Lightning-Fast
Web Performance

Scott Jehl, WebPageTest Team

WebPageTest
by catchpoint.

Course Agenda

Making Things
Faster

Easy, classic performance optimizations:

Optimize / Minify / Compress

Optimizing images

jpg, png, webp, avif
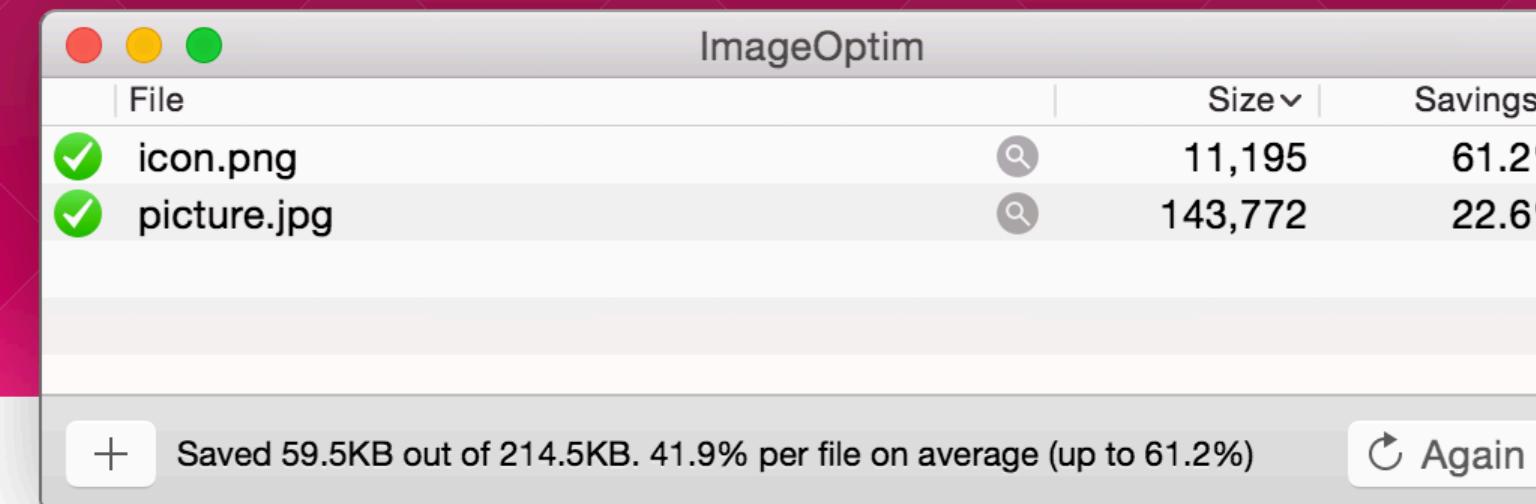
ImageOptim makes images load faster

Removes bloated metadata. Saves disk space & bandwidth by compressing images without losing quality.

Download for Free   Other versions

Requires macOS 10.9+. Works with Mojave. It's Free and Open Source. Donate.

	ImageOptim		
File		**Size ˅**	**Savings**
✅ icon.png	🔍	11,195	61.2%
✅ picture.jpg	🔍	143,772	22.6%

➕ Saved 59.5KB out of 214.5KB. 41.9% per file on average (up to 61.2%)   ↻ Again

Faster web pages and apps

Reduces image file sizes—so they take up less disk space and download faster—by applying advanced

Image files scrubbed clean

Removes invisible junk: private EXIF metadata from digital cameras, embedded thumbnails, comments,

Best tools with drag'n'drop

Seamlessly combines all the best image optimization tools: MozJPEG, pngquant, Pngcrush, 7zip, SVGO and

https://imageoptim.com/mac

Advanced image optimization tool

Automatically compress images achieving the highest compression ratio at consistent image quality.

Free Download   **Buy Now — $15**

Version 3.3.1 (History) for macOS 10.11+
Free 24 images per day

WebPonize
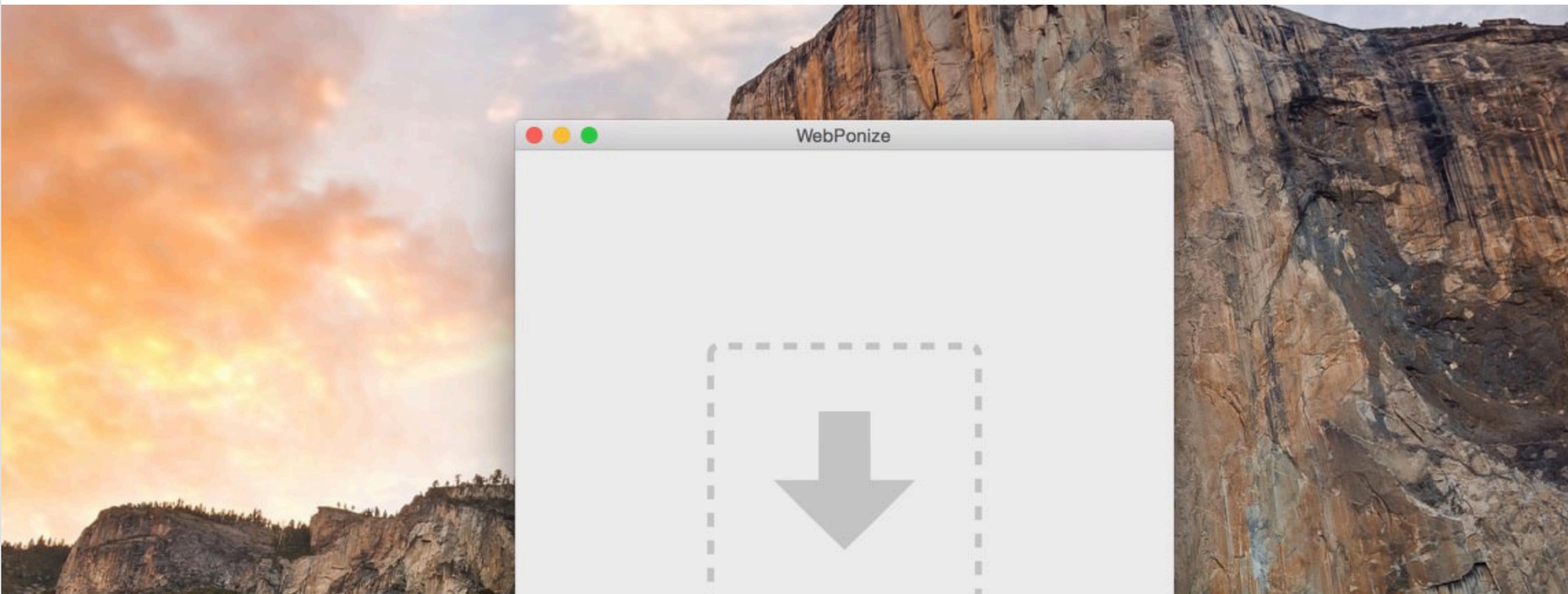
macOS app which converts images to WebP.

Star 446   Fork 24

WebPonize

Squoosh

Drop OR *Paste*

Or **try one** of these:

2.8mb

2.9mb

1.6mb

13k

https://squoosh.app/
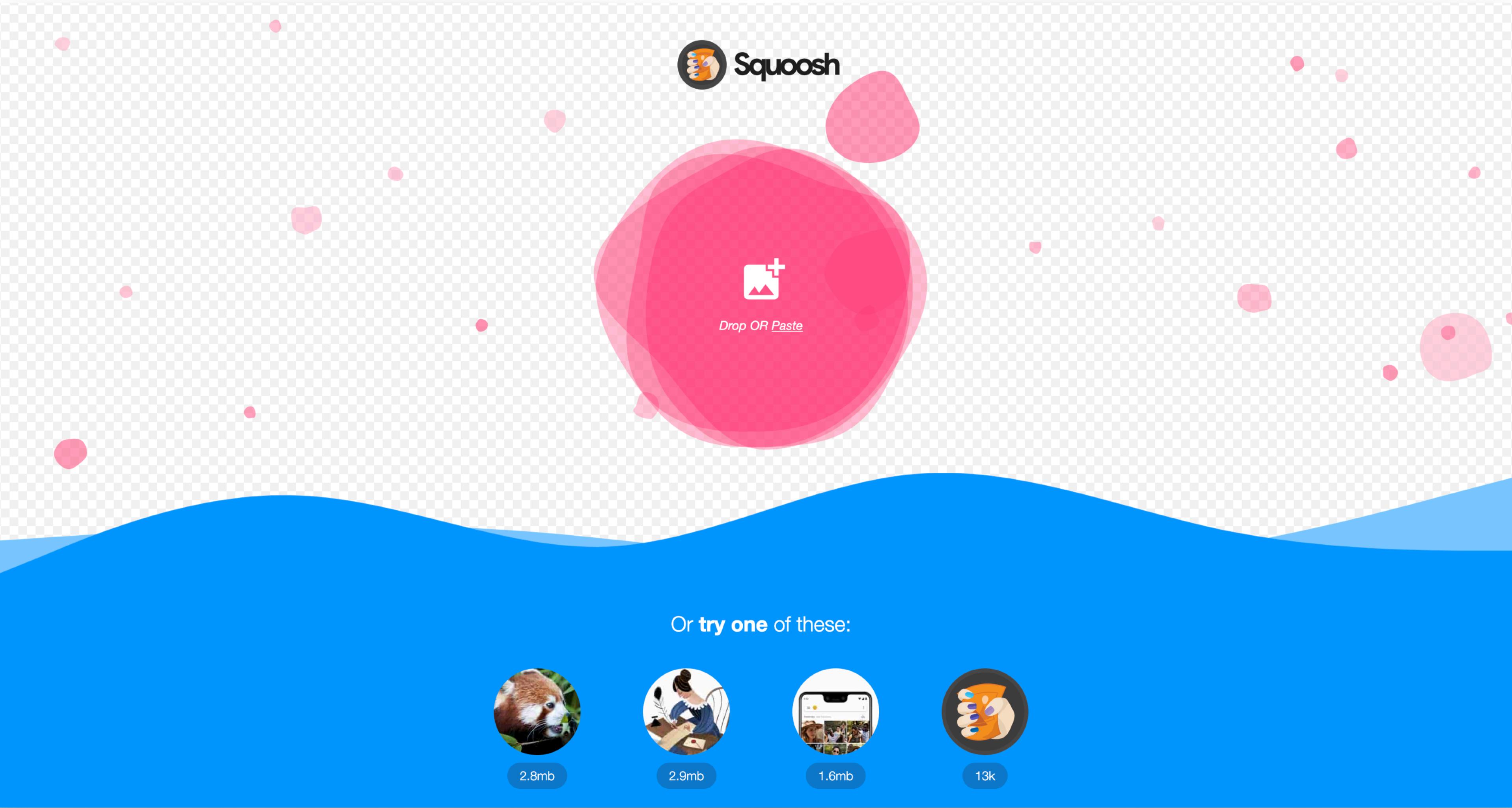
Can I use **webp** ? ⚙ Settings

10 results found

WebP image format 📄 - UNOFF
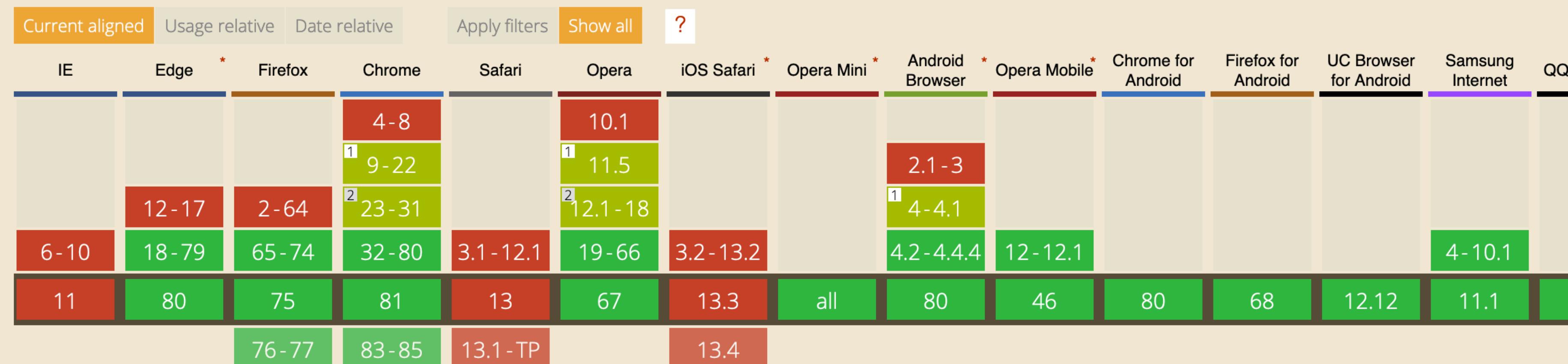
Usage	% of	all users	?
Global		77.43% + 0.2% =	77.63%

Image format that supports lossy and lossless compression, as well as animation and alpha transparency.

Current aligned | Usage relative | Date relative | Apply filters | Show all | ?

IE	Edge *	Firefox	Chrome *	Safari	Opera	iOS Safari *	Opera Mini *	Android Browser *	Opera Mobile *	Chrome for Android	Firefox for Android	UC Browser for Android	Samsung Internet	QQ
			4 - 8		10.1									
			[1] 9 - 22		[1] 11.5			2.1 - 3						
	12 - 17	2 - 64	[2] 23 - 31		[2] 12.1 - 18			[1] 4 - 4.1						
6 - 10	18 - 79	65 - 74	32 - 80	3.1 - 12.1	19 - 66	3.2 - 13.2		4.2 - 4.4.4	12 - 12.1				4 - 10.1	
11	80	75	81	13	67	13.3	all	80	46	80	68	12.12	11.1	
		76 - 77	83 - 85	13.1 - TP		13.4								

https://caniuse.com/#search=webp

Example server webp reroute

HTTP Request 'Accept' header

```
RewriteCond %{HTTP_ACCEPT} image/webp [OR]

RewriteRule (.+)\.(?:jpe?g|png)$ $1.webp

Header append Vary Accept
```

Use Imagemin to compress images

Nov 5, 2018 • Updated Apr 6, 2020

Appears in: [Fast load times](#)

Katie Hempenius
[Twitter](#) · [GitHub](#) · [Glitch](#)

Why should you care?

Uncompressed images bloat your pages with unnecessary bytes. The photo on the right is 40% smaller than the one on the left, yet would probably look identical to the average user.

SHARE

https://web.dev/use-imagemin-to-compress-images/
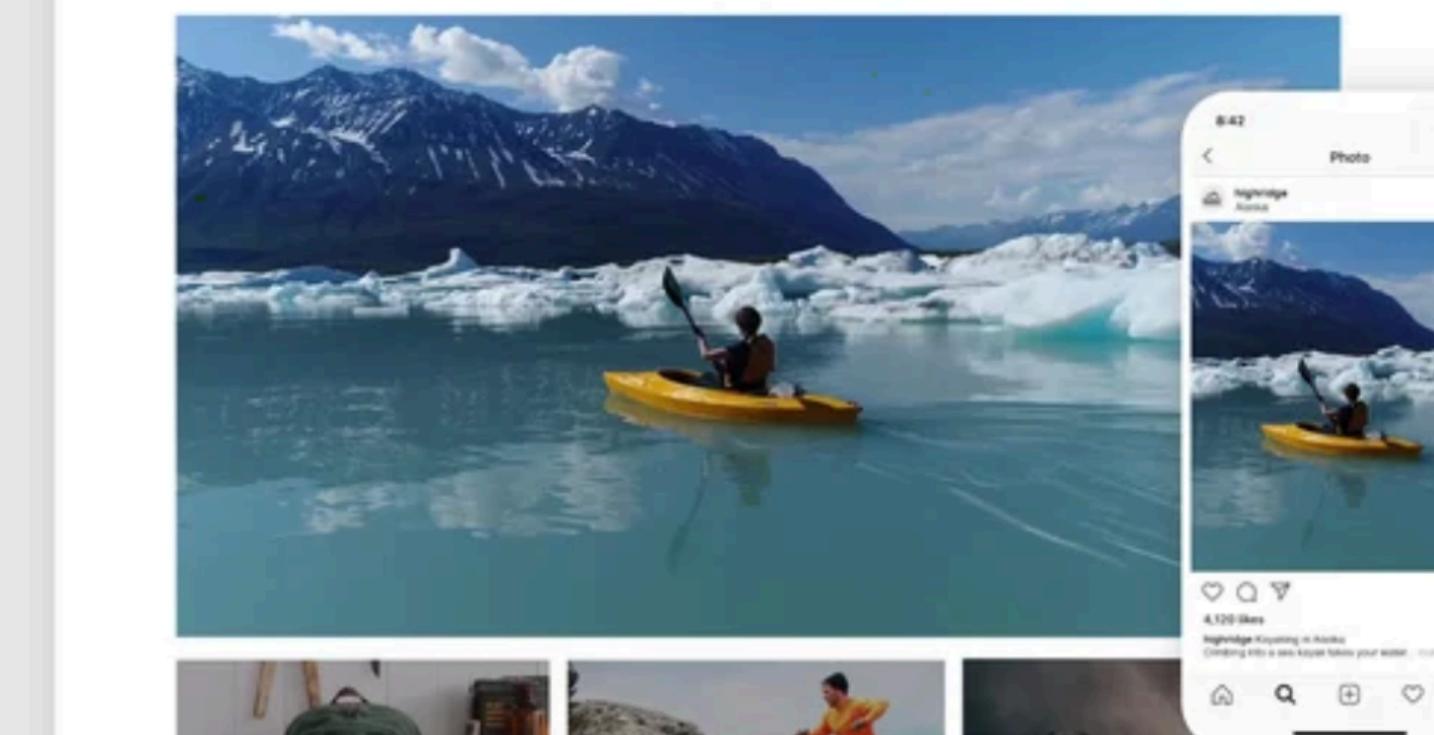
Cloudinary

SOLUTIONS   PRICING   CUSTOMERS   DOCUMENTATION   ADD-ONS   **SIGN UP FOR FREE**

Your Customers Demand an Engaging Digital Experience

Use Cloudinary to efficiently manage, optimize, and deliver images, videos and other media across every device and channel.

SIGN UP FOR FREE

ImageOptim API makes pages load faster

Web service for image compression. Easily resize and optimize images on your server.

Sign up   Pricing   Documentation

27.1KB   14.3KB

Image from standard tools   with ImageOptim

Faster web pages and apps

Make images load faster and save

Image resizing on demand

Easily create **responsive images** and

Technology managed for you
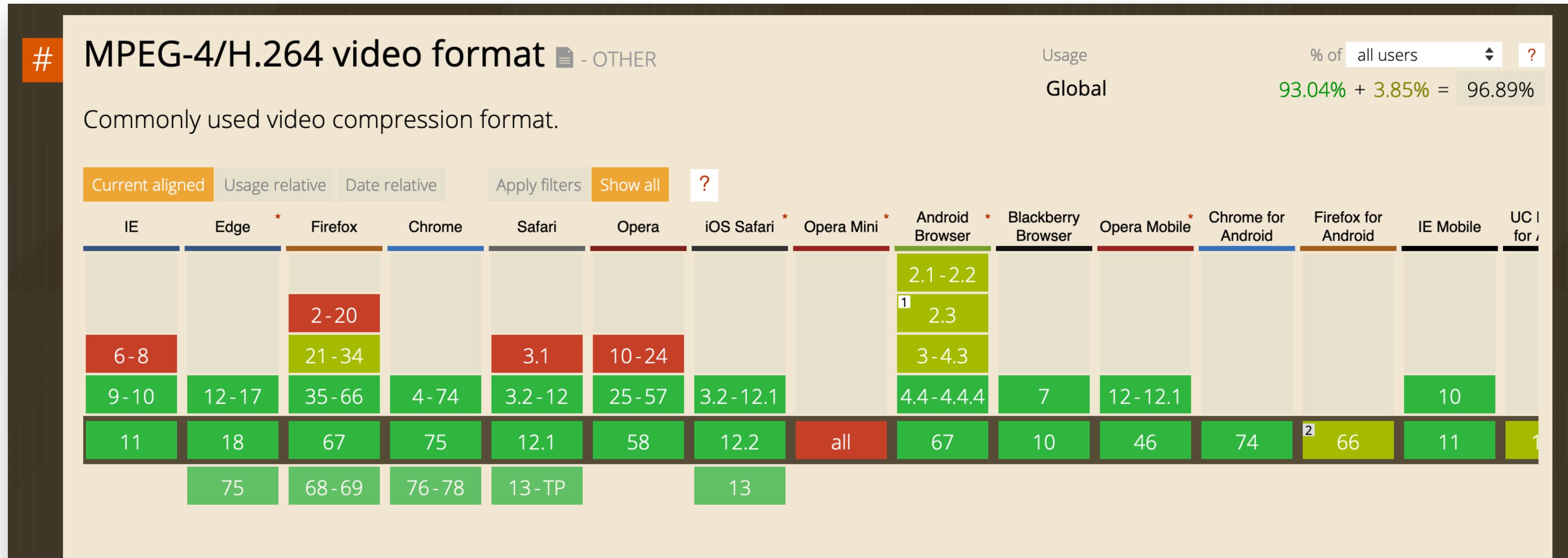
Integrate easily without installing

https://imageoptim.com/mac

Optimizing video

mp4, webm

MPEG-4/H.264 video format 🗎 - OTHER

Commonly used video compression format.

Usage
% of all users ?

Global 93.04% + 3.85% = 96.89%

| Current aligned | Usage relative | Date relative | | Apply filters | Show all | ? |

IE	Edge *	Firefox	Chrome	Safari	Opera	iOS Safari *	Opera Mini *	Android Browser *	Blackberry Browser	Opera Mobile *	Chrome for Android	Firefox for Android	IE Mobile	UC for
								2.1 - 2.2 [1]						
		2 - 20						2.3						
6 - 8		21 - 34		3.1	10 - 24			3 - 4.3						
9 - 10	12 - 17	35 - 66	4 - 74	3.2 - 12	25 - 57	3.2 - 12.1		4.4 - 4.4.4	7	12 - 12.1			10	
11	18	67	75	12.1	58	12.2	all	67	10	46	74	[2] 66	11	
	75	68 - 69	76 - 78	13 - TP		13								

Can I use webm ? ⚙ Settings

2 results found

WebM video format 📄 - OTHER

Multimedia format designed to provide a royalty-free, high-quality open video compression format for use with HTML5 video. WebM supports the video codec VP8 and VP9.
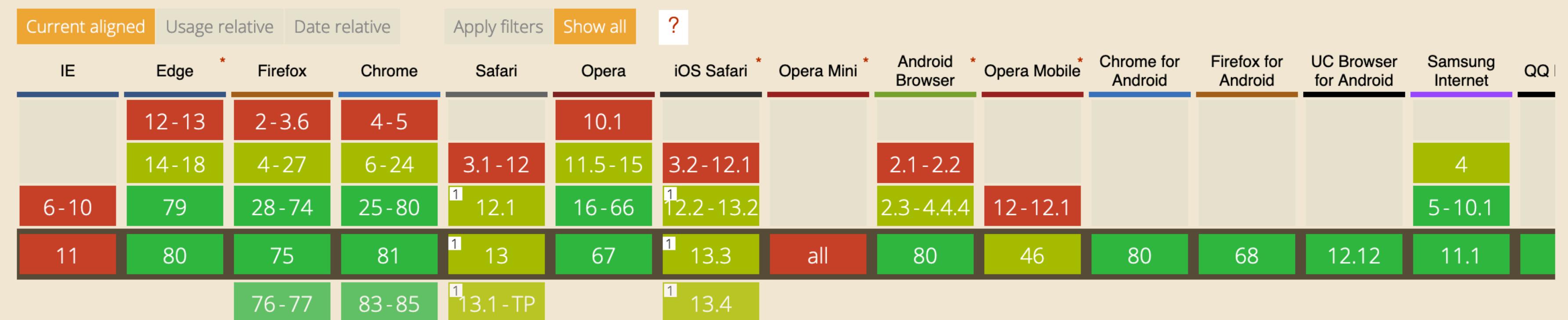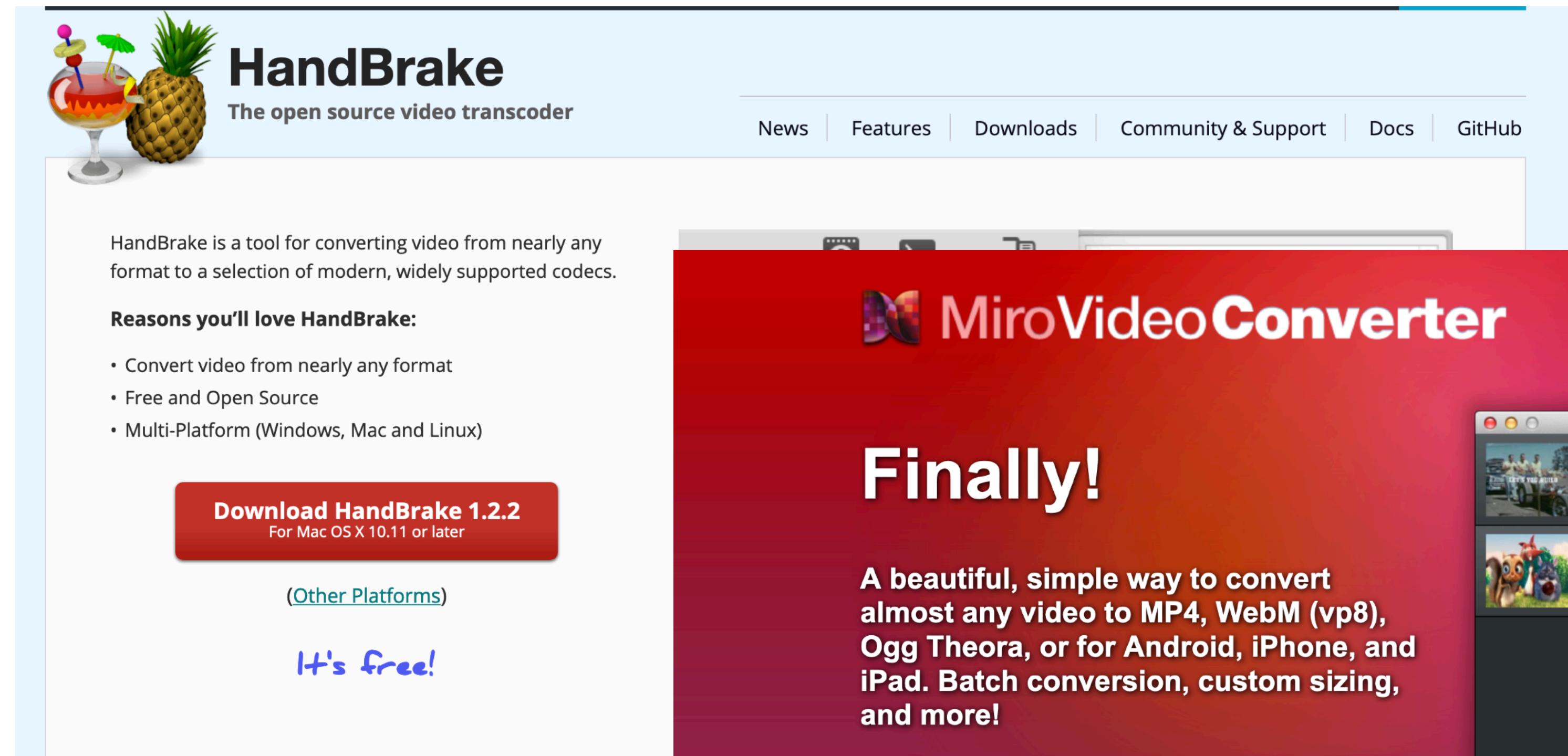
Usage % of all users ?

Global 75.06% + 18.99% = 94.05%

Current aligned | Usage relative | Date relative   Apply filters | Show all   ?

IE	Edge *	Firefox	Chrome	Safari	Opera	iOS Safari *	Opera Mini *	Android Browser *	Opera Mobile *	Chrome for Android	Firefox for Android	UC Browser for Android	Samsung Internet	QQ
	12-13	2-3.6	4-5		10.1									
	14-18	4-27	6-24	3.1-12	11.5-15	3.2-12.1		2.1-2.2					4	
6-10	79	28-74	25-80	[1] 12.1	16-66	[1] 12.2-13.2		2.3-4.4.4	12-12.1				5-10.1	
11	80	75	81	[1] 13	67	[1] 13.3	all	80	46	80	68	12.12	11.1	
		76-77	83-85	[1] 13.1-TP		[1] 13.4								

https://caniuse.com/#search=webm

HandBrake

The open source video transcoder

News   Features   Downloads   Community & Support   Docs   GitHub

HandBrake is a tool for converting video from nearly any format to a selection of modern, widely supported codecs.

Reasons you'll love HandBrake:

• Convert video from nearly any format
• Free and Open Source
• Multi-Platform (Windows, Mac and Linux)

Download HandBrake 1.2.2
For Mac OS X 10.11 or later

(Other Platforms)

It's free!

MiroVideoConverter

From the creators of Miro, a wonderful video player and downloader

Try Miro! (also free and open)

Finally!

A beautiful, simple way to convert almost any video to MP4, WebM (vp8), Ogg Theora, or for Android, iPhone, and iPad. Batch conversion, custom sizing, and more!

100% Free and open-source.

DOWNLOAD   Miro Video **Converter**

Miro Video Converter

Building_on_the_Past.mp4   38%

Big Buck Bunny.mp4   8%

Drag more videos here or Choose Files...

Converting to iPhone 5

Apple ▾   Android ▾   Other ▾   Format ▾

http://www.mirovideoconverter.com/

File Upload & Storage

Cloud Asset Management

Image & Video Manipulation

Optimization & Fast Delivery

Presentation

Image & Video Manipulation

Manipulate your images and videos dynamically to fit any graphics design. Apply effects, resizing, cropping, face detection, watermarks and tons of processing capabilities.

Image manipulation >

Video manipulation >

Optimizing fonts

woff, woff2

FONT SQUIRREL

SEARCH FONTS & FOUNDRIES 🔍

Advertise on Font Squirrel!

Webfont Generator

Usage: Click the "Upload Fonts" button, check the agreement and download your fonts. If you need more fine-grain control, choose the **Expert** option.

UPLOAD FONTS ↑

You currently have no fonts uploaded.

○ **BASIC**
Straight conversion with minimal processing.

● **OPTIMAL**
Recommended settings for performance and speed.

○ **EXPERT…**
You decide how best to optimize your fonts.

Agreement: ☐ **Yes, the fonts I'm uploading are legally eligible for web embedding.**
Font Squirrel offers this service in good faith. Please honor the EULAs of your fonts.

FONT LISTS

Recently Added	Tags
Most Popular	Classifications
Hot Today	Languages
Hot Web Fonts	Foundries
Almost Free	

FIND FONTS

CLASSIFICATIONS

		TAGS	
Sans Serif	429	Paragraph	557
Display	349	Display	534

https://www.fontsquirrel.com/tools/webfont-generator

Use glyphhanger

We can test our site to see what glyphs are used at a URL using a tool we've developed called `glyphhanger`.

Find `glyphhanger` on **GitHub** or **npm**.
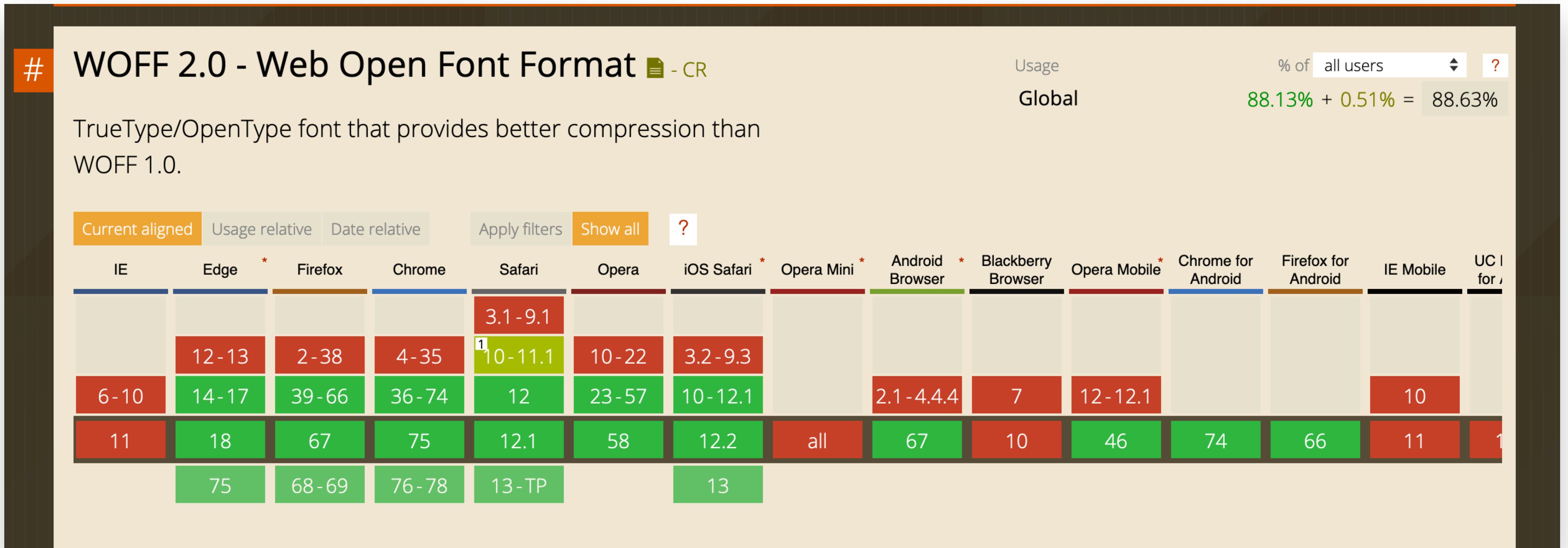
```
npm install -g glyphhanger
```
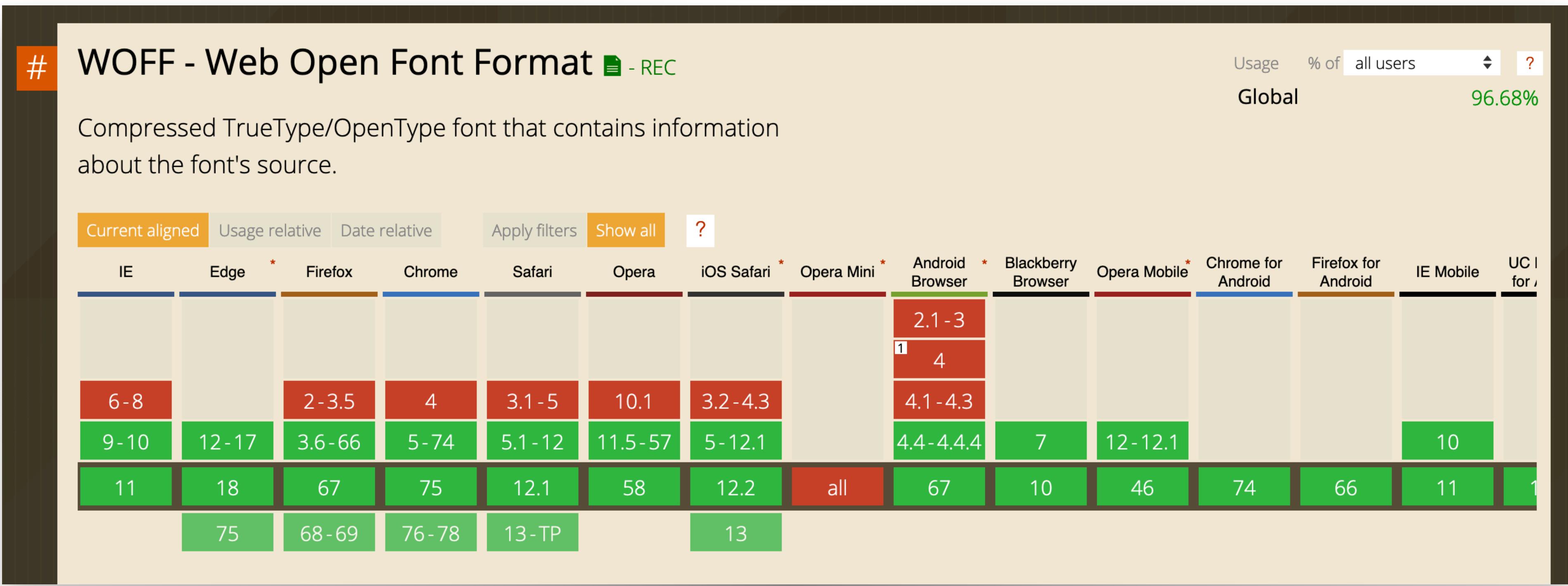
At its simplest, glyphhanger can take a URL and return a Unicode range for all of the content used on the site.

For example (don't include the `$` if you copy these commands):

```
$ glyphhanger https://www.filamentgroup.com/
U+20,U+21,U+26,U+28,U+29,U+2B-38,U+3A,U+3F-47,U+49,U+4C-
50,U+52-55,U+57-5A,U+61-70,U+72-77,U+79,U+7C,U+A9,U+DC,U+2014,U+
2019,U+25A2
```

WOFF 2.0 - Web Open Font Format 📄 - CR

TrueType/OpenType font that provides better compression than WOFF 1.0.

Usage

Global

| Current aligned | Usage relative | Date relative | | Apply filters | Show all | ? |

IE	Edge *	Firefox *	Chrome	Safari	Opera	iOS Safari *	Opera Mini *	Android Browser *	Blackberry Browser	Opera Mobile *	Chrome for Android	Firefox for Android	IE Mobile	UC for A
				3.1 - 9.1										
	12 - 13	2 - 38	4 - 35	10 - 11.1 [1]	10 - 22	3.2 - 9.3								
6 - 10	14 - 17	39 - 66	36 - 74	12	23 - 57	10 - 12.1		2.1 - 4.4.4	7	12 - 12.1			10	
11	18	67	75	12.1	58	12.2	all	67	10	46	74	66	11	
	75	68 - 69	76 - 78	13 - TP		13								

WOFF - Web Open Font Format 📄 - REC

Compressed TrueType/OpenType font that contains information about the font's source.

Current aligned	Usage relative	Date relative		Apply filters	Show all	?

IE	Edge *	Firefox	Chrome	Safari	Opera	iOS Safari *	Opera Mini *	Android Browser *	Blackberry Browser	Opera Mobile *	Chrome for Android	Firefox for Android	IE Mobile	UC for A
								2.1-3						
								4 [1]						
6-8		2-3.5	4	3.1-5	10.1	3.2-4.3		4.1-4.3						
9-10	12-17	3.6-66	5-74	5.1-12	11.5-57	5-12.1		4.4-4.4.4	7	12-12.1			10	
11	18	67	75	12.1	58	12.2	all	67	10	46	74	66	11	
	75	68-69	76-78	13-TP		13								

https://caniuse.com/#search=woff

TT Geekette Variable

A loopy monospaced typeface with adjustable stroke contrast, moving between monoline and horizontal stress, and additional retractable serifs.

Design:	TypeType, Vika Usmanova
Publisher:	TypeTrends
Characters:	Latin, Cyrillic
Release:	2020-02-04
Licensing:	Paid/commercial
Info/fonts:	myfonts.com

ABCDEFGHIJKLMNOPQRSTUV
WXYZ abcdefghijklmnopq
rstuvwxyz 0123456789 A
БВГДЕЖЗИЙКЛМНОПРСТУФХЦ
ЧШЩЪЫЬЭЮЯ абвгдежзийкл
мнопрстуфхцчшщъыьэюя

Ansage Variable

Weight: 50 ———————— 900

ABCDEFGHIJKLMNOPQRSTUVWXYZ

https://v-fonts.com/

Google Fonts

Roboto

Designed by **Christian Robertson**

⬇ Download family

| Select styles | Glyphs | About | License | Pairings |

Styles

Type here to preview text
Almost before we knew it, we had left the ground.

Size 30⬍ px ━━━●━━━━━

Thin 100

Almost before we knew it, we had left the ground.

— Remove this style

Thin 100 italic

Almost before we knew it, we had left the ground.

+ Select this style

Selected family ✕

| Review | Embed |

To embed a font, copy the code into the <head> of your html

<link>   **@import**

```
<link href="https://googl
eapis.com/css2?family=Roboto:it
al,wght@0,100;0,500;1,500&displ
ay=swap" rel="stylesheet">
```

CSS rules to specify families

```
font-family: 'Roboto', sans-ser
if;
```

🔗

https://fonts.google.com/

Removing unused text

Uncss, tree shaking

Minify Text Files

```
@charset "UTF-8";.dialog-open:focus,.snapper:focus{outline:0}.carousel-nav-paginated .carousel-active-page a,.tablesaw-btn,.tablesaw-
btn:hover,a{text-decoration:none}.collapsible-enhanced.collapsible-collapsed .collapsible-content,.enhanced .collapsible-
collapsed .collapsible-content{display:none}.dialog-background,.dialog-
content{position:absolute;top:0;left:0;right:0;display:none}.carousel,.carousel-
slide,.snapper,.snapper_item,.snapper_nav,.snapper_nextprev_contain,.snapper_pane{position:relative}.dialog-
background{background:#aaa;filter:alpha(opacity=40);background-color:rgba(0,0,0,.4);z-index:99999;height:100%;bottom:0}.dialog-
content{margin:1em;background:#fff;padding:1em 2em;max-width:30em;box-shadow:0 1px 2px #777;z-index:100000}@media (min-width:30em)
{.dialog-content{width:30em}}.dialog-background-open,.dialog-open{display:block}.dialog-background-trans{background:0 0}@media (min-
width:32em){.dialog-content{margin:4em auto
1em}}.snapper:after,.snapper:before,.snapper_items:after,.snapper_items:before,.snapper_nav:after,.snapper_nav:before,.snapper_nextprev_c
ontain:after,.snapper_nextprev_contain:before{content:"
";display:table}.snapper:after,.snapper_items:after,.snapper_nav:after,.snapper_nextprev_contain:after{clear:both}.snapper *{box-
sizing:border-box}.enhanced .snapper_pane_crop,.snapper-
enhanced .snapper_pane_crop{overflow:hidden}.enhanced .snapper_pane_crop .snapper_pane,.snapper-
enhanced .snapper_pane_crop .snapper_pane{padding-bottom:30px;margin-bottom:-30px}.snapper_pane{overflow-x:auto;overflow-y:hidden;white-
space:nowrap;width:100%;-webkit-overflow-scrolling:touch;-webkit-scroll-snap-type:mandatory;-ms-scroll-snap-type:mandatory;scroll-snap-
type:mandatory;-webkit-scroll-snap-points-x:repeat(100%);-ms-scroll-snap-points-x:repeat(100%);scroll-snap-points-
x:repeat(100%)}.snapper_item{width:100%;white-space:normal;scroll-snap-align:start}.enhanced .snapper_item,.snapper-
enhanced .snapper_item{display:none}.enhanced .snapper_item:first-child,.snapper-enhanced .snapper_item:first-child,.snapper-
enhanced .snapper_item[style]{display:block}.snapper-enhanced .snapper_item:first-child,.snapper-enhanced .snapper_item[style]
{float:left!important;clear:none!important}.checkbox,.form-group:after,.radiobutton,.sect-group:after,.tablesaw-bar,.tablesaw-bar-section
label,.tablesaw-bar-section~table{clear:both}.snapper_item img{width:100%}.snapper_nav{margin:1em
0;overflow:hidden}.snapper_nav_inner{overflow:auto;-webkit-overflow-scrolling:touch;white-space:nowrap;padding:2px 1px 30px;margin-
bottom:-30px;height:84px}.snapper_nav a{overflow:hidden;white-space:normal;display:inline-block;float:none;vertical-
align:middle;height:50px;margin:0 5px 0 0}.snapper_nav img{display:block;height:100%;width:auto;max-
width:100%}.carousel{width:100%}.carousel .carousel-item{display:none}.carousel .carousel-active{display:block}.carousel-fade .carousel-
item:not(.carousel-active){pointer-events:none}.carousel .carousel-nav:nth-child(2){display:none}.carousel-slide{overflow:hidden;-webkit-
transform:translate3d(0,0,0);-moz-transform:translate3d(0,0,0);-ms-transform:translate3d(0,0,0);-o-
transform:translate3d(0,0,0);transform:translate3d(0,0,0)}.carousel-slide .carousel-
item{position:absolute;left:100%;top:0;width:100%;display:block;z-index:1}.carousel-nav-paginated li,.carousel-nav-paginated li
a,.politespace-proxy{position:relative;display:inline-block}.carousel-slide .carousel-active{left:0;position:relative;z-
index:3}.carousel-slide .carousel-item-next{z-index:2}.carousel-slide .carousel-in{left:0}.carousel-slide-reverse .carousel-
out{left:100%}.carousel-slide .carousel-out,.carousel-slide-reverse .carousel-in{left:-100%}.carousel-slide-reverse .carousel-item{-
webkit-transition:left .1s ease;-moz-transition:left .1s ease;-ms-transition:left .1s ease;-o-transition:left .1s ease;transition:left
.1s ease}.carousel-slide-reverse .carousel-active{left:0}.carousel-item.no-transition{transition:none!important}.carousel-slide.carousel-
autoplay-stopped .carousel-item{-webkit-transition:left .1s ease;-moz-transition:left .1s ease;-ms-transition:left .1s ease;-o-
transition:left .1s ease;transition:left .1s ease}.carousel-nav-paginated ol{margin:0 4em;padding:0}.politespace-proxy-
```

We've been hosted on **Digital Ocean** since 2013 and highly recommend it for your hosting too. **Try it now!**

CSS Minifier

Online CSS Minifier/Compressor. Free! Provides an API. Simple Quick and Fast.

Written and hosted by Andrew Chilton (@andychilton) since 2009.

Input CSS

Minified Output

Nouveau Papier Mâché

Products   Pricing   Documentation   Community

npm

🔍 Search packages   Search | Sign Up | Sign In

Get unlimited public & private packages + package-based permissions with npm Pro. **Get started »**

cssmin

0.4.3 • `Public` • Published 5 years ago

📄 **Readme**   📄 Explore `BETA`   📦 **0** Dependencies   🔗 **105** Dependents   🏷️ **9** Versions

Description

Install

This is a node.js module that minimize CSS files (cssmin). It uses a port of YUICompressor made in JavaScript by Stoyan Stefanov based on Isaac Schlueter work. **For more informations about YUICompressor**

```
> npm i cssmin
```

⬇ Weekly Downloads

165,742

Installation

svg / **svgo**

📦 Used by ⌄ | 1,174,202   👁 Watch ⌄ | 246   ★ Star | 11,987   ⑂ Fork | 895

<> **Code**   ⊘ Issues 241   ⑂ Pull requests 23   ▣ Projects 0   ▦ Wiki   🛡 Security   📊 Insights

🐯 Node.js tool for optimizing SVG files

svg   minification   nodejs   svgo   javascript   optimization   cli

⊙ **979** commits   ⑂ **2** branches   🏷 **67** releases   👥 **121** contributors   ⚖ View license

Branch: master ⌄   New pull request   Create new file   Upload files   Find File   **Clone or download** ⌄

👤 **GreLI** Fix removeUnusedNS not counting usage in <svg> tag   ···   Latest commit 95f7603 29 days ago

📁 bin	lib/svgo/	7 years ago
📁 docs/how-it-works	Update ko.md	last year
📁 examples	fix for references nonexistent transformsWithOnePath plugin (#980)	last year
📁 lib	Updage changelog and documentation parts	2 months ago
📁 plugins	Fix removeUnusedNS not counting usage in <svg> tag	29 days ago
📁 test	Fix removeUnusedNS not counting usage in <svg> tag	29 days ago

🔗

https://github.com/svg/svgo

IMAGE   MARKUP

Global settings

Show original

Compare gzipped

Prettify markup

Precision

Features

Remove doctype

Remove XML instructions

Remove comments

Remove <metadata>

Remove xmlns

Remove editor data

8.54k → 5.08k 59.52%

https://jakearchibald.github.io/svgomg/

Newly Potted Mandrakes

Products   Pricing   Documentation   Community

npm

Search packages   Search   Sign Up   Sign In

Need private packages and team management tools? **Check out npm Teams »**

uglify-js

3.9.1 • Public • Published 9 days ago

Readme   Explore BETA   1 Dependency   3,624 Dependents   227 Versions

UglifyJS 3

UglifyJS is a JavaScript parser, minifier, compressor and beautifier toolkit.

Note:
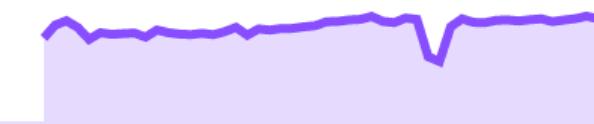
- `uglify-js@3` has a simplified API and CLI that is not backwards compatible with `uglify-js@2`.
- Documentation for UglifyJS `2.x` releases can be found here.

Install

```
> npm i uglify-js
```

↓ **Weekly Downloads**

12,572,989

Version   License

UnCSS

`npm` `v0.17.0` `Linux build` `passing` `Windows build` `failing` `coverage` `97%` `dependencies` `up to date` `dev dependencies` `up to date`

UnCSS is a tool that removes unused CSS from your stylesheets. It works across multiple files and supports Javascript-injected CSS.

How

The process by which UnCSS removes the unused rules is as follows:

1. The HTML files are loaded by jsdom and JavaScript is executed.
2. All the stylesheets are parsed by PostCSS.
3. `document.querySelector` filters out selectors that are not found in the HTML files.
4. The remaining rules are converted back to CSS.

Please note:

- UnCSS cannot be run on non-HTML pages, such as templates or PHP files. If you need to run UnCSS against your templates, you should probably generate example HTML pages from your templates, and run uncss on those

https://github.com/uncss/uncss

UnCSS Online!

Simply UnCSS your styles online!

Usage:

- Copy&paste your HTML and CSS into boxes below
- Click button
- Wait for magic to happen
- Unused CSS is gone, take the rest and use it!

Your HTML

Insert your HTML here

Your CSS

Insert your CSS here

UNCSS MY STYLES

https://uncss-online.com/

EDIT DOCUMENT ✎ | PRINT DOCUMENT 🖨

Tree Shaking

Tree shaking is a term commonly used in the JavaScript context for dead-code elimination. It relies on the **static structure** of ES2015 module syntax, i.e. `import` and `export`. The name and concept have been popularized by the ES2015 module bundler **rollup**.

The webpack 2 release came with built-in support for ES2015 modules (alias *harmony modules*) as well as unused module export detection. The new webpack 4 release expands on this capability with a way to provide hints to the compiler via the `"sideEffects"` `package.json` property to denote which files in your project are "pure" and therefore safe to prune if unused.

> The remainder of this guide will stem from **Getting Started**. If you haven't read through that guide already, please do so now.

Add a Utility

Let's add a new utility file to our project, `src/math.js`, that exports two functions:

project
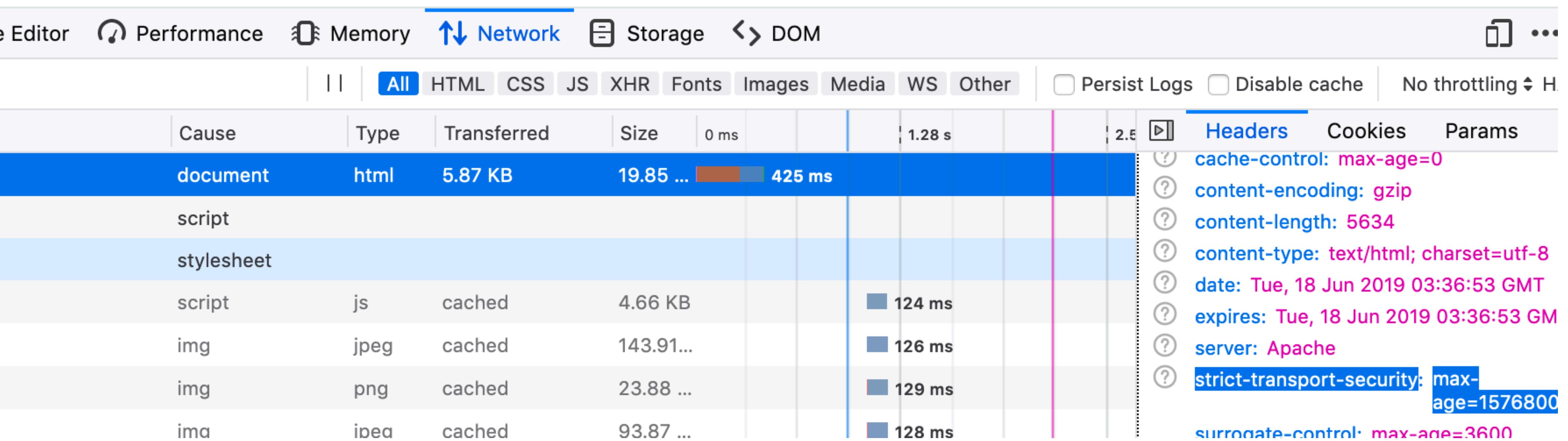
Compress for Transit

Gzip / Brotli

Gzip Text Files: CSS, JS, SVG,

```
<ifModule mod_deflate.c>
  <filesMatch "\.(html|svg|js|css)$">
    SetOutputFilter DEFLATE
  </filesMatch>
</ifModule>
```

ABOUT   WORK   BLOG   CODE   HIRE US

up

| | All HTML CSS JS XHR Fonts Images Media WS Other   ☐ Persist Logs   ☐ Disable cache   No throttling ⇅ H.

| Cause | Type | Transferred | Size | 0 ms | | 1.28 s | | 2.5 | ▷ | Headers | Cookies | Params |

										cache-control: max-age=0
document	html	5.87 KB	19.85 ...	▬▬ 425 ms					?	content-encoding: gzip
script									?	content-length: 5634
stylesheet									?	content-type: text/html; charset=utf-8
script	js	cached	4.66 KB		▬ 124 ms				?	date: Tue, 18 Jun 2019 03:36:53 GMT
img	jpeg	cached	143.91...		▬ 126 ms				?	expires: Tue, 18 Jun 2019 03:36:53 GM
									?	server: Apache
img	png	cached	23.88 ...		▬ 129 ms				?	strict-transport-security: max-age=1576800
img	jpeg	cached	93.87 ...		▬ 128 ms					surrogate-control: max-age=3600

Brotli: smaller than gzip

```
AddOutputFilterByType BROTLI_COMPRESS text/html text/
plain text/xml text/css text/javascript application/
javascript
```

Can I use brotli ? ⚙ Settings

1 result found

Brotli Accept-Encoding/Content-Encoding 📄 - OTHER
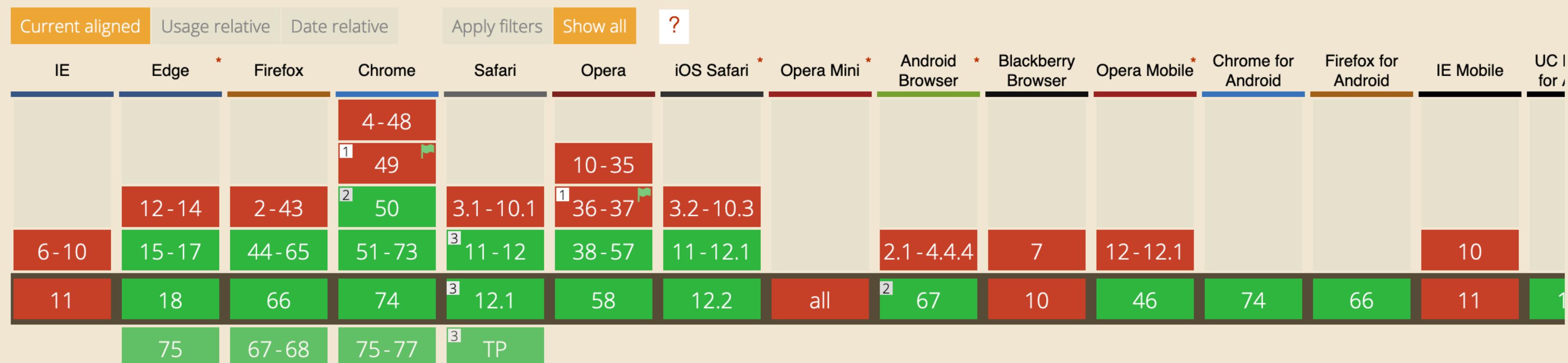
Usage | % of | all users | ?

Global | 90.06%

More effective lossless compression algorithm than gzip and deflate.

Current aligned | Usage relative | Date relative | Apply filters | Show all | ?

IE	Edge *	Firefox	Chrome	Safari	Opera	iOS Safari *	Opera Mini *	Android Browser *	Blackberry Browser	Opera Mobile *	Chrome for Android	Firefox for Android	IE Mobile	UC for A
			4 - 48											
			[1] 49 🚩		10 - 35									
	12 - 14	2 - 43	[2] 50	3.1 - 10.1	[1] 36 - 37 🚩	3.2 - 10.3								
6 - 10	15 - 17	44 - 65	51 - 73	[3] 11 - 12	38 - 57	11 - 12.1		2.1 - 4.4.4	7	12 - 12.1			10	
11	18	66	74	[3] 12.1	58	12.2	all	[2] 67	10	46	74	66	11	1
	75	67 - 68	75 - 77	[3] TP										

https://caniuse.com/#search=brotli

22 April, 2020

Real-World Effectiveness of Brotli

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One of the more fundamental rules of building fast websites is to optimise your assets, and where text content such as HTML, CSS, and JS are concerned, we're talking about *compression*.

The de facto text-compression of the web is Gzip, with around 80% of compressed responses favouring that algorithm, and the remaining 20% use the much newer *Brotli*.

Of course, this total of 100% only measures compressible responses that actually were compressed—there are still many millions of resources that could or should have been compressed but were not. For a more detailed breakdown of the numbers, see the *Compression* section of the Web Almanac.

Gzip is tremendously effective. The entire works of Shakespeare weigh in at 5.3MB in plain-text format; after Gzip (compression level 6), that number comes down to 1.9MB. That's a 2.8× decrease in file-size with zero loss of data. Nice!

Hi there, I'm Harry. I am an **award-winning** **Consultant Web Performance Engineer**, **designer**, **developer**, **writer**, and **speaker** from the UK. I **write**, **Tweet**, **speak**, and **share code** about measuring and improving site-speed. You **should hire me**.

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https://csswizardry.com/2020/04/real-world-effectiveness-of-brotli/

More Weight != More Wait

3.9 secs

12.5 secs