The Intersection of Website Performance and Usability
Jonathan Dedering
Front-End Web Developer
DoIT // Hiebing // Freelance

Degrees in Marketing and Web Software Development

Google Analytics training and consultation
Terminology

Site Performance: The speed at which a website performs.

Weight: The size of a webpage or an asset in kilobytes.

Performance Budget: An outline of the maximum number of kilobytes that can be allocated to a single page or asset.

Image Optimization: The process of resizing or applying compression to an image to reduce its weight.
Performance is: Critical to UX

- Performance is more than load time
- Performance tuning can control what content your users see first based
- Performance tuning can reduce disruptions caused by content shifting as a page loads
Performance is: **Ethical**

- Some users rely on expensive data plans. According to whatdoesmymysitecost.com, wisc.edu weighs 950 KB and costs about $0.06 to load.

- In the most severe cases, accessing certain content in certain regions could potentially put a user in legal jeopardy or their safety at risk
Test in the real-world

- Test from a rural bike trail
- Test from a sporting event
- Test from a bus that’s hopping between campus wireless routers
- Find extreme cases to test your system
What kind of animal would do this to a tree?
What kind of animal would do this to a tree?

Who knows? The wireless was out...
The future is here, but not for everyone.

Be empathetic of your user’s connection.

Test your website under extreme conditions.
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Test your website under extreme conditions.
lite.cnn.io is accessible under severe conditions

- No images
- Cached content
- Minimal CSS/JS
- Page Weight: 97 KB
Developer Tools

- Chrome Network Tab
- Disable cache
- Speed throttling
Performance budgets are: Wonderful

- Allocate your resources on a budget

Max Page Weight: 600 KB
DOM: < 60 KB  Icons: < 50KB
CSS: < 100 KB  Fonts: < 150 KB
JS: < 40 KB  Images: < 200 KB (sm < 30 KB, lg < 100 KB)
Optimize Images

- Use **responsive images** to serve smaller images to smaller devices
- Use **lossy compression** to decrease the weight of images
- Use **next-generation image formats like WebP** for even more powerful compression
Reduce Server Latency

- Use **caching** to serve static content
- Avoid **server-side HTTP requests** on page load, access remote assets using Javascript instead
- Minimize **DNS redirects** that bounce a request between servers
- Keep **configuration files** small, don’t bloat the Apache .htaccess file with huge lists of 301 redirects
Minimize HTTP Requests

- Concatenate stylesheets and JavaScript libraries into single files
- Use lazy loading to delay images from loading until they are in view
- Minimize the number of fonts being used ... Fonts are usually huge
- Create icon libraries using SVG sprites, avoid images or icon fonts
- Use CDNs to serve common frameworks and libraries ... They might already be cached in the user’s browser
Thank you.