

# Speed!... it up please

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# Hi!

- Lead Developer @ 'corePHP'
- Creator of WordPress for Joomla
- Creator of JPhoto
- Creator of jomCDN

# Speed? Who cares?

- Your customers!
  - Customer satisfaction is important!
  - Happy customers = Returning customers
- You
  - SEO Improvements
  - More page views
  - Improved server performance
  - Higher conversion rates

# Discovery

- Who takes performance seriously?
- Custom developed extensions for a CMS?
- Do you rely on your website for most of your income?
- Has no interest in looking at any code?

# What we think we are delivering...



cmsx.us

cmsx.us



# What we actually deliver...



# Why is my website slow?

- How slow is slow?
- Too many assets
- Images not optimized
- Files not compressed
- Slow server
- No caching
- No CDN

# Your users are what matter!

- Users are likely to leave when waiting
- Akamai sets the bar to 2 seconds
- Google sets the bar to 1.5 seconds
- 50% of users stated that a quick site is important for loyalty



# Your Goal: Reduce HTTP Requests

Less is more  
Keep this in mind!



# Combine, combine, combine!

- Combine all scripts into one script
- Even if they are not needed for that page
- Combine all CSS into a single style sheet
- CSS can be tricky mostly when using a CMS



# Optimize images & CSS Sprites

- Convert GIFs to PNGs, possible savings
- <http://www.smushit.com/ysmush.it/>
- Combine images to reduce HTTP requests
- Group them by color
- Arrange images horizontally (smaller file sizes)



# Optimize, Compress & Gzip

- Optimize JS
  - <http://closure-compiler.appspot.com/home>
- Compress CSS and JS
  - <http://refresh-sf.com/yui/>
  - <http://tools.w3clubs.com/cssmin/>
- Gzip CSS and JS before sending them to the browser



# Script Placement

- Place Stylesheets at the top
  - Inside the <head> tag
- Place Scripts at the bottom
  - Before the ending </body> tag



# No 404s

- HTTP calls are expensive!
- Useless calls are even worse
- If a css or js is not there, the browser tries to parse through that 404 page that the server returns.



# Use a CDN

- Focus on dispersing static content only
  - Images, CSS, JS, Flash, etc...
- Separate assets across domains
  - No more than 4 different domains
- WordPress – W3 Total Cache
- <http://drupal.org/project/cdn>
- <http://extensions.joomla.org/extensions/site-management/content-networking>



- Server cache
  - APC
  - Opcode
- Browser cache
  - Expires
  - Cache-Control
  - ETags





# Testing

- Total page load time
- Total page size
- Number of assets
- Time to render
- Check Google Analytics statistics



- YSlow
- Google Pagespeed
- Pingdom
- <http://code.google.com/speed/>

# Examples

- Combined Files
  - `corePHP`
- Optimized images, CSS Sprites and pre-loading
  - Google.com
- Script placement
- CDN
  - Google Maps
- Caching
  - Mashable

# Examples

- `<FilesMatch "(?i)^.*\.(ico|jpg|jpeg|png|js|css)$">`
- Header unset Last-Modified
- Header set Expires "Fri, 21 Dec 2012 00:00:00 GMT"
- Header set Cache-Control "public, no-transform"
- `</FilesMatch>`

# Developer improvements

- Use GET for AJAX requests
- Uses one TCP packet instead of two
- Post-load components
  - Load the JavaScript to do animation only when needed
  - Load images that are not needed
- Preload components
  - Unconditional
  - Conditional
  - Anticipated
- Use `<link>` over `@import`

# Developer improvements

- Reduce number of DOM Elements
- Don't scale images in HTML
- Keep components under 25k
  - iPhone does not cache anything bigger
- Avoid empty src=""
- Lazy load images

# What about the server?

- Think about the 80/20 rule
- Ideally the page should be stitched together in 200-500ms
  - A page should load in 1.5 seconds
  - ~20% of the time you spend requesting the HTML
- ~80% is spent retrieving the assets
  - Images
  - CSS
  - and JS files

# Thank you!

Questions? or Site review?





# References

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