



Performance Monitoring, Measurement and Troubleshooting of Large Scale Sites @Yahoo!

大型网站性能监控、测量和 故障排除@雅虎

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Make
Things
Go
Even
Faster

A day @ work – finance.yahoo.com

- #1 in US
- ~1.6+ Billion Page View monthly
- 59 Million Unique Users



A day @ work – finance.yahoo.com

- monitoring alert
- troubleshoot
- find root cause
- result? better user experience

Performance Monitoring & Measurement



Boomerang



open sourced on [Github](https://github.com/yahoo/boomerang/)
<https://github.com/yahoo/boomerang/>

image source: <http://detectovision.com/pics/boomerang-art.gif>



Time that
user
thinks
it took to
load a
page.

image source: hikingartist.com

How does Boomerang work

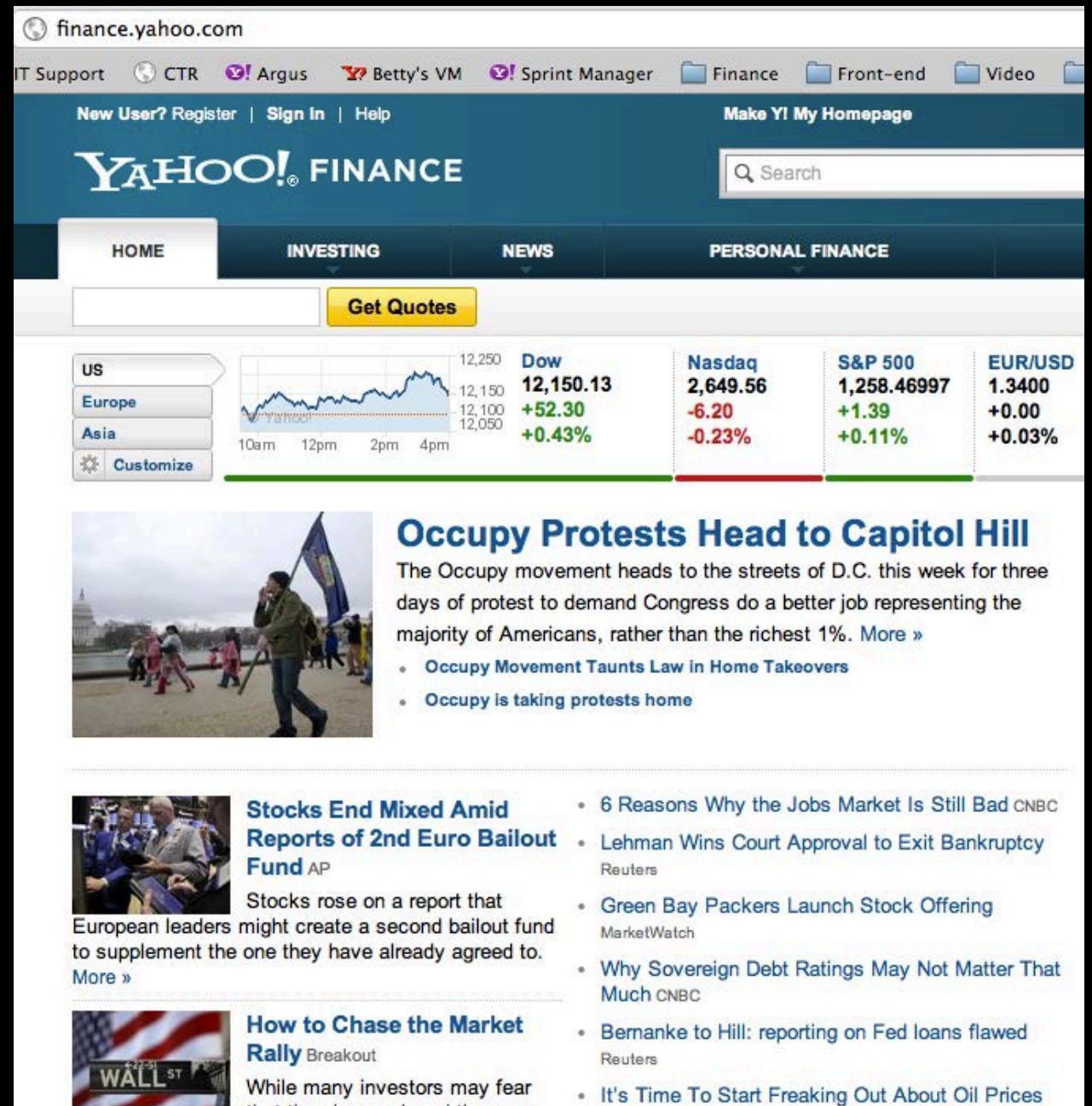
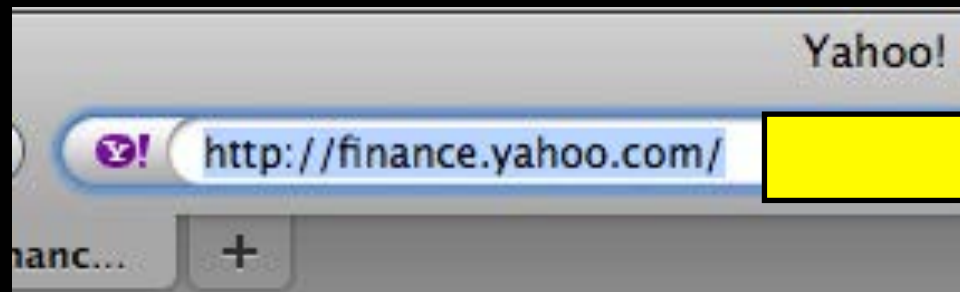
it's JavaScript beacon

How does Boomerang work

t_start = user **initiate** a resource request

t_done = that resource is completely **available**
for user to interact with

How does Boomerang work



finance.yahoo.com

IT Support CTR Argus Betty's VM Sprint Manager Finance Front-end Video

New User? Register Sign In Help

Make Y! My Homepage

YAHOO! FINANCE

Search

HOME INVESTING NEWS PERSONAL FINANCE

Get Quotes

US Europe Asia Customize

Dow 12,150.13 +52.30 +0.43%

Nasdaq 2,649.56 -6.20 -0.23%

S&P 500 1,258.46997 +1.39 +0.11%

EUR/USD 1.3400 +0.00 +0.03%

Occupy Protests Head to Capitol Hill

The Occupy movement heads to the streets of D.C. this week for three days of protest to demand Congress do a better job representing the majority of Americans, rather than the richest 1%. [More »](#)

- [Occupy Movement Taunts Law in Home Takeovers](#)
- [Occupy is taking protests home](#)

Stocks End Mixed Amid Reports of 2nd Euro Bailout Fund

Stocks rose on a report that European leaders might create a second bailout fund to supplement the one they have already agreed to. [More »](#)

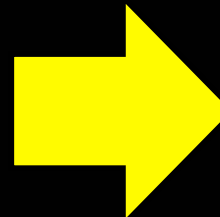
How to Chase the Market Rally

While many investors may fear that they have missed the rally...

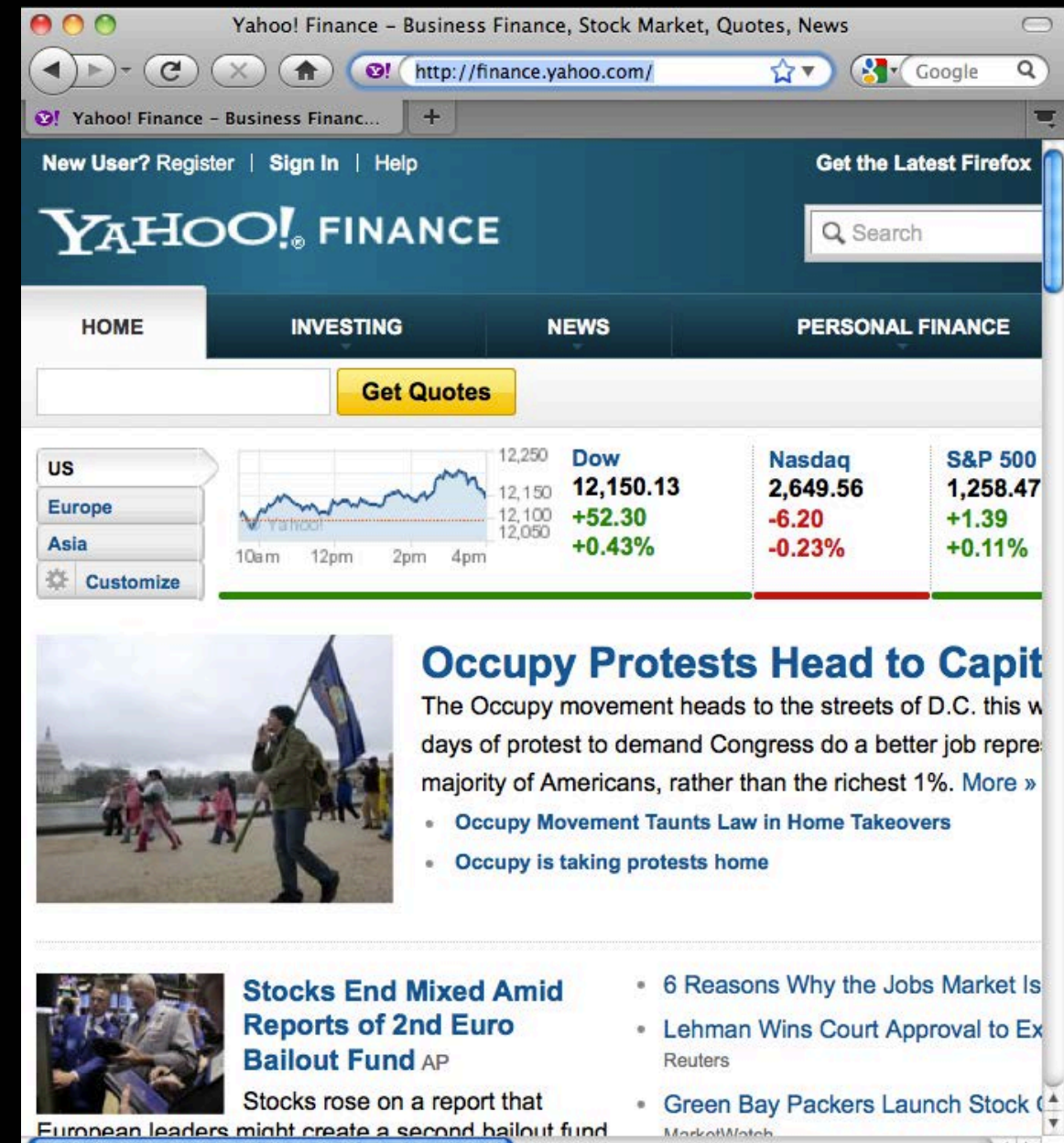
- [6 Reasons Why the Jobs Market Is Still Bad](#) CNBC
- [Lehman Wins Court Approval to Exit Bankruptcy](#) Reuters
- [Green Bay Packers Launch Stock Offering](#) MarketWatch
- [Why Sovereign Debt Ratings May Not Matter That Much](#) CNBC
- [Bernanke to Hill: reporting on Fed loans flawed](#) Reuters
- [It's Time To Start Freaking Out About Oil Prices](#)

How does Boomerang work

window.onbeforeunload



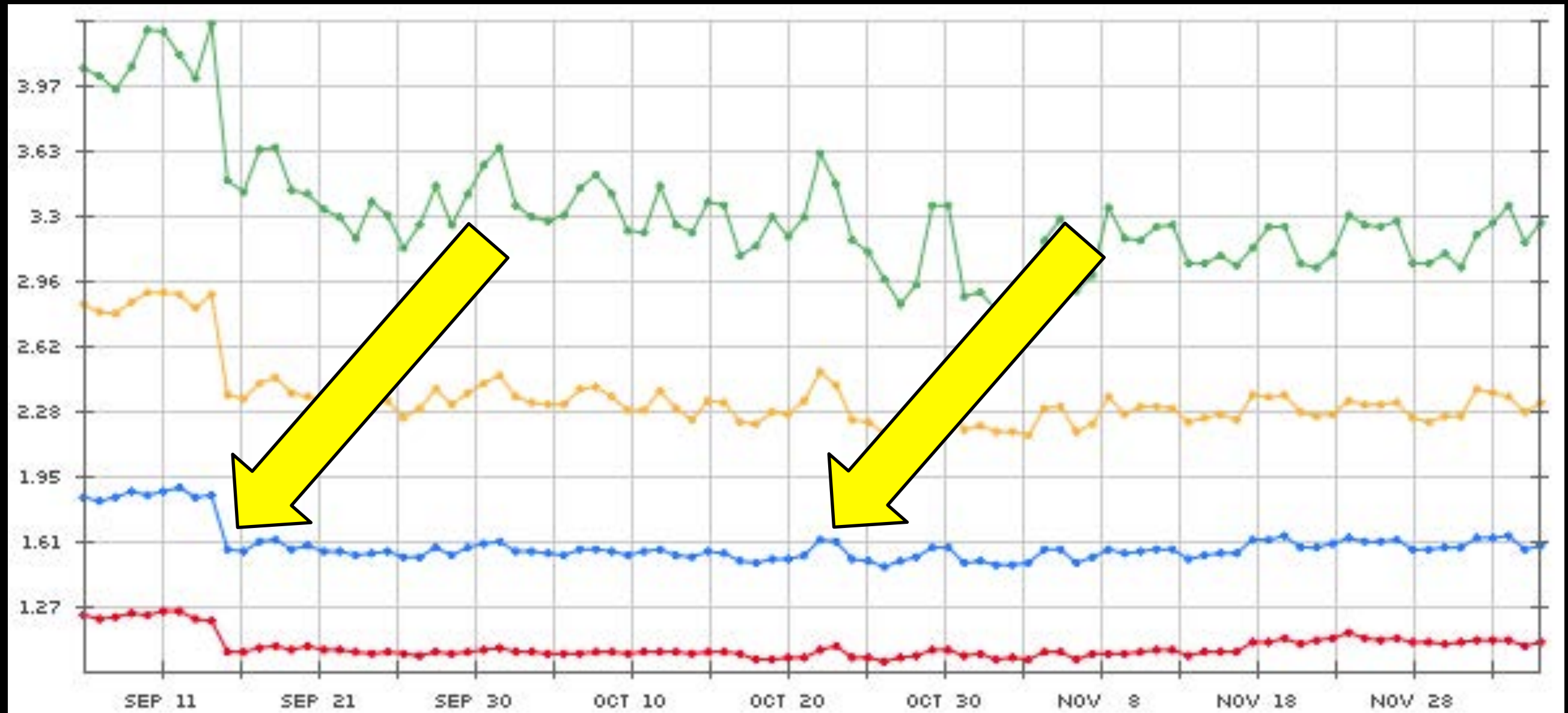
window.onload



What does Boomerang measure

- a page's perceived performance
- perceived performance of content loaded dynamically
- user's bandwidth
- page load time
- random sample
- browser WebTiming info
- page component performance break down

Sample trend view graph

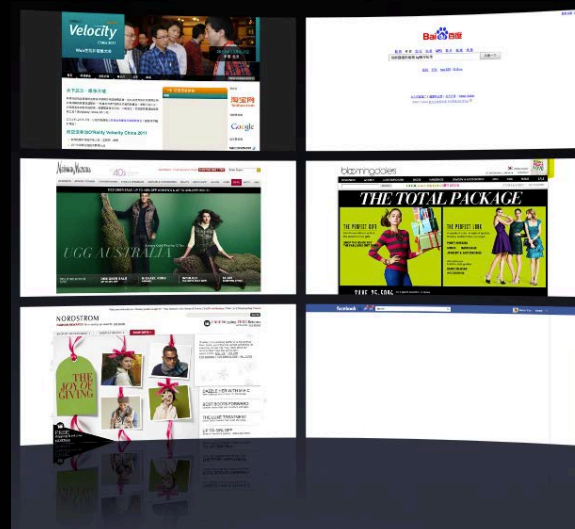
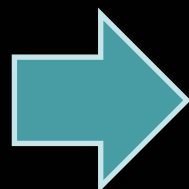


The System

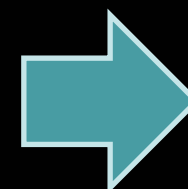
- Beacon collection
- Beacon harvesting & aggregation
- Data storage
- API
- Dashboard UI



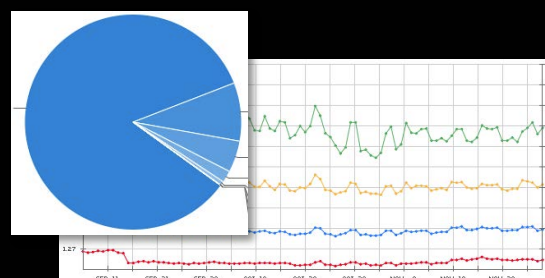
End User



Boomerang
inserted to page



Boomerang
Beacon
Collection &
Filtering



Dashboard UI



API



Result
Storage



Data
Aggregation

A day @ work – finance.yahoo.com

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Performance Troubleshooting - tools

- YSlow
- DynaTrace (for ajax app.)
- WebPageTest (private instance)
- mobitest (for mobile)

Performance Troubleshooting - YSlow

	RT	yslow w ad	yslow w/o ad
<u>Landing Page</u>	4.643	F (58)	B (89)
<u>Subpage A</u>	3.312	C (74)	A (99)
<u>Subpage B</u>	2.63	C (77)	A (96)
<u>Subpage C</u>	3.09	D (67)	A (95)
<u>Subpage D</u>	3.02	C (74)	A (92)

Performance Troubleshooting - WebPageTest



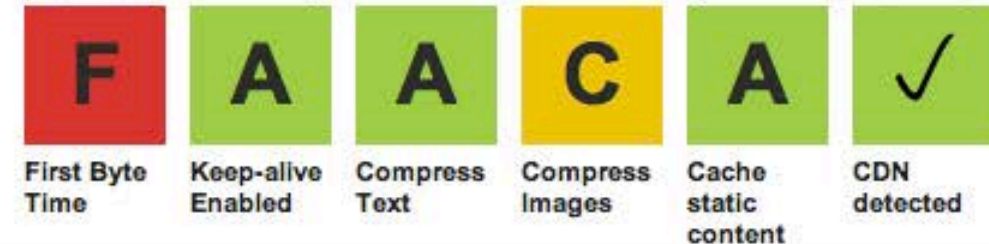
HOME **TEST RESULT** TEST HISTORY DOCUMENTATION ABOUT

Web Page Performance Test for yahoo.com

From: Sunnyvale, CA USA - IE9 - DSL

Page Speed 1.9 Score: 89/100

[Need help improving?](#)



Summary Details Performance Review Page Speed Content Breakdown Domains Screen Shot

[Re-run the test](#)

[Raw page data](#) - [Raw object data](#)
[Export HTTP Archive \(.har\)](#)

	Load Time	First Byte	Start Render	DOM Elements	Document Complete			Fully Loaded		
					Time	Requests	Bytes In	Time	Requests	Bytes In
First View	5.567s	0.609s	2.177s	1427	5.567s	59	413 KB	6.318s	72	477 KB
Repeat View	1.583s	0.460s	1.462s	1432	1.583s	15	272 KB	3.803s	20	304 KB

First View
(5.567s)

Waterfall



Screen Shot



Performance Troubleshooting – other factors

- any server outage?
- any production push?
- data center change?
- CDN server SLA miss?



Y **SLOW**

BETA

Announcing...



command line



nodeJS

The YSlow Biography

The YSlow Biography

YSlow analyzes web pages and suggests ways to improve their performance based on a set of rules for high performance web pages.



Top 25 most downloaded



Firefox Add-on

Almost 3,000,000

total downloads across browsers

350,000 users



OverSource: creating stories



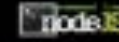
Dropbox.com has done the
HARVARD Support Learning a book



Google Analytics and other support
Google Analytics support



Facebook



Approach to the Command Line

2010 v3.x

Development Team:
Michael O'Reilly, David Nitz

Developer:
Lauren Furr, Brian Lee, Matt Vitek

Added 10 new rules from
Performance Best Practices set

Works as an extensible framework

A new UI redesign

Customizable spacing algorithm
- user can customize rulesets

New Tools (jQuery, SenchaUI)

2008 v2.x

Development Team:
Soyan Gellens, Anders Kure

Developer:
Rico Stalder

Page performance analysis based on 13 rules
from Performance Best Practices set

Tools - Performance Grade, Page Stats,
Page Component Deep Dive, Tools

2007 v0.x-1.x

Development Team:
Dave Souther, Script Science

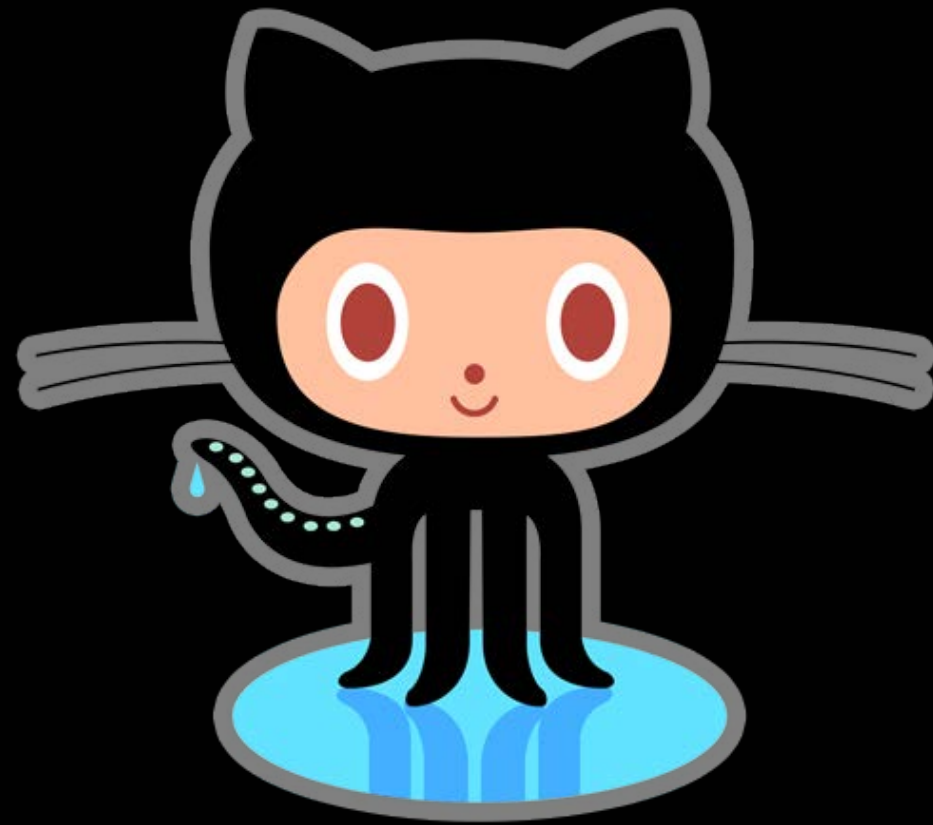
Coming next week on Performance Calendar: <http://calendar.perfplanet.com/2011/>

coming soon



JSON in the cloud support

coming soon



open source on Github

coming soon



multi language



getyslow.com

questions?



<http://tinyurl.com/bettytso>



Yahoo! Performance Group
<http://y.ahoo.it/performance>

Thank you!

谢谢