

The background features a large, dark, metallic spiral staircase structure, viewed from a low angle looking up. The spiral has several levels of treads and railings, creating a sense of depth and motion.

Weniger aus Bilder holen

Walter Ebert @wltrd

WordCamp Nürnberg 16./17. April 2016

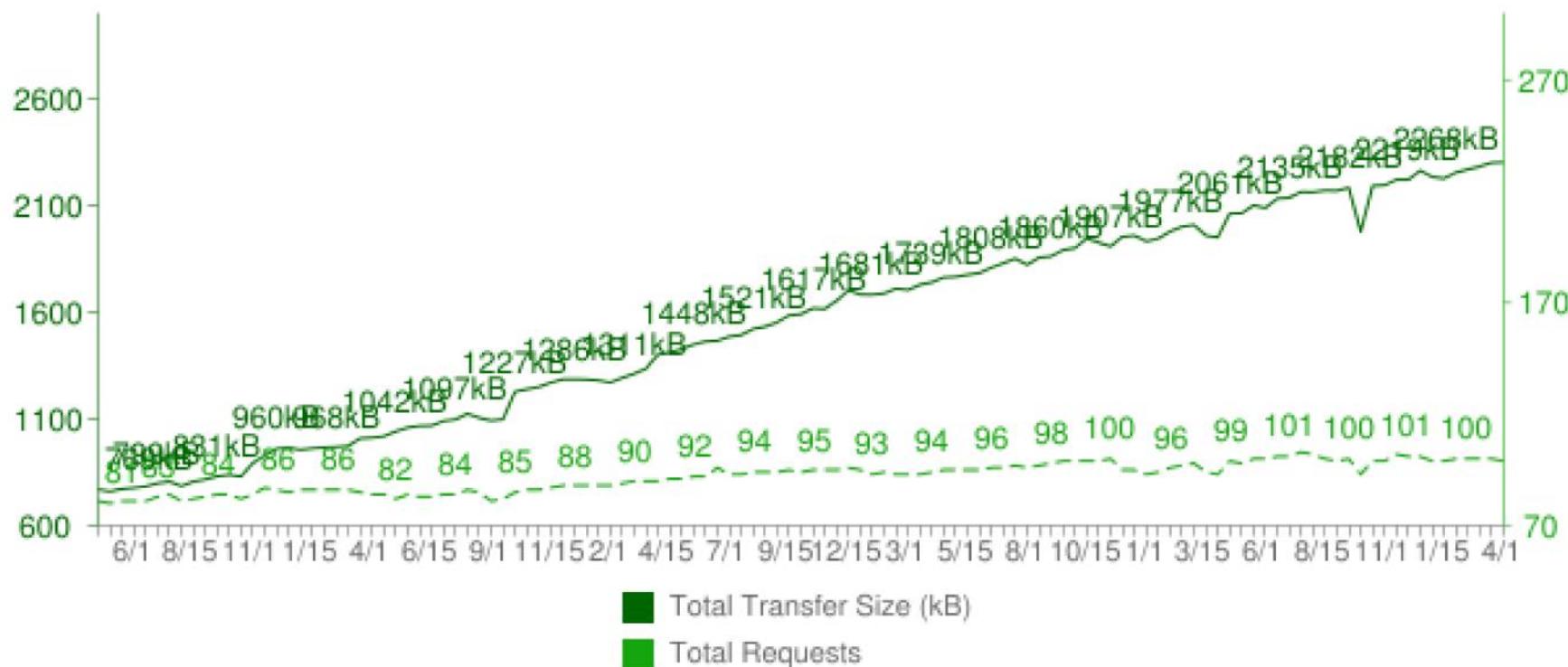


@wltrd

walterebert.de

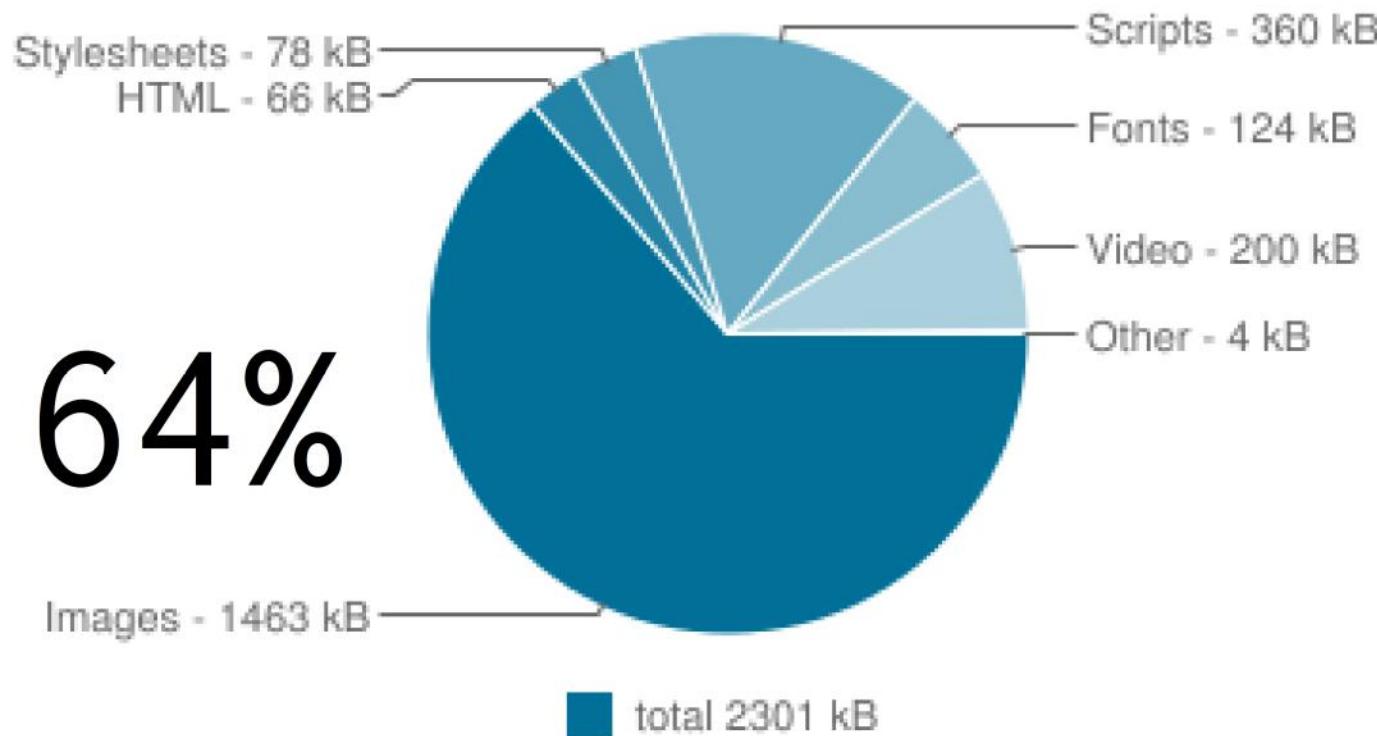
slideshare.net/walterebert

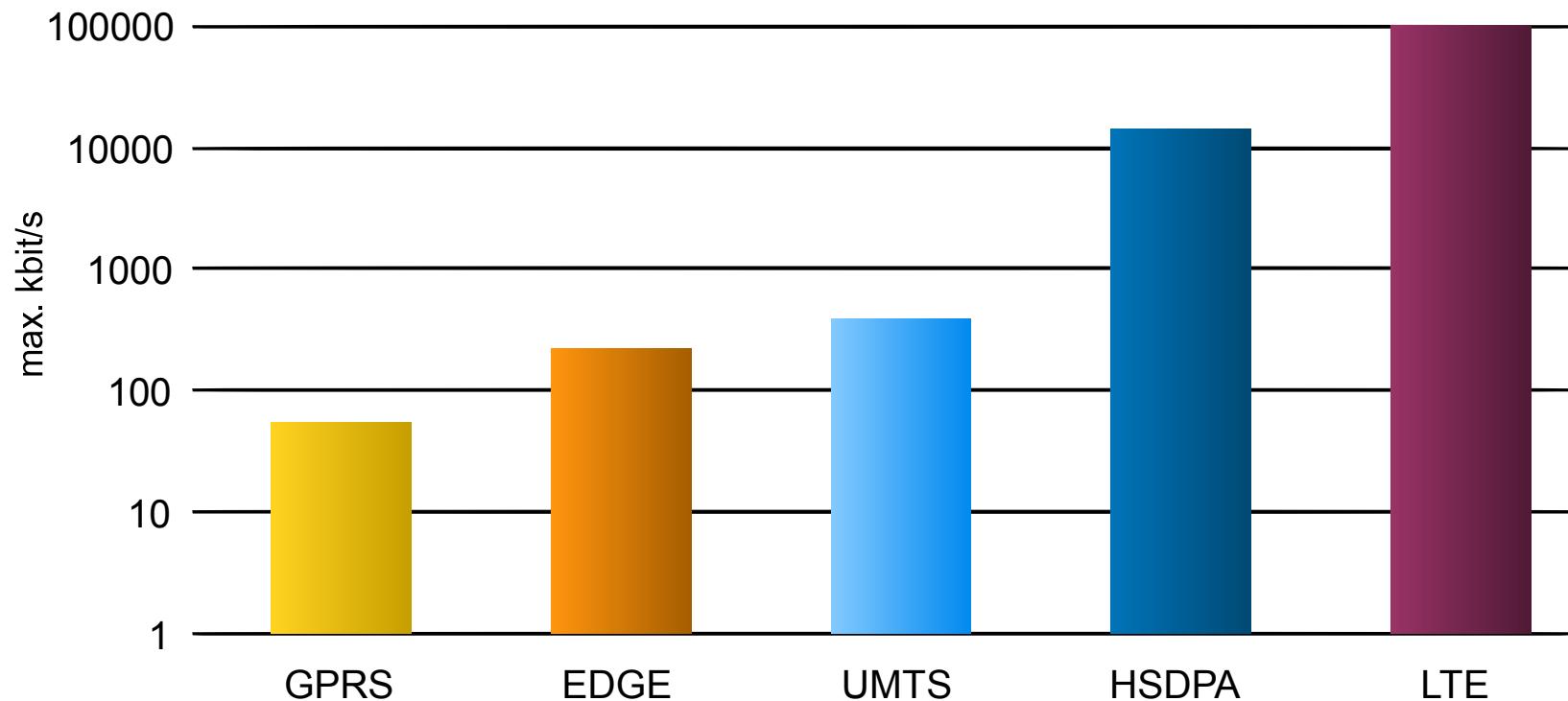
Total Transfer Size & Total Requests



0,7MB (2011) » 2,3MB (2016)

Average Bytes per Page by Content Type







Rate Advice

22/01

From 3: It's max of £2.00/min to call, £1.25/min to receive a call, 35p to send SMS & £6.00/MB to use web & email.

Fri 22:54

**Christian Heilmann**

@codepo8

Developer Evangelist - all the

<https://twitter.com/codepo8/status/705061006683348992>

PageSpeed Insights



https://2015.europe.wordcamp.org/

ANALYSIEREN



Mobil



Desktop

33 / 100 Übersicht über die Vorschläge

! Behebung erforderlich:**Bilder optimieren**

Durch eine korrekte Formatierung und Komprimierung von Bildern können viele Datenbytes gespart werden.

Optimieren Sie die folgenden Bilder, um ihre Größe um 1,8 MB (70 %) zu reduzieren.

Durch die Komprimierung und Größenanpassung von <https://2015.europe.wordcamp.org/files/2015/09/Gruppe-5-A2-1000x1414.jpg> könnten 306,5 KB (90 %) eingespart werden.

Durch die Komprimierung und Größenanpassung von <https://2015.europe.wordcamp.org/files/2015/09/Gruppe-1-A2-1000x1414.jpg> könnten 305,2 KB (90 %) eingespart werden.

Durch die Komprimierung und Größenanpassung von <https://2015.europe.wordcamp.org/files/2015/09/speakersketch-1000x1414.jpg> könnten 303,4 KB (90 %) eingespart werden.

Durch die Komprimierung und Größenanpassung von <https://2015.europe.wordcamp.org/files/2015/09/>



Bildformate

GIF

PNG

JPEG

Bildformate

GIF Gut für Logos / Grafiken

PNG Transparenz

JPEG Maximal 256 Farben

Animationen

Bildformate

GIF

PNG Gut für Logos / Grafiken

JPEG Transparenzstufen

PNG8 = 256 Farben (\pm 21% kleiner als GIF)

Komprimierung einstellbar 1 – 9

Bildformate

GIF

PNG Gut für Fotos

JPEG Keine Transparenzen

Bildqualität einstellbar 1% - 100%

- * WordPress < 4.5: 90%

- * WordPress 4.5:

- 82%

- `WP_Image_Editor_Imagick::strip_image()`

Bildoptimierungswerkzeuge

ImageOptim (Mac)

<https://imageoptim.com/>

<https://github.com/JamieMason/ImageOptim-CLI>

FileOptimizer (Windows)

<http://sourceforge.net/projects/nikkhokkho/files/FileOptimizer/>

Trimage (Linux)

<http://trimage.org/>

imagemin

NPM

<https://www.npmjs.com/package/imagemin>

gulp-imagemin

<https://github.com/sindresorhus/gulp-imagemin>

grunt-contrib-imagemin

<https://github.com/gruntjs/grunt-contrib-imagemin>

Bildformate

GIF

PNG

JPEG

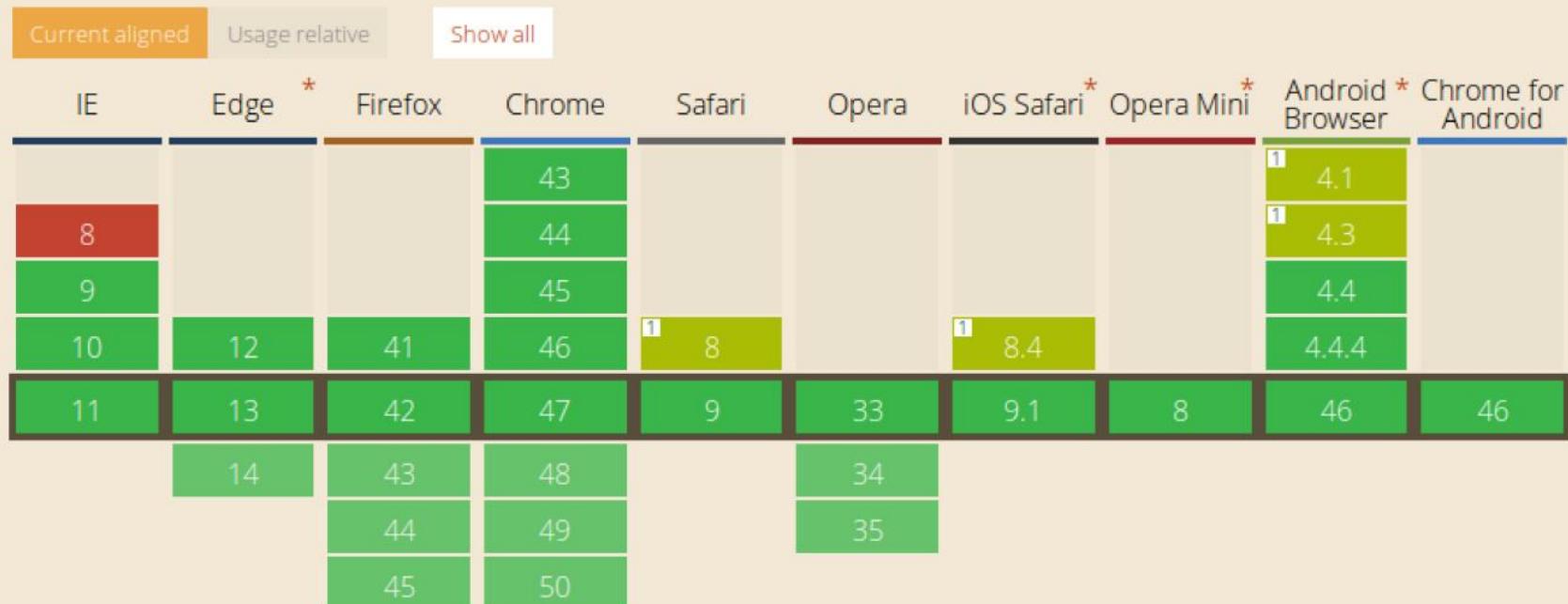
SVG Vektorgrafiken

Animationen

CSS

JavaScript

Method of displaying SVG images in HTML using .



Notes Known issues (2) Resources (3) Feedback

¹ Partial support refers to not supporting embedded images (data URIs) inside the SVG.

= Supported = Not supported = Partial support = Support unknown

Backlink Checker Tool

Check all backlinks of any website. Free trial - buy it if you like it.



SVG mit Fallback

```

```

```

```

SVG optimieren

Scour

<http://www.codedread.com/scour/>

SVGO

<https://github.com/svg/svgo>

SVGOMG (online)

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

.htaccess

```
AddType image/svg+xml svg svgz
```

```
<IfModule mod_mime.c>
AddEncoding gzip svgz
</IfModule>
```

```
<IfModule mod_deflate.c>
AddOutputFilterByType DEFLATE image/svg+xml
</IfModule>
```

SVG-Upload

```
function meins_svg_upload( $mimetypes ) {  
    $mimetypes['svg'] = 'image/svg+xml';  
    $mimetypes['svgz'] = 'image/svg+xml';  
    return $mimetypes;  
}  
  
add_filter( 'upload_mimes', 'meins_svg_upload' );
```

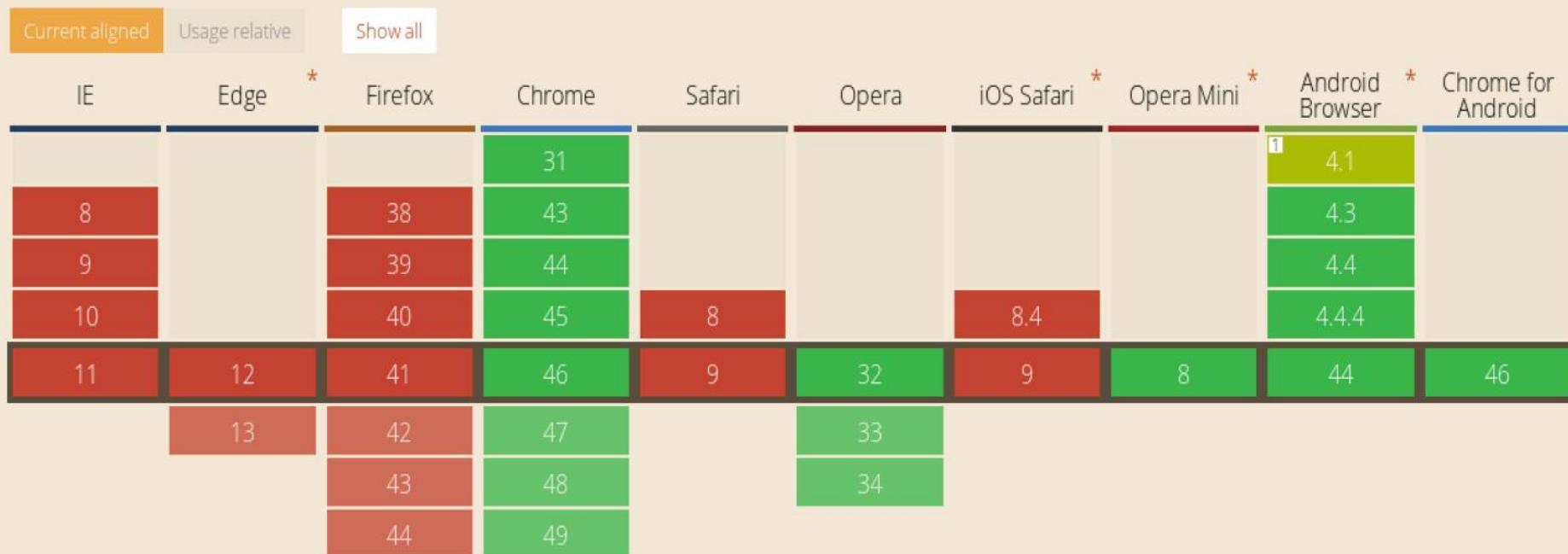
WebP image format

- UNOFF

Global

65.57% + 1.15% = 66.72%

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



Notes

Known issues (0)

Resources (9)

Feedback

Animated WebP images are supported in Chrome 32+ and Opera 19+.

Current MS Edge status: Not currently planned

1 Partial support in older Chrome, Opera and Android refers to browsers not supporting lossless and alpha versions of WebP.

WebP mit Fallback

```
<picture>
  <source srcset="image.webp" type="image/webp">
    
</picture>
```

JPEG-XR, JPEG-2000, WebP + JPEG

```
<picture>
```

IE/Edge

```
  <source srcset="image.jxr" type="image/vnd.ms-photo">
```

```
  <source srcset="image.jp2" type="image/jp2">
```

Safari

```
  <source srcset="image.webp" type="image/webp">
```

Chrome

```
    
```

```
</picture>
```

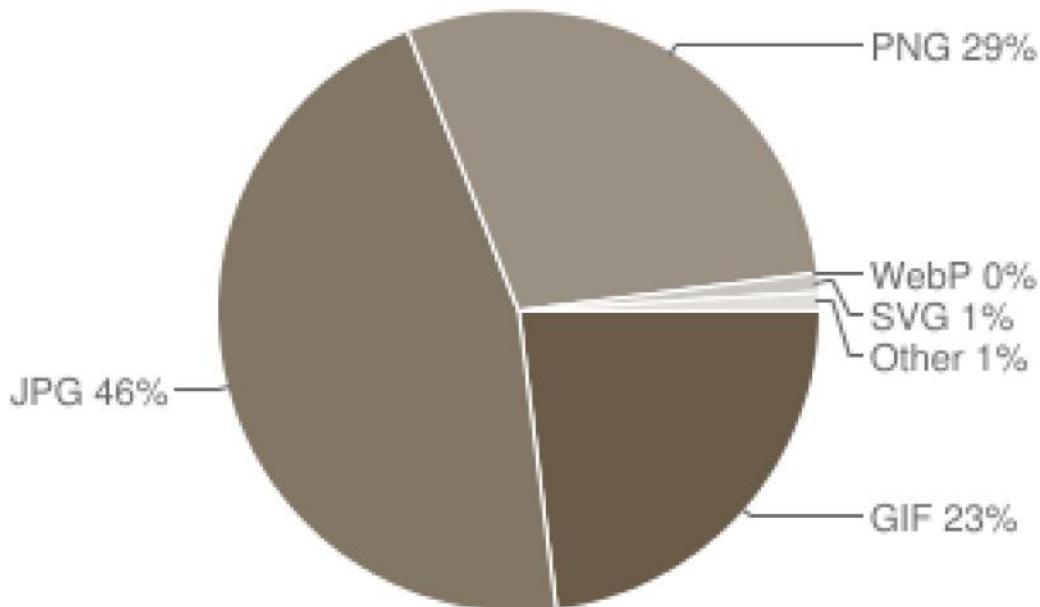
HTML5 figure

```
<figure>  
  
  
  
<figcaption>  
Beschreibung darf HTML enthalten <a rel="license"  
href="http://creativecommons.org/licenses/by/4.0/">  
Creative Commons Namensnennung 4.0 International  
Lizenz</a>.  
</figcaption>  
</figure>
```

.htaccess

```
<IfModule mod_expires.c>
ExpiresByType image/gif          "access plus 1 month"
ExpiresByType image/png           "access plus 1 month"
ExpiresByType image/jpeg          "access plus 1 month"
ExpiresByType image/svg+xml       "access plus 1 month"
ExpiresByType image/webp          "access plus 1 month"
ExpiresByType image/vnd.ms-photo  "access plus 1 month"
ExpiresByType image/jp2           "access plus 1 month"
</IfModule>
```

Image Requests by Format





Original JPEG

853K

2592 x 1456 pixel

jpegtran

742K jpegtran -copy none -optimize

708K jpegtran -copy none -optimize -progressive

mozjpeg

704K jpegtran -copy none

697K jpegtran -copy none -fastcrush



Original JPEG

853K

2592 x 1456 pixel

jpegtran

742K jpegtran -copy none -optimize

708K jpegtran -copy none -optimize -progressive

mozjpeg

704K jpegtran -copy none

697K jpegtran -copy none -fastcrush **-18%**



Original JPEG

853K

2592 x 1456 pixel

697K JPEG quality 85

588K JPEG quality 75

327K JPEG quality 50



Original JPEG

853K

2592 x 1456 pixel

697K JPEG quality 85

588K JPEG quality 75

327K JPEG quality 50

225K JPEG 1024 x 575

96K JPEG 640 x 360

40K JPEG 320 x 180

In 2012 waren
86%
der responsive Webseiten
in der Mobil-Ansicht
genau so schwer
wie in der Desktop-Ansicht



RESPONSIVE IMAGES COMMUNITY GROUP

We're a group of developers working towards a markup-based means of delivering alternate image sources based on device capabilities to prevent wasted bandwidth and optimize display for both screen and print.

JOIN US!



Examples of [art direction](#). See more [demos of responsive images](#).

WHAT IS THE `PICTURE` ELEMENT?

The picture element is a markup pattern that allows developers to declare multiple sources for an image. By using media queries, it gives developers control as to when and if those images are presented to the user.

SAMPLE MARKUP FOR `PICTURE`

```
<picture>
  <source media="(min-width: 40em)" srcset="big.jpg 1x,
  big-hd.jpg 2x">
  <source srcset="small.jpg 1x, small-hd.jpg 2x">
  
```

WHAT IS THE `SRCSET` ATTRIBUTE?

The srcset attribute is an extension to the existing img tag that provides some of the functionality of the picture element. It uses a more concise syntax, part of which can be used by the picture element.

SAMPLE MARKUP FOR `SRCSET`

```

```

[Read the srcset Specification](#)

[Example srcset parser](#)

WordPress Responsive Images

```
<?php  
function meins_sizes( $sizes, $size ) {  
    return '(max-width: 800px) 100vw, 680px';  
}  
add_filter( 'wp_calculate_image_sizes', 'meins_sizes', 10, 2 );  
  
$src = wp_get_attachment_image_url( $img_id );  
$srcset = wp_get_attachment_image_srcset( $img_id );  
$sizes = wp_get_attachment_image_sizes( $img_id );  
?>  
  
"  
     sizes="<?= esc_attr( $sizes ); ?>"  
     alt="">
```

HTML5 picture

```
<picture>  
  <source srcset="S.jpg" media="(max-width: 800px)">  
  <source srcset="L.jpg" media="(min-width: 1281px)">  
    
</picture>
```



EWWW Image Optimizer

Reduce file sizes for images in WordPress including NextGEN, GRAND FlAGallery and more using lossless/lossy methods and image format conversion.

[Download Version 2.4.1](#)

[Description](#) [Installation](#) [FAQ](#) [Screenshots](#) [Other Notes](#) [Changelog](#) [Stats](#) [Support](#) [Reviews](#) [Developers](#)

The EWWW Image Optimizer is a WordPress plugin that will automatically optimize your images as you upload them to your blog. It can optimize the images that you have already uploaded, convert your images automatically to the file format that will produce the smallest image size (make sure you read the WARNINGS), and optionally apply lossy reductions for PNG and JPG images.

Requires: 3.5 or higher
Compatible up to: 4.2.2
Last Updated: 2015-5-14
Active Installs: 100,000+

<https://wordpress.org/plugins/ewww-image-optimizer/>

Ratings

Conversion is only available for images in the Media Library (except WebP). By default, all images have a link available in the Media Library for one-time conversion. Turning on individual conversion operations below will enable conversion filters any time an image is uploaded or modified.

NOTE: The plugin will attempt to update image locations for any posts that contain the images. You may still need to manually update locations/urls for converted images.

Hide Conversion Links

Site or Network admins can use this to prevent other users from using the conversion links in the Media Library which bypass the settings below.

Delete originals

This will remove the original image from the server after a successful conversion.

JPG/PNG to WebP

WARNING: JPG to WebP conversion is lossy, but quality loss is minimal. PNG to WebP conversion is lossless.

Originals are never deleted, and WebP Images should only be served to supported browsers. [You can use the rewrite rules below to serve WebP Images with Apache.](#)

Alternative WebP Rewriting

Uses output buffering and libxml functionality from PHP. Use this if the Apache rewrite rules do not work, or if your images are served from a CDN.

enable JPG to PNG conversion

WARNING: Removes metadata and increases cpu usage dramatically.

JPG is generally much better than PNG for logos and other images with a limited range of colors. Checking this option will slow down JPG processing significantly, and you may want to enable it only temporarily.

enable PNG to JPG conversion

WARNING: This is not a lossless conversion.

JPG is generally much better than PNG for photographic use because it compresses the image and discards data. PNGs with transparency are not converted by default.

JPG background color: # HEX format (#123def).

Background color is used only if the PNG has transparency. Leave this value blank to skip PNGs with transparency.

Bildoptimierungsdienste

Kraken.io

<https://wordpress.org/plugins/kraken-image-optimizer/>

Optimus

<https://wordpress.org/plugins/optimus/>

TinyPNG

<https://wordpress.org/plugins/tiny-compress-images/>

Imagify

<https://wordpress.org/plugins/imagify/>



Imsanity

Imsanity automatically resizes huge image uploads. Are contributors uploading huge photos? Tired of manually scaling? Imsanity to the rescue!

[Download Version 2.3.5](#)

[Description](#) [Installation](#) [FAQ](#) [Screenshots](#) [Changelog](#) [Stats](#) [Support](#) [Reviews](#) [Developers](#)

Imsanity automatically resizes huge image uploads down to a size that is more reasonable for display in browser, yet still more than large enough for typical website use. The plugin is configurable with a max width, height and quality. When a contributor uploads an image that is larger than the configured size, Imsanity will automatically scale it down to the configured size and replace the original image.

Requires: 2.9 or higher
Compatible up to: 4.1.5
Last Updated: 2015-2-28
Active Installs: 80,000+

[Ratings](#)

<https://wordpress.org/plugins/imsanity/>

Regenerate Thumbnails

Allows you to regenerate your thumbnails after changing the thumbnail sizes.

[Download Version 2.2.6](#)

[Description](#) [Installation](#) [Screenshots](#) [Changelog](#) [Stats](#) [Support](#) [Reviews](#) [Developers](#)

Regenerate Thumbnails allows you to regenerate the thumbnails for your image attachments. This is very handy if you've changed any of your thumbnail dimensions (via Settings -> Media) after previously uploading images or have changed to a theme with different featured post image dimensions.

You can either regenerate the thumbnails for all image uploads, individual image uploads, or specific multiple image uploads.

See the [screenshots tab](#) for more details.

Tags: [thumbnail](#), [thumbnails](#)

Requires: 2.8 or higher

Compatible up to: 4.4.2

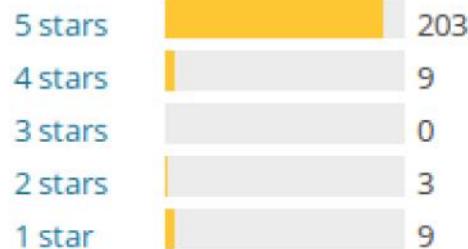
Last Updated: 3 months ago

Active Installs: 1+ million

Ratings



4.8 out of 5 stars



Author



Alex Mills (@wpner007Dand)



BJ Lazy Load

Lazy loading for images and iframes makes your site load faster and saves bandwidth. Uses no external JS libraries and degrades gracefully for non-js

[Download Version 1.0.6](#)

[Description](#) [Installation](#) [FAQ](#) [Other Notes](#) [Changelog](#) [Stats](#) [Support](#) [Reviews](#) [Developers](#)

Lazy loading makes your site load faster and saves bandwidth.

This plugin replaces all your post images, post thumbnails, gravatar images and content iframes with a placeholder and loads the content as it gets close to enter the browser window when the visitor scrolls the page. Also works with text widgets.

Requires: 3.5 or higher

Compatible up to: 4.3.3

Last Updated: 7 months ago

Active Installs: 40,000+

Ratings

Iconfonts

Funktioniert nicht mit Benutzer-definierten Schriften (z.B. wegen Lesestörungen)

In iOS9 kann man Support für Webfonts deaktivieren

Adblocker können Webfonts blockieren

Kein Support in Opera Mini (250M Benutzer)

SVG-Sprites

```
<svg xmlns="http://www.w3.org/2000/svg"
      style="display: none;">
  <symbol id="icon-1" viewBox="214.7 0 182.6 792">
    <!-- ... -->
  </symbol>
  <symbol id="icon-2" viewBox="0 26 100 48">
    <!-- ... -->
  </symbol>
</svg>
```

```
<svg class="icon">
  <use xlink:href="#icon-1" />
</svg>
```



IcoMoon

Pixel Perfect Icon Solutions

IcoMoon App

- ✓ Browse 4000+ free vector icons
- ✓ Custom & crisp icon font generator
- ✓ Import your own SVGs to make fonts
- ✓ Convert to SVG, PDF, Polymer, XAML, CSH
- ✓ Basic glyph editing



Icon Packs

- ✓ 2000+ vector icons
- ✓ Handcrafted on a grid
- ✓ In various formats: SVG, font, etc.
- ✓ Money back guarantee
- ✓ Free updates



Go Premium

- ✓ Cloud syncing
- ✓ Quick usage links
- ✓ Serve icon fonts or SVG icons
- ✓ Powered by Amazon Web Services
- ✓ Easily update your icon sets



jkphl / svg-sprite

Watch 14

Star 337

Fork 44

SVG sprites & stacks galore — A low-level Node.js module that takes a bunch of SVG files, optimizes them and bakes them into SVG sprites of several types along with suitable stylesheet resources (e.g. CSS, Sass, LESS, Stylus, etc.) <https://github.com/jkphl/svg-sprite>

239 commits

2 branches

55 releases

10 contributors



Branch: master ▾

[svg-sprite](#) / +

jkphl Merge pull request #115 from lukebarton/master



Latest commit 9bbf1ee 13 days ago



bin Introduced CSS positioning values floating point precision (#102)

2 months ago



docs Added accessibility features to symbol sprites (#107)

a month ago



lib Added accessibility features to symbol sprites (#107)

a month ago



test Added CSS class namespacing (#42)

3 months ago



tmpl Remove "." (dot), selector already has one.

3 months ago



.editorconfig Initial next generation commit

10 months ago



.gitattributes Initial next generation commit

10 months ago



.gitignore Updated dependencies

15 days ago



.jshintrc Updated dependencies (#67, #82)

5 months ago



.travis.yml Make io.js optional in Travis build as long as node-sass is in a bad ...

2 months ago



CHANGELOG.md Updated dependencies

15 days ago



LICENSE.txt Update version

10 months ago

Code

Issues 5

Pull requests 1

Pulse

Graphs

HTTPS clone URL<https://github.cc>You can clone with [HTTPS](#) or [Subversion](#). ②

Download ZIP

Animierte GIFs



<https://www.washingtonpost.com/news/the-switch/wp/2015/08/06/tesla-unveils-weird-new-car-charging-robo-snake/>

Animierte GIFs

GIF 4,3 MB

WebP 3,3 MB

MP4 143 kB

```
ffmpeg -i video.gif -c:v libx264 -an -movflags faststart \
-pix_fmt yuv420p -s 544x292 video.mp4
```

Video

```
<video controls autoplay muted loop>
  <source src="video.mp4" type="video/mp4">
  
</video>
```

<http://caniuse.com/#feat=mpeg4>

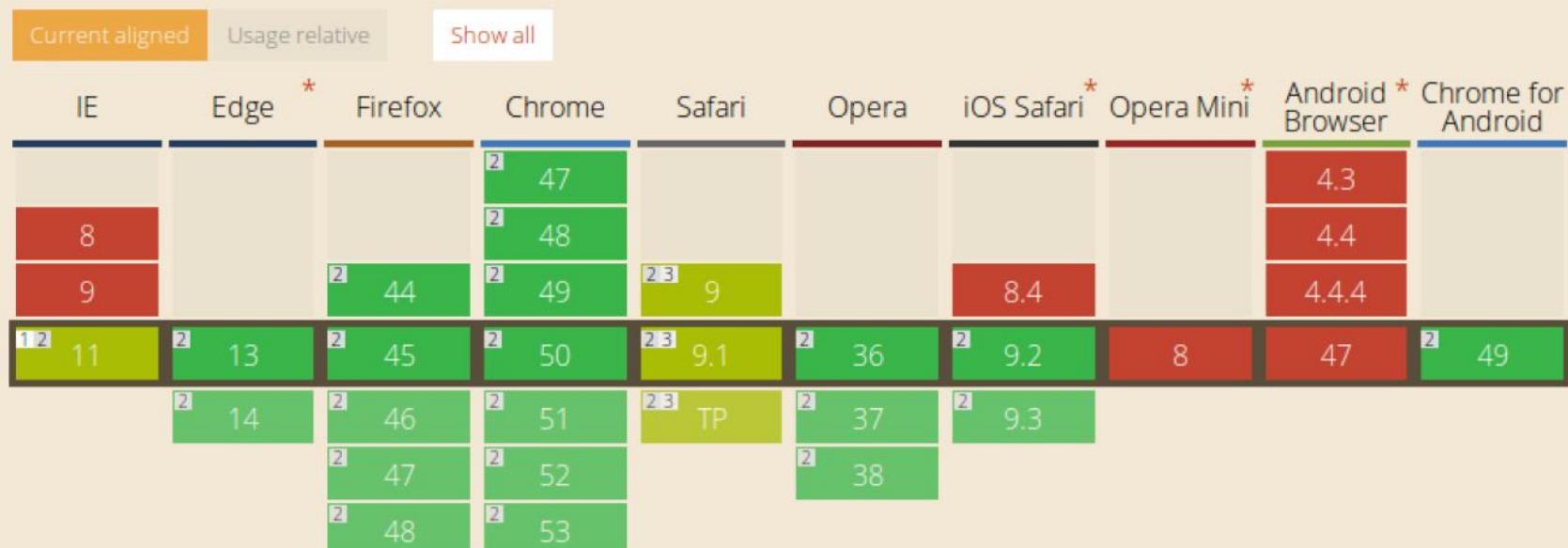
<http://walterebert.com/blog/video-autoplay-on-mobile/>

<http://walterebert.com/blog/removing-audio-from-video-with-ffmpeg/>

Veraltete Techniken wegen HTTP2

- Spriting
- Inlining
- Domain-Sharding

Networking protocol for low-latency transport of content over the web. Originally started out from the SPDY protocol, now standardized as HTTP version 2.

[Notes](#)[Known issues \(0\)](#)[Resources \(6\)](#)[Feedback](#)

See also support for [the SPDY protocol](#), precursor of HTTP2.

¹ Partial support in IE11 refers to being limited to Windows 10.

² Only supports HTTP2 over TLS (https)

³ Partial support in Safari refers to being limited to OSX 10.11+

HTTP/2 technology demo ×  

www.http2demo.io  

HTTP/2 TECHNOLOGY DEMO

This test consists of 200 small images from CDN77.com so you can see the difference clearly.

HTTP/1.1
1.15s

HTTP/2
0.26s

REFRESH



walter.ebert.engineering

@wltrd

waltereber.de

slideshare.net/waltereber