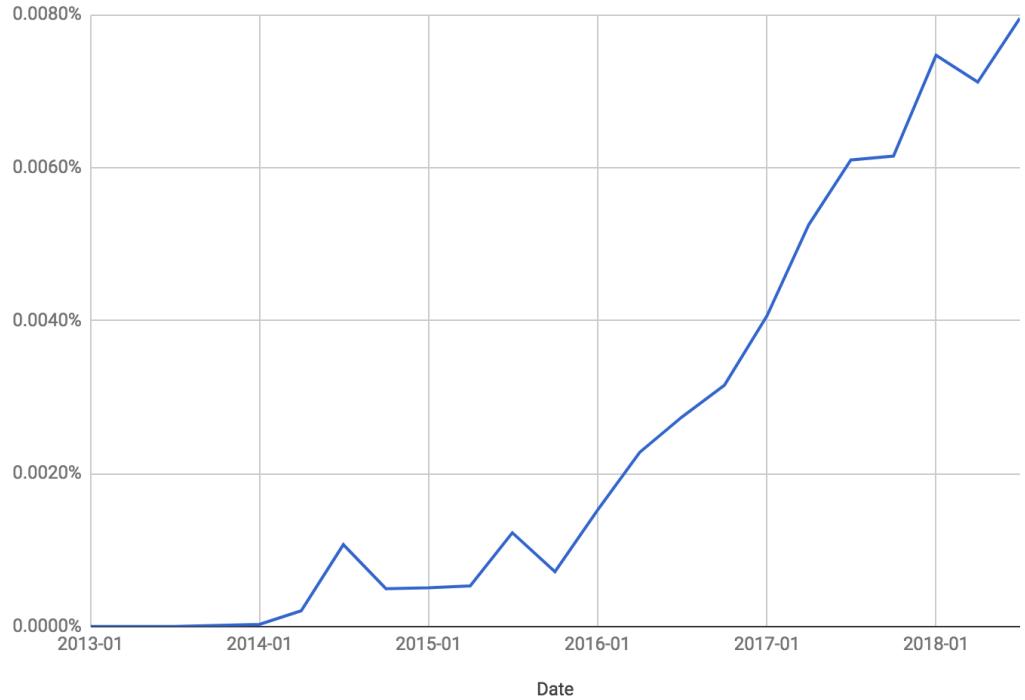
Vue

The next big thing?

Major FE frameworks, share of registry

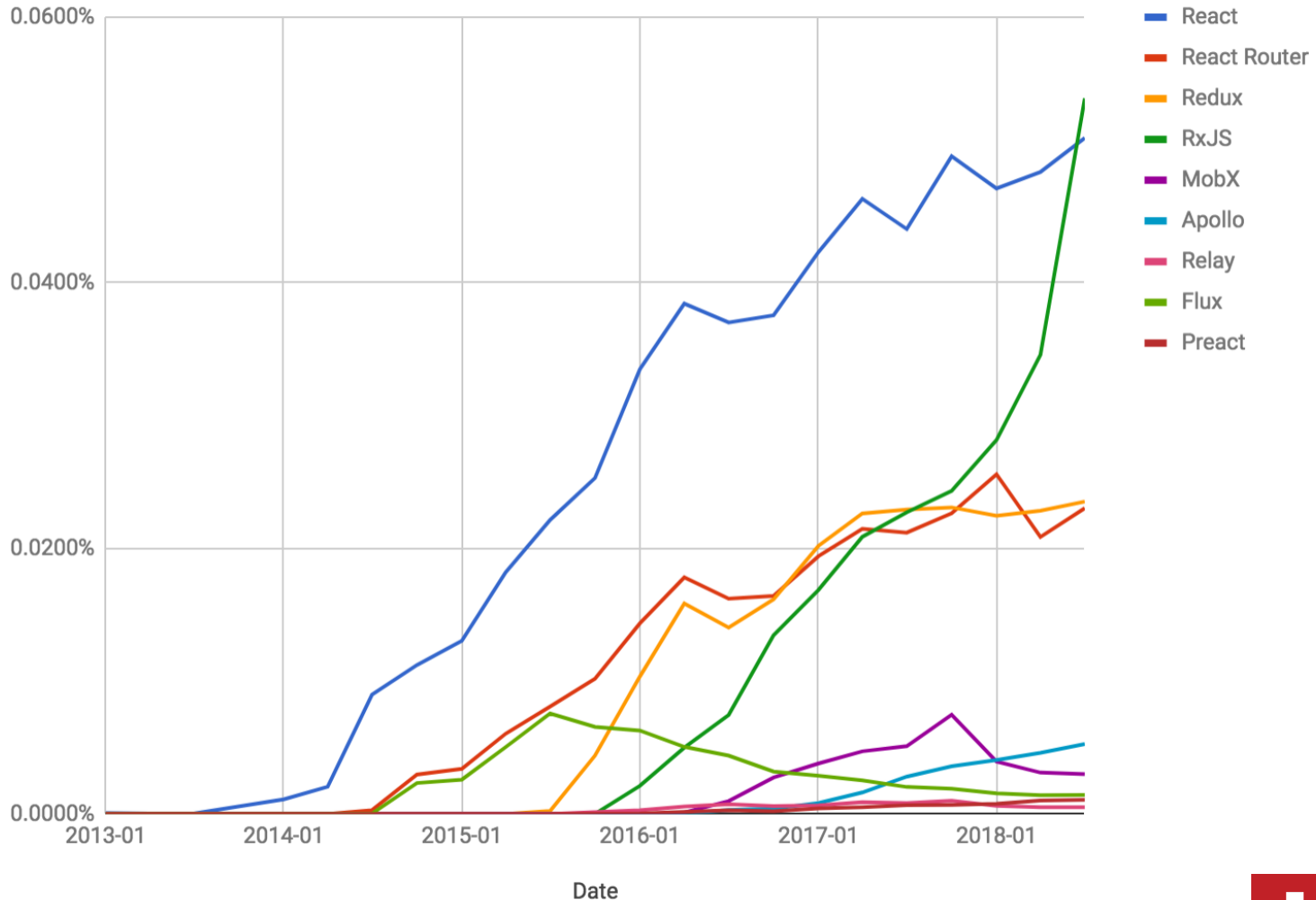


Vue: taking off



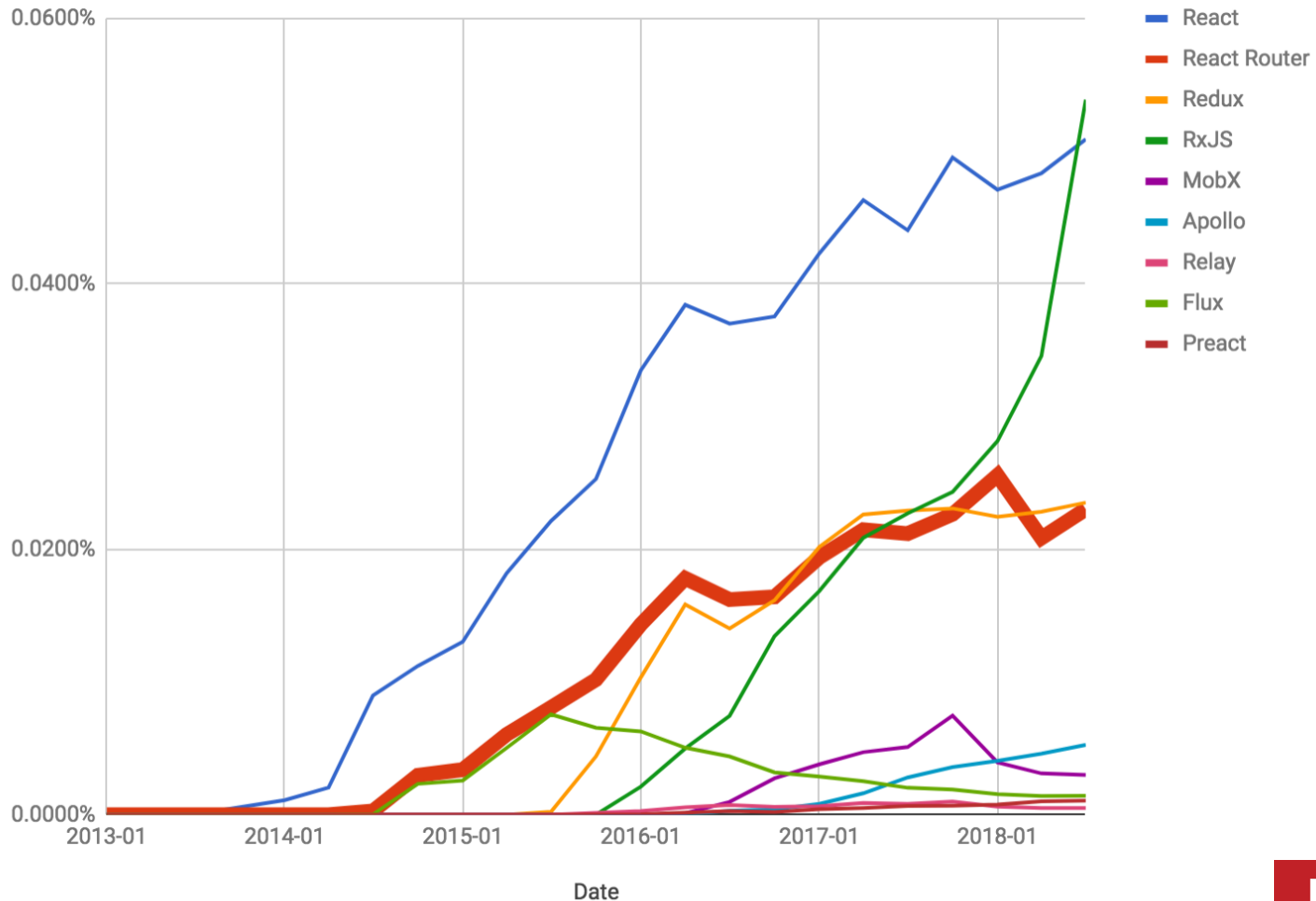
The React ecosystem

React ecosystem, share of registry



React Router

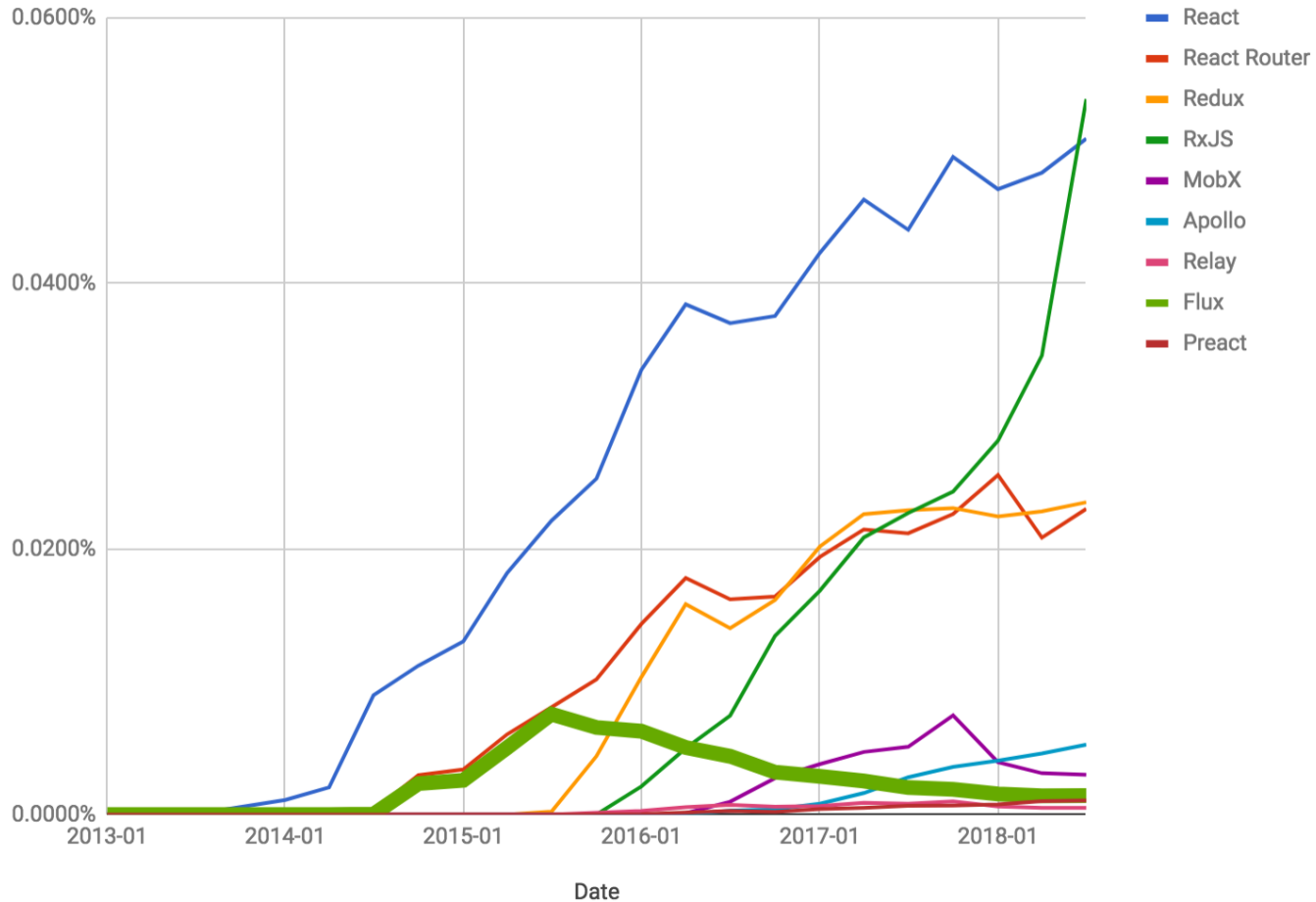
React ecosystem, share of registry



React is a triumph of
modular design

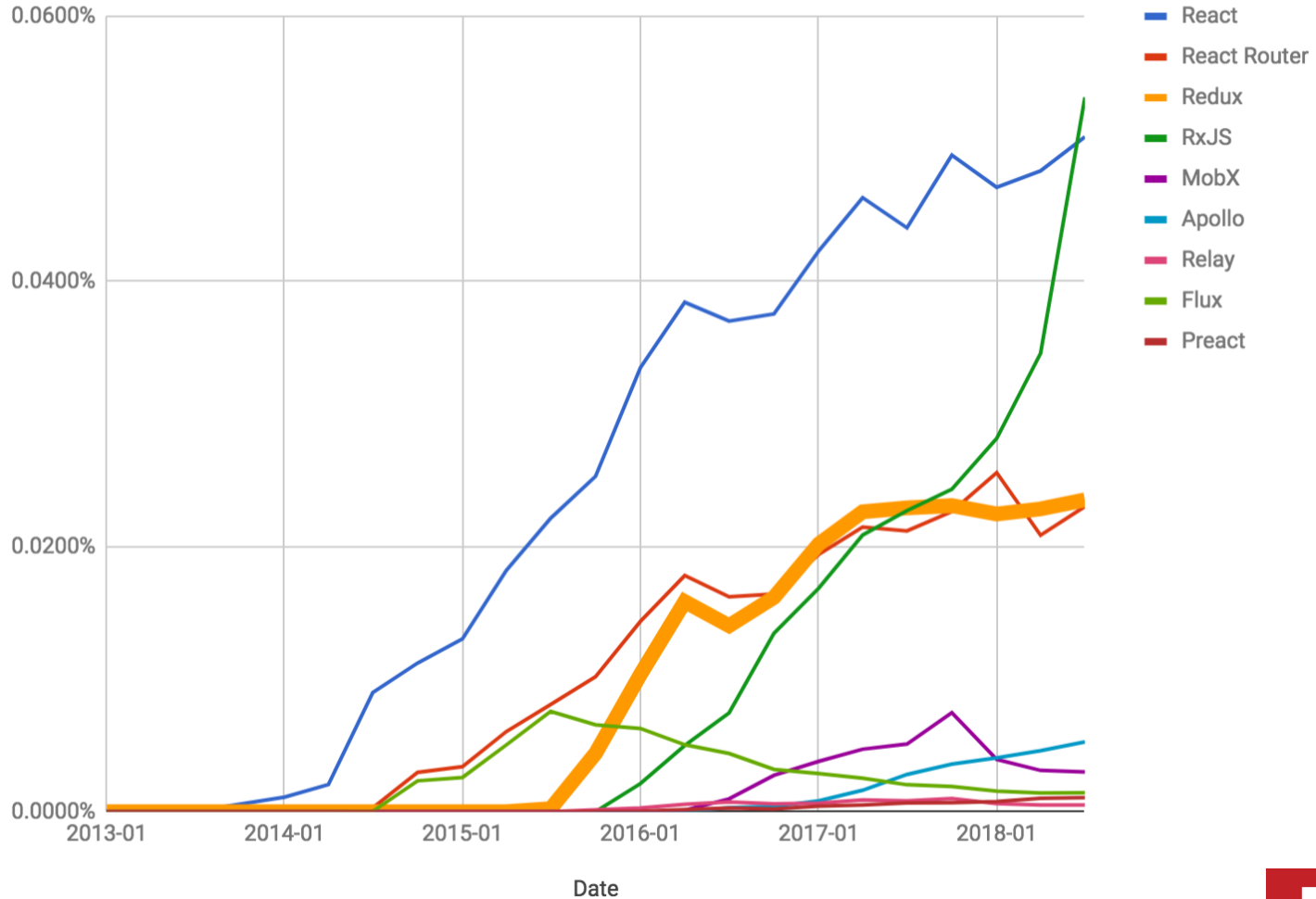
Flux

React ecosystem, share of registry



Redux

React ecosystem, share of registry

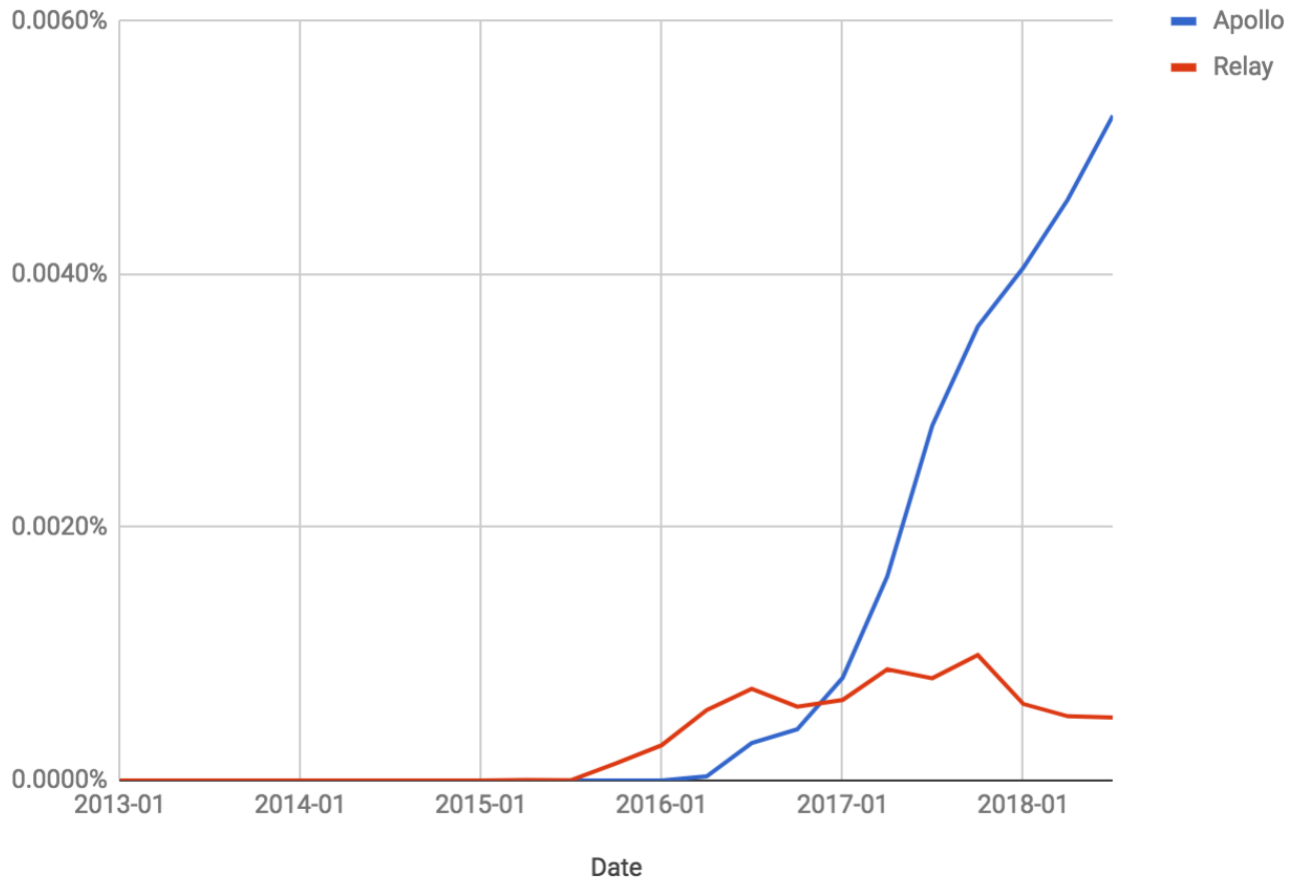


React Hooks

Coming soon to a repo near you

GraphQL

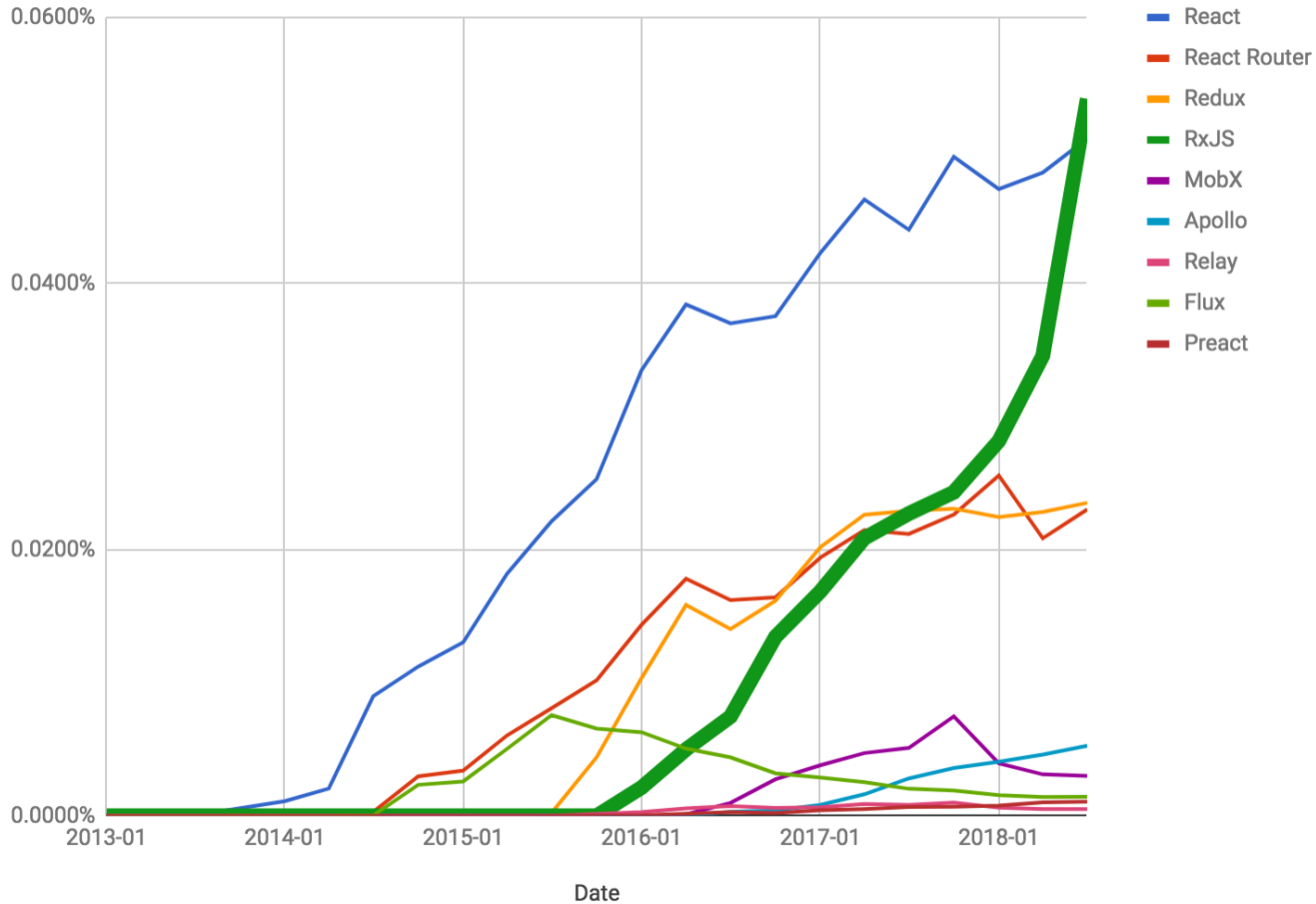
GraphQL libraries



RxJS

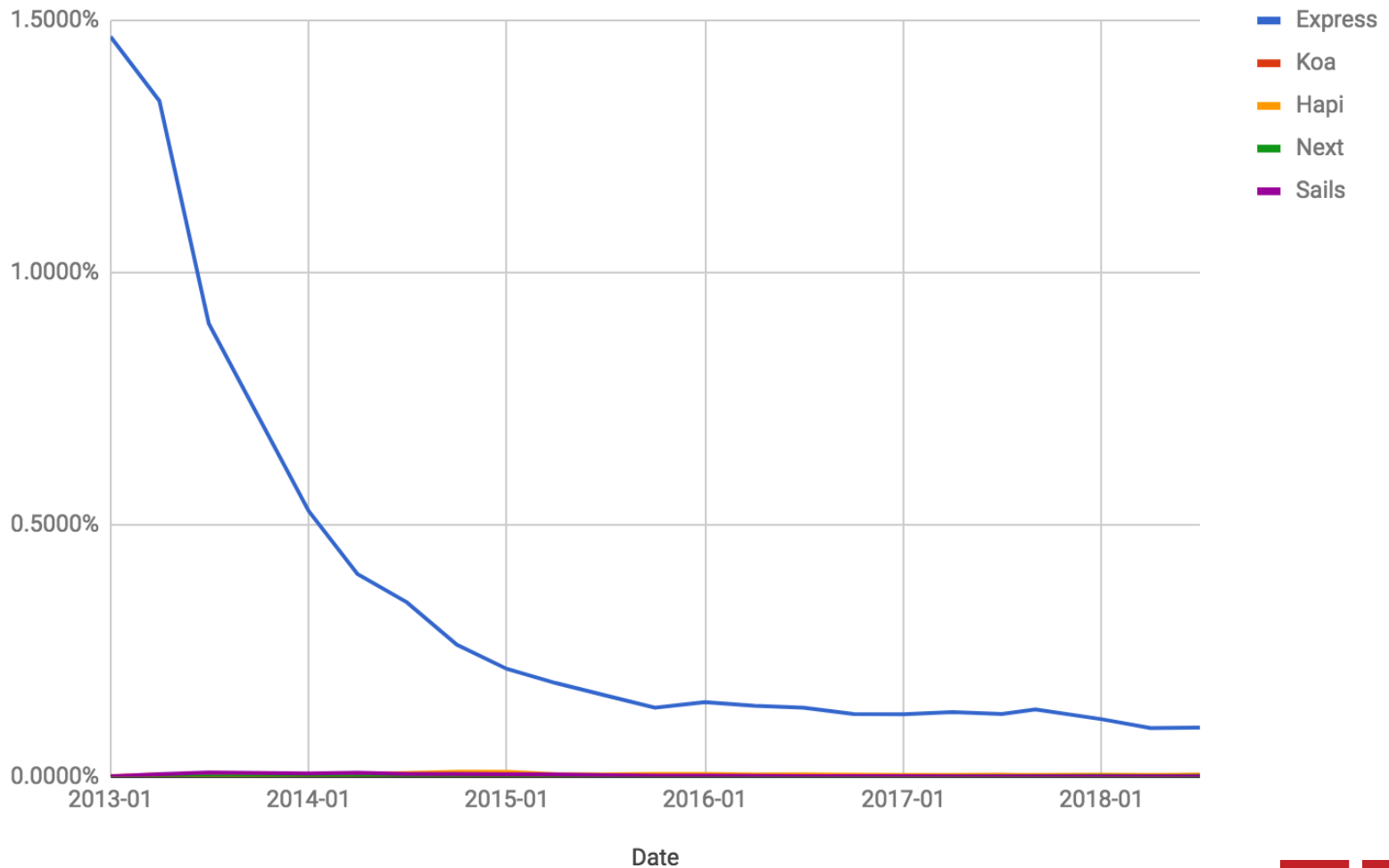
Get Hannah to explain!

React ecosystem, share of registry



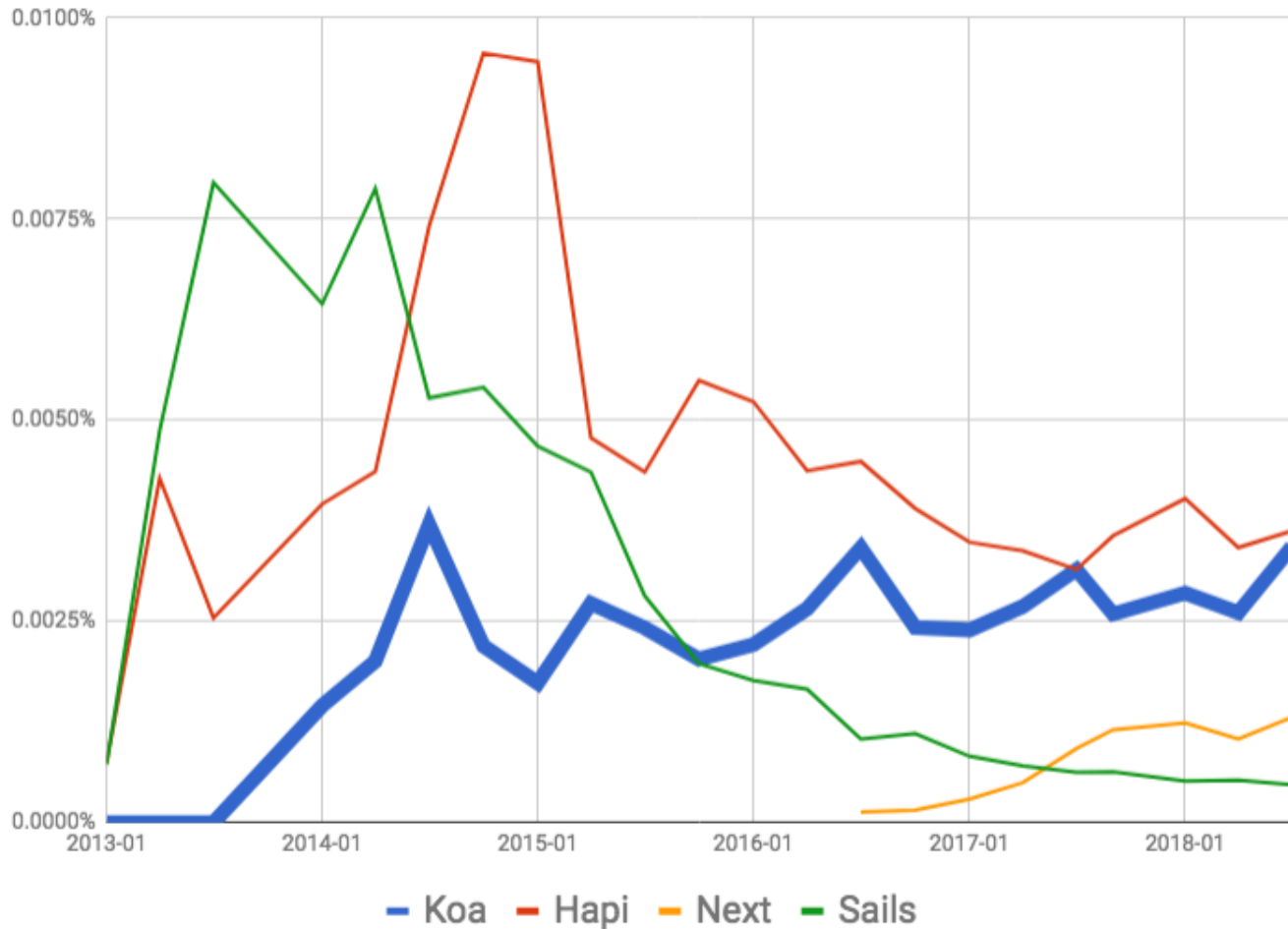
Back-end frameworks

There is only Express



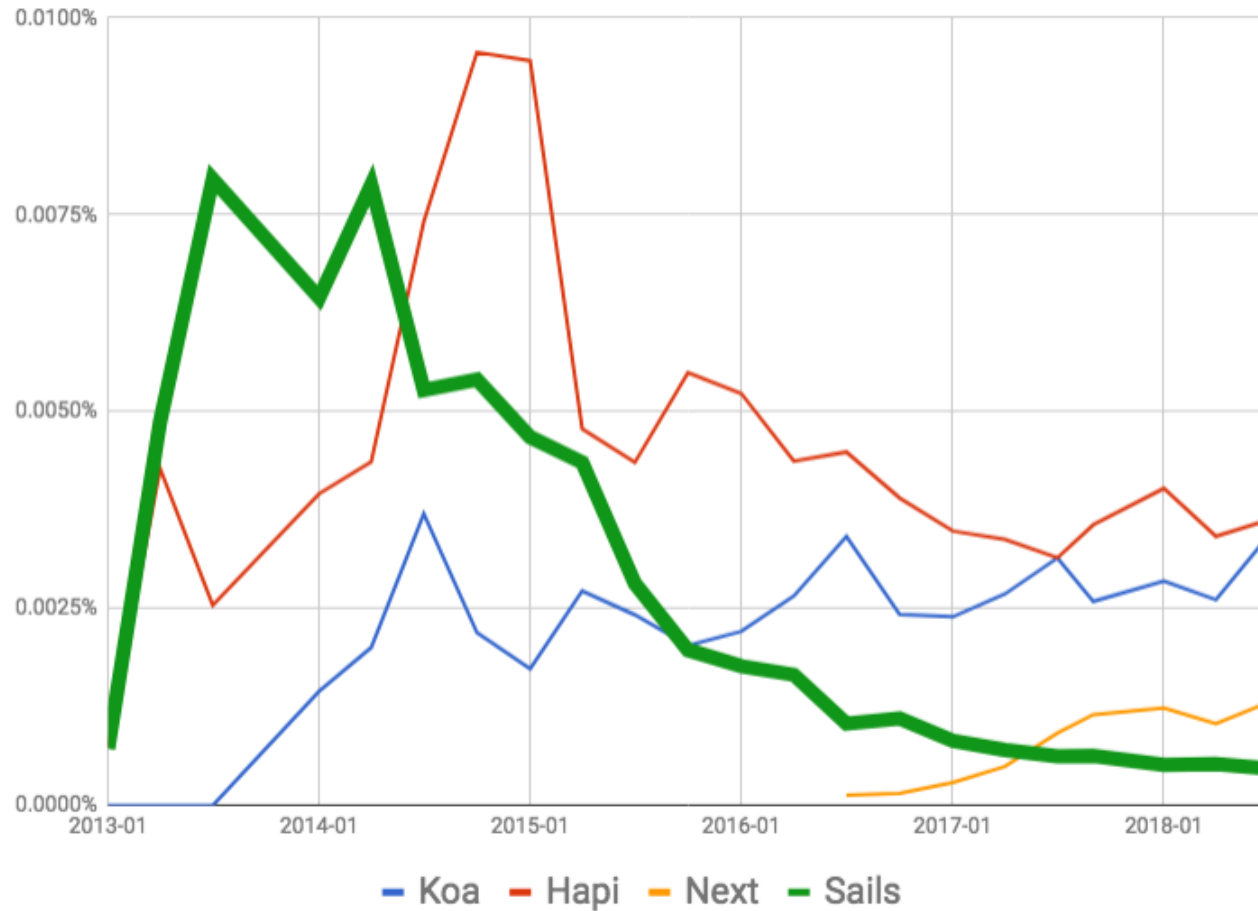
Koa

Back-end frameworks, share of registry



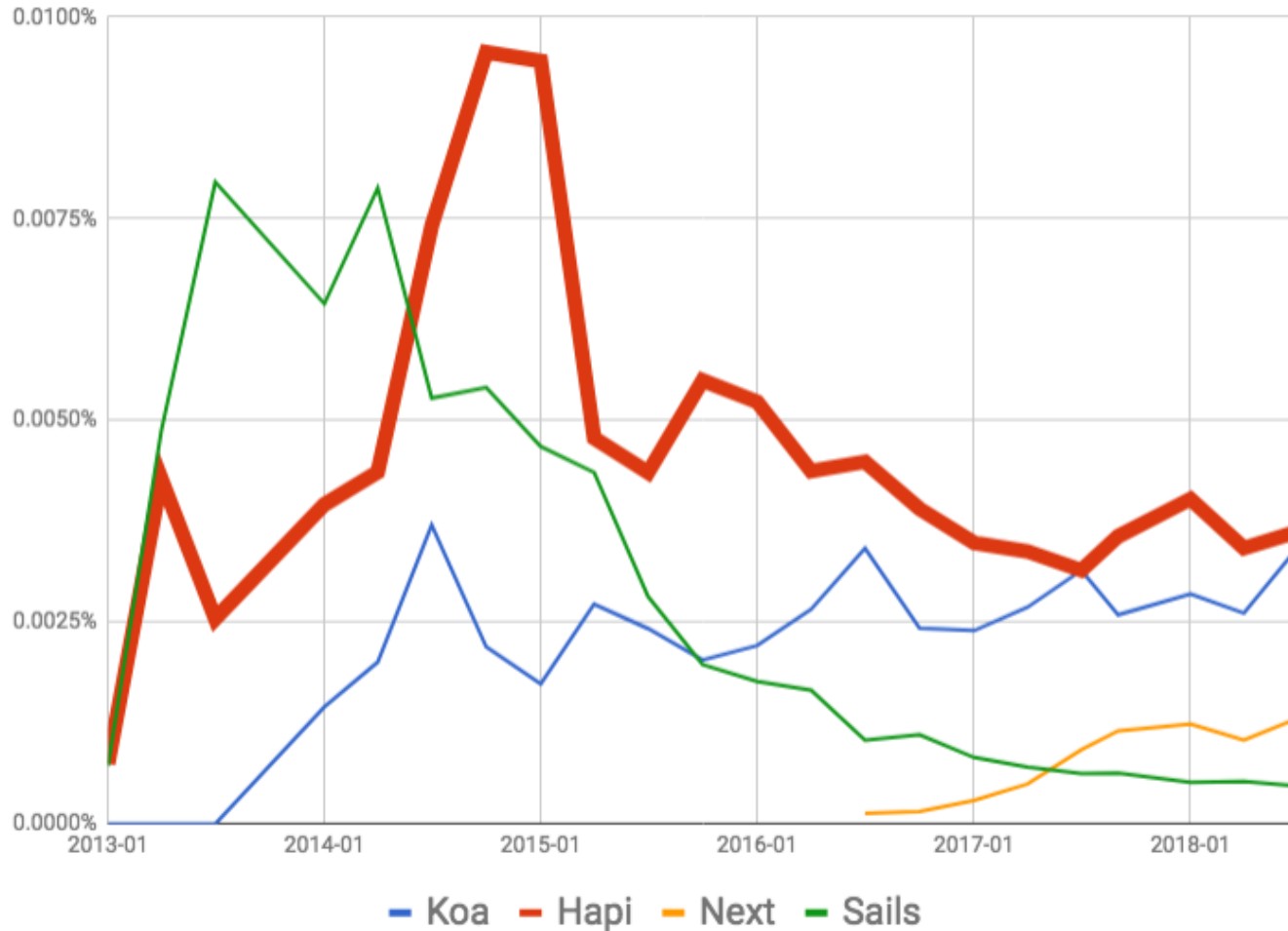
Sails

Back-end frameworks, share of registry



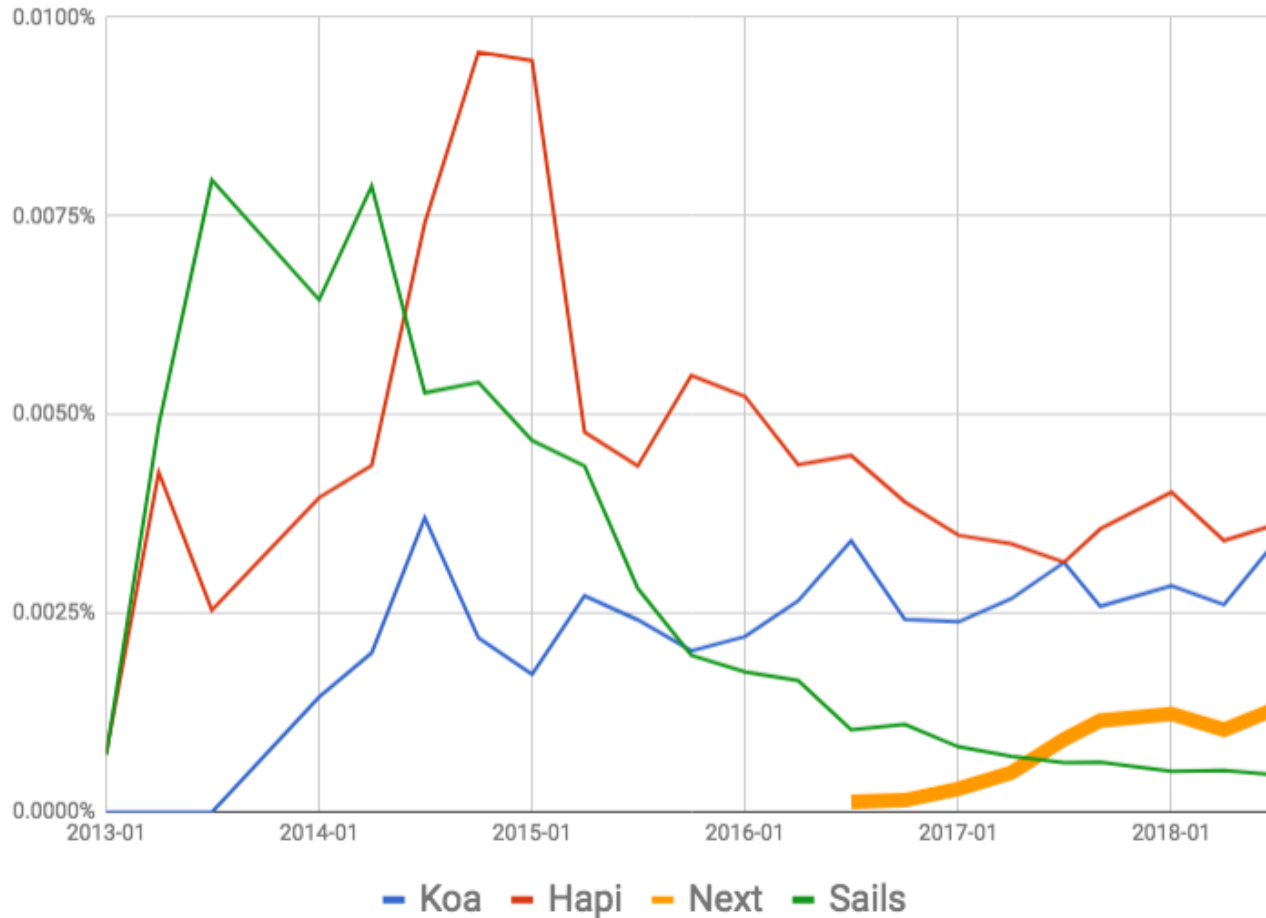
Hapi

Back-end frameworks, share of registry



Next.js

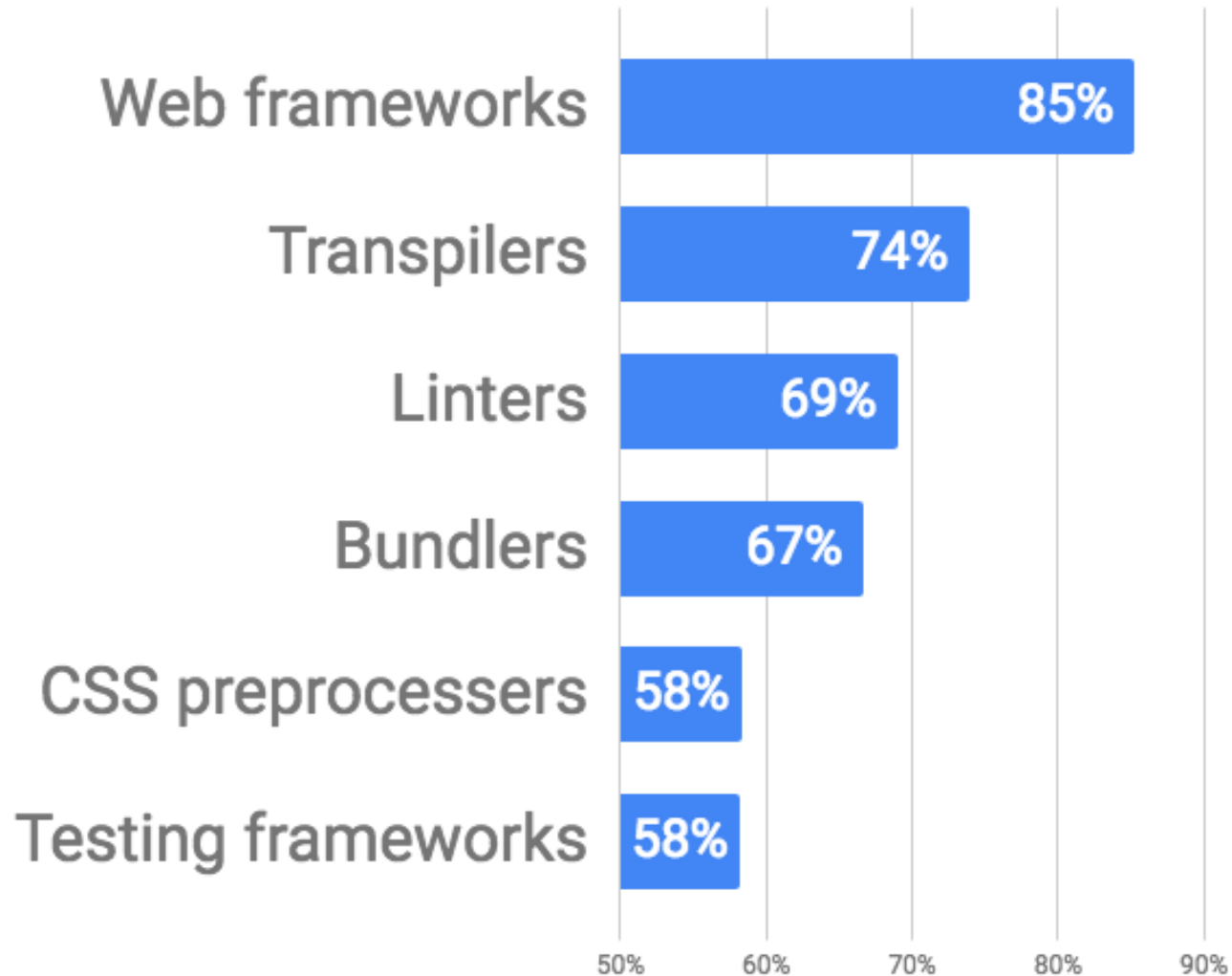
Back-end frameworks, share of registry



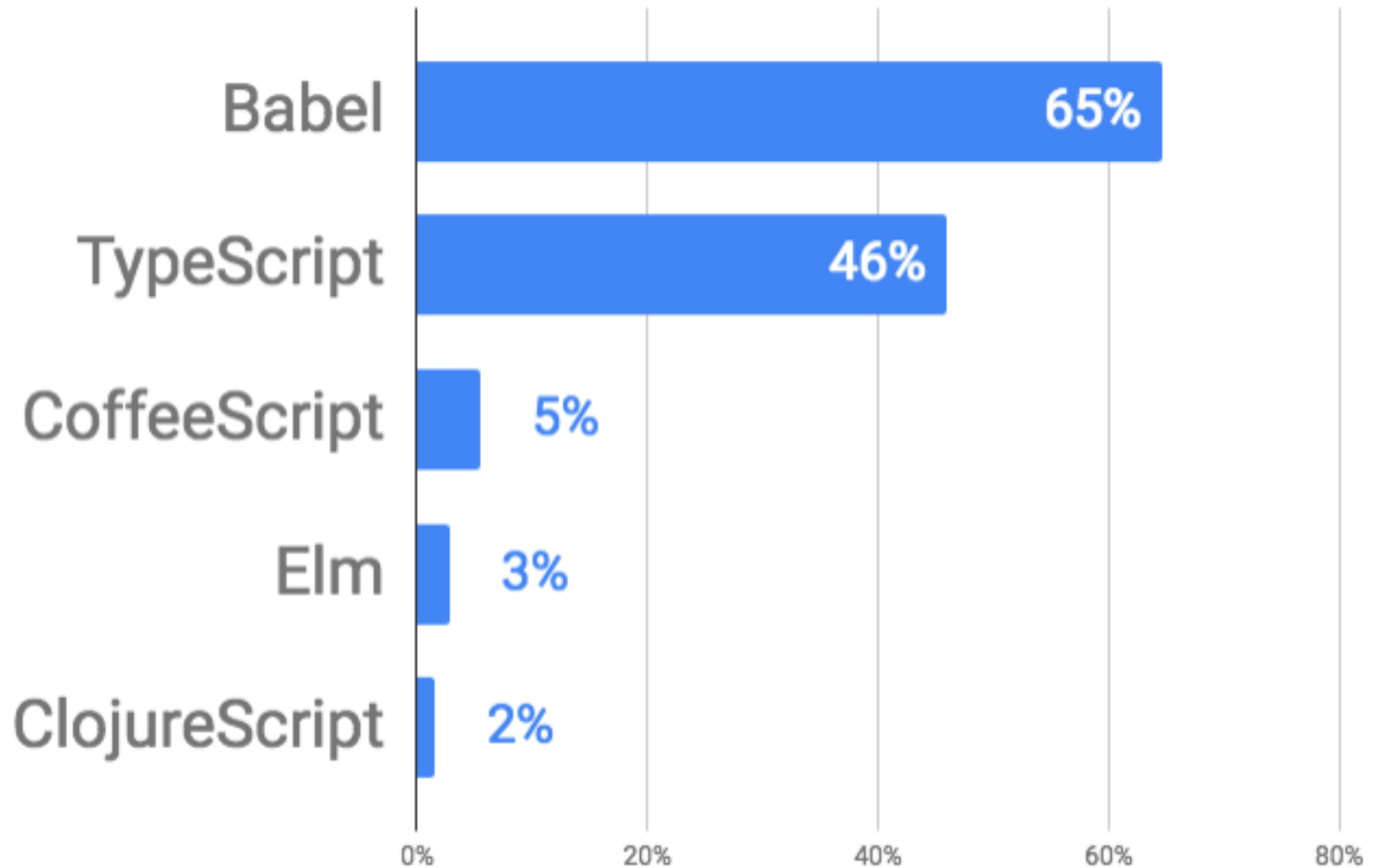
Team B / Team A

Tooling

What tools do we use?



Transpilers

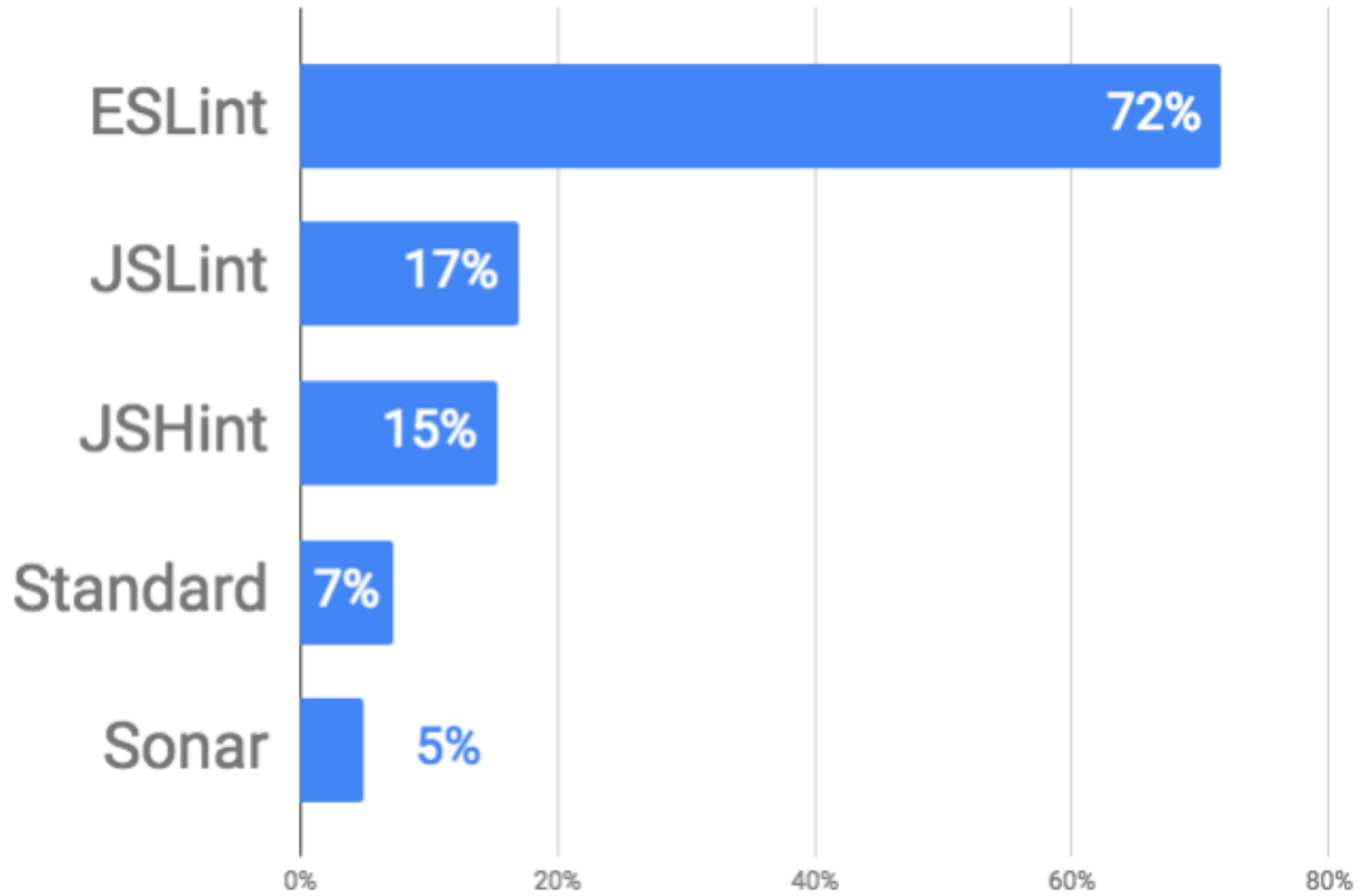


46% of npm users are
using TypeScript

Say what?!

Source: npm user survey, 2017/2018

Linters



So about ESLint...

The ESLint Credentials Harvester



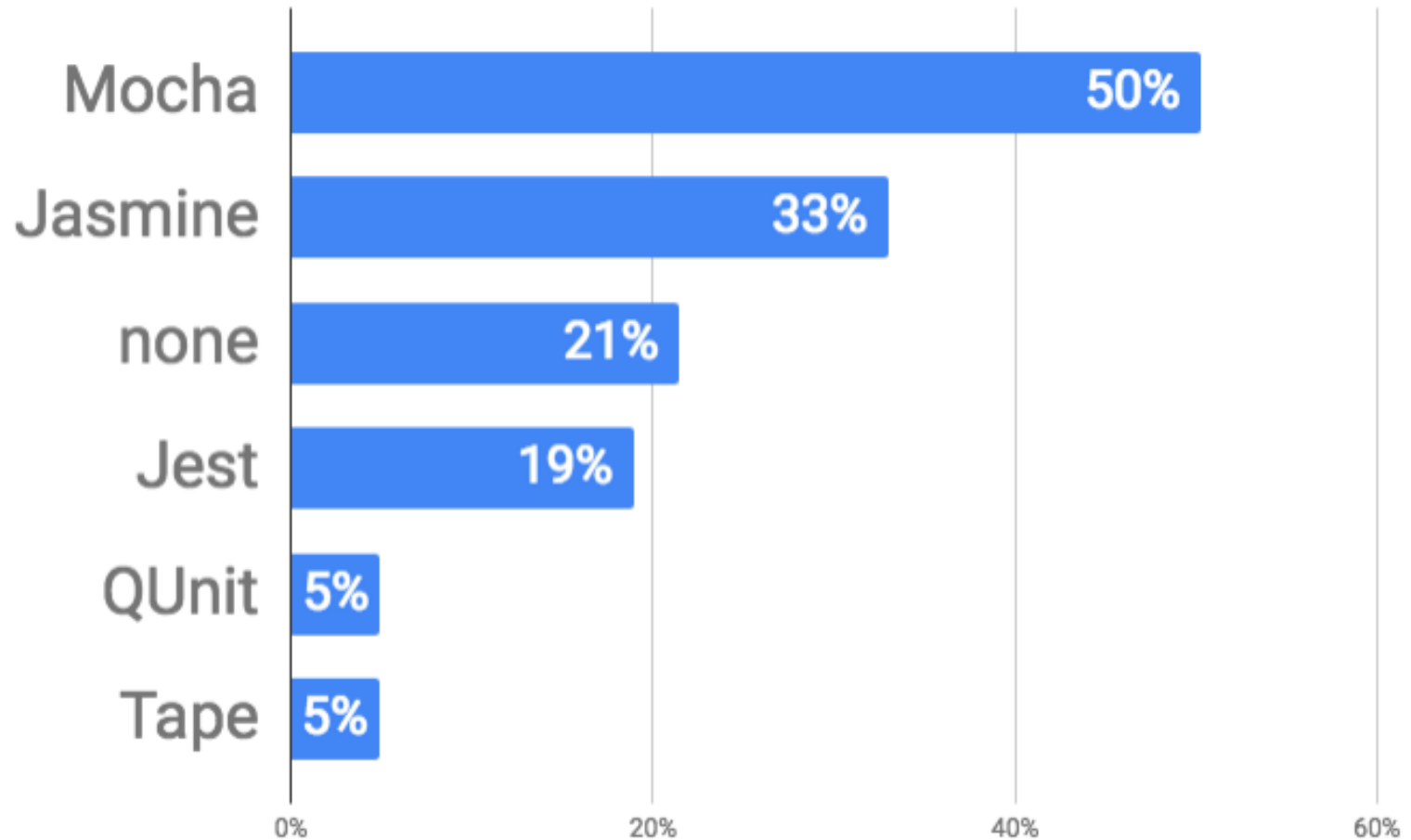
npm Security in action



Take JavaScript
security seriously

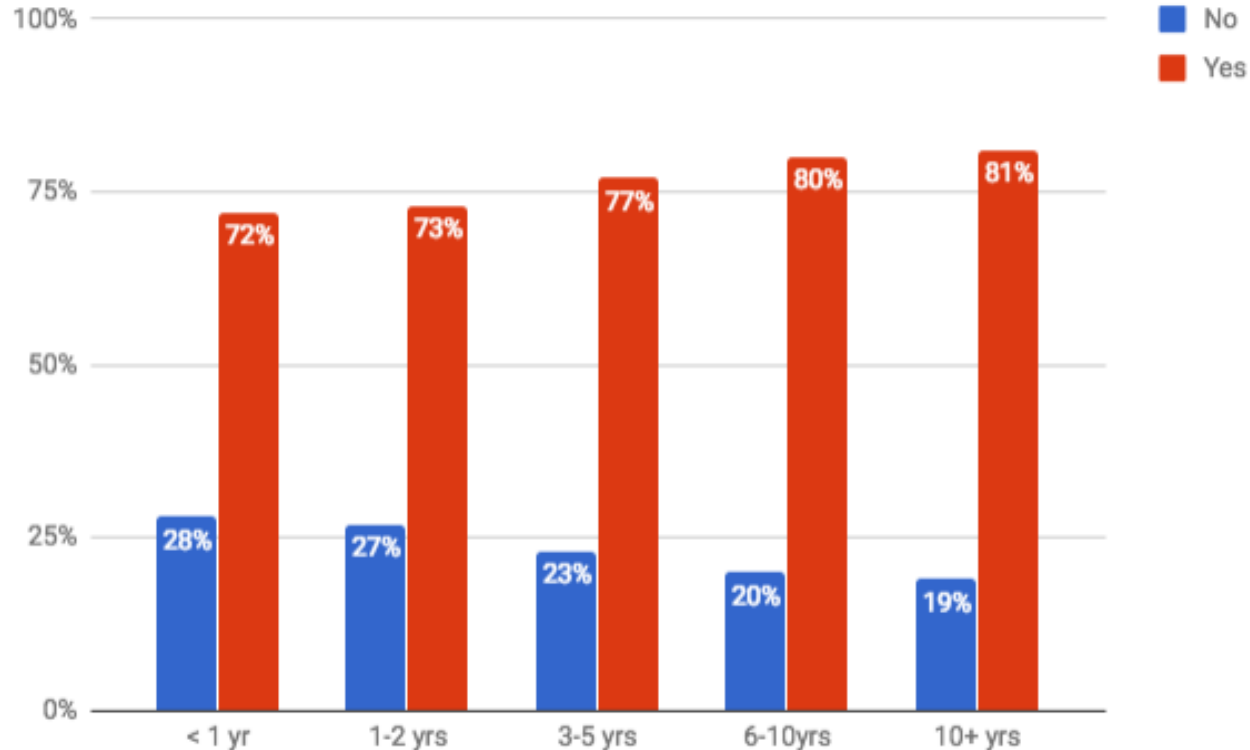


Testing



Splitting developers by experience

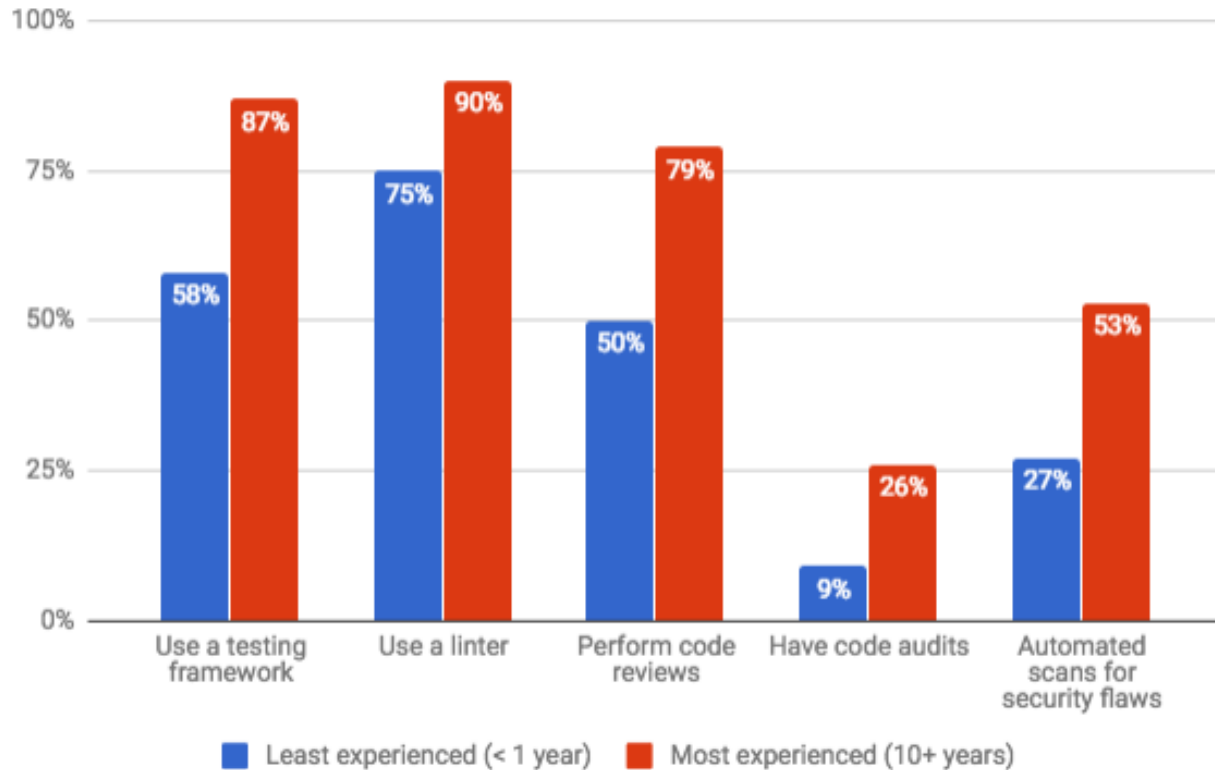
Are you concerned whether the OSS you use is secure?



By answer to "How long have you been using JavaScript?"

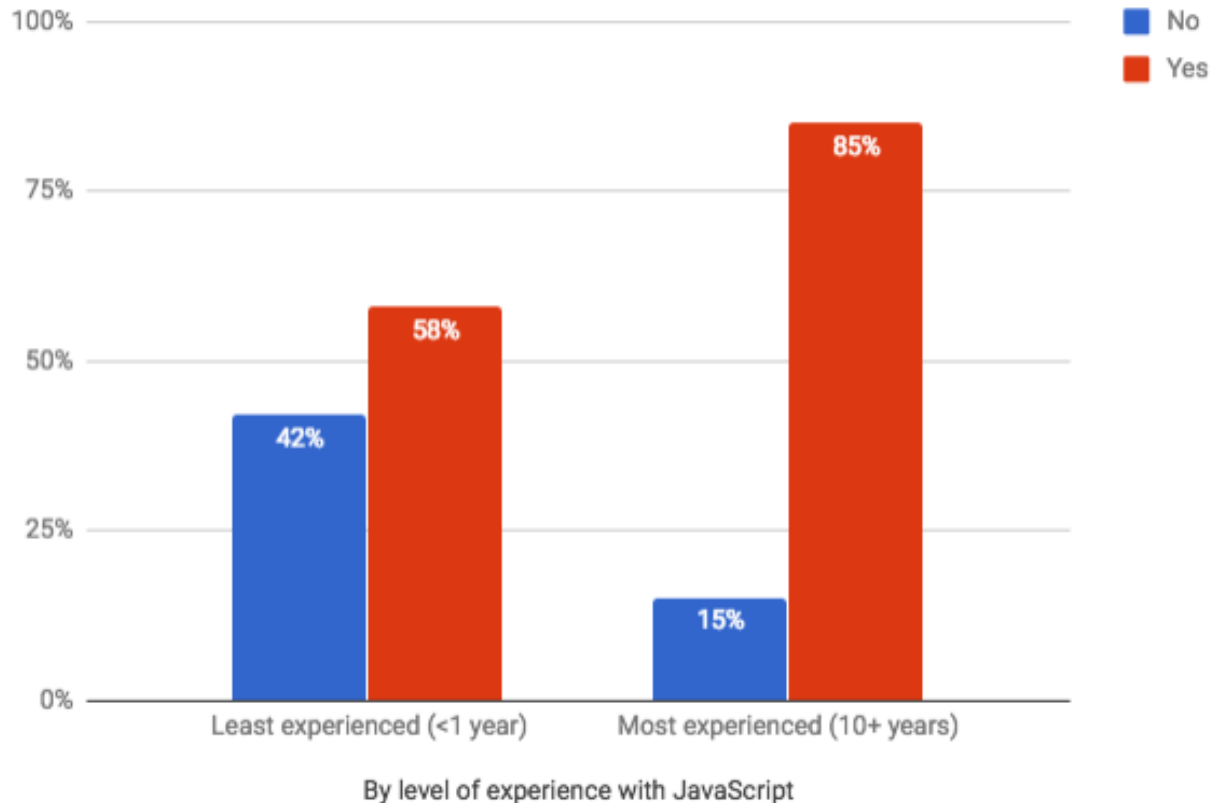
Best practices come with experience

Development practices of JavaScript developers by experience



Security is associated with experience

Developers who use some form of security analysis on code



Part 3:

the future of JavaScript

Learning from history: nothing last forever

jQuery, we hardly knew ye.

Ill-advised prediction

Learn GraphQL

Ill-advised prediction

Use TypeScript

What happens to
npm in the future?

npm is not only
JavaScript

and it hasn't been for some time

WASM is coming

WASM is already here

<https://hacks.mozilla.org/2018/04/hello-wasm-pack/>

Ill-advised prediction

**Bundling and transpiling
are hard to get rid of**

Transpilation
is bad news
for JavaScript

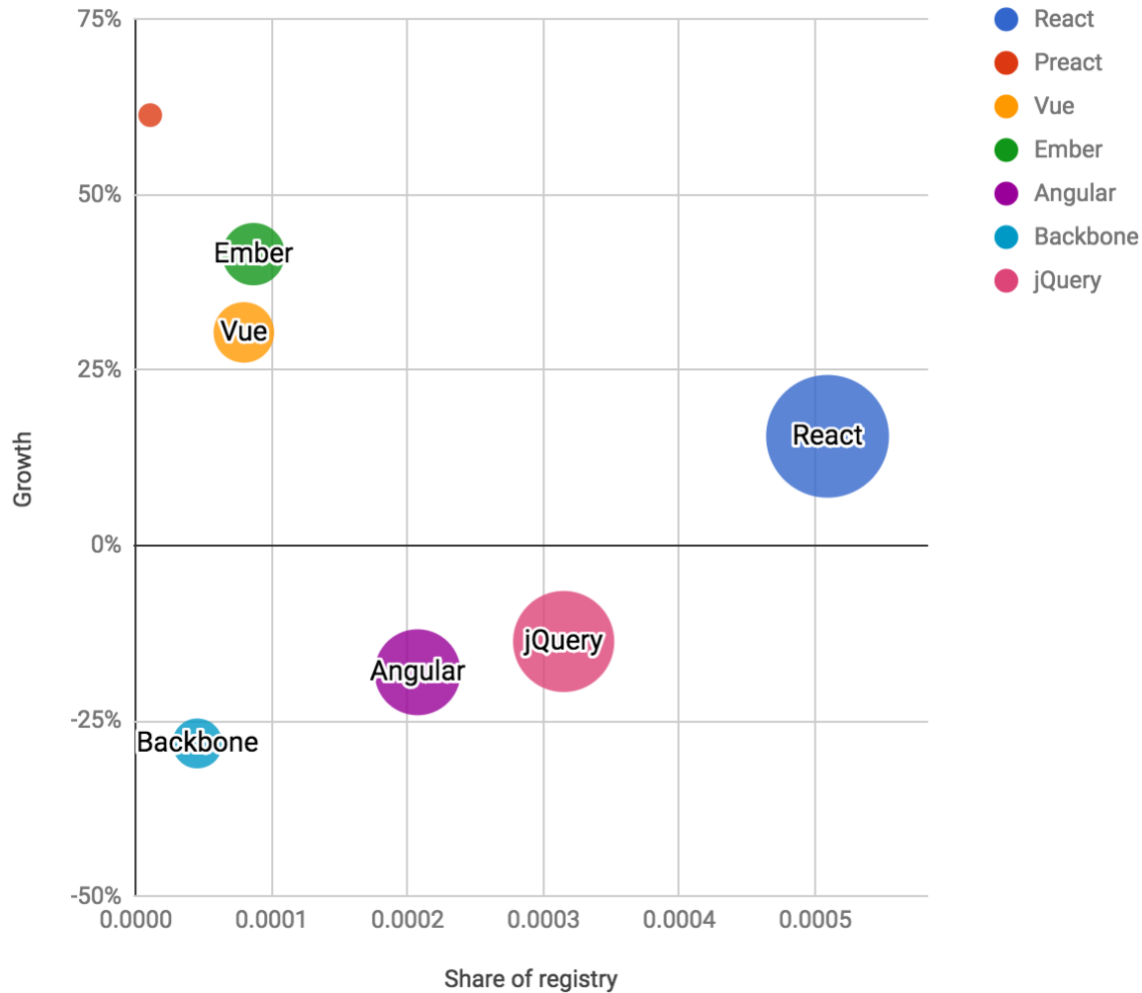
Node + JavaScript:
merge or die

The best framework
is always the one
with the most users.

Ill-advised prediction

Use React

Popularity and growth of web frameworks, 2016-2017



Libraries either die or transcend

- Backbone died
- jQuery is part of every browser

Standards bodies are
bad at inventing things

Make JSX
part of JavaScript

We already did and it
was called E4X

Can React transcend?

```
npm install react-color
```


What about that
slowdown in React?

Can React
components hit
critical mass?

Frameworks
adopting React
would force
browsers to act

What about web components?

Web components would be great if they worked but they don't, yet.

Don't @ me.

We can raise the web
to a new level

Don't be afraid

Web developers will always have a job

A bigger web
is a better web

npm is for the web

The future looks fun

The web will remain
under construction



We can do this

npm ❤️ you

Now would be a good time to follow me on Twitter

 @seldo

These slides are available right now

<https://slides.com/seldo/npm-future-of-javascript-qcon>