

High Performance HTML5



stevesouders.com/docs/qcon-2011118.pptx

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YAHOO!

Google™



YSlow



Cuzillion



SpriteMe



Hammerhead

Browserscope



http archive

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Web Performance & Operations
CONFERENCE



14 Steps to Faster-Loading Web Sites

High Performance
Web Sites

Essential Knowledge
for Frontend Engineers



Essential Knowledge for Frontend Engineers



O'REILLY



Even Faster
Web Sites

O'REILLY*

Steve Souders

June 14-16, 2011
Santa Clara, California

2004



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30 March 2010

17

950 tweets
retweet

Fred Wilson's 10 Golden Principles of Successful Web Apps

BY KEIR WHITAKER



In February 2010 [Fred Wilson](#), a New York-based tech investor, spoke at the annual [Future of Web Apps](#) conference. In a talk, clocking in at just under 30 minutes, looks at his top 10 principles for creating a successful web app. A full transcript is available below.

#1. Speed: “First and foremost, we believe that speed is more than a feature. Speed is the most important feature.”

The 10 Golden Principles of Successful Web Apps



Think Vitamin Radio

Think Vitamin Radio: Episode #5 0:00

Join host [Keir Whitaker](#), [Ryan Carson](#) and [Mike Kus](#) for Think Vitamin Radio, a bi-weekly chat about web design, development and entrepreneurship. Listen to [previous shows](#).

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Recent Articles

Server Delays Experiment: Results

	Distinct Queries/User	Query Refinement	Revenue/User	Any Clicks	Satisfaction	Time to Click (increase in ms)
50ms	-	-	-	-	-	-
200ms	-	-	-	-0.3%	-0.4%	500
500ms	-	-0.6%	-1.2%	-1.0%	-0.9%	1200
1000ms	-0.7%	-0.9%	-2.8%	-1.9%	-1.6%	1900
2000ms	-1.8%	-2.1%	-4.3%	-4.4%	-3.8%	3100

- Means no statistically significant change

- Strong negative impacts
- Roughly linear changes with increasing delay
- Time to Click changed by roughly double the delay

Search Traffic Impact

Type of Delay	Delay (ms)	Experiment Duration (weeks)	Impact on Average Daily Searches Per User
Pre-header	50	4	Not measurable
Pre-header	100	4	-0.20%
Post-header	200	6	-0.29%
Post-header	400	6	-0.59%
Post-ads	200	4	-0.30%

- Increase in abandonment heuristic = less satisfaction
 - Abandonment heuristic measures if a user stops interacting with search engine before they find what they are looking for
- Active users (users that search more often a priori) are more sensitive

Importance of performance

- Yahoo!: 400 ms slower = 5-9% drop in full-page traffic

Browsing all articles in **website optimization**

Recent Posts

APR

5

19

FIREFOX & PAGE LOAD SPEED - PART II

Blake Cutler [speed](#), [website optimization](#)

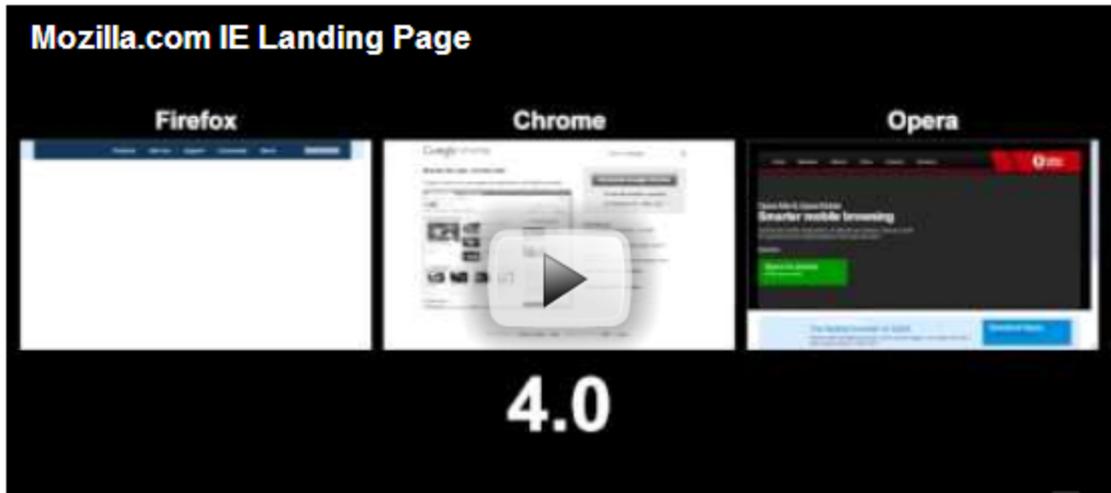
Let's start with the punchline: By making a few minor tweaks to our top landing pages, we can drive an additional 1,000,000 Firefox downloads per year.

60 million is a big number, so let's add a little context. Looking back at our [breaking download day](#) campaign, we found that 200 million people downloaded Firefox during our Download Day campaigns per year.

What are the tweaks?

It comes down just one factor — speed. As it stands, our landing pages can be painfully slow. Take a look:

...shaved 2.2 seconds off the average page load time and increased download conversions by 15.4%!



Menu Item Usage Study: The 80-20 Rule?

Why People Don't Upgrade Their Browser - Part IV

Study: An Update to the Initial Ana

Web Analytics and Mozilla Websites

...and ... in Firefox

Menu Item Usage Study: An Update to the Data

... Load Speed - Part II

Firefox & Page Load Speed - Part I

... Q1 2010 Analyst Report - State of the Inter

Firefox's Adoption Funnel

Archives

April 2010

March 2010

February 2010

January 2010

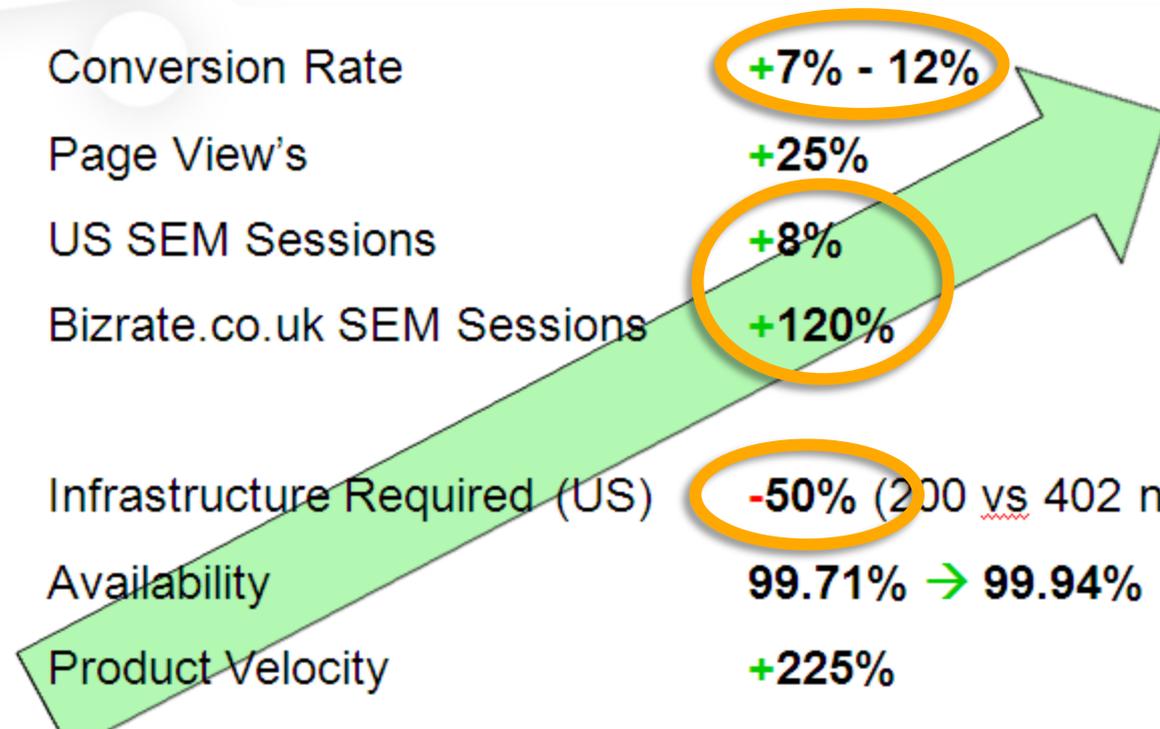
December 2009

November 2009

October 2009

September 2009

Performance Summary

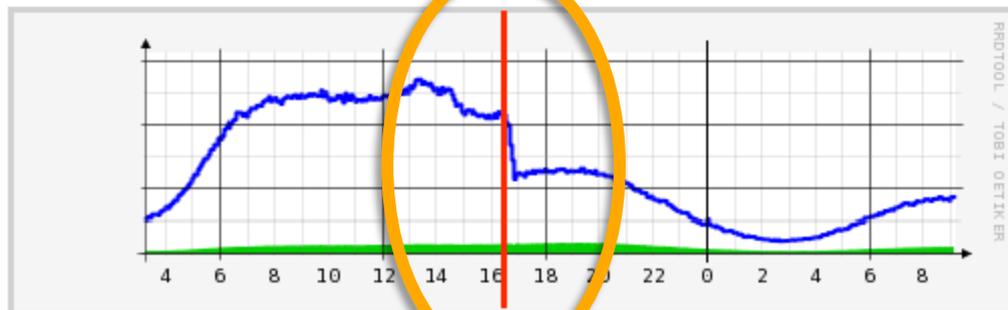
- Conversion Rate **+7% - 12%**
 - Page View's **+25%**
 - US SEM Sessions **+8%**
 - Bizrate.co.uk SEM Sessions **+120%**
 - Infrastructure Required (US) **-50%** (200 vs 402 nodes)
 - Availability **99.71% → 99.94%**
 - Product Velocity **+225%**
 - Release Cost **\$1,000's → \$80**
- 

Improving Performance: Gzip

- Payload reduced in some cases 15x (typically in half)

Empty Cache		Primed Cache		Empty Cache		Primed Cache	
804.8K	1HTML/Text	804.8K	1HTML/Text	51.6K	1HTML/Text	51.6K	1HTML/Text
284.5K	3JavaScript Files	284.5K	3JavaScript Files	0.0K	1XMLHttpRequest	0.0K	1XMLHttpRequest
73.4K	2Stylesheet Files	73.4K	2Stylesheet Files	63.9K	3JavaScript Files	0.0K	23CSS Images
8.0K	20CSS Images	0.0K	20CSS Images	15.4K	2Stylesheet Files	0.0K	61Images
55.0K	60Images	0.0K	60Images	21.9K	23CSS Images	0.0K	61Images
1225.8K	Total size	1162.8K	Total size	56.3K	61Images	51.6K	Total size
86	HTTP requests	86	HTTP requests	209.3K	Total size	51.6K	Total size
				91	HTTP requests	86	HTTP requests

- User experience performance improvement **13% - 25%**
- Network outbound traffic cut in half



Quick Wins: CACHING!

- Solution

Added Expires Header + Removed Etags

- Result:

34% reduction in bandwidth

= 34TB annual savings

= FREE video streaming for 2 years

= Faster pages when cache is primed



... we've decided to take site speed into account in our search rankings.

Using site speed in web search ranking

Friday, April 09, 2010 at 11:00 AM
Webmaster Level: All

You may have heard that here at Google we're obsessed with speed, in our products and on the web. As part of that effort, today we're announcing a change to our search algorithms: site speed. Site speed is now a ranking signal.

Speeding up websites is important — not just to site owners, but to all internet users. Faster sites create happy users and we've seen in our [internal studies](#) that when a site responds slowly, visitors spend less time there. But faster sites don't just improve user experience; recent data shows that improving site speed also [reduces operating costs](#). Like us, our users place a lot of value in speed — that's why we've decided to take site speed into account in our search rankings. We use a variety of sources to determine the speed of a site relative to other sites.

If you are a site owner, webmaster or a web author, here are some free tools that you can use to evaluate the speed of your site:

- [Page Speed](#), an open source Firefox/Firebug add-on that evaluates the performance of web pages and gives suggestions for improvement.
- [YSlow](#), a free tool from Yahoo! that suggests ways to improve website speed.
- [WebPagetest](#) shows a waterfall view of your pages' load performance plus an optimization checklist.
- In [Webmaster Tools](#), Labs > Site Performance shows the speed of your website as experienced by users around the world as in the chart below. We've also blogged about [site performance](#).

Site performance

This page shows you performance statistics of your site. You can use this information to improve the speed of your site and create a faster experience for your users. [Learn more](#)

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Google™

85081 readers

BY FEEDBURNER

Google Translate

Select Language

Gadgets powered by Google

Useful links

[Google Webmaster Central](#)

[Webmaster Help Center](#)

[Google Webmaster Tools](#)

[Webmaster Central on](#)

[YouTube](#)



WPO

Web
Performance
Optimization

drives traffic

improves UX

increases revenue

reduces costs

High Performance HTML5

<http://www.w3.org/TR/html5/>

Web Performance Working Group

chartered June 2010

Web Timing

- Navigation Timing
- User Timing
- Resource Timing

Page Visibility

Script-based animations

Efficient script yielding

<http://www.w3.org/2010/webperf/>

Navigation Timing



```
var timing = performance.timing;  
var loadtime =  
    timing.loadEventEnd -  
    timing.navigationStart;
```

Chrome 6+, IE9+, Firefox 7+, Android 4+

<http://blog.chromium.org/2010/07/do-you-know-how-slow-your-web-page-is.html>



ADVANCED SEGMENTS EXPORT ADD TO DASHBOARD

Site Speed

Oct 18, 2011 - Nov 17, 2011

100.00% of total pageviews

Explorer Performance Map Overlay

Site Usage

Avg. Page Load Time (sec) [?] 5.90 Site Avg: 5.90 (0.00%)	Pageviews [?] 43,592 % of Total: 100.00% (43,592)	Page Load Sample [?] 3,152 % of Total: 100.00% (3,152)	Bounce Rate [?] 81.80% Site Avg: 81.80% (0.00%)	% Exit [?] 73.23% Site Avg: 73.23% (0.00%)
---	---	--	---	--

Graph Mode: Line Chart Compare Metric Graph By: [List Icon]



Viewing: Page Page Title Other

Secondary dimension: Select... Sort Type: Default advanced View: 1 - 10 of 588

Page	Avg. Page Load Time (sec) ↓	Pageviews	Page Load Sample	Bounce Rate	% Exit
1. /blog/2010/02/15/browser-performance-wishlist/ [Print]	175.57	206	18	90.34%	86.89%
2. /blog/2010/12/10/velocity-china/ [Print]	89.25	16	1	100.00%	100.00%
3. /blog/2011/10/20/http-archive-new-code-new-charts/ [Print]	38.86	1,070	62	86.16%	77.38%
4. /?ex=2&title= [Print]	22.67	1	1	100.00%	100.00%

- VISITORS
- ADVERTISING
- TRAFFIC SOURCES

- CONTENT
 - Overview
 - Site Content
 - Site Speed
 - Site Search
 - Events
 - AdSense
 - In-Page Analytics

CONVERSIONS

- Help
 - The Site Speed Report
 - Page Speed Online
 - Find Your Old Reports in the New Interface

Help center
Search help center [Go]

GA site speed

on by default (starting today)

browsers that support Nav Timing

Chrome 6+, IE9+, Firefox 7+, Android 4+

1% sampling rate by default

can change to 10%

`_setSiteSpeedSampleRate ()`

Site Speed

Oct 18, 2011 - Nov 17, 2011

VISITORS

ADVERTISING

TRAFFIC SOURCES

CONTENT

Overview

Site Content

Site Speed

Site Search

Events

AdSense

In-Page Analytics

CONVERSIONS

Explorer Performance Map Overlay

Site Usage

Viewing: Page Page Title Other

Secondary dimension: Select... Sort Type: Default

advanced View: 1 - 10 of 588

Page	Avg. Page Load Time (sec)	Pageviews	Page Load Sample	Bounce Rate	% Exit
1. /blog/2010/02/15/browser-performance-wishlist/	175.57	206	18	90.34%	86.89%
2. /blog/2010/12/10/velocity-china/	89.25	16	1	100.00%	100.00%
3. /blog/2011/10/20/http-archive-new-code-new-charts/	38.86	1,070	62	86.16%	77.38%
4. /?ex=2&title=	22.67	1	1	100.00%	100.00%

Help

The Site Speed Report

Page Speed Online

Find Your Old Reports in the New Interface

Help center

Search help center Go

Resource Timing

- DNS, redirects, etc.
- security safeguards

User Timing

- for web apps
- mark, measure

Page Visibility

detect when page is visible

- stats
- video & audio
- polling, DHTML
- performance: prefetching, prerendering

Chrome 13:

- `document.webkitHidden`
- `webkitvisibilitychange`

code.google.com/chrome/whitepapers/pagevisibility.html

script async & defer

parsing doesn't wait for script:

- async - executed when available
- defer - executed when parsing finished

when is it downloaded?

Note: The exact processing details for these attributes are, for mostly historical reasons, somewhat non-trivial, involving a number of aspects of HTML. The implementation requirements are therefore by necessity scattered throughout the specification. The algorithms below (in this section) describe the core of this processing, but these algorithms reference and are referenced by the parsing rules for script start and end tags in HTML, in foreign content, and in XML, the rules for the document.write() method, the handling of scripting, etc.

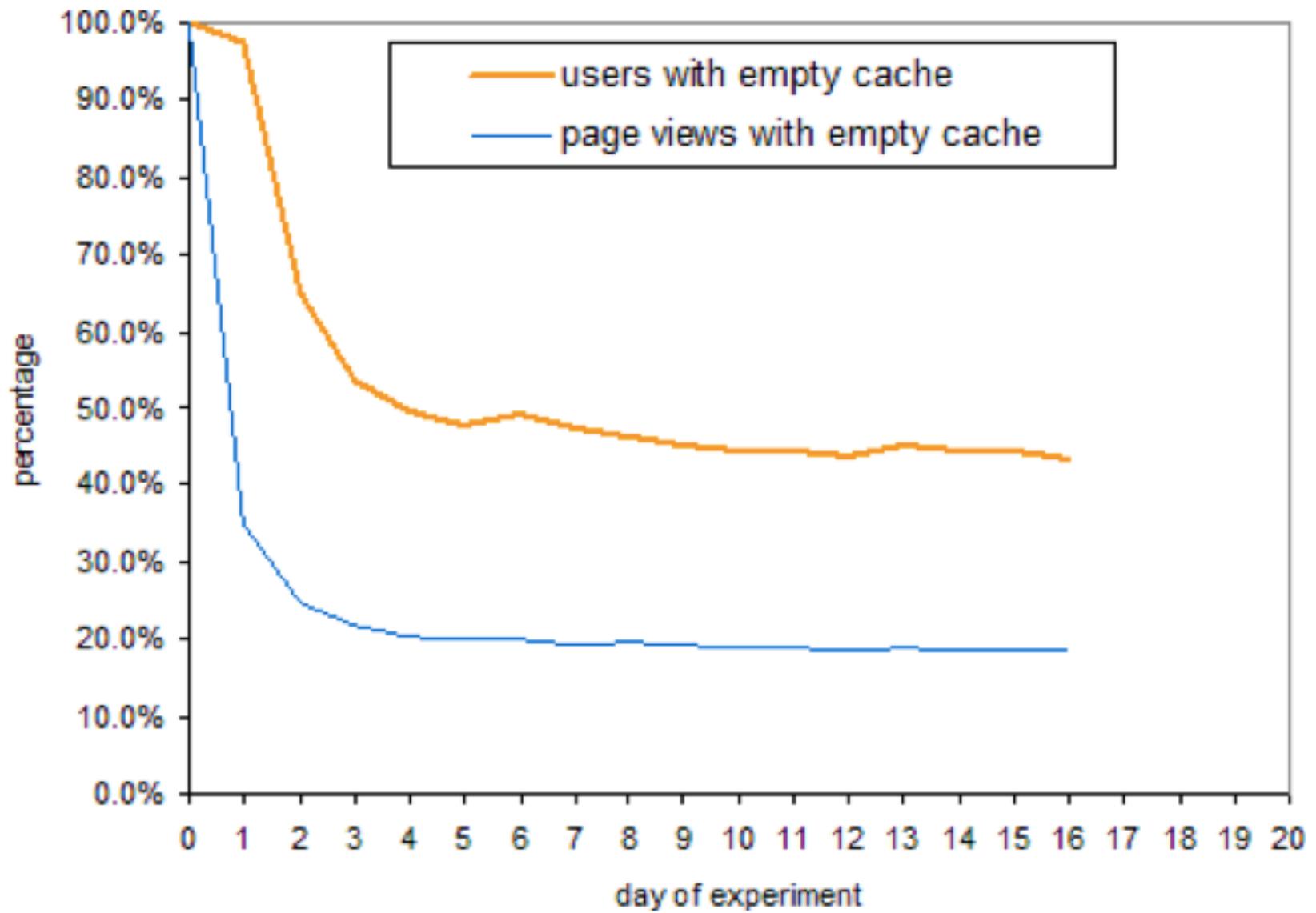
missing:

- defer download AND execution
- async/defer download, execute on demand

app cache

offline apps, longer cache





Cache size for desktop browsers (in MB)

Browser	Chrome	Firefox	Opera	Safari	IE
Version	12	5.0	10	5	9
Persistent	85	75	20	0/100*	150**
Memory	85	75	80	60	150**

* Safari on windows demonstrated no persistent cache, while on Mac it stored 100MB of data

UPDATE: We couldn't reproduce this with the beta version of Safari 5.1, will update the table once its released

** We stopped measuring at 150MB, IE9 can [reportedly go up to 250MB](#)

Cache size for Mobile Browsers/Devices (in MB)

Smartphones	iPhone 4	Galaxy S	Nexus S	Blackberry Torch
OS / Ver	iOS/4.3	Android 2.2	Android 2.3	Blackberry 6
Persistent*	0	4	4	25
Memory**	100	4	4	25

Tablets	iPad 1	iPad 2	XOOM
OS / Ver	iOS/4.3	iOS/4.3	Android 3.0
Persistent*	0	0	20
Memory**	20	50	20

blaze.io/mobile/understanding-mobile-cache-sizes/

(lack of) Caching for iPhone Home Screen Apps

June 28, 2011 10:14 pm | [9 Comments](#)

Yesterday's post, [Unexpected Reloads in WebKit](#), revealed an interesting behavior that affects caching in Safari:

When you load the same URL back-to-back in Safari, the second load is treated the same as hitting Reload.

This is bad for performance because the browser issues a Conditional GET request for each resource instead of using the cached resource.

Home screen apps on iPhone are slower because resources are re-requested even though they should be read from cache.

hit RETURN in address bar	yes
delete URL and type it again	yes
launch same app	yes
click link to same URL	yes
go to another URL then type 1st URL again	no
modify querystring	no
enter URL in a new tab	no

Table 1. Triggering reload behavior in Safari

It's possible that real world users might type the same URL or open the same bookmark two times in a row in the same tab, but it probably doesn't happen that often. So what's the big deal?

So what's the big deal?

Whenever I see strange performance behavior I think about where that behavior might have a significant impact. Is there any place where this back-to-back Safari Reload behavior could have a significant impact? A [comment](#) from yesterday's post hints at the answer:

app cache

offline apps, longer cache

```
<!doctype html>
```

```
<html manifest="myapp.appcache">
```

myapp.appcache:

```
CACHE MANIFEST
# Revision: 1.28

CACHE:
/images/logo.gif

NETWORK:
/login.html

FALLBACK:
/index.html /offline.html
```

Content-Type: text/cache-manifest

app cache gotchas

html docs w/ manifest are cached

404 => nothing is cached

size: 5MB+

must rev manifest to update resources

update is served on 2nd reload (?!?!)

1 push app
logo.gif = 

2 user loads app
app cache is empty
fetch manifest
fetch logo.gif
app cache = 
user sees 

app cache reload

3 push app
logo.gif = 
rev manifest

4 user loads app
app cache = 
user sees 
fetch manifest
fetch logo.gif
app cache = 

5 user loads app again
app cache = 
 user sees 
fetch manifest (304)

load twice workaround

```
window.applicationCache.addEventListener  
( 'updateready' ,  
function(e) {  
    if ( window.applicationCache.status ==  
        window.applicationCache.UPDATEREADY) {  
        if ( confirm("Load new content?" ) ) {  
            ...  
        }  
    }  
}
```

<http://www.webdirections.org/blog/get-offline/>

<http://www.html5rocks.com/en/tutorials/appcache/beginner/>

localStorage

`window.localStorage:`

`setItem()`

`getItem()`

`removeItem()`

`clear()`

also `sessionStorage`

all popular browsers, 5MB max

<http://dev.w3.org/html5/webstorage/>

<http://diveintohtml5.org/storage.html>

localStorage as cache

1st doc: write JS & CSS blocks to localStorage

```
mres.-0yDUQJ03U8Hjija: <script>(function() {...
```

set cookie with entries & version

```
MRES=-0yDUQJ03U8Hjija:-4EaJoFuDoX0iloI:...
```

later docs: read JS & CSS from localStorage

```
document.write( localStorage.getItem  
(mres.-0yDUQJ03U8Hjija) );
```

<http://stevesouders.com/blog/2011/03/28/storager-case-study-bing-google/>

flowers

Storage bookmarklet

3 items, 168 kB

- localStorage
 - add clear
 - MOG.RESOURCES.CSS: #og_head .og_p_119(background-image:url(
 - MOG.RESOURCES.VERSION: 13
 - msuggest.history..his...: flowers starfish
- sessionStorage

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www.ftd.com/

Aug 2, 2011 – Order **flowers** online for same day floral delive
chocolates, roses, gifts and gift baskets ... - [Cached](#)

[Sympathy & Funeral](#) - [Under \\$35](#) - [Birthday flowers](#) - [Get We](#)

[Flowers Delivered - Send Flowers Online, ProFl](#)

www.proflowers.com/

Send **flowers** with ProFlowers, your online florist. Offering na
Birthday **flowers**, fall **flowers** and many occasi... - [Cached](#)

[Birthday](#) - [Sympathy](#) - [Just Because](#) - [Get Well Flowers](#)

[Flower](#) - Wikipedia, the free encyclopedia

Storage bookmarklet

7 items, 332 kB

- localStorage
 - add clear
- sessionStorage
 - add clear
 - web-c: (["4a45fb01e8ce48fc"])
 - web-c4a45fb01e8ce48fc: ({"css":"body{color:#000;margin:3px 0}body,#
 - web-rt: -1479430611
 - web-s: (["#sclient=psy-ab&hl=en&source=hp&q=flowers&pbx=1&oq=flow
 - web-s#sclient=psy-ab&...: ({"n":"ad","a":["flowers - Google Search","Sfo
 - web-s#sclient=psy-ab&...: ({"n":"ad","a":["flowers - Google Search","Tfq
 - web-v: 21_f8f309c0

FTD® Official Site - \$19.99 Flowers To

www.ftd.com [+1](#)

Shop FTD®'s 100th Anniversary Sale.

[FTD Flowers](#) - Birthday Flower Bouquet - VA

[FTD Flowers](#) - Editors' Choice Deep Emotion

[FTD Flowers](#) - Simple Perfection™ Flower ...

[Save \\$10 on Flowers Today - Surprise](#)

www.teleflora.com [+1](#)

teleflora.com is rated **★★★★☆** 1,156 reviews

Same Day Local Delivery.

[FTD.COM - Flowers Online | Roses, Fre](#)

www.ftd.com/ [+1](#)

Aug 2, 2011 – Order **flowers** online for same da
chocolates, roses, gifts and gift baskets by occa

[Sympathy & Funeral](#) - [Under \\$35](#) - [Birthday flow](#)

  Evan Gilbert, Ben Lisbakken, Davi

[Flower Delivery - Send Flowers Online](#)

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Send **flowers** with ProFlowers, your online floris

Birthday **flowers**, fall **flowers** and many occasio

[Birthday](#) - [Sympathy](#) - [Just Because](#) - [Get Well](#)

All results

Sites with images

mobile desktop

flowers

all shopping images news local de

Storage bookmarklet

37 items, 364 kB

- localStorage
 - add clear
 - BGINFO: {"PortraitLink":"http://www.bing.com/fd/hpk2/JavaVolcano_Eh
 - CApp.Answers.A7E3A0D0: .imgLnd{background:#000;color:#fff}.imgH
 - CApp.Home.FD66E1A3: #ContentBody{position:relative;overflow:hidd
 - CApp.News.4B53F555: .nwsTitle{font-size:20px;line-height:22px;color
 - CApp.Shop_Answers.31F...: .h11{font-size:font(20px);line-height:22px;
 - CUX_Animations.8B10DC...: .body.showAbar #PageContent,body.show
 - CUX_Autosuggest.16DD6...: #ddAS{clear:both}.as{overflow-y:hidden}.s
 - CUX_CommonAnswer.A90D...: .w40{width:40%}.w35{width:35%}.w30{
 - CUX_Keyframes.B8625FE...: @-webkit-keyframes scaleout{from{-web
 - CUX.Site.18BDD936: *(margin:0;padding:0)table{border-collapse:sepa
 - CUX.Site.C0876CA0: *(margin:0;padding:0)table{border-collapse:sepa
 - CUX.SiteHilRes.282E35D...: .blogaN{background-image:url(data:image
 - CUX.SiteLowRes.C8A1DA...: .blogaN{background-image:url(data:imag
 - CUX.Ux.1E2DAEB1: .star0,.star1,.star2,.star3,.star4,.star5,.star6,.star7
 - J UX.MorePageView.2F7...: (function(){function a(){Type.registerName
 - JApp.Expander.F4876AA...: (function(){function a(){Type.registerName
 - JApp.Home.DE384EBF: (function(){function a(){Type.registerNamespa
 - JApp.Serp.418E2806: (function(){function a(){Type.registerNamespa
 - JUX_Autosuggest.D6423...: (function(){function a(){Type.registerName
 - JUX.Compat.0907AAD4: function \$(a){return document.getElementBy
 - JUX.Compat.F18CD868: function \$(a){return document.getElementBy
 - JUX.Framework.5D18B4F...: (function(){function a(){Type.registerNam
 - JUX.FrameworkCore.A39...: (function(){function a(){Type.registerName
 - JUX.FrameworkCore.AC8...: (function(){function a(){Type.registerNam
 - JUX.LoadImageBehavior...: (function(){function a(){Type.registerName
 - JUX.MorePageView.2F72...: (function(){function a(){Type.registerName
 - JUX.MsCorlib.172D90C3: window.ss={version:"0.6.1.0",isUndefined:fu
 - JUX.MsCorlib.2F963AA7: window.ss={version:"0.6.4.0",isUndefined:fu
 - JUX.NavSliding.9E89EA...: (function(){function a(){Type.registerName
 - JUX.PublicJson.540180...: if(!this.JSON)this.JSON={};(function(){funct
 - JUX.Searchbox.B109AB...: (function(){function a(){Type.registerName
 - JL_UJ.Co...: (function(){function a(){Type.registerName
 - JL_UJ.Co...: (function(){function a(){Type.registerName
 - JL_UJ.Co...: (function(){function a(){Type.registerName
 - LastRMSMUpdate: 1317074299.931
 - RMSM.Keys: CUX.Site.18BDD936~CUX.Keyframes.B8625FEE~CApp
 - qc: 1
- sessionStorage

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bing

flowers

Storage bookmarklet [save to Jdrop](#)

0 items, 0 kB

- localStorage
- sessionStorage

RELAT

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1800 Flowers

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Pictures Flowers

Chrysanthemum Flower

Valentine Flowers

Types of Flowers

Spring Flowers

Pictures

SEARCH HISTORY

Search more to see your history

See all

Clear all · Turn off

NARROW BY DATE

All results

Past 24 hours

Past week

Past month

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Images of flowers

Discover images of flowers



See also: [Hibiscus Flower](#), [Flowers](#)

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Same-Day Delivery · Sympa

Send flowers and send a sn

designed arrangements. Flo

www.1800flowers.com

mobile desktop

Profile

Storager bookmarklet

3426 items, 3162 kB

localStorage

add clear

```

ft_fly_10100151185500... {"time":1317074487550,"value":<
ft_fly_10100151362525... {"time":1317074486074,"value":<
ft_fly_10100154232304... {"time":1317074454909,"value":<
ft_fly_10100154947775... {"time":1317074443863,"value":<
ft_fly_10100155275818... {"time":1317074440171,"value":<
ft_fly_10100155277060... {"time":1317074440171,"value":<
ft_fly_10100156099961... {"time":1317074425427,"value":<
ft_fly_10100157160101... {"time":1317074415668,"value":<
ft_fly_10100157210336... {"time":1317074415663,"value":<
ft_fly_10100157537196... {"time":1317074413231,"value":<
ft_fly_10100158869346... {"time":1317074400965,"value":<
ft_fly_10100158901656... {"time":1317074400964,"value":<
ft_fly_10100163279493... {"time":1317074359410,"value":<
ft_fly_10100164775325... {"time":1317074347134,"value":<
ft_fly_10100165657872... {"time":1317074341981,"value":<
ft_fly_10100191497778... {"time":1317074451521,"value":<
ft_fly_10100191566935... {"time":1317074451519,"value":<
ft_fly_10100191573976... {"time":1317074451518,"value":<
ft_fly_10100197398967... {"time":1317074388857,"value":<
ft_fly_10100439237755... {"time":1317074497710,"value":<
ft_fly_10100439272156... {"time":1317074497707,"value":<
ft_fly_10100439648762... {"time":1317074493877,"value":<
ft_fly_10100440248769... {"time":1317074490268,"value":<
ft_fly_10100440277227... {"time":1317074490264,"value":<
ft_fly_10100440587780... {"time":1317074488913,"value":<
ft_fly_101004410113... {"time":1317074483434,"value":<
ft_fly_101004410113... {"time":1317074483432,"value":<
ft_fly_101004410113... {"time":1317074480866,"value":<
ft_fly_10100441946392... {"time":1317074480864,"value":<
ft_fly_10100443530303... {"time":1317074467297,"value":<
ft_fly_10100444660643... {"time":1317074460119,"value":<
ft_fly_10100444949359... {"time":1317074458489,"value":<

```

mobile



Storager bookmarklet

save to Jdrop

0 items, 0 kB

- + localStorage
- + sessionStorage

FAVORITE



Messages

Events

Find Friends

LISTS

Close Friends

Family

See all lists...

APPS

Photos

Music

MORE

Friends on Chat



Update Status

What's on your mind

SEE 8 NEW STOR

TOP STORIES SINCE YOUR LAS



desktop

Today

My Favorites

Storager bookmarklet [save to Jdrop](#) X

2 items, 0 kB

- localStorage
 - add clear
 - algebra_location_popu...: 3
 - algebra_location_popu...: 1317076297534
- sessionStorage

Search



Lopez's stunning onstage look

The newly single singer hits the stage in a crimson mini, spangly top, and wild feather cape. » [See her glam look](#)

< prev

1 / 26

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79° 70°/58°

11,044 272.38

NHL

2 1

WPG OT

mobile

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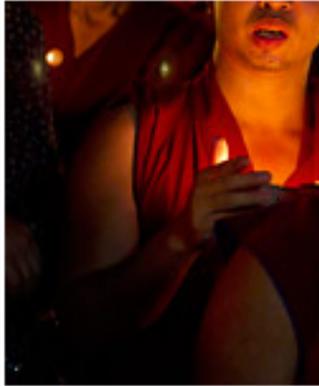
0 items, 0 kB

- localStorage
- sessionStorage

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- Mail
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Monks self-im

A protest over China Buddhist practices t
What two men allego



How to cook pasta right

desktop

NEWS WORLD

Storager bookmarklet

6 items, 345 kB

localStorage

add clear

APPCACHE_CODE_TIME: 1317074287847

APPCACHE_CSS_CODE: body{font-family:arial,Helvetica,ver serif,fo...

APPCACHE_JS_CODE: var settings = { isTablet : false, exp

APPCACHE_PAGE_TIME: 1317074287

ajax_request: {"version":"1316674917enUSstevesouders", "d

[["/home?ajax=...

sessionStorage

by stephancelmare360
from Recommended

0:30

Super Junior 슈퍼주니어_A-C VIDEO

by SMTOWN **New**
from Top Favorited

3:23

Volkswagen R32 Commercial

by szandor26
from Recommended

0:30

Parody of LMFAO - Sexy And

by keeptheheat **New**
from Top Favorited

1:41

mobile

This

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0 items, 0 kB

- localStorage
- sessionStorage

more



souders@goog...

All activity

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Claudia Leitte sendo vaiada no R...
by jeefeldiretor



Lady Gaga - "Hair"
[Jamey Rodeme...
by monstermemoirs



Rock In Rio 20...
Red Hot Chili...
by 1387Raffam...

desktop

1 items, 0 kB

localStorage

add clear

amznfbid: 179-7076773-7198322:1298843695

sessionStorage

add clear

Today's

IS

Recommend

If you're not

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- + localStorage
- + sessionStorage

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Recommendations For You



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Hal Foster

~~\$29.99~~ \$18.24

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Today's Recommendations For You

Here's a daily sample of items recommended for you. C



Prince Valiant Vol 5 (Hardcover)

by Hal Foster

\$18.24

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Prince Valiant: 1943-4)...

(Hardcover) by

\$16.29

[Fix this recommenda](#)

Coming Soon for You



desktop

New! Download the Twitter for iPhone app

twitter

What's h

Storager bookmarklet

save

1 items, 6 kB

localStorage

add clear

anonymous: {"strs":{"retweet":"Retweet","tap_here_lists":"Tap

sessionStorage

Home Mentions Favs Msgs



slightlylate super(nerdFight).popcorn; // it's a
19 minutes ago



joehe Witt Three20, by the way, was an attempt
web conventions (links, CSS) to iOS. I wouldn't do that
again. Will follow Apple conventions.
29 minutes ago



joehe Witt You know how loading a PDF in your
feels like entering an archaic world? That's what
embedded web browsers feel like on iOS/Android.
about 1 hour ago



joehe Witt Inability to control the timing of rendering
to flickering and stalling that I just can't avoid

mobile

twitter

Search

Storager bookmarklet

1 items, 3 kB

localStorage

add clear

:USER:: {"v1:131040918875711003":{"value":{"login":1315

sessionStorage

Timeline @souders Activity Searches

7 new tweets



slightlylate Alex Russell
super(nerdFight).popcorn; // it's a be
59 minutes ago



joehe Witt Joe Hewitt
Three20, by the way, was an attempt
(links, CSS) to iOS. I wouldn't do that
conventions.
1 hour ago



joehe Witt Joe Hewitt
You know how loading a PDF in your
feels like entering an archaic world? That's what embedded
web browsers feel like on iOS/Android.
about 1 hour ago



joehe Witt Joe Hewitt

desktop



Account Type: Business Plus

Home Profile Contacts Groups Jobs Inbox

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0 items, 0 kB

- localStorage
- sessionStorage



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Account Type: Business Plus

Home Profile Contacts Groups Jobs Inbox

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How Search Marketing Costs Are Evolving

Tumblr Raises \$85 Million Round From Richard Br

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301 Hayes Street
San Francisco, CA

Hours today: Opens at 11:00 AM

Website: [fitell.com](#)

Open any time

Open now

Any distance

Within 1 mile

Within 2 miles

Within 5 miles

Within 10 miles

Any rating

4 or more stars

3 or more stars



Fitell's Chicago Pizzeria

301 Hayes Street
San Francisco, CA

Hours today: Opens at 11:00 AM

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Open any time

Open now

Any distance

Within 1 mile

Within 2 miles

Within 5 miles

Within 10 miles

Any rating

4 or more stars

3 or more stars



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Show 26 more recent updates

Camille... Bienvenue au... qui me suivent depuis plus longtemps ! #mer

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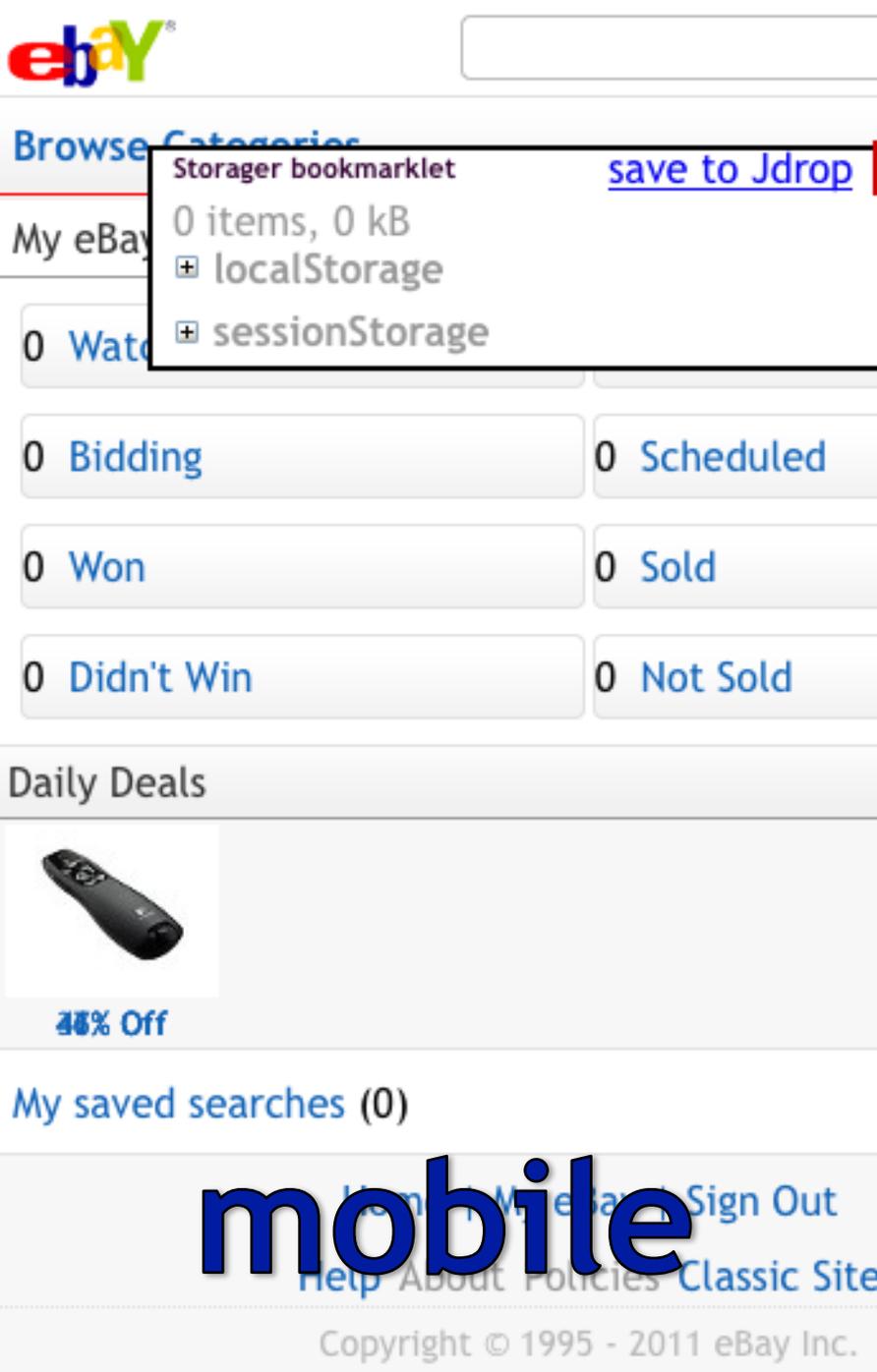
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desktop



... via Twitter

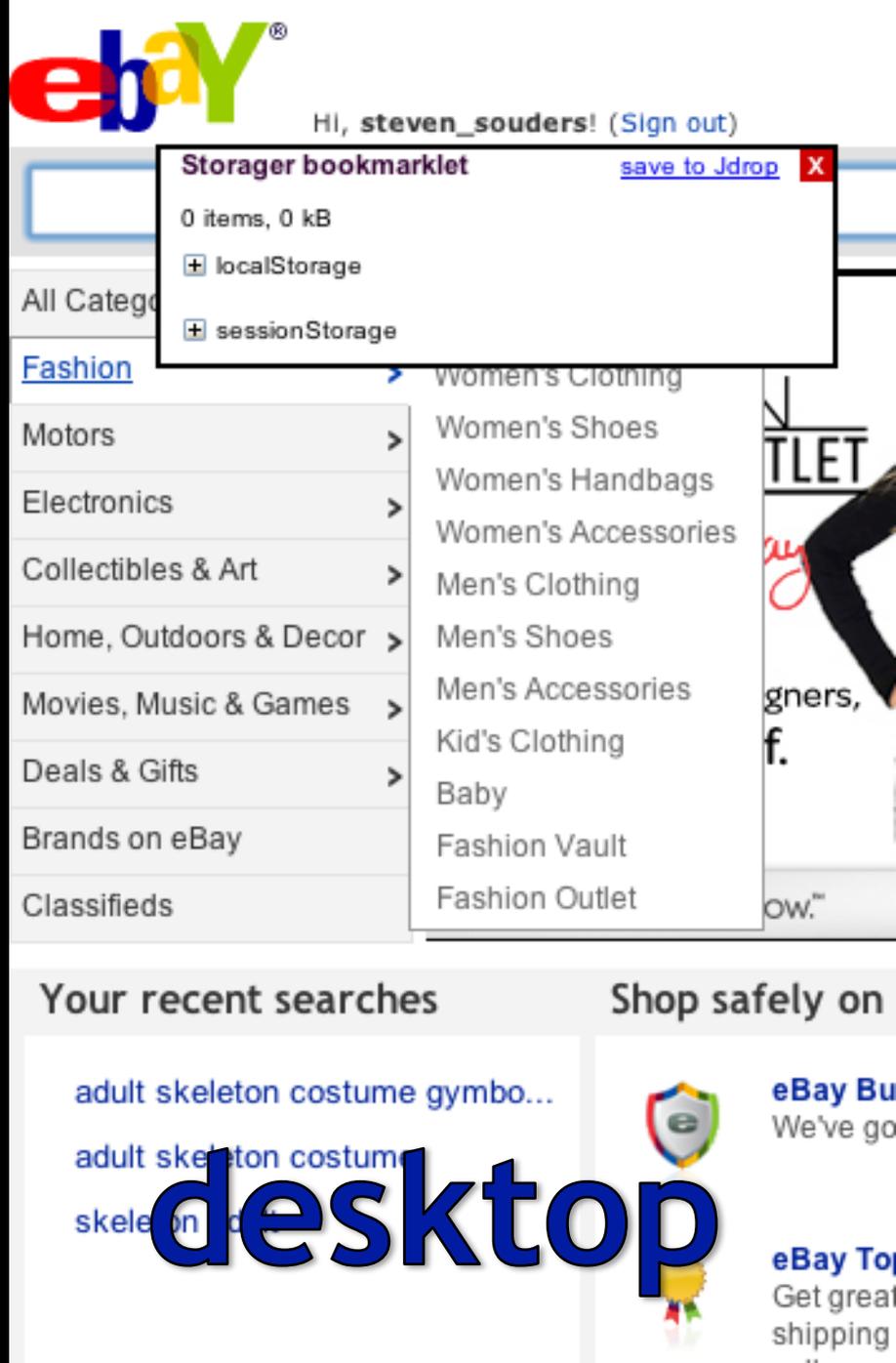
Mobile delivery bugaboos: L



eBay logo
 Search bar
 Browse Categories
 My eBay
 0 Watch
 0 Bidding
 0 Won
 0 Didn't Win
 0 Scheduled
 0 Sold
 0 Not Sold
 Daily Deals

 My saved searches (0)
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 Search bar
 All Categories
 Fashion
 Motors
 Electronics
 Collectibles & Art
 Home, Outdoors & Decor
 Movies, Music & Games
 Deals & Gifts
 Brands on eBay
 Classifieds
 Women's Clothing
 Women's Shoes
 Women's Handbags
 Women's Accessories
 Men's Clothing
 Men's Shoes
 Men's Accessories
 Kid's Clothing
 Baby
 Fashion Vault
 Fashion Outlet
 Your recent searches
 adult skeleton costume gympo...
 adult skeleton costum...
 skeleton co...
 eBay Buy...
 We've go...
 eBay Top...
 Get great...
 shipping...
 sellers.

desktop

msn.

Set local...

Storage bookmarklet [save to Jdrop](#) X

0 items, 0 kB

- + localStorage
- + sessionStorage

MSNBC



Poor economy poses fundraising challenge for Obama

This is no 2008, when money seemed to fall from the sky

< || > 5 of 5

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TODAY ON MSN

- NYPD chief: We could take down plane
- 'Matchmaker' in hot water over gay comments

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Web | MSN | Images

Storage bookmarklet [save to Jdrop](#) X

0 items, 0 kB

- + localStorage
- + sessionStorage

NEWS

September 26, 2011 as of 2:49 PM



< || > 7 of 7

EDITORS' PICKS

- \$210M... B&J going up

MUST SEE

NEWS

desktop

@font-face

Frontend SPOF test	Chrome	Firefox	IE	Opera	Safari
<u>External Script</u>	blank below	blank below	blank below	blank below	blank below
<u>Stylesheet</u>	flash	flash	blank below	flash	blank below
<u>inlined @font-face</u>	delayed	flash	flash	flash	delayed
<u>Stylesheet with @font-face</u>	delayed	flash	totally blank*	flash	delayed
<u>Script then @font-face</u>	delayed	flash	totally blank*	flash	delayed

* IE9 does not display a blank page, but does “flash” the element.

stevesouders.com/blog/2010/06/01/frontend-spoj/

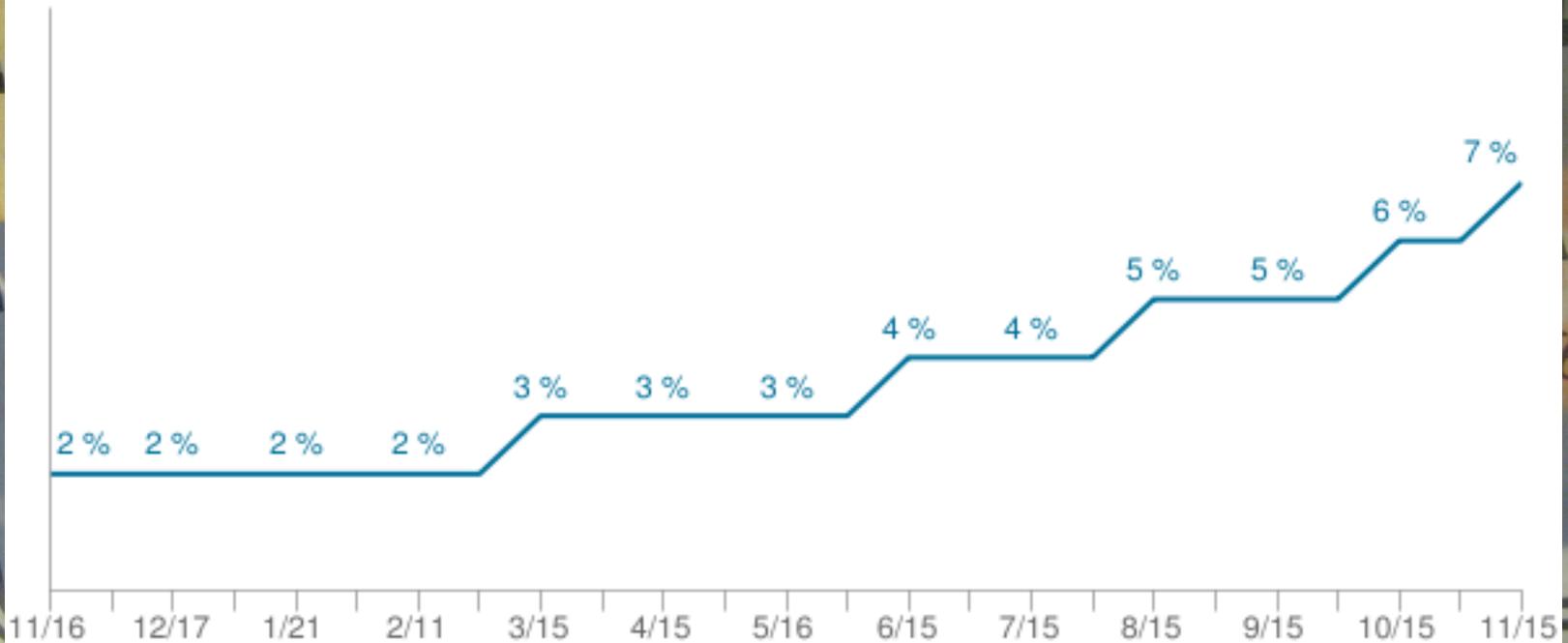
Worth delaying most important design elements? Or entire page?

GANE HASTA
15 LBS.
30 DIAS

PIERDA HASTA
30 LBS.
30 DIAS

<http://archive.org/trends.php#perFonts>

Sites with Custom Fonts



improving @font-face

smaller, custom font files

avoid FOUT, impatient fallback

- n milliseconds
- DOM loaded, window onload
- user interaction

higher priority caching

aggressively use expired fonts

today: localStorage

there's more

CSS instead of images: border radius,
linear & radial gradients, drop shadow

SVG, inline SVG, and canvas

video tag

WebSockets

web workers

builtin controls: progress, datetime

and more

history - http://www.kylescholz.com/blog/2010/04/html5_history_is_the_future.html

<a ping

requestAnimationFrame - not timers

native JSON parse/stringify

<http://bit.ly/browserscope-modernizr>

<http://www.html5rocks.com/>

Thanks to...

Max Firtman

Tony Gentilcore

Josh Fraser

Kyle Scholz

Stoyan Stefanov

James Pearce

Lindsey Simon

Annie Sullivan

Tim Kadlec

Paul Irish

Jason Grigsby

Brad Neuberg

more stuff



The HTTP Archive tracks how the Web is built.

Trends in web technology

load times, download sizes,
performance scores

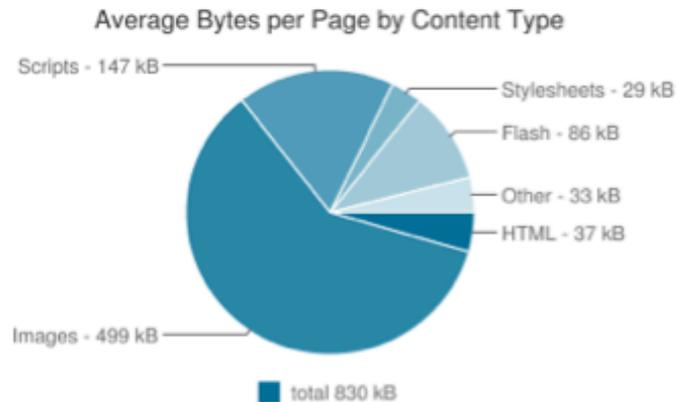
Interesting stats

popular scripts, image formats,
errors, redirects

Website performance

specific URL screenshots,
waterfall charts, HTTP headers

The [HTTP Archive code](#) is open source and the data is [downloadable](#).



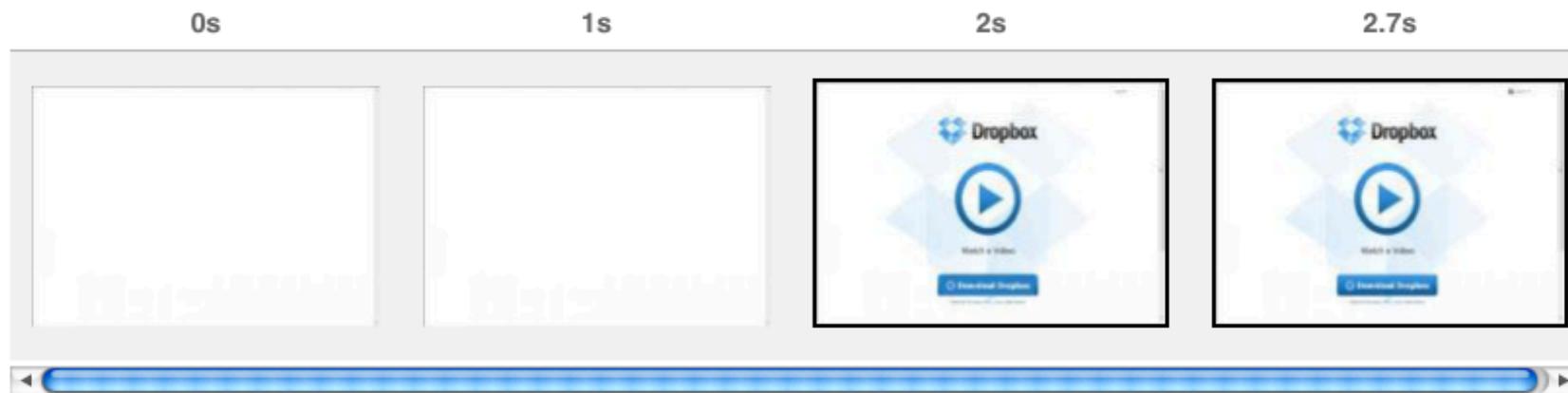
http:// www.dropbox.com/

Sep 15 2011

- Top of page
- Filmstrip
- Waterfall
- Page Speed
- Requests
- Trends
- Downloads

took 2.7 seconds to load 336kB of data over 24 requests.

Filmstrip, Video



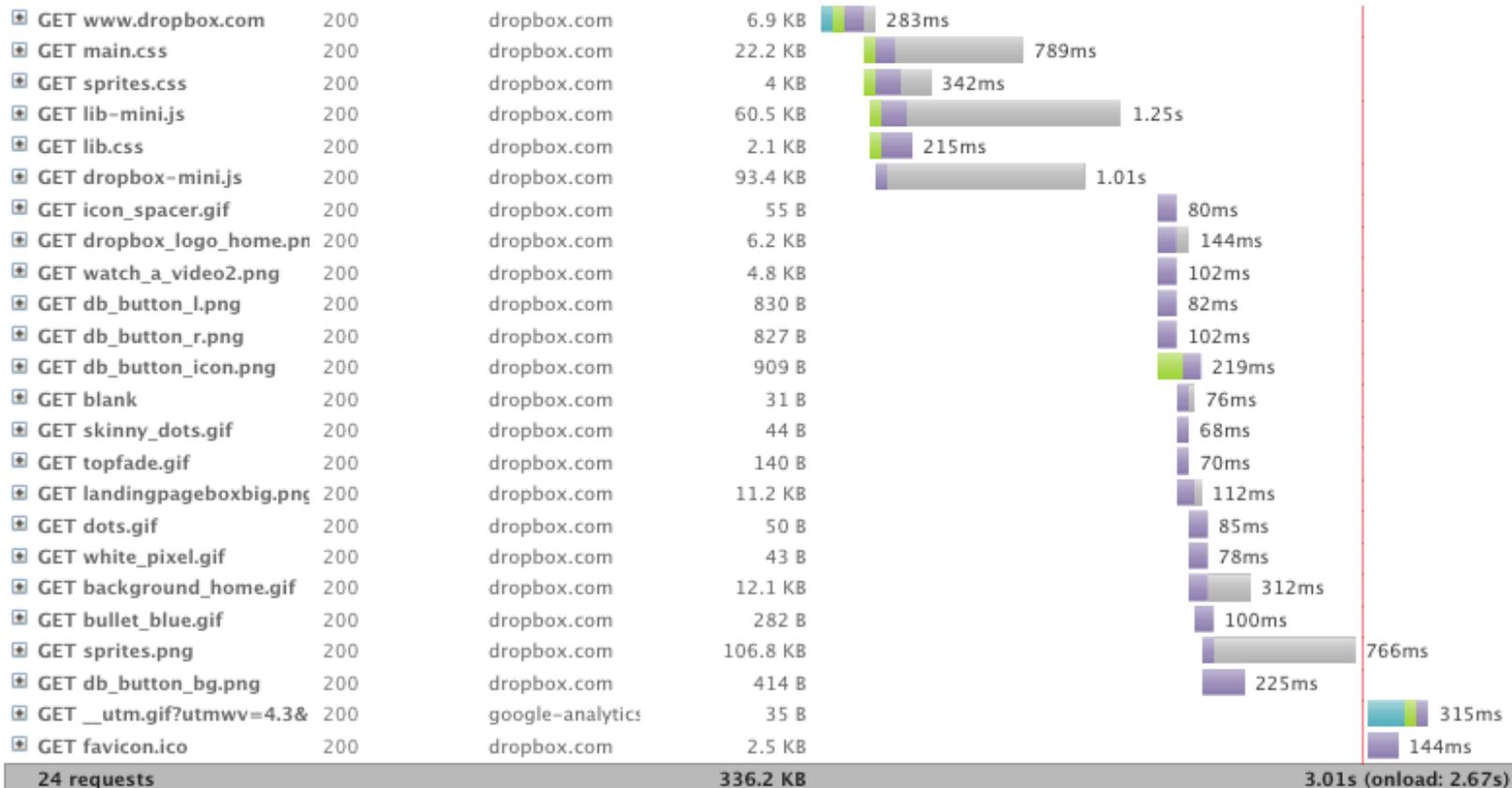
Show screenshots every: 1 second

WPT filmstrip watch video

HTTP Waterfall

HTTP Waterfall

Run 2, First View for http://www.dropbox.com/



- Top of page
- Filmstrip
- Waterfall
- Page Speed
- Requests
- Trends
- Downloads

Page Speed

Page Speed 1.9 Score: **89/100***

- Combine images into CSS sprites (0/100)
- Combine external CSS (58/100)
- Serve static content from a cookieless domain (59/100)
- Minify HTML (62/100)
- Specify Max-Age for Expires (70/100)



httparchive

Archive of Internet performance information.

Search projects

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[Request code review](#)

Source path: svn/

[< r326](#) [r327](#)

Directories	Filename	Size	Rev	Date	Author
▼ svn	.htaccess	915 bytes	r59	Oct 24, 2010	stevesoudersorg
branches	COPYING	11.1 KB	r2	Oct 11, 2010	stevesoudersorg
tags	Makefile	1.1 KB	r324	Today (15 hours ago)	stevesoudersorg
▼ trunk	about.php	11.3 KB	r322	Today (15 hours ago)	stevesoudersorg
archives	admin.php	1.3 KB	r319	Yesterday (18 hours ago)	stevesoudersorg
bulktest	cachegen.php	859 bytes	r311	Mar 26 (4 days ago)	stevesoudersorg
downloads	check.php	2.7 KB	r16	Oct 11, 2010	stevesoudersorg
images	download.php	6.9 KB	r38	Oct 21, 2010	stevesoudersorg
lists	downloads.php	3.6 KB	r319	Yesterday (18 hours ago)	stevesoudersorg
wiki	favicon.ico	894 bytes	r7	Oct 11, 2010	stevesoudersorg
	filmstrip.js	2.5 KB	r296	Mar 23 (6 days ago)	stevesoudersorg
	har.css	20.9 KB	r287	Mar 22, 2011	stevesoudersorg
	har.js	221 KB	r17	Oct 11, 2010	stevesoudersorg
	har-test-repository	1.1 MB	r320	Mar 21, 2011	stevesoudersorg

Your project is using approximately 844 MB out of 4096 MB total quota.

You can [reset this repository](#) so that `svn sync` can be used to upload existing code history.

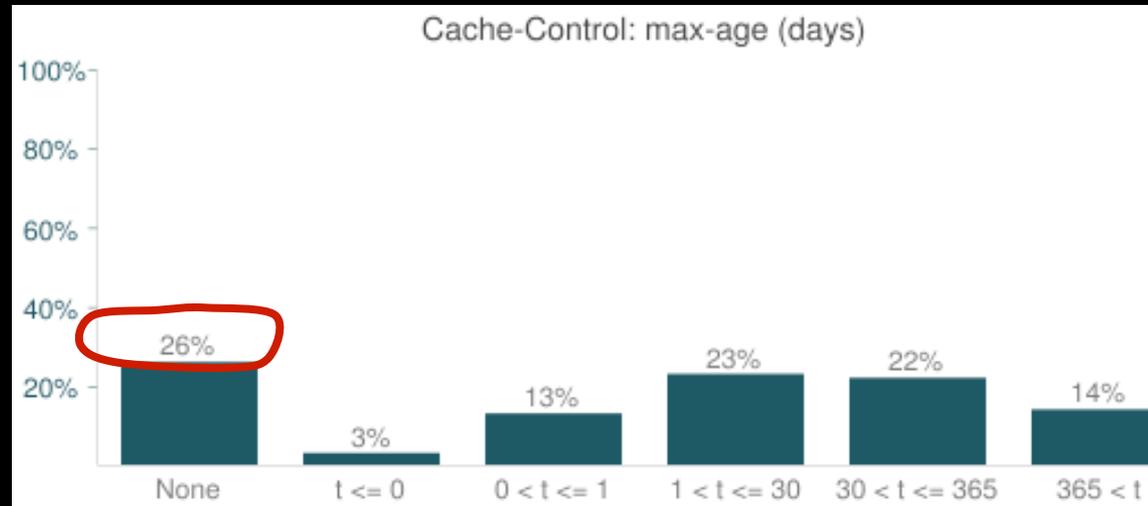
Downloads

There's a download file for each run:

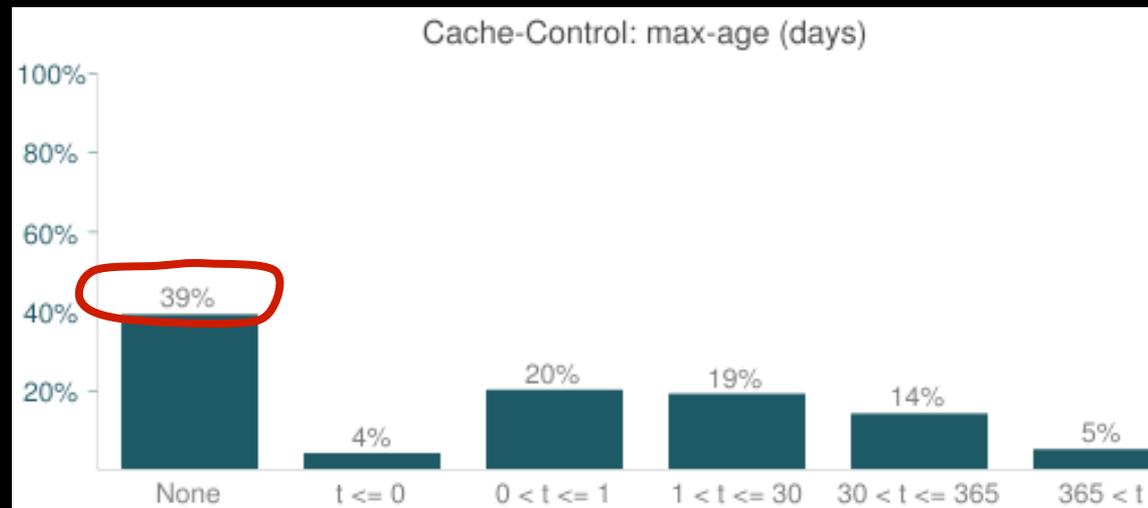
HTTP Archive (desktop):

- [Sep 15, 2011](#) (120 MB)
- [Sep 1, 2011](#) (118 MB)
- [Aug 15, 2011](#) (122 MB)
- [Aug 1, 2011](#) (113 MB)
- [Jul 15, 2011](#) (118 MB)
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- [Jun 15, 2011](#) (113 MB)
- [Jun 1, 2011](#) (113 MB)
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- [Jan 20, 2011](#) (103 MB)
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- [Dec 16, 2010](#) (104 MB)

Top 100



Top 1000



Add a Site

Enter the URL you want to add to the HTTP Archive.

URL:

Add

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powered by [WebPagetest](#)

Overview

Critical Path Explorer

 Medium priority (1)

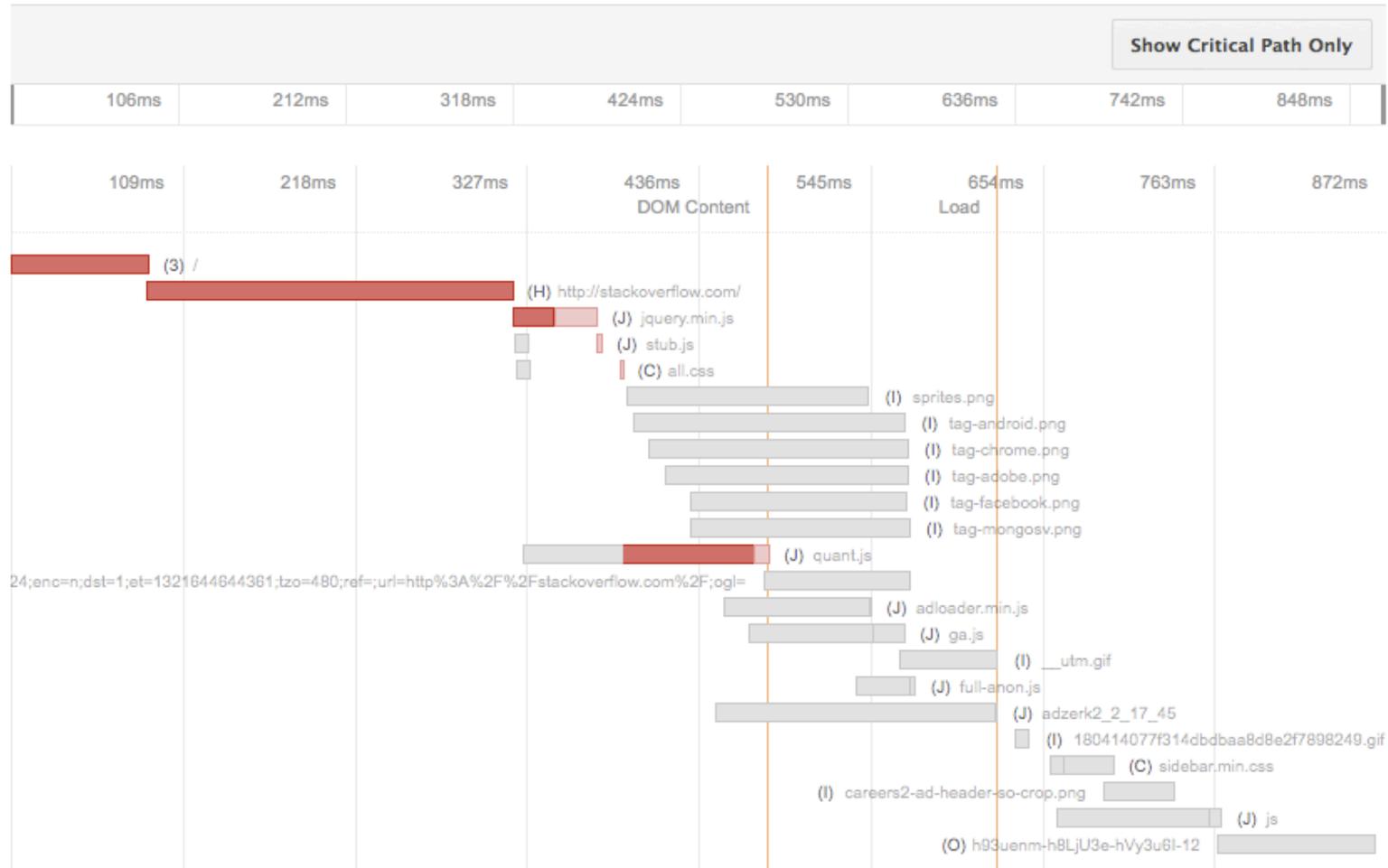
Combine images into CS...

 Low priority (8)

- Leverage browser caching
- Defer parsing of JavaScript
- Optimize the order of styl...
- Optimize images
- Specify a cache validator
- Minify HTML
- Remove query strings fro...
- Specify a Vary: Accept-E...

 Experimental rules (1) Already done! (18)

Critical Path Explorer



O'REILLY

淘宝网

Velocity

China 2011

Web性能和运维大会

2011年12月6-7日
中国 北京

Home Register Delegate Meeting content Showroom On Contact

STAY CONNECTED +

Martial arts world, only the fast is not broken

Network performance and operation and maintenance once the elite of the Internet company's secret weapon, as all Internet companies now an important part of online strategy. "Fast and reliable," the commercial value has been established, and their expectations now and again for more and better results. For further information on this ever-evolving, ever more complex areas of skills and tools? To Velocity China 2011 now!

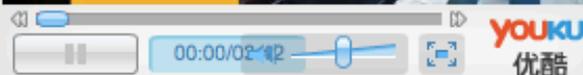
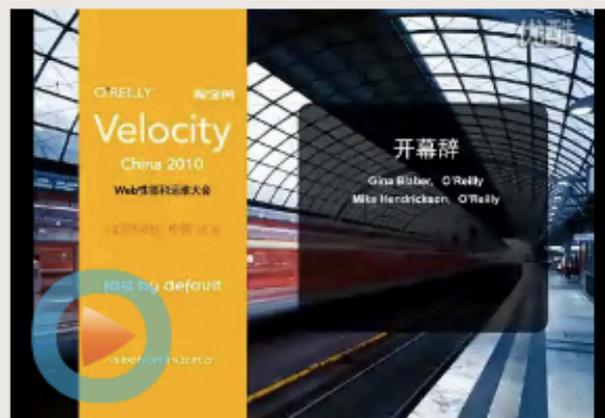
6-7 December 2011, let us meet in [Beijing, Haidian Four Points by Sheraton](#) ! More details later determined.

谁应该参加O'Reilly Velocity China 2011

- Companies of all sizes of developers, engineers, managers
- Concerned about the status of technology management

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VIDEO



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JUNE 26-28, 2012
SANTA CLARA, CA



HOME SUBMIT A PROPOSAL ABOUT EXHIBIT HALL CONNECT YOUR ACCOUNT

Velocity 2012 Call for Participation

Call closes 11:59pm 01/10/2012 PST.

[Submit a proposal](#)

- Are you the person who gets paged when your company's site is slow or has gone down?
- Do you know how to improve performance and balance efficiency and availability?
- Have you overcome a major scaling challenge?
- Does your web app run on desktop and mobile from a single code base using progressive enhancement?

If so, we want you at Velocity 2012. Submit your proposal for a session, panel, or workshop. [Read tips for submitting a proposal](#). The deadline for all proposals is midnight PST on January 10, 2012.

Some of the themes and memes we're interested in for the 2012 conference program include:

- Building resilience into applications, infrastructure, and teams
- Operations escalation and outage handling patterns
- Production datastore architectures at scale
- NoSQL
- Mobile performance
- Effective cloud computing
- JavaScript speedups

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takeaways

speed matters

WPWG

window.performance

async & defer

app cache, localStorage

! @font-face



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YOU

Steve Souders

@souders

<http://stevesouders.com/docs/qcon-20111118.pptx>