

Designing for Performance

Lara Callender Hogan
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O'REILLY®



Designing for Performance

WEIGHING AESTHETICS AND SPEED

Lara Callender Hogan

Etsy

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**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 junk:

people favorited more often

and favorited more items

-1 redirect =

**+12% Double-Click
click-through rate**

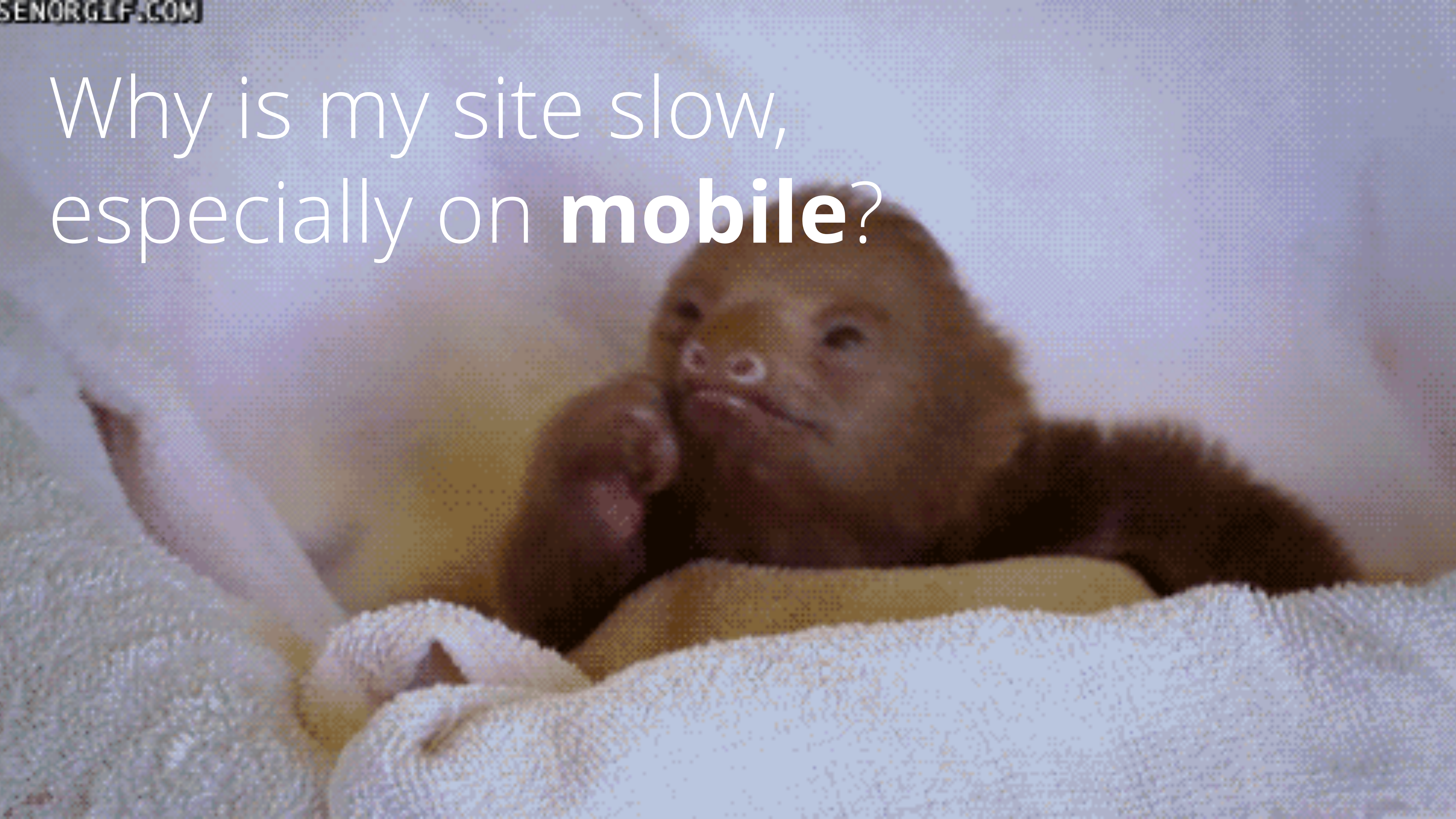
Performance + aesthetics =
the user experience.

Our industry has not
designed for performance.

Fast page load time builds
trust in your website.

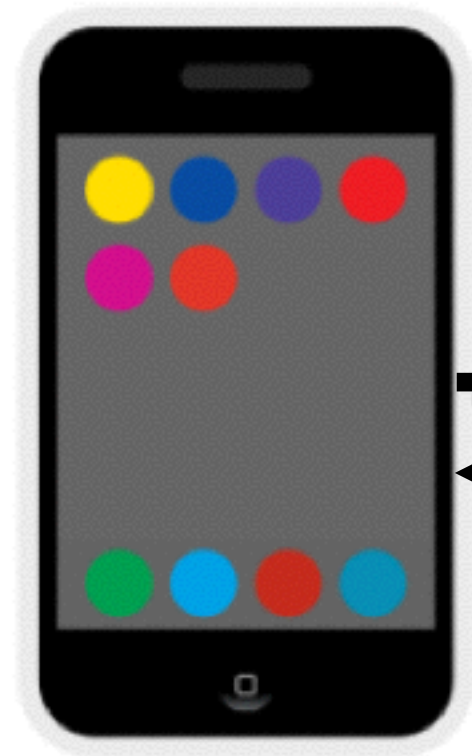
performance + beauty =
overall user experience

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

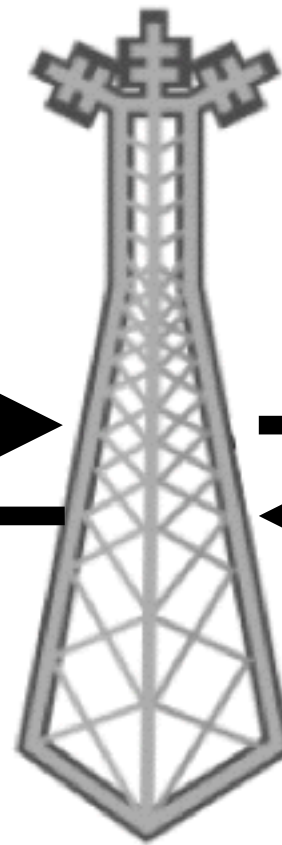


A cellular device has
to establish a **radio channel**
before it can send/get data.

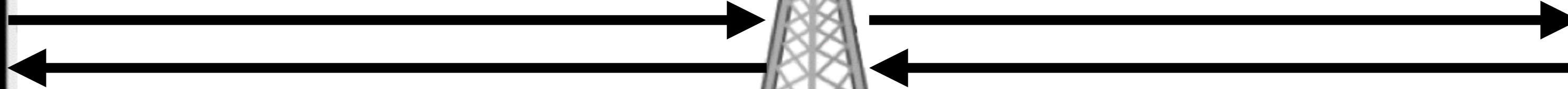
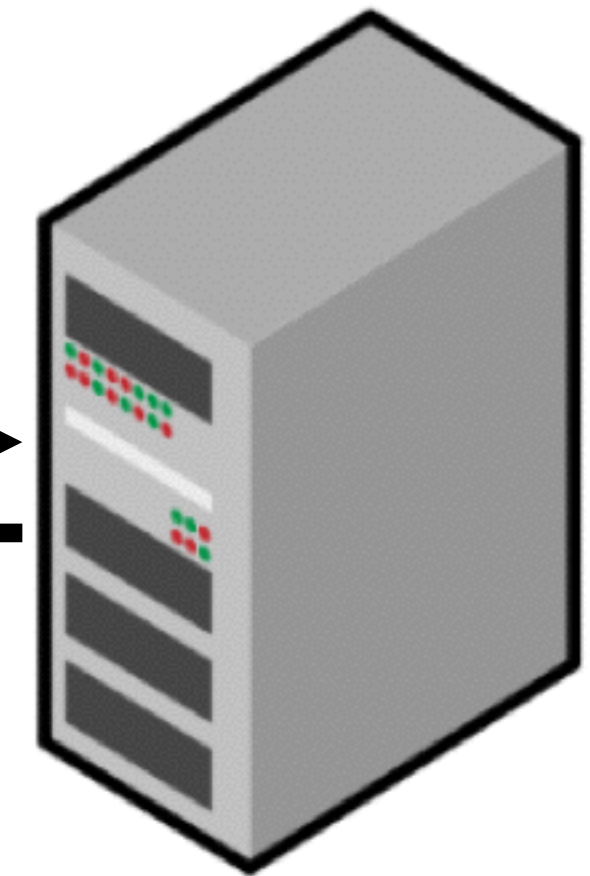
User's Phone



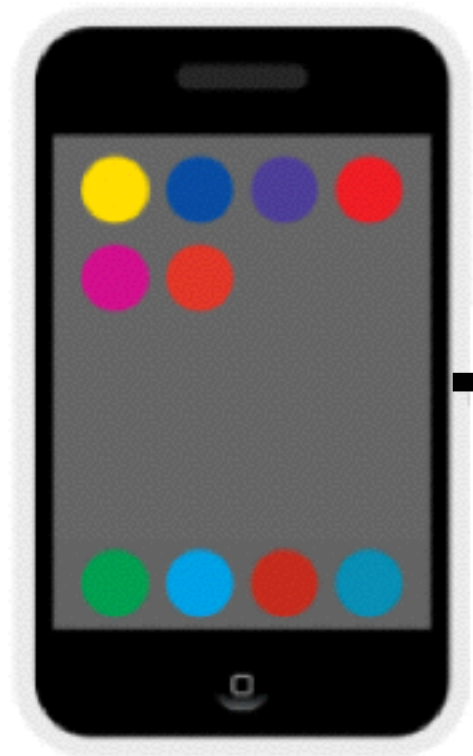
Cell Tower



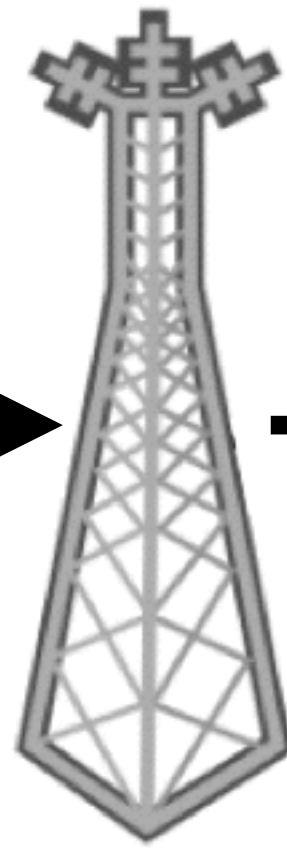
Your Web Host



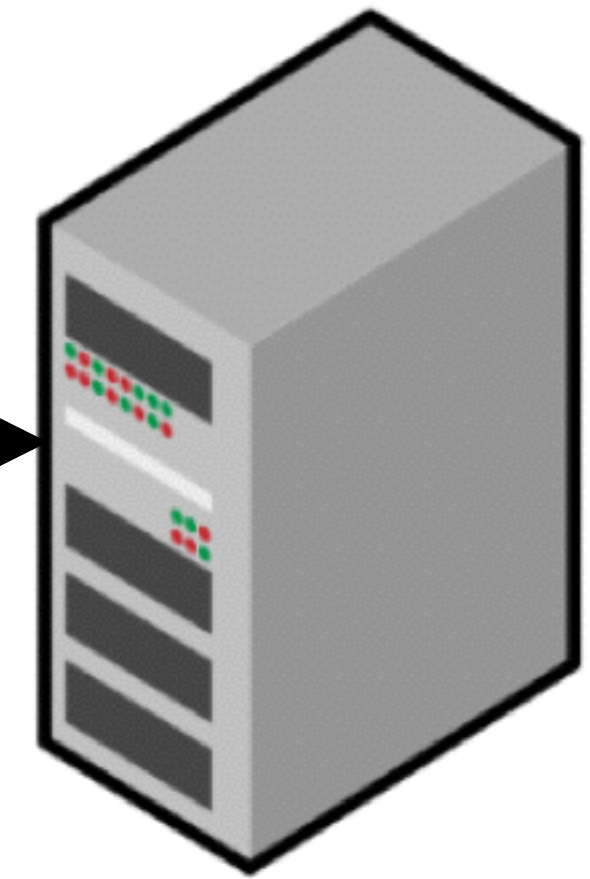
User's Phone



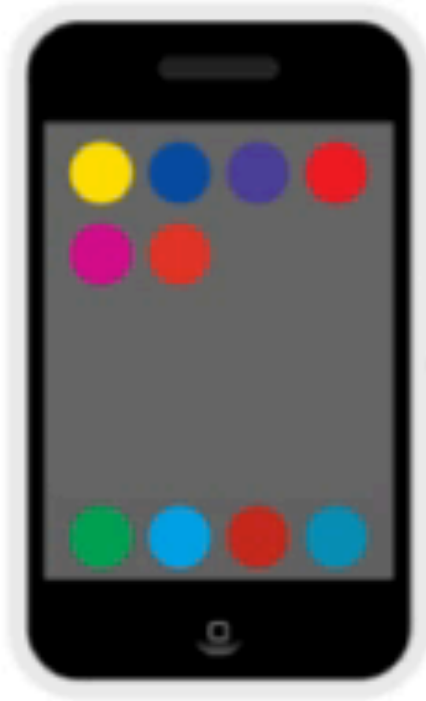
Cell Tower



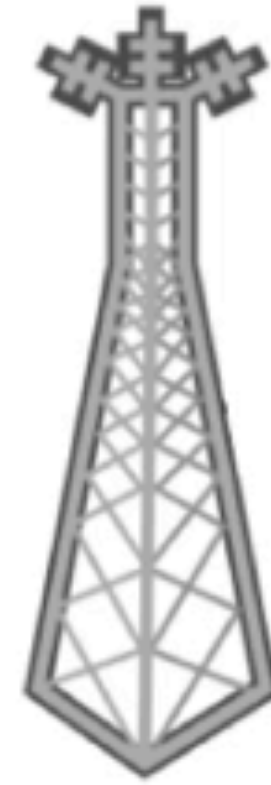
Your Web Host



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?

Test a website's performance

[Analytical Review](#)[Visual Comparison](#)[Mobile](#)[Traceroute](#)**Test Location**[Select from Map](#)**Browser****Advanced Settings** ▶

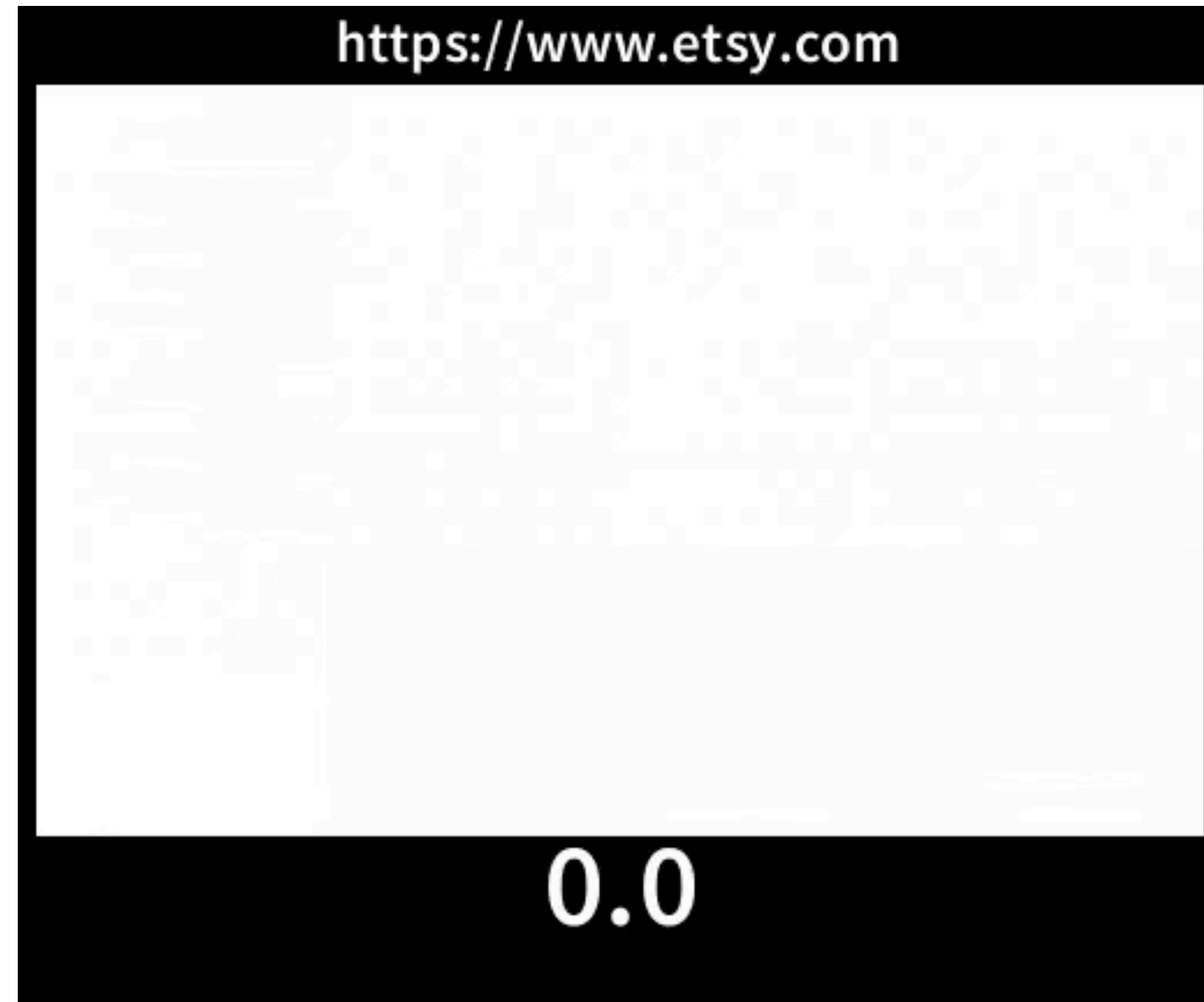
1 run, Cable connection, results are public

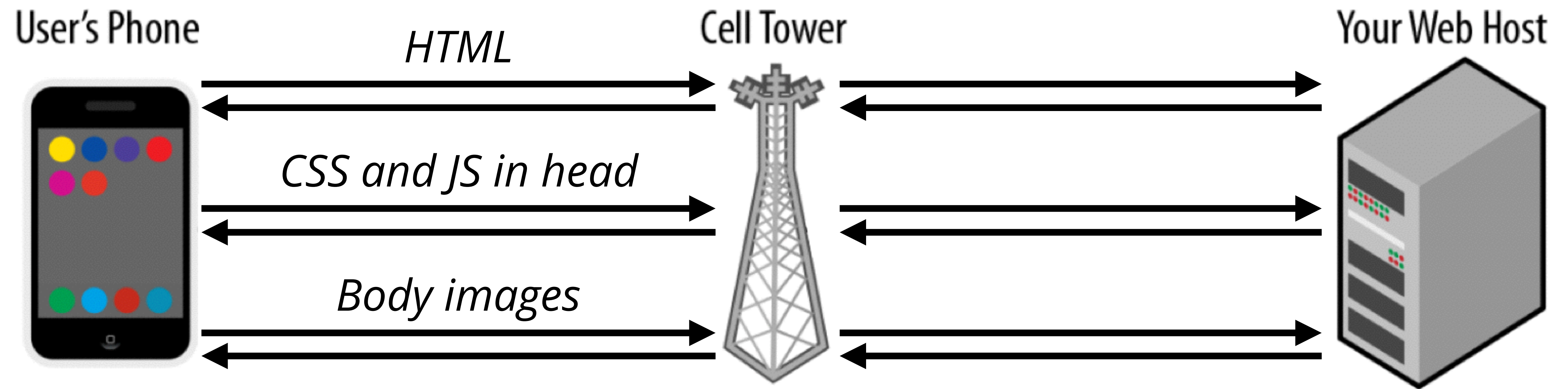
START TEST

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.

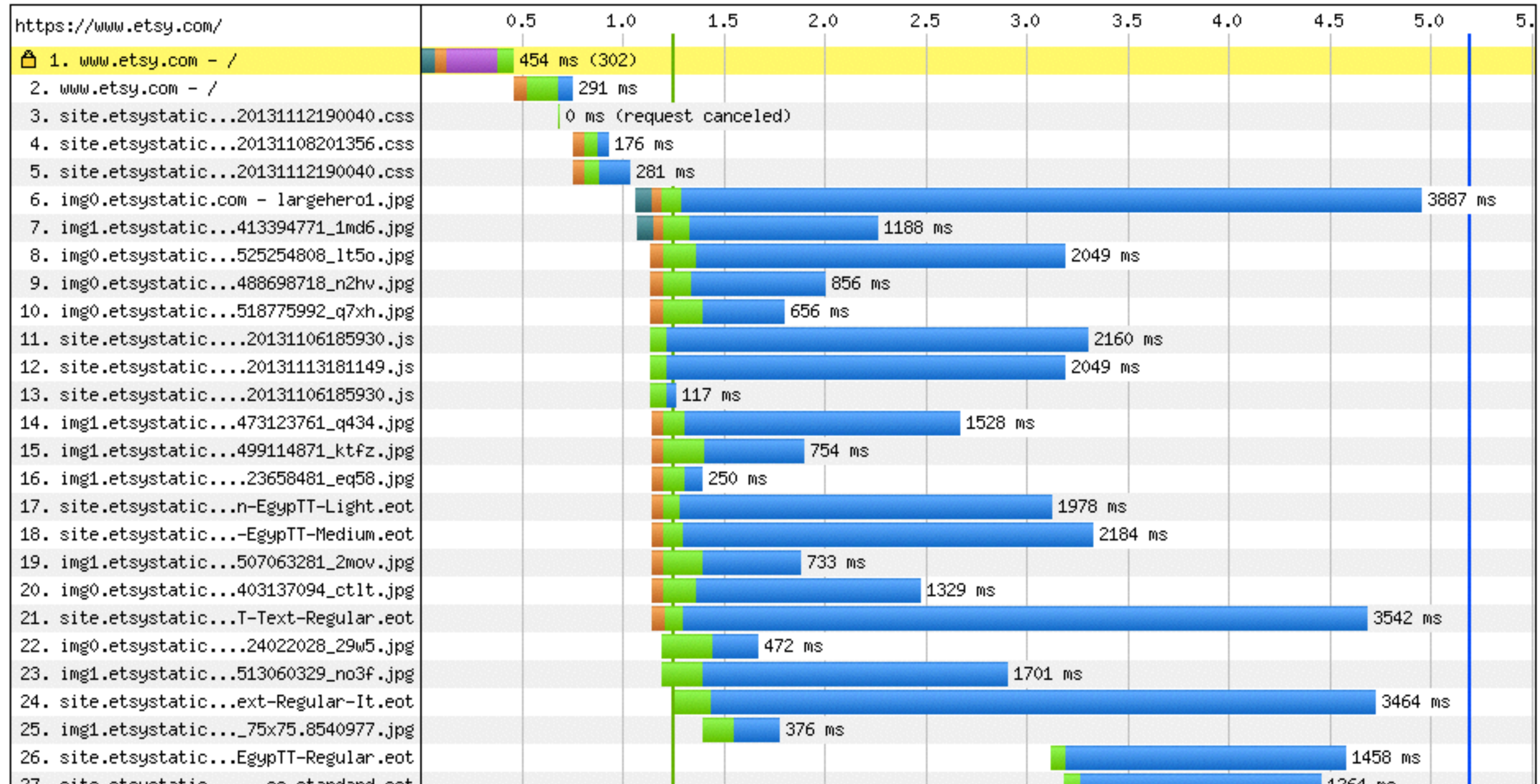
If you have any performance/optimization questions you should visit the [Forums](#) where industry experts regularly discuss Web Performance Optimization.

Perceived performance

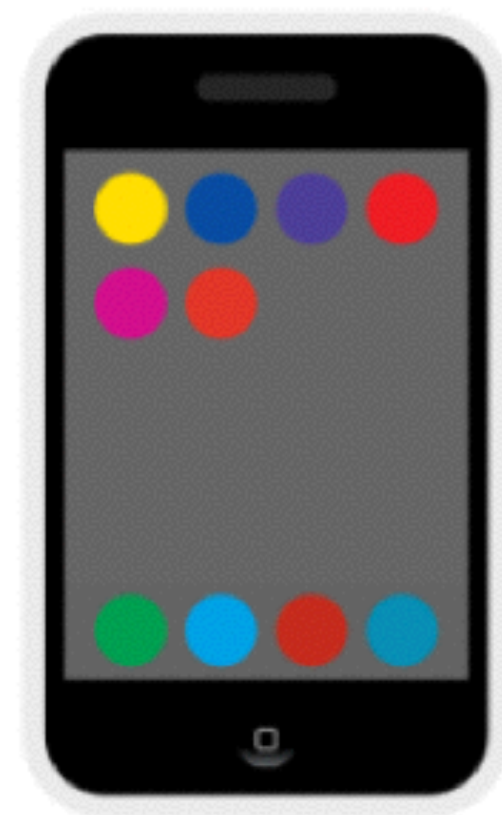




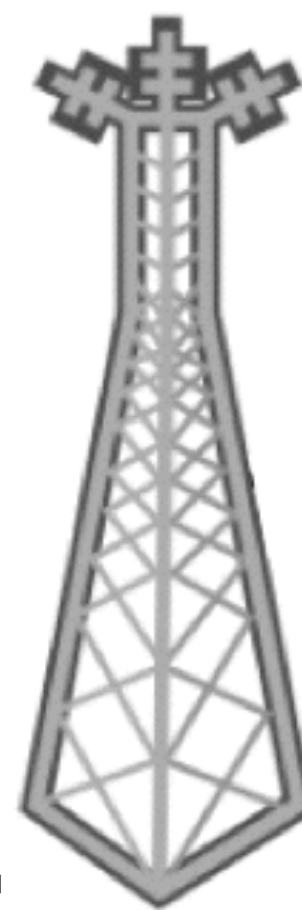
Number of requests



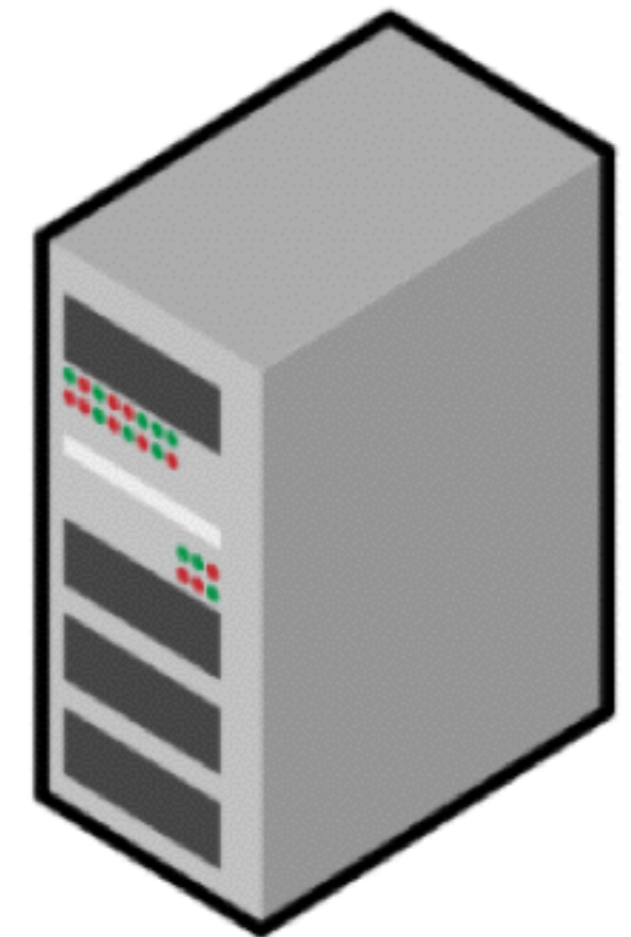
User's Phone



Cell Tower

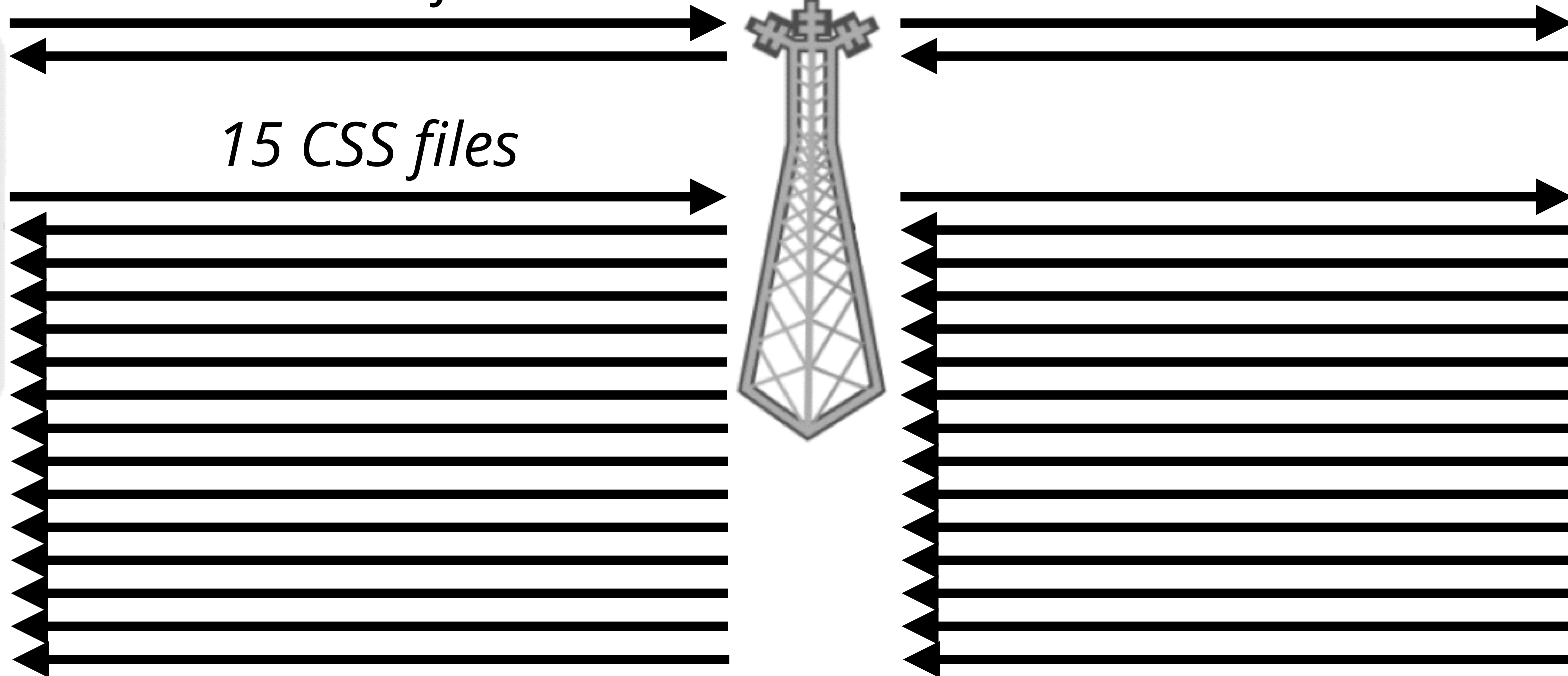


Your Web Host



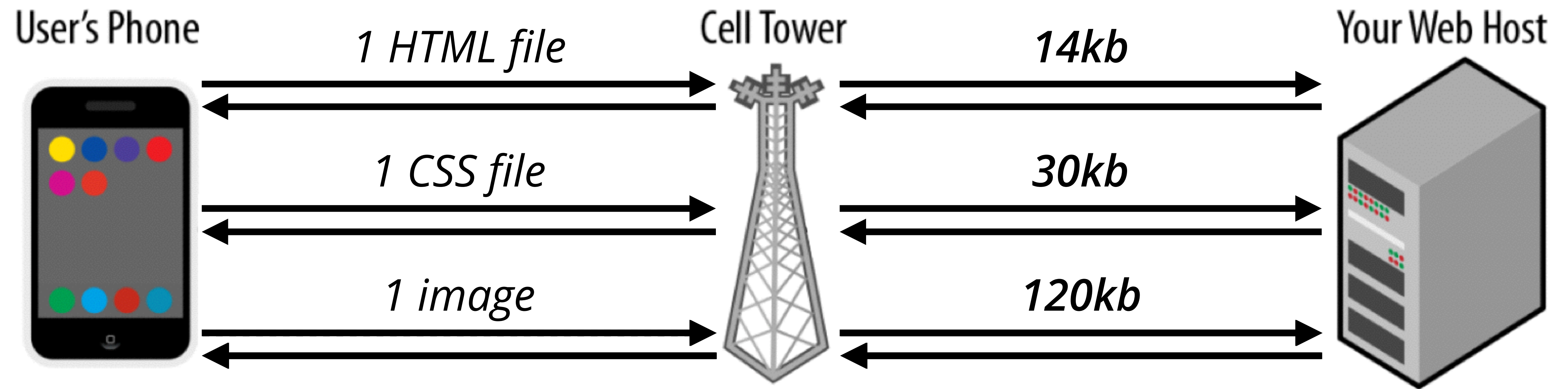
1 HTML file

15 CSS files



Size of requests

Request	Bytes
<code>http://www.etsy.com/</code>	15.2 KB
<code>http://site.etsystat...3.20131108201356.css</code>	8.7 KB
<code>http://site.etsystat...e.20131112190040.css</code>	26.8 KB
<code>http://img0.etsystat...ouse1/largehero1.jpg</code>	74.2 KB
<code>http://img1.etsystat...5.413394771_1md6.jpg</code>	12.5 KB



1. Images

2. Fonts

3. Markup

4. Culture

Hold on to your butts.



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](http://archive.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.

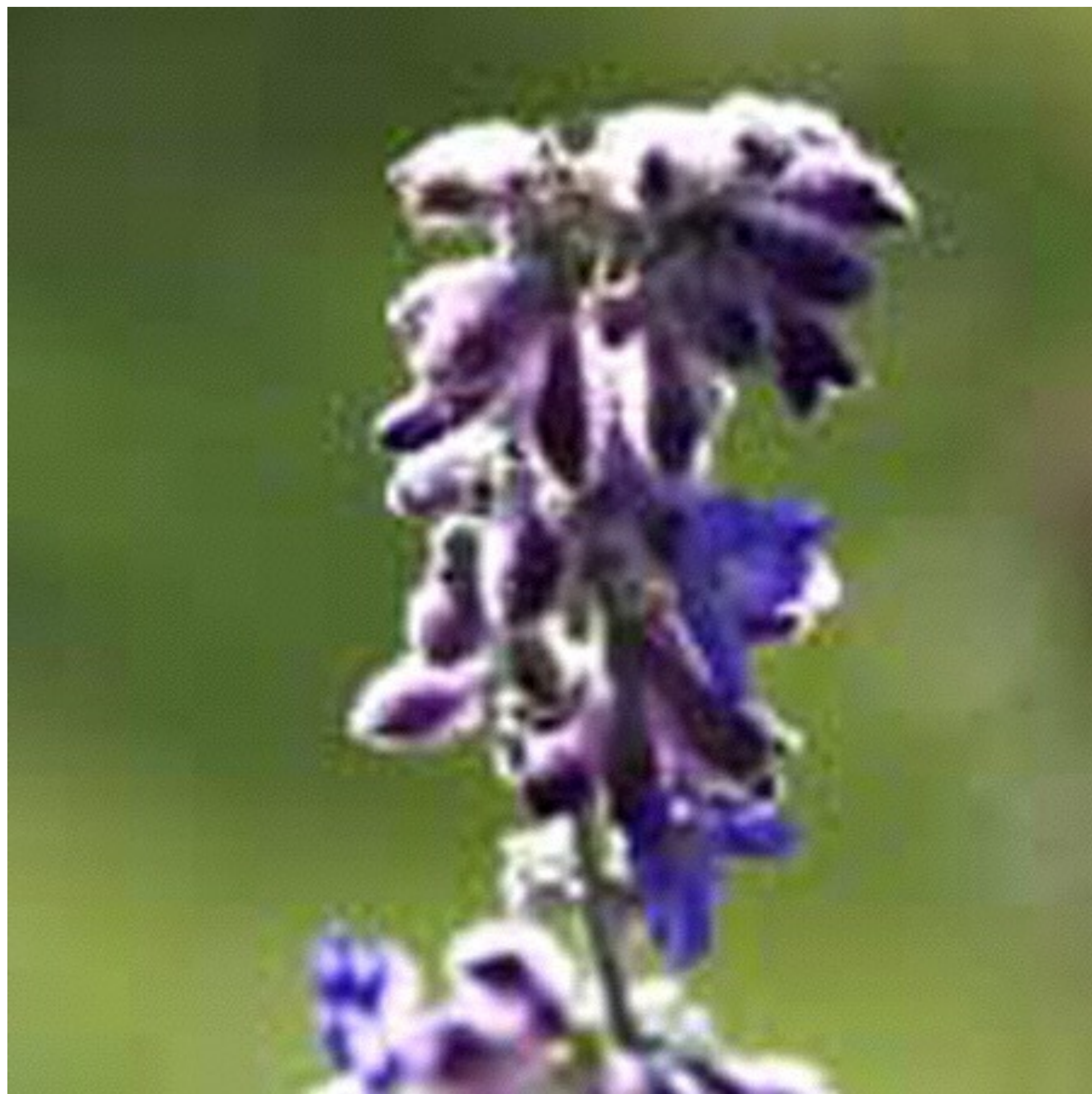
Blur unimportant areas.



*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 Interchange Format

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).

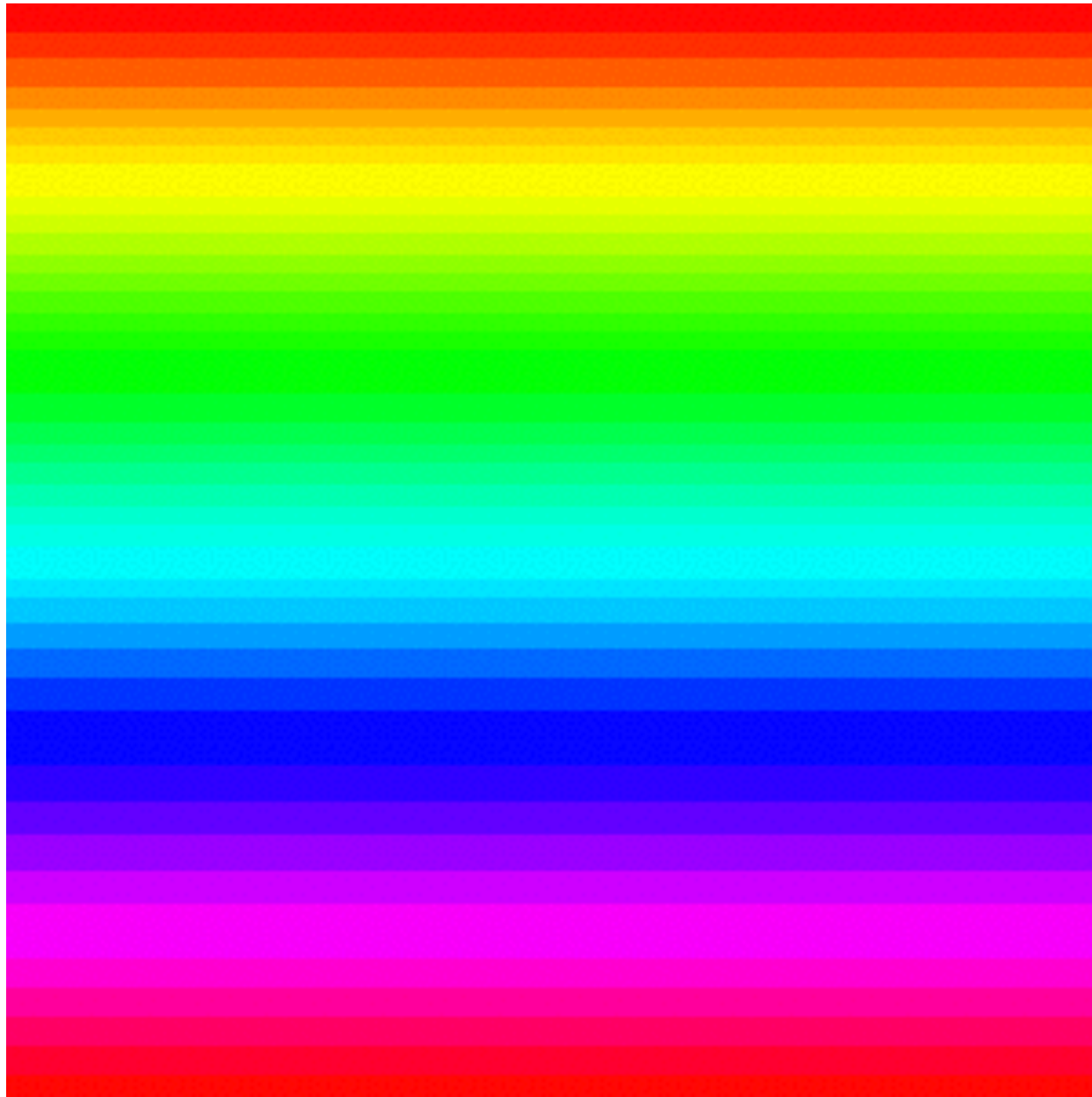
Are **lossless**.

Please don't use them.

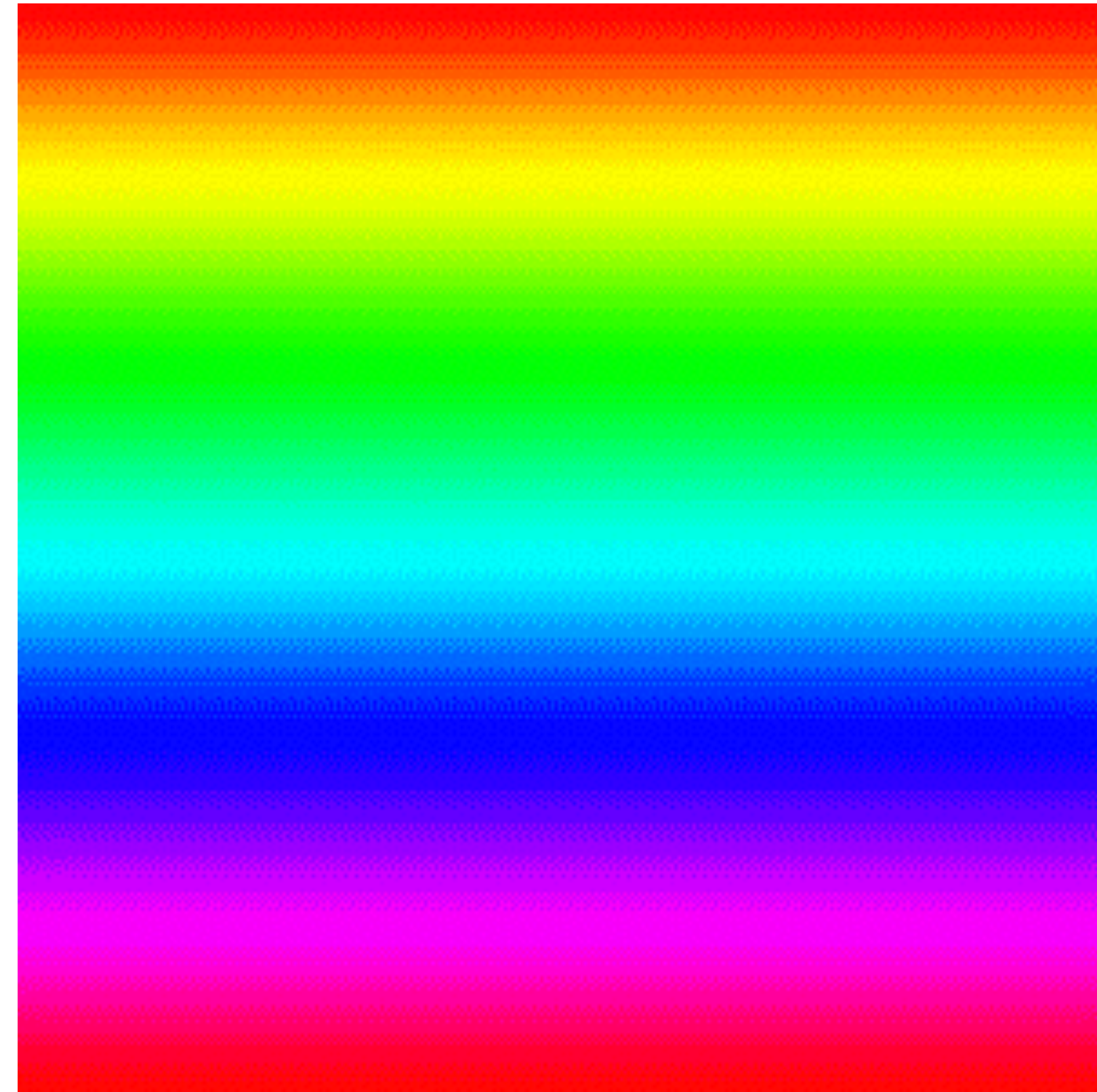
... if you must use a GIF...

GIF

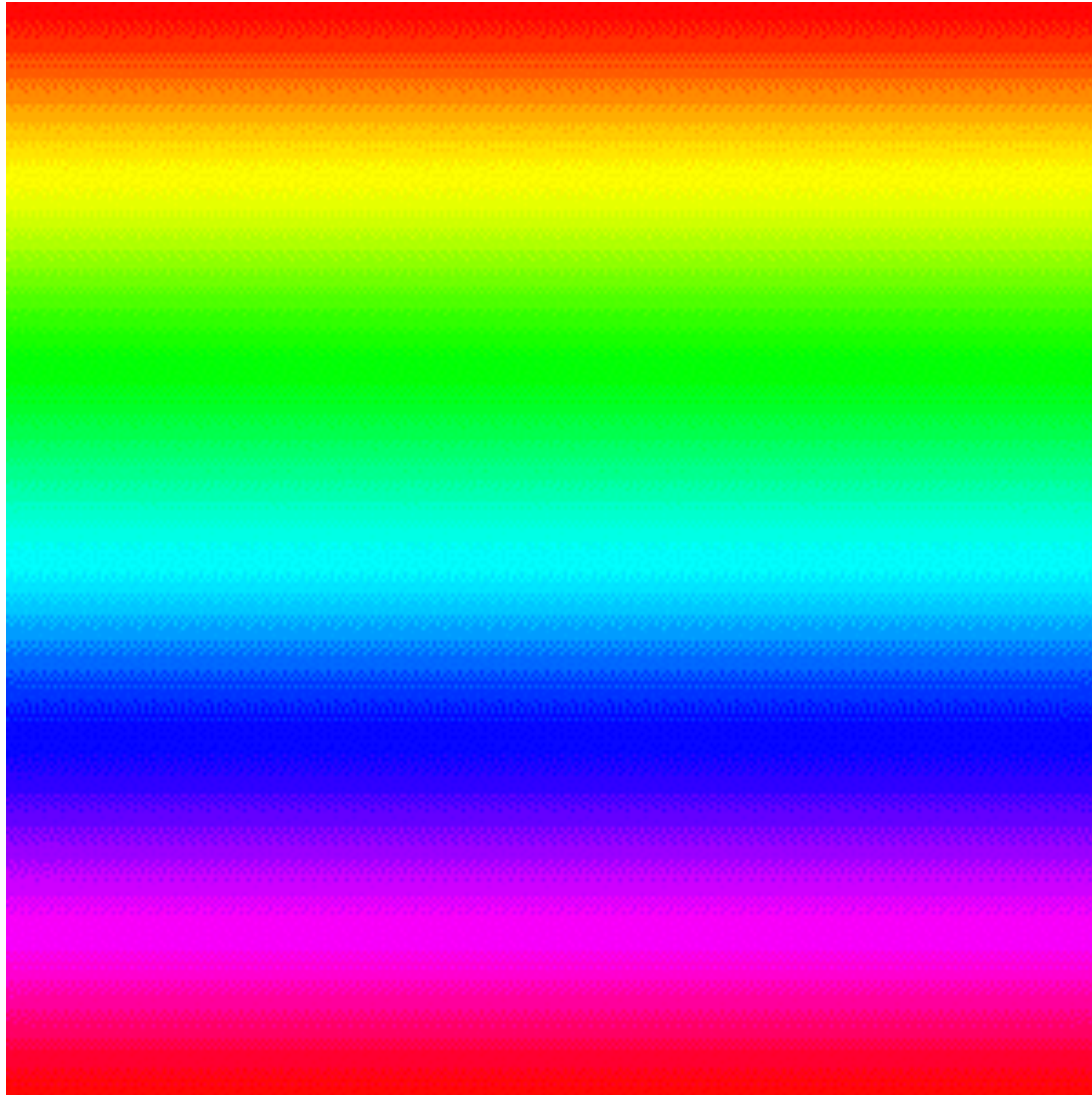
Dithering gives the appearance of a smoother blend.



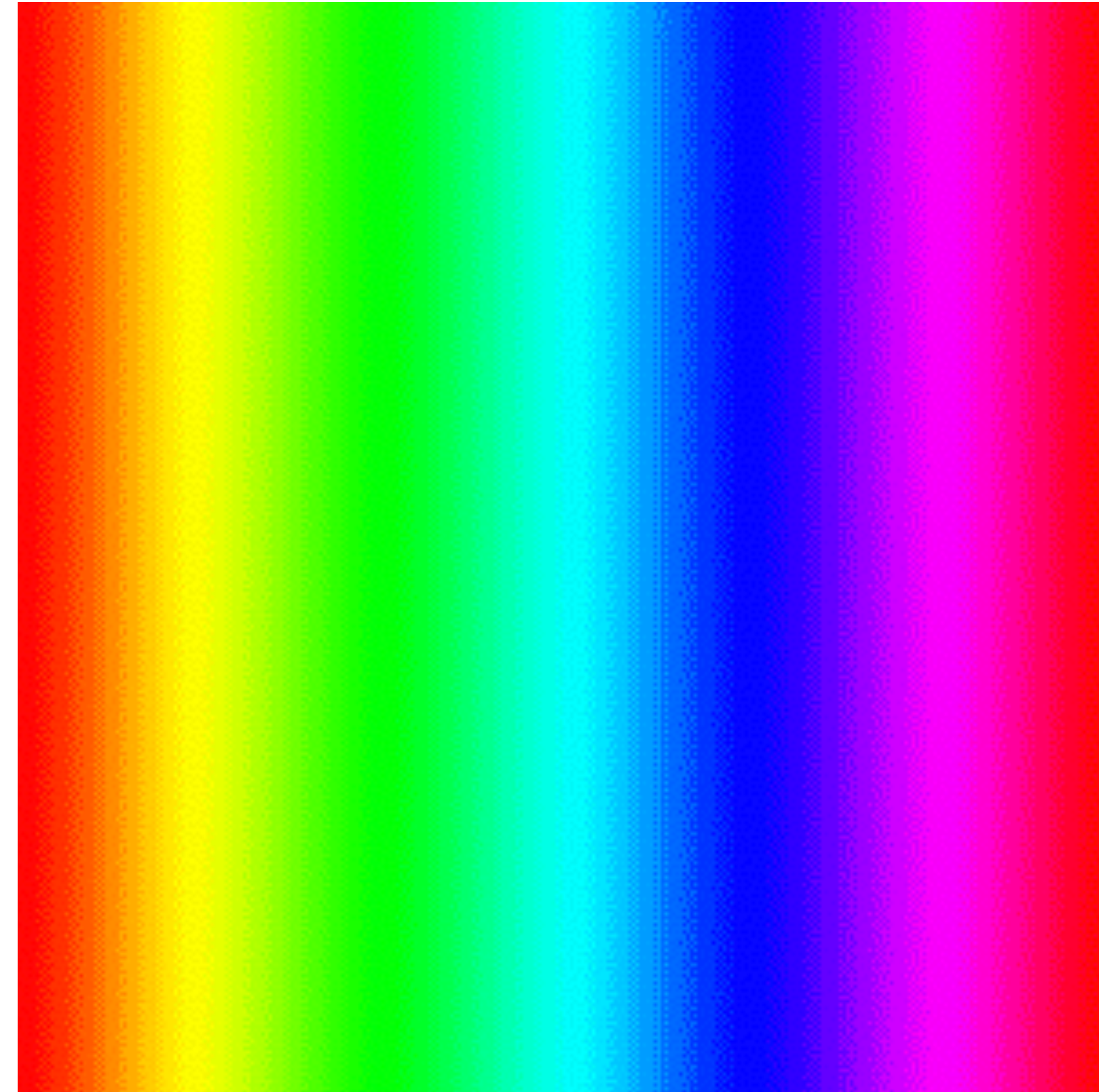
Dithering set to 0:
4.8KB



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**.

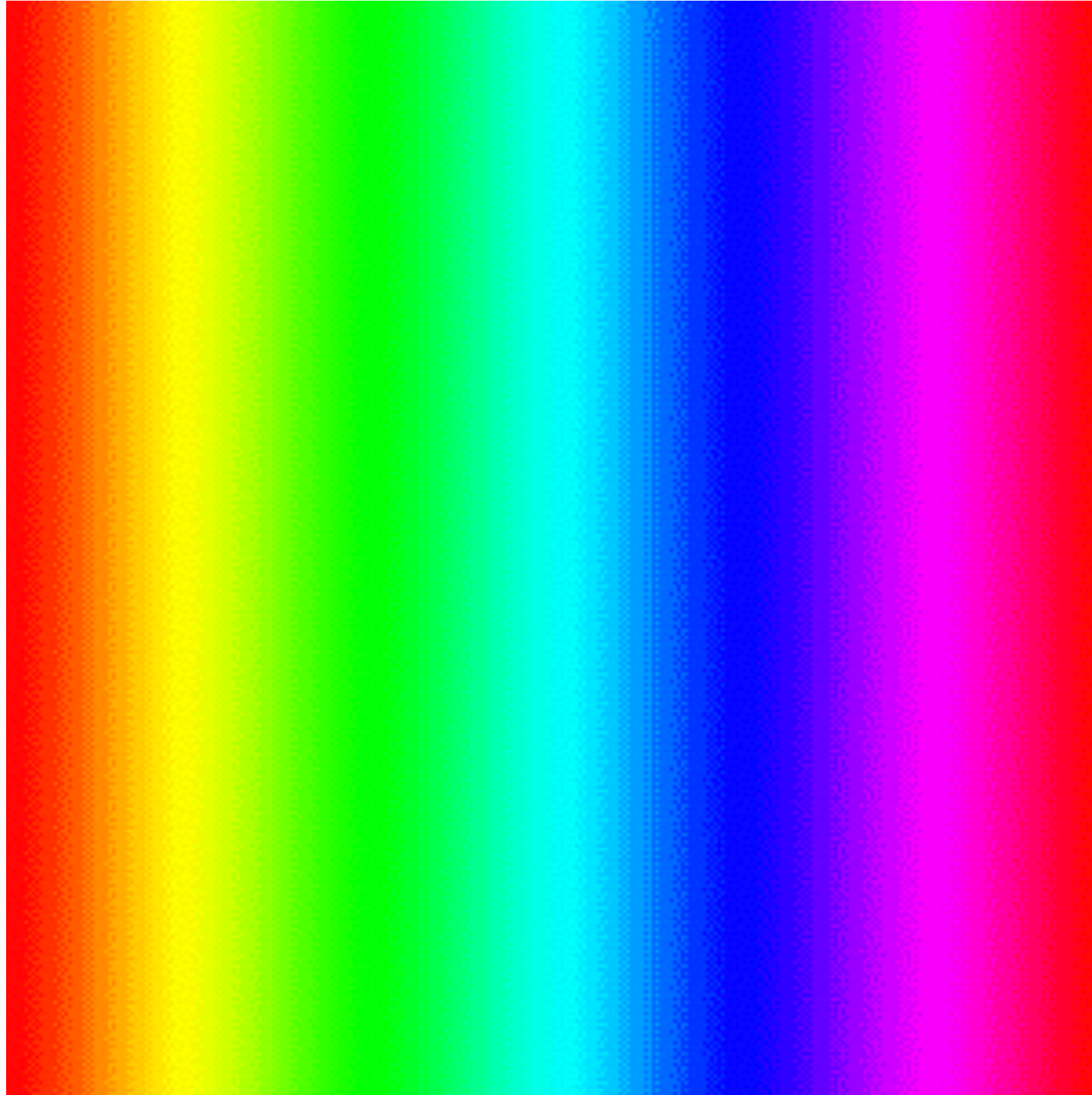
Replace non-animated GIFs with **PNG-8s**.

Replace movie GIFs with
asynchronously-loading videos.

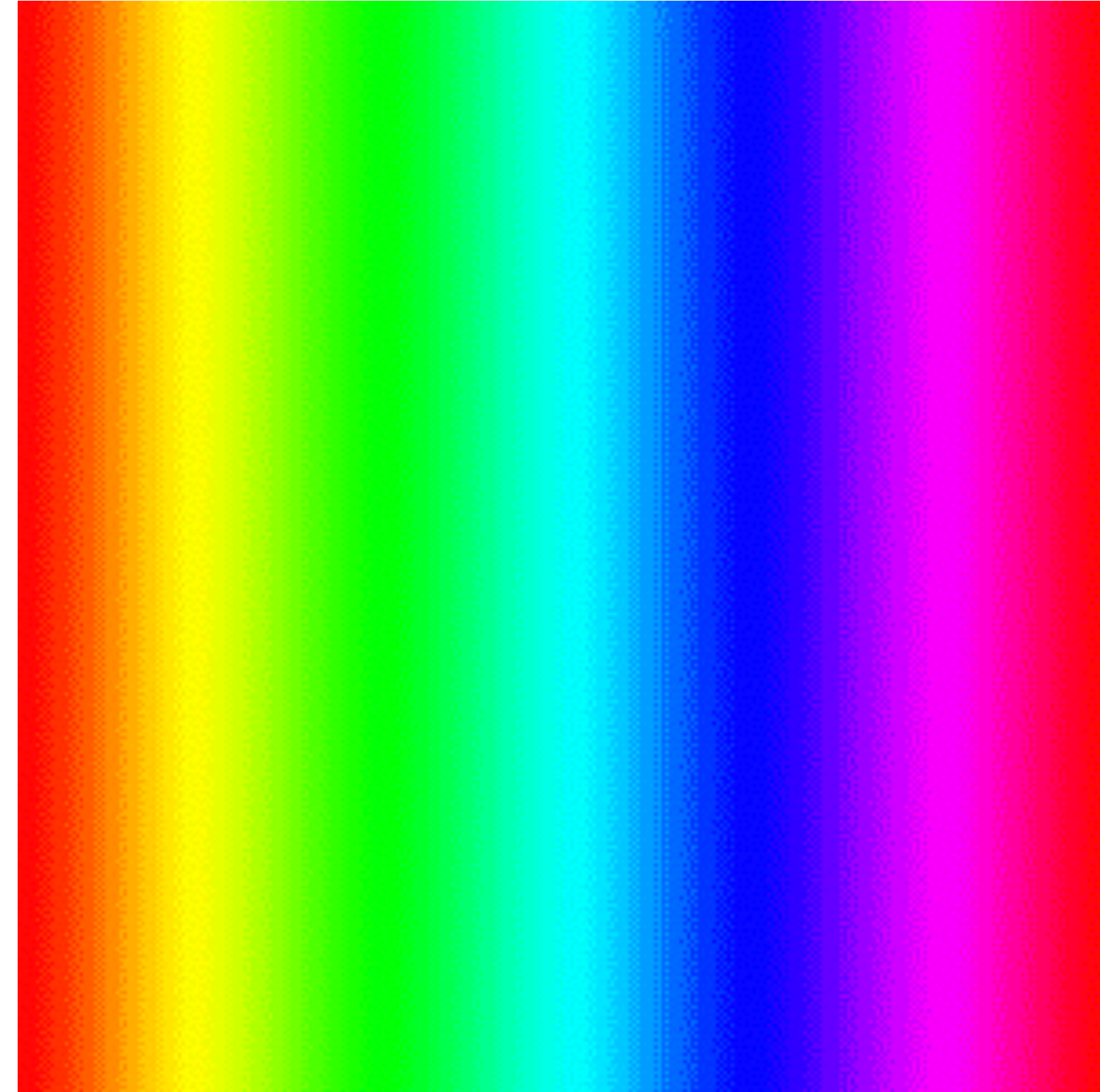


HTML5 VIDEO(165k)

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.

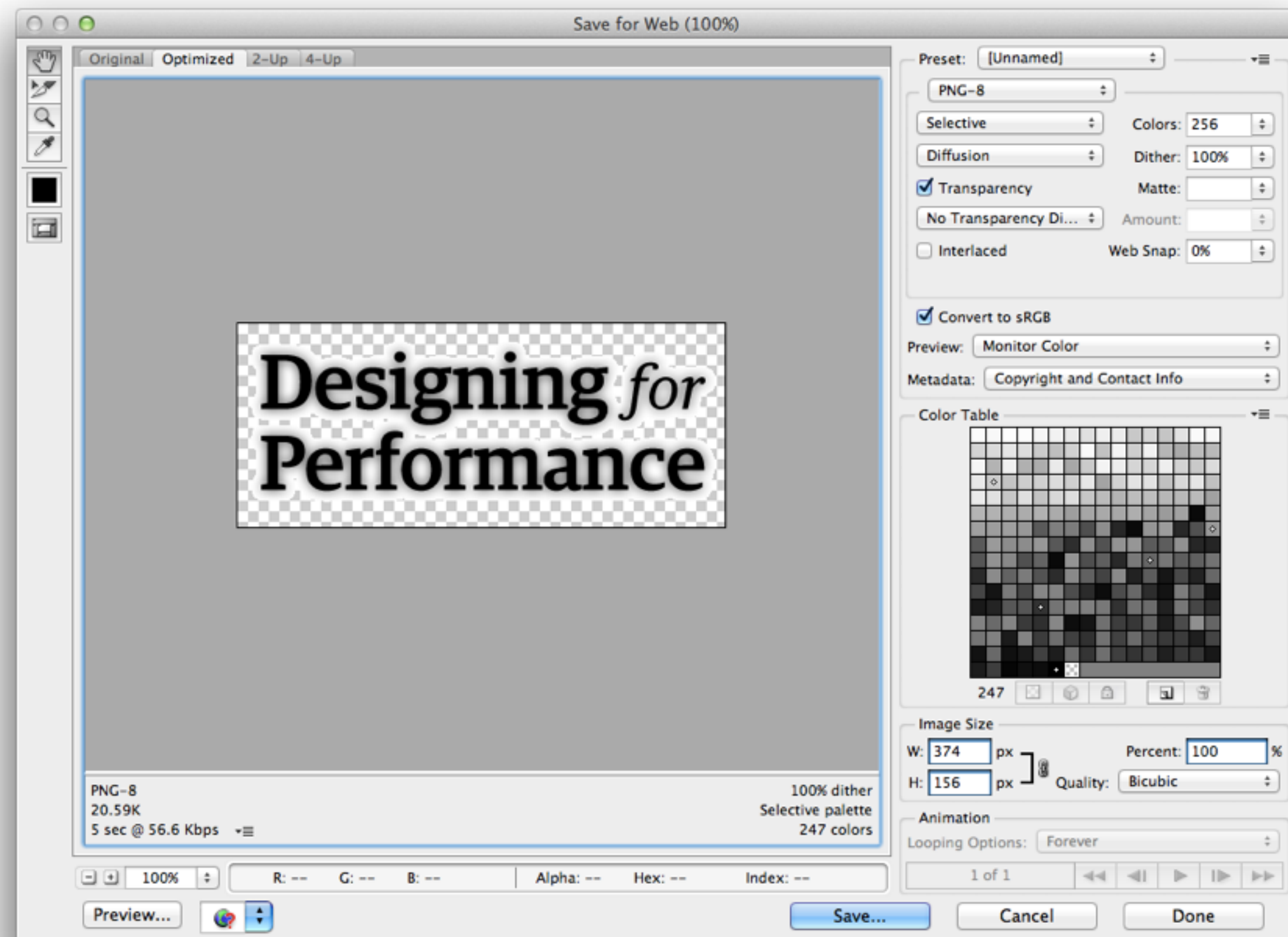
Handles **transparency** differently.

PNG-24

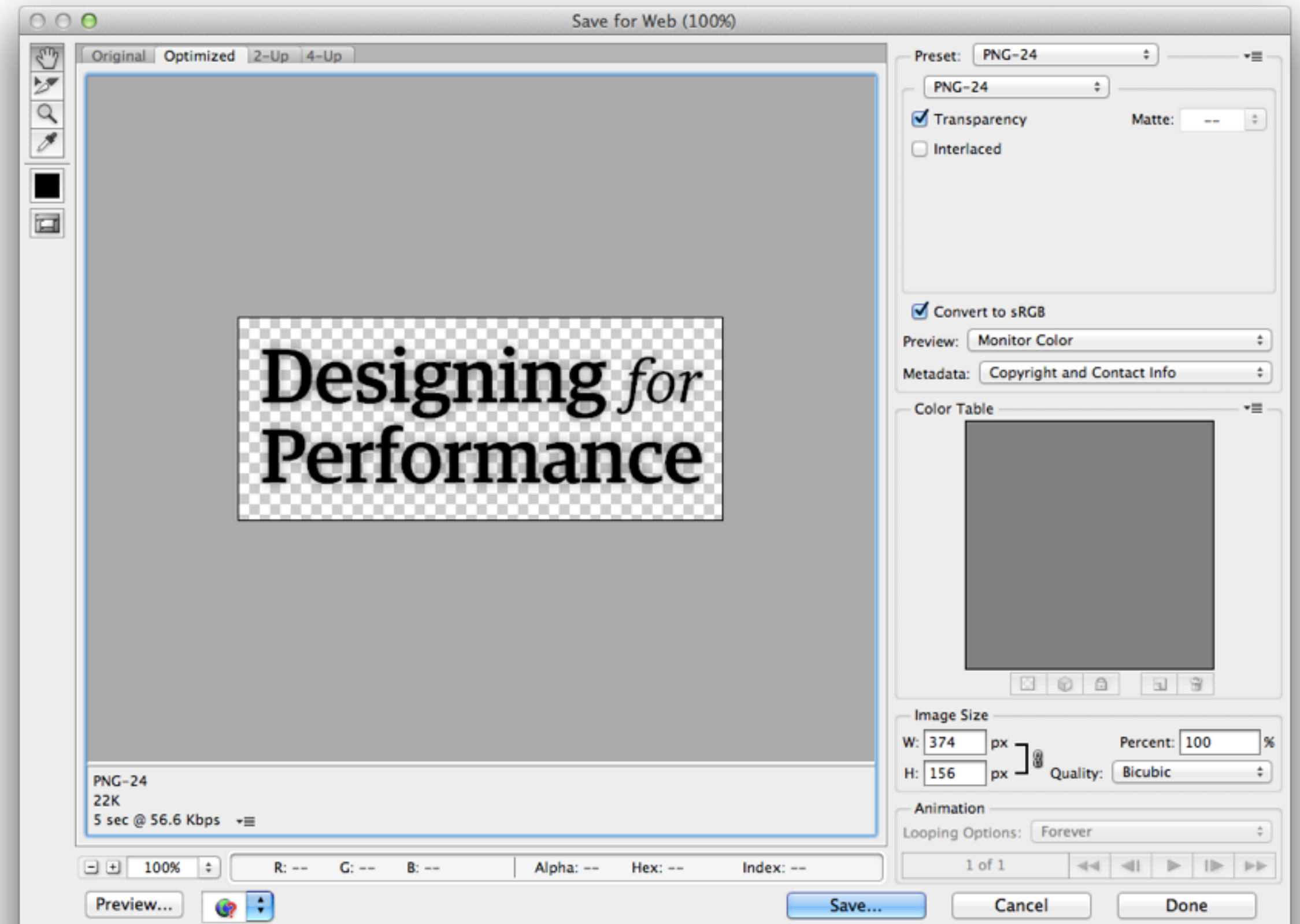
Optimization options:

Decrease noise.

Decrease number of colors.



PNG-8



PNG-24

Designing *for* Performance

☒ Tra

No T

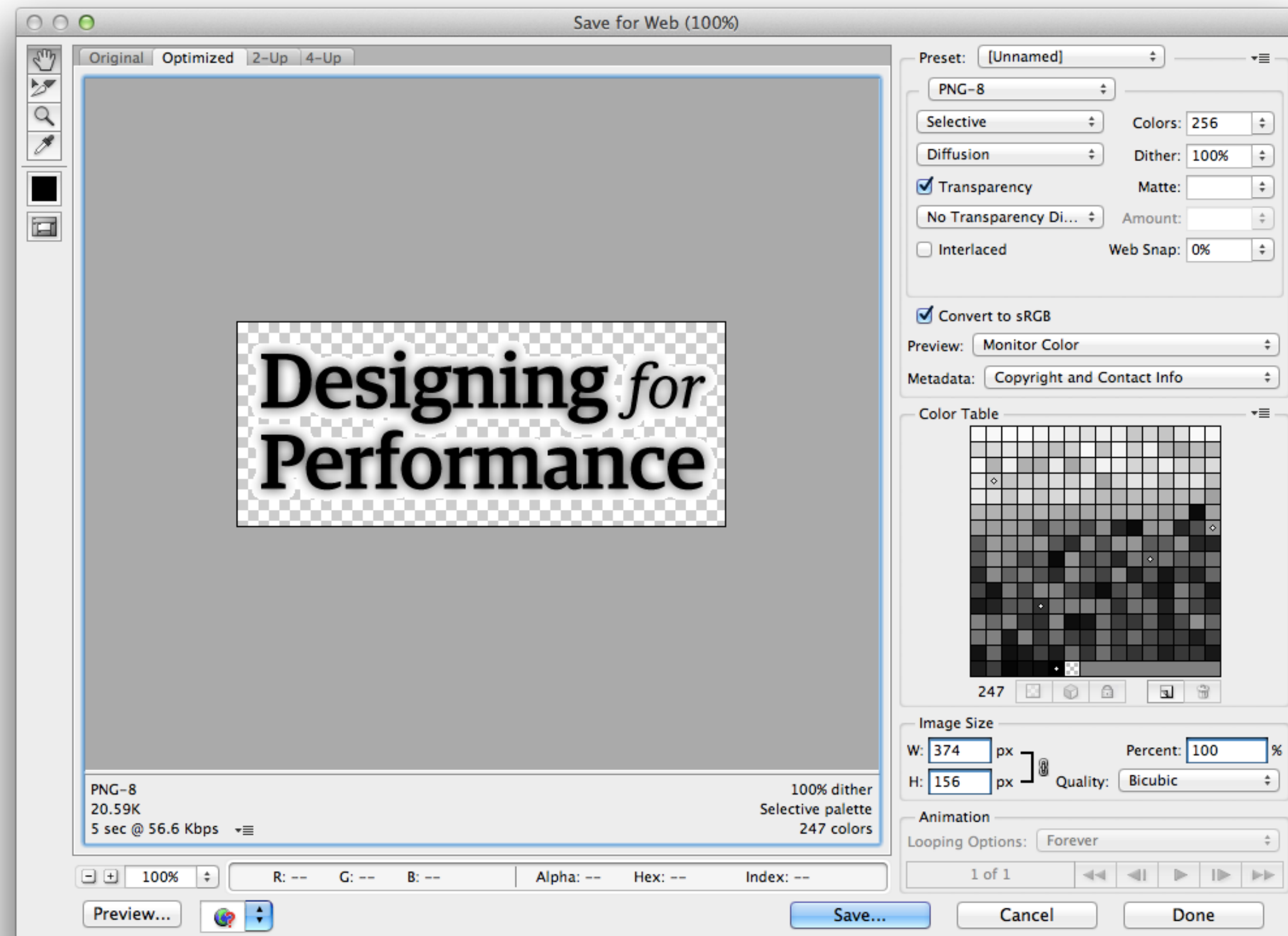
☐ Int

☒ Co

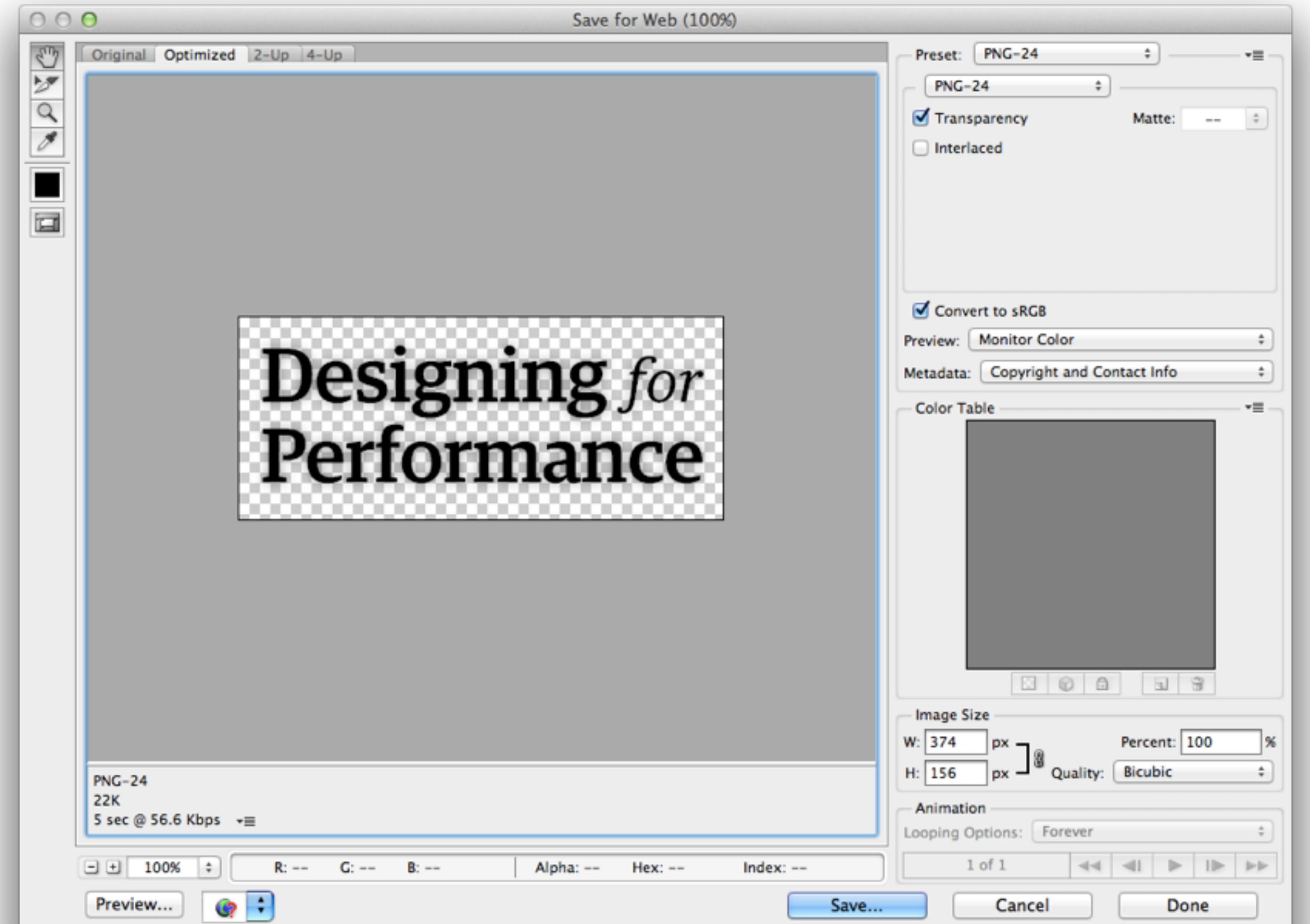
Preview

Metada

Color



PNG-8



PNG-24

Designing *for* Performance



Co

Preview

Metada

Color



PNG-24:
1.28MB



JPEG @ 75 Quality:
288KB

WebP

Google announced **WebPicture** 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 **cruff**.


```
<?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 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

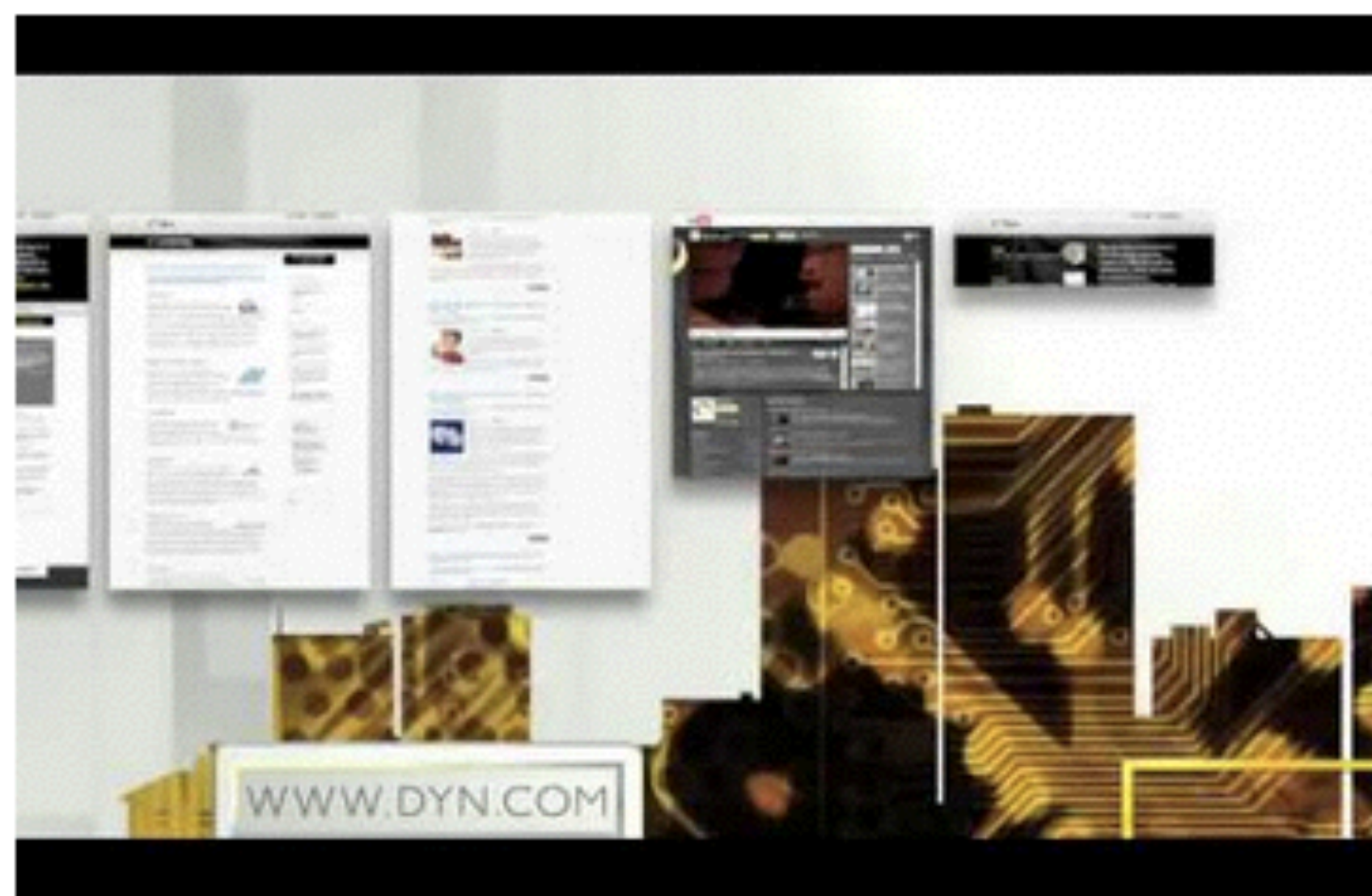
```
#main-nav a {
    background-image: url(sprite.png);
}
```

```
#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

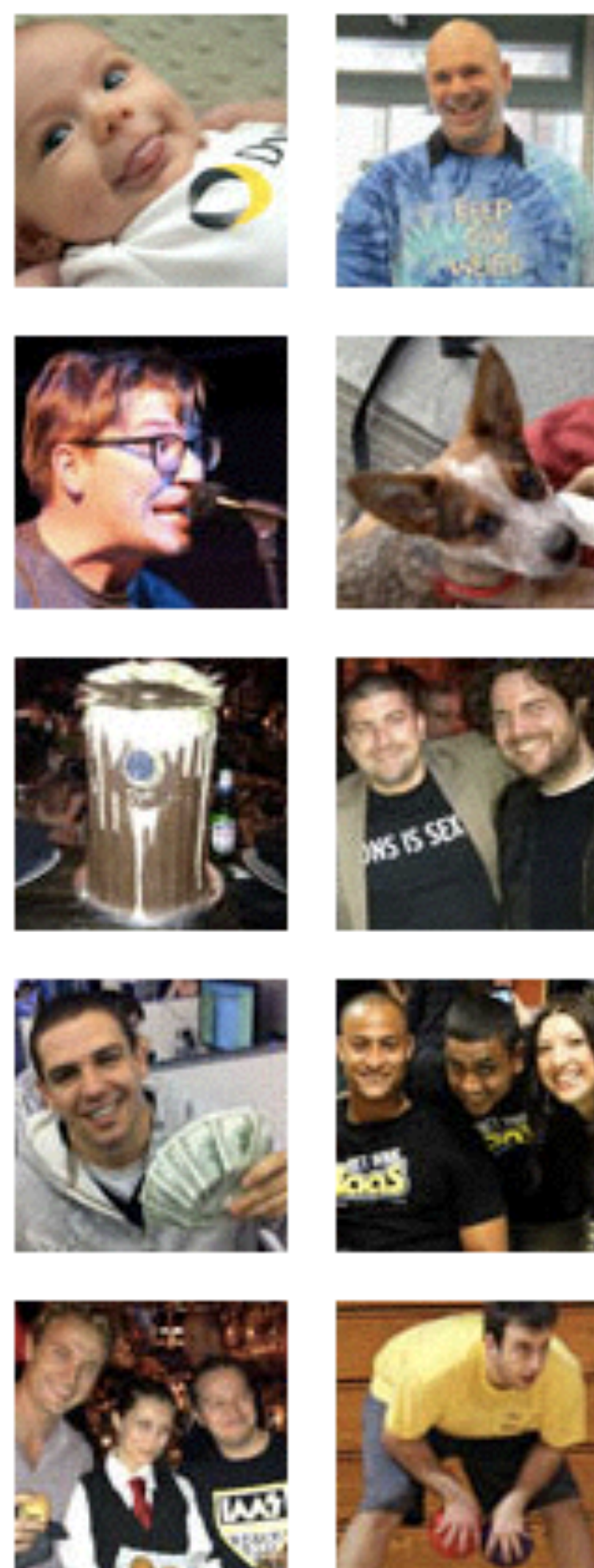
Join the world's open source pioneers, builders, and innovators for five intense days where you will learn about open development, challenge your assumptions, and fire up your brain.

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

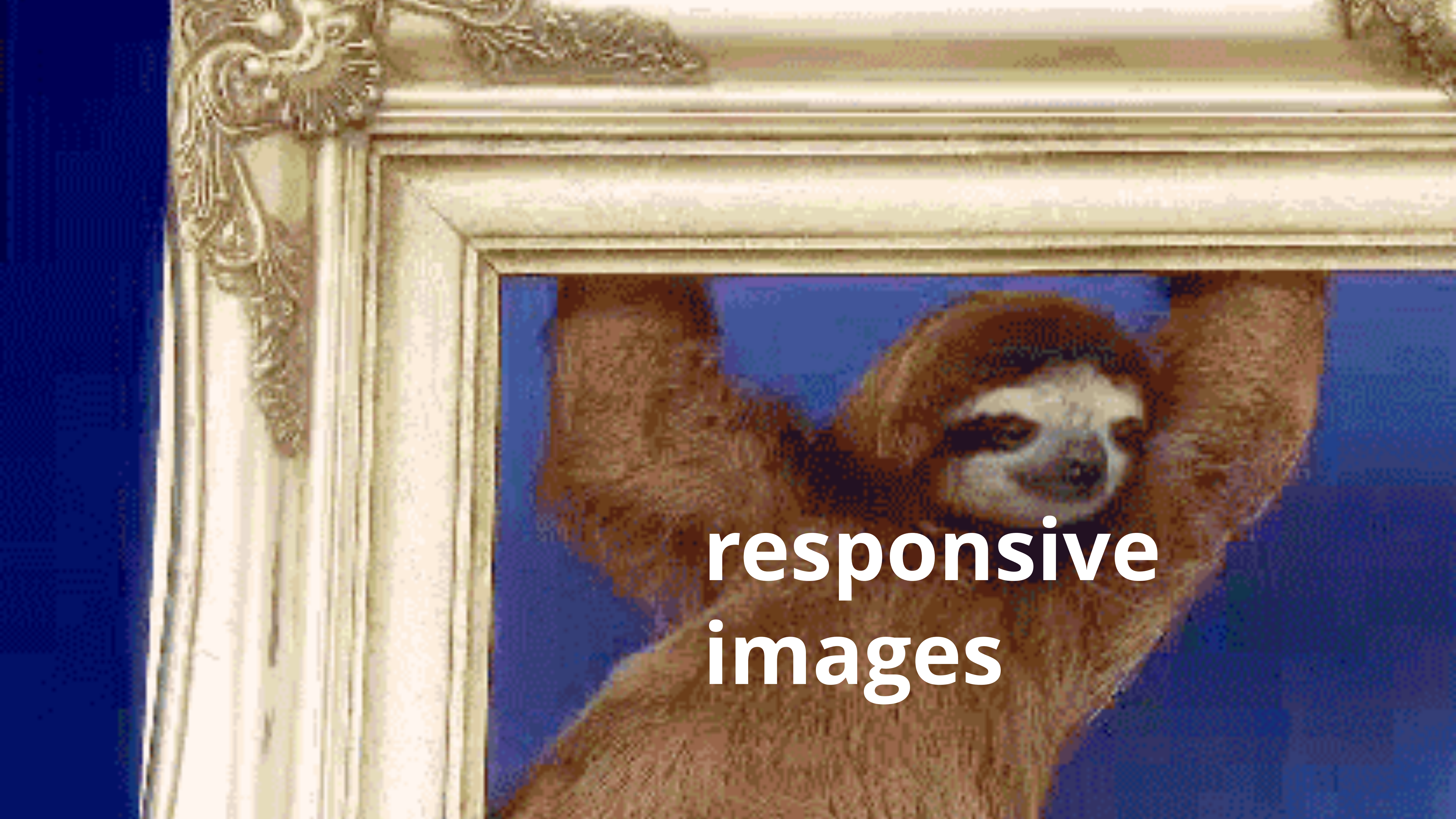
[Dyn Prepares For Bold Future With Technology Leadership Shifts](#)

Jun 26, 2012

[Velocity 2012: Performance is the Most Important Type of DNS Security](#)

ALL NEWS

Serve the right
amount of **bytes**.

A photograph of a sloth hanging from a branch, framed within an ornate, classical-style picture frame. The background of the image is a solid blue color. The frame is made of a light-colored material, possibly wood or plaster, with intricate carvings and a decorative corner piece on the left. The sloth is brown and has a white face with dark eyes and a small mouth. The text "responsive images" is overlaid in white, bold, sans-serif font in the lower right quadrant of the image.

**responsive
images**


```

```



```

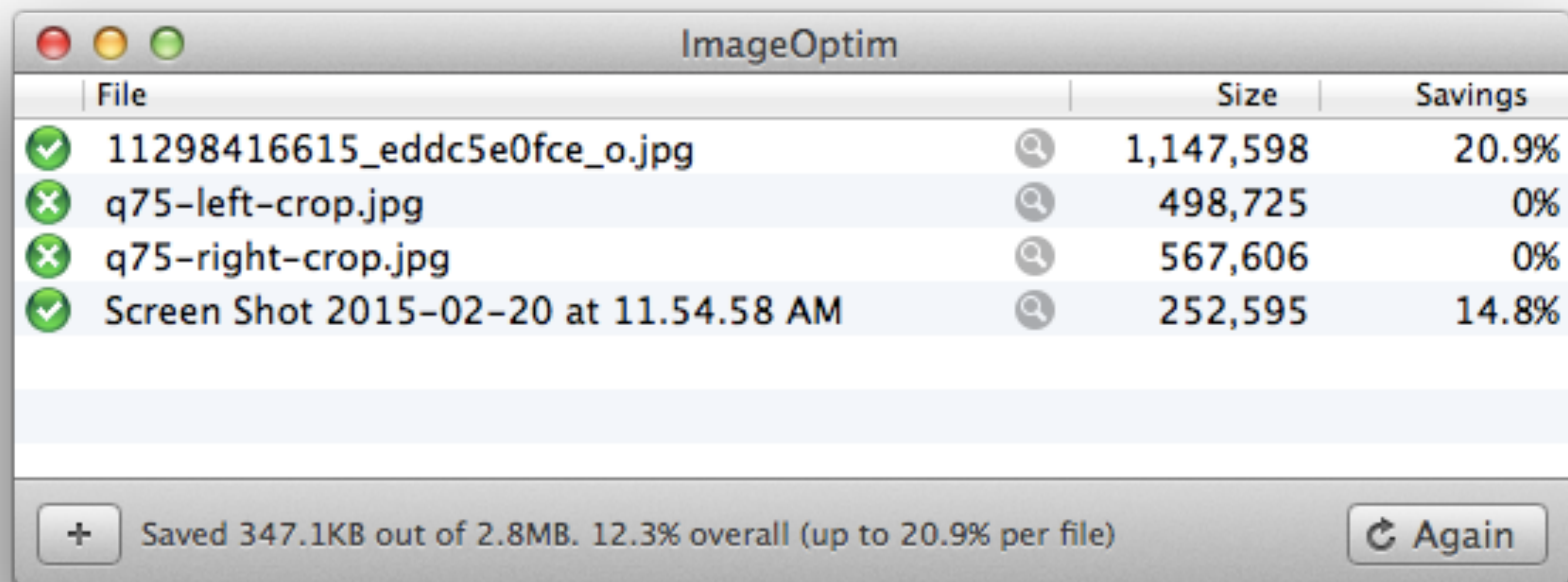
```

```

```

```
<picture>
  <source type="image/svg+xml" srcset="pic.svg">
  
</picture>
```


Additional lossless
compression



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 ☐ English ☐ Esperanto ☐ Estonian	☐ Faroese ☐ French ☐ German ☐ Greek ☐ Hebrew ☐ Hungarian ☐ Icelandic ☐ Italian ☐ Latvian ☐ Lithuanian ☐ Malagasy	☐ Maltese ☐ Norwegian ☐ Polish ☐ Portuguese ☐ Romanian ☐ Serbian ☐ Slovak ☐ Slovenian ☐ Spanish ☐ Swedish ☐ Turkish																																																																																																			
Unicode Tables:	☒ Basic Latin ☐ Latin-1 Sup ☐ Currency Symbols	☐ Punctuation ☐ Latin Extended-A	☐ Latin Extended-B ☐ Latin Extended +																																																																																																			
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:	<table><tr><td>!</td><td>"</td><td>#</td><td>\$</td><td>%</td><td>&</td><td>'</td><td>(</td><td>)</td><td>*</td><td>+</td><td>,</td><td>-</td><td>.</td><td>/</td><td>0</td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td></tr><tr><td>9</td><td>:</td><td>;</td><td><</td><td>=</td><td>></td><td>?</td><td>@</td><td>A</td><td>B</td><td>C</td><td>D</td><td>E</td><td>F</td><td>G</td><td>H</td><td>I</td><td>J</td><td>K</td><td>L</td><td>M</td><td>N</td><td>O</td><td>P</td><td>Q</td></tr><tr><td>R</td><td>S</td><td>T</td><td>U</td><td>V</td><td>W</td><td>X</td><td>Y</td><td>Z</td><td>[</td><td>\</td><td>]</td><td>^</td><td>_</td><td>`</td><td>a</td><td>b</td><td>c</td><td>d</td><td>e</td><td>f</td><td>g</td><td>h</td><td>i</td><td>j</td></tr><tr><td>k</td><td>l</td><td>m</td><td>n</td><td>o</td><td>p</td><td>q</td><td>r</td><td>s</td><td>t</td><td>u</td><td>v</td><td>w</td><td>x</td><td>y</td><td>z</td><td>{</td><td> </td><td>}</td><td>~</td><td>'</td><td>'</td><td>"</td><td>"</td><td></td></tr></table>			!	"	#	\$	%	&	'	(	)	*	+	,	-	.	/	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	{		}	~	'	'	"	"	
!	"	#	\$	%	&	'	(	)	*	+	,	-	.	/	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	{		}	~	'	'	"	"																																																																															

Subsetting:☐ Basic Subsetting
Western languages☒ Custom Subsetting...
Custom language support☐ No Subsetting**Character Encoding:**☐ Mac Roman**Character Type:**☐ Lowercase☐ Uppercase☐ Numbers☐ Punctuation☐ Currency☐ Typography☐ Math Symbols☐ Alt Punctuation☐ Lower Accents☐ Upper Accents☐ Diacriticals**Language:**☐ Albanian☐ Bosnian☐ Catalan☐ Croatian☐ Cyrillic☐ Czech☐ Danish☐ Dutch☐ English☐ Faroese☐ French☐ German☐ Greek☐ Hebrew☐ Hungarian☐ Icelandic☐ Italian☐ Japanese☐ Maltese☐ Norwegian☐ Polish☐ Portuguese☐ Romanian☐ Serbian☐ Slovak☐ Slovenian☐ Spanish

Unicode Tables:

☒ 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	{		}	~	'	'	"	"	

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

	!	"	#	\$	%	&	'	(	)	*	+	,	-	.	/	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  ▼

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....

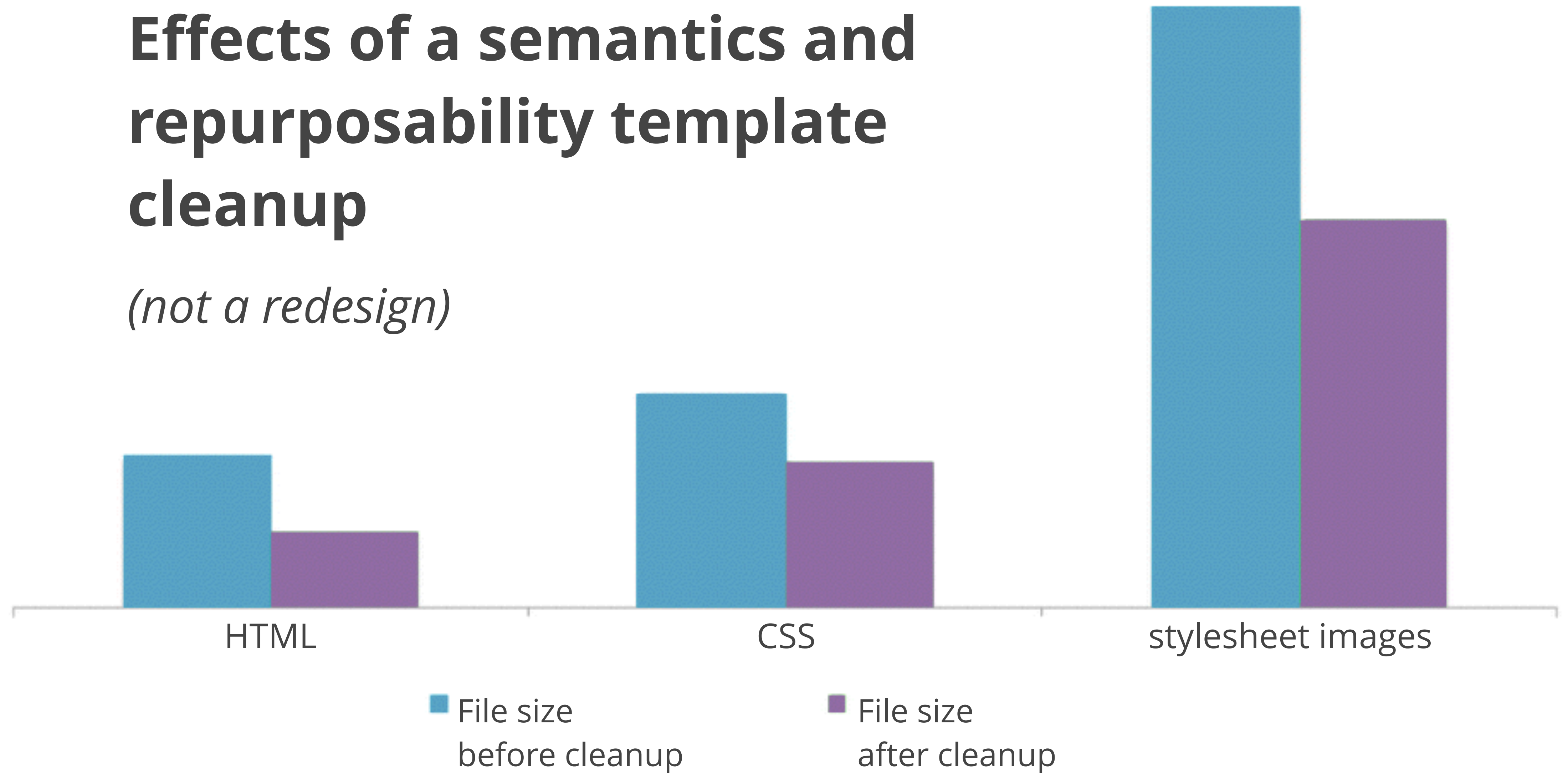


Semantics & Repurposability

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**.

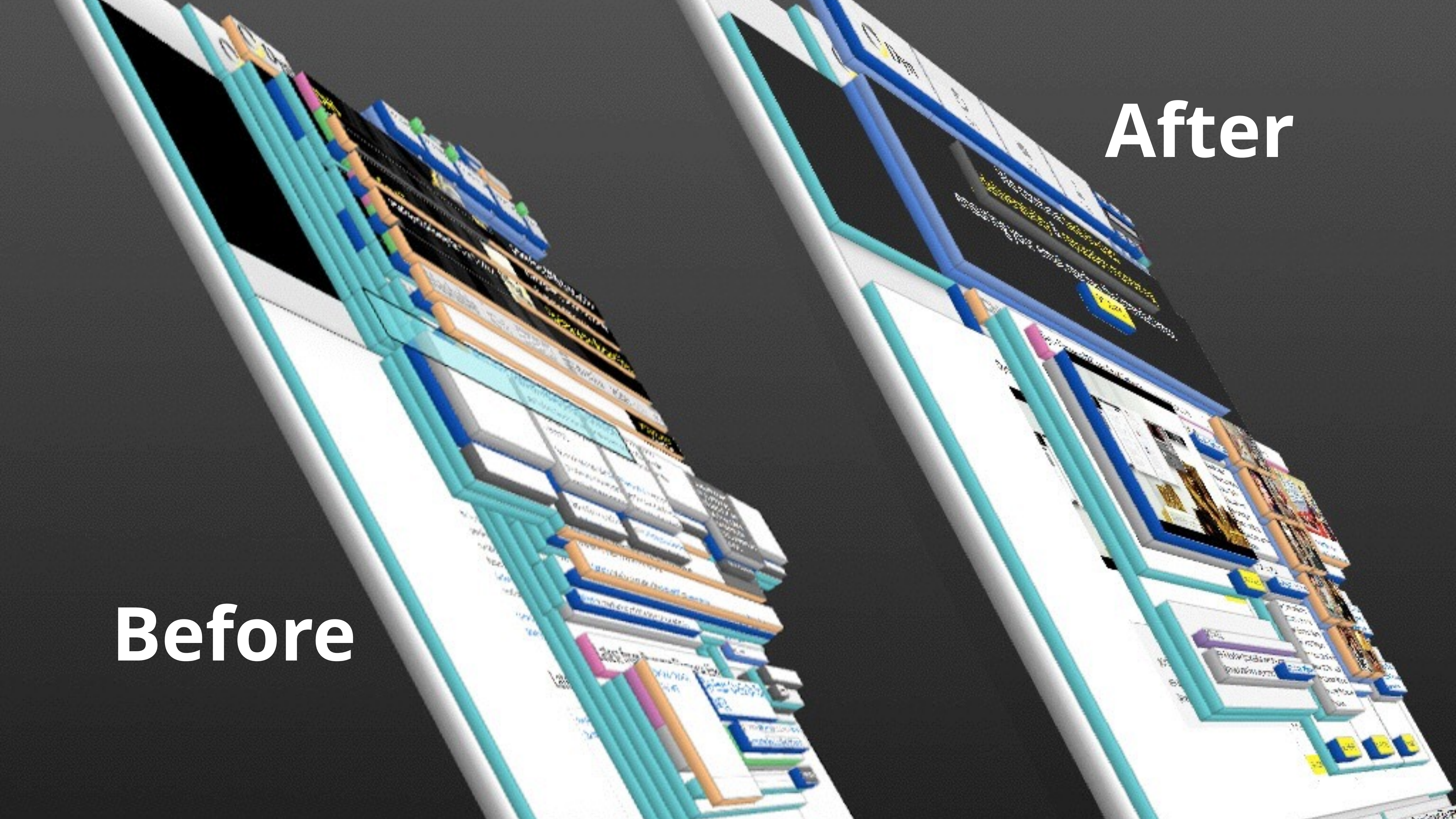
~~`.wide #sidebar a.search { }`~~

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

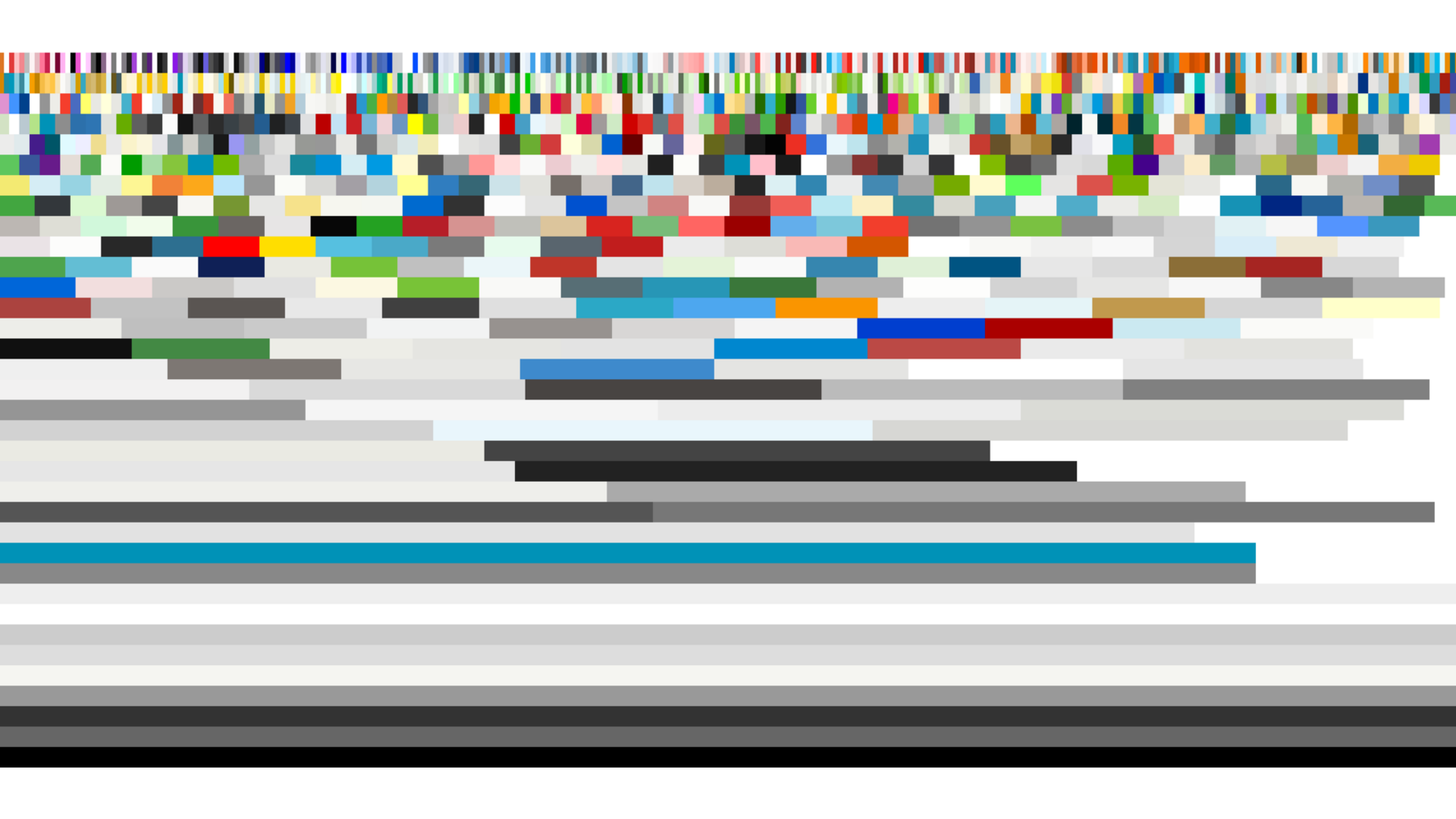
Remove unnecessary
elements (**divitis**).

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.

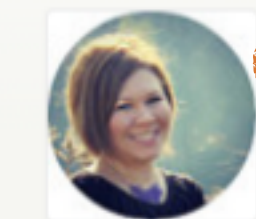
0	guardian-egyptt-bold
196	guardian-egyptt-semibold
340	guardian-egyptt-medium
17	guardian-egyptt-normal
155	guardian-egyptt-regular
34	<i>guardian-egyptt-italic</i>
114	guardian-egyptt-light

0	guardian-egyptt-bold
196	guardian-egyptt-semibold
340	guardian-egyptt-medium
17	guardian-egyptt-normal
155	guardian-egyptt-regular
34	<i>guardian-egyptt-italic</i>
114	guardian-egyptt-light

1 font weight for **headlines**.

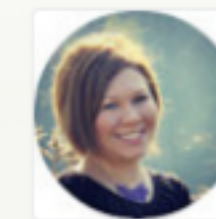
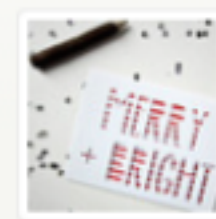
No more Guardian for body copy.

*Consistently across
Desktop and Apps.*



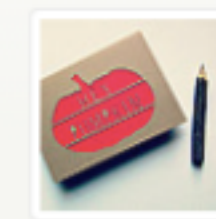
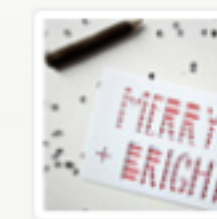
AshleyPahl

Favorite Shop



AshleyPahl

Favorite Shop



zoom

Hand Painted Happy Holidays Card
Papercut Design

\$8.00+ USD

As

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, MI

This shop accepts Etsy Gift Cards

Add to Cart



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



Item Details

★★★★★ (576)

Shipping & Policies

Favorite

64

Add to ▾

En

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.

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



Etsy

Search for items or shops

Search

Browse ▾



Home



Favorites



Your Shop ▾



You ▾



Cart



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

INPROGRESS

.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

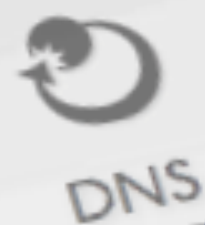
**Make performance part of
everyone's workflow.**

Use a **mobile-first** workflow.

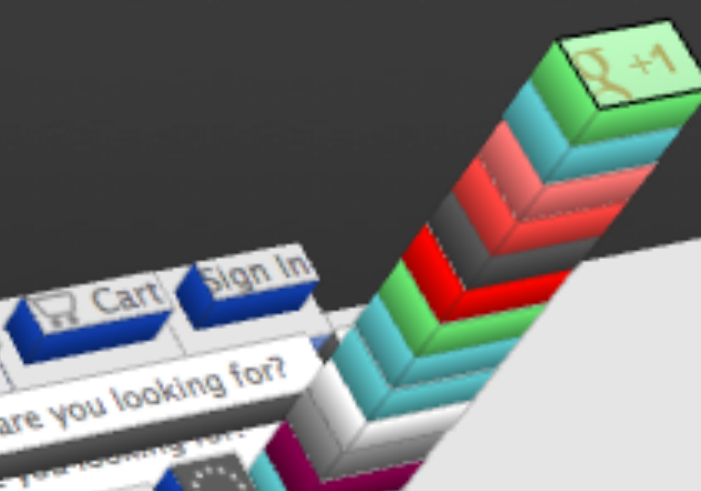
Create a performance **budget**.

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.



Support
What are you looking for?
About Blog



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



mediafed



neverblue

invite media

Meetup

BLOG & NEWS

06.11.2012

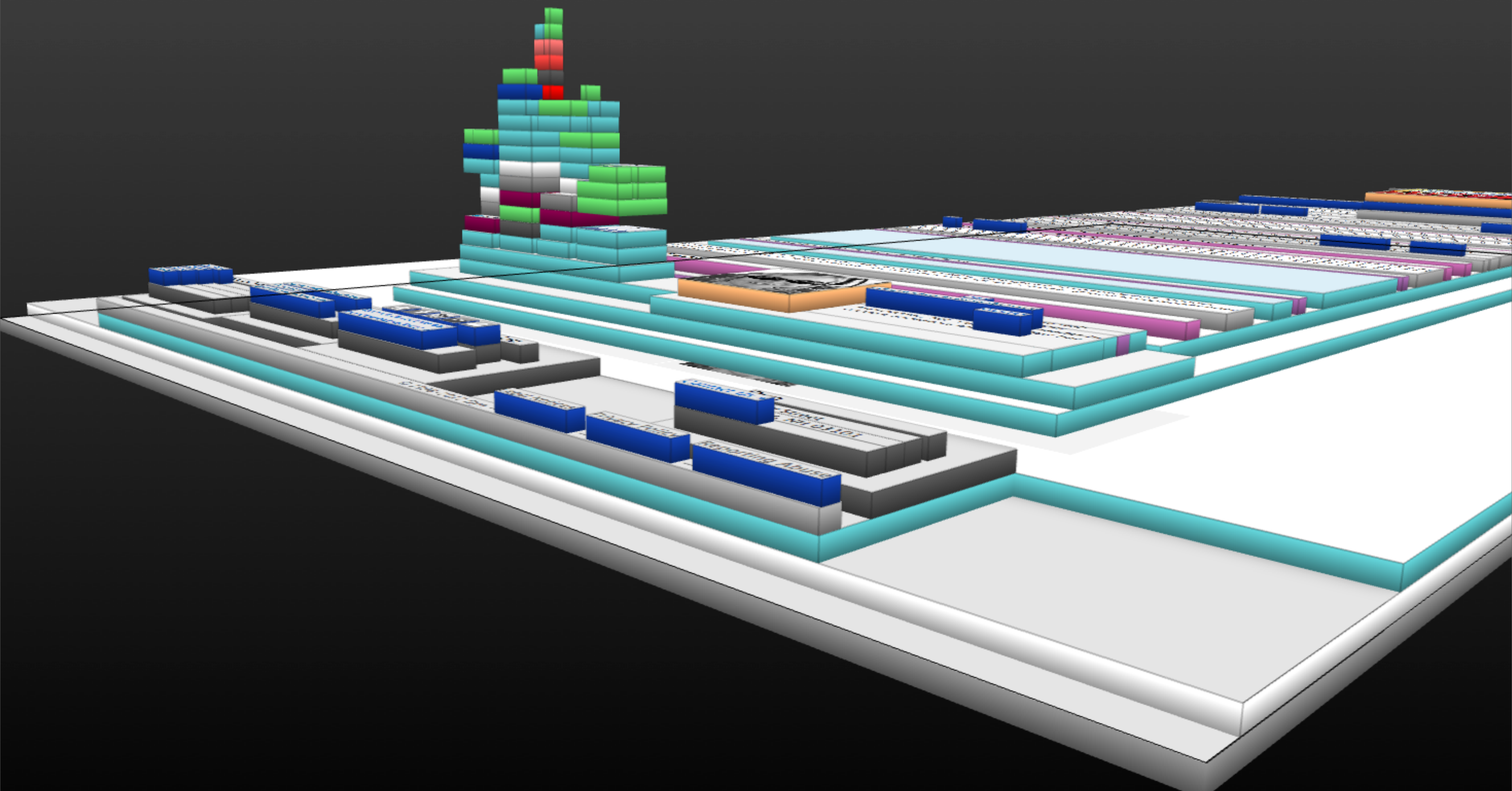
WHERE WE'LL BE

06.11.2012 - 06.14.2012
Cloud Expo - New York,

Email Delivery



The Amazing DNS Race:
Advantages Of Real Time
DNS Manager



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.

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



316



Photography by [Miss Gong Photography](#)



Photography by Miss Gong Photography

```

Q Elements Network Sources Timeline Profiles Resources Audits Console
▼ <article class="prose prose-article pb-xs-4 pb-md-6">
  ▼ <figure>
    
    ► <figcaption>...</figcaption>
  </figure>

```


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.

DetailsHistory

SaveCancel

Media

No media has been added yet

- ☐ Searchable
- ☐ Comments Enabled

More Actions

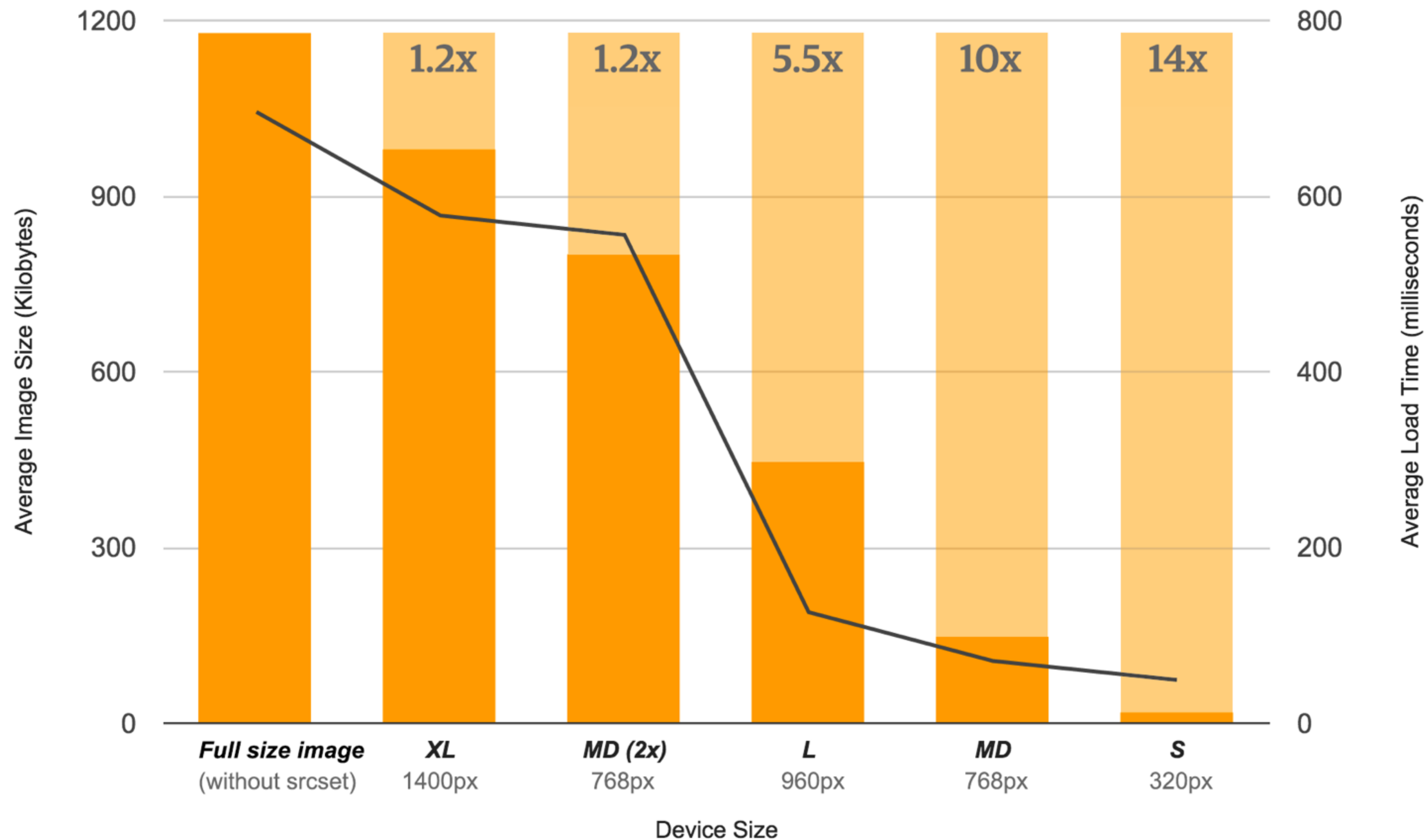
Image size and load time by device size

Average Image Size

Load Time

Size savings

2x Times faster



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

Control**50%** (50.05%)

783,483 VISITS

ON**50%** (49.95%)

781,998 VISITS

Metric	Control		ON	
	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%

*Who is
responsible
for performance?*

No more performance
cops or **janitors**.

Changing culture is **hard**.

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

Hillary Clinton



0.0

Bernie Sanders



0.0

Donald Trump



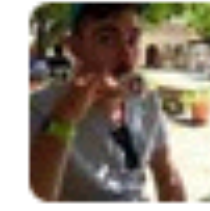
0.0



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 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

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

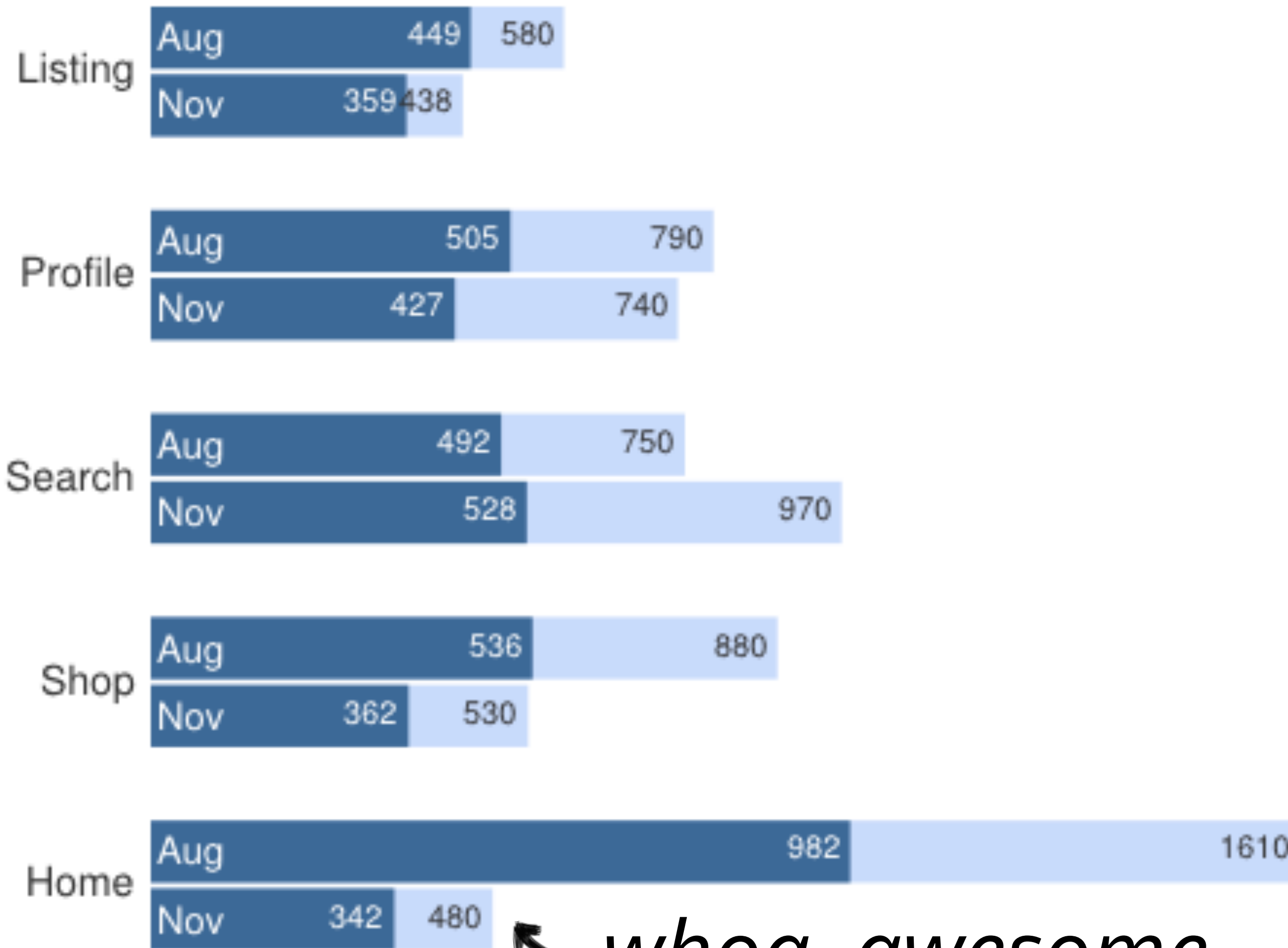
RSS

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)



← *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.



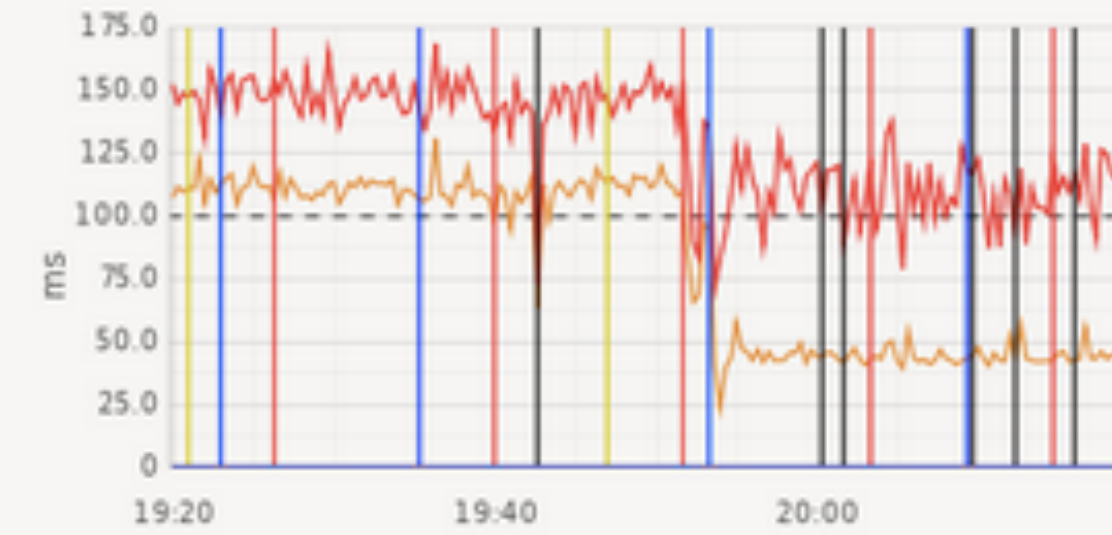
Public Search_Listings

SLA 100ms • Median • Upper 90



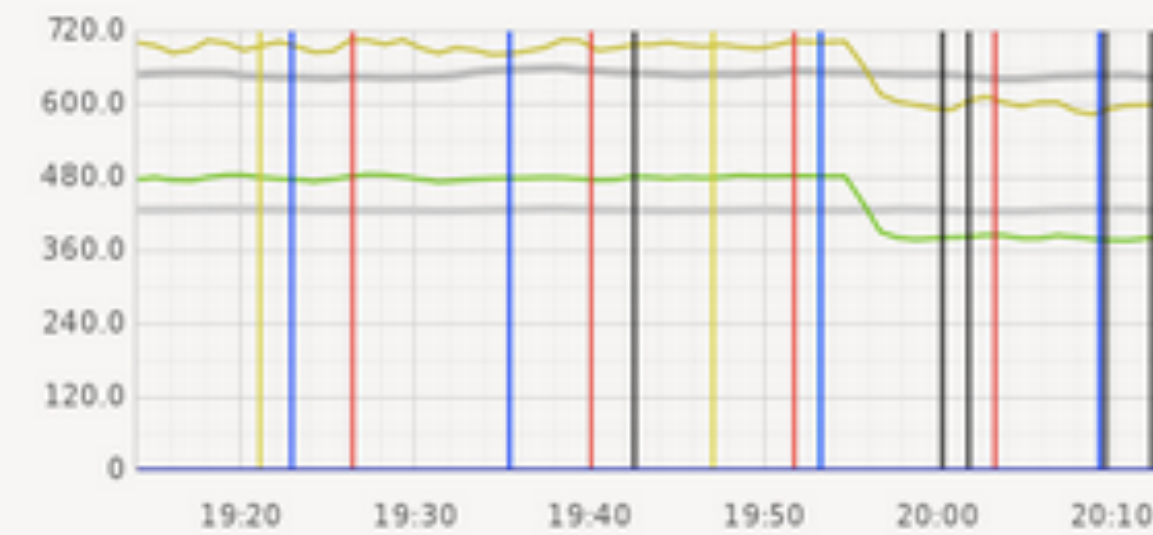
Shop Listings_Get

SLA 100ms • Median • Upper 90



Total Render Time

Homepage Render - median • Homepage Render - median (historical) • Homepage Render - Upper 90 • Homepage Render - Upper 90 (historical)

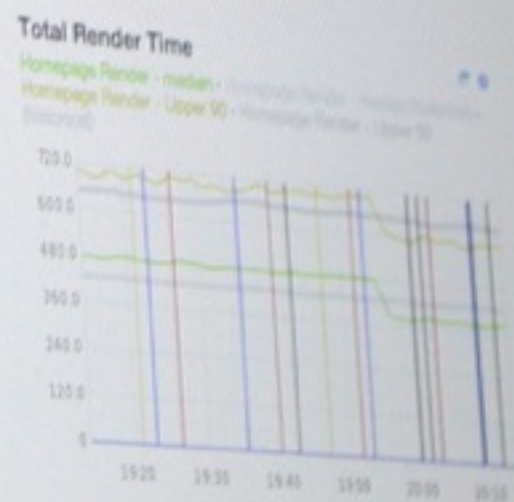


Other Heroes:

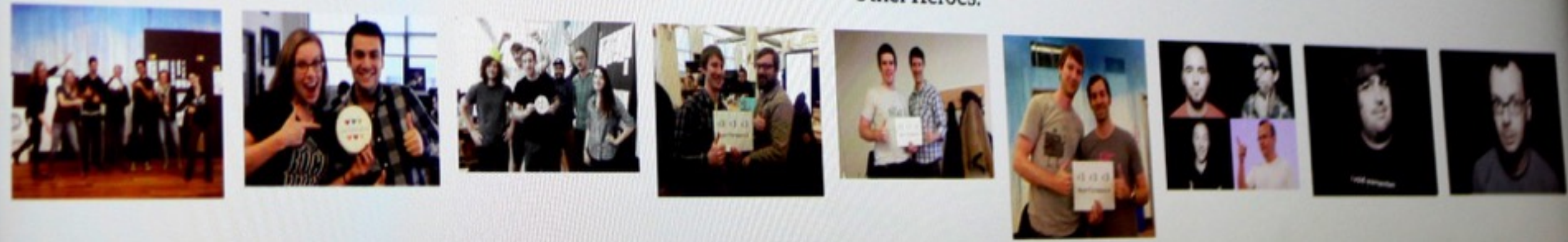


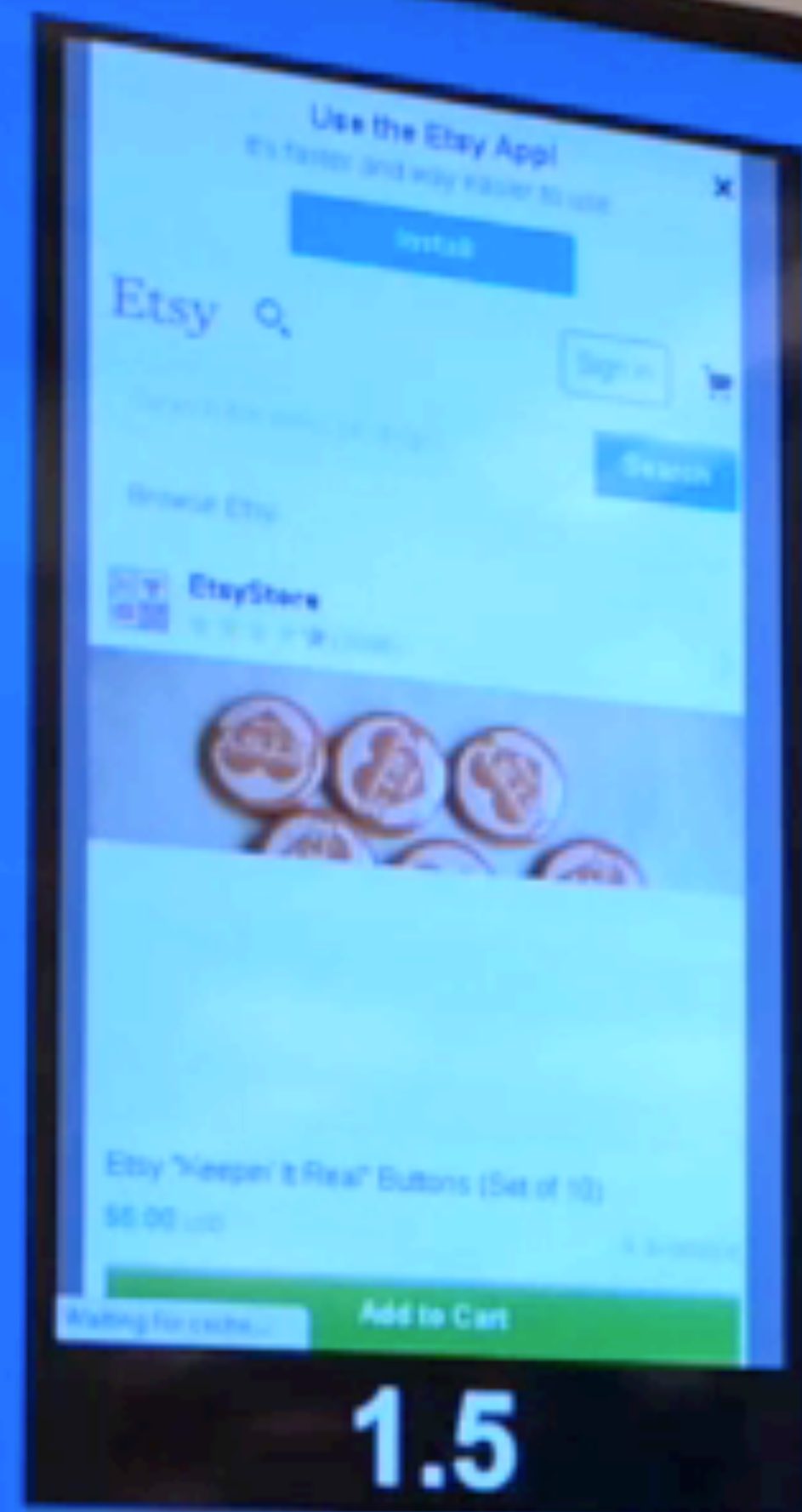
Dan Miller - Performance Hero

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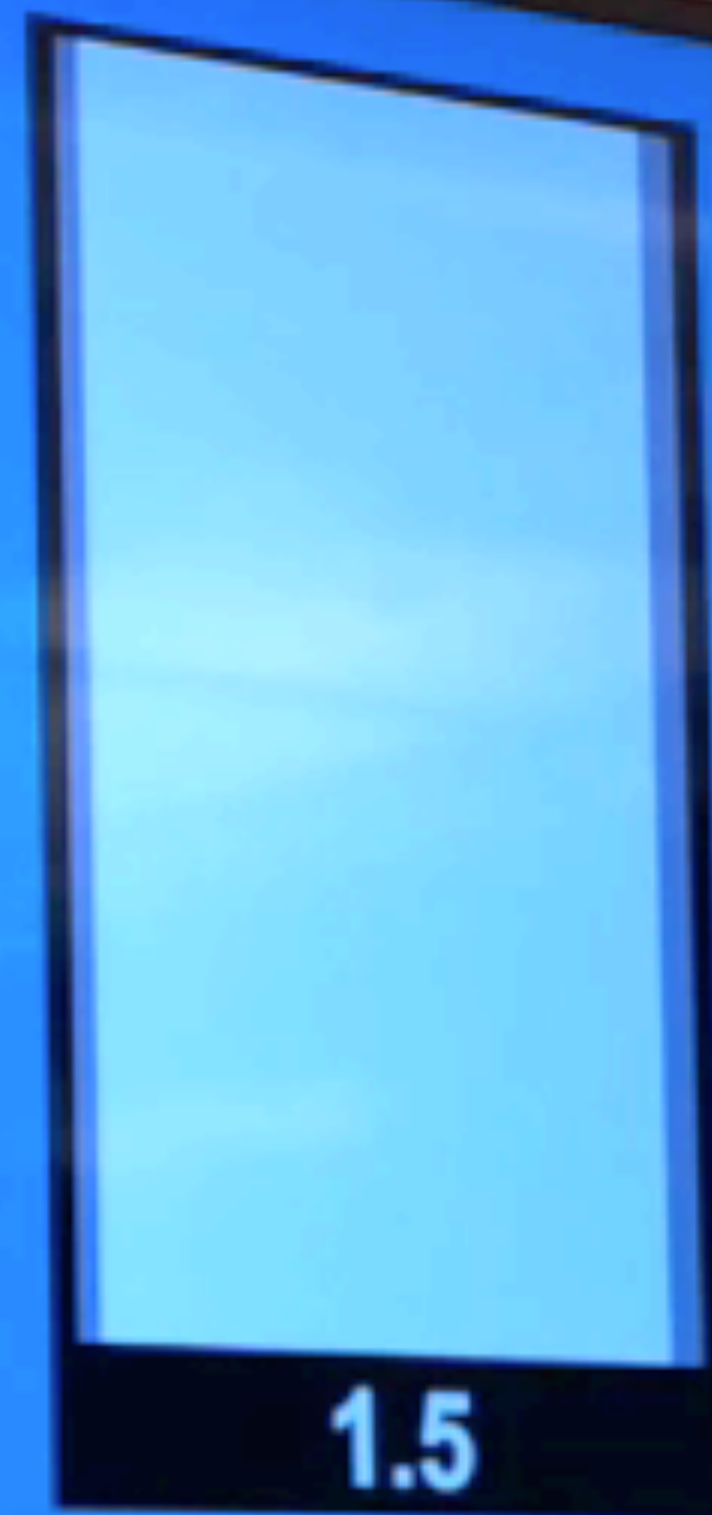
Other Heroes:





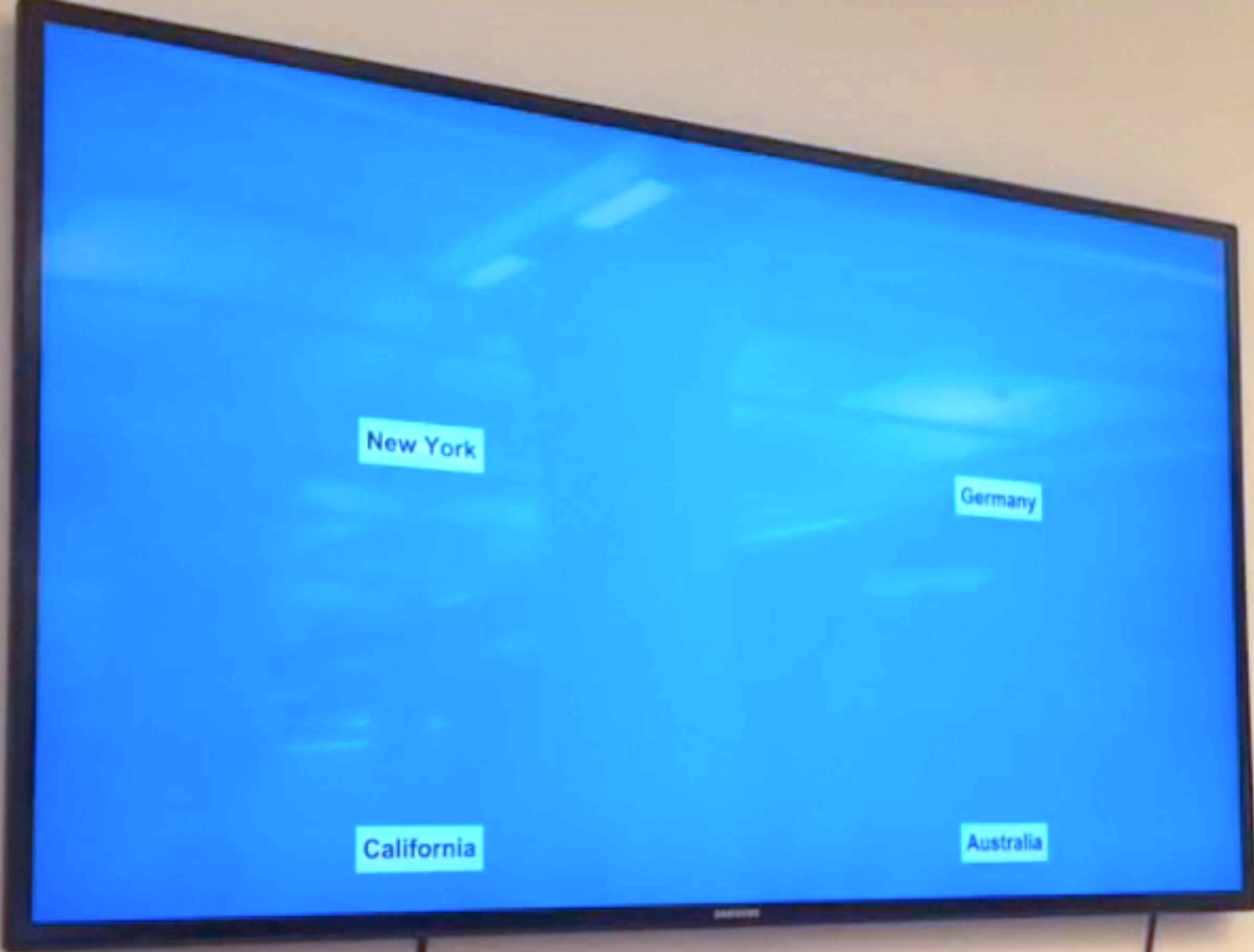
1.5

Cable connection (28ms RTT)



1.5

3G connection (150ms RTT)

A large, rectangular screen with a black border is mounted on a light-colored wall. The screen displays a solid blue background. Four white rectangular labels with black text are positioned on the screen. The labels are arranged in a 2x2 grid: 'New York' in the top-left, 'Germany' in the top-right, 'California' in the bottom-left, and 'Australia' in the bottom-right. The screen is slightly tilted to the right.

New York

Germany

California

Australia

We need to have **empathy**.

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

For plenty more on
designing for performance:
designingforperformance.com

O'REILLY®



Designing for Performance

WEIGHING AESTHETICS AND SPEED

Lara Callender Hogan

