

Why Performance Matters

And what you can do about it

Who Am I?

Discovered computers in high school

Worked as a software engineer, project lead and manager/director.



Followed the jobs from Data General->Wang Labs->Motorola-Codex->Cabletron->Bay Networks->Nortel Networks->Electronic Retail Systems.

Changed courses and helped my wife run Island Creations, a Bead Store and more... Made jewelry and taught classes.

Decided it was time to go back to my Tech roots and picked the Web as my playground.

Some Numbers

- Walmart saw *2 percent increase* in conversion rates for *every 1 second improvement* in page load times. [Kinsta.com]
- Strange Loop Networks puts it like this: a one-second delay can cost you *7% percent of sales*. [copyblogger.com]

The Survey says

- 3% says they would wait less than 1 second [KISSMetrics]
- 16% would wait 1-5 seconds [KISSMetrics]
- Desktop average load time is 7 seconds [byreputation.com]
- Mobile is 10-11 seconds [byreputation.com]

Remember --- People are more apt to talk about their bad experiences

The Gold Standard

DNS response : <200ms

SpeedIndex : <1 sec

PageSpeed Insights:

85 for Mobile

90 for Desktop

What does this all mean?

SpeedIndex

Comes from <http://www.webpagetest.org/>

Is a measure of when the page is visually complete

Lets take a look.

Google Pagespeed Insights

Score is based on a set of rules.

Can access it directly from Chrome Dev Tools and play with it live.

Other Tools

- **Pingdom** - has a similar tool plus DNS check and, of course, ping and traceroute. (<http://tools.pingdom.com/>)
- **Yslow** - originally from Yahoo; is now open-source; installs as an extension or add-on to your browser.
- **GTMetrix** - combines Yslow and PageSpeed Insights. I used this prior to Webpagetest.

So What can we do about it?

Reduce...Reduce...Reduce

Mobile-first Design

Huh!

Start with the worst case first

Use responsive design

Reduce DNS lookup

- Don't use redirects
- Get a good host (don't shoot me)
 - Fast DNS Lookup
 - Fast connect times
 - Used 1and1 for years; am moving away due to lack of zip support
 - Using Dreamhost for static sites
 - Using GetFlywheel.com for WordPress sites

.htaccess file - Make it as small as possible

Reduce requests

Let's look at webpagetest.org

Reduce size (step 1)

- Remove whitespace (minify) - uglify (js), cssmin, htmlmin
- Compress the files - the server does this (mod_deflate)
- Compress images - imagemin
- Move scripts to bottom of page (they block)

Reduce size/# of requests (Step 2)

Uncss - goes through your html file(s) and creates a css files with just the styles used

Concatenate - combines multiple files into one. (Like all these js files)

CriticalCSS - Inline styles above-the-fold

Tools to help

- Grunt/Gulp - Task Runners
 - grunt-contrib-concat, grunt-contrib-uglify, grunt-contrib-htmlmin, grunt-contrib-cssmin, grunt-contrib-imagemin, grunt-contrib-copy, grunt-contrib-watch, grunt-newer, grunt-contrib-compass, grunt-uncss
- I will be putting my gruntfiles on github soon.

WordPress specific

- Plugins can achieve minifying files and compressing images
- Autoptimize is one plugin that does a lot of things listed
- Caching plugins can help
- Uncss - ???? Yes/No

Hot off the presses---

HTTP/2 is almost approved. It is in the
RFC editor queue.

What does this mean?

Thanks for listening...

Questions/comments.....

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