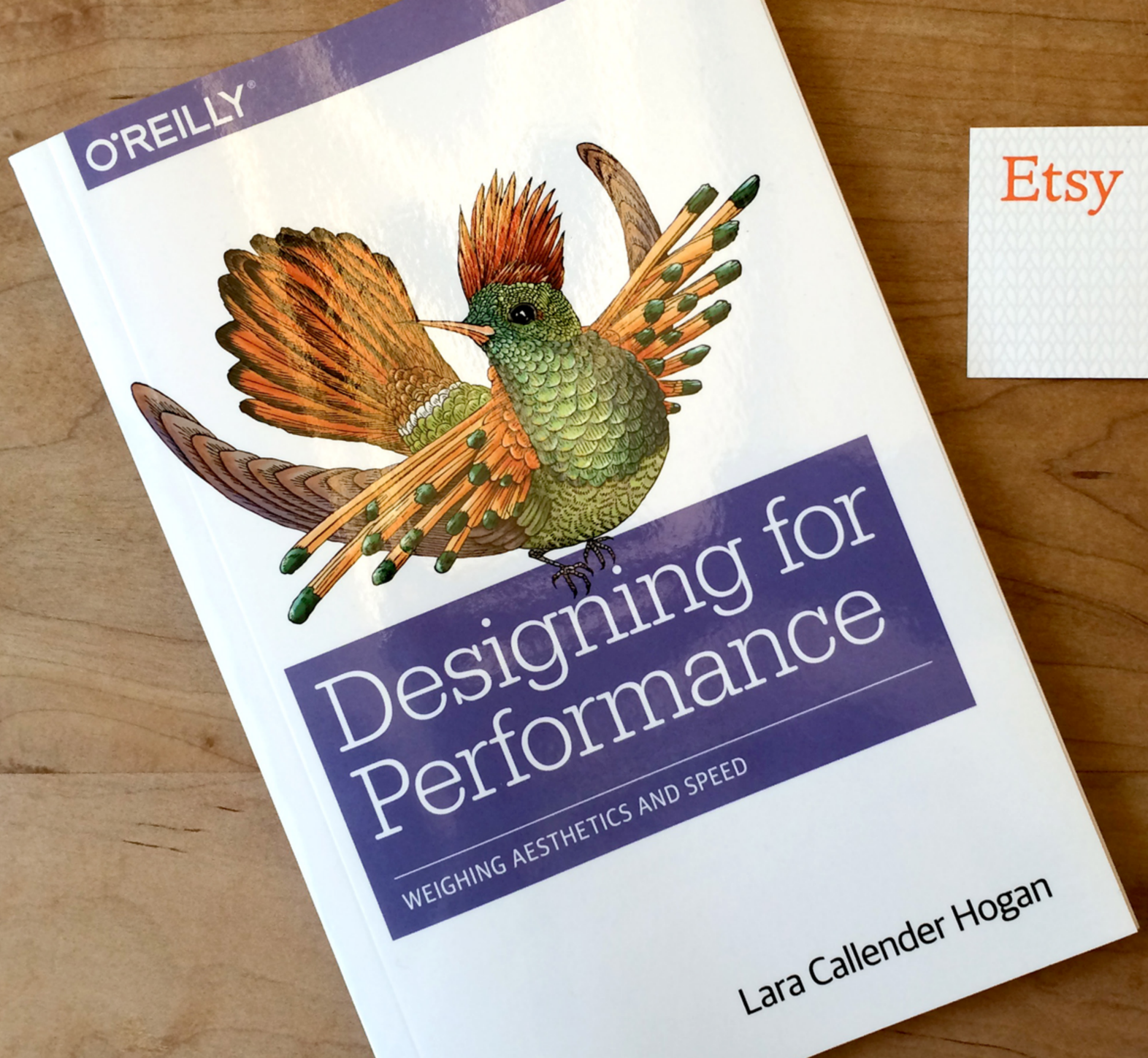
Designing for Performance

Lara Callender Hogan
@lara_hogan


O'REILLY
Designing for Performance
WEIGHING AESTHETICS AND SPEED
Lara Callender Hogan

Etsy
Lara Hogan
Senior Engineering Manager
lara@etsy.com
@lara_hogan

Performance is user experience.

Users expect **2 seconds**.

After **3 seconds**,
40% will abandon your site.

+160k to a page =

+12% Etsy’s bounce rate on mobile

When we eliminated jank:
people favorited more often
and favorited more items

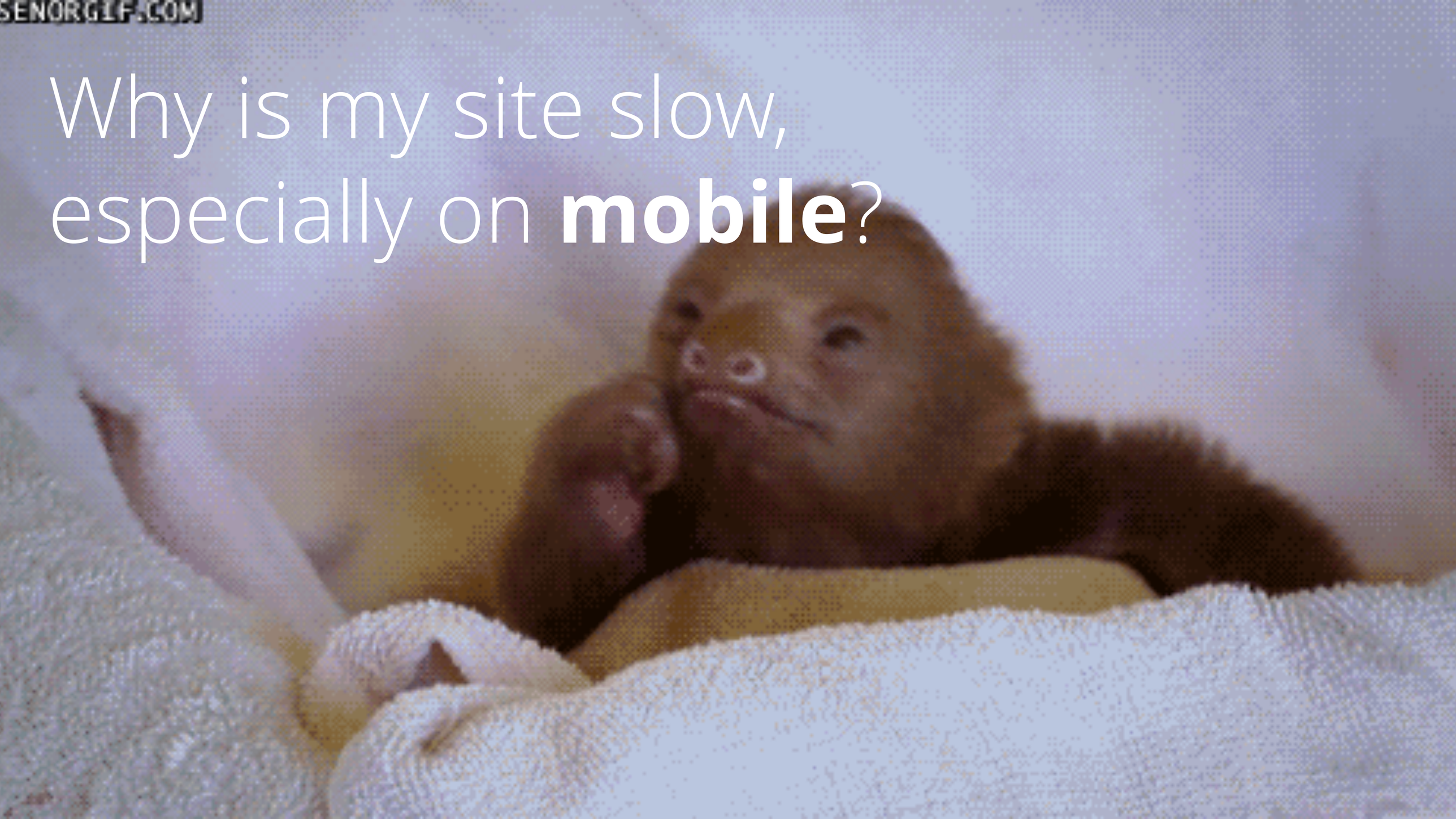
-1 redirect =

+12% Double-Click click-through rate

Our industry has not **designed** for performance.

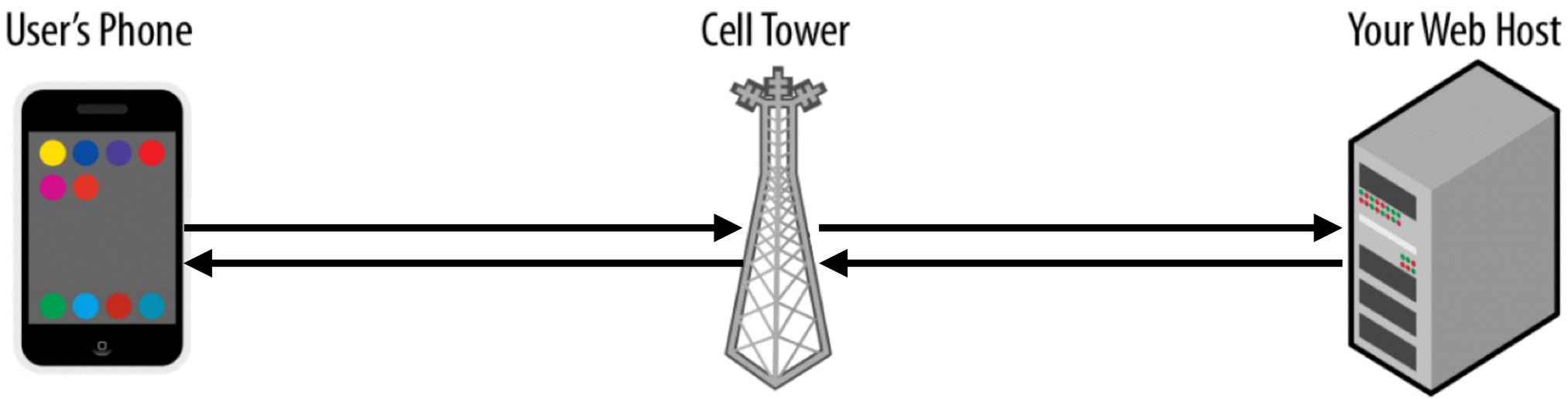
Fast page load time builds **trust** in your website.

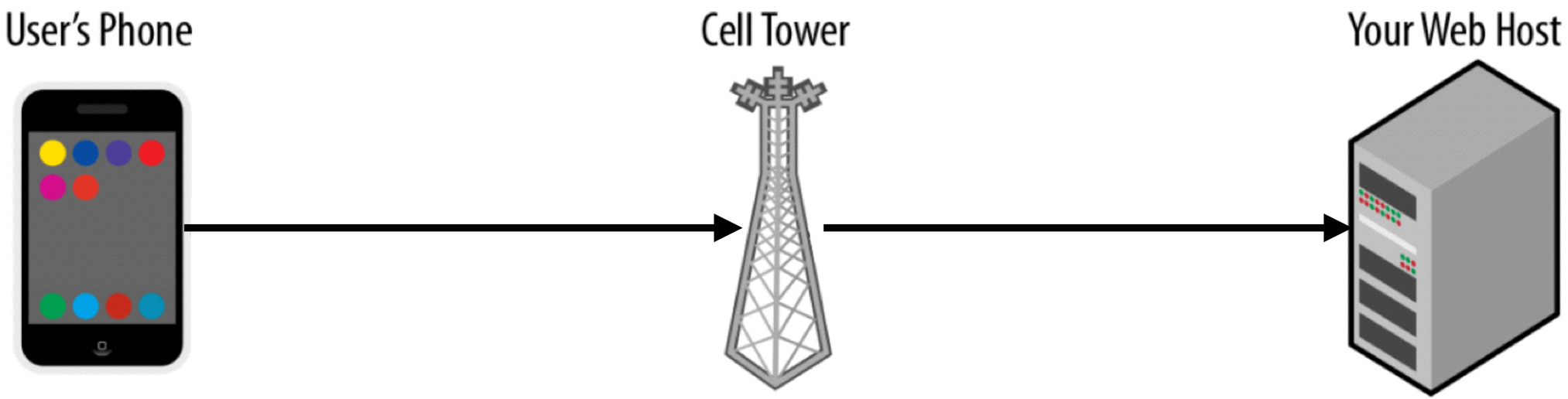
Performance + aesthetics =
the user experience.

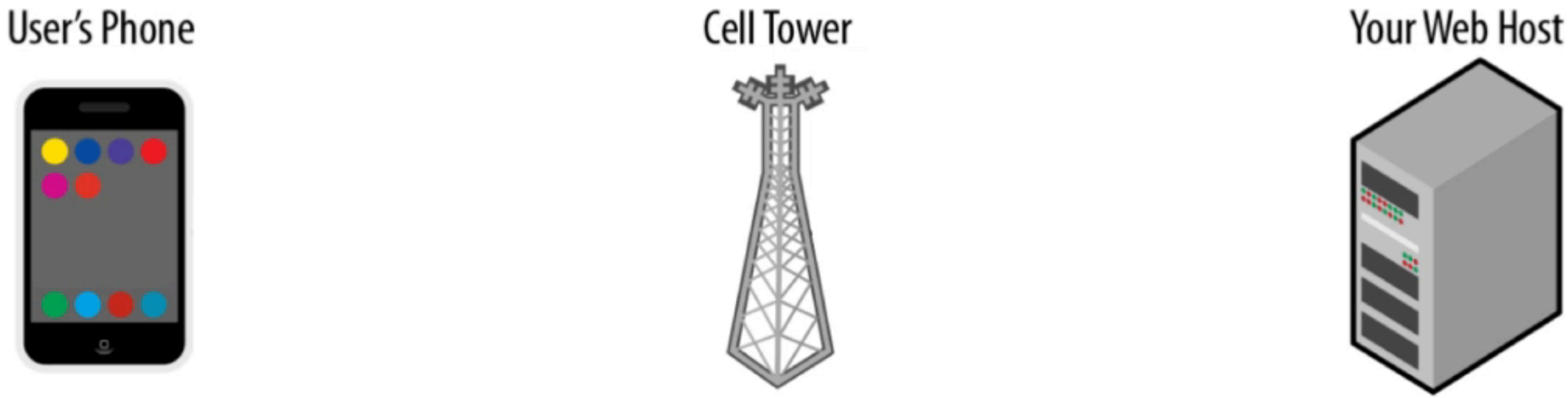


Why is my site slow, especially on **mobile**?

A cellular device has
to establish a **radio channel**
before it can send/get data.


User's Phone
Cell Tower
Your Web Host


User's Phone
Cell Tower
Your Web Host



Average round trip:

Desktop Wifi: <50ms

Mobile Network: >300ms

source: Taming the Mobile Beast

So how can we **optimize** for networks?

WEBPAGETEST

HOME | TEST HISTORY | FORUMS | DOCUMENTATION | ABOUT | g+1 | Tweet

Test a website's performance

Analytical Review | Visual Comparison | Mobile | Traceroute

Enter a Website URL

START TEST

Test Location Dulles, VA USA (IE 6-11,Chrome,Firefox) Select from Map

Browser IE 9

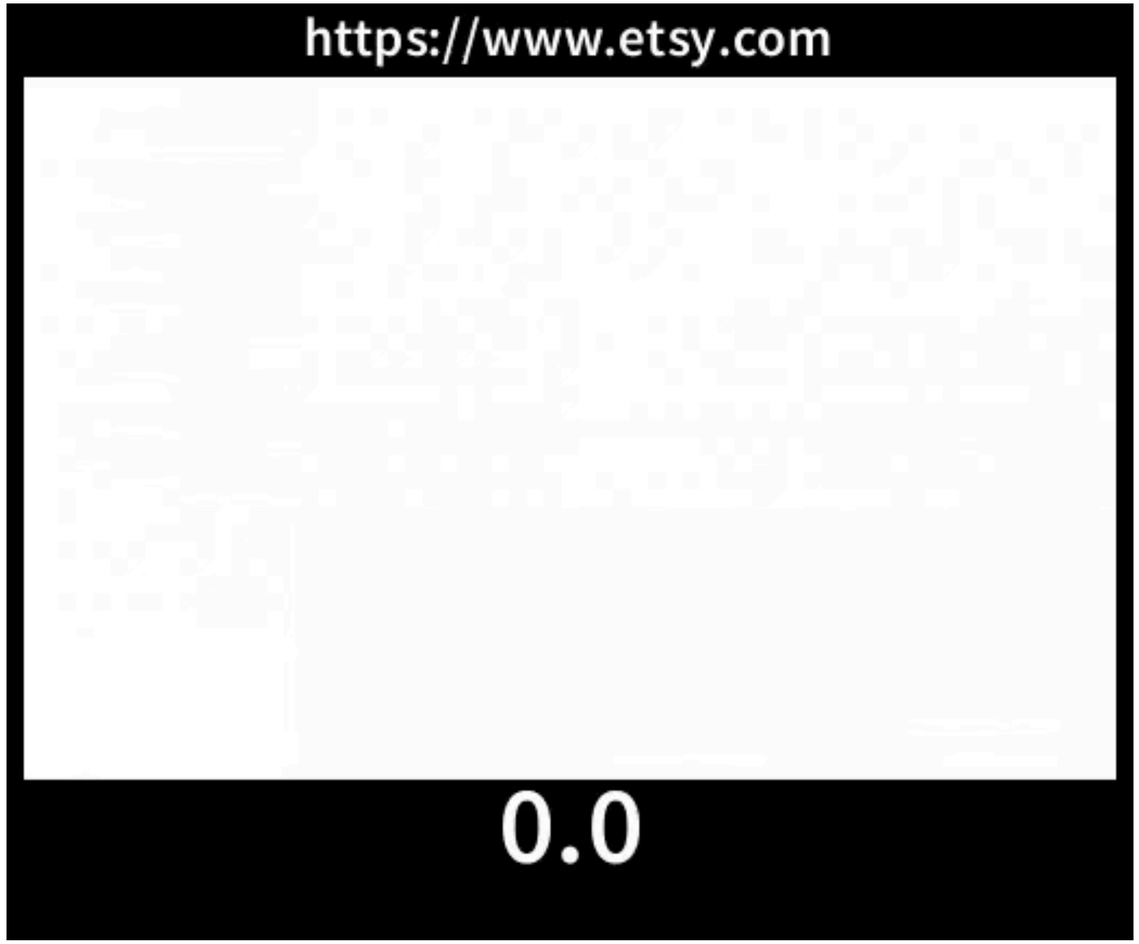
Advanced Settings ▶

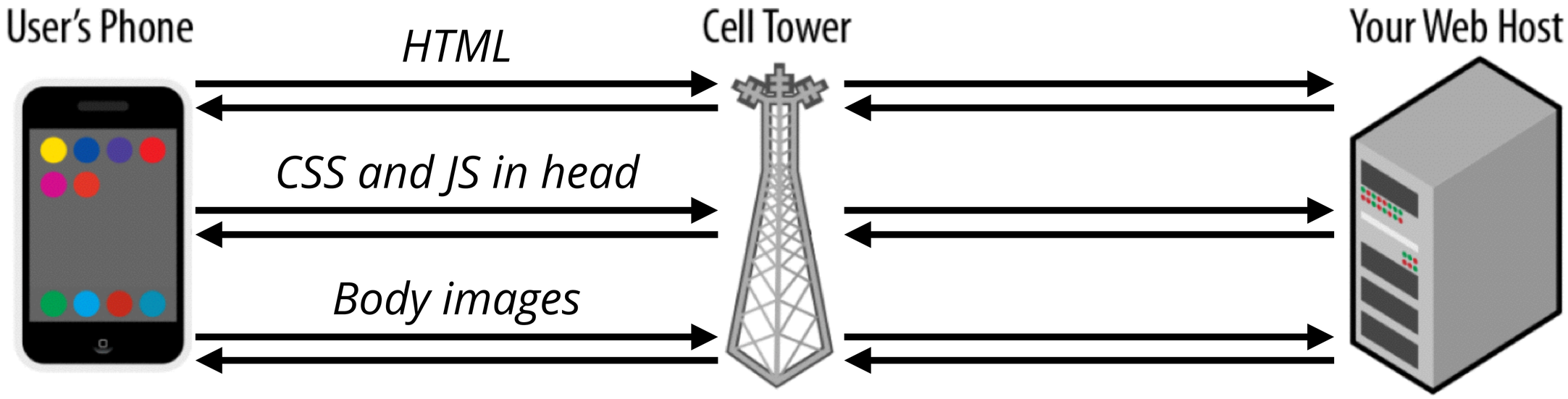
1 run, Cable connection, results are public

Run a free website speed test from multiple locations around the globe using real browsers (IE and Chrome) and at real consumer connection speeds. You can run simple tests or perform advanced testing including multi-step transactions, video capture, content blocking and much more. Your results will provide rich diagnostic information including resource loading waterfall charts, Page Speed optimization checks and suggestions for improvements.

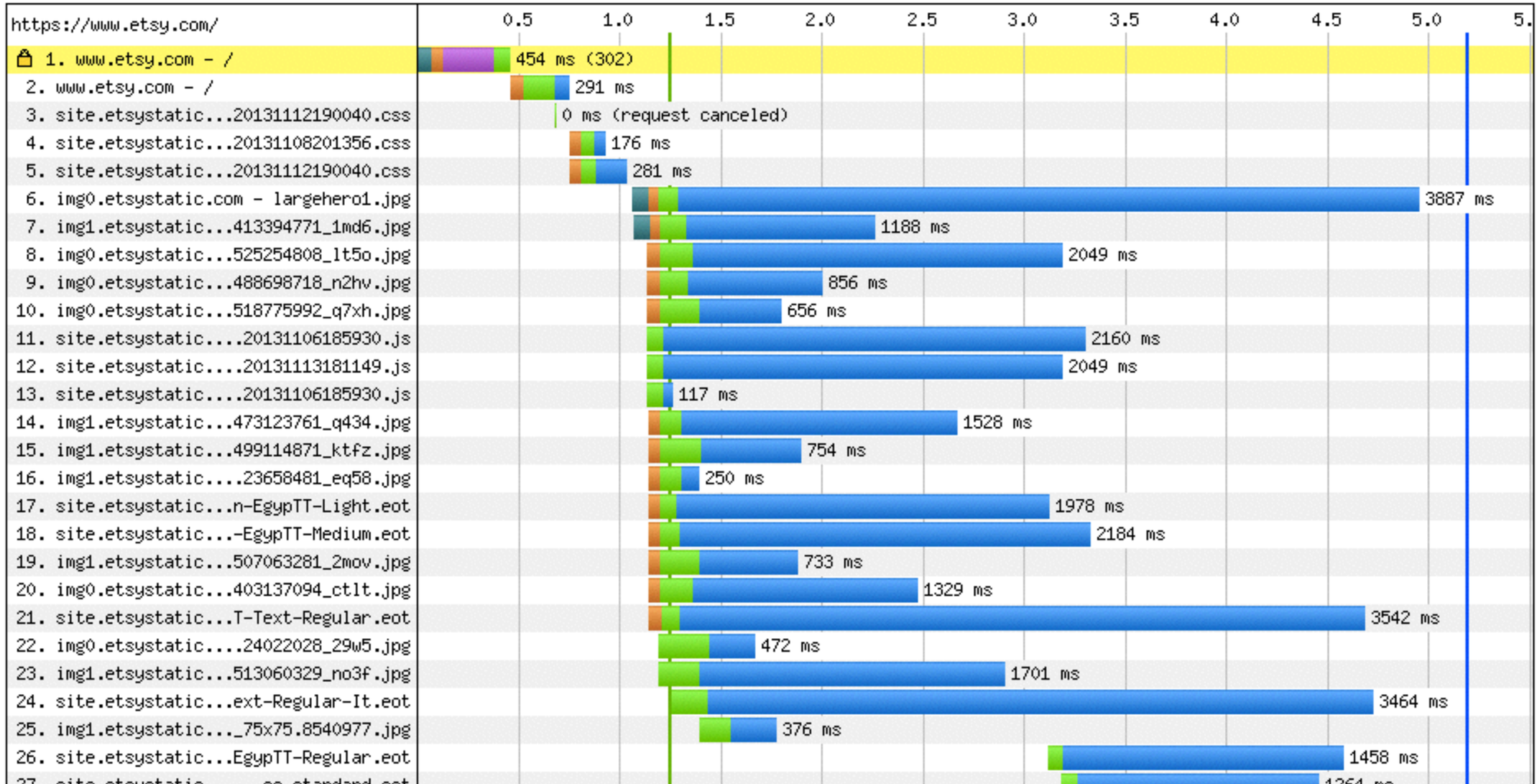
If you have any performance/optimization questions you should visit the Forums where industry experts regularly discuss Web Performance Optimization.

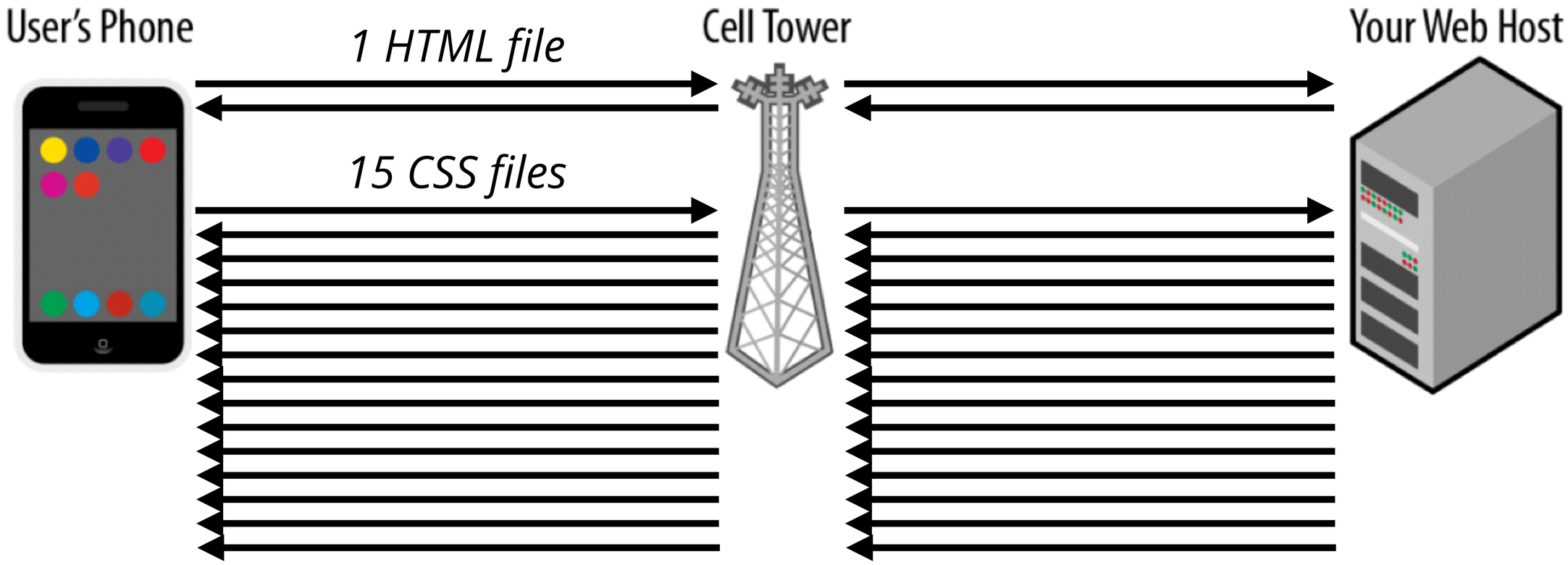
Perceived performance




User's Phone
HTML
Cell Tower
Your Web Host
CSS and JS in head
Body images

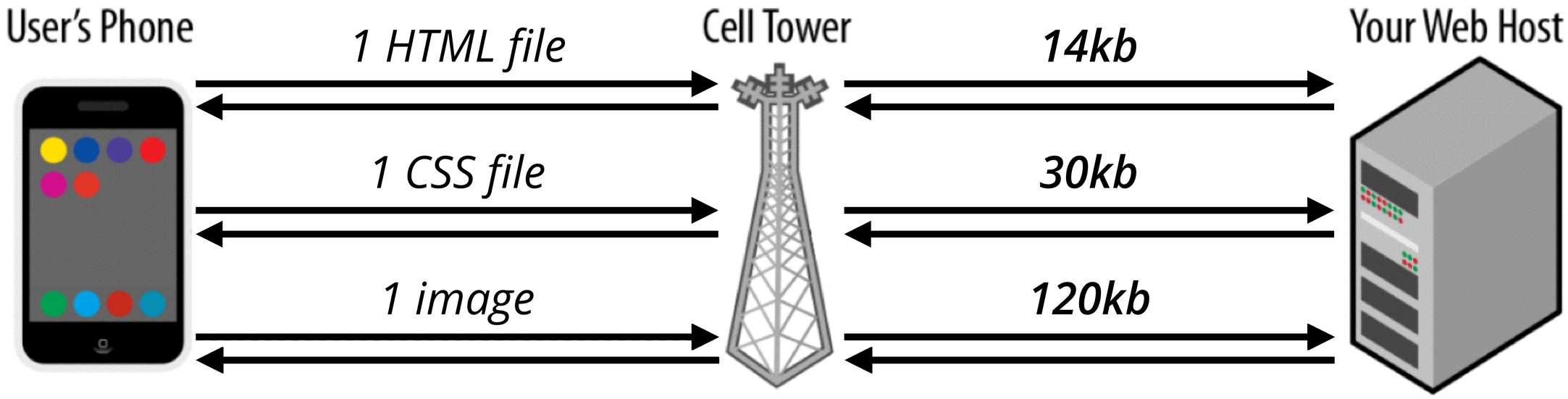
Number of requests



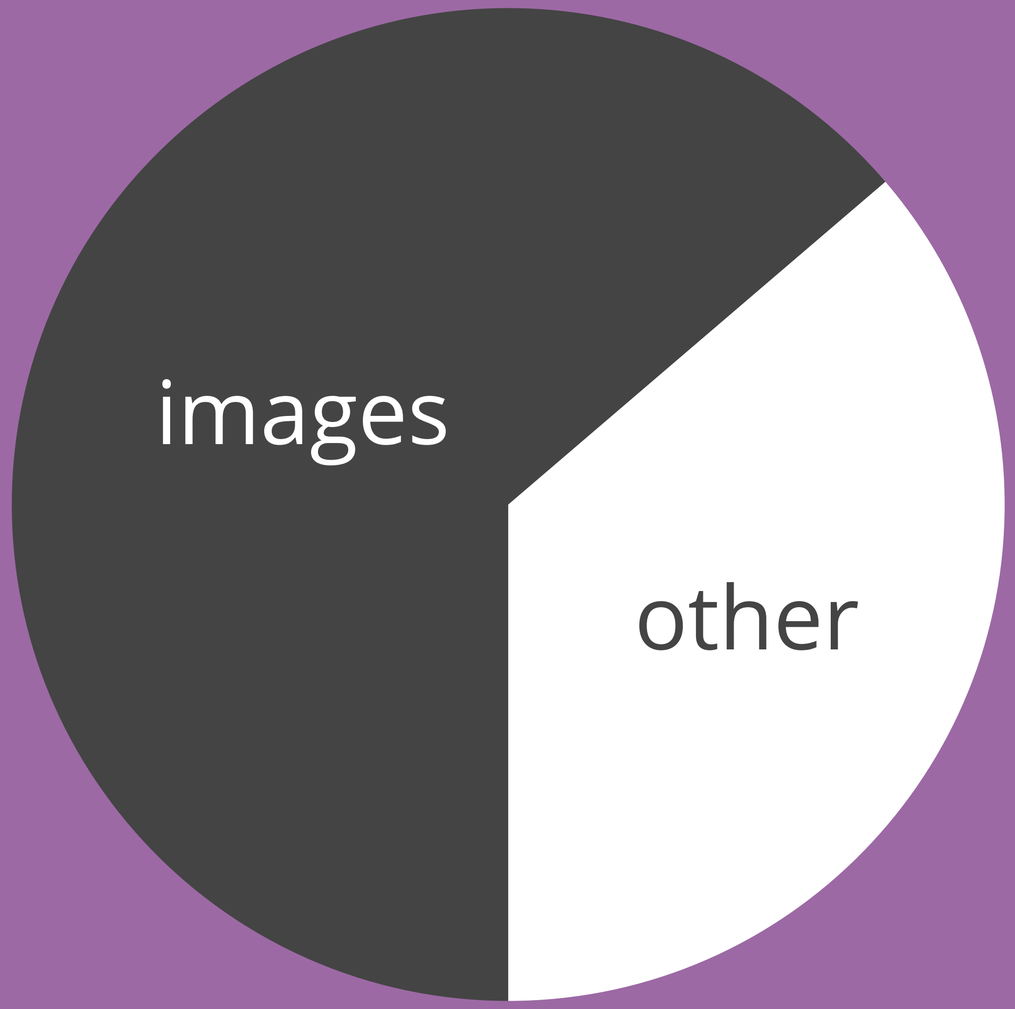

User's Phone
1 HTML file
15 CSS files
Cell Tower
Your Web Host

Size of requests

Request	Bytes
http://www.etsy.com/	15.2 KB
http://site.etsystat...3.20131108201356.css	8.7 KB
http://site.etsystat...e.20131112190040.css	26.8 KB
http://img0.etsystat...ousel/largehero1.jpg	74.2 KB
http://img1.etsystat...5.413394771_1md6.jpg	12.5 KB


User's Phone
1 HTML file
1 CSS file
1 image
Cell Tower
14kb
30kb
120kb
Your Web Host

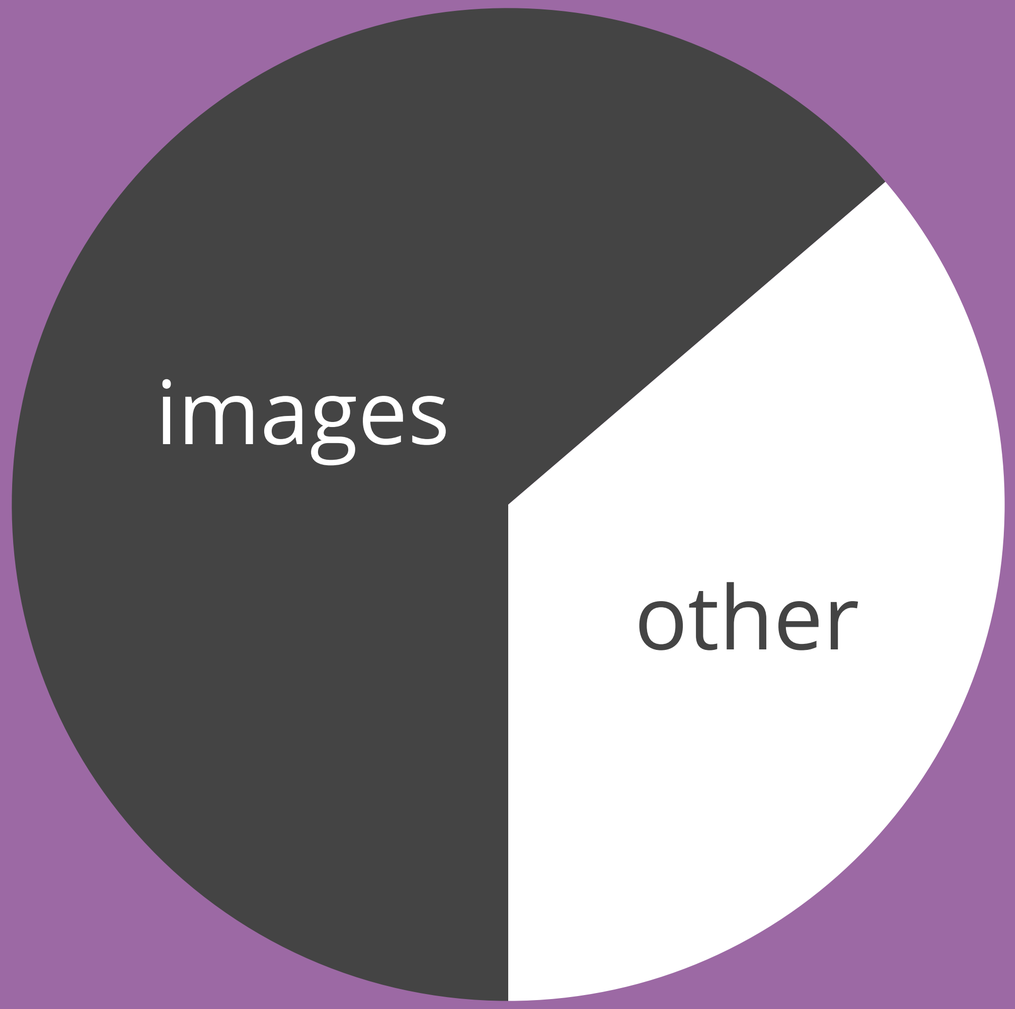
1. Images
2. Fonts
3. Markup
4. Culture



Images

Average Bytes per Page
by Content Type

httparchive.org/interesting.php



Images

(the nerdy parts)

Average Bytes per Page
by Content Type

httparchive.org/interesting.php

JPEG

Joint **P**hotographic **E**xperts **G**roup

Group began in 1986.

First standard in 1992.

JPEG

Best for: Photos, images with many colors.

JPEG

JPEGs are ***lossy***.

Their algorithm is based loosely on how humans see and process information.

JPEG

Good at:

Smooth gradients, low contrast.

Bad at:

High contrast areas, edges.

JPEG

Optimization options:

Reduce noise and other complexity.

Decrease export quality.

Blur unimportant areas.

Quality: ***25 (39KB)***

Quality: ***100 (325KB)***

Quality: ***25 (39KB)***

Quality: ***100 (325KB)***

Before blur: ***211KB***

After blur: ***150KB***

responsivedesign.is/articles/reducing-image-sizes

Left crop: ***50KB***

Center crop: ***57KB***

Right crop: ***60KB***

GIF

Graphics **I**nterchange **F**ormat

Introduced by CompuServe in 1987.

Enhanced version (animation!) in 1989.

GIF

Best for: Animations that can’t be replaced with CSS.

GIF

Contain up to **256 colors** (per frame).

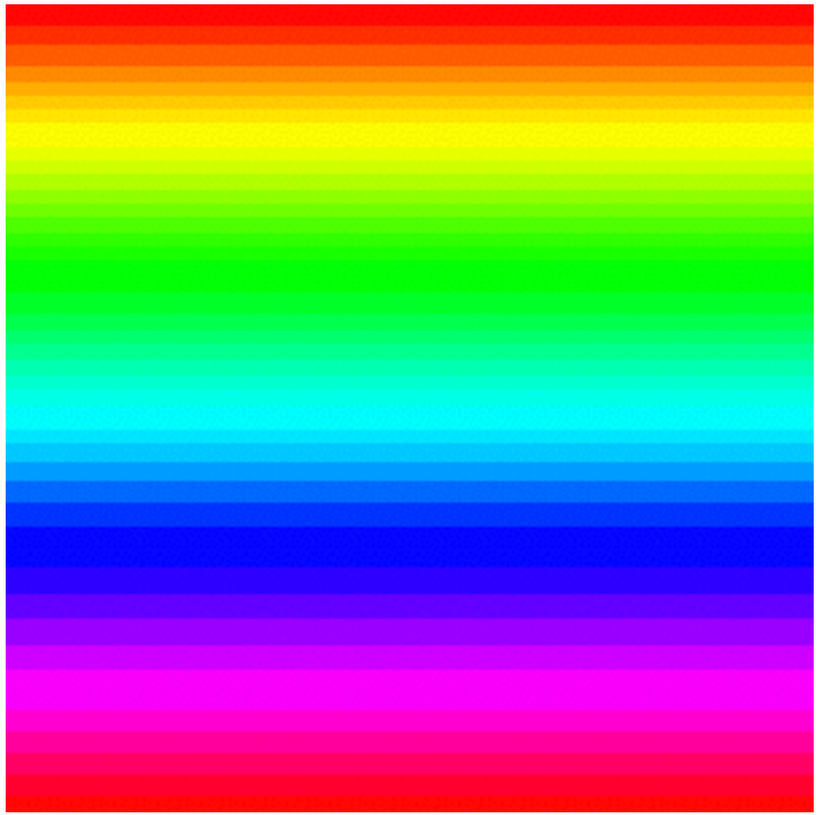
Are **lossless**.

Please don’t use them.

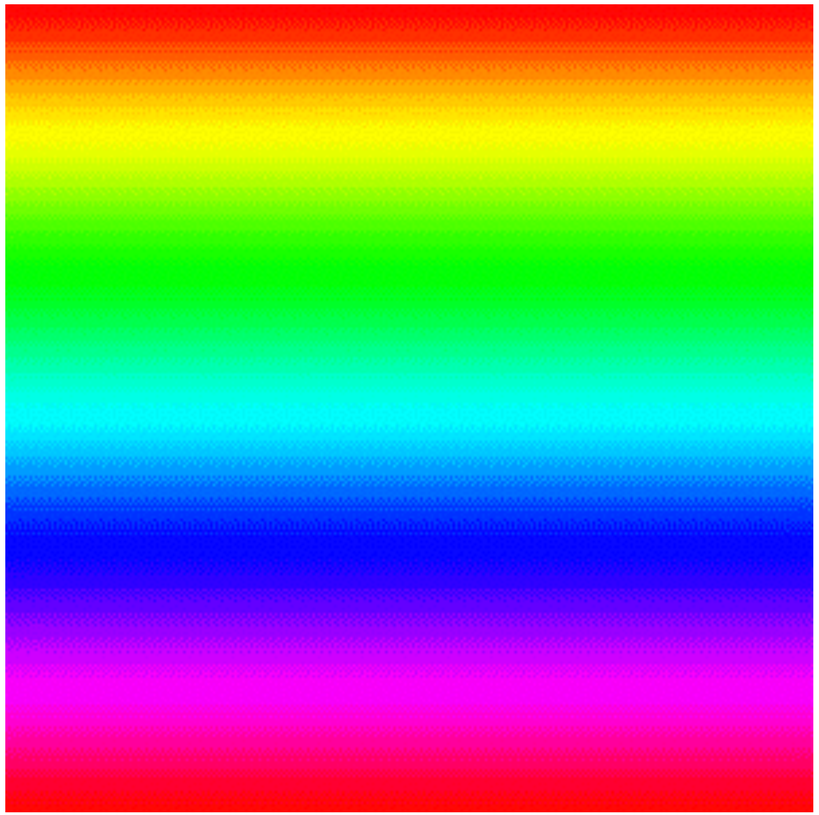
… if you must use a GIF…

GIF

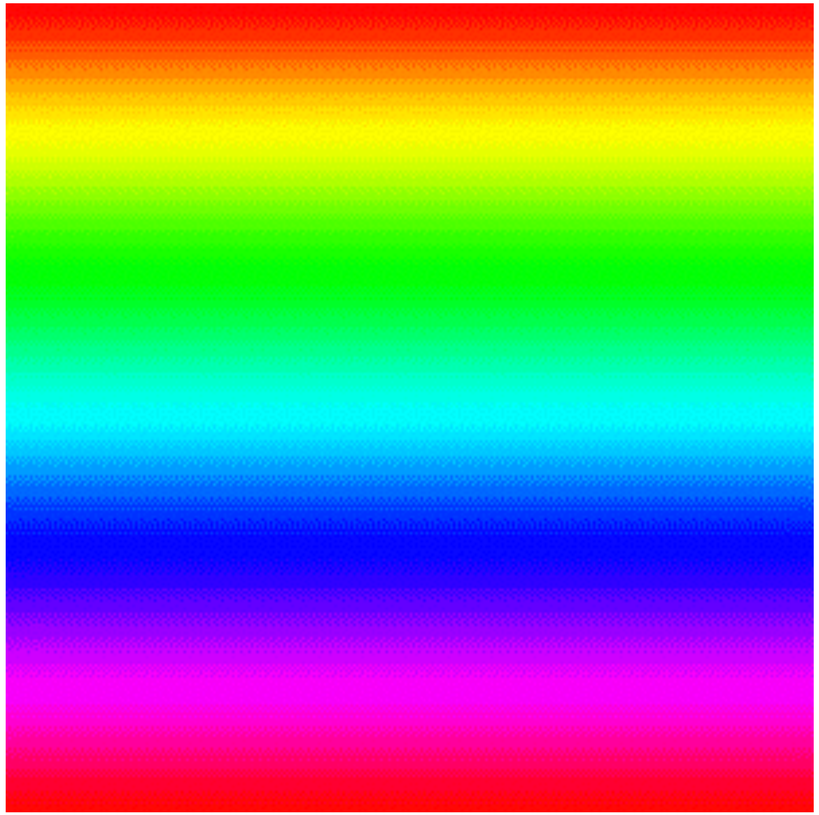
Dithering gives the appearance of a smoother blend.



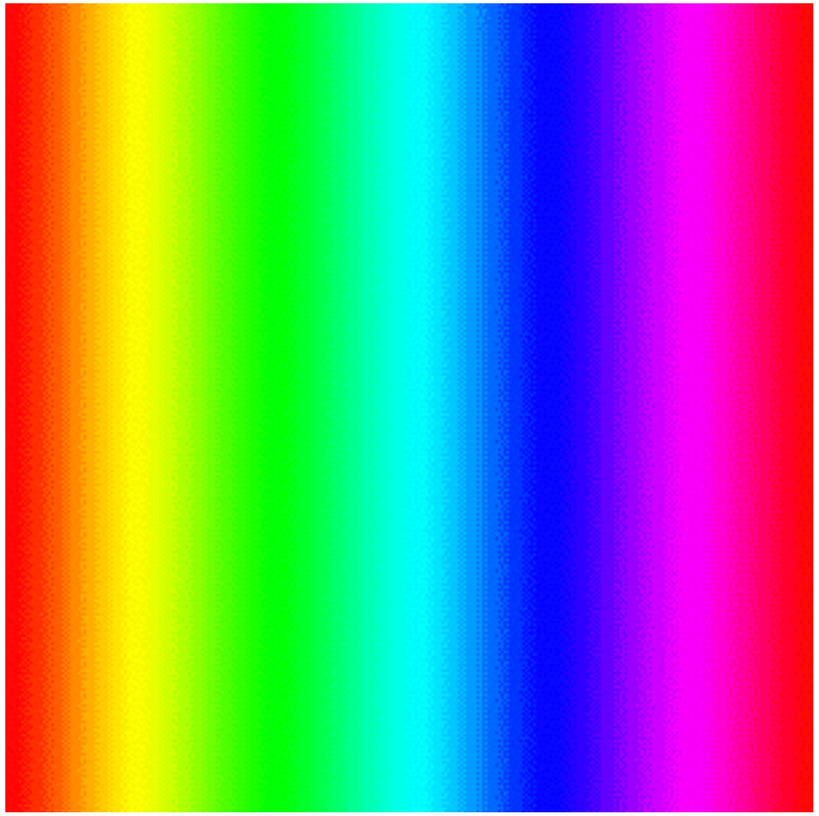
Dithering set to 0:
4.8KB



Dithering set to 100:
9.7KB



Horizontal pattern:
9.7KB



Vertical pattern:
21KB

GIF

Their compression algorithm removes **horizontal redundancy**.

The more details or noise,
the larger the file will be.

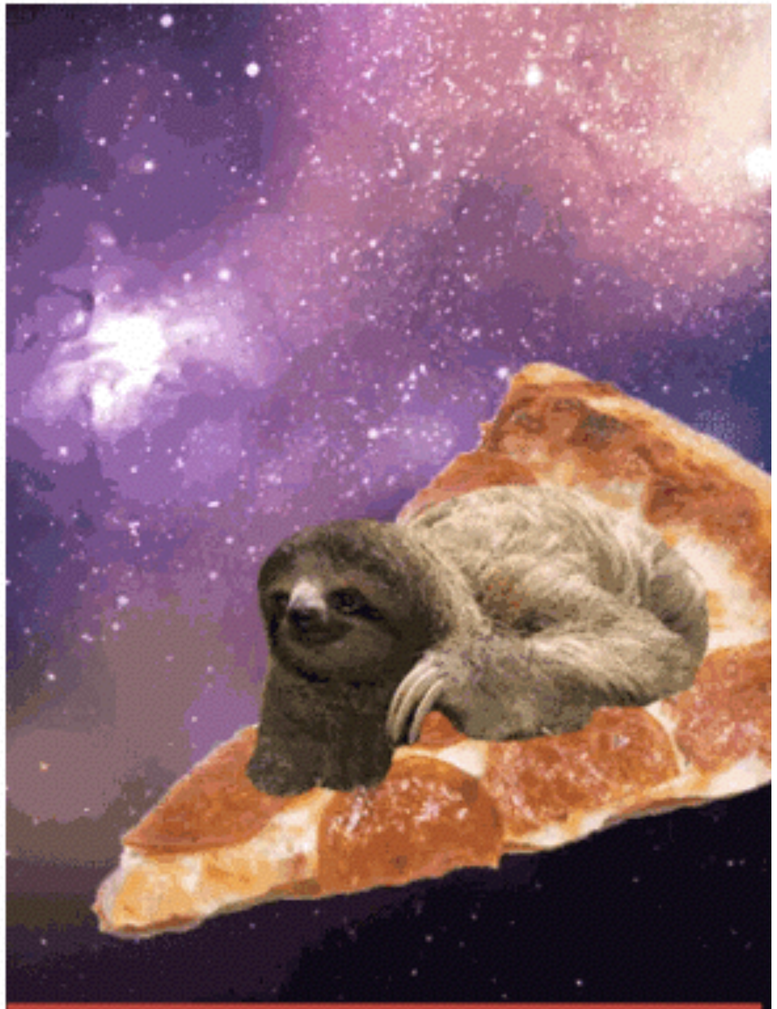
GIF

So seriously, folks:

Replace GIF animations with **CSS**.

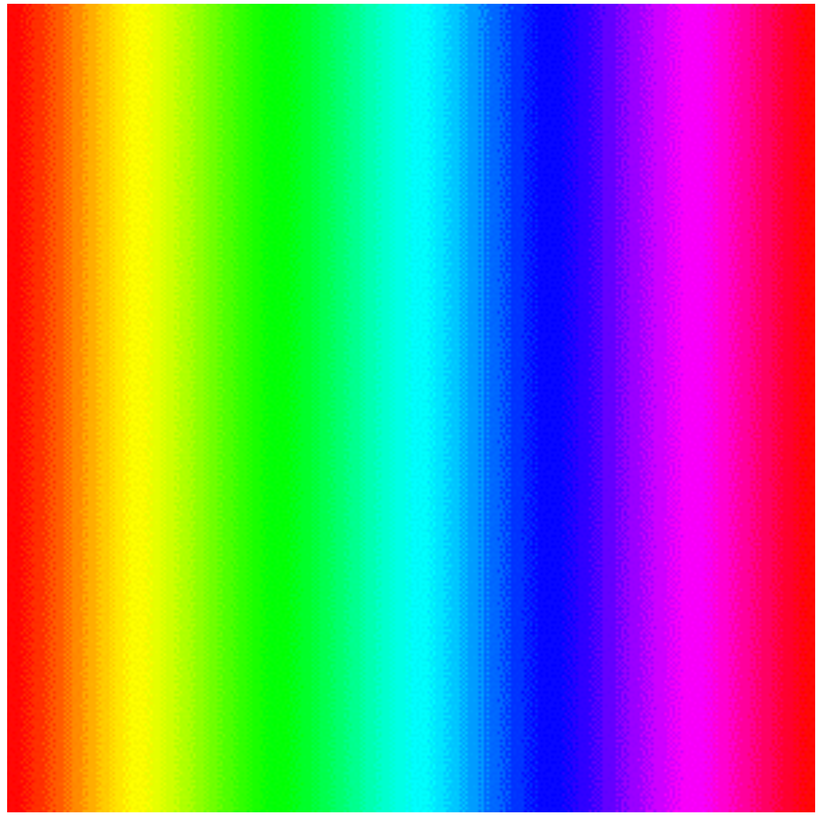
Replace non-animated GIFs with **PNG-8**s.

Replace movie GIFs with **asynchronously-loading videos**.



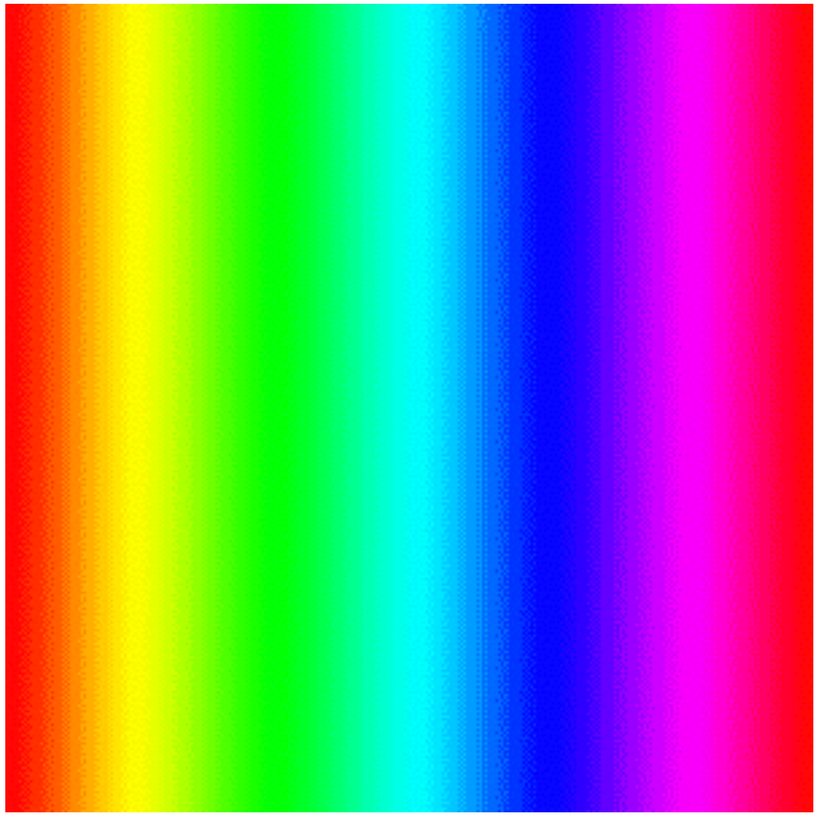
HTML5 VIDEO(165k)

GIF(881k)



GIF:

21KB



PNG-8:

1.62KB

PNG

Portable **N**etwork **G**raphics

Created as an improved, ***non-patented*** replacement for GIF in 1996.

PNG-8

Best for: Images with few colors.

PNG-8

Lossless (like GIFs!)

256 color palette (like GIFs!)

Dither (like GIFs!)

Recognize horizontal ***and*** vertical patterns.

PNG-24

No restriction on color palette.

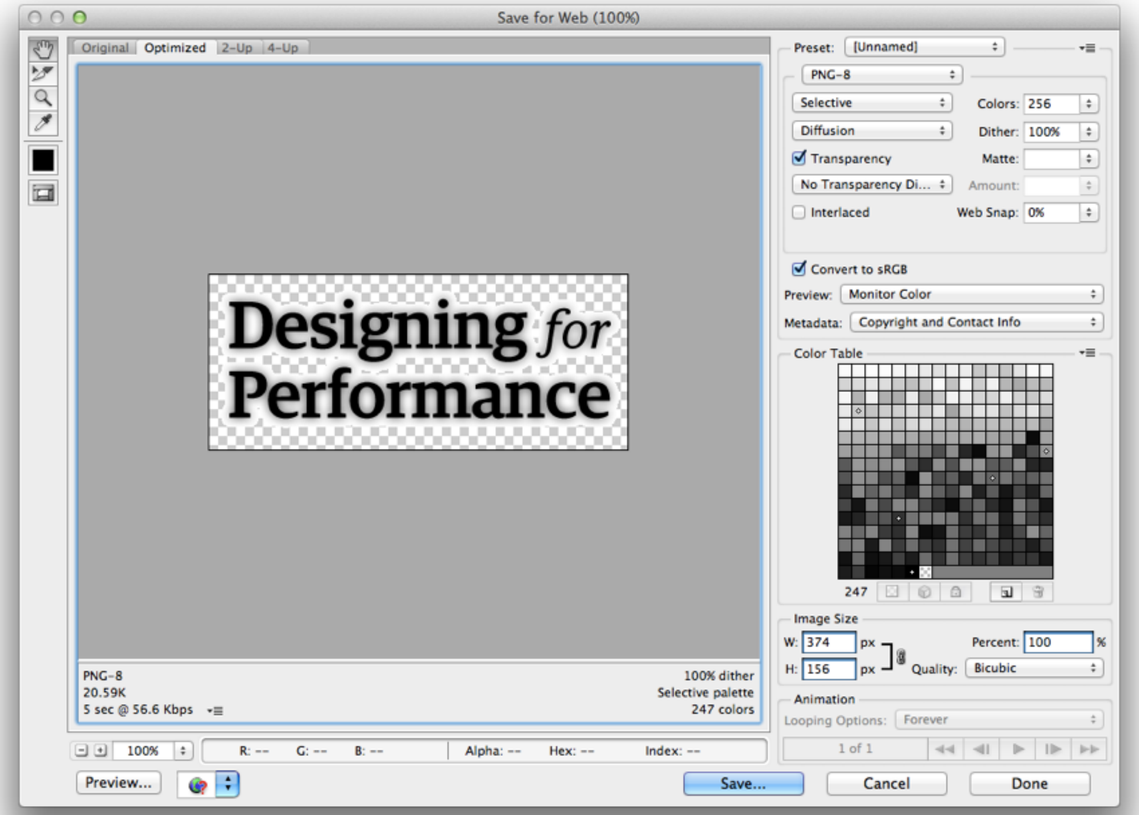
Handles **transparency** differently.

PNG-24

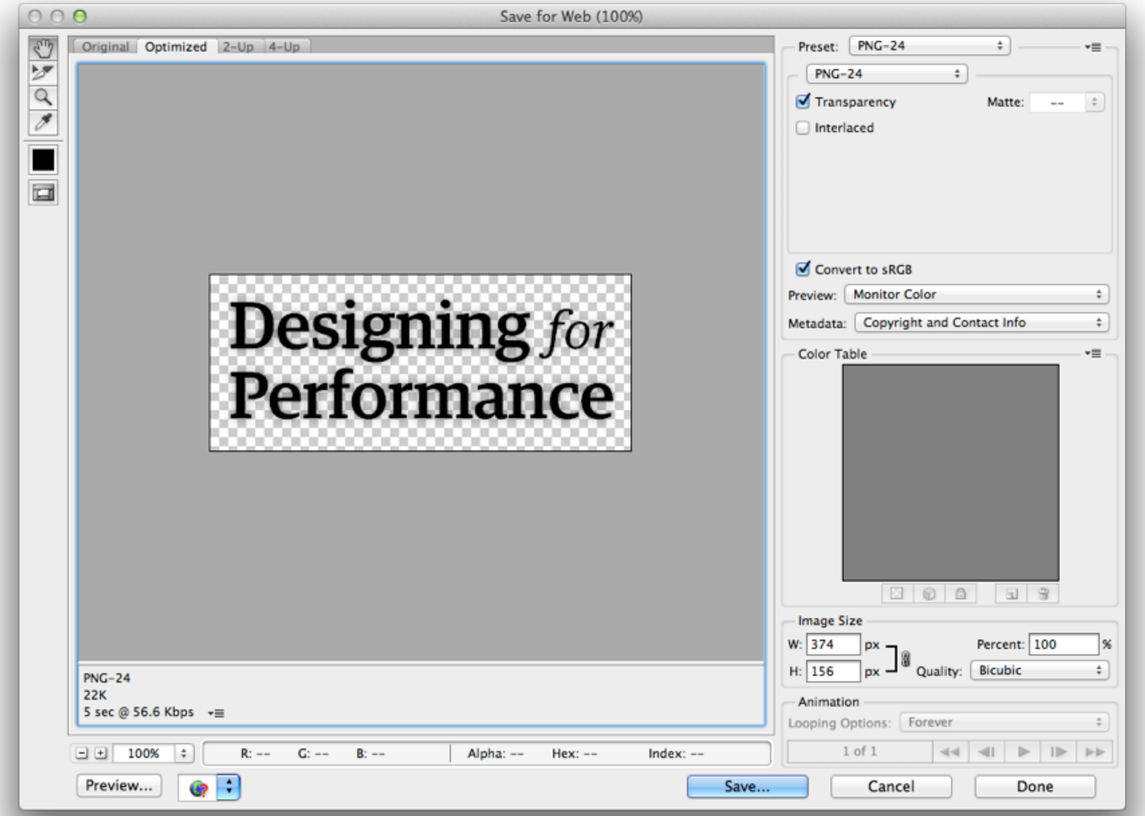
Optimization options:

Decrease noise.

Decrease number of colors.


Save for Web (100%)
Original
Optimized
2-Up
4-Up
Designing for Performance
Preset: [Unnamed]
PNG-8
Selective
Colors: 256
Diffusion
Dither: 100%
Transparency
Matte:
No Transparency Di...
Amount:
Interlaced
Web Snap: 0%
Convert to sRGB
Preview: Monitor Color
Metadata: Copyright and Contact Info
Color Table
247
Image Size
W: 374 px
H: 156 px
Percent: 100 %
Quality: Bicubic
Animation
Looping Options: Forever
1 of 1
PNG-8
20.59K
5 sec @ 56.6 Kbps
100% dither
Selective palette
247 colors
100%
R: -- G: -- B: --
Alpha: -- Hex: -- Index: --
Preview...
Save...
Cancel
Done

PNG-8


Save for Web (100%)
Original
Optimized
2-Up
4-Up
Designing for Performance
Preset: PNG-24
PNG-24
Transparency
Matte: --
Interlaced
Convert to sRGB
Preview: Monitor Color
Metadata: Copyright and Contact Info
Color Table
Image Size
W: 374 px
H: 156 px
Percent: 100 %
Quality: Bicubic
Animation
Looping Options: Forever
1 of 1
PNG-24
22K
5 sec @ 56.6 Kbps
100%
R: -- G: -- B: --
Alpha: -- Hex: -- Index: --
Preview...
Save...
Cancel
Done

PNG-24

Designing *for* Performance

Tra

No T

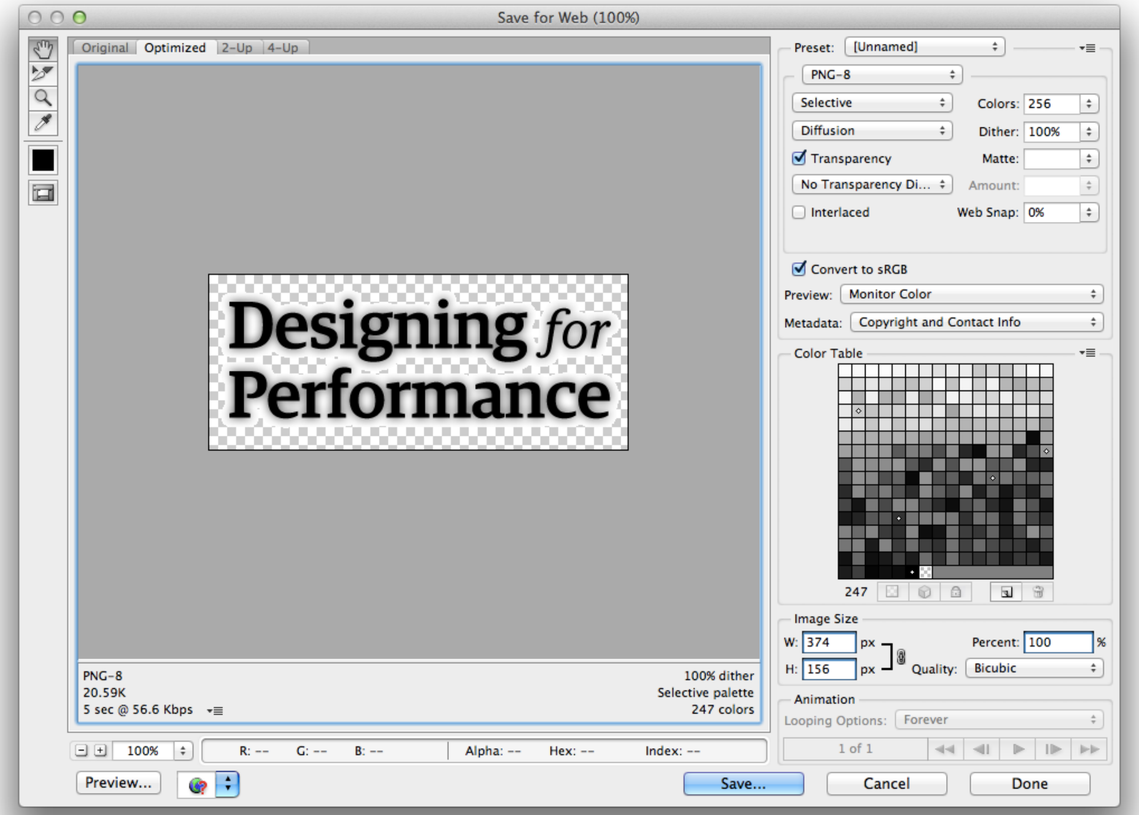
Int

Co

Preview

Metada

Color


Save for Web (100%)
Original
Optimized
2-Up
4-Up
Designing for Performance
Preset: [Unnamed]
PNG-8
Selective
Colors: 256
Diffusion
Dither: 100%
Transparency
Matte:
No Transparency Di...
Amount:
Interlaced
Web Snap: 0%
Convert to sRGB
Preview: Monitor Color
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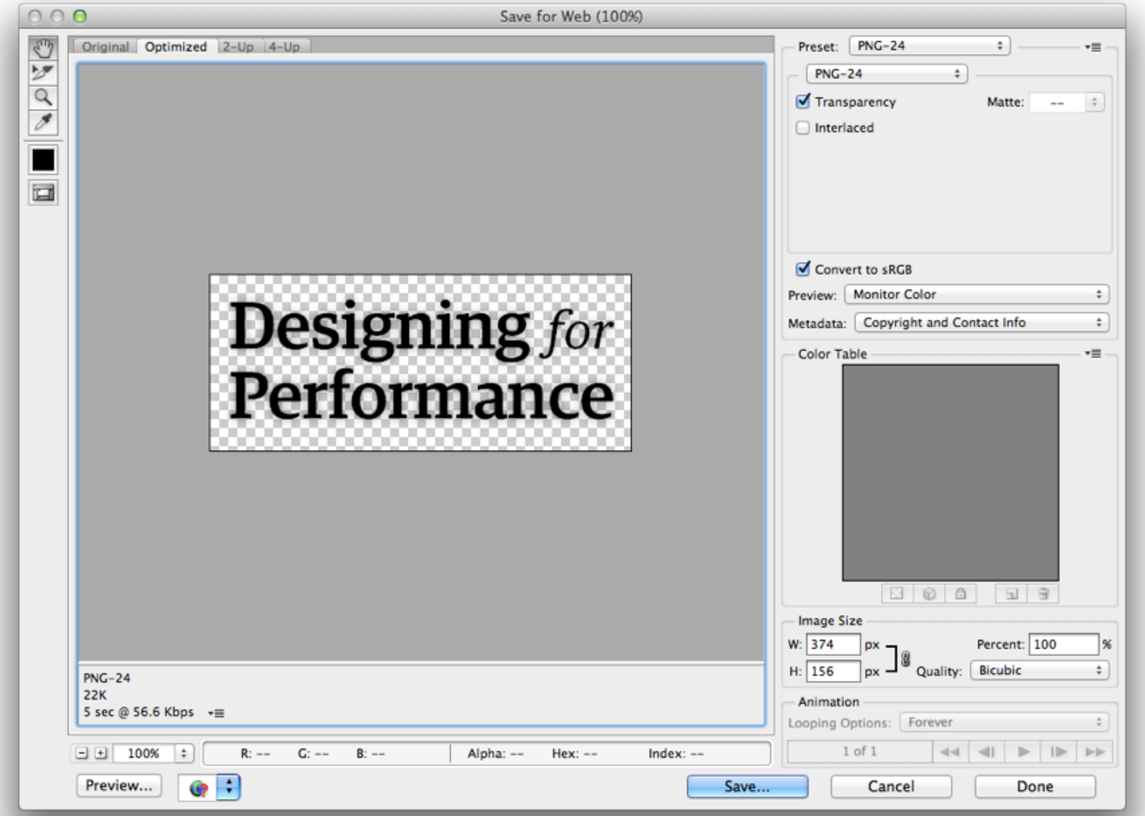
1 of 1
PNG-8
20.59K
5 sec @ 56.6 Kbps
100% dither
Selective palette
247 colors
100%
R: -- G: -- B: --
Alpha: -- Hex: -- Index: --
Preview...
Save...
Cancel
Done

PNG-8


Save for Web (100%)
Original
Optimized
2-Up
4-Up
Designing for Performance
Preset: PNG-24
PNG-24
Transparency
Matte: --
Interlaced
Convert to sRGB
Preview: Monitor Color
Metadata: Copyright and Contact Info
Color Table
Image Size
W: 374 px
H: 156 px
Percent: 100 %
Quality: Bicubic
Animation
Looping Options: Forever
1 of 1
PNG-24
22K
5 sec @ 56.6 Kbps
100%
R: -- G: -- B: --
Alpha: -- Hex: -- Index: --
Preview...
Save...
Cancel
Done

PNG-24

Designing *for* Performance

Co

Preview

Metada

Color

PNG-24:

1.28MB

JPEG @ 75 Quality:

288KB

WebP

Google announced **WebP**icture in 2010.

Both ***lossless*** and ***lossy*** compression.

Supports transparency and animation.

WebP

Predicts a value, then encodes the difference between the prediction and actual value.

WebP

Creation: there’s a Photoshop plugin, and online conversion tools.

Support: only Chrome, Opera, and Android Browser.

Save even more
bytes and **requests**

Replace simple images with **SVG**.

SVG

Scalable **V**ector **G**raphics

XML-based vector image format, born out of competing standards submitted to W3C.

Became a W3C recommendation in 2001.

SVG

Scales up beautifully for **retina** devices.

If inline, eliminates an HTTP **request**.

Not supported **≤IE8**.

Exports with a lot of **cruft**.

```
<?xml version="1.0" encoding="utf-8"?>
<!-- Generator: Adobe Illustrator 15.0.2, SVG Export Plug-In . SVG
  Version: 6.00 Build 0) -->
<!DOCTYPE svg PUBLIC "-//W3C//DTD SVG 1.1//EN" "http://www.w3.org/
  Graphics/SVG/1.1/DTD/svg11.dtd">
<svg version="1.1" xmlns="http://www.w3.org/2000/svg"
  xmlns:xlink="http://www.w3.org/1999/xlink" x="0px" y="0px"
  width="20px" height="20px" viewBox="0 0 20 20" enable-
  background="new 0 0 20 20" xml:space="preserve">
<polygon fill="#FFFFFF" stroke="#000000" stroke-miterlimit="10"
  points="10,2.003 11.985,8.112 18.407,8.112 13.212,11.887
  15.196,17.996 10,14.221 4.803,17.996 6.789,11.887 1.592, 8.112
  8.015,8.112 "/>
</svg>
```

```
<?xml version="1.0" encoding="utf-8"?>
<!-- Generator: Adobe Illustrator 15.0.2, SVG Export Plug-In . SVG
  Version: 6.00 Build 0) -->
<!DOCTYPE svg PUBLIC "-//W3C//DTD SVG 1.1//EN" "http://www.w3.org/
  Graphics/SVG/1.1/DTD/svg11.dtd">
<svg version="1.1" xmlns="http://www.w3.org/2000/svg"
  xmlns:xlink="http://www.w3.org/1999/xlink" x="0px" y="0px"
  width="20px" height="20px" viewBox="0 0 20 20" enable-
  background="new 0 0 20 20" xml:space="preserve">
<polygon fill="#FFFFFF" stroke="#000000" stroke-miterlimit="10"
  points="10,2.003 11.985,8.112 18.407,8.112 13.212,11.887
  15.196,17.996 10,14.221 4.803,17.996 6.789,11.887 1.592, 8.112
  8.015,8.112 "/>
</svg>
```

```svg
<svg version="1.1" xmlns="http://www.w3.org/2000/svg"
  xmlns:xlink="http://www.w3.org/1999/xlink" x="0px" y="0px"
  width="20px" height="20px" viewBox="0 0 20 20" enable-
  background="new 0 0 20 20" xml:space="preserve">
<polygon fill="#FFFFFF" stroke="#000000" stroke-miterlimit="10"
  points="10,2.003 11.985,8.112 18.407,8.112 13.212,11.887
  15.196,17.996 10,14.221 4.803,17.996 6.789,11.887 1.592, 8.112
  8.015,8.112 "/>
</svg>
```

You can apply it as a background:

```
.star {
  background: url(star.svg);
  display: block;
  width: 83px;
  height: 83px;
  background-size: 83px 83px;
}
```

Or inline the SVG into your HTML:

```
<body>
  <svg version="1.1" xmlns="http://www.w3.org/2000/svg"
    xmlns:xlink="http://www.w3.org/1999/xlink" x="0px"
    y="0px" width="20px" height="20px" viewBox="0 0 20 20"
    enable-background="new 0 0 20 20" xml:space="preserve">
  <polygon fill="#FFFFFF" stroke="#000000" stroke-
    miterlimit="10" points="10,2.003 11.985,8.112
    18.407,8.112 13.212,11.887 15.196,17.996 10,14.221
    4.803,17.996 6.789,11.887 1.592, 8.112 8.015,8.112"/>
  </svg>
</body>
```

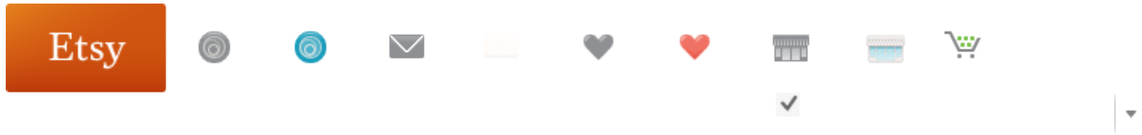
SVG

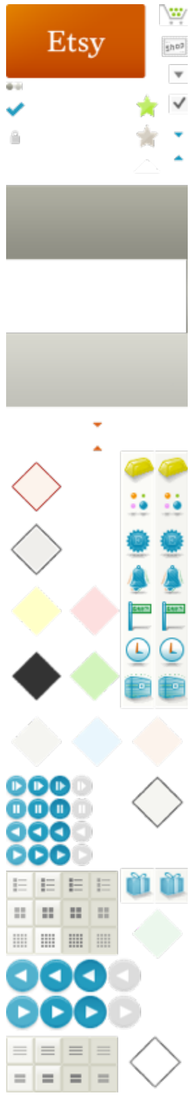
Inlined SVG **removes cacheability** and makes your HTML file size **larger**.

So, as with everything else, test it.

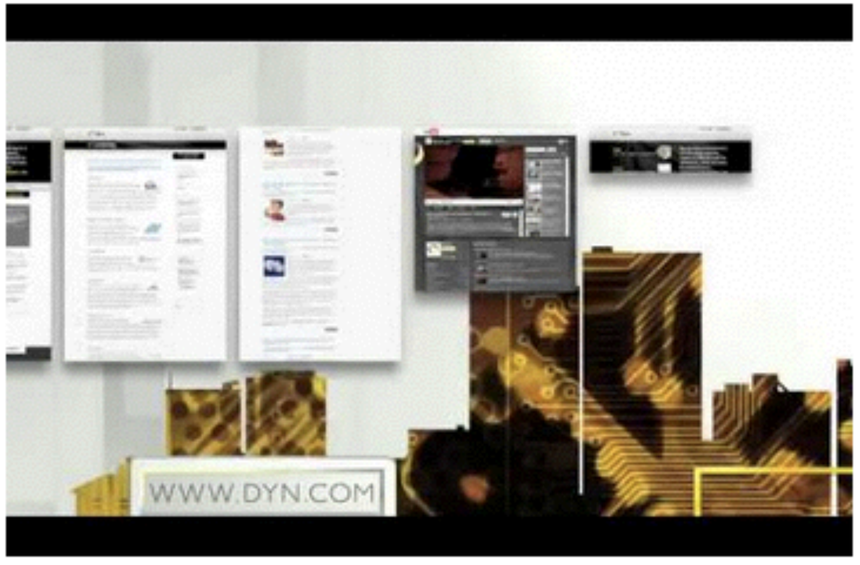
Sprites

```
#main-nav a {
  background-image: url(sprite.png);
}

#main-nav #convos {
  background-position: -220px 0;
}

#main-nav #favorites {
  background-position: -340px 0;
}
```





Dyn - Managed DNS and Email Delivery



ALL VIDEOS

@DYNINC

UX Manager @LaraSwanson will be the keynote speaker at @CapitalCampDC http://t.co/bL1exny0 #webperf #UX

WHERE WE'LL BE

Jul 16 – 20, 2012

OSCON – Portland, OR

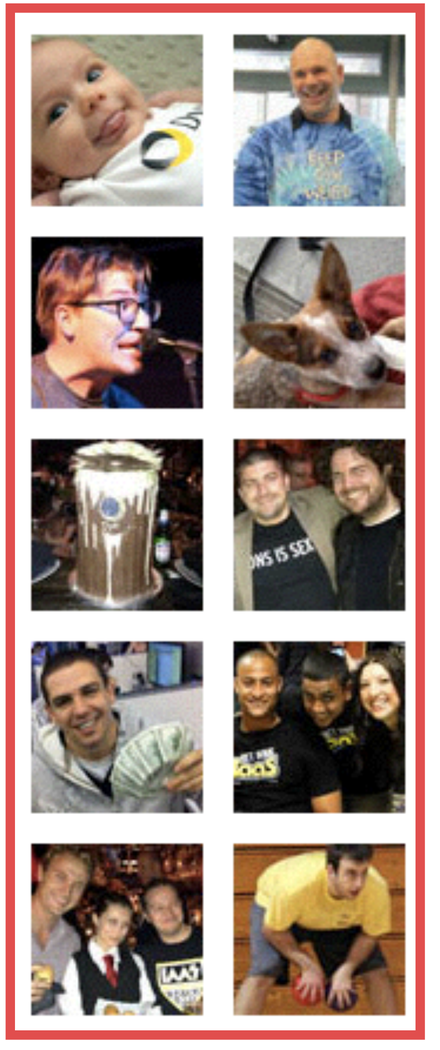
Join the world's open source pioneers, builders, and innovators for five intense days where you will learn about open development, challenge your assumptions, and fire up your brain.

Jul 16 – 18, 2012

HostingCon – Boston, MA

The premier conference and trade show for the hosted services industry. The best and brightest from the industry will be in attendance to learn about the latest news, ideas and technology affecting their businesses.

ALL EVENTS



ALL PHOTOS

BLOG & NEWS

Jun 29, 2012

Velocity 2012: Like A Band, Become The Company People Like

Jun 27, 2012

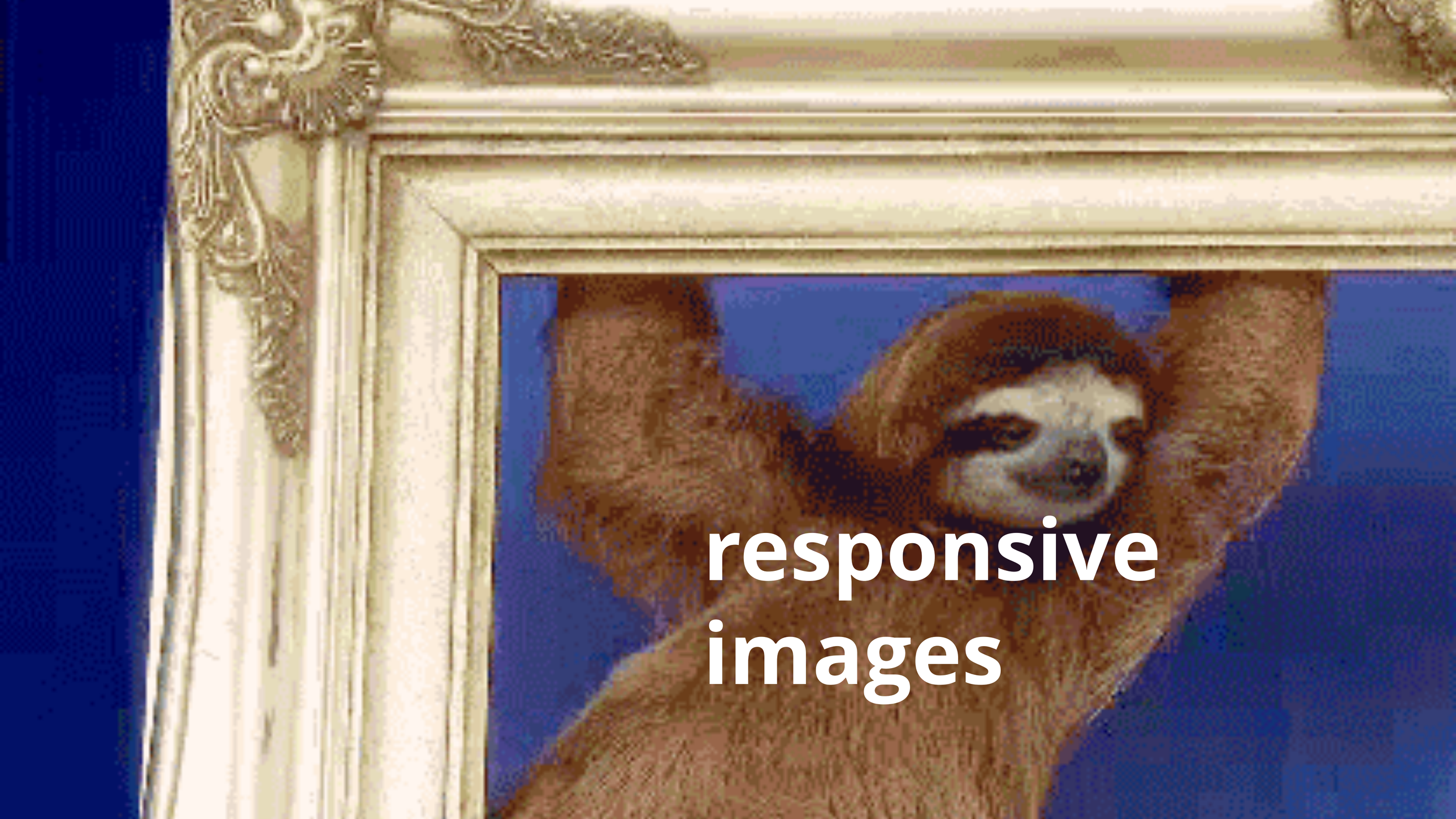
Dyn Prepares For Bold Future With Technology Leadership Shifts

Jun 26, 2012

Velocity 2012: Performance is the Most Important Type of DNS Security

ALL NEWS

Serve the right
amount of **bytes**.


responsive
images

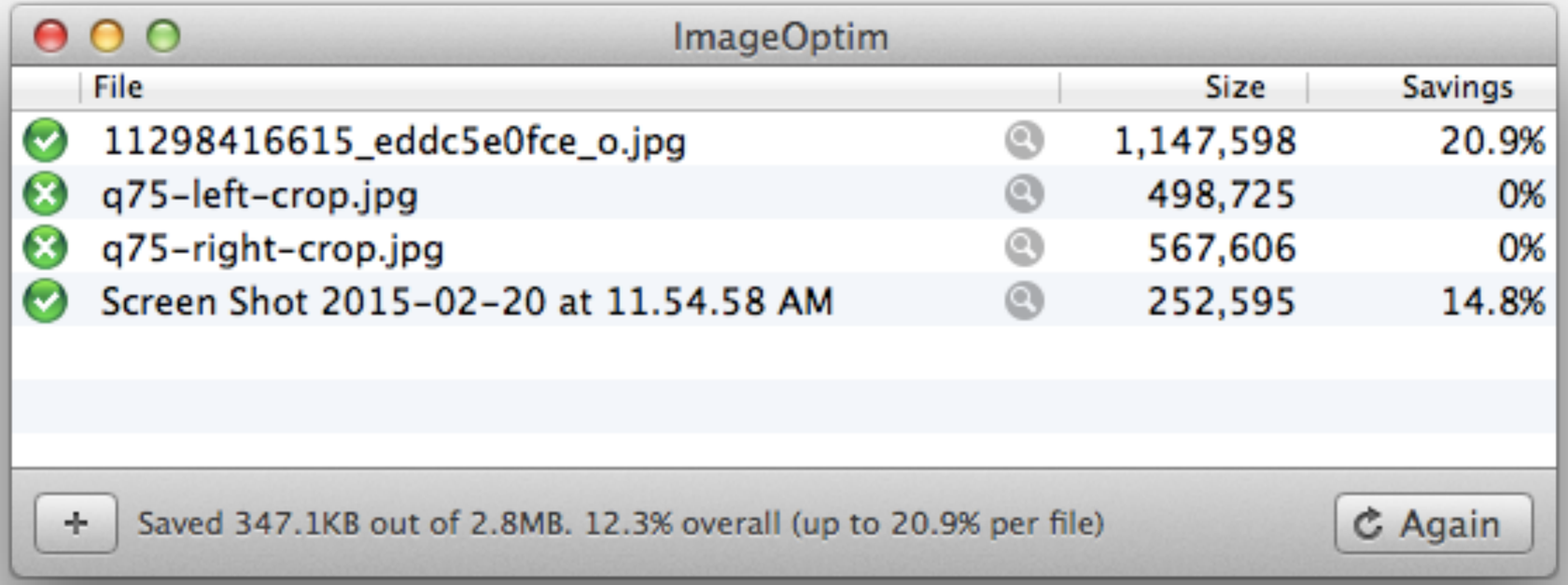
```
<img
    srcset="
        small.jpg 400w,
        medium.jpg 800w,
        full.jpg 1300w"
    sizes="
        (max-width: 480px) 75vw,
        (min-width: 960px) 95vw,
        60vw"
    src="medium.jpg"
    alt="image title"
    title="image title">
```

```
<img
    srcset="
        small.jpg 400w,
        medium.jpg 800w,
        full.jpg 1300w"
    sizes="
        (max-width: 480px) 75vw,
        (min-width: 960px) 95vw,
        60vw"
    src="medium.jpg"
    alt="image title"
    title="image title">
```

```
<img
    srcset="
        small.jpg 400w,
        medium.jpg 800w,
        full.jpg 1300w"
    sizes="
        (max-width: 480px) 75vw,
        (min-width: 960px) 95vw,
        60vw"
    src="medium.jpg"
    alt="image title"
    title="image title">
```

```
<picture>
   <source type="image/svg+xml" srcset="pic.svg">
   <img src="pic.png" alt="Description">
</picture>
```

Additional lossless **compression**


ImageOptim
File
Size
Savings
11298416615_eddc5e0fce_o.jpg
1,147,598
20.9%
q75-left-crop.jpg
498,725
0%
q75-right-crop.jpg
567,606
0%
Screen Shot 2015-02-20 at 11.54.58 AM
252,595
14.8%
Saved 347.1KB out of 2.8MB. 12.3% overall (up to 20.9% per file)
Again

We ran all PNGs in Etsy’s templates through lossless compression.

Average per-file space savings	19.76%
Total space savings	**44.34%**

Automate the extra compression.

ImageOptim CLI
github.com/JamieMason/ImageOptim-CLI

Wordpress plugin
wordpress.org/plugins/ewww-image-optimizer/

SVG scrubber
codedread.com/scour/ *or* github.com/svg/svgo

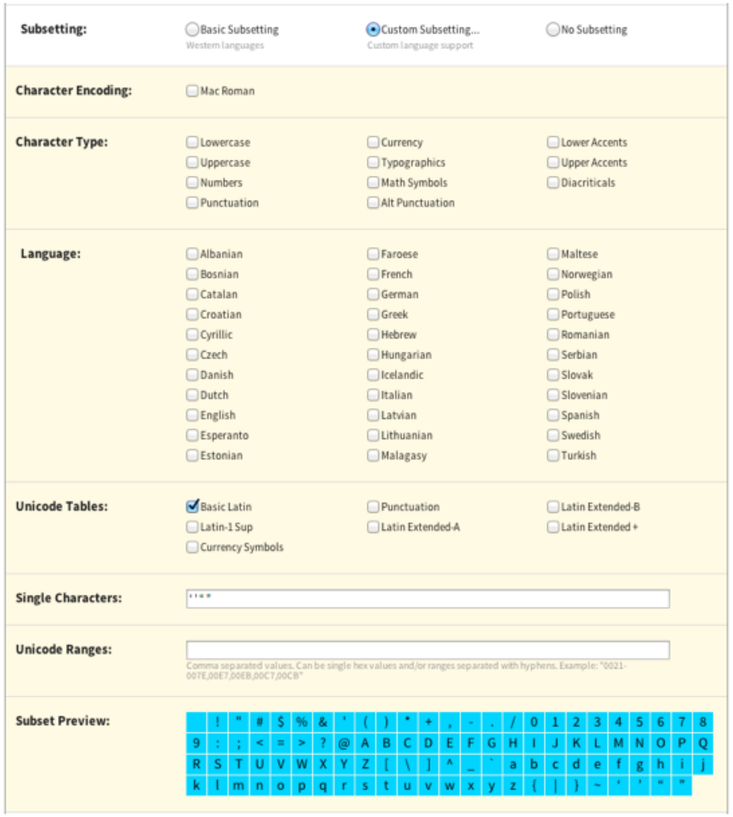
Fonts

IE6-8 downloads all @font-face files, **even if they're not used!**

Only @import the font **weights** you absolutely **need**.

```
@font-face {
   font-family: 'FontName';
   src: url('fontname.woff') format('woff');
}

body {
   font-family: Georgia, serif;
}

@media (min-width: 1000px) {
   body {
      font-family: 'FontName', Georgia, serif;
   }
}
```

Optimize your character **subsetting**.



Subsetting:

- ○ Basic Subsetting — Western languages
- ◉ Custom Subsetting... — Custom language support
- ○ No Subsetting

Character Encoding:

- ☐ Mac Roman

Character Type:

- ☐ Lowercase
- ☐ Uppercase
- ☐ Numbers
- ☐ Punctuation
- ☐ Currency
- ☐ Typographics
- ☐ Math Symbols
- ☐ Alt Punctuation
- ☐ Lower Accents
- ☐ Upper Accents
- ☐ Diacriticals

Language:

- ☐ Albanian
- ☐ Bosnian
- ☐ Catalan
- ☐ Croatian
- ☐ Cyrillic
- ☐ Czech
- ☐ Danish
- ☐ Dutch
- ☐ Faroese
- ☐ French
- ☐ German
- ☐ Greek
- ☐ Hebrew
- ☐ Hungarian
- ☐ Icelandic
- ☐ Italian
- ☐ Maltese
- ☐ Norwegian
- ☐ Polish
- ☐ Portuguese
- ☐ Romanian
- ☐ Serbian
- ☐ Slovak
- ☐ Slovenian

Unicode Tables:

- [x] Basic Latin
- [ ] Punctuation
- [ ] Latin Extended-B
- [ ] Latin-1 Sup
- [ ] Latin Extended-A
- [ ] Latin Extended +
- [ ] Currency Symbols

Single Characters:

Unicode Ranges:

Comma separated values. Can be single hex values and/or ranges separated with hyphens. Example: "0021-007E,00E7,00EB,00C7,00CB"

Subset Preview:

	!	"	#	$	%	&	'	(	)	*	+	,	-	.	/	0	1	2	3	4	5	6	7	8
9	:	;	<	=	>	?	@	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
R	S	T	U	V	W	X	Y	Z	[	\	]	^	_	`	a	b	c	d	e	f	g	h	i	j
k	l	m	n	o	p	q	r	s	t	u	v	w	x	y	z	{	|	}	~	‘	’	“	”	

Single Characters: ♥

Unicode Ranges:

Comma separated values. Can be single hex values and/or ranges separated with hyphens. Example: "0021-007E,00E7,00EB,00C7,00CB"

Subset Preview:

	!	"	#	$	%	&	'	(	)	*	+	,	-	.	/	0	1	2	3	4	5	6	7
8	9	:	;	<	=	>	?	@	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
P	Q	R	S	T	U	V	W	X	Y	Z	[	\	]	^	_	`	a	b	c	d	e	f	g
h	i	j	k	l	m	n	o	p	q	r	s	t	u	v	w	x	y	z	{	|	}	~	¢
£	¥	©	®	´	–	—	‘	’	“	”	•	…	€	™	♥								

Document subsetting so others can know and, if needed, edit it.

Horse-related issues

Vernon

Hey everyone,

We've been asking around but it looks like there are some horse-related issues affecting reviews on some pages:

https://www.etsy.com/teams/7720/bugs/discuss/14559563/page/1

Horse covers up my last star on my reviews.

Tara from **ShabbyWorks** 12:21 am May 20, 2014 EDT

Why is there a horse emogi (spelling?) covering up the 5th star of my reviews?? Been like this all day!

Translate

AT&T 11:54 PM 15%

etsy.com

SHOP OWNER

Tara

Durant, OKLAHOMA, United States

Contact Tara

Request Custom Order

64 Reviews

181
Followers

More Info

Shop home (all items)

Sections Sort

6 Letter Horseshoe Sign made with real horseshoes....

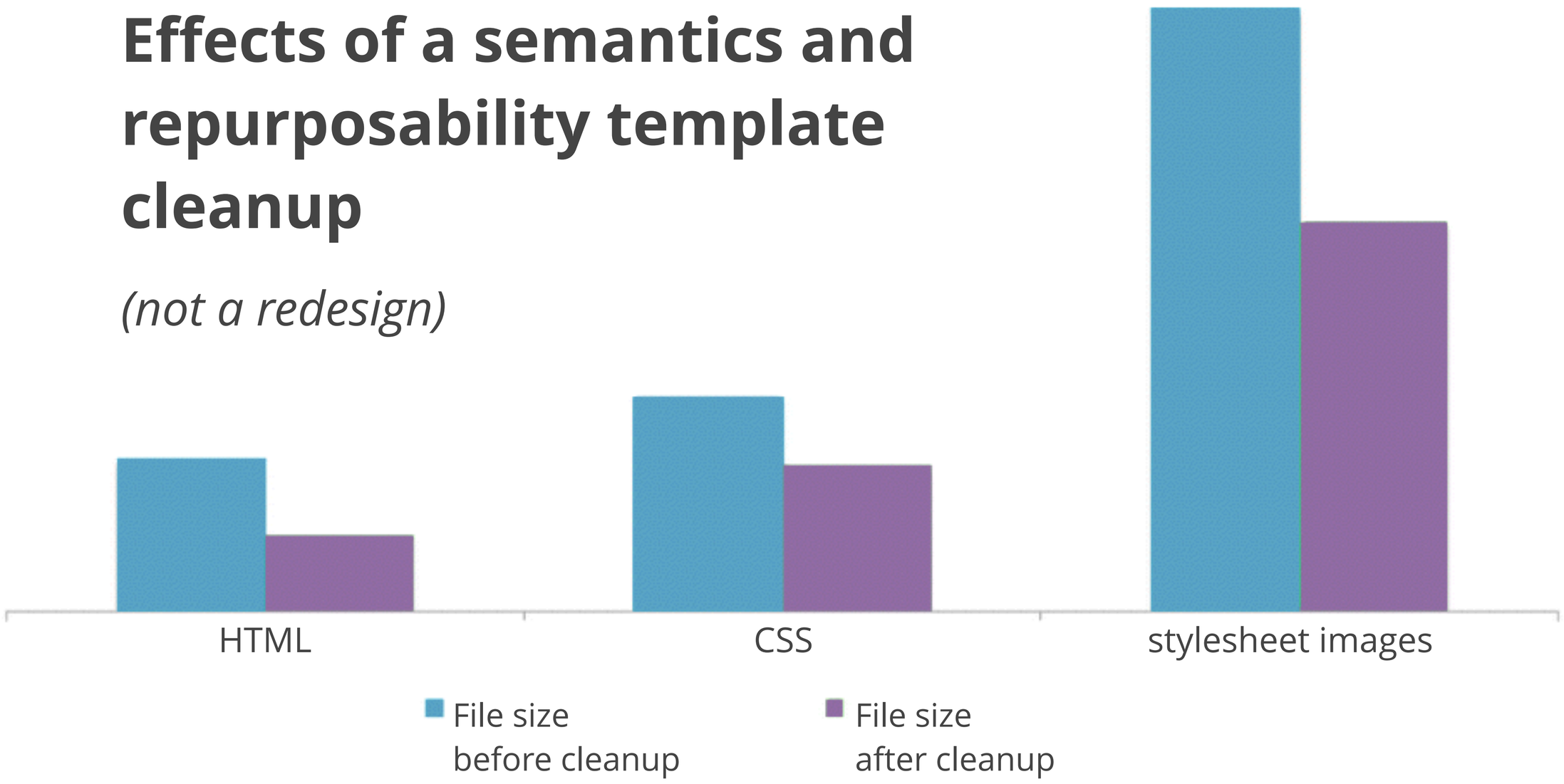
Horse-related issues

Semantics & Repurposability

Save **development** time
and **page load** time.

Effects of a semantics and repurposability template cleanup

(not a redesign)



Create **repurposable** code.

Rename **non-semantic** elements.

~~`.blue { }`~~

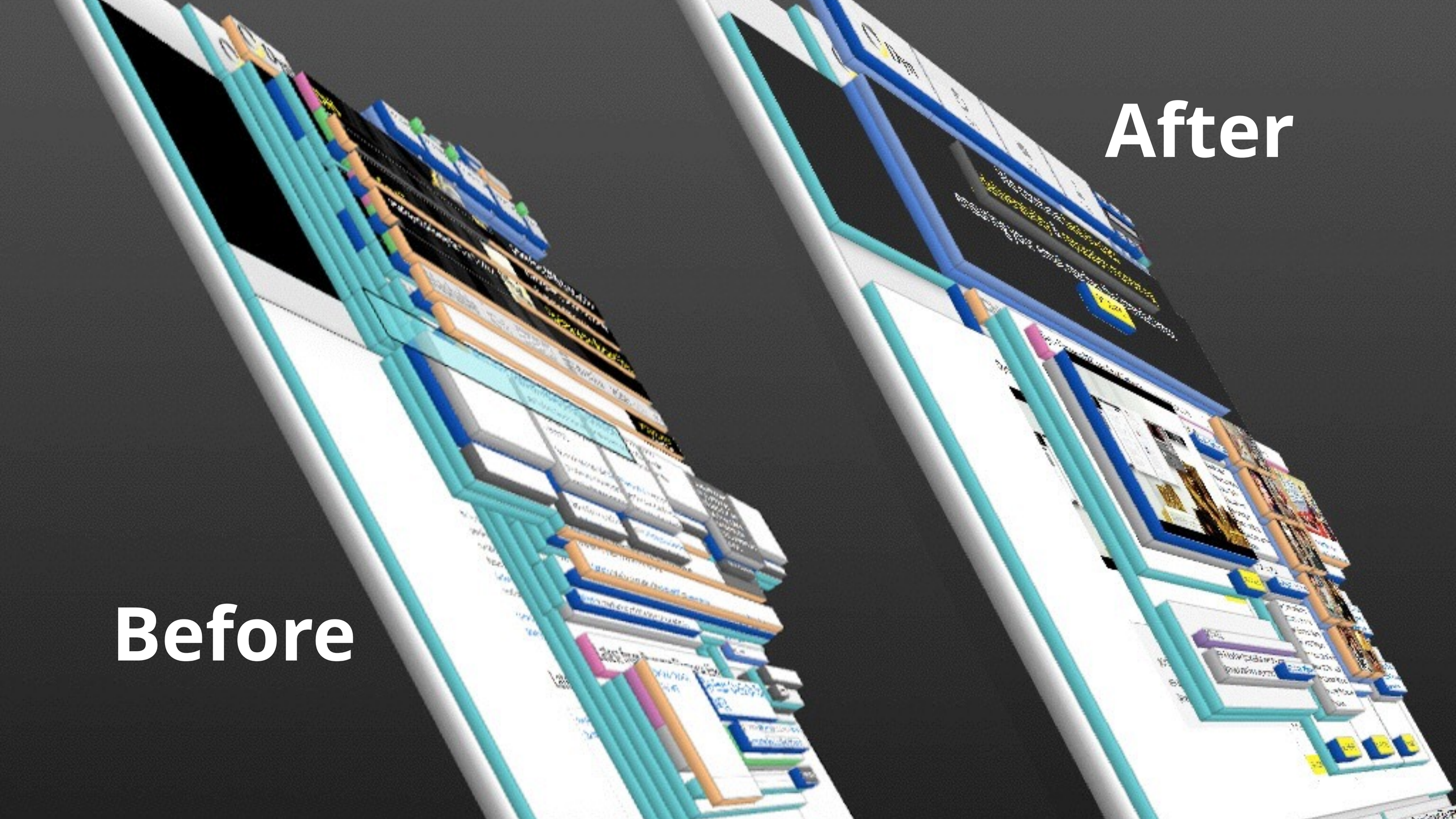
`.tags`

Remove **inefficient selectors**.

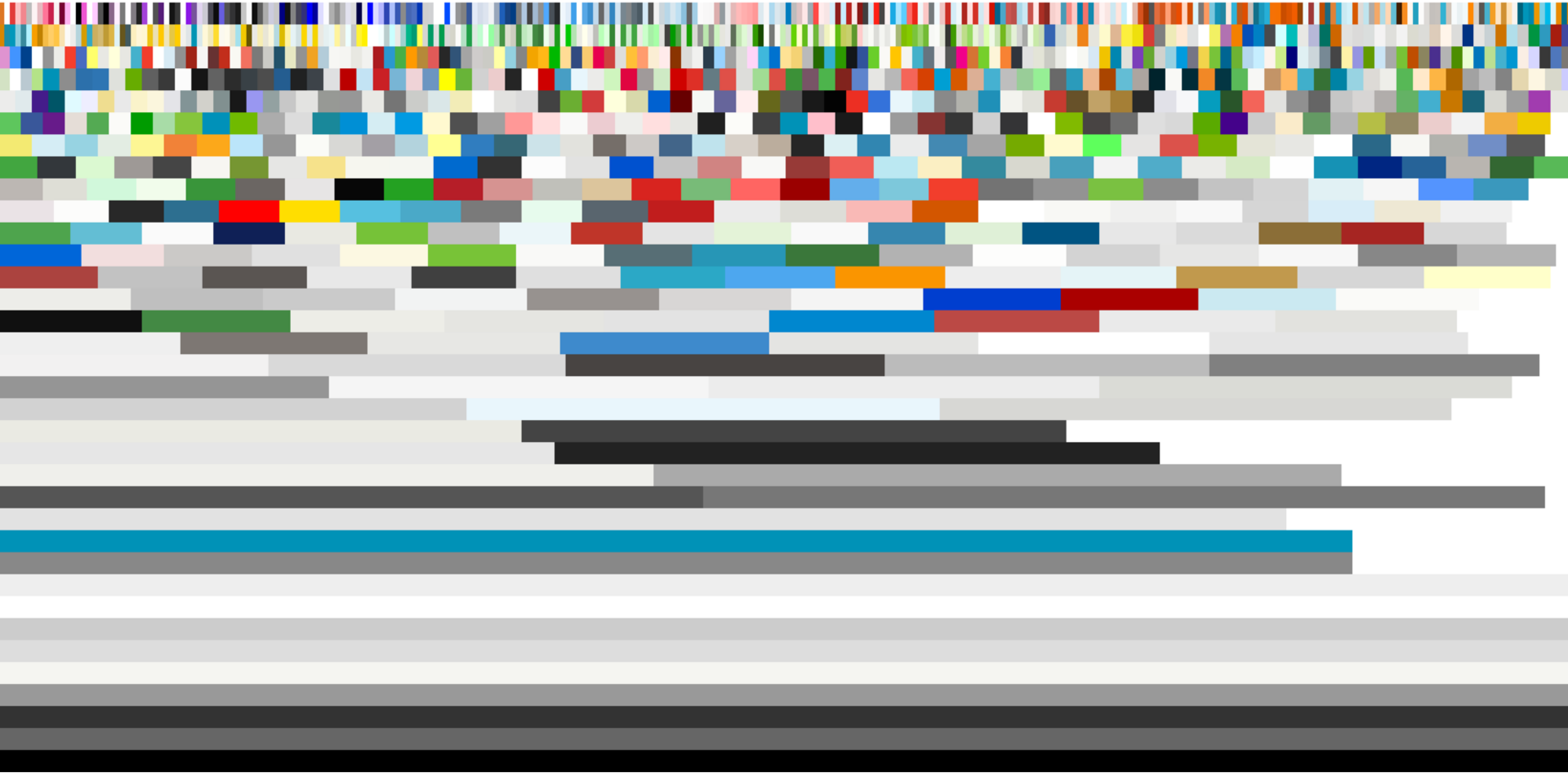
~~`.wide #sidebar a.search { }`~~

`#sidebar .search { }` *or just* `.search { }`

Remove unnecessary elements (**divitis**).


After
Before

Create **patterns**.



guardian-egyptt-bold

guardian-egyptt-semibold

guardian-egyptt-medium

guardian-egyptt-normal

guardian-egyptt-regular

guardian-egyptt-italic

guardian-egyptt-light

guardian-egyptt-text-black-it

guardian-egyptt-text-black

guardian-egyptt-text-bold-it

Consistency, clarity in patterns = **better product** and **brand alignment**.

0 **guardian-egyptt-bold**

196 **guardian-egyptt-semibold**

340 **guardian-egyptt-medium**

17 guardian-egyptt-normal

155 guardian-egyptt-regular

34 *guardian-egyptt-italic*

114 guardian-egyptt-light

0 **guardian-egyptt-bold**

196 **guardian-egyptt-semibold**

340 **guardian-egyptt-medium**

17 guardian-egyptt-normal

155 guardian-egyptt-regular

34 *guardian-egyptt-italic*

114 guardian-egyptt-light

1 font weight for **headlines**.
No more Guardian for body copy.

Consistently across
Desktop and Apps.

Etsy | Search for items or shops | Search | Browse | Home | Favorites | Your Shop

AshleyPahl

Favorite Shop

zoom

Hand Painted Happy Holidays Card Papercut Design

$8.00+ USD

Only 1 available

Quantity

Select an option

Overview

- Handmade item
- Materials: kraft card stock, kraft paper, adhesive, paint, ink
- Made to order
- Feedback: 576 reviews
- Ships worldwide from East Lansing, Michigan

This shop accepts Etsy Gift Cards

Add to Cart

Item Details | (576) | Shipping & Policies

Favorite 64 | Add to

Tweet | Pin it | tumblr. | Like

This paper cut holiday card was carefully hand-painted, and features a red banner weaving in and out of a birch tree forest. The banner reads "happy holidays" in black handwriting.

Etsy | Search for items or shops | Search | Browse | Home | Favorites | Your Shop | You

AshleyPahl

Favorite Shop

Happy Holidays

zoom

Hand Painted Happy Holidays Card Papercut Design

$8.00+ USD

Ask a Question

Only 1 available

Quantity

Select an option

Overview

- Handmade item
- Materials: kraft card stock, kraft paper, white paper, adhesive, paint, ink
- Made to order
- Feedback: 576 reviews
- Ships worldwide from East Lansing, Michigan

This shop accepts Etsy Gift Cards

Add to Cart

Item Details | (576) | Shipping & Policies

Favorite 64 | Add to

Tweet | Pin it | tumblr. | Like 0

This paper cut holiday card was carefully hand-painted, and features a red banner weaving in and out of a birch tree forest. The banner reads "happy holidays" in black handwriting.

12.3

16px→ 16

19.7

25.8

32

41.8

51.7

67.7

83.7

12px

14px

16 px

20 px

26 px

32 px

42 px

52 px

68 px

84 px

proposed

Current

Etsy

Search for items or shops | Search | Browse

Home (8) | Favorites | Your Shop | You | Cart (2)

saracarr

Favorite Shop

30 items

Brian the Bear Lambswool Plush Toy - Made to order

$63.55 USD

Ask a Question

Only 1 available

Overview

- Handmade item
- Materials: lambswool, polyesterstuffing
- Feedback: 441 reviews
- Ships worldwide from United Kingdom

This shop accepts Etsy Gift Cards

Add to Cart

Saved roughly **270KB** of page weight and **5** requests.

.bg-orange
F45800

.bg-gray-darker
E1E3DF

.bg-gray
F5F5F1

.bg-gray-lighter
FBFBFA

.bg-white
FFFFFF

.bg-blue
34A8C4

.bg-blue-lighter
CCE9F0

.bg-blue-lightest
F0FBFD

.bg-green
63C58A

.bg-green-lighter
EFF9F3

.bg-yellow
FFCF5C

.bg-yellow-lighter
FFFAED

.bg-red
F76A6A

.bg-red-lighter
FFEDED

.bg-purple
C788CE

.bg-purple-lighter
F8EFF8

.text-orange
D15600

.text-gray-darker
222222

.text-gray
555555

.text-gray-lighter
888888

.text-gray-lightest
AAAAAA

.text-blue
0192B5

.text-blue-lighter
83CBDC

.text-green
3AA464

.text-yellow
ECA600

.text-red
ED5959

.text-purple
B972C0

IN PROGRESS

Make performance part of everyone’s workflow.

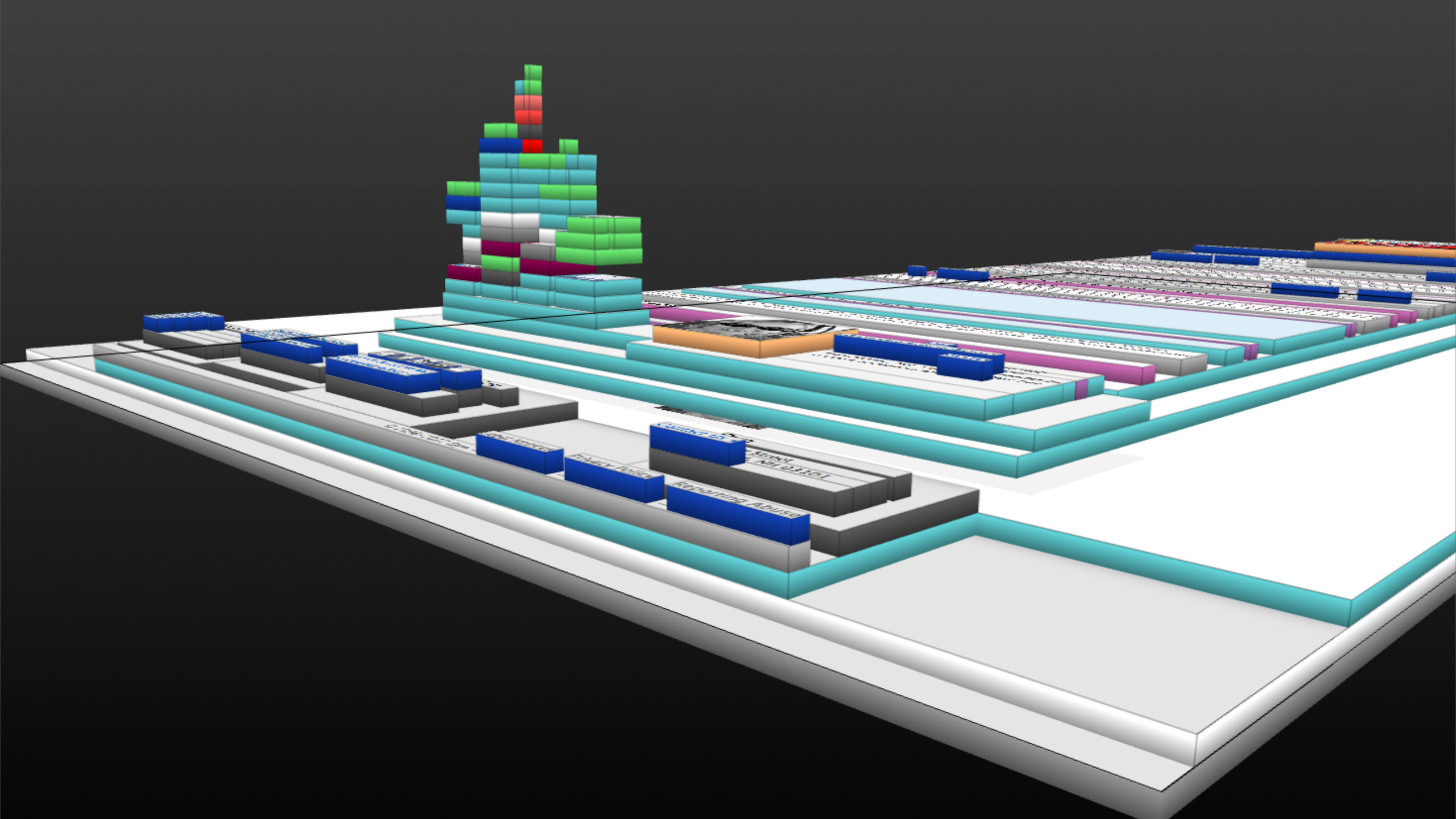
Use a **mobile-first** workflow.

Create a performance **budget**.

Measure	Goal	Notes
Total page load time	2 seconds	For all breakpoints
Total page weight	500kb	min-width: 900px
Total page weight	300kb	max-width: 640px
Speed Index	1,000	For all breakpoints

Be **deliberate** about loading assets like images, fonts and JavaScript files.

Dyn
DNS
EMAIL
LABS
Support
Cart
Sign In
What are you looking for?
About
We are Infrastructure-as-a-Service (IaaS) experts, powering DNS & email delivery for enterprise, small business & personal users. Uptime is the Bottom Line
GET STARTED WITH DNS
GET STARTED WITH EMAIL
Mashable
KIVA
mediafed
neverblue
invitemedia
meetup
Email Delivery
WHERE WE'LL BE
06.11.2012 - 06.14.2012
Cloud Expo - New York,
BLOG & NEWS
06.11.2012
The Amazing DNS Race:
Advantages Of Real Time


Reporting Abuse

At the outset of a project, you may find yourself **weighing** tough choices.

Can I put a large hero image at the top of every article?

Pro: Represents the brand well.

Con: This could be a really large file, and we want to minimize page weight.

Can I put a large hero image at the top of every article?

Compromise:

We'll make sure that few colors are used in the hero, and it's compressed correctly.

Should I @font-face three display weights and a text weight?

Pro: Lots of flexibility in typography.

Con: More requests and page weight.

Should I @font-face three display weights and a text weight?

Compromise:

We'll use two display weights and a system font for the body content.

How will I demonstrate how this product works?

Pro: A video or animated GIF will clearly convey more information.

Con: Videos and GIFs can be pretty heavy.

How will I demonstrate how this product works?

Compromise:

We'll self-host a video that asynchronously loads.

A/B test to measure aesthetics vs. performance impact.

	Control 50% (50.05%) 783,483 VISITS	ON 50% (49.95%) 781,998 VISITS	
Metric	**Observed**	**Observed**	**% Diff.**
Visit add to cart rate	1.28%	1.35%	**+5.64%**
Visit error page view rate	0.50%	0.46%	**-8.45%**
Pages per visit	16.59	16.93	**+2.10%**
Bounces	25.09%	23.36%	**-6.90%**
Visit item favorite rate	6.26%	6.25%	-0.25%
Mean item favorites	0.42	0.41	-1.66%

Make it easy for
non-developers
to do performance.

Automate **compression**.

Utilize **style guides**.

Automate **performance tests**.

Automate **image resizing**.

Inspiring Workspaces: Texturable

Peek inside the light-filled studio in Uruguay where Claudia Rosillo weaves together her love of nature with her family's farming heritage.

BY JULIE SCHNEIDER JUN 25, 2015

Tweet Pin it Like 316

Photography by Miss Gong Photography

Tweet Pin it Like 316

Photography by Miss Gong Photography

Elements Network Sources Timeline Profiles Resources Audits Console

```
▼<article class="prose prose-article pb-xs-4 pb-md-6">
  ▼<figure>
    <img alt="Claudia Rosillo, owner of Texturable and Texturable Decor" src="https://
    img1.etsystatic.com/062/0/26515404251/inv_fullxfull.788530179_g9aq5stw.jpg" title=
    "Claudia Rosillo, owner of Texturable and Texturable Decor" srcset="https://
    img1.etsystatic.com/062/0/26515404251/inv_240xN.788530179_g9aq5stw.jpg 240w, https://
    img1.etsystatic.com/062/0/26515404251/inv_642xN.788530179_g9aq5stw.jpg 642w, https://
    img1.etsystatic.com/062/0/26515404251/inv_959xN.788530179_g9aq5stw.jpg 959w, https://
    img1.etsystatic.com/062/0/26515404251/inv_1199xN.788530179_g9aq5stw.jpg 1199w, https://
    img1.etsystatic.com/062/0/26515404251/inv_1679xN.788530179_g9aq5stw.jpg 1679w, https://
    img1.etsystatic.com/062/0/26515404251/inv_fullxfull.788530179_g9aq5stw.jpg 1680w"
    sizes="(max-width: 959px) 95vw, (min-width: 960px) 62vw, 62vw">
  ▶<figcaption>…</figcaption>
  </figure>
```

SELLER

Flowers of New York City

Article excerpt

Edit | Quick Preview

B I H

The peony is a flowering plant in the genus Paeonia, the only genus in the family Paeoniaceae. They are native to Asia, Southern Europe and Western North America. Boundaries between species are not clear and estimates of the number of species range from 25 to 40.

Details | History

Save | Cancel

Media

No media has been added yet

- [ ] Searchable
- [ ] Comments Enabled

More Actions

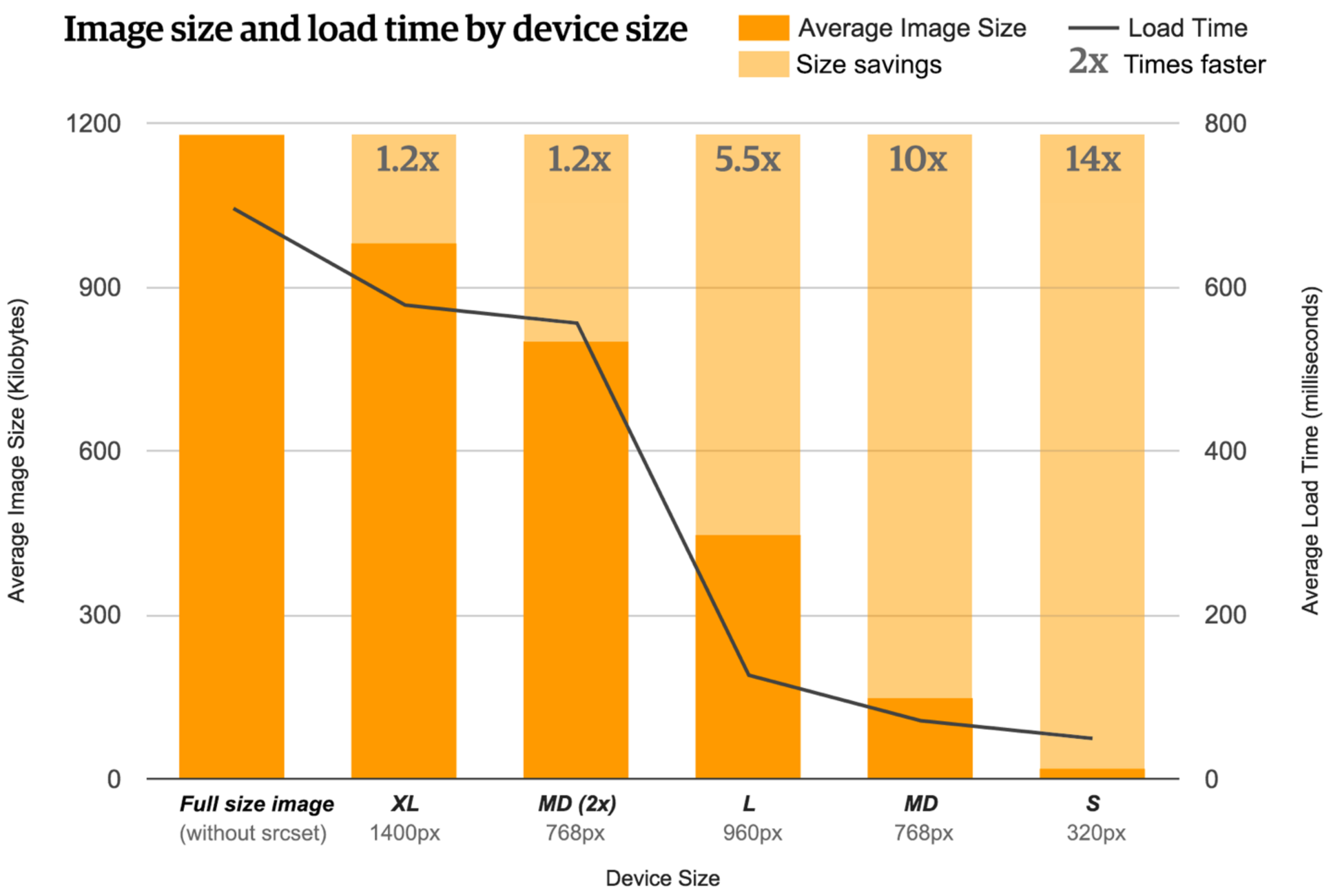


Image size and load time by device size
Average Image Size
Size savings
Load Time
2x Times faster
1200
900
600
300
0
800
600
400
200
0
1.2x
1.2x
5.5x
10x
14x
Average Image Size (Kilobytes)
Average Load Time (milliseconds)
Full size image
(without srcset)
XL
1400px
MD (2x)
768px
L
960px
MD
768px
S
320px
Device Size

Who is responsible for performance?

No more performance
cops or **janitors**.

Changing culture is **hard**.

Help people **“feel”** your site’s performance.

Hillary Clinton	Bernie Sanders	Donald Trump
0.0	0.0	0.0

Matt Shull
@TheMattShull

@lara_hogan what really made an impact w/ management team was showing them the WPT compare feature video w/ our site and a competitors site

11:01 AM - 6 Jun 2015

Daniel Sleeth
@danielsleeth

@lara_hogan culture change way off for us but vid comp of wired vs 3G was very eye opening to management. Just starting my performance quest

2:04 PM - 5 Jun 2015

Kristian Sköld
@kskoeld

@lara_hogan I use the WPT SPOF comparison videos every time I talk to a company who still have some-instant shock,attention&understanding

2:39 PM - 6 Jun 2015

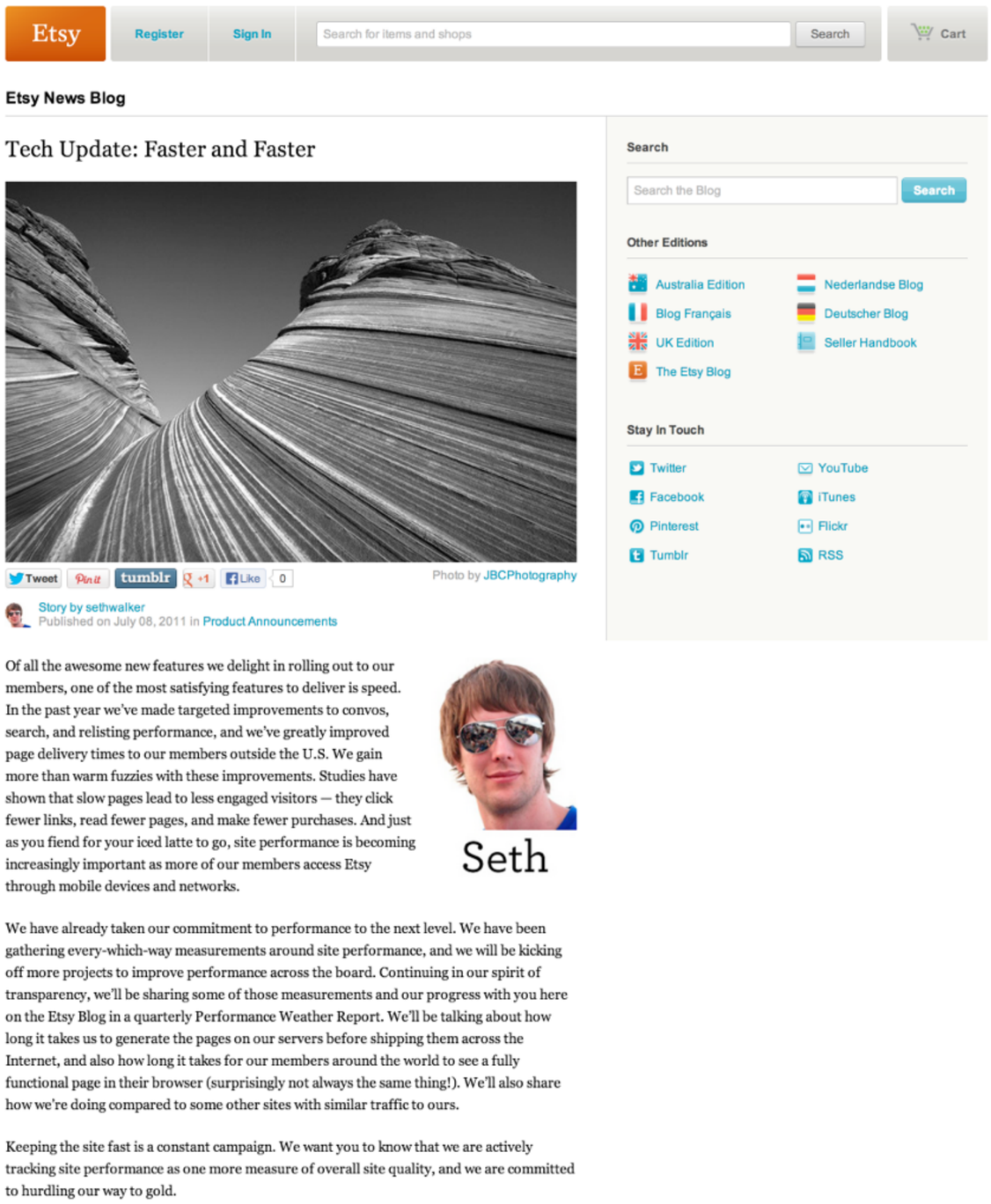
Louis Bennett
@louisbennett

@lara_hogan we have had a lot of success using webpagetest videos to discuss and demo performance at Trulia.

1:52 PM - 5 Jun 2015

Publish

performance reports.



Etsy | Register | Sign In | Search for items and shops | Search | Cart

Etsy News Blog

Tech Update: Faster and Faster

Tweet | Pin it | tumblr | +1 | Like 0

Photo by JBCPhotography

Story by sethwalker
Published on July 08, 2011 in Product Announcements

Of all the awesome new features we delight in rolling out to our members, one of the most satisfying features to deliver is speed. In the past year we've made targeted improvements to convos, search, and relisting performance, and we've greatly improved page delivery times to our members outside the U.S. We gain more than warm fuzzies with these improvements. Studies have shown that slow pages lead to less engaged visitors — they click fewer links, read fewer pages, and make fewer purchases. And just as you fiend for your iced latte to go, site performance is becoming increasingly important as more of our members access Etsy through mobile devices and networks.

Seth

We have already taken our commitment to performance to the next level. We have been gathering every-which-way measurements around site performance, and we will be kicking off more projects to improve performance across the board. Continuing in our spirit of transparency, we'll be sharing some of those measurements and our progress with you here on the Etsy Blog in a quarterly Performance Weather Report. We'll be talking about how long it takes us to generate the pages on our servers before shipping them across the Internet, and also how long it takes for our members around the world to see a fully functional page in their browser (surprisingly not always the same thing!). We'll also share how we're doing compared to some other sites with similar traffic to ours.

Keeping the site fast is a constant campaign. We want you to know that we are actively tracking site performance as one more measure of overall site quality, and we are committed to hurdling our way to gold.

Search

Search the Blog | Search

Other Editions

Australia Edition
Nederlandse Blog
Blog Français
Deutscher Blog
UK Edition
Seller Handbook
The Etsy Blog

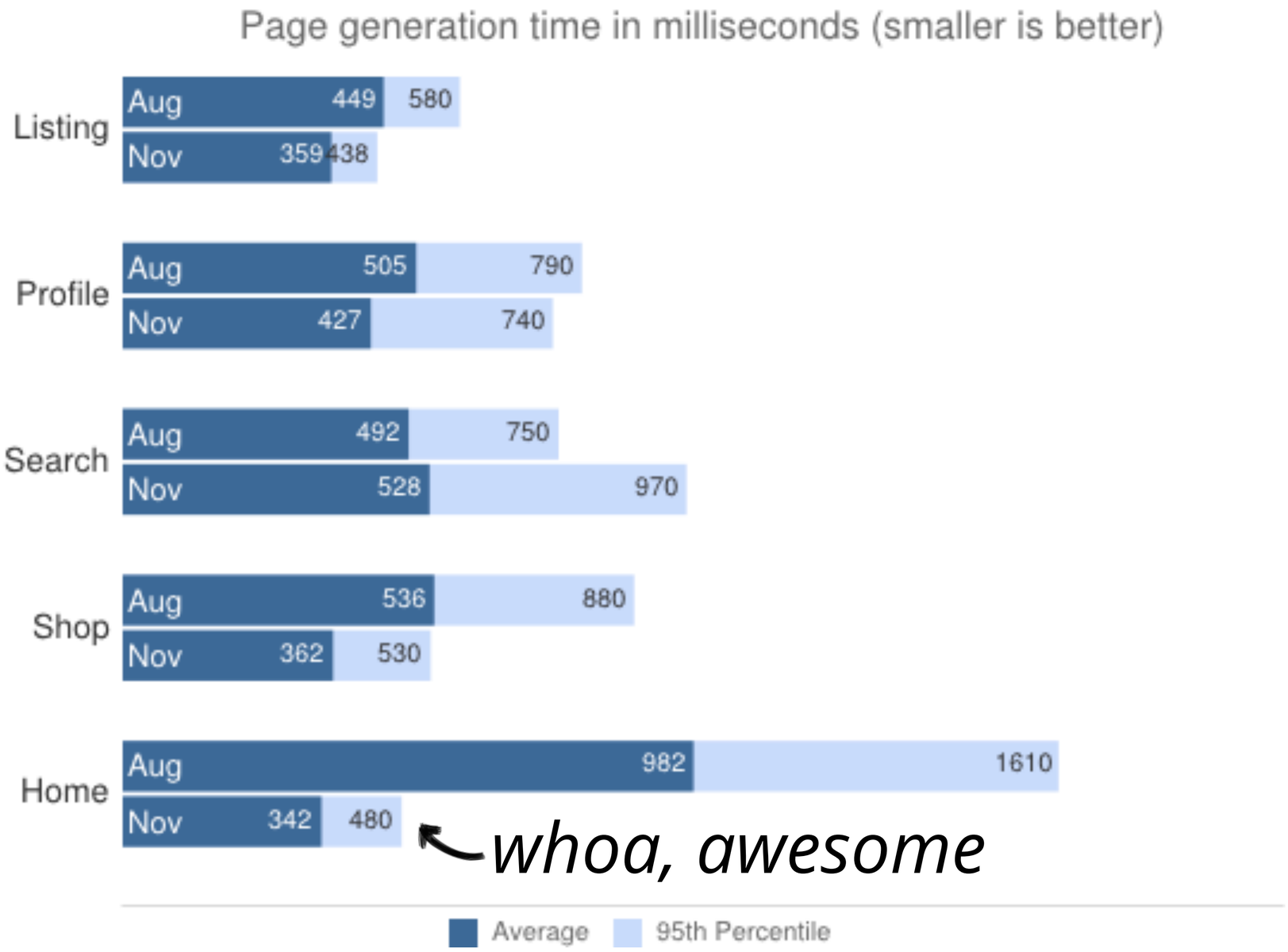
Stay In Touch

Twitter
YouTube
Facebook
iTunes
Pinterest
Flickr
Tumblr
RSS

Forced us to **iterate** on and **improve** our most important pages.

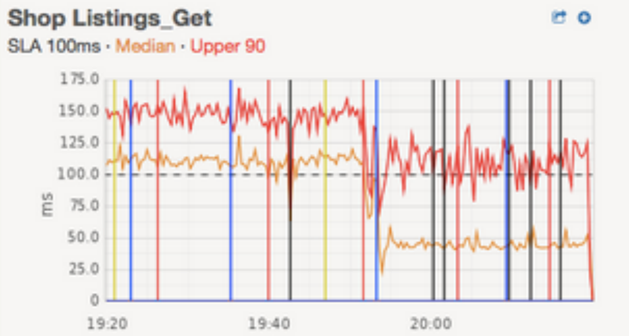
Reminded us that page load times are **not secret**.

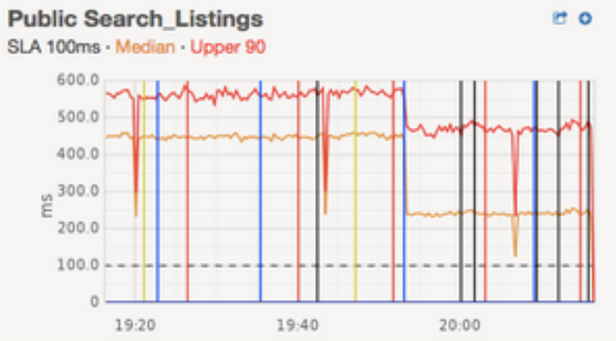
Motivated our development teams to get better.

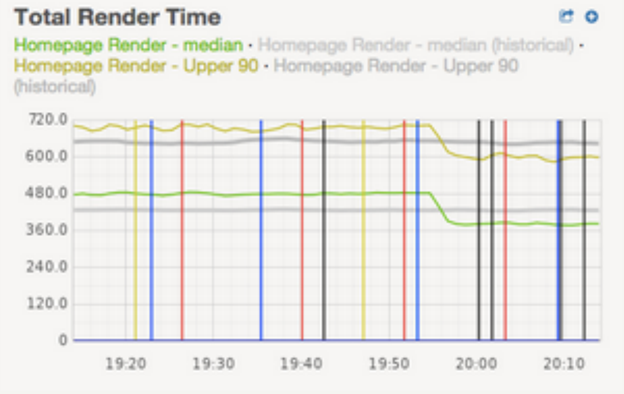

Page generation time in milliseconds (smaller is better)
Listing
Aug 449 580
Nov 359 438
Profile
Aug 505 790
Nov 427 740
Search
Aug 492 750
Nov 528 970
Shop
Aug 536 880
Nov 362 530
Home
Aug 982 1610
Nov 342 480
whoa, awesome
Average
95th Percentile

Dan Miller - Performance Hero

Dan pushed for and oversaw Etsy's adoption of hhvm, an alternative PHP interpreter, that resulted in faster API and web requests for the Internal API service.



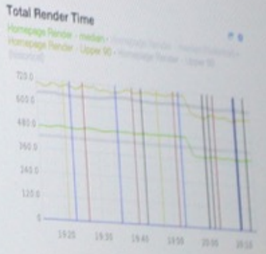




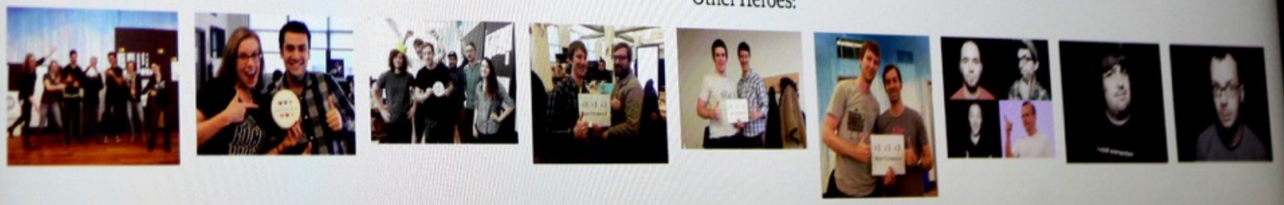
Other Heroes:

Dan Miller - Performance Hero

Dan pushed for and oversaw Etsy's adoption of hhvm, an alternative PHP interpreter, that resulted in faster API and web requests for the internal API service.



Other Heroes:



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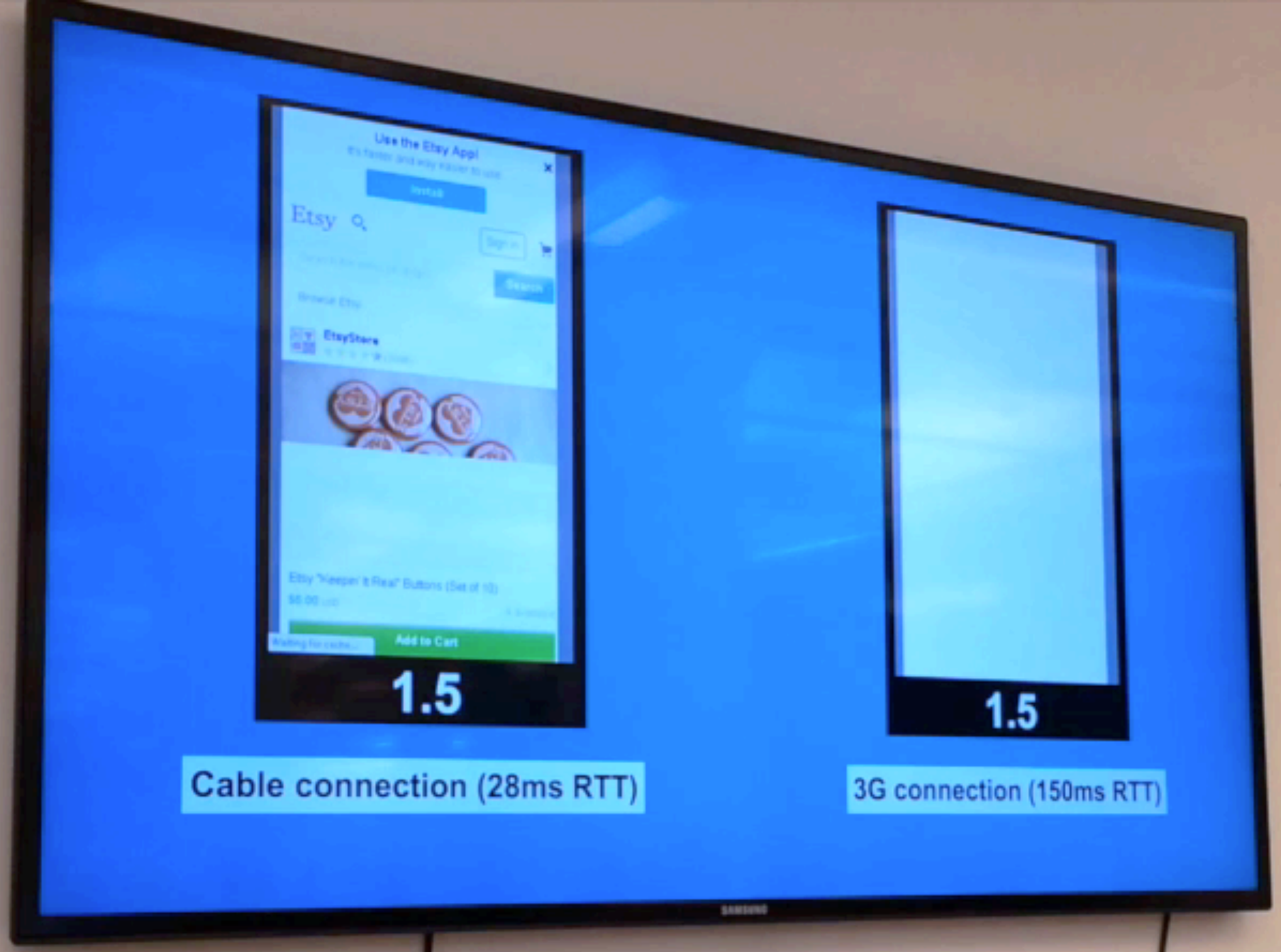
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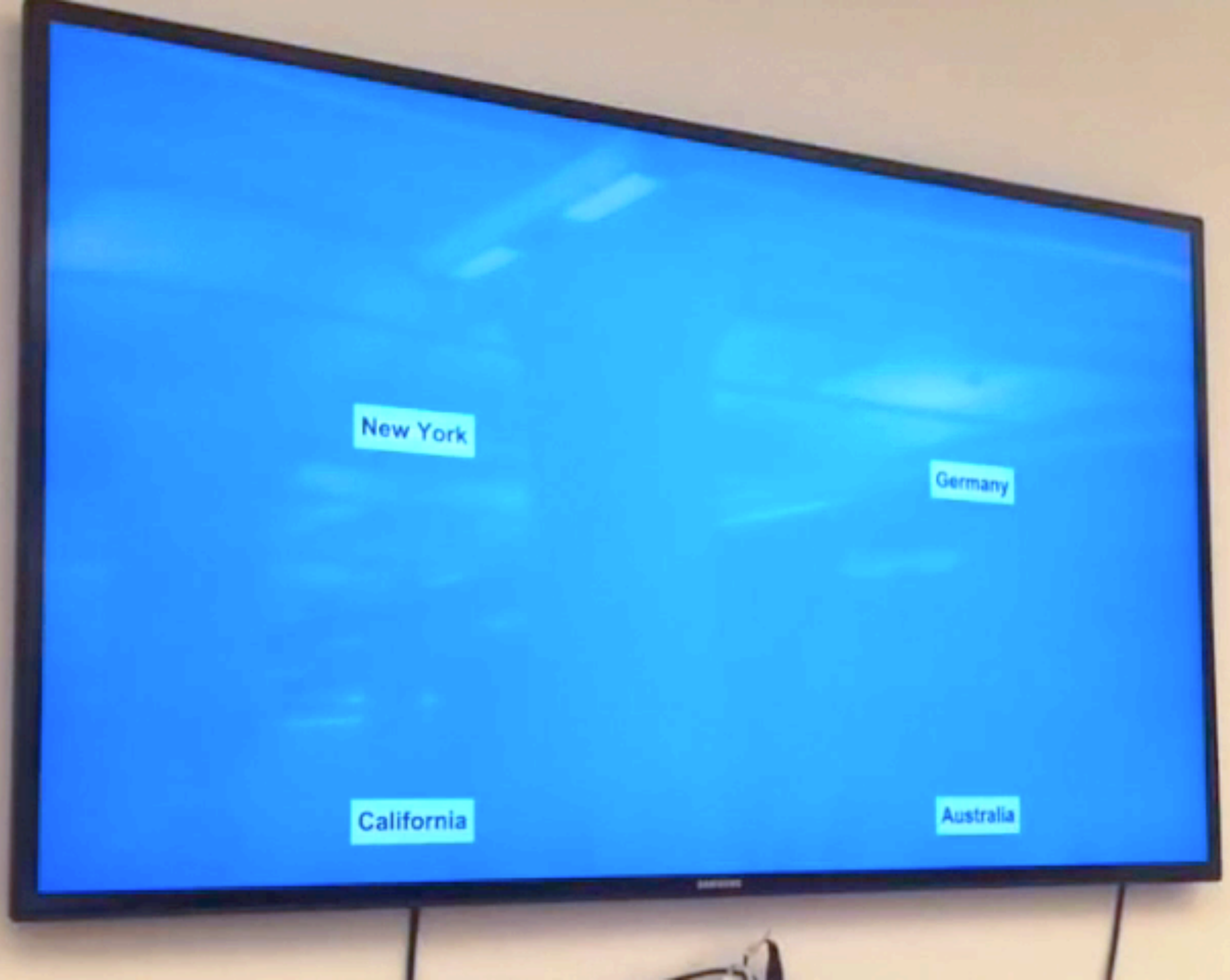
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We need to have **empathy**.

Good **performance**
is good **design**.

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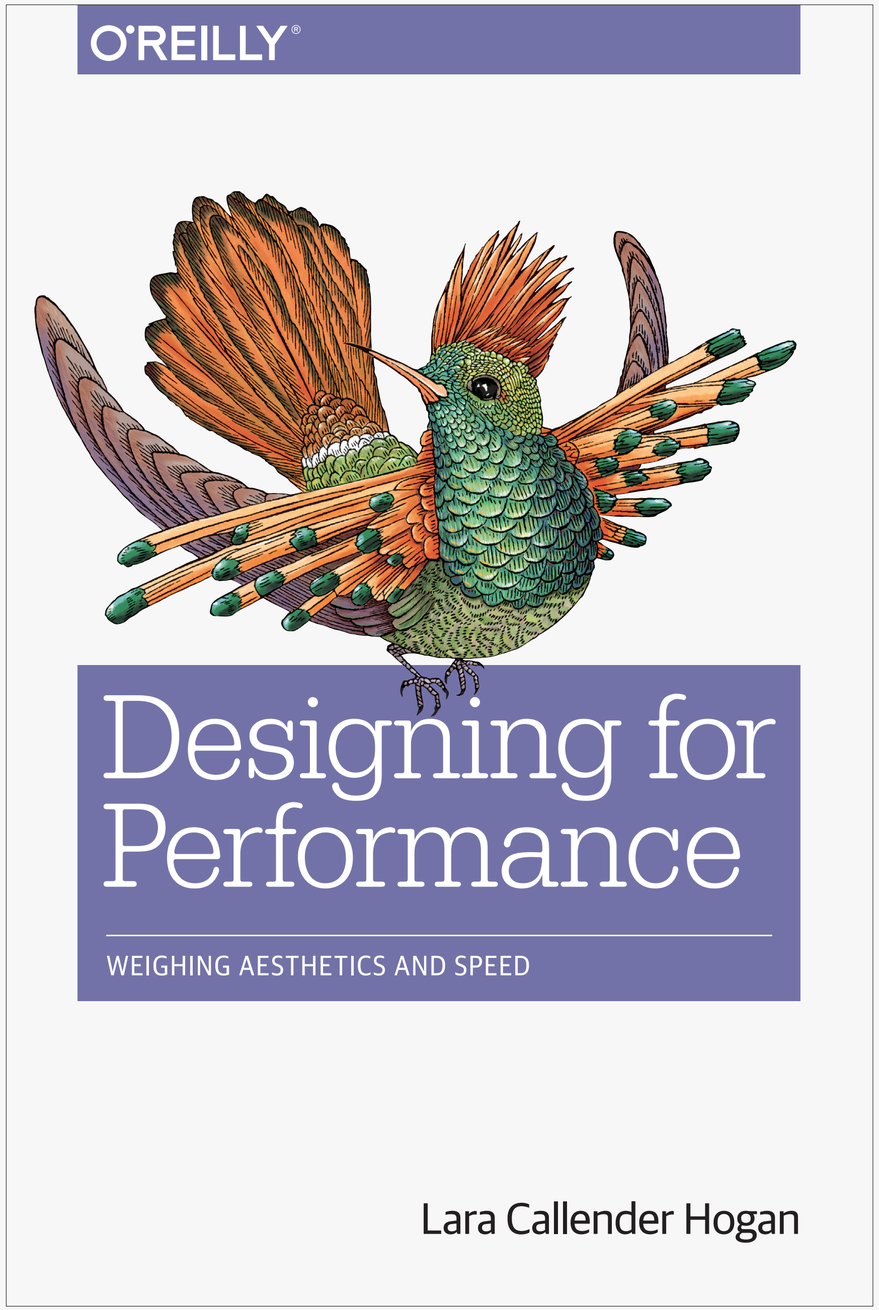
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