

# **DO WE REALLY NEED THIS JAMSTACK THING? AND WHAT EVEN IS IT?**

**PHIL HAWKSWORTH**

# STACKS FOR DAYZ

AN / LAMP / MAMP / XAMP / ROR / WISA / MEAN

WISA / MEAN / LAMP / MAMP / XAMP / ROR /

# *jamstack*

**JAVASCRIPT / API / MARKUP**

WHAT DOES  
THAT EVEN  
MEAN?



**DEFINITION / UNDERSTANDING**  
**IMPACT / OPPORTUNITIES**  
**TOOLS / SERVICES**  
**EXAMPLES / RESULTS**

**ISN'T THIS JUST A  
FANCY NEW NAME FOR  
STATIC SITES?**

**REASONABLE VOICES**

**@PHIL HAWKSWORTH**  
DEVELOPER EXPERIENCE,  
NETLIFY

**ISN'T THIS JUST A  
FANCY NEW NAME FOR  
STATIC SITES?**

**REASONABLE VOICES**

# SOME DEFINITIONS

# STATIC



# STATIC





# STATIC



# STATIC

*/'statɪk/*

*lacking in movement,  
action, or change,  
especially in an undesirable  
or uninteresting way.*



# STATIC

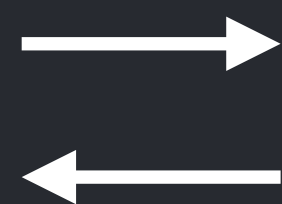
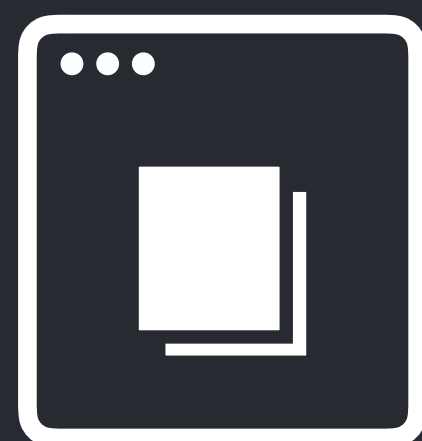
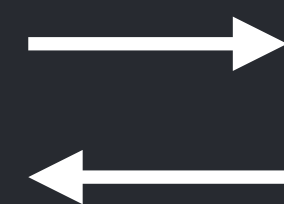
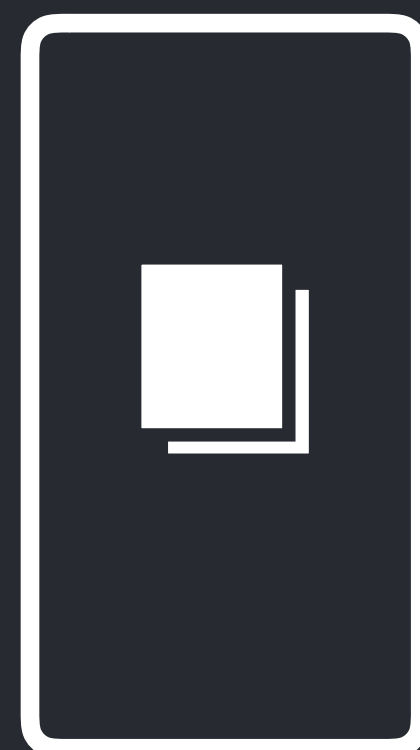
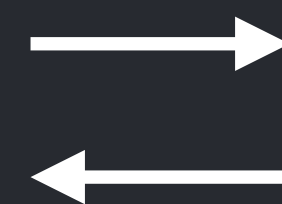
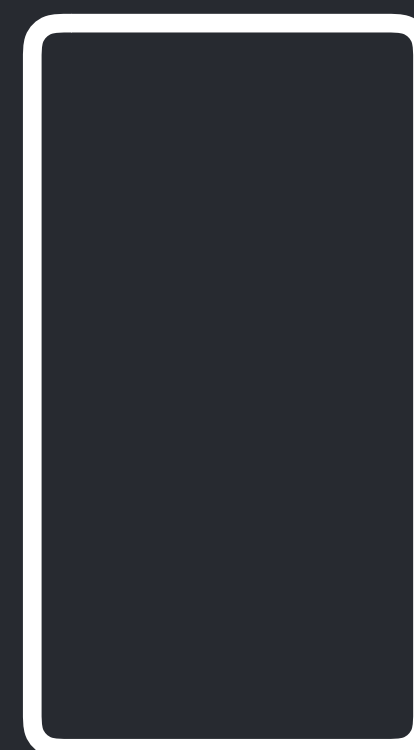
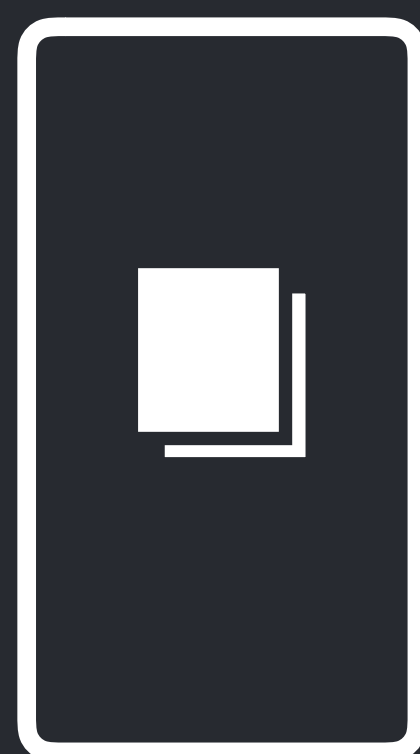
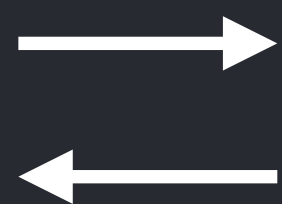
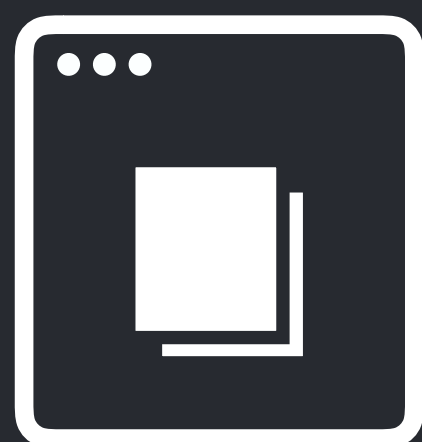
## EXPERIENCE?

*or*

## ARCHITECTURE?

# STATIC *as a* VIRTUE

# STATIC *vs* DYNAMIC

*dynamic***CDN****LOAD BALANCER****WEB SERVERS****DB SERVERS***static*

STATIC  
*means*

CAPABLE OF BEING SERVED  
DIRECTLY FROM A CDN

STATIC  
*means*

AN OPPORTUNITY TO  
REDUCE COMPLEXITY

# STATIC *as a* VIRTUE



SO.....

**REASONABLE VOICES**

**ISN'T THIS JUST A  
FANCY NEW NAME FOR  
STATIC SITES?**

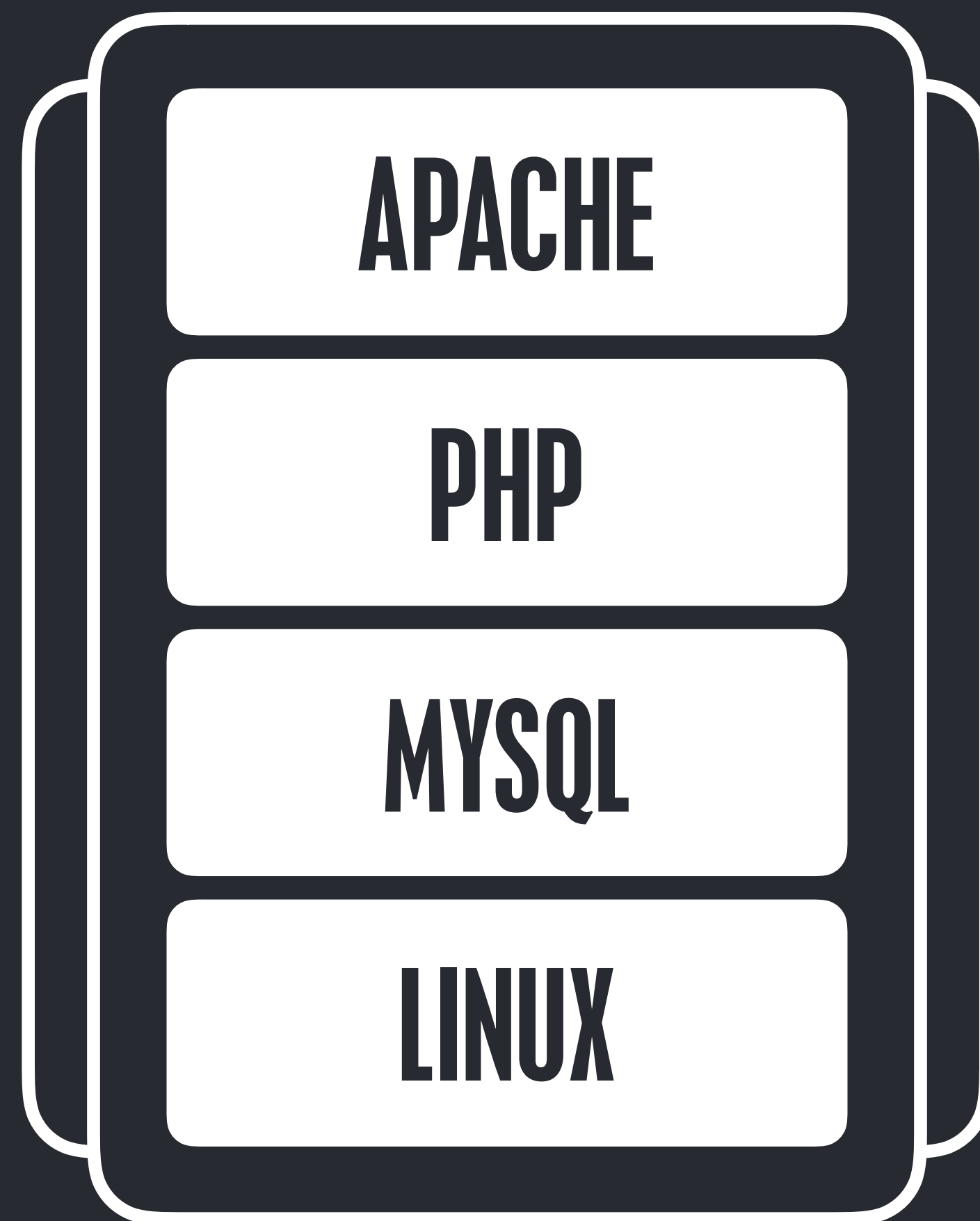
**REASONABLE VOICES**



# LET'S TALK STACKS

# LAMP



**WEB SERVER**

**HTTP ROUTING AND SERVING**

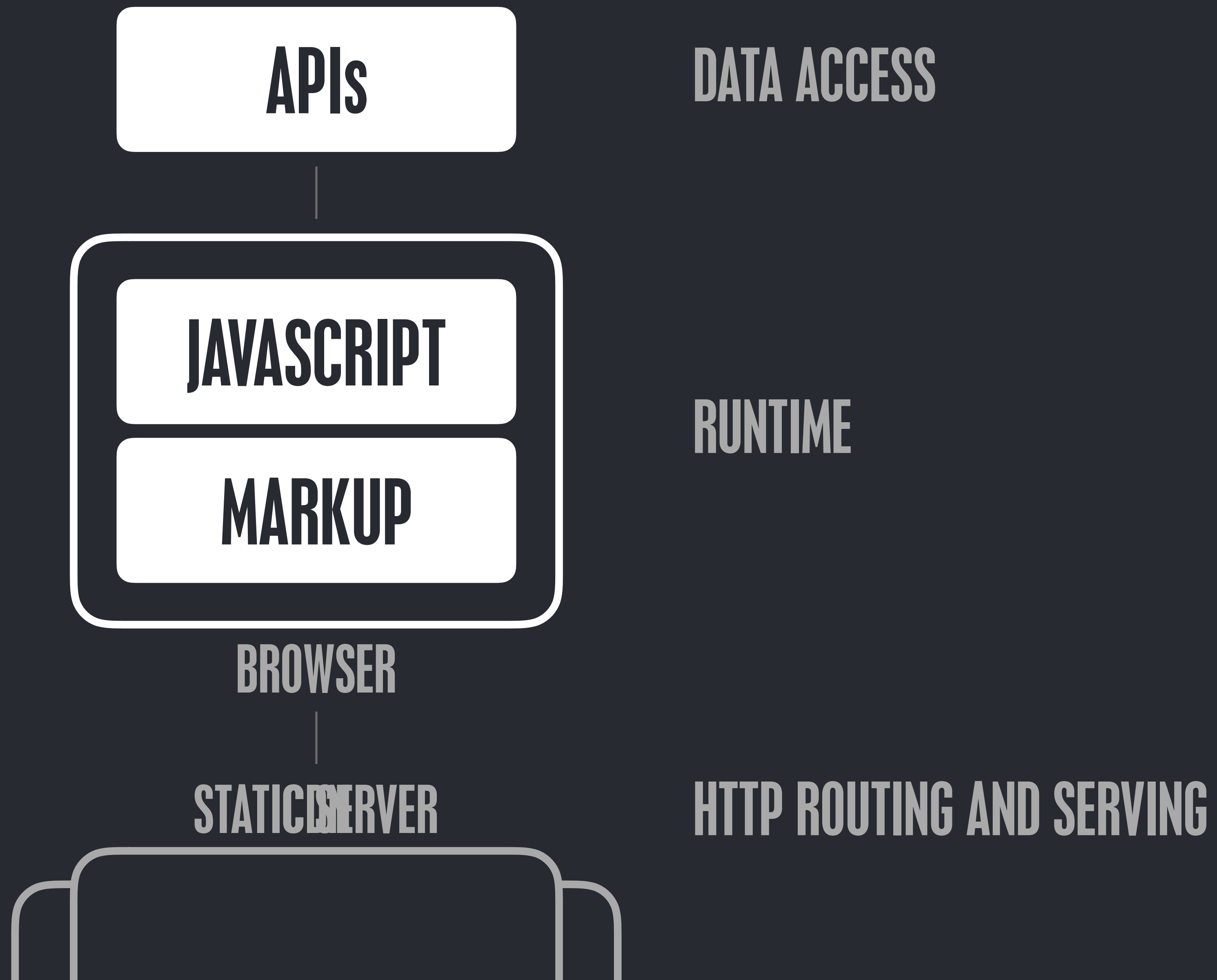
**PREPROCESSING**

**DATA ACCESS**

**OPERATING SYSTEM**



# JAM



# *jamstack*

**PRE-RENDERED  
SERVED STATICALLY  
PROGRESSIVELY ENHANCED**



APACHE

PHP

MYSQL

LINUX

WEB SERVER

WITH JAMSTACK  
THE STACK  
HAS MOVED  
UP A LEVEL  
TO THE BROWSER

APIs

JAVASCRIPT

MARKUP

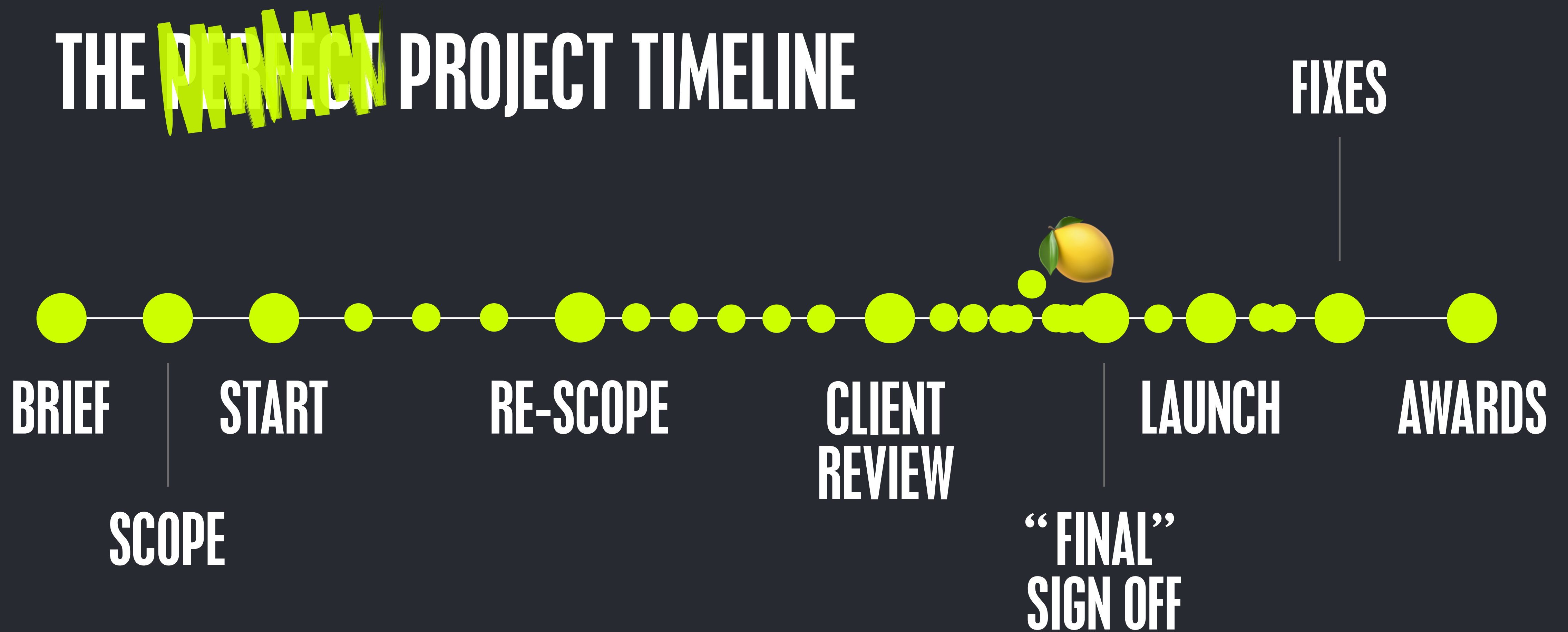
BROWSER

*this can*  
**SIMPLIFY  
DEPLOYMENTS**



# PROJECT COMPLEXITY

# THE ~~PERFECT~~ PROJECT TIMELINE



# LAUNCH DAY



# THE ~~PERFECT~~ PROJECT TIMELINE







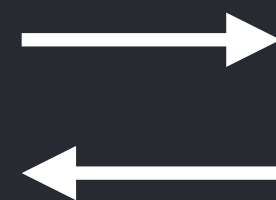
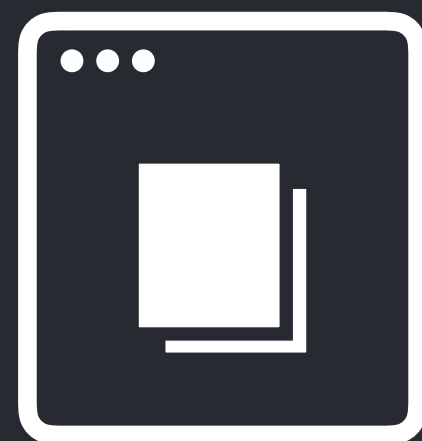
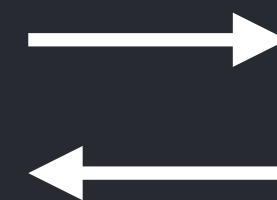
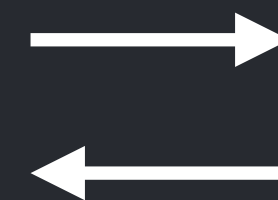
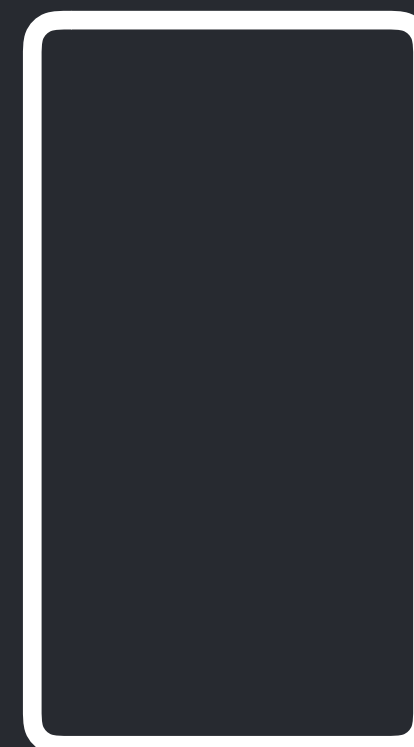
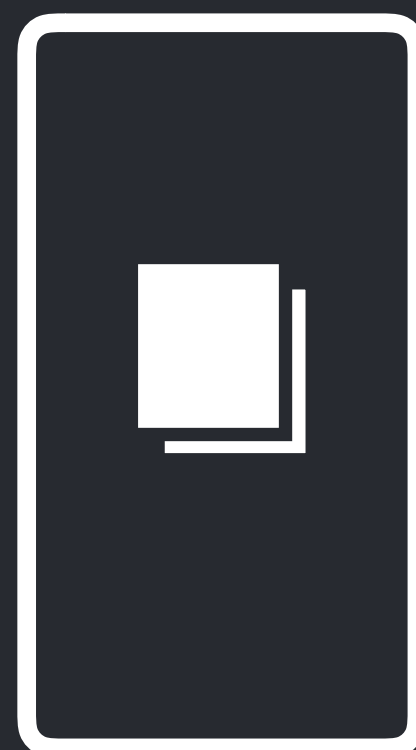
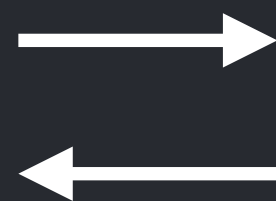
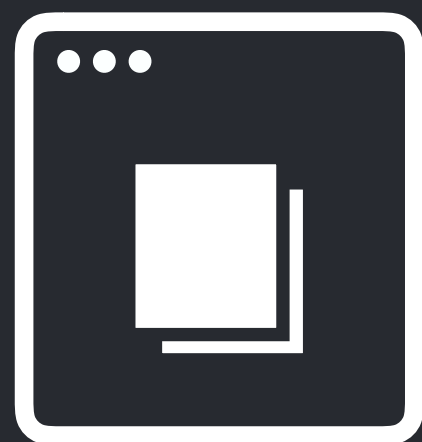


# THE ~~PERFECT~~ PROJECT TIMELINE





**crewmarket**

*dynamic***CDN****LOAD BALANCER****WEB SERVERS****DB SERVERS***static*



# GET TO THE ~~CHOPPER~~ CDN





**WELL ACTUALLY...**  
**THIS JAMSTACK STUFF**  
**IS NOTHING NEW**

**THAT VOICE ON THE INTERNET**

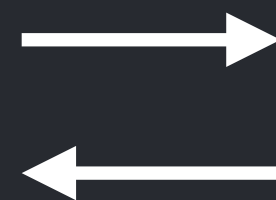
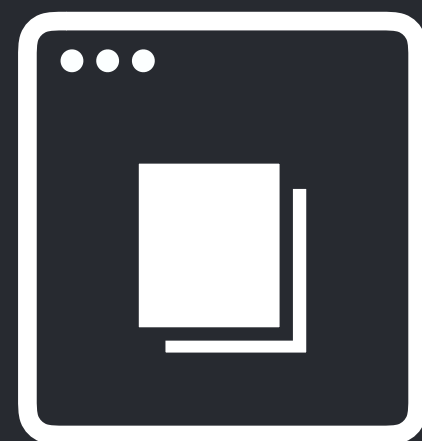
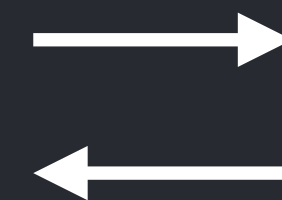
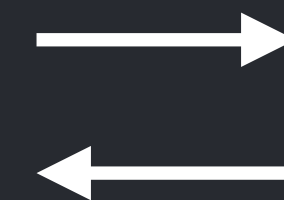
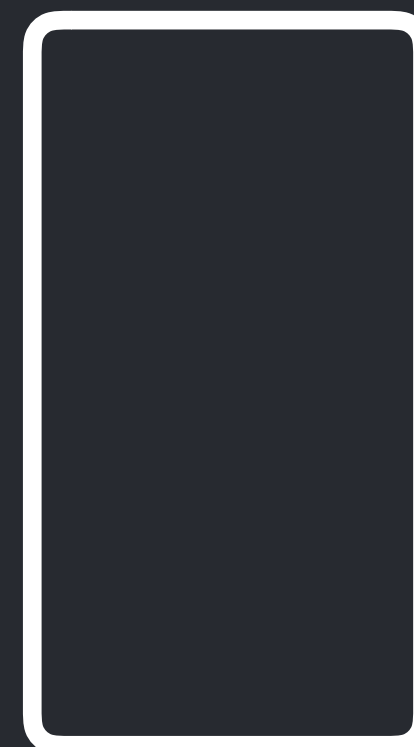
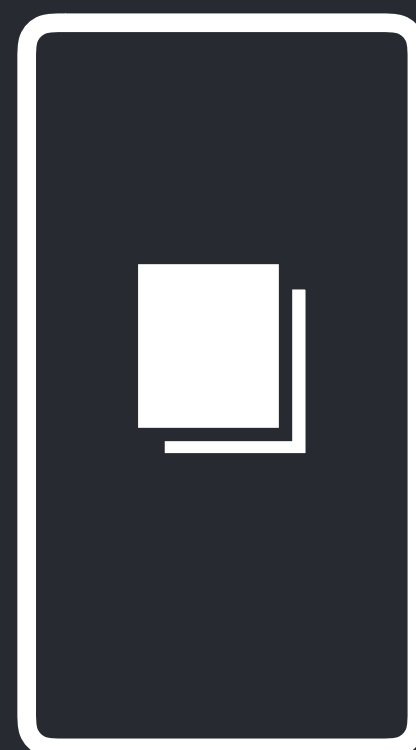
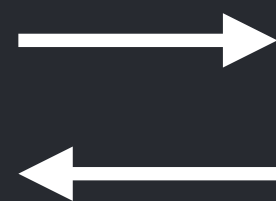
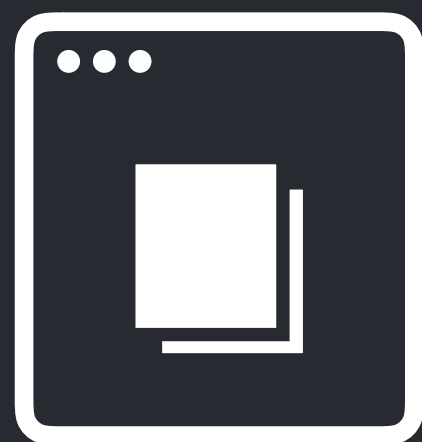
# BAKE, DON'T FRY

— *Aaron Swartz*

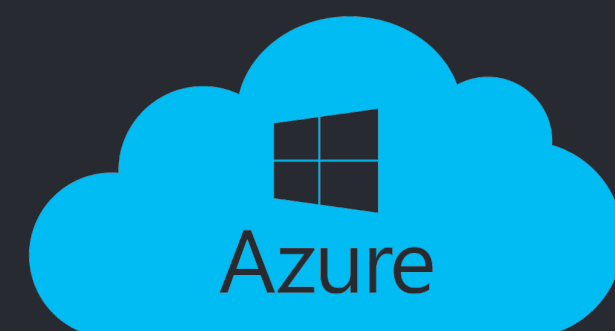


**I CARE ABOUT NOT HAVING TO  
MAINTAIN CRANKY AOLSERVER,  
POSTGRES AND ORACLE INSTALLS**

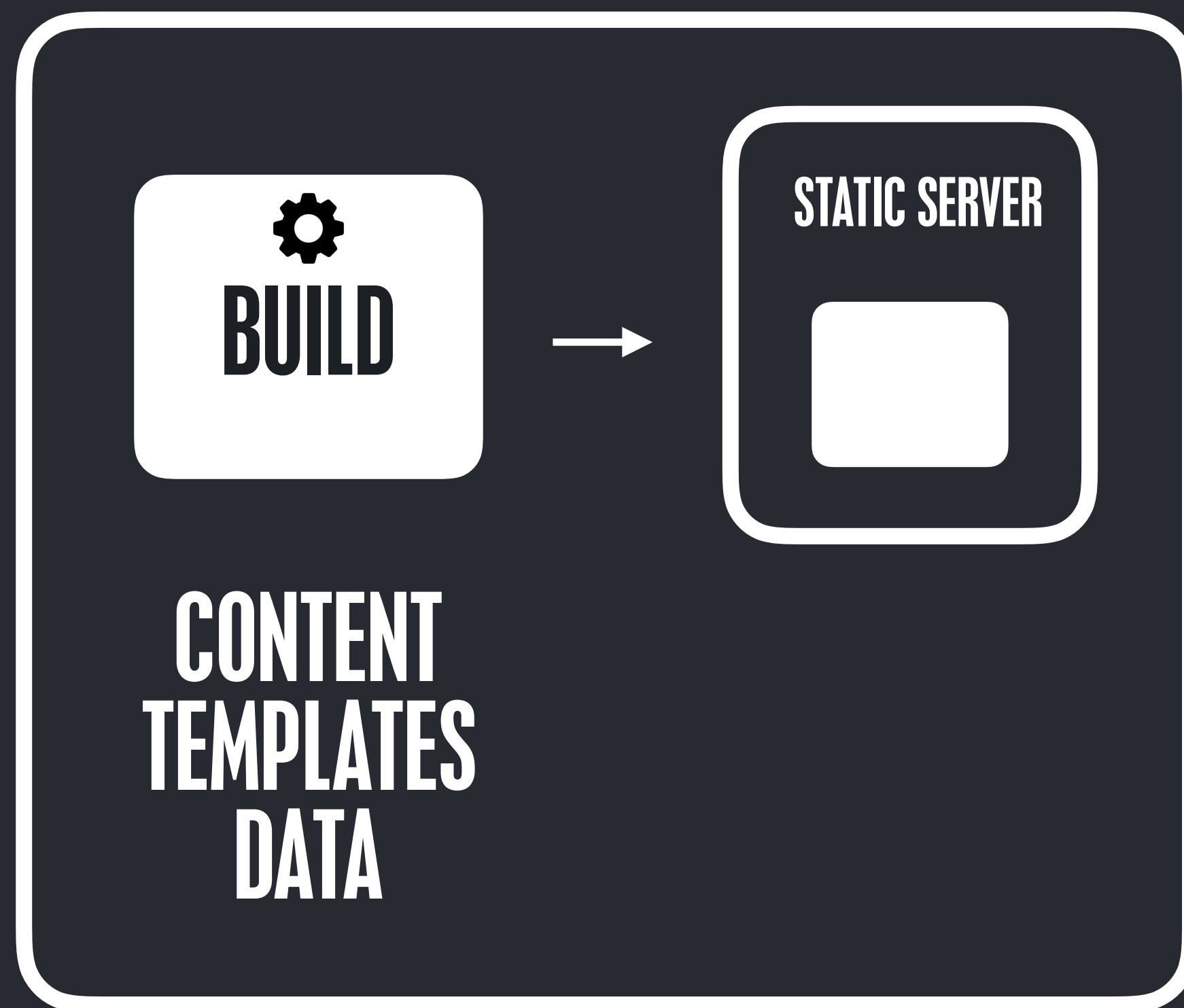
**AARON SWARTZ**

*dynamic***CDN****LOAD BALANCER****WEB SERVERS****DB SERVERS***static*

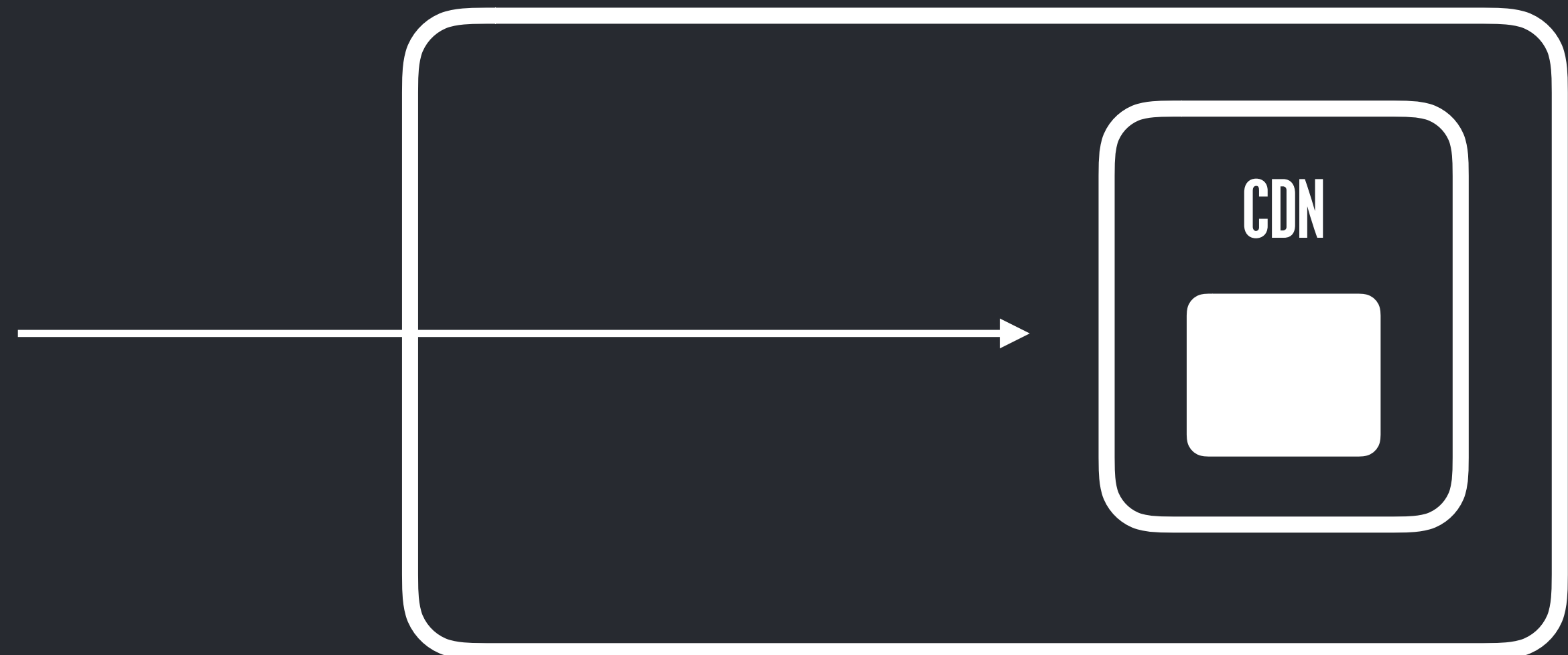




## LOCAL



## HOSTING



# IMPACTS AND OPPORTUNITIES



# SECURITY

# A GREATLY REDUCED SURFACE AREA

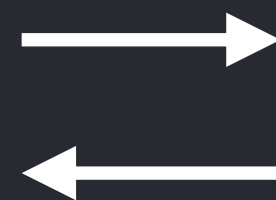
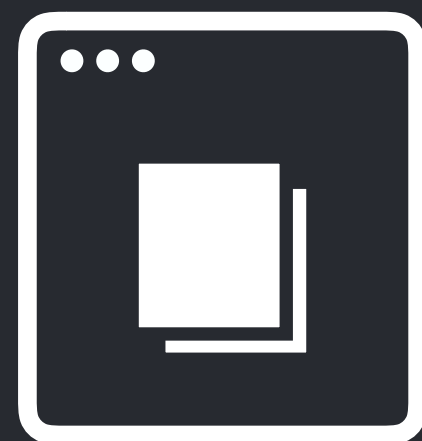
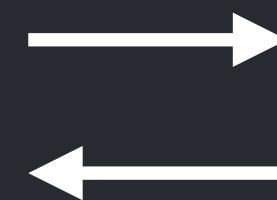
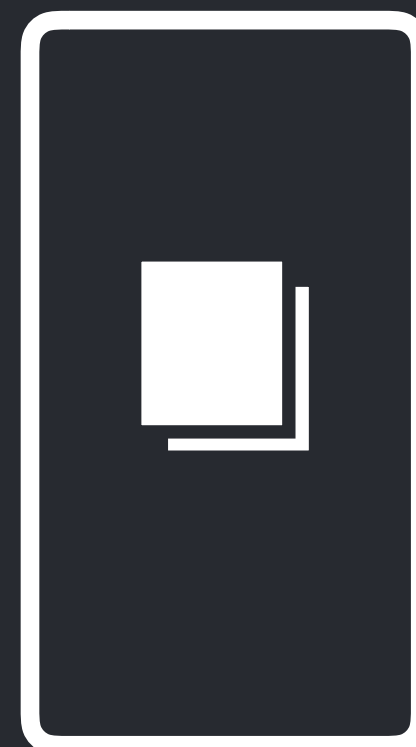
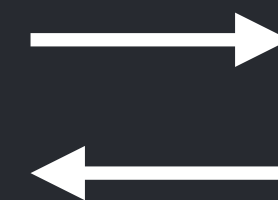
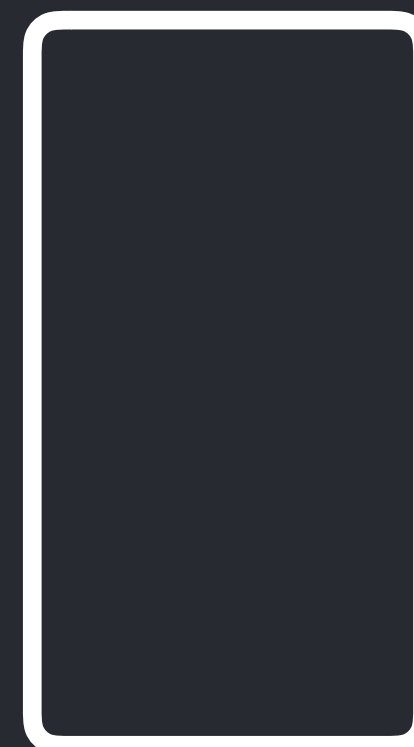
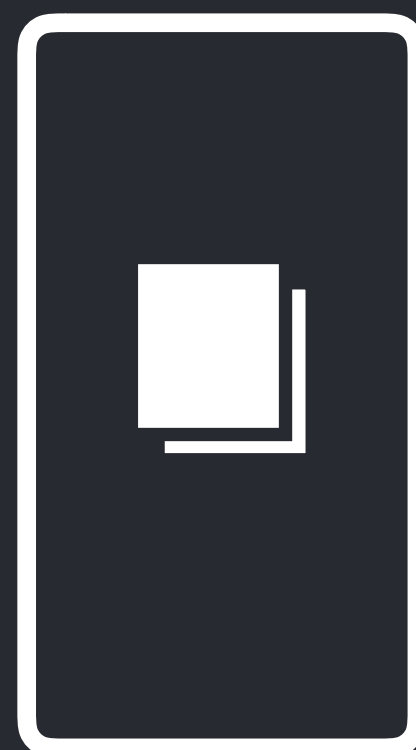
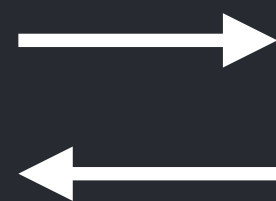
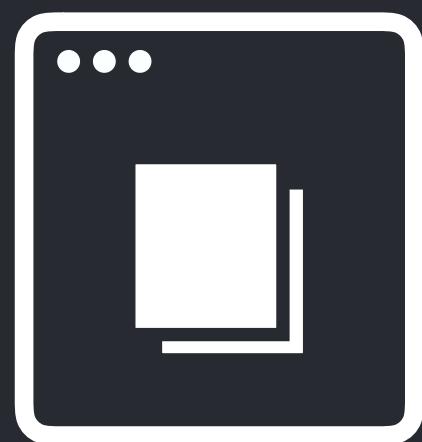
**FAR FEWER  
MOVING PARTS  
TO ATTACK**

# YOUR-DOMAIN.COM/WP-ADMIN



# PERFORMANCE & SCALE



*dynamic***CDN****LOAD BALANCER****WEB SERVERS****DB SERVERS***static*



# DEVELOPER EXPERIENCE




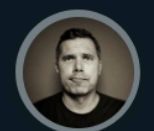
# DEPLOYMENT CONFIDENCE

A **JAMSTACK** SITE CAN  
MORE EASILY HAVE  
IMMUTABLE,  
ATOMIC DEPLOYS

Deploy details | hawksworx


https://app.netlify.com/sites/hawksworx/deploy/57b8db8dd6865d5bcf4684db

 Netlify demo team > hawksworx



< Deploys

### Deploy successful

Production: [netlify@c12ea77](#). Aug 20, 2016 at 11:37 PM 

[View Functions](#) in production.


[Preview deploy](#) ➔

Publish deploy

### Deploy log

Preview Copy to clipboard ↑ ↓

```
11:37:02 PM: Build started
11:37:02 PM: Fetching cached dependencies
11:37:02 PM: Expected build cache - but failed to find it
11:37:02 PM: No cached dependencies found. Cloning fresh repo
11:37:02 PM: git clone git@github.com:philhawksworth/hawksworx.com /mnt/build-work/1471732622726788980/repo
11:37:07 PM: git remote tm origin /mnt/build-work/1471732622726788980/repo
11:37:07 PM: Preparing Branch
11:37:08 PM: Building site
11:37:08 PM: Running build command
11:37:08 PM: Running Build
```





# BEYOND STATIC

# AUTOMATION

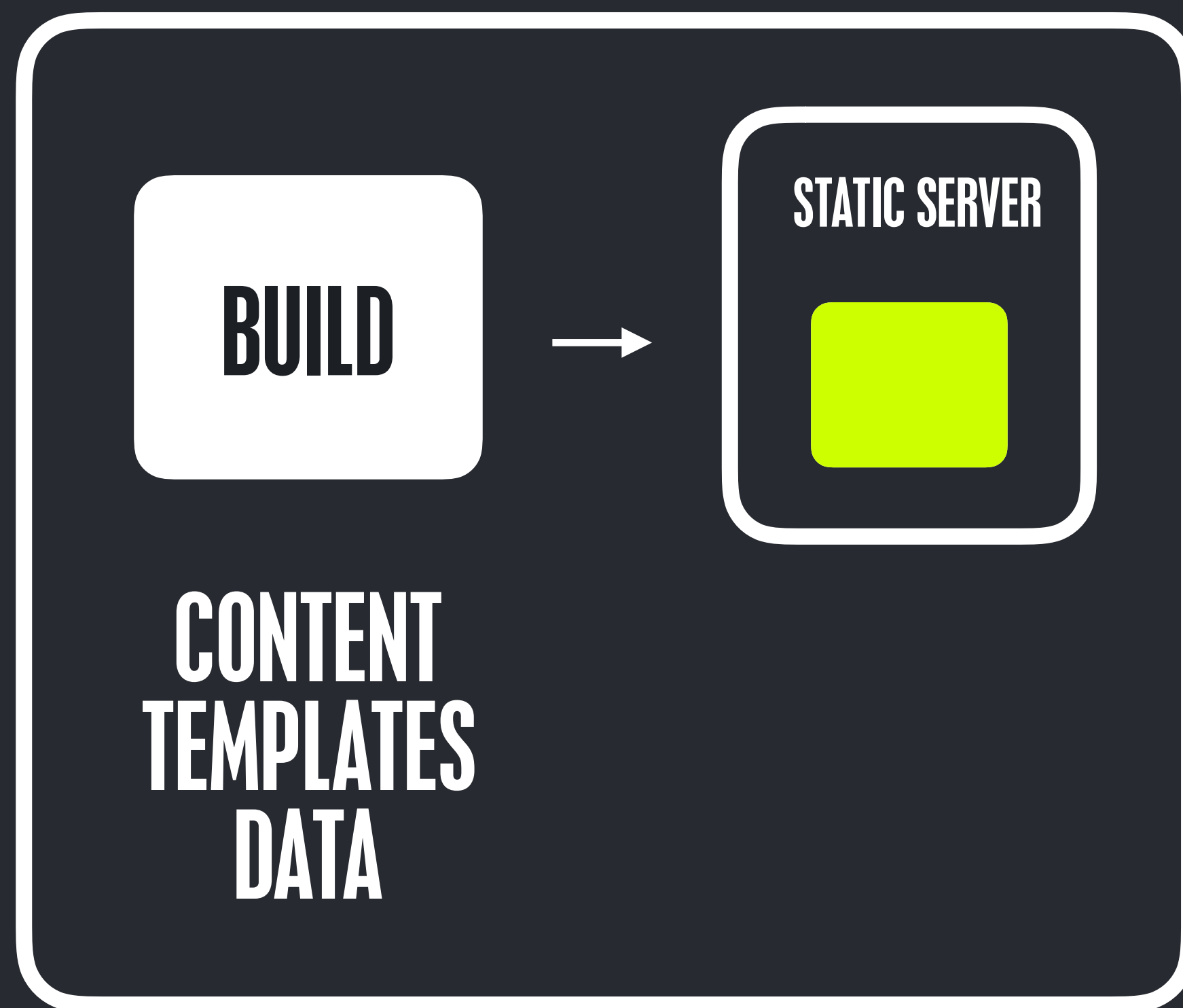
REPEATABILITY / PREDICTABILITY / ACCOUNTABILITY / AGILITY

# REPLICATION

REPEATABILITY / PREDICTABILITY / CONFIDENCE / VERSION CONTROL



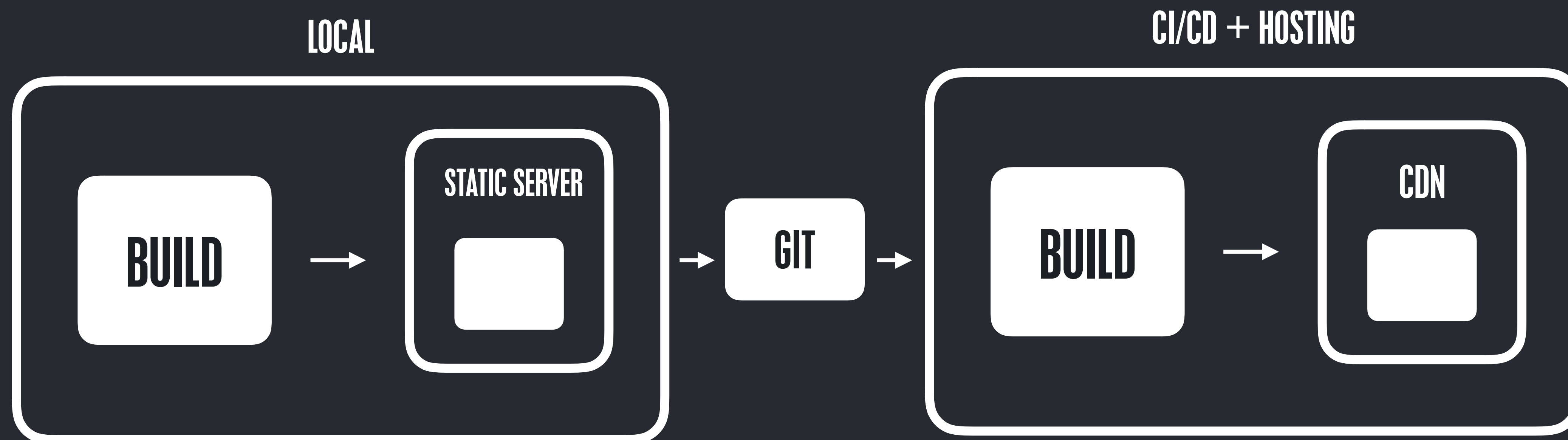
## LOCAL



## HOSTING

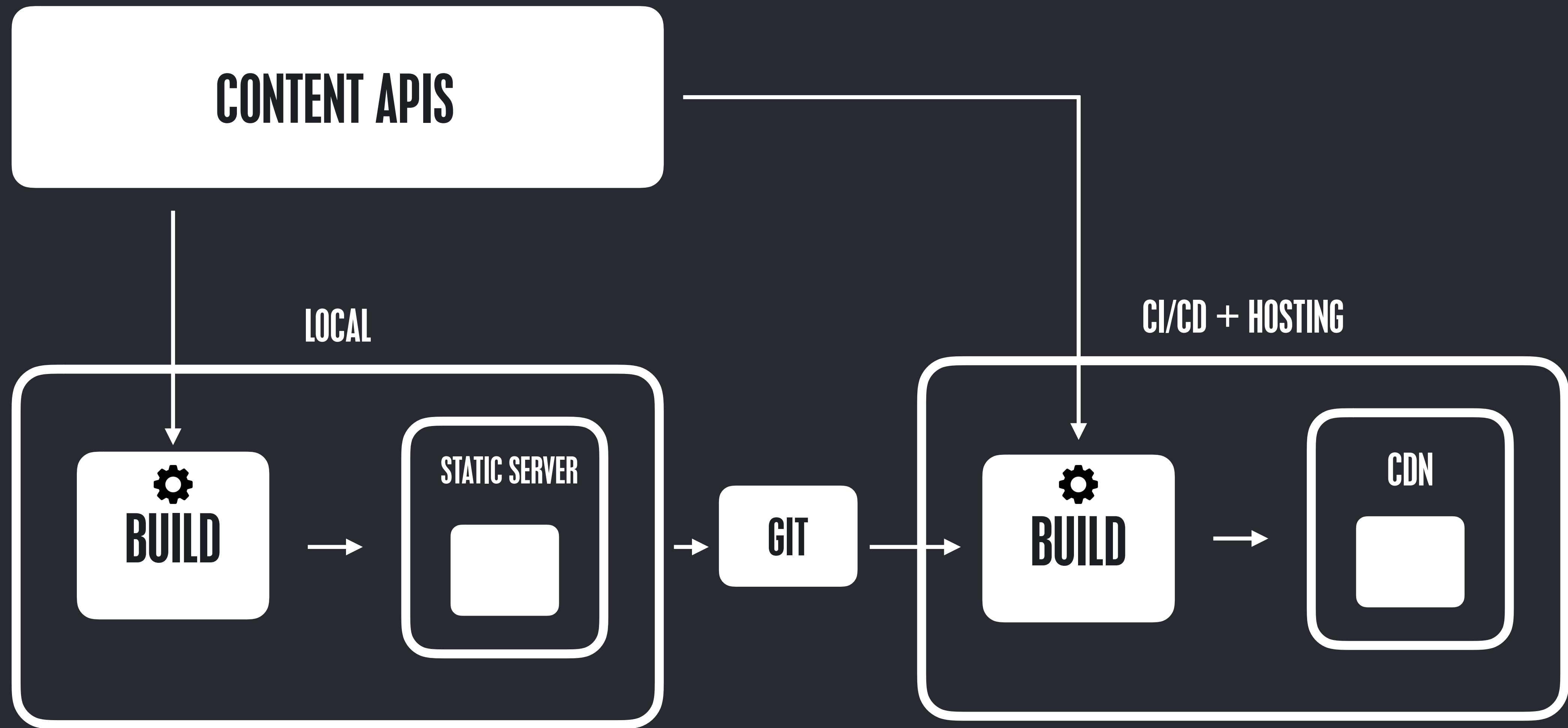


# **GIT-BASED DEPLOYMENTS**





# DATA SOURCES




# DEPLOYING WITH LOW FRICTION

*results in*

# HIGH CONFIDENCE





# A RIDICULOUS AUTOMATION EXAMPLE

**Zach Leatherman**

@zachleat

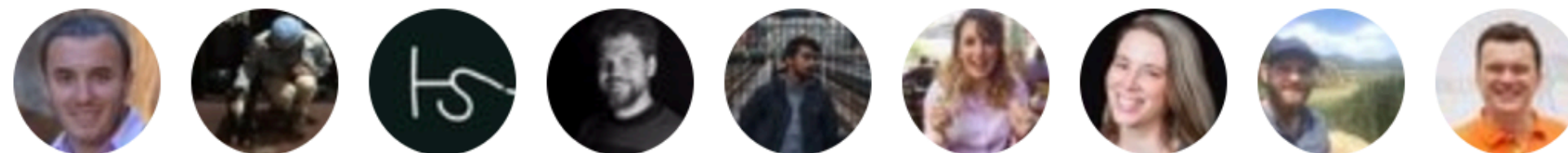
Following



free side project idea: HTML-only static site generated clock that deploys a new version to [@netlify](#) every minute

8:54 PM - 19 Jul 2018

30 Likes

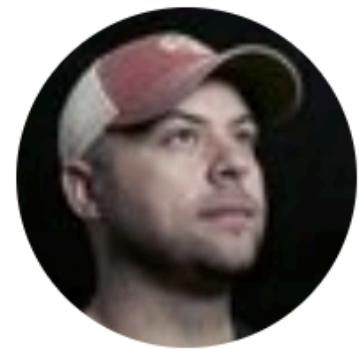


3



30



**Chris Coyier** 

@chriscoyier

Following

Replying to [@zachleat](#) [@hankchizljaw](#) [@Netlify](#)

Would be clever marketing for Netlify for sure. \_Builds so cheap you can set your clock by them.\_

(I'm still workshopping it.)

9:12 PM - 19 Jul 2018

7 Likes



**Phil Hawksworth**

@philhawksworth



Replying to @zachleat @chriscoyier and 2 others

# Hold my beer.

10:25 PM - 19 Jul 2018

**12** Likes



**Phil Hawsworth**

@philhawsworth



Replying to @philhawsworth @zachleat and 3 others

Only an idiot would make what you are suggesting.

[setyourwatchby.netlify.com](https://setyourwatchby.netlify.com)

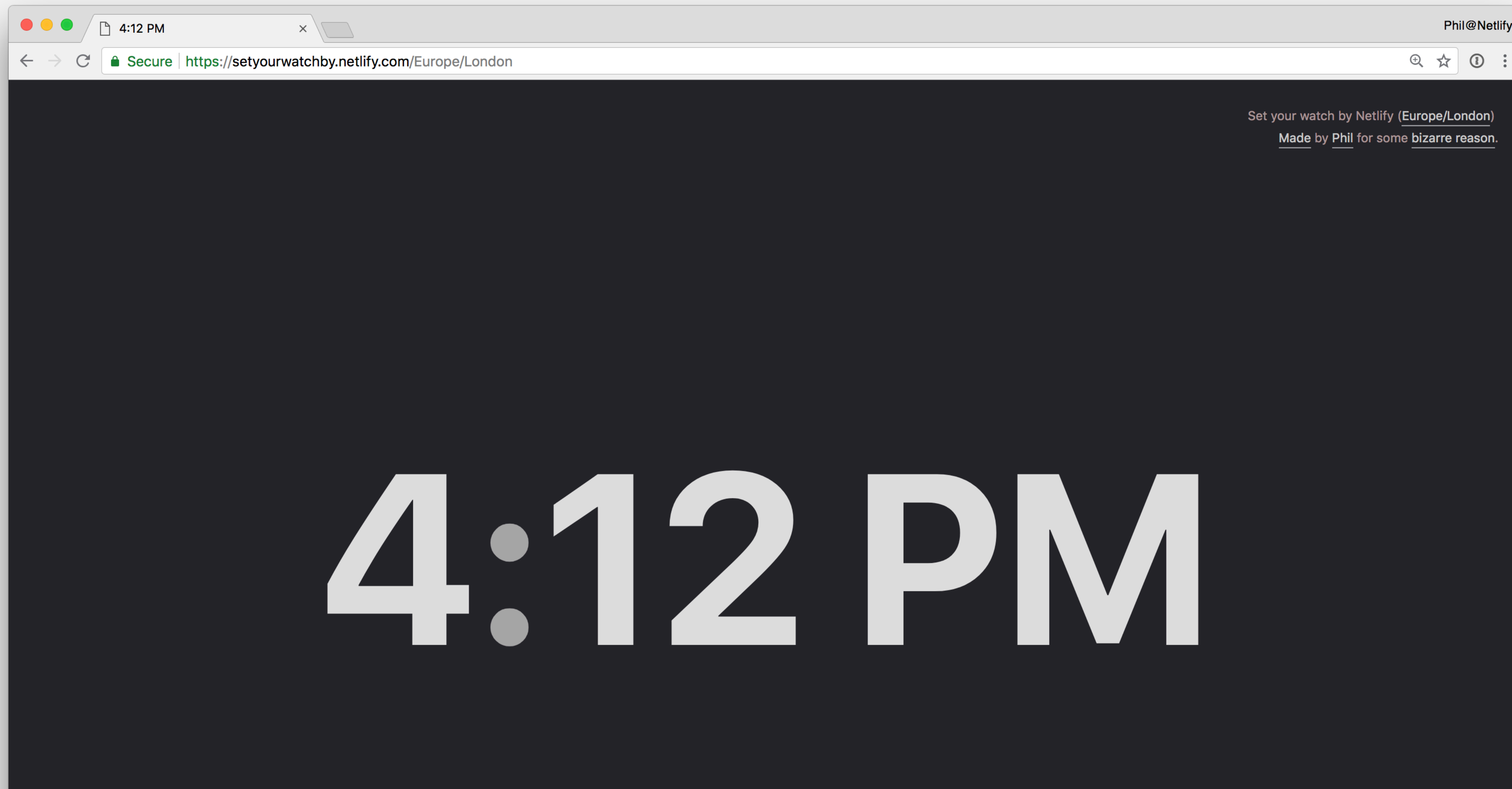
2:02 PM - 20 Jul 2018

12 Retweets 41 Likes



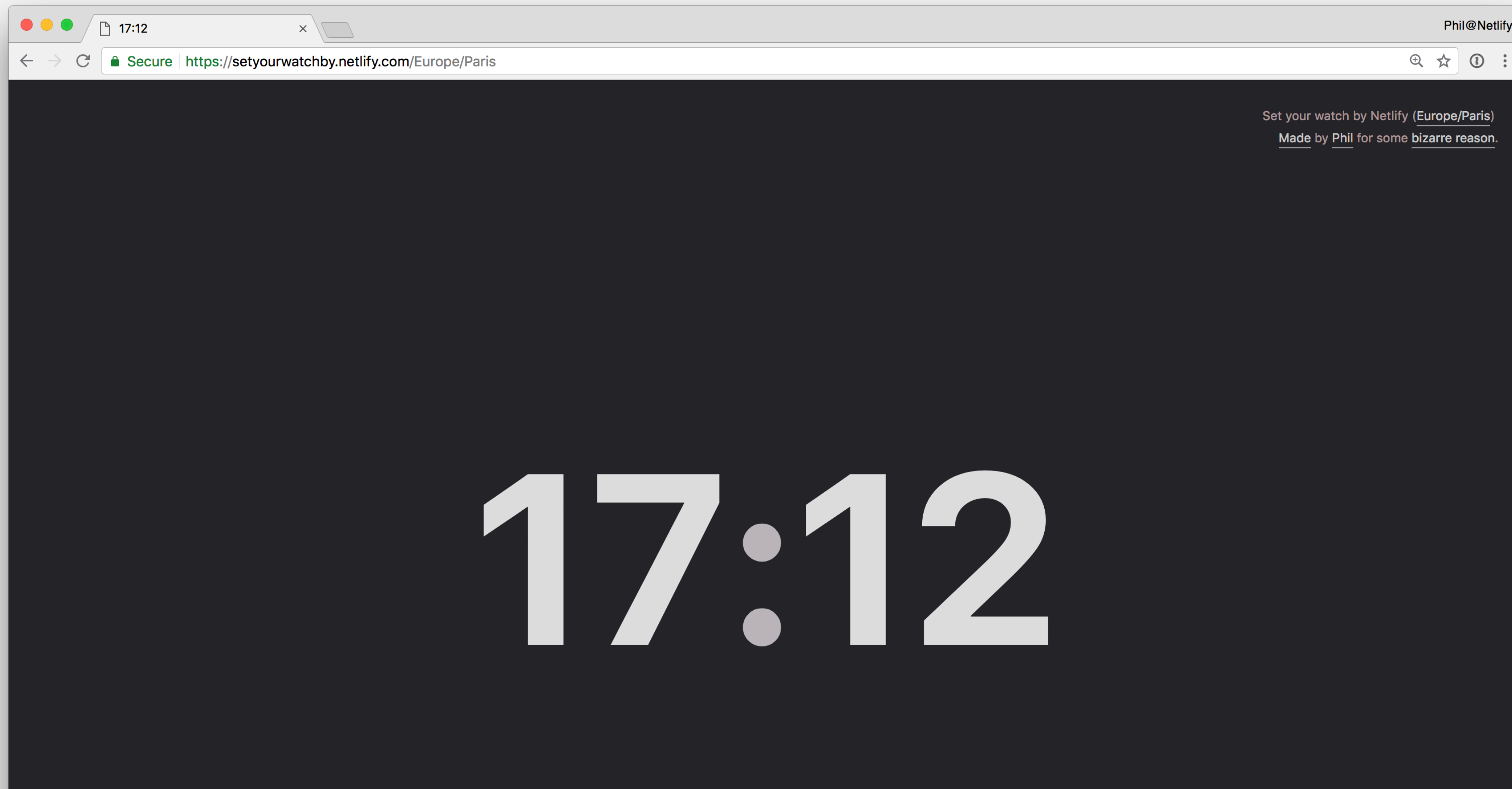
# FINDTHAT.AT/TIME

<https://setyourwatchby.netlify.com>



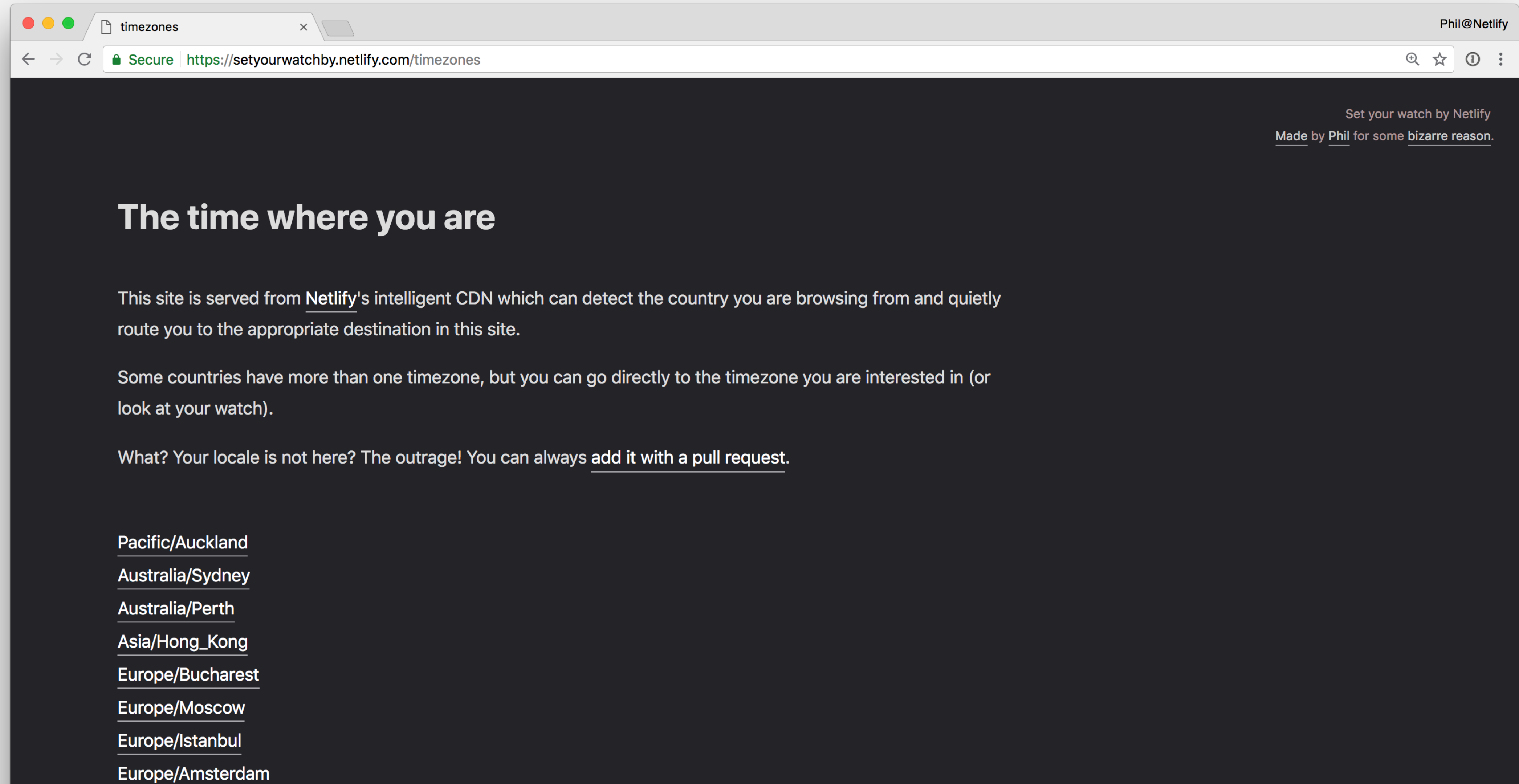
# FINDTHAT.AT/TIME

<https://setyourwatchby.netlify.com>



# FINDTHAT.AT/TIME

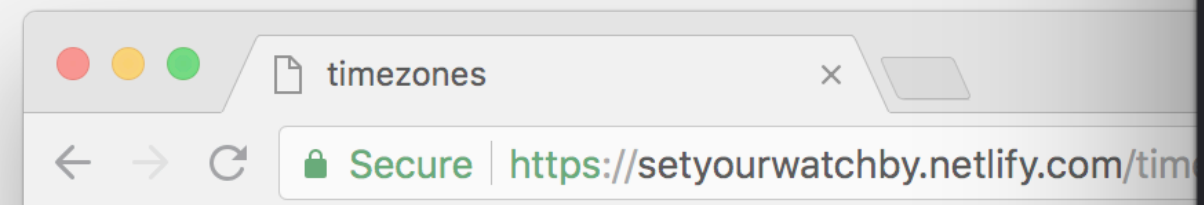
<https://setyourwatchby.netlify.com>





# FINDTHAT.AT/TIME

<https://setyourwatchby.netlify.com/timezones>



## The time where you

This site is served from [Netlify's](#) intelligent edge network, which routes you to the appropriate destination.

Some countries have more than one time zone (e.g. Australia, look at your watch).

What? Your locale is not here? The outrage!

[Pacific/Auckland](#)

[Australia/Sydney](#)

[Australia/Perth](#)

[Asia/Hong\\_Kong](#)

[Europe/Bucharest](#)

[Europe/Moscow](#)

[Europe/Istanbul](#)

[Europe/Amsterdam](#)

[Pacific/Auckland](#)

[Australia/Sydney](#)

[Australia/Perth](#)

[Asia/Hong\\_Kong](#)

[Europe/Bucharest](#)

[Europe/Moscow](#)

[Europe/Istanbul](#)

[Europe/Amsterdam](#)

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[Europe/London](#)

[America/New\\_York](#)

[America/Chicago](#)

[America/Denver](#)

[America/Los\\_Angeles](#)

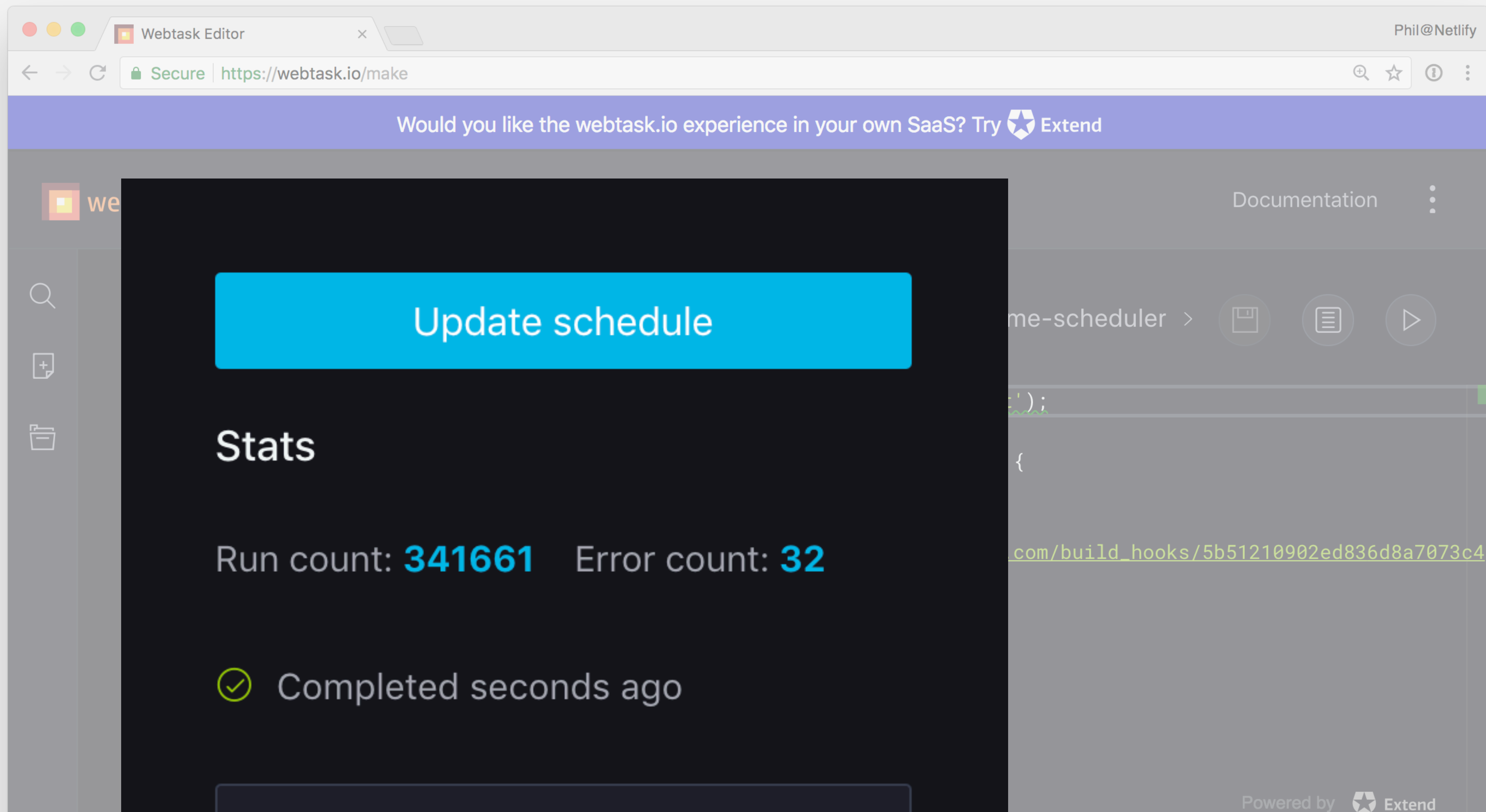
The screenshot displays the Webtask Editor interface in a web browser. The browser's address bar shows the URL `https://webtask.io/make`. A blue banner at the top of the page asks, "Would you like the webtask.io experience in your own SaaS? Try Extend". The Webtask logo is in the top left, and a "Documentation" link is in the top right.

The main interface is divided into a left sidebar and a main workspace. The sidebar contains a "Scheduler" section with a search icon, a "+" icon, and a folder icon. It includes a "Refresh" button, a "Remove schedule" button, and a checkbox labeled "Write an advanced schedule" which is checked. Below this are five buttons for scheduling frequency: "\*/1" (Minute), "\*" (Hour), "\*" (Day), "\*" (Month), and "\*" (Weekday). A large blue "Update schedule" button is at the bottom of the scheduler section. Below the scheduler is a "Stats" section showing "Run count: 57540" and "Error count: 10".

The main workspace shows the configuration for a task named "Netlify-HTML-time-scheduler". It includes a settings icon, a "+" icon, and a list of icons for file operations. The code editor displays the following JavaScript code:


```
1 var request = require('request');
2
3 module.exports = function(cb) {
4   request({
5     method: 'POST',
6     url: 'https://api.netlify.com/build_hooks/5b51210902ed836d8a7073c4',
7   });
8   cb(null, { msg: 'done '});
9 };
10
```

# WEBTASK.IO






Webtask Editor x Phil@Netlify

Secure | <https://webtask.io/make>

Would you like the webtask.io experience in your own SaaS? Try  Extend

we

Documentation

me-scheduler >   


Update schedule

Stats

Run count: **341661** Error count: **32**

✓ Completed seconds ago

```
);  
{  
  
com/build_hooks/5b51210902ed836d8a7073c4
```

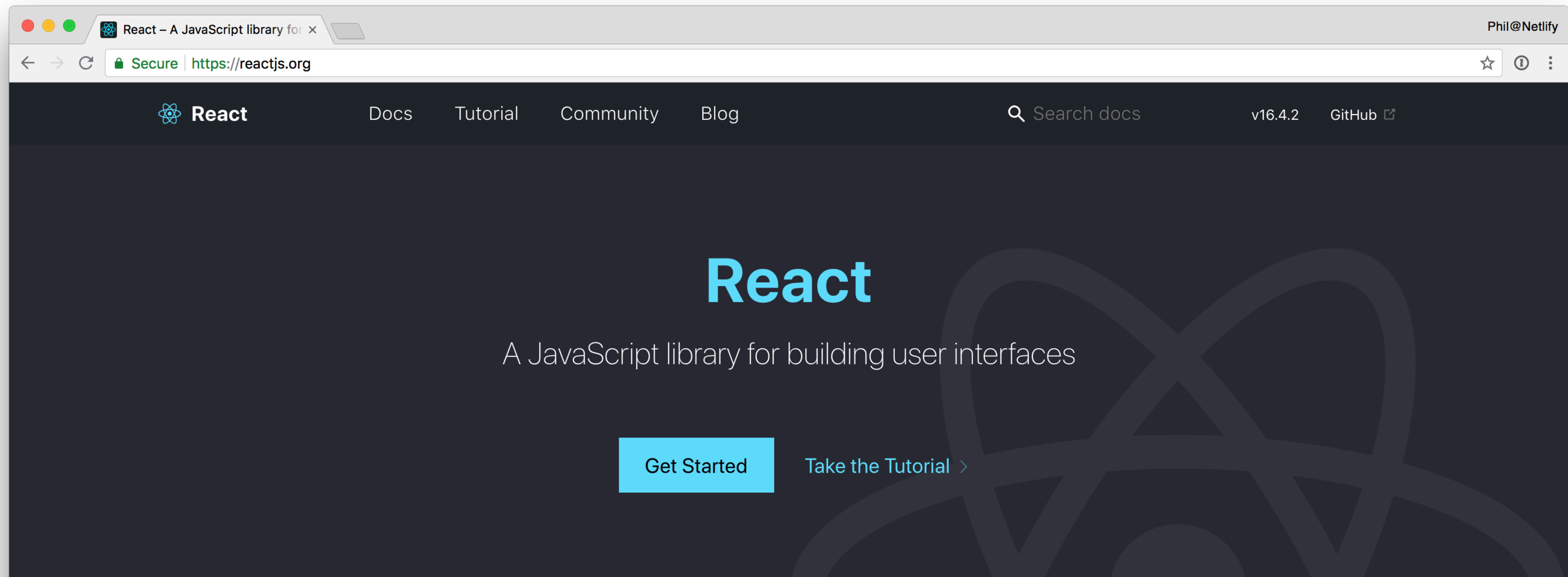
Powered by  Extend

**( DON'T DO THIS )**



# EXAMPLES AND RESULTS

# REACTJS.ORG



## Declarative

React makes it painless to create interactive UIs. Design simple views for each state in your application, and React will efficiently update and render just the right components when your data changes.

## Component-Based

Build encapsulated components that manage their own state, then compose them to make complex UIs.

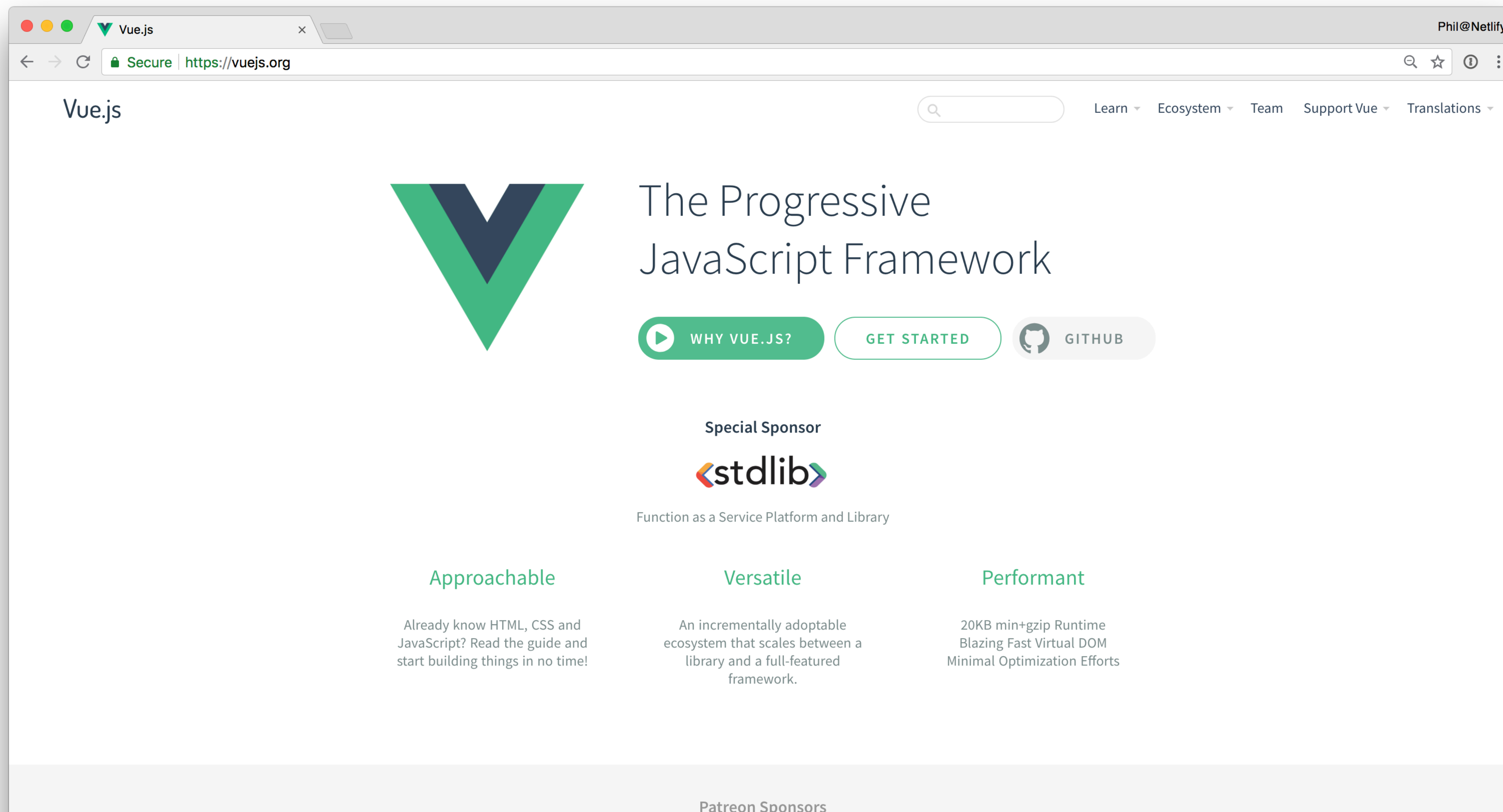
Since component logic is written in JavaScript

## Learn Once, Write Anywhere

We don't make assumptions about the rest of your technology stack, so you can develop new features in React without rewriting existing code.

React can also render on the server using Node

# VUEJS.ORG



The screenshot shows the Vue.js website in a web browser. The browser's address bar displays "Secure | https://vuejs.org". The website's header includes the "Vue.js" logo, a search bar, and navigation links: "Learn", "Ecosystem", "Team", "Support Vue", and "Translations". The main content area features a large green and dark blue "V" logo, followed by the text "The Progressive JavaScript Framework". Below this are three buttons: "WHY VUE.JS?", "GET STARTED", and "GITHUB". A "Special Sponsor" section follows, featuring the "stdlib" logo and the text "Function as a Service Platform and Library". The bottom section highlights three key features: "Approachable", "Versatile", and "Performant", each with a brief description. The footer mentions "Patreon Sponsors".

Vue.js

Secure | https://vuejs.org

Learn Ecosystem Team Support Vue Translations

## The Progressive JavaScript Framework

WHY VUE.JS? GET STARTED GITHUB

Special Sponsor

**stdlib**

Function as a Service Platform and Library

### Approachable

Already know HTML, CSS and JavaScript? Read the guide and start building things in no time!

### Versatile

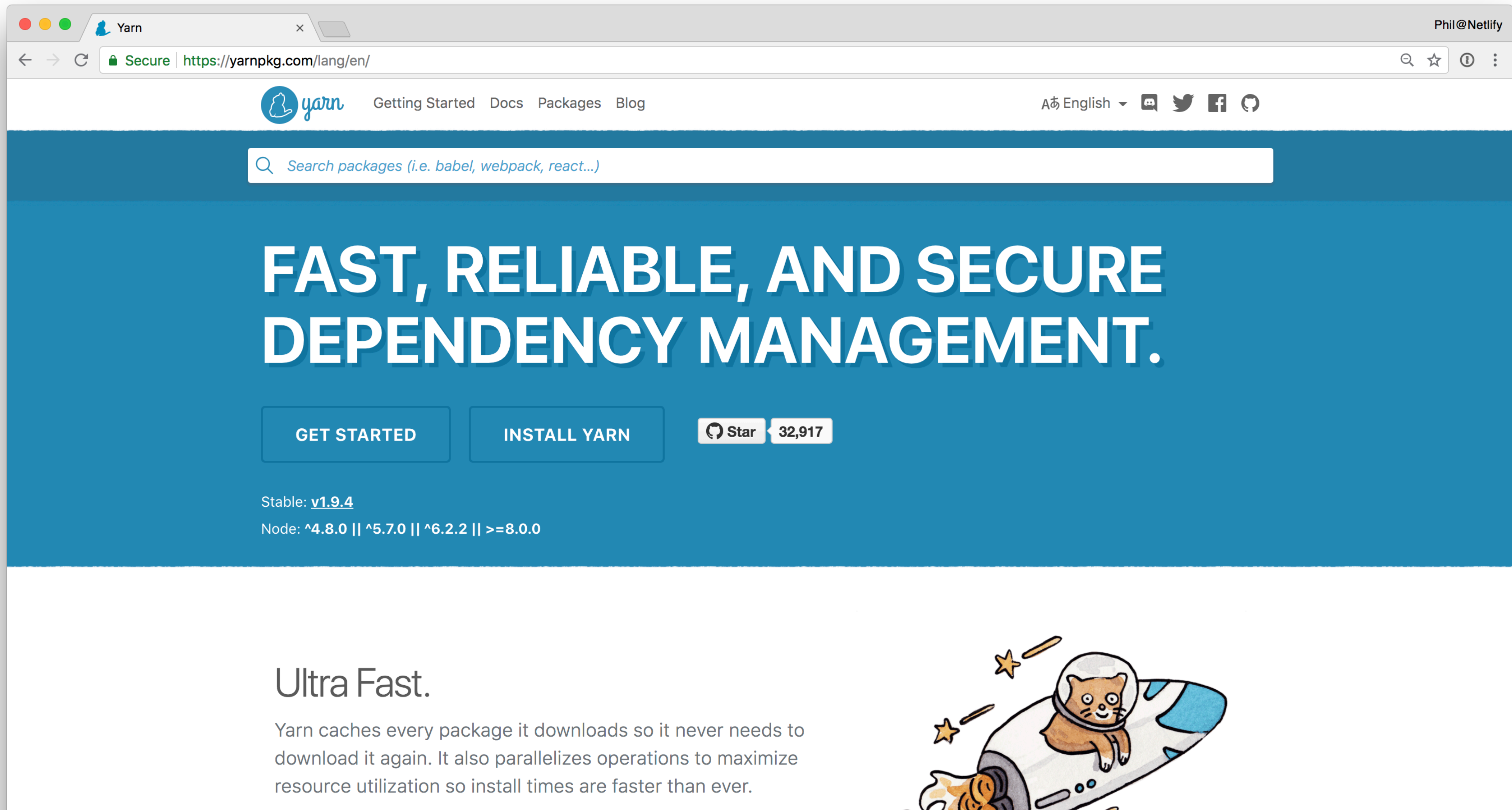
An incrementally adoptable ecosystem that scales between a library and a full-featured framework.

### Performant

20KB min+gzip Runtime  
Blazing Fast Virtual DOM  
Minimal Optimization Efforts

Patreon Sponsors

# YARNPKG.COM



The screenshot shows the Yarn website homepage in a browser window. The browser's address bar shows the URL `https://yarnpkg.com/lang/en/`. The website has a blue header with the Yarn logo, navigation links (Getting Started, Docs, Packages, Blog), and social media icons. A search bar is present with the placeholder text "Search packages (i.e. babel, webpack, react...)". The main content area has a large blue background with the text "FAST, RELIABLE, AND SECURE DEPENDENCY MANAGEMENT." in white. Below this are three buttons: "GET STARTED", "INSTALL YARN", and a GitHub Star button showing "32,917" stars. At the bottom left, it says "Stable: [v1.9.4](#)" and "Node: `^4.8.0 || ^5.7.0 || ^6.2.2 || >=8.0.0`". At the bottom right, there is a cartoon illustration of a cat in a space helmet sitting on a rocket ship.


Yarn

Getting Started Docs Packages Blog

A English

Search packages (i.e. babel, webpack, react...)


# FAST, RELIABLE, AND SECURE DEPENDENCY MANAGEMENT.

GET STARTED INSTALL YARN  Star 32,917

Stable: [v1.9.4](#)  
Node: `^4.8.0 || ^5.7.0 || ^6.2.2 || >=8.0.0`

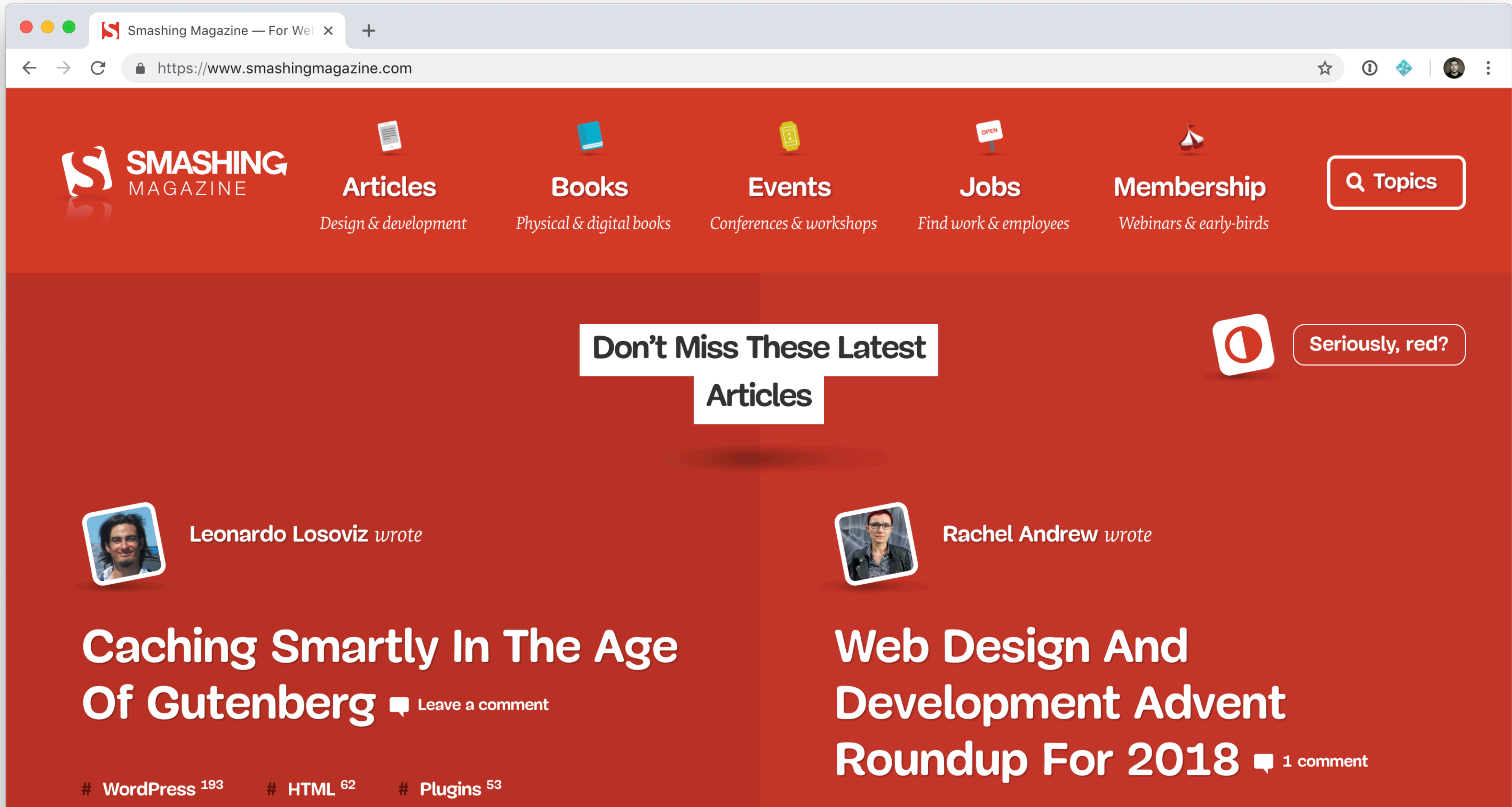
## Ultra Fast.

Yarn caches every package it downloads so it never needs to download it again. It also parallelizes operations to maximize resource utilization so install times are faster than ever.





# SMASHINGMAGAZINE.COM



The screenshot shows the Smashing Magazine website in a browser window. The browser's address bar displays "https://www.smashingmagazine.com". The website has a red header with the Smashing Magazine logo and navigation links: Articles (Design & development), Books (Physical & digital books), Events (Conferences & workshops), Jobs (Find work & employees), Membership (Webinars & early-birds), and a Topics search button. Below the header, a white box highlights "Don't Miss These Latest Articles". Two featured articles are shown: "Caching Smartly In The Age Of Gutenberg" by Leonardo Losoviz (WordPress 193 comments) and "Web Design And Development Advent Roundup For 2018" by Rachel Andrew (1 comment). A "Seriously, red?" button is also visible.

Smashing Magazine — For Web x

https://www.smashingmagazine.com

**SMASHING**  
MAGAZINE

**Articles**  
Design & development

**Books**  
Physical & digital books


**Events**  
Conferences & workshops


**Jobs**  
Find work & employees

**Membership**  
Webinars & early-birds


**Topics**


**Don't Miss These Latest Articles**

 **Leonardo Losoviz** wrote

**Caching Smartly In The Age Of Gutenberg**  Leave a comment

# WordPress <sup>193</sup> # HTML <sup>62</sup> # Plugins <sup>53</sup>

 **Rachel Andrew** wrote

**Web Design And Development Advent Roundup For 2018**  1 comment

**Seriously, red?**

**WE HAD SOME CACHING ISSUES...  
WITH PROBABLY EVERY SINGLE  
WORDPRESS CACHING PLUGIN  
OUT THERE**

**VITALY FRIEDMAN**

# PLATFORMS

*from*

5

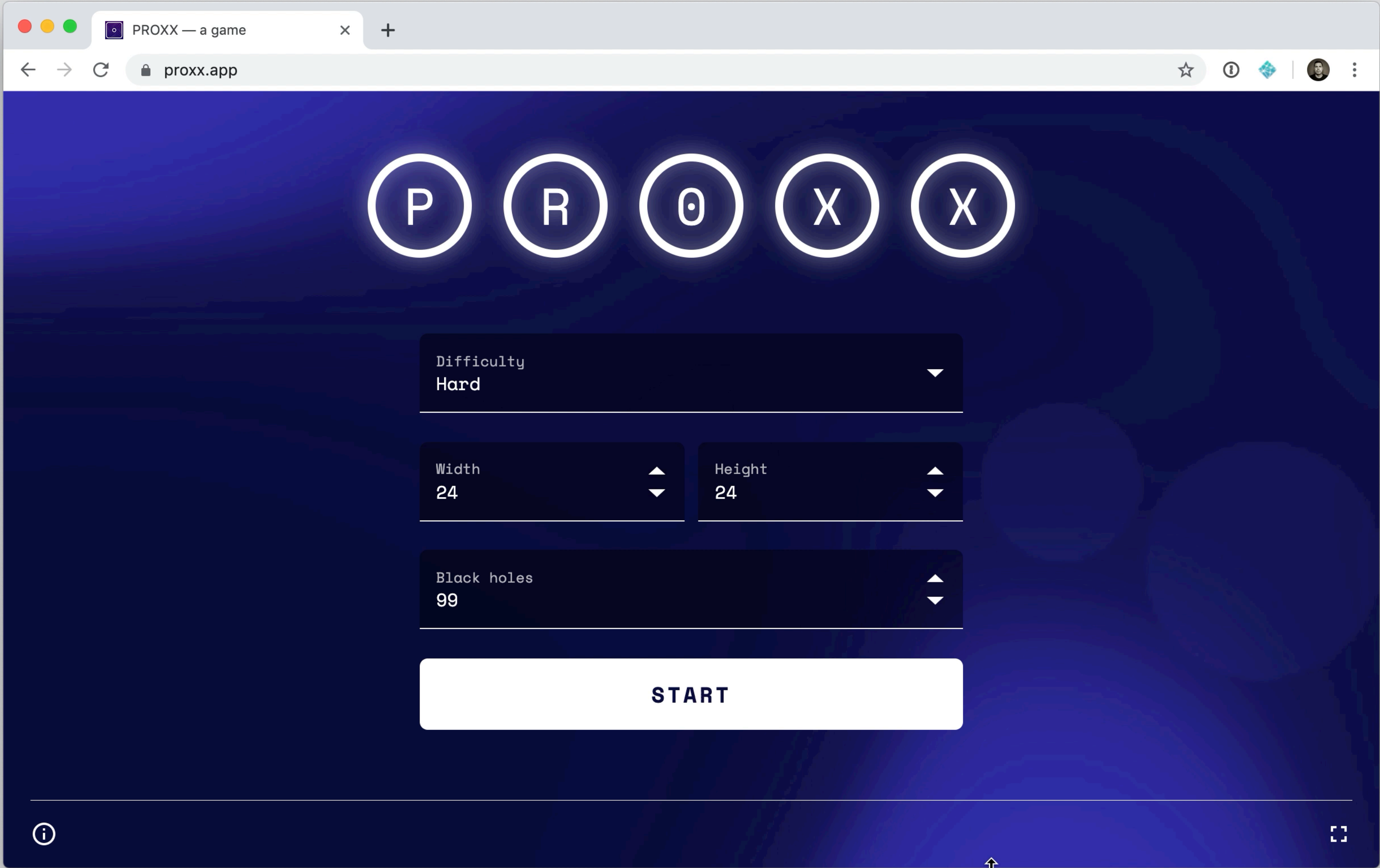
*to*

1

# SMASHINGMAGAZINE.COM TIME TO FIRST LOAD

*from*  
**800MS**      *to*  
**80MS**





# PROXX.APP PAYLOAD TO INTERACTIVE 25KB

# PROXX.APP TIME TO INTERACTIVE *under* 5 SECONDS



# JAVASCRIPT



**JAMSTACK SITES DON'T  
HAVE TO DEPEND ON  
JAVASCRIPT**

**A COMMON MISCONCEPTION**

```
<body id="app"></body>
```

# SHIP LESS JAVASCRIPT

ALEX RUSSELL

**SOMETHING, SOMETHING POWER,  
SOMETHING, SOMETHING RESPONSIBILITY**

**VARIOUS MARVEL CHARACTERS**



---


# PRERENDING

TO REMOVE THE NEED  
FOR AN ORIGIN SERVER

---

# PROGRESSIVE ENHANCEMENT

TO ENRICH THE EXPERIENCE  
WITH JAVASCRIPT AND  
SERVICES VIA APIS



# AUGMENTING JAMSTACK SITES

**I ABSOLUTELY POSITIVELY  
NEED A LITTLE LOGIC  
ON A SERVER**

**MANY OF US, SOMETIMES**

A stylized illustration of a superhero figure in a dark suit with a red cape, running through a rocky, brown landscape. The figure is in a dynamic pose, leaning forward with arms outstretched. The background features large, rounded rock formations in shades of brown and tan, with some dark, jagged shapes scattered throughout. The overall style is flat and graphic.

# SERVERLESS TO THE RESCUE





# FUNCTIONS AS A SERVICE

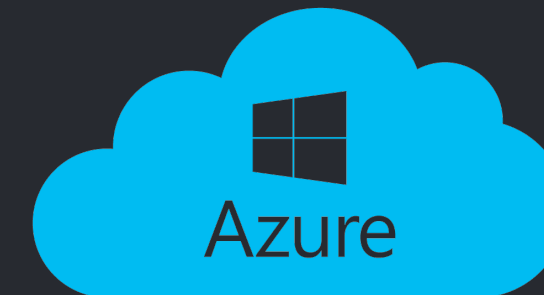
# FUNCTIONS AS A SERVICE **ENABLE** A MICROSERVICES ARCHITECTURE

# **LOWERING THE OVERHEAD OF DEPLOYING / MAINTAINING / MANAGING / SECURING OUR CODE**

```
exports.handler = (event, context, callback) => {  
  
  callback(null, {  
    statusCode: 200,  
    body: 'Hello UpFront!'  
  })  
  
}
```

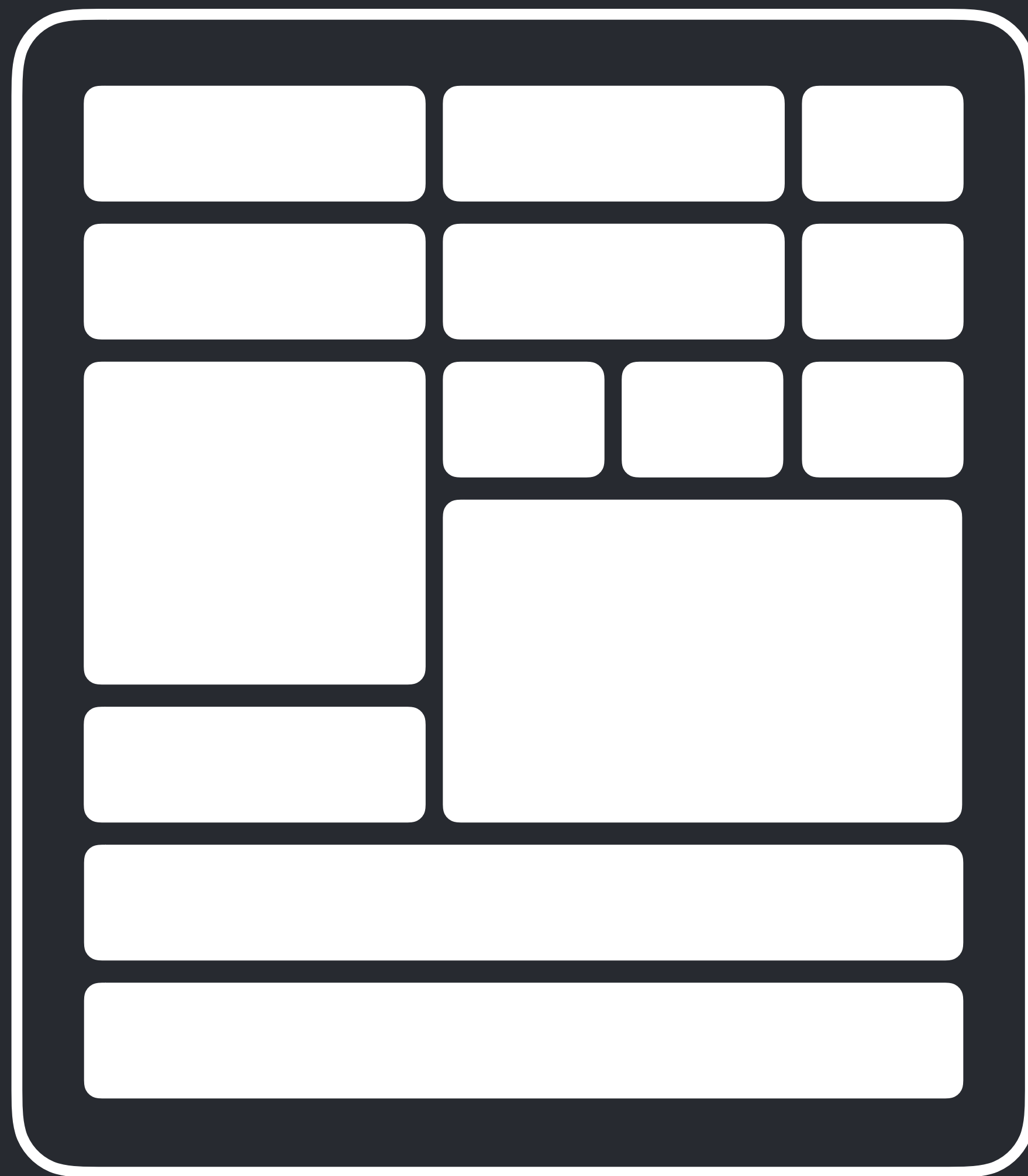


# SHIFT THE BURDEN



**SOFTWARE AND PATCHES**  
**OPERATING SYSTEM**  
**NETWORK**  
**PHYSICAL / VIRTUAL SCALING**





**BY BREAKING THE  
MONOLITH APART,  
WE CAN ENJOY  
BOUGHT OR BUILT  
SPECIALIST SERVICES**

# ONE JOB



# YOU HAD ONE JOB

# FIRIE

# EVENTS, WEBHOOKS, MICROSERVICES, AND APIS PROVIDE **GLUE**



# SERVICES



# BOUGHT SERVICES

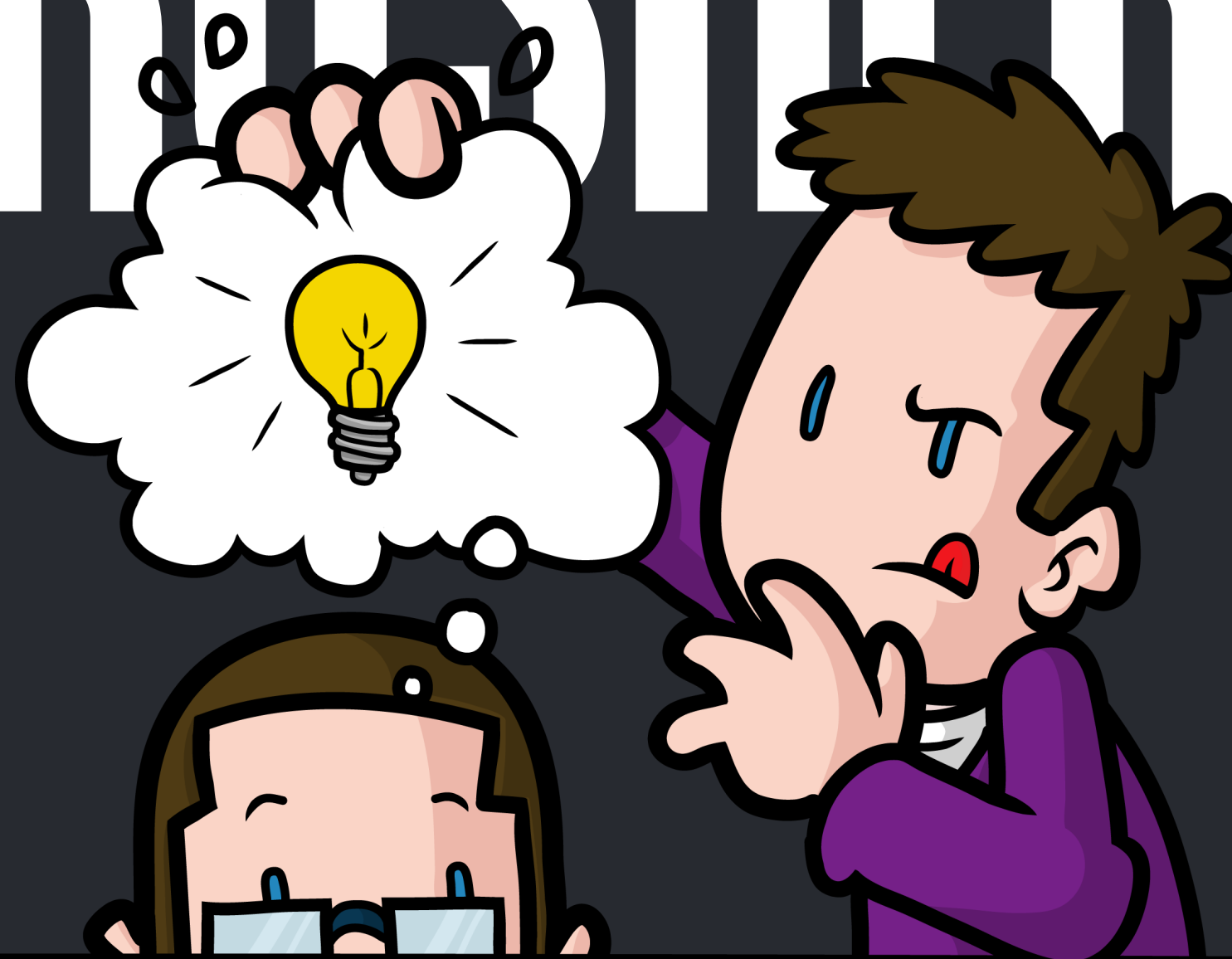
**CMS****CONTENTFUL  
SANITY  
GRAPHCMS****ASSETS****CLOUDINARY****COMMERCE****STRIPE  
SNIPCART****IDENTITY****AUTH0  
OAUTH**



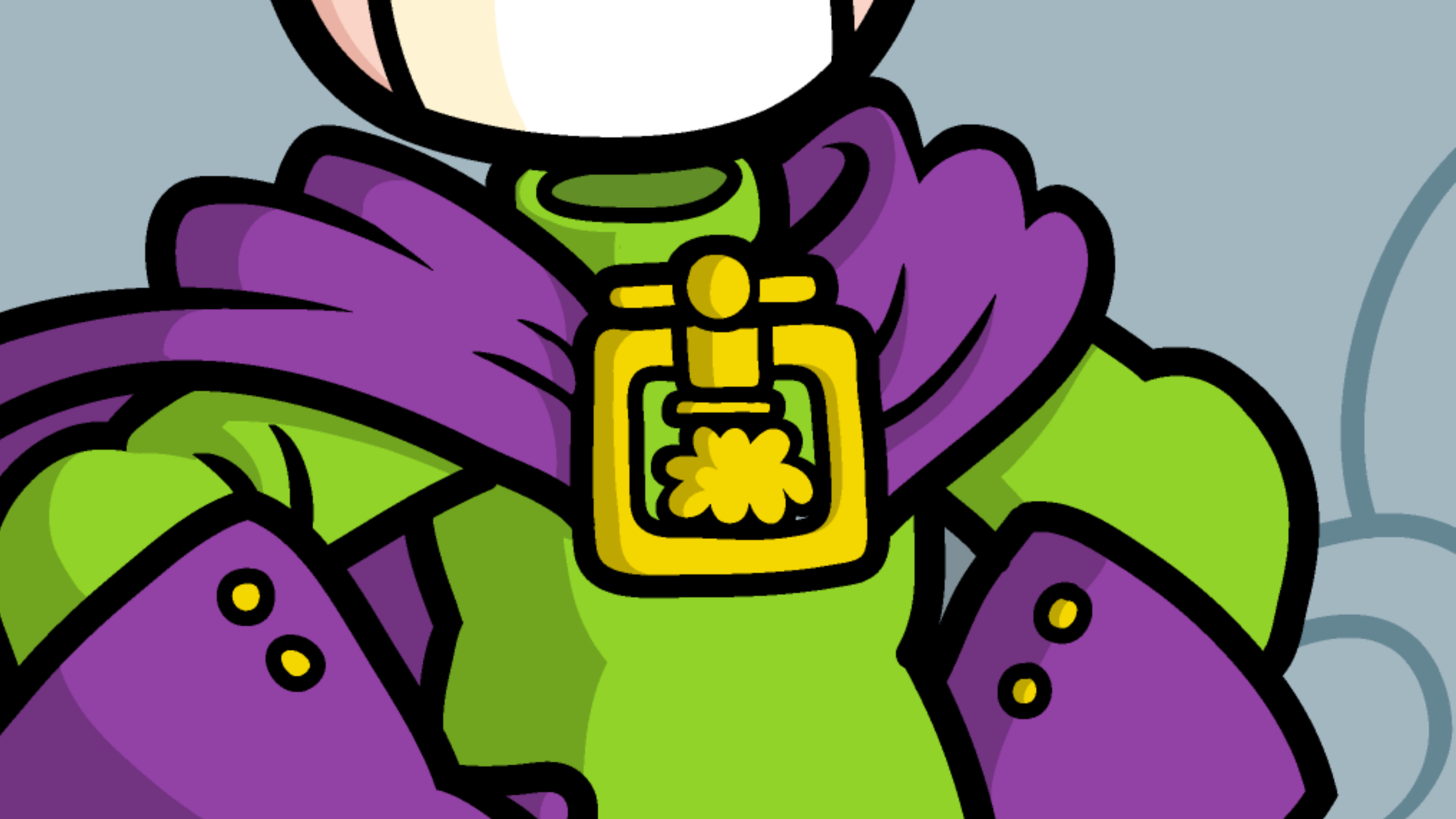


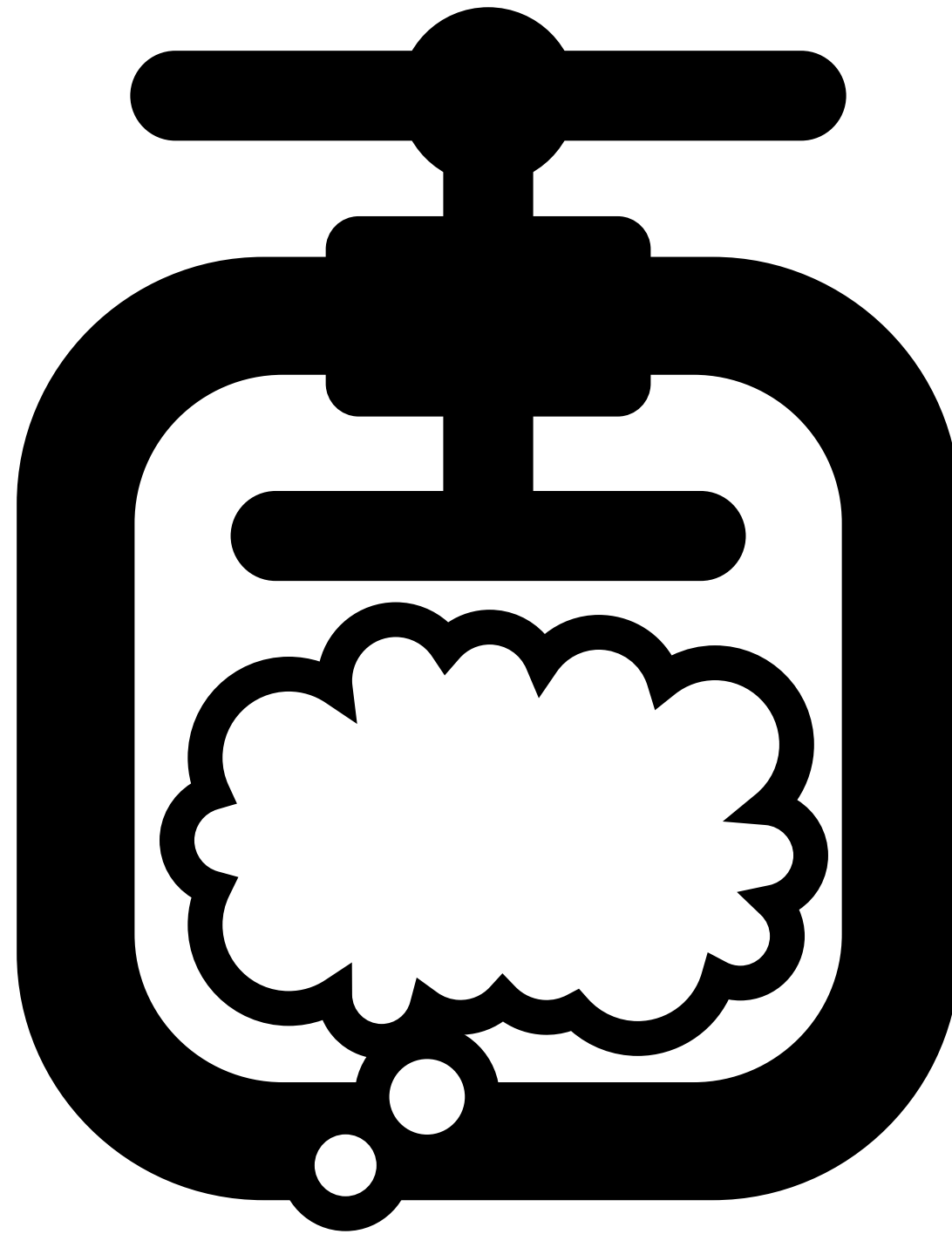
# BUT WHAT OF THE RISK?

# *the* DREAM CRUSHER











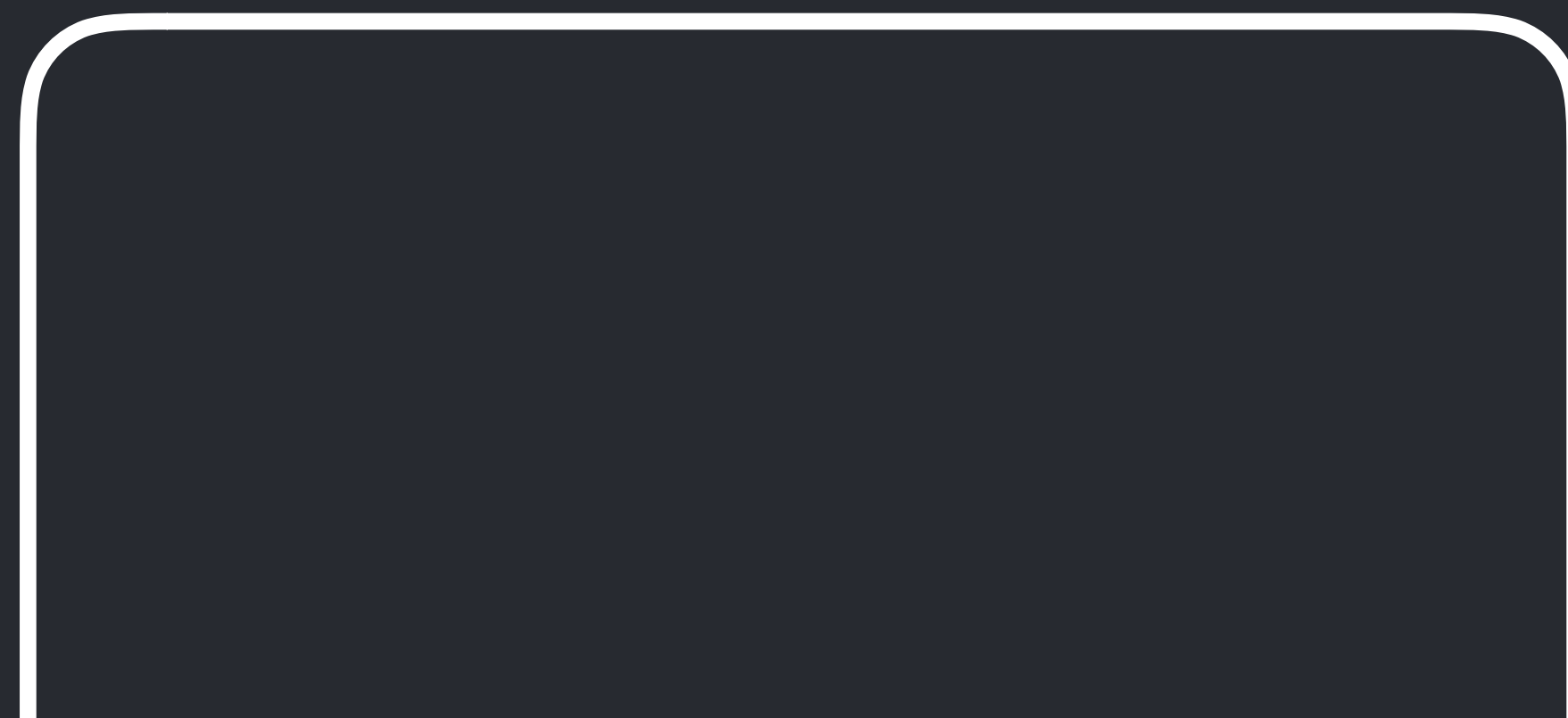


**VENDORS PROVIDING A  
SINGLE SERVICE  
DEPEND ON ITS SUCCESS  
MORE THAN YOU DO**

# TECHNICAL AND SERVICE LEVEL CONTRACTS



# BOUGHT SERVICES

**DAMS****COMMERCE****IDENTITY**



**SMALLER SURFACES ARE  
EASIER TO REASON ABOUT,  
AND CREATE GREATER AGILITY**

**GREATER FOCUS PROVIDES  
A MORE OBVIOUS PATH TO MVP**



# A NOTE ABOUT MVP

**I WOULDN'T USE A  
MINIMUM VIABLE PARACHUTE**

**A SPEAKER AT A CONFERENCE ONCE**


**I FUCKING WOULD**

**ME, IMAGINING A SITUATION WHEN I'D NEED A PARACHUTE**



**MVP IS NOT  
CHOOSING A  
WEAK PRODUCT  
OVER GOOD PRODUCT**

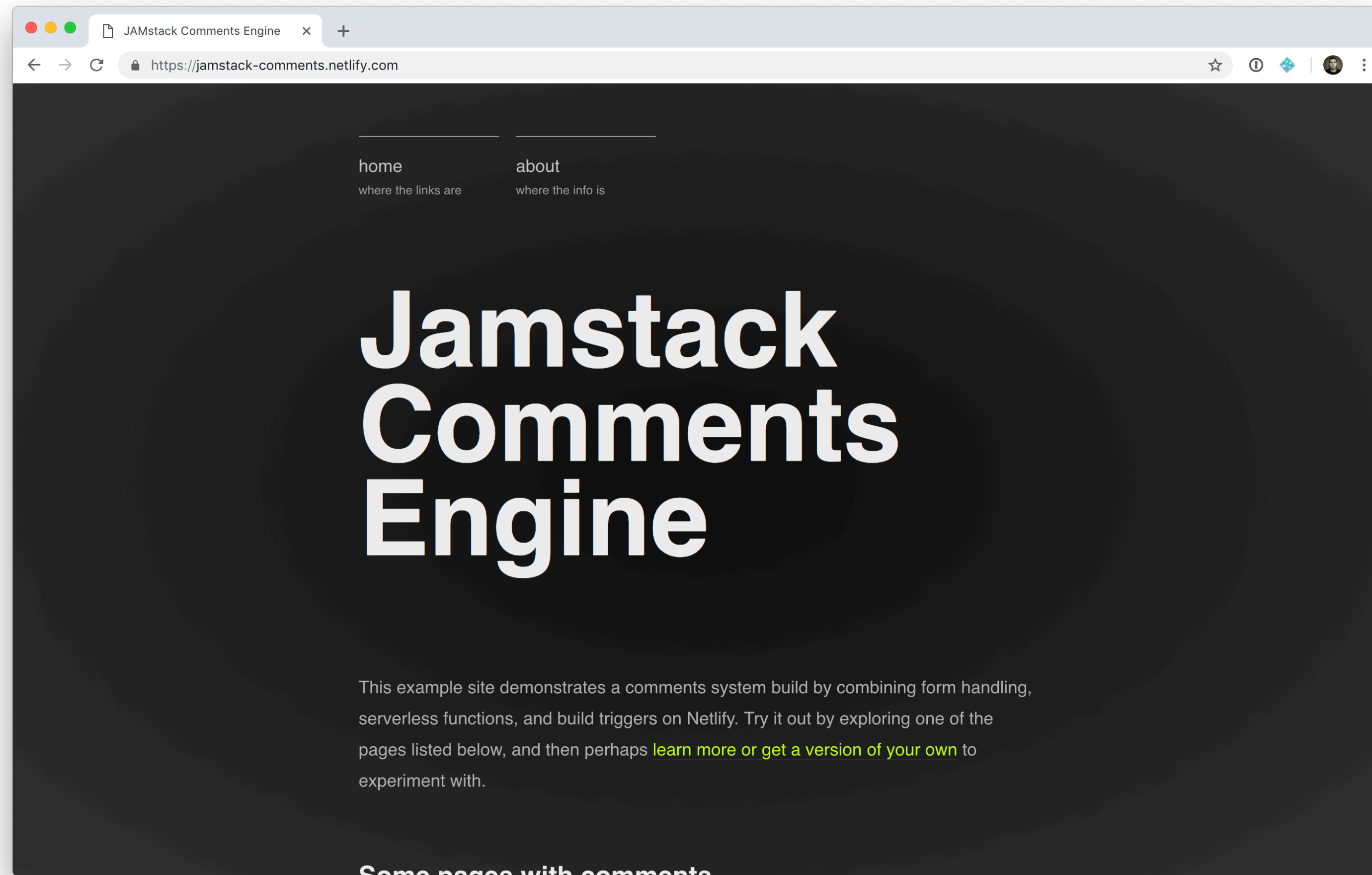
**MVP IS**  
**CHOOSING TO HAVE**  
**SOMETHING NOW**  
**AND SOMETHING BETTER LATER**



# WEBHOOKS AND SERVERLESS AND AUTOMATION (OH MY!)

# FINDTHAT.AT/COMMENTS

<https://jamstack-comments.netlify.com>



**ZERO JAVASCRIPT  
DEPENDENCIES**

**COMMENTS AS  
PAGE CONTENT**

**NOTIFICATIONS AND  
MODERATION VIA SLACK**

# WHAT IS THE JAMSTACK?

THE QUESTION WE STARTED WITH



*jamstack sites are*  
**RENDERED IN ADVANCE**  
**NOT DEPENDENT ON AN ORIGIN**  
**PROGRESSIVELY ENHANCED**  
**IN THE BROWSER WITH JAVASCRIPT**

# DO WE NEED IT?

THE QUESTION WE STARTED WITH

*jamstack brings*

**REDUCED INFRASTRUCTURE COSTS**

**IMPROVED SECURITY,  
PERFORMANCE, SCALABILITY**

**PROJECT LIFECYCLE CONFIDENCE**

# STATIC SITE GENERATORS

staticgen.com

# NETLIFY

www.netlify.com

# SET YOUR WATCH - FRICTION FREE DEPLOYMENTS

<https://www.netlify.com/blog/2018/08/02/exploring-the-potential-of-friction-free-deployments/>

# ONE-CLICK TEMPLATES

templates.netlify.com

## PHIL'S OWN JAMSTACK SITE

hawksworx.com

## HEADLESS / DECOUPLED CMS

headlesscms.org

## ABOUT THE JAMSTACK / COMMUNITY

jamstack.org

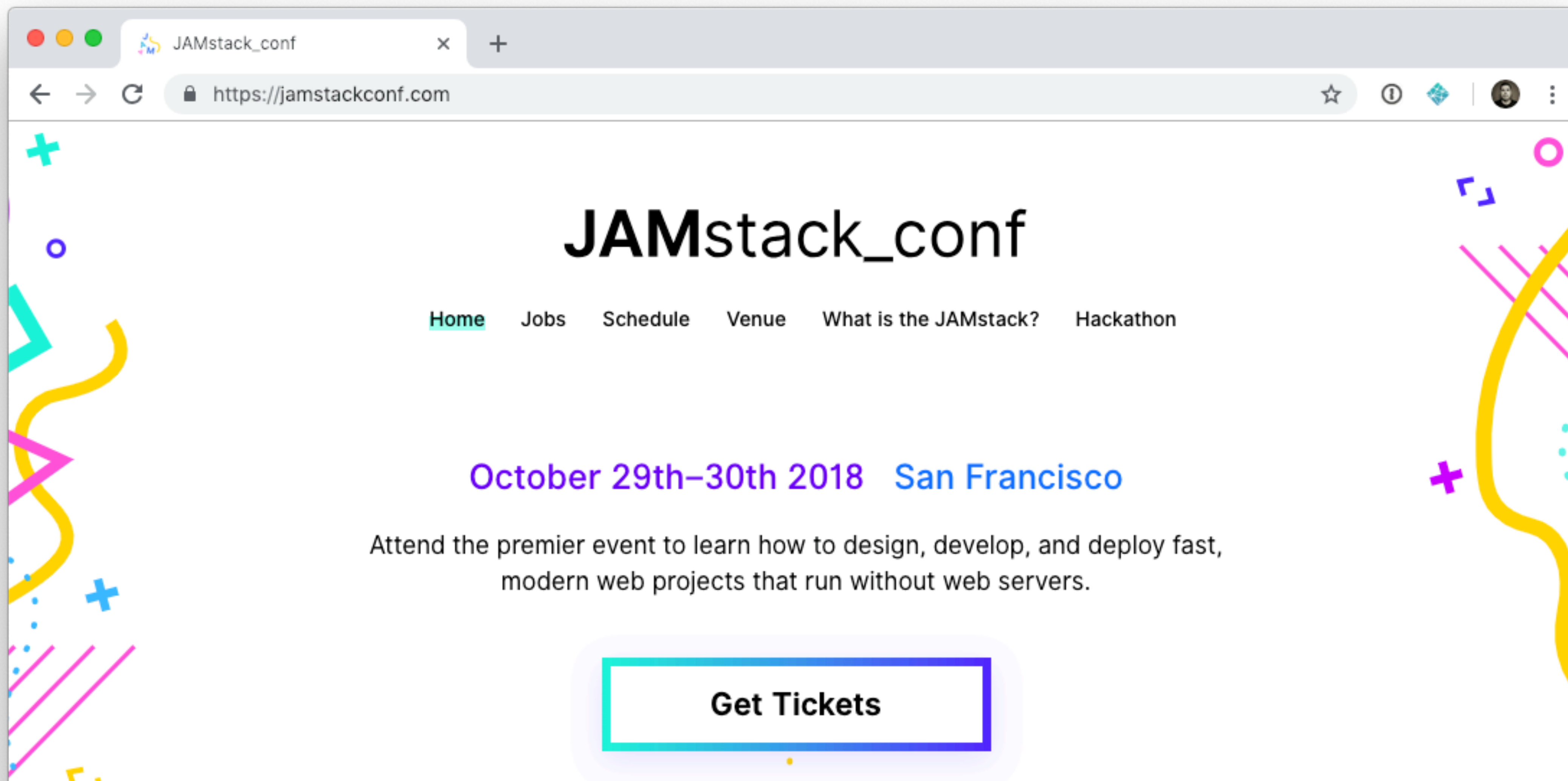
## THE NEW DYNAMIC

www.thenewdynamic.org/



# FINDTHAT.AT/CONF

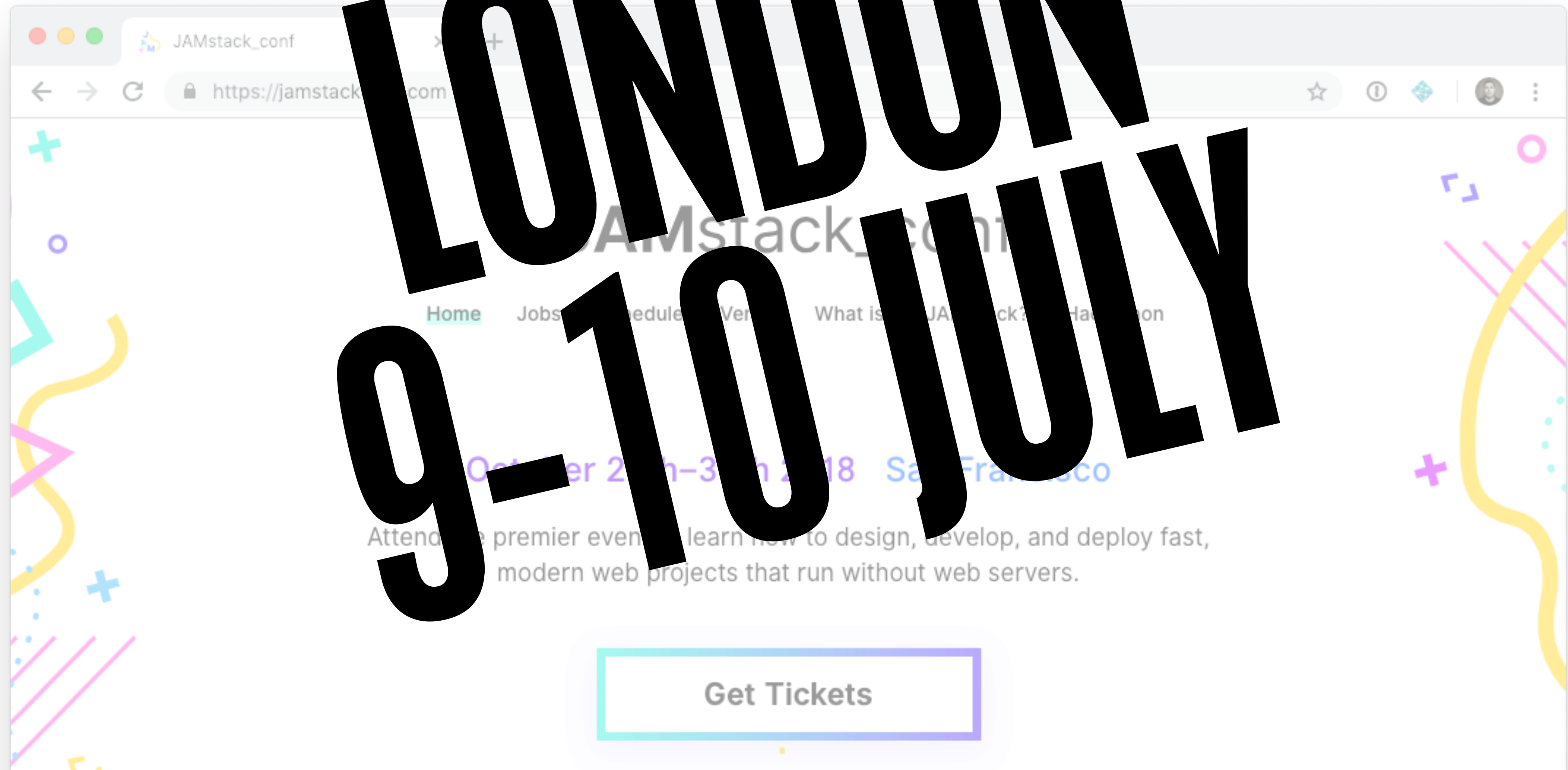
<https://jamstackconf.com>



# FINDTHAT.AT/CONF

<https://jamstackconf.com>

# LONDON 9-10 JULY



Get Tickets

**THANKS**

**FINDTHAT.AT/JAMSTACK**

**@PHILHAWKSWORTH**