Mistakes to Avoid when Open Sourcing Proprietary Tech

Open Source Summit North America 2018

@IndeedEng | opensource.indeedeng.io

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Hi, I'm Jack.

Jack Humphrey, VP Engineering
@IndeedEng

@youknowjack | http://jackhumphrey.me

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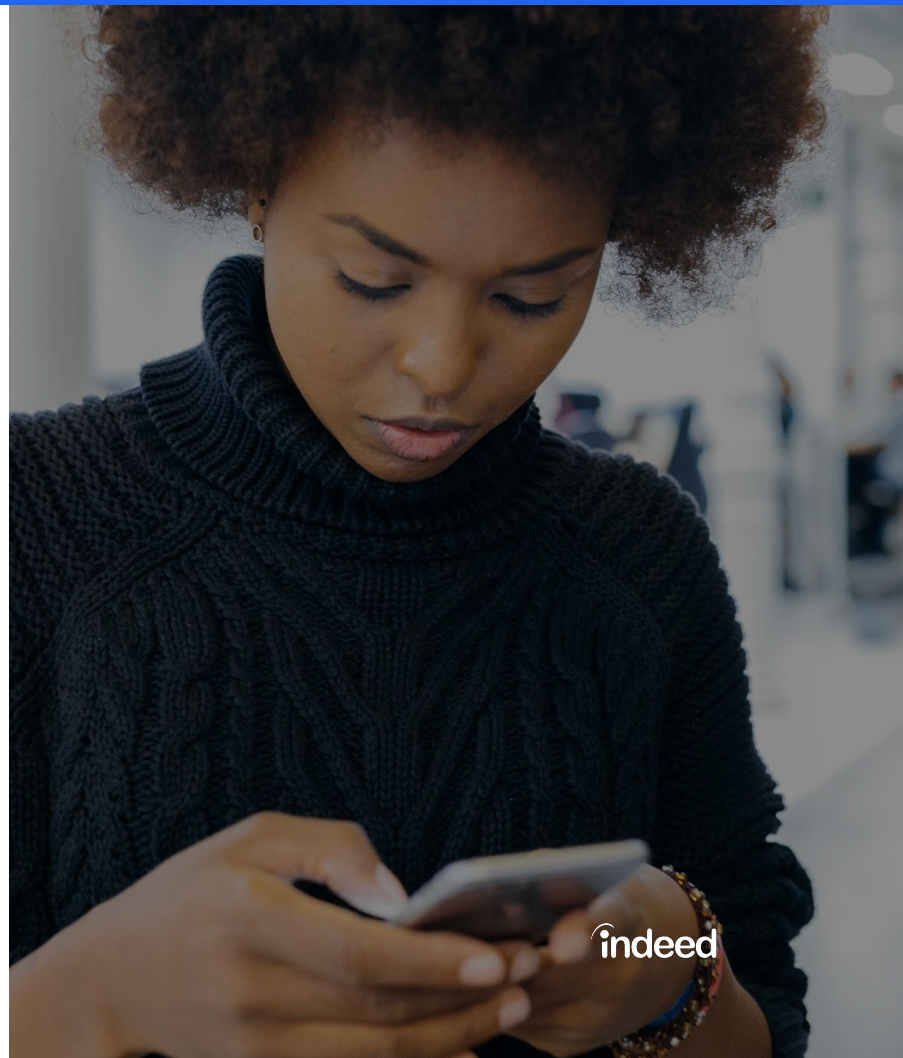
We help people get jobs.

60 countries

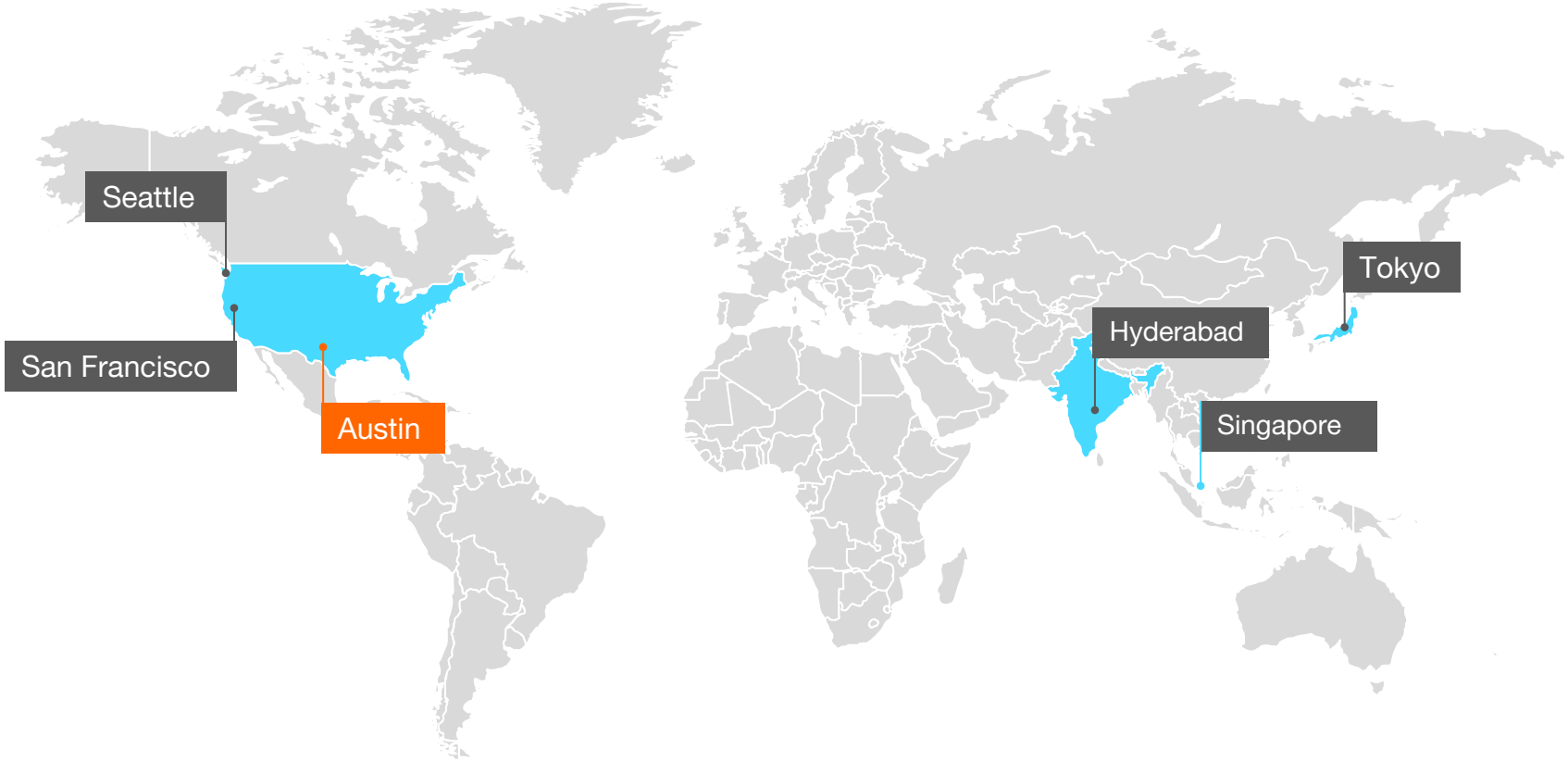
30 languages

200M unique visitors

20M jobs



Engineering offices



And now: Vancouver!

Indeed Announced Today That It Will Acquire Resume.com to Enable Job Seekers to Build and Download Personalized Resumes for Free

Austin, TX (May 25, 2018) — Indeed announced today that it acquired resume.com, an online service for creating personalized resumes. Over 3.5 million job seekers currently use the site, creating more than 40,000

Today: learn from our failures

Prologue: Questions to ask before open sourcing

Chapter 1: External forks and rotten bits

Chapter 2: Failure to connect

Chapter 3: Hiding the work

Chapter 4: Time for an OSPO

Epilogue: Reviewing the mistakes and lessons learned

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“Maybe we should open source [COOL CODENAME].”

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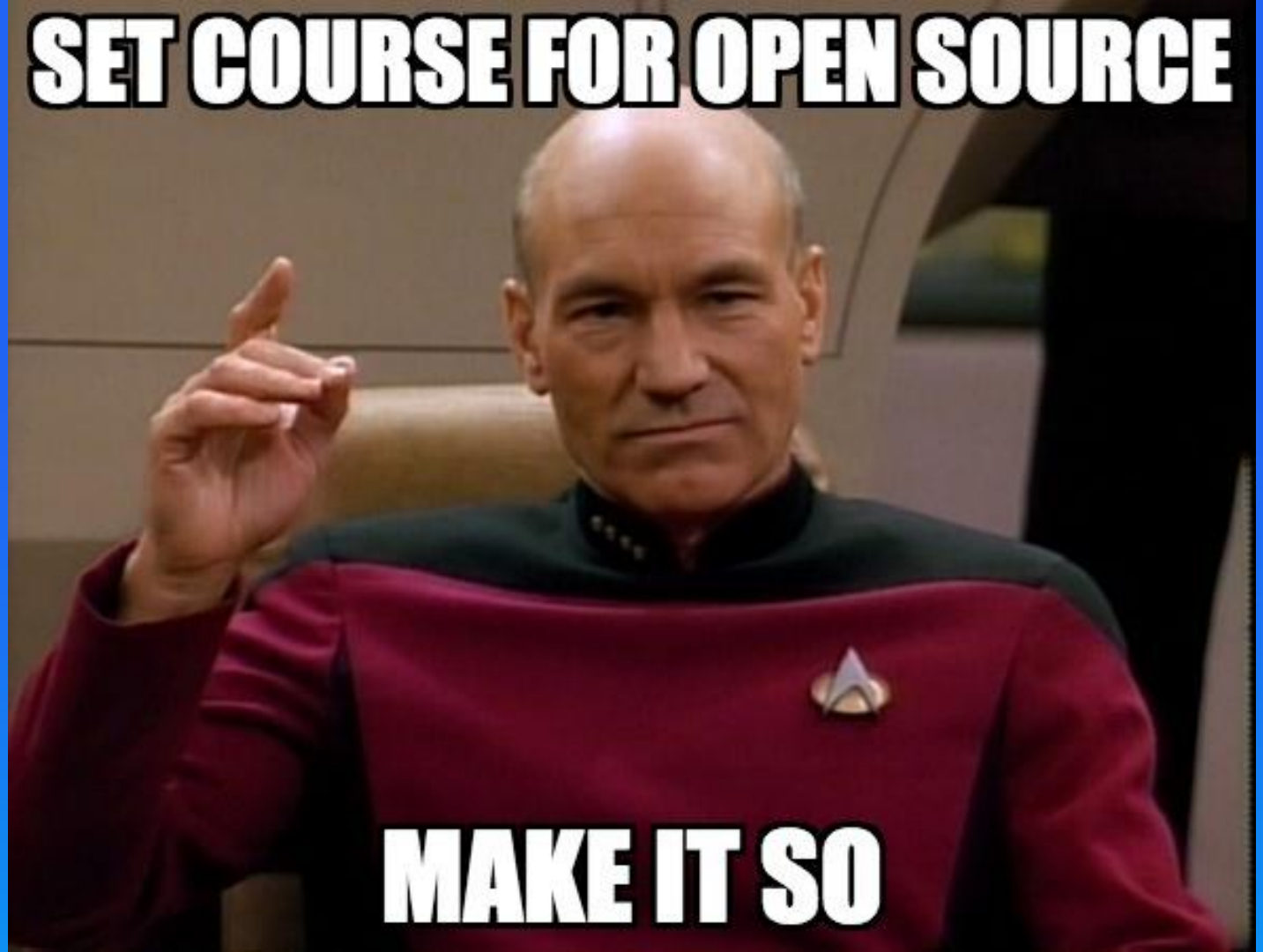
SET COURSE FOR OPEN SOURCE
MAKE IT SO

Belay that order!

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Questions to ask

1. Why do you want to open source?
2. Can you commit the necessary resources?
3. Do you know the common pitfalls?

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1. Why do we want to open source?

Build awareness in the community and attract talent to Indeed

Create opportunities for Indeed's software engineers

Get help maintaining and enhancing our software

Give back to Open Source

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2. Have we committed enough resources?

Not yet.

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3. Did we avoid all the pitfalls?

Nope!

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Passionately Incompetent

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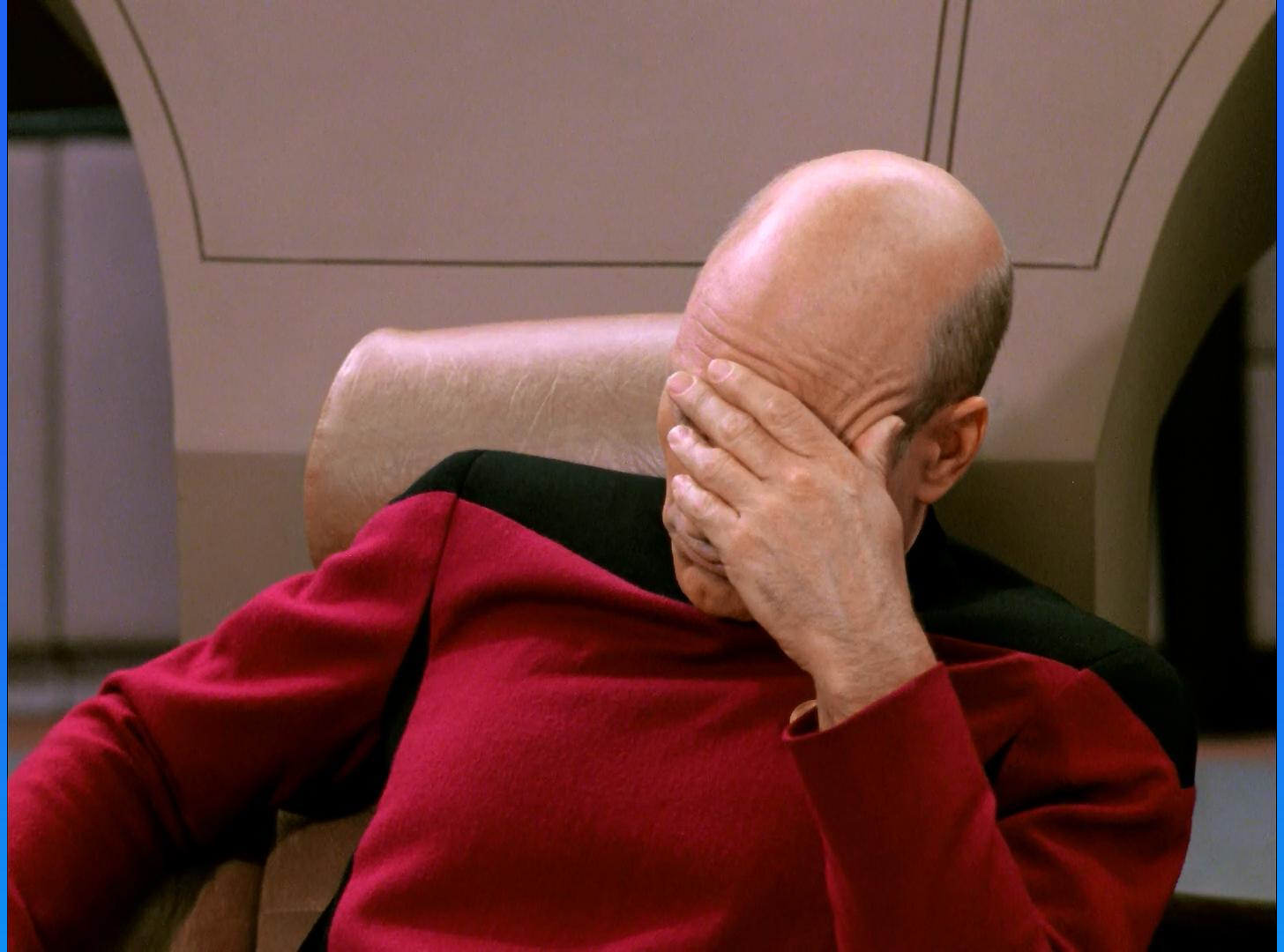

Chapter 1
External forks and rotten bits

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2009: We built something cool

Monolithic App ⇒ Service-Oriented Architecture

How could we distribute load to services without a load balancer?
Solution: A peer-to-peer scheme for service load distribution

Boxcar, a distributed services framework

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2010: Painstaking analysis took place

2:41 PM **Doug**: I'm thinking of proposing that we open source boxcar as well.... Thoughts?

2:45 PM **me**: i think that would be cool

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Make it so

1. An engineer volunteered to open source it.
2. Cleaned up the internal dependencies.
3. Picked a license.
4. Wrote a project overview (324 words).
5. August 2010: Published to Google Code, as an **external fork**:
   "The plan is to keep our internal versions, and propagate changes on a semi-regular schedule."
6. January 2011: Presented Boxcar to some other tech companies in Austin

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We blogged about it

Boxcar: A self-balancing distributed services protocol

Posted on December 17, 2012 by Ketan Gangatirkar and Courtney Jeffries

At Indeed, we have an unrelenting obsession with speed. We believe site performance is critical to providing the best experience for job seekers. Since Indeed launched in 2004, traffic growth has been swift and steady. Today, we have over 85 million unique visitors and over 2 billion searches per month. Traffic to Indeed continues to rapidly increase, so ensuring our systems scale with this traffic really matters. In order for our site to be fast and reliable, we developed Boxcar, an RPC framework and load distribution strategy for interacting with remote services using a generic layer to transport raw bytes.

go.indeed.com/boxcar

indeed

Will any of this become open source?

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The bits rotted

We eventually added a deprecation notice.
https://code.google.com/archive/p/boxcar/

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MISTAKE

Release OSS project as an external fork of internal version

LESSON

Use OSS release internally

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MISTAKE

Neglected external validation and promotional activities

LESSON

Validate the need for your project, work closely with early adopters, and talk about it to anyone who will listen

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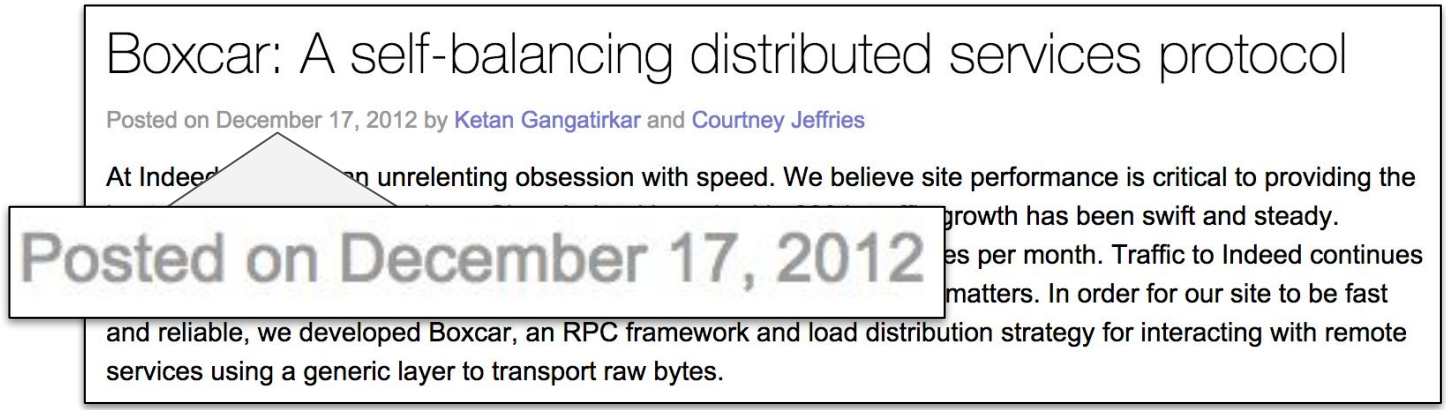
Oh and don’t wait 2 years to blog about it:



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go.indeed.com/boxcar

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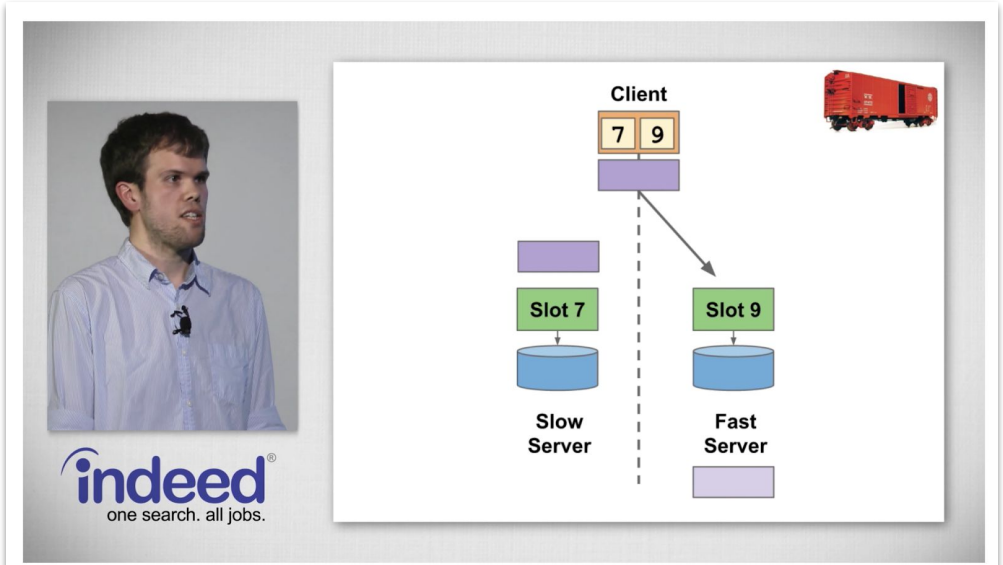
...or 3 years to present about it



go.indeed.com/boxcar-talk

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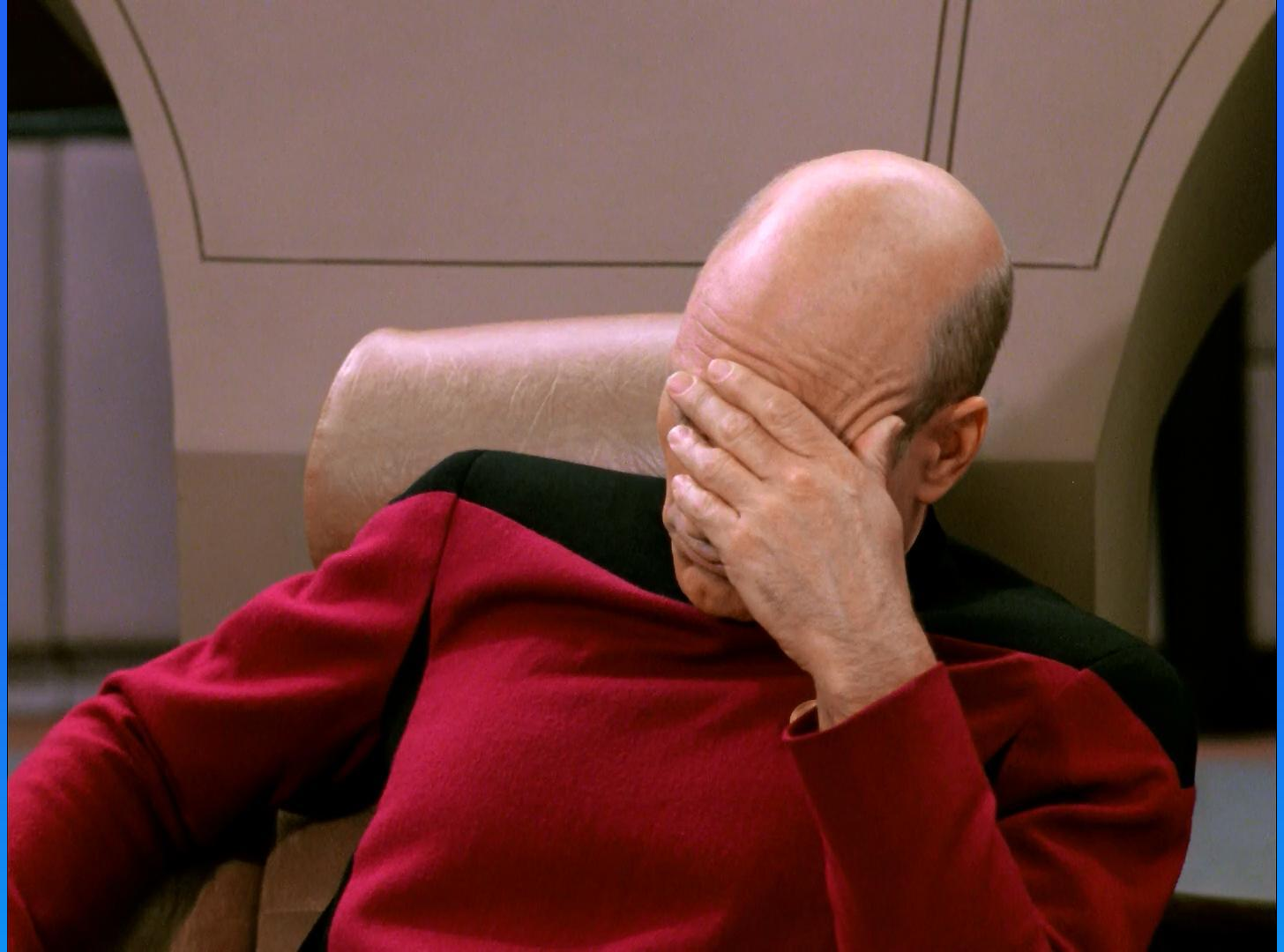

Chapter 2
Failure to connect

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We built something cool

We loved A/B testing, but adjusting test allocations required code changes/deploys and took too long.

Solution: **Proctor** A/B Testing Framework
Allows dynamic test definition without code changes

opensource.indeedeng.io/proctor

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Make it so

1. Recruited engineers to work on it
2. Cleaned up the internal dependencies
3. Figured out how to build, publish, and consume internally
4. Published some of our useful common libraries on Github
5. Wrote great documentation (using Github Pages)
6. October 2013: Released the core components -- github.com/indeedeng/proctor -- management webapp was delivered later
7. And...

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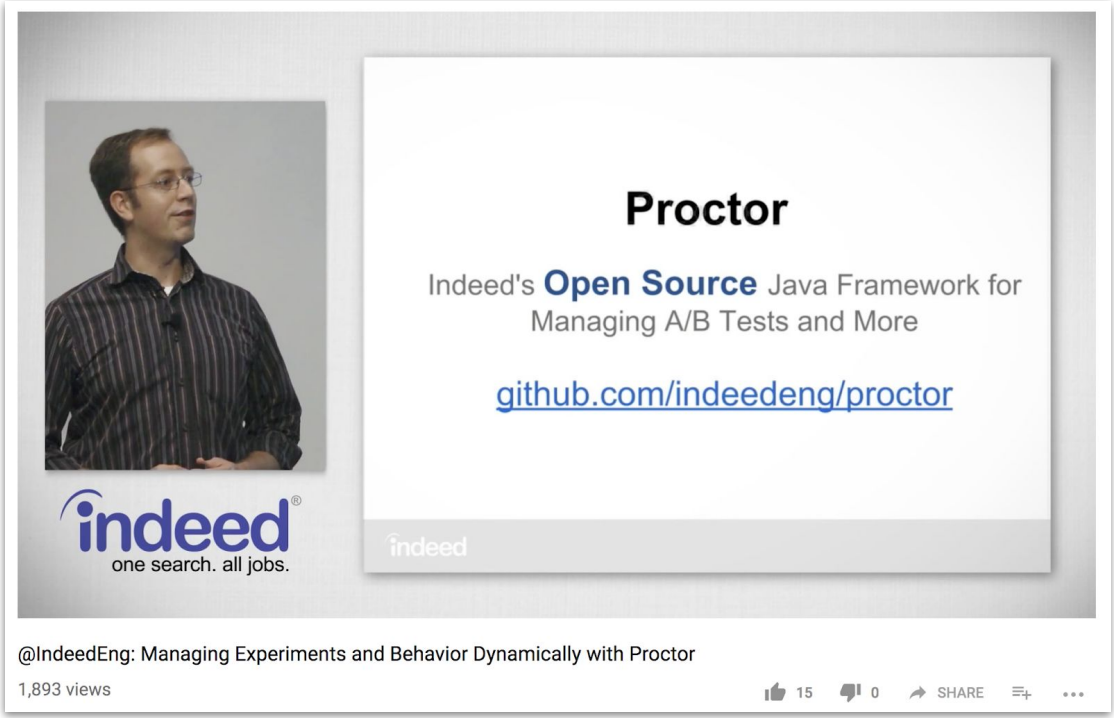
We talked about it



go.indeed.com/proctor-talk

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We got an early adopter

Homeaway started using it…
and contributed some code!

HomeAway®

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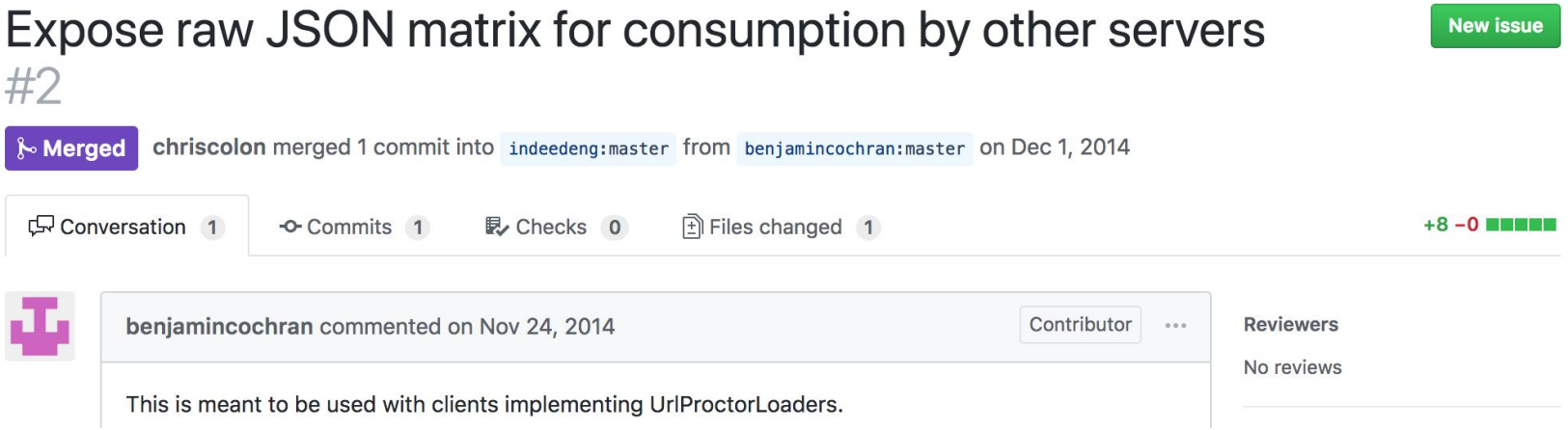
We got an unsolicited PR from a stranger



about.com

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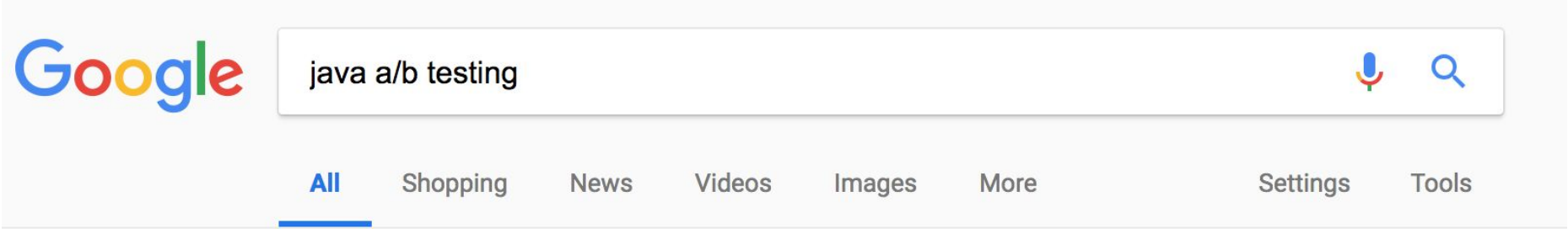
We got Google traffic



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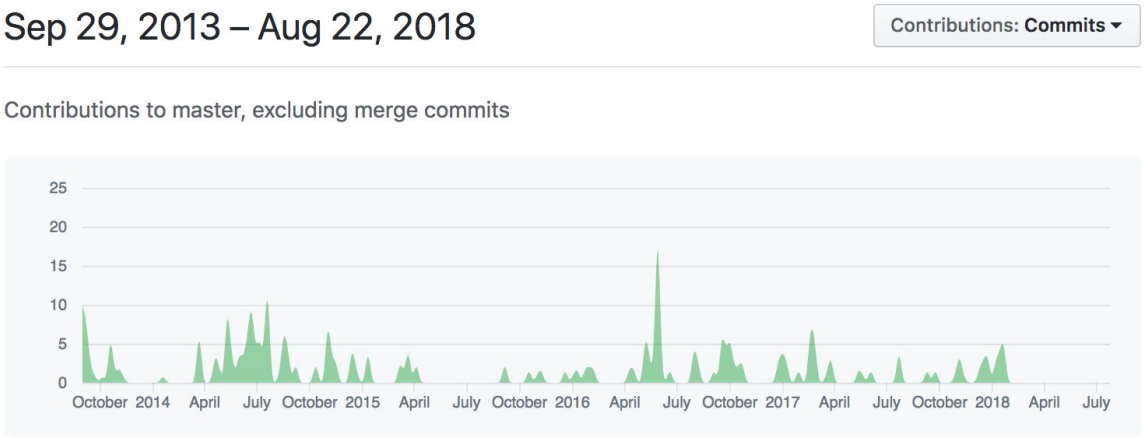
Not so fast, Captain



2018: 1 contributor

All time: 11 contributors, 63 forks

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MISTAKE

Under-invested in promotion and community building

LESSON

Invest in building a community of users and contributors

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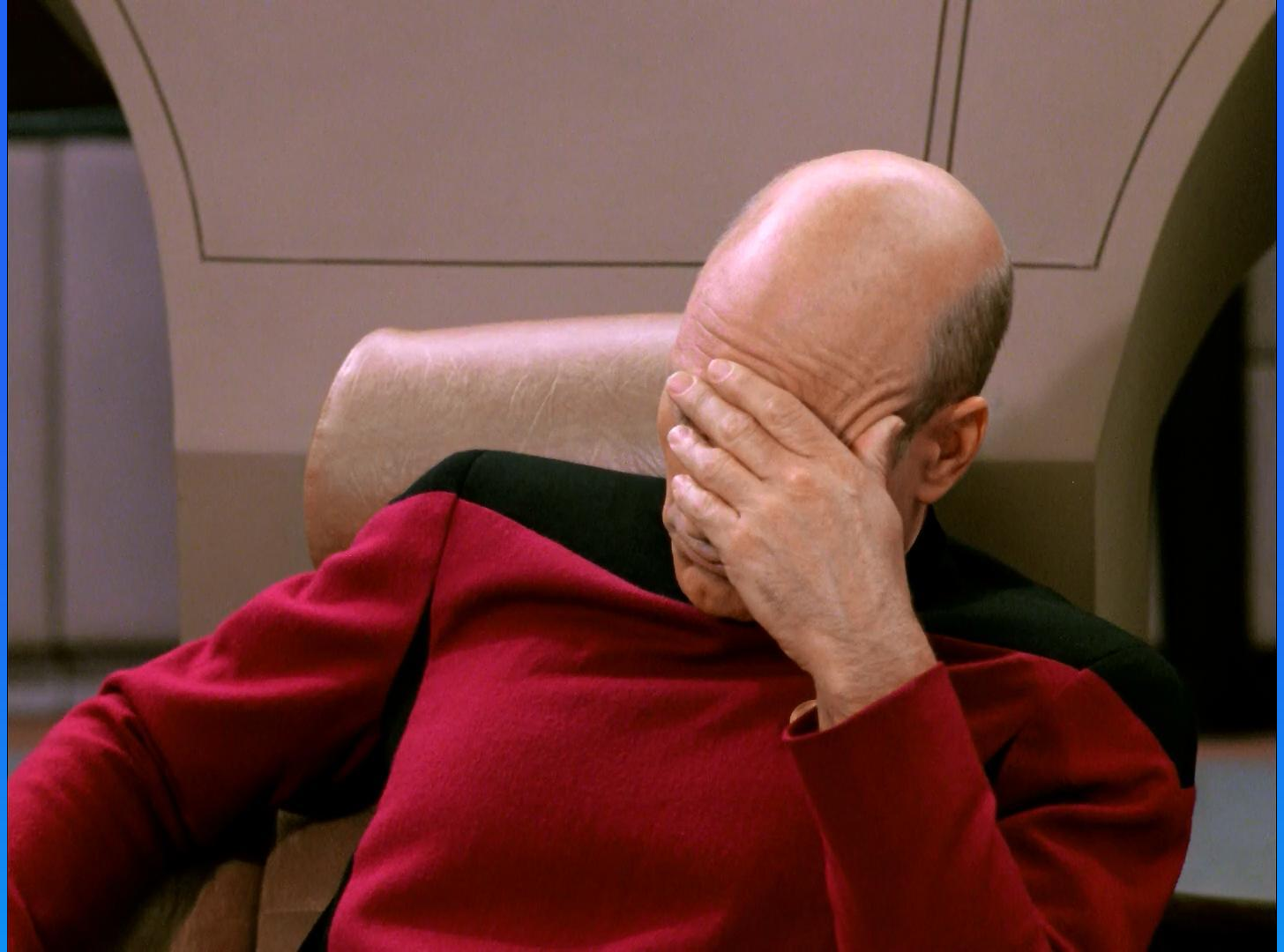

Chapter 3
Hiding the work

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We built something cool

We love to make data-driven product decisions, but
analyzing data can take too long and require specialized skill sets

Solution: **Imhotep, a** data analytics platform
fast, interactive, ad hoc queries and aggregate results
for large time-series datasets.

opensource.indeedeng.io/imhotep

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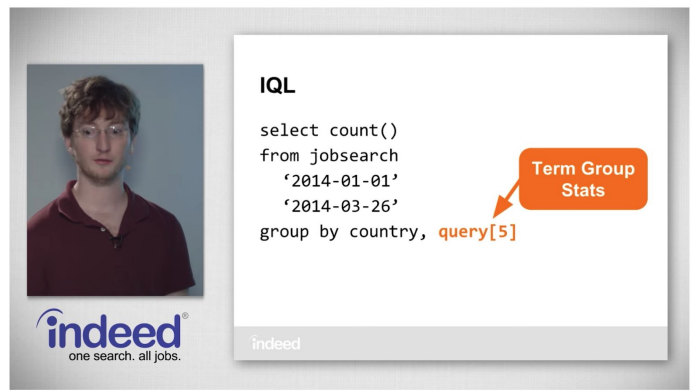
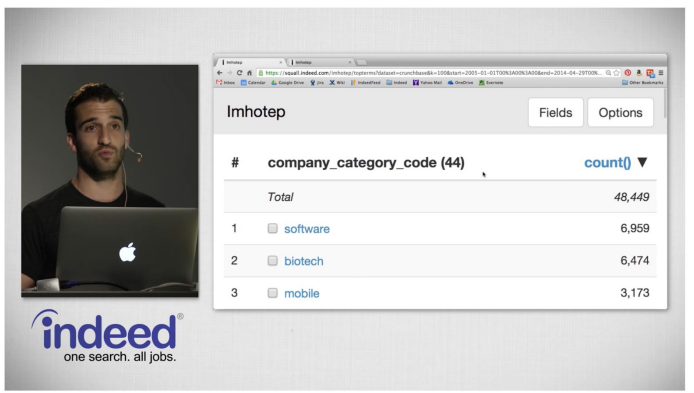
We talked about it



[@IndeedEng] Imhotep: Large Scale Analytics and Machine Learning at Indeed

1,674 views



[@IndeedEng]: Large scale interactive analytics with Imhotep

1,950 views

talks.indeedeng.io

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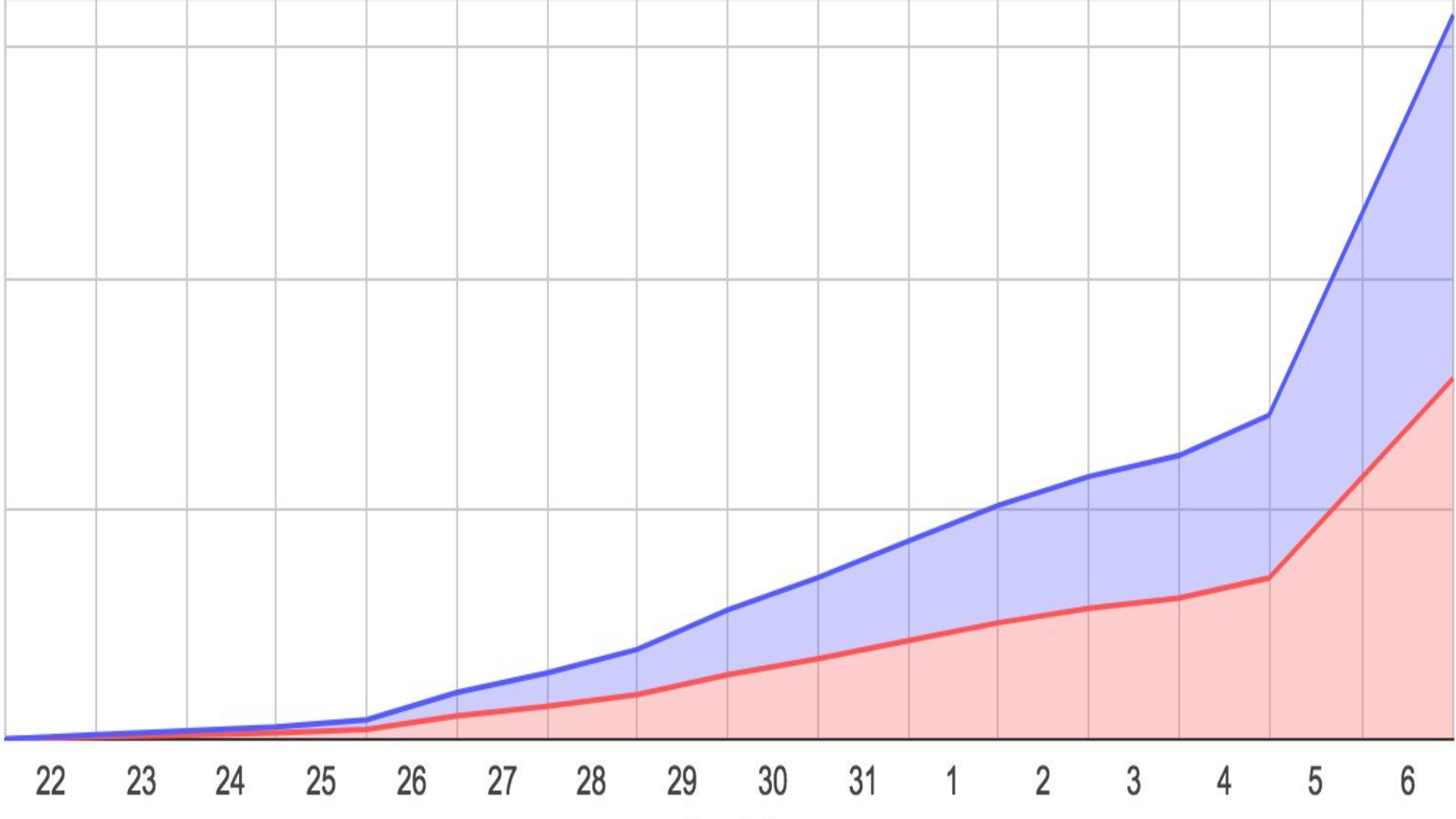
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Make it so

1. Recruited engineers to work on it *part-time*.
2. Cleaned up the internal dependencies.
3. Refactored on an open source fork.
4. Added some AWS CloudFormation scripts to make deployment easy.
5. Wrote lots of documentation.
6. October 2014: Declared it ready, flipped the “Public” switch on the repos.
7. And...

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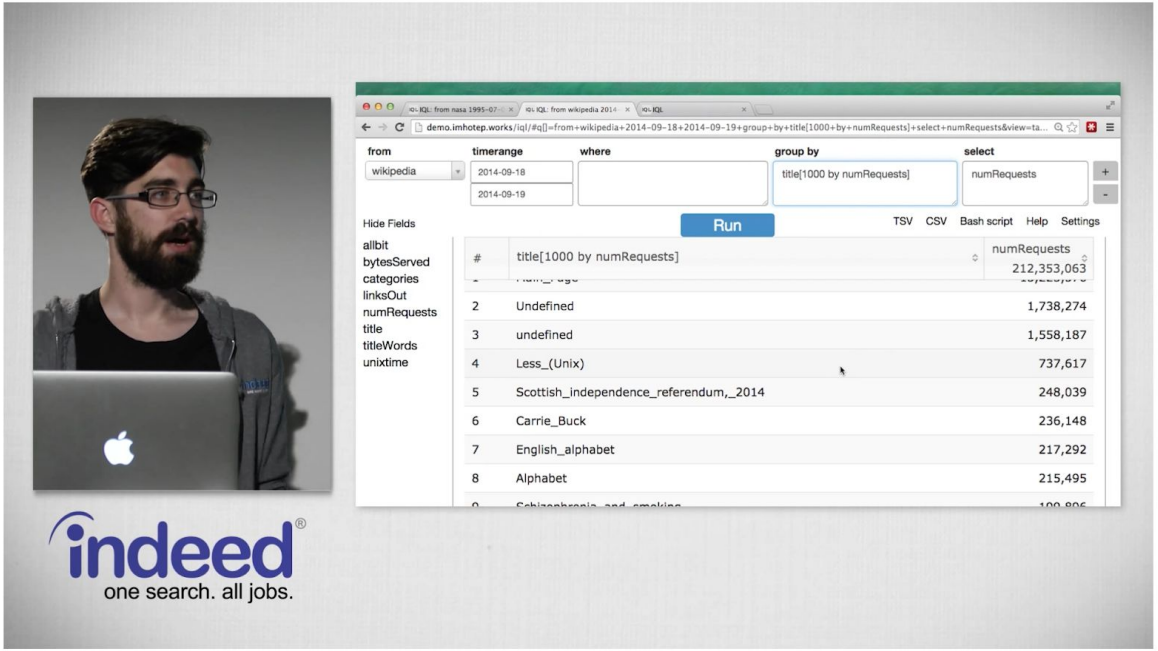
We held a local workshop



@IndeedEng: Interactive Analytics with Imhotep

2,814 views

10 2 SHARE

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We talked at a conference (GASP!)

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We got our first *known* external user

"Imhotep is a fast and powerful tool for analyzing extremely large datasets. I've found no other open source or paid alternatives that match Imhotep's speed, flexibility, and ease of collaboration. I'm glad I can bring the same kind of deep understanding and data-driven decision making to Hometogo."

- Tom Bergman, VP of Product at Hometogo

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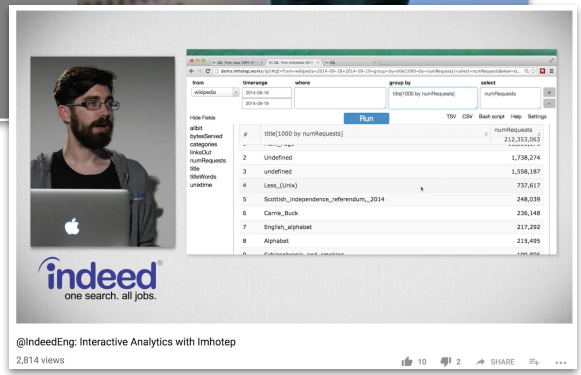

MISTAKE

Failed to offer easy ways to evaluate and adopt

LESSON

Invest in ease of evaluation and adoption, as a feature

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MISTAKE

Under-invested in promotion and community building

LESSON

Invest in building a community of users and contributors

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MISTAKE
Developed OSS release behind closed doors (and again, an external fork)

LESSON
Work in the open (and use your own OSS release)

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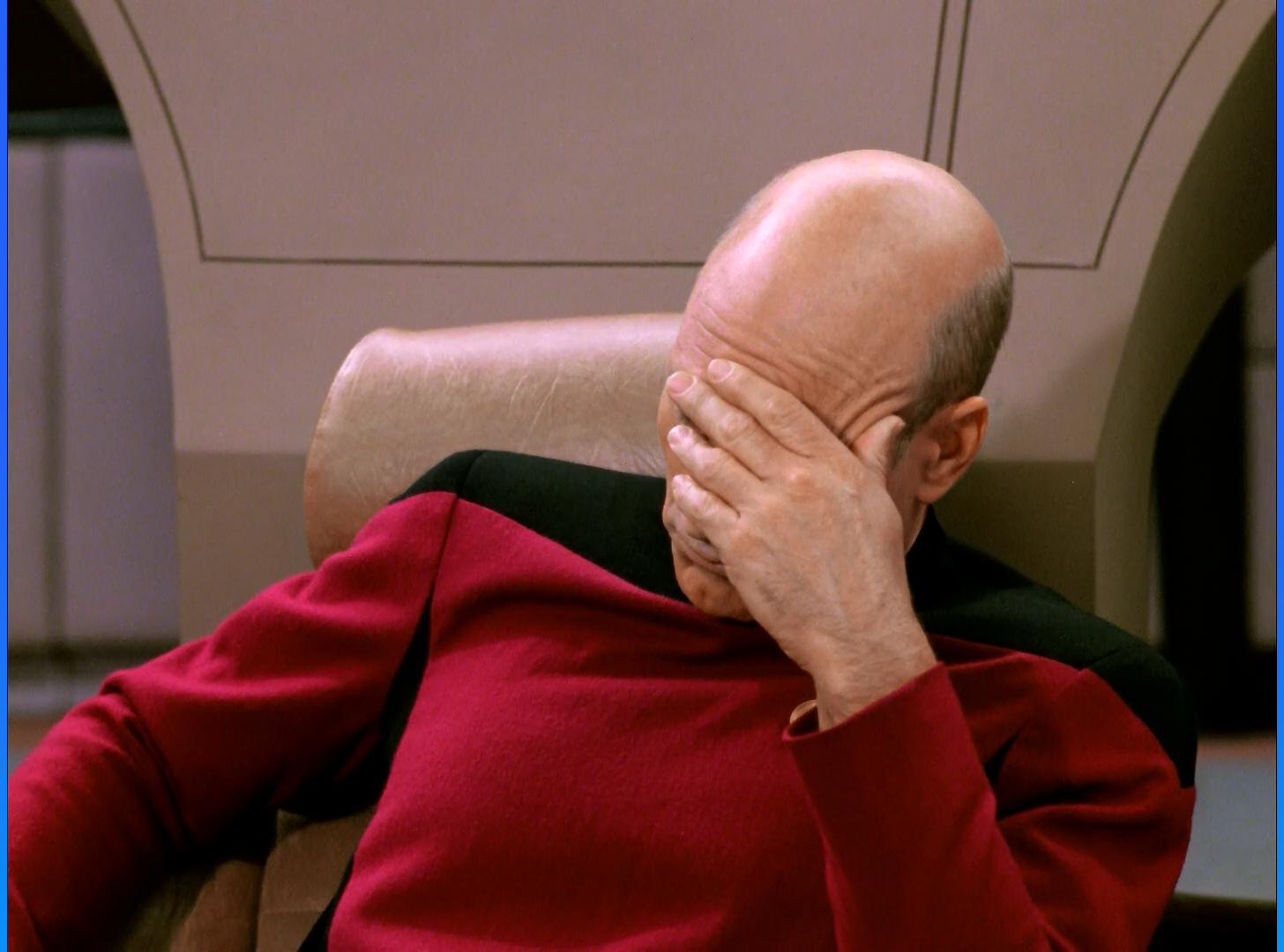

Chapter 4
Time for an OSPO

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Jack's "duh" moment

Me:
"Hmm. Maybe I need people who understand open source better than I do working on our open source program full-time.

Hey, boss -- can I hire someone to build a staffed open source program?"

Boss:
"Yeah, sure, sounds good."

Me:
"Cool. I'll get right on that."

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Initial job description

We are seeking an engineering leader to develop and lead our open source program… As the Open Source Engineering Lead, you will:

- Coordinate teams across Indeed Engineering working on open source projects
- Promote our projects to the appropriate communities
- Cultivate an open source mindset at Indeed
- Establish best practices and process for releases
- Guide and review documentation
- Manage individual project priorities (feature requests and fixes)
- Review and triage public issues, questions, and pull requests
- Develop and integrate software to support the open source release process
- Survey Indeed's internal technologies and recommend new candidate projects

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Got advice from the community

Insight:

We could achieve our goals for Open Source in other ways.
Releasing our own tech was just one of multiple strategies.

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“INDEED, YOU NEED AN OSPO”

duaneobrien.github.io/Talks/OSPOPitch

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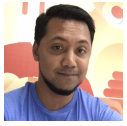
Duane O'Brien

Head of Open Source at Indeed.com



0 to 4 and growing!

CLOUD NATIVE COMPUTING FOUNDATION

APACHE SOFTWARE FOUNDATION

python SOFTWARE FOUNDATION

Software Engineer - Open Source

Indeed ★★★★½ 306 reviews

San Francisco, CA

As a Software Engineer on the Open Source team, you will…. As

webpack

foss asia

O'REILLY® oscon

ALL THINGS OPEN 2018 IN PARTNERSHIP WITH OPENSOURCE.COM

CloudNativeCon

MISTAKE

Neglected other strategies for achieving Open Source goals

LESSON

An Open Source Program can run multiple strategies to achieve your goals

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Epilogue
Let's Review

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Lessons

Work in the open

Use OSS release internally

Validate need, support early adopters, and **promote**

Invest in building a **community** of users and contributors

Invest in ease of evaluation and adoption

Pursue other strategies to achieve your goals

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Any questions?

@youknowjack | jackhumphrey.me

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