Data Presentation in a Web-App

Journey of a start-up

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Co-founder & CTO Aware Monitoring

http://awaremonitoring.com

@soxley

We monitor web-services performance and availability.

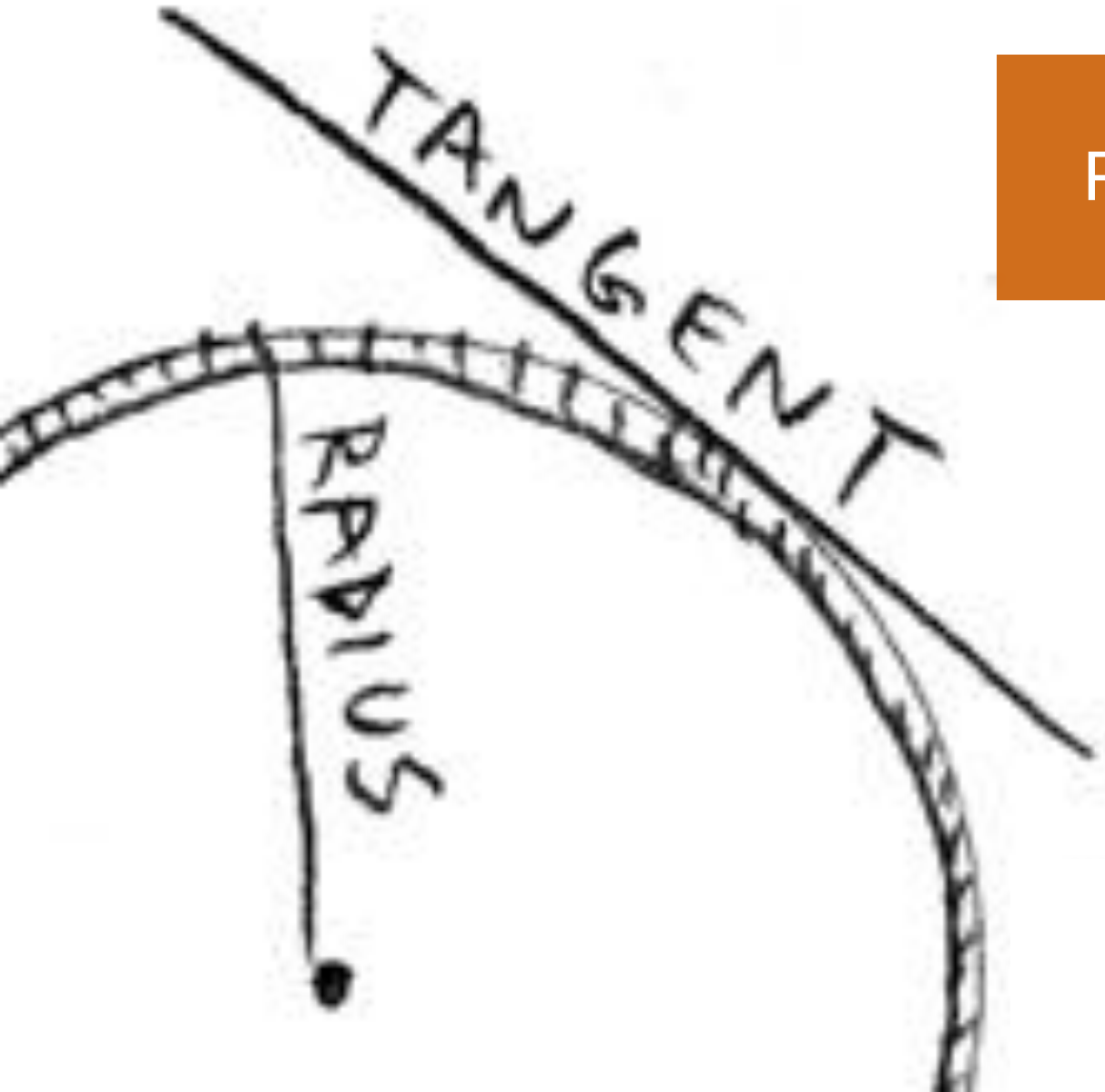
- Websites
- APIs
- XML Feeds
- Forms

http://awaremonitoring.com

We’re Bootstrapping

Time vs. Cost

Tough Decisions



First, a tangent ...

Software development is a creative art.

Art | Music | Software

a blank canvas = infinite possibilities

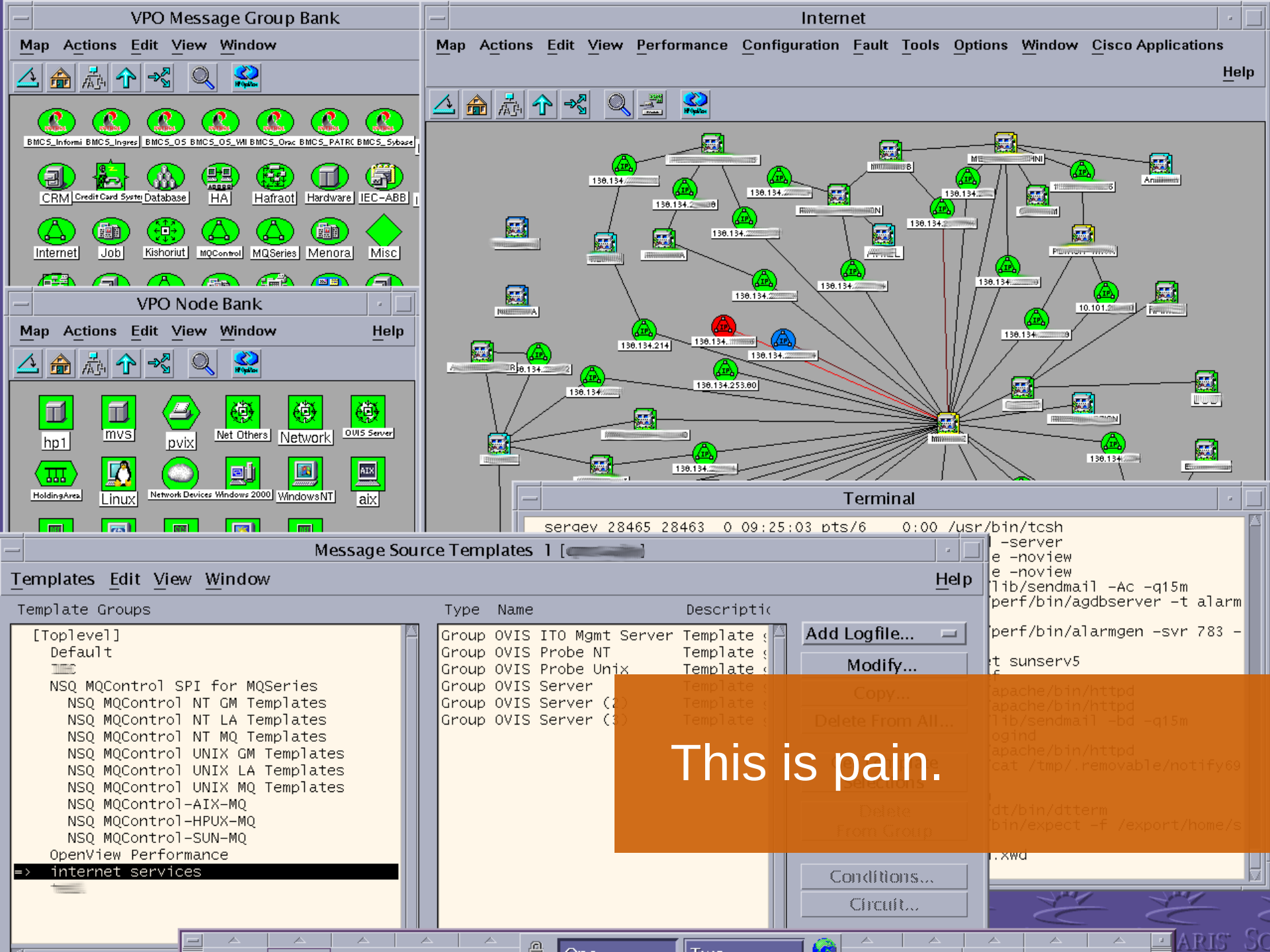
Sometimes, a masterpiece is created.

… and sometimes, it’s not.

Sometimes, the results are just painful!

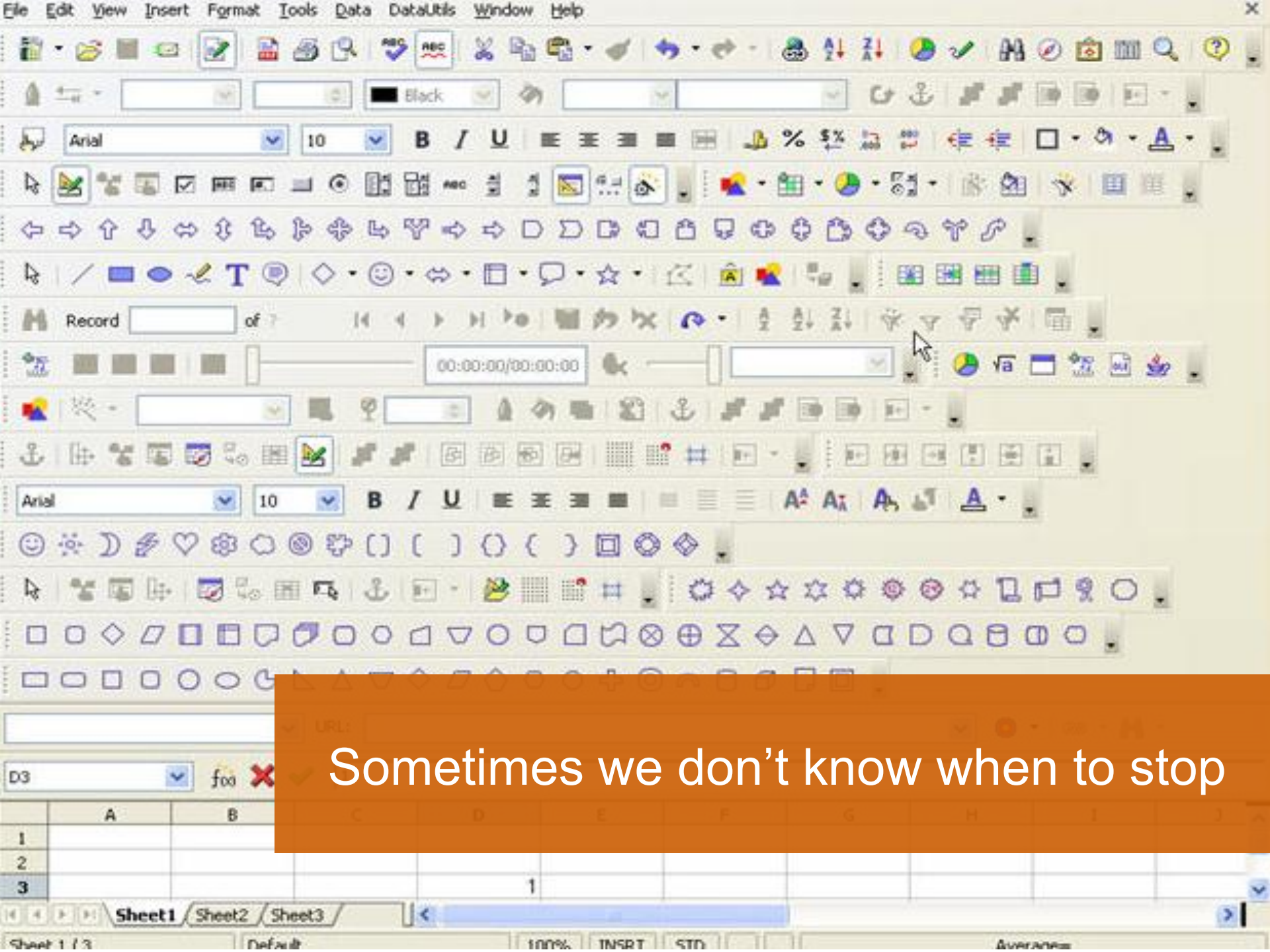
Monitoring can be painful.

Pain = Opportunity


VPO Message Group Bank
Map Actions Edit View Window
BMCS_Informi BMCS_Ingres BMCS_OS BMCS_OS_WI BMCS_Orac BMCS_PATRC BMCS_Sybase
CRM Credit Card Syste Database HA Hafraot Hardware IEC-ABB
Internet Job Kishoriut MQControl MQSeries Menora Misc
VPO Node Bank
Map Actions Edit View Window Help
hp1 mvs pvix Net Others Network OVIS Server
HoldingArea Linux Network Devices Windows 2000 WindowsNT aix
Internet
Map Actions Edit View Performance Configuration Fault Tools Options Window Cisco Applications
Help
Terminal
sergev 28465 28463 0 09:25:03 pts/6 0:00 /usr/bin/tcsh
-server
e -noview
e -noview
lib/sendmail -Ac -q15m
perf/bin/agdbserver -t alarm
perf/bin/alarmgen -svr 783 -
t sunserv5
apache/bin/httpd
apache/bin/httpd
lib/sendmail -bd -q15m
ogind
apache/bin/httpd
cat /tmp/.removable/notify69
dt/bin/dtterm
bin/expect -f /export/home/s
.xwd
Message Source Templates 1 [redacted]
Templates Edit View Window Help
Template Groups
[Toplevel]
Default
NSQ MQControl SPI for MQSeries
NSQ MQControl NT GM Templates
NSQ MQControl NT LA Templates
NSQ MQControl NT MQ Templates
NSQ MQControl UNIX GM Templates
NSQ MQControl UNIX LA Templates
NSQ MQControl UNIX MQ Templates
NSQ MQControl-AIX-MQ
NSQ MQControl-HPUX-MQ
NSQ MQControl-SUN-MQ
OpenView Performance
=> internet services
Type Name Descriptic
Group OVIS ITO Mgmt Server Template
Group OVIS Probe NT Template
Group OVIS Probe Unix Template
Group OVIS Server Template
Group OVIS Server (2) Template
Group OVIS Server (3) Template
Add Logfile...
Modify...
Copy...
Delete From All...
Delete From Group
Conditions...
Circuit...
This is pain.

The unlimited canvas of the desktop has led to **PAIN.**

No limits = No Restraints


Sometimes we don’t know when to stop

Restraints are a good thing.

W3C Recommendation

HTML 4.01 Specification

W3C Recommendation 24 December 1999

This version:
http://www.w3.org/TR/1999/REC-html401-19991224
(plain text [794Kb], gzip'ed tar archive of HTML files [371Kb], a .zip archive of HTML files [405Kb], gzip'ed Postscript file [746Kb, 389 pages], gzip'ed PDF file [963Kb])
Latest version of HTML 4.01:
http://www.w3.org/TR/html401
Latest version of HTML 4:
http://www.w3.org/TR/html4
Latest version of HTML:
http://www.w3.org/TR/html
Previous version of HTML 4.01:
http://www.w3.org/TR/1999/PR-html40-19990824
Previous HTML 4 Recommendation:
http://www.w3.org/TR/1998/REC-html40-19980424
Editors:
Dave Raggett <dsr@w3.org>
Arnaud Le Hors, W3C
Ian Jacobs, W3C

The web has grown up with restraints.

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Abstract

This specification defines the HyperText Markup Language (HTML), the publishing language of the World Wide Web. This specification defines HTML 4.01, which is a subversion of HTML 4. In addition to the text, multimedia, and hyperlink features of the previous versions of HTML (HTML 3.2 [HTML32] and HTML 2.0 [RFC1866]), HTML 4 supports more multimedia options, scripting languages, style sheets, better printing facilities, and documents that are more accessible to users with disabilities. HTML 4 also takes great strides towards the internationalization of documents with the goal of making the Web truly World Wide.

HTML 4 is an SGML application conforming to International Standard ISO 8879 -- Standard Generalized Markup Language [ISO8879].

Status of this document

This section describes the status of this document at the time of its publication. Other documents may supersede this document. The latest status of this document series is maintained at the W3C.

This document specifies HTML 4.01, which is part of the HTML 4 line of specifications. The first version of HTML 4 was HTML 4.0 [HTML40], published on 18 December 1997 and revised 24 April 1998. This specification is the first HTML 4.01 Recommendation. It includes non-editorial changes since the 24 April version of HTML 4.0. There have been some changes to the DTDs, for example This document obsoletes previous versions of HTML 4.0, although W3C will continue to make those specifications and their DTDs available at the W3C Web site.

This document has been reviewed by W3C Members and other interested parties and has been endorsed by the Director as a W3C Recommendation. It is a stable document and may be used as reference material or cited as a normative reference from another document. W3C's role in making the Recommendation is to draw attention to the specification and to promote its widespread deployment. This enhances the functionality and interoperability of the Web.

W3C recommends that user agents and authors (and in particular, authoring tools) produce HTML 4.01 documents rather than HTML 4.0 documents. W3C recommends that authors produce HTM 4 documents instead of HTML 3.2 documents. For reasons of backward compatibility, W3C also recommends that tools interpreting HTML 4 continue to support HTML 3.2 and HTML 2.0 as well.

Innovation is happening in the browser and on the web.

We wanted to be part of it.

We set some simple goals.

Web Services Monitoring 2.0

1. Instant On - be up and running in minutes
2. Easy to setup and configure
3. Deliver information of real value quickly

A small team on an epic journey

Decisions, decisions ...

Early technology choices have a big impact.

Build the right foundations

Considerations

1. Time
2. Skills
3. Cost

It’s easy to take on too much

Our decisions

Python

HTML / CSS

JavaScript

Heavy lifting can be made easier

Maximising re-use

Python › Django

HTML / CSS

JavaScript › jQuery + Dojo

Standing on the shoulders of giants

User experience goals

- Simple and Obvious
- Fast in the browser
- Quick and Easy set-up

Keep it
Simple
For our customers and us

UI Delivery

first: HTML / CSS

then: JavaScript › Light touch

This site requires the latest version of Adobe Flash Player.

Please click here to download the player for free...

No Flash

Why no flash?

Another piece to test + manage

Another skill required

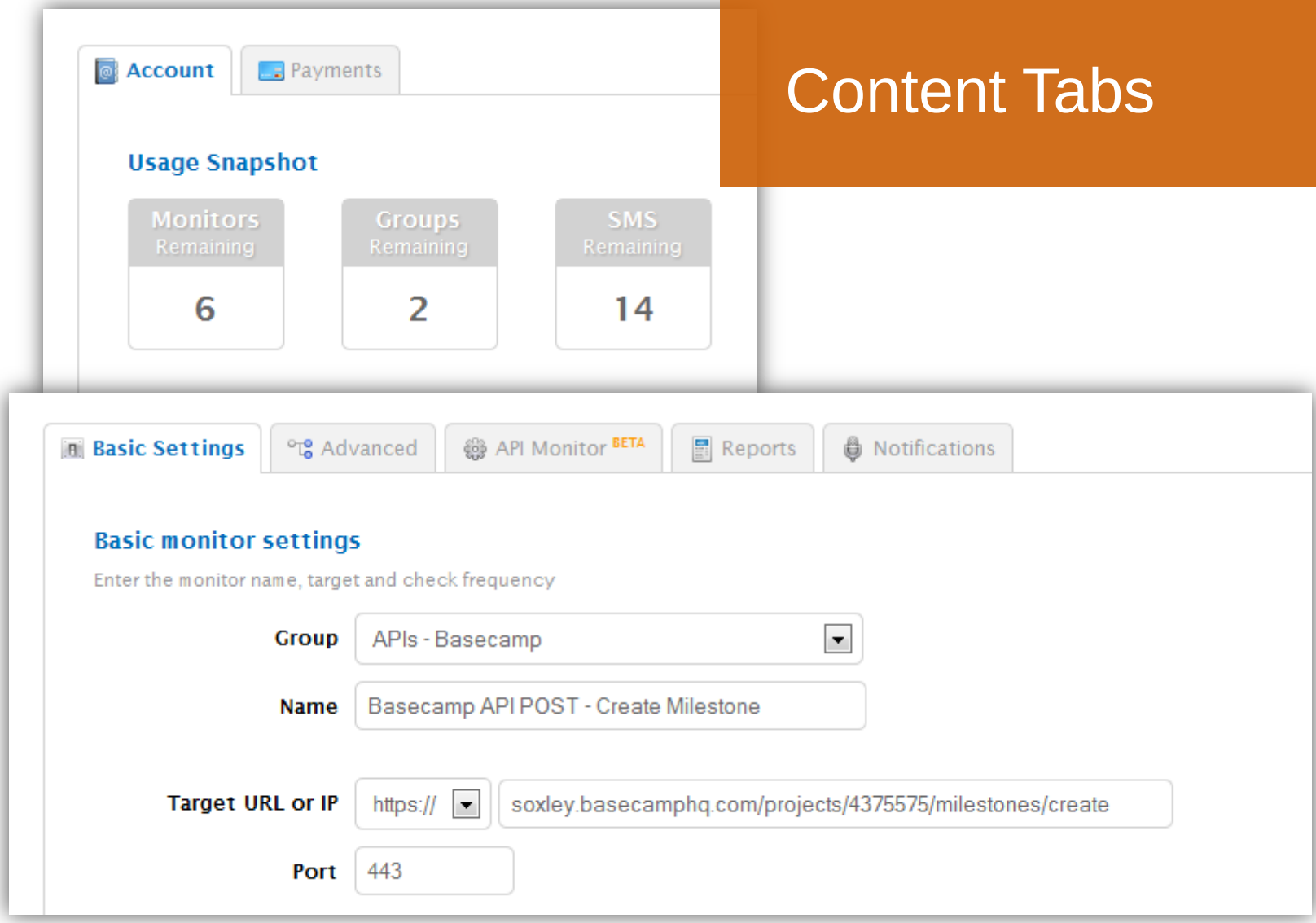
CSS + JS is enough

Two high-level use-cases

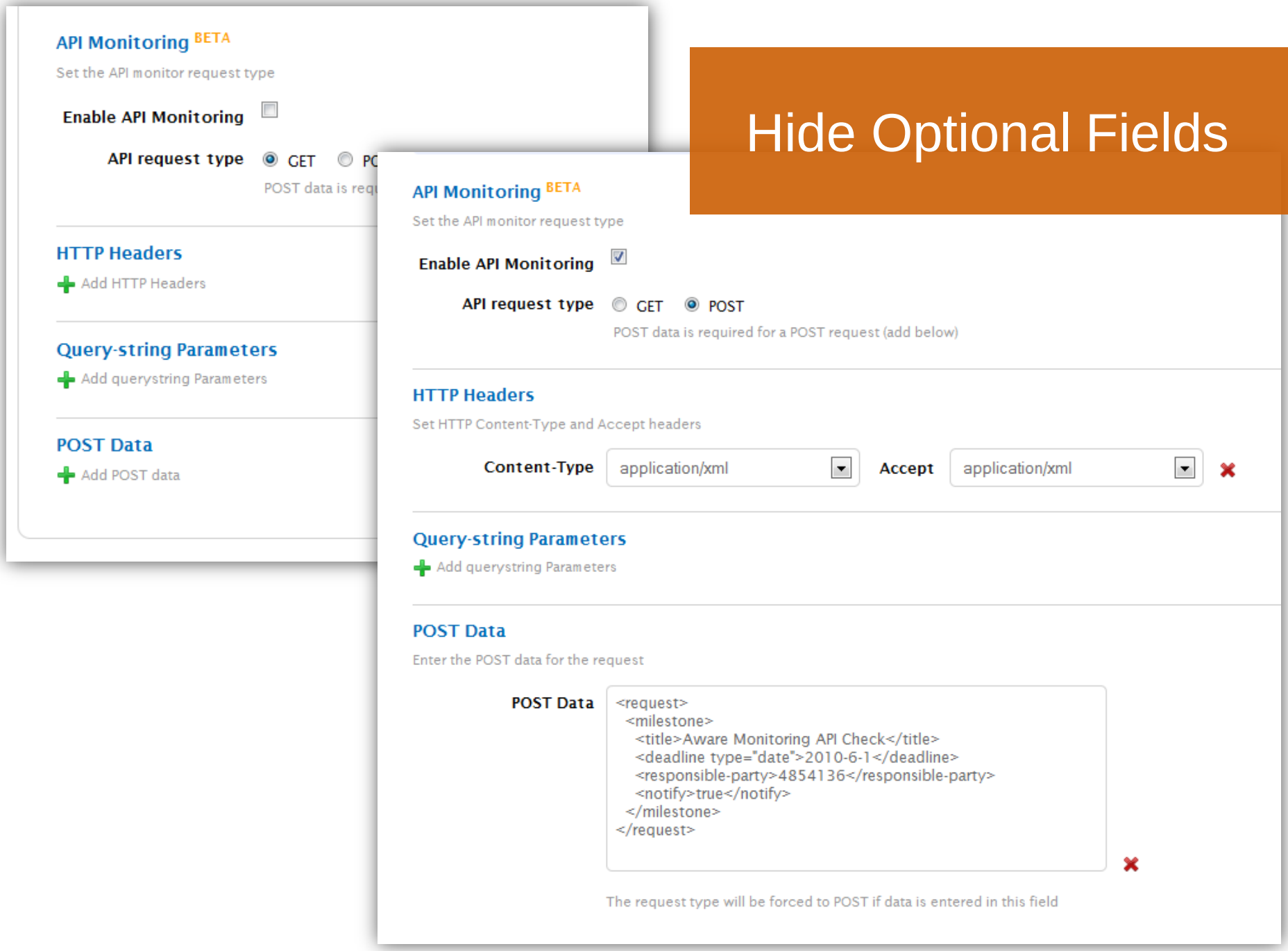
1. Configure a monitor
2. Access results

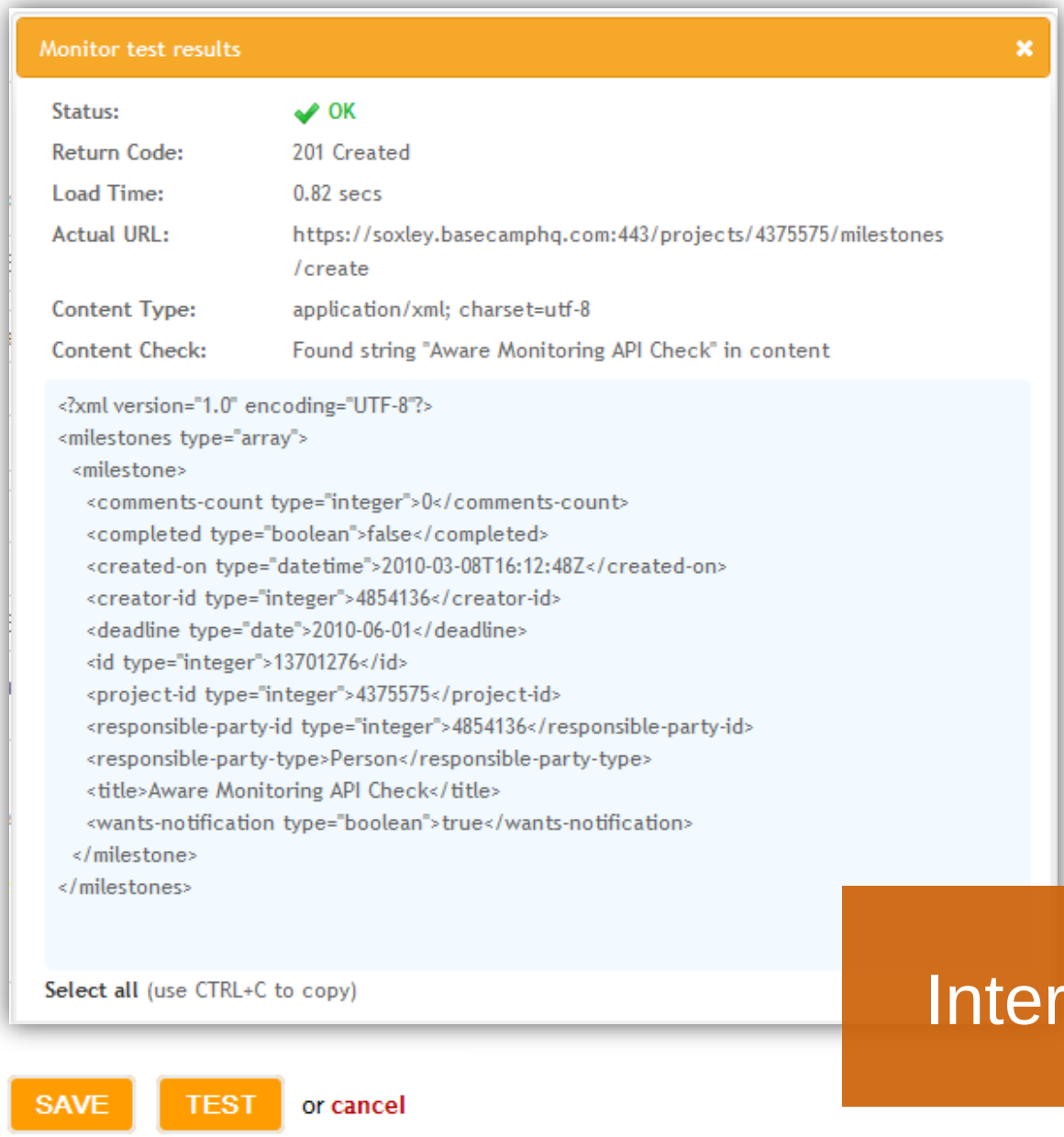
Configuration

Content Tabs

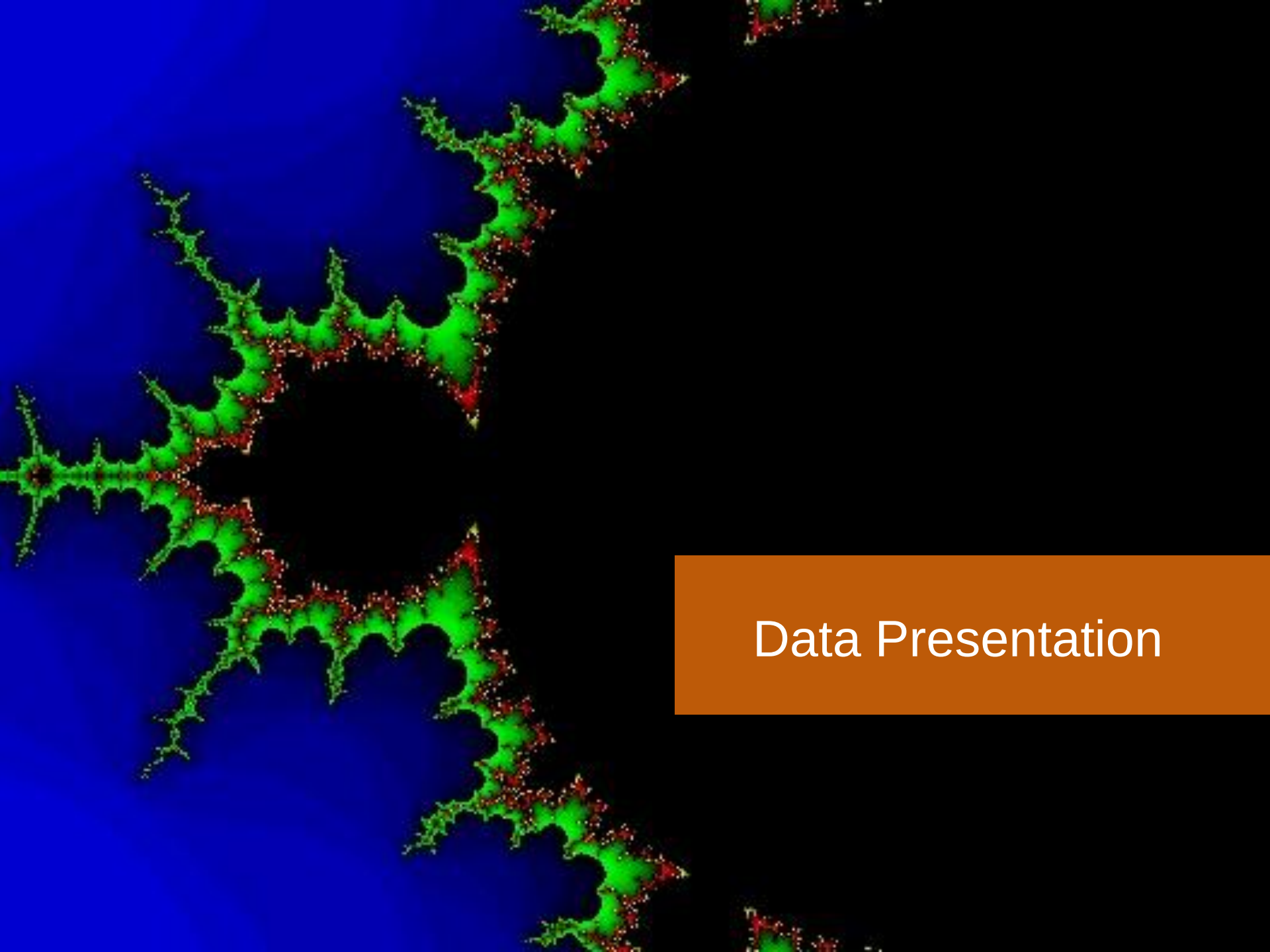


Hide Optional Fields

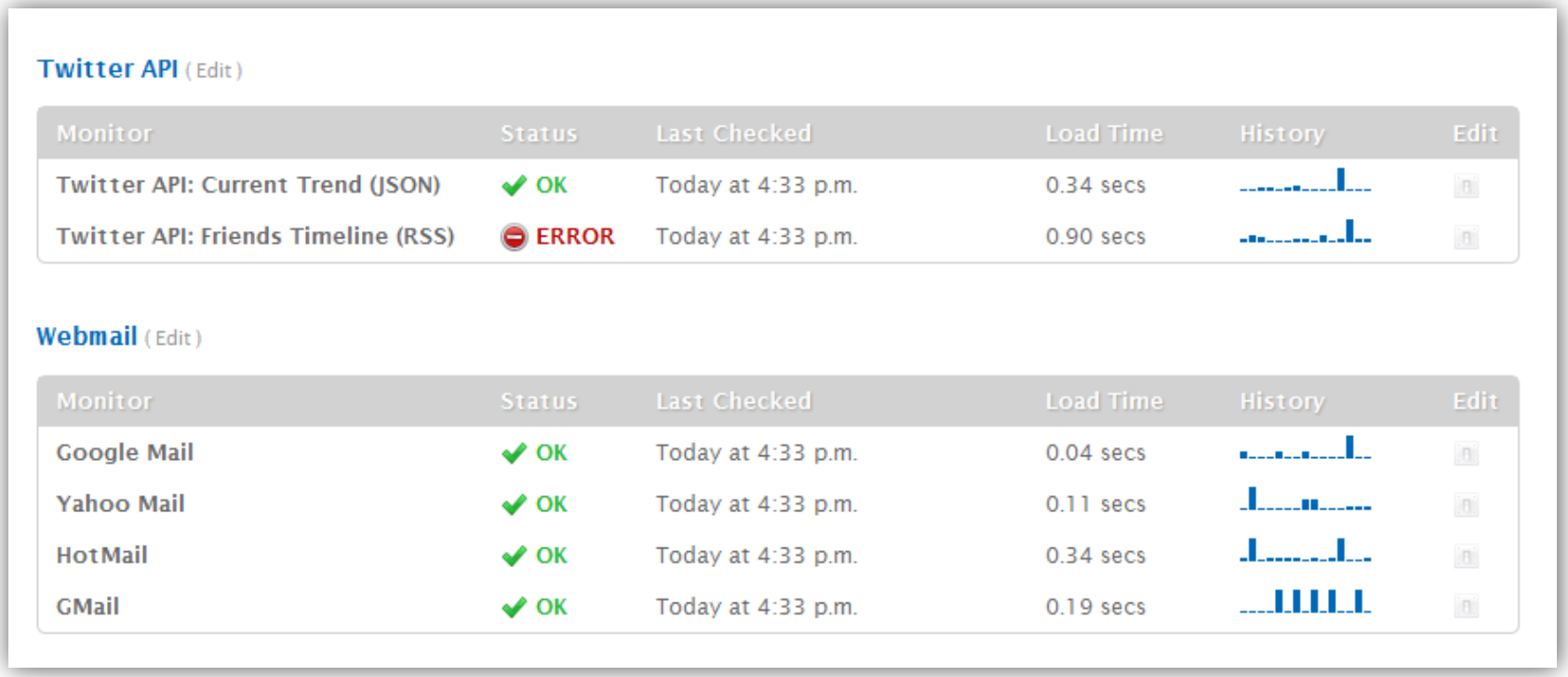




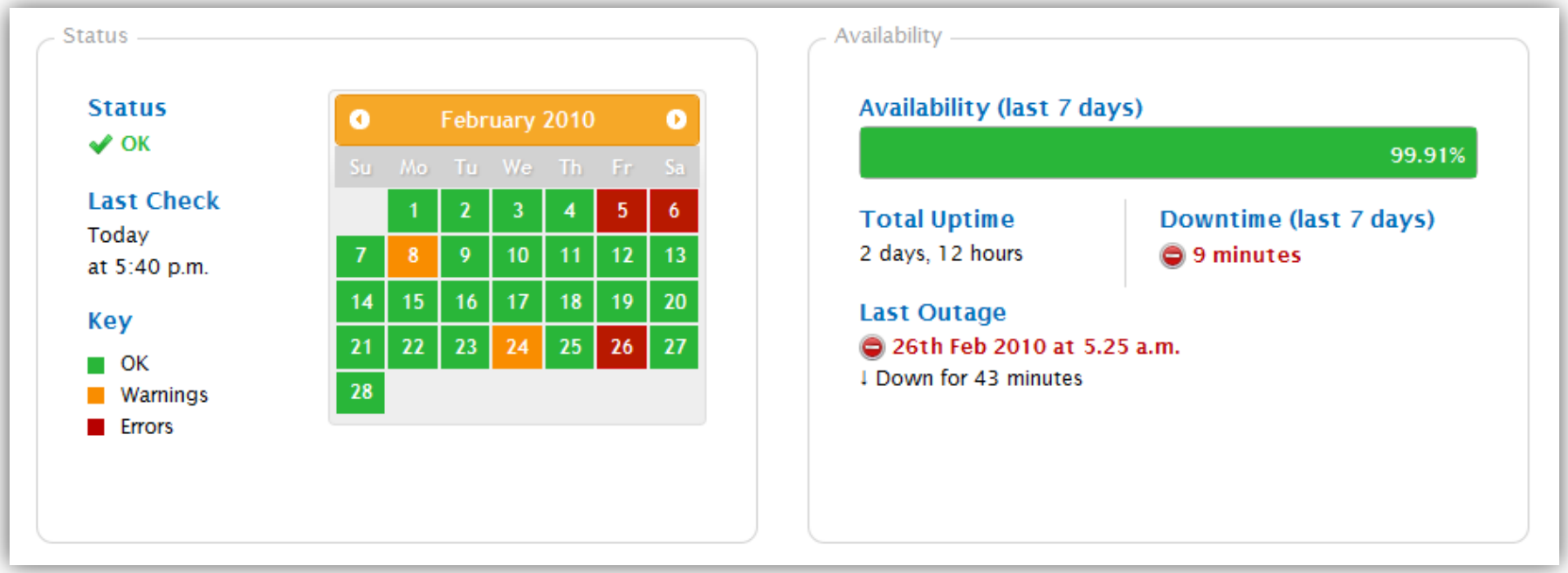
Interactive



Data Presentation



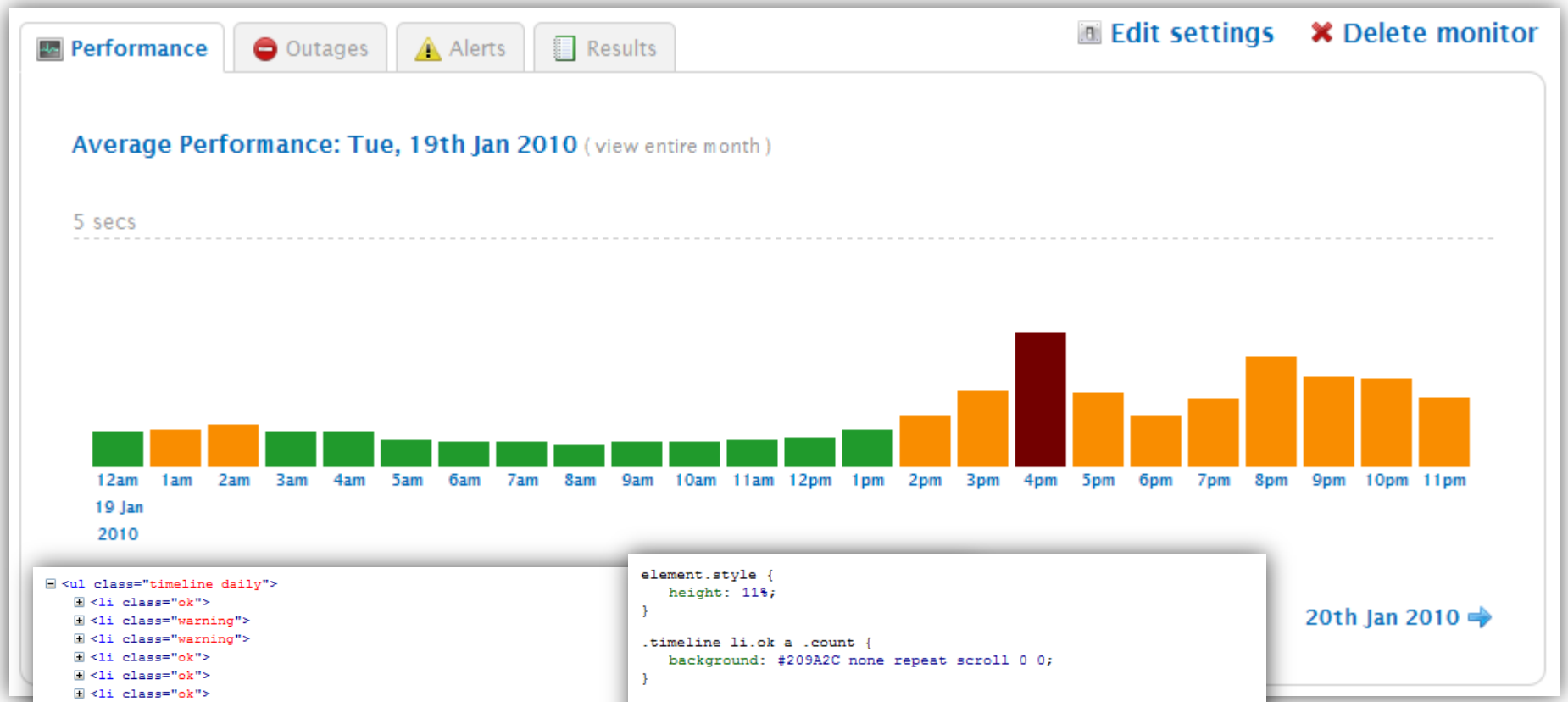
Limit top-level detail


Status
Status
OK
Last Check
Today
at 5:40 p.m.
Key
OK
Warnings
Errors
February 2010
Su Mo Tu We Th Fr Sa
1 2 3 4 5 6
7 8 9 10 11 12 13
14 15 16 17 18 19 20
21 22 23 24 25 26 27
28
Availability
Availability (last 7 days)
99.91%
Total Uptime
2 days, 12 hours
Downtime (last 7 days)
9 minutes
Last Outage
26th Feb 2010 at 5.25 a.m.
↓ Down for 43 minutes

Drill down

Let the browser do what it's good at.

It's easier, and faster




```
<ul class="timeline daily">
  <li class="ok">
  <li class="warning">
  <li class="warning">
  <li class="ok">
  <li class="ok">
  <li class="ok">
  <li class="ok">
  <li class="ok">
  <li class="ok">
  <li class="ok">
  <li class="ok">
  <li class="ok">
  <li class="ok">
  <li class="ok">
    <a class="view-hour" title="0.84 secs" href="/account/soxley/mon
      <span class="label"> 1pm </span>
      <span class="count" style="height: 17%;"> 2010-01-19 13:00:0
    </a>
  </li>
  <li class="warning">
  <li class="warning">
    <a class="view-hour" title="1.69 secs" href="/account/soxley/mon
      <span class="label"> 3pm </span>
      <span class="count" style="height: 34%;"> 2010-01-19 15:00:0
    </a>
  </li>
  <li class="error">
    <a class="view-hour" title="3.00 secs" href="/account/soxley/mon
      <span class="label"> 4pm </span>
      <span class="count" style="height: 60%;"> 2010-01-19 16:00:0
    </a>
```

```
element.style {
    height: 11%;
}

.timeline li.ok a .count {
    background: #209A2C none repeat scroll 0 0;
}

.timeline li a .count {
    background: #AAAAAA none repeat scroll 0 0;
    bottom: 0;
    display: block;
    height: 0;
    left: 0;
    overflow: hidden;
    position: absolute;
    text-indent: -9999px;
    width: 100%;
}

html, body, div, span, applet, object, iframe, h1, h2, h3, h4, h5, h6,
address, big, cite, code, del, dfn, em, font, img, ins, kbd, q, s, sam
var, b, u, i, center, dl, dt, dd, ol, ul, li, fieldset, form, label, l
thead, tr, th, td {
    background: transparent none repeat scroll 0 0;
    border: 0 none;
    font-size: 100%;
    margin: 0;
    outline-color: -moz-use-text-color;
    outline-style: none;
    outline-width: 0;
    padding: 0;
    vertical-align: baseline;
}
```

CSS Charts

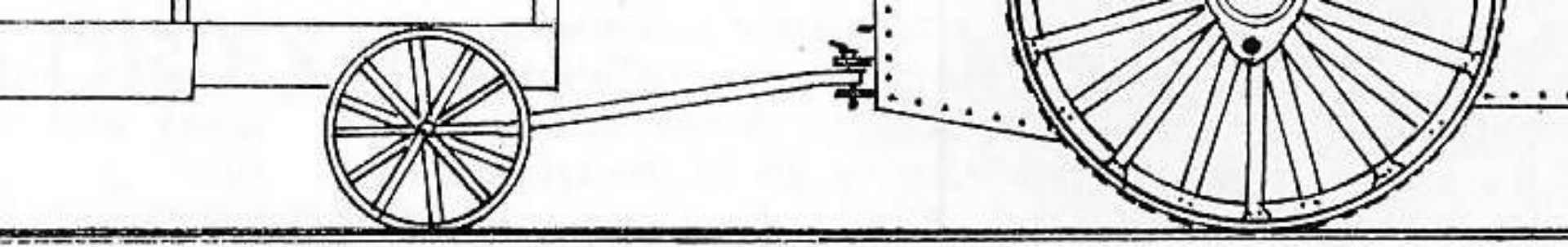
CSS Charts

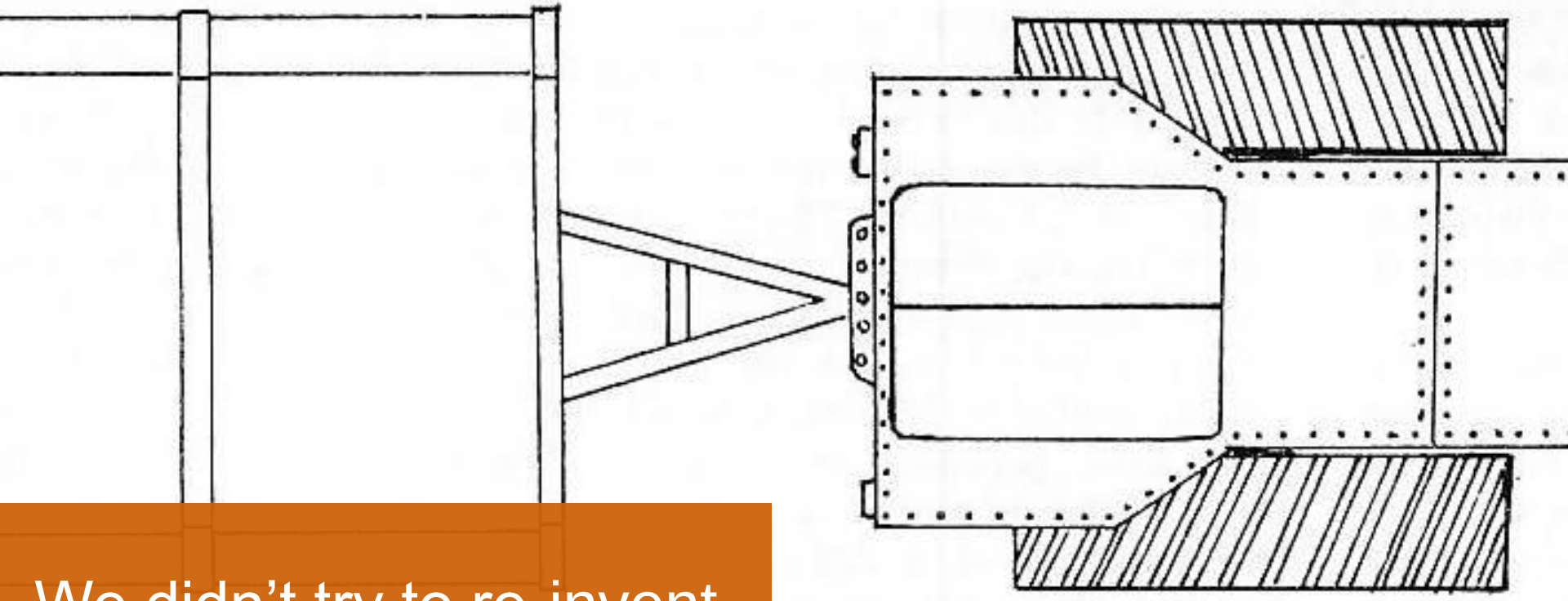
- Fast
- Accessible
- Styled

JavaScript Charts (Dojo)

Pie chart

Custom time period





We didn’t try to re-invent

Some things inspired us along the way.

Learning from others

Dashboard

Export | Email

Apr 1, 2007 - Apr 30, 2007

Key metrics

Site Usage

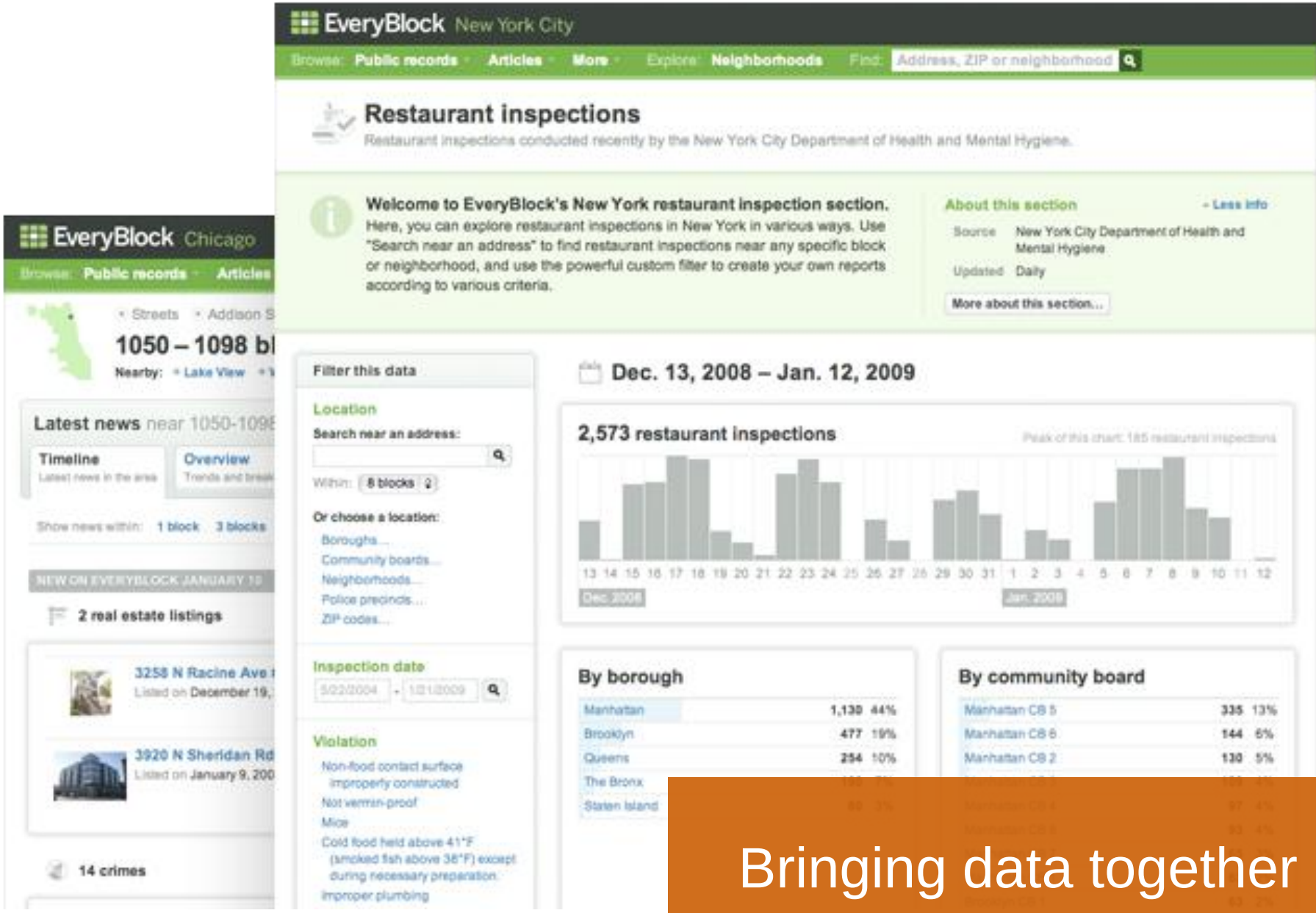
16,635 Visits	**28,827** Pageviews
1.73 Pages/Visit	**00:02:05** Avg. Time on Site
69.56% Bounce Rate	**65.52%** % New Visits

Visitors Overview

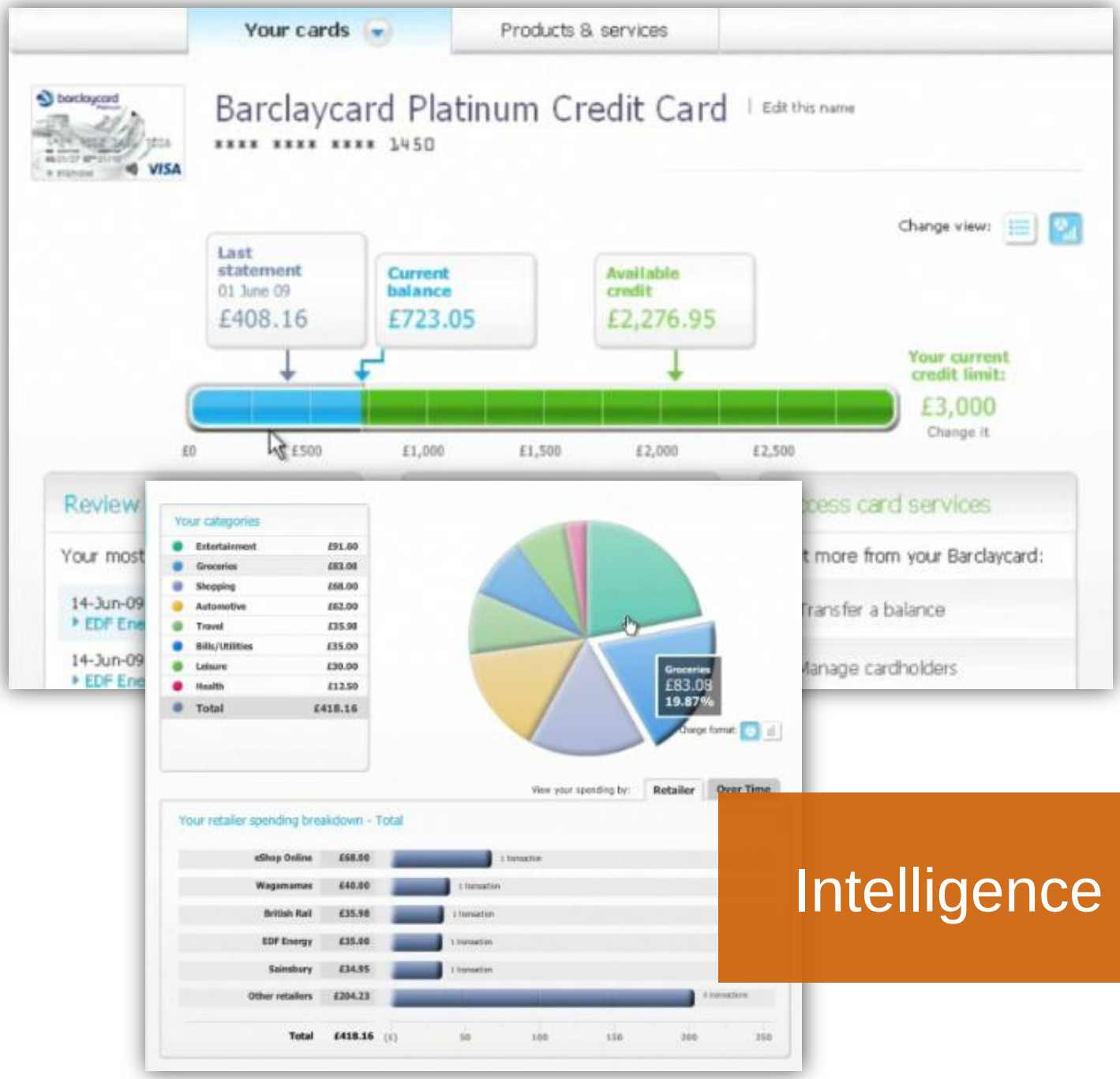
11,916 Visitors

Traffic Sources Overview

- Referring Sites
  6,785 (40.79%)
- Search Engines
  6,276 (37.73%)
- Direct
  3,567 (21.44%)
- Other
  7 (0.04%)

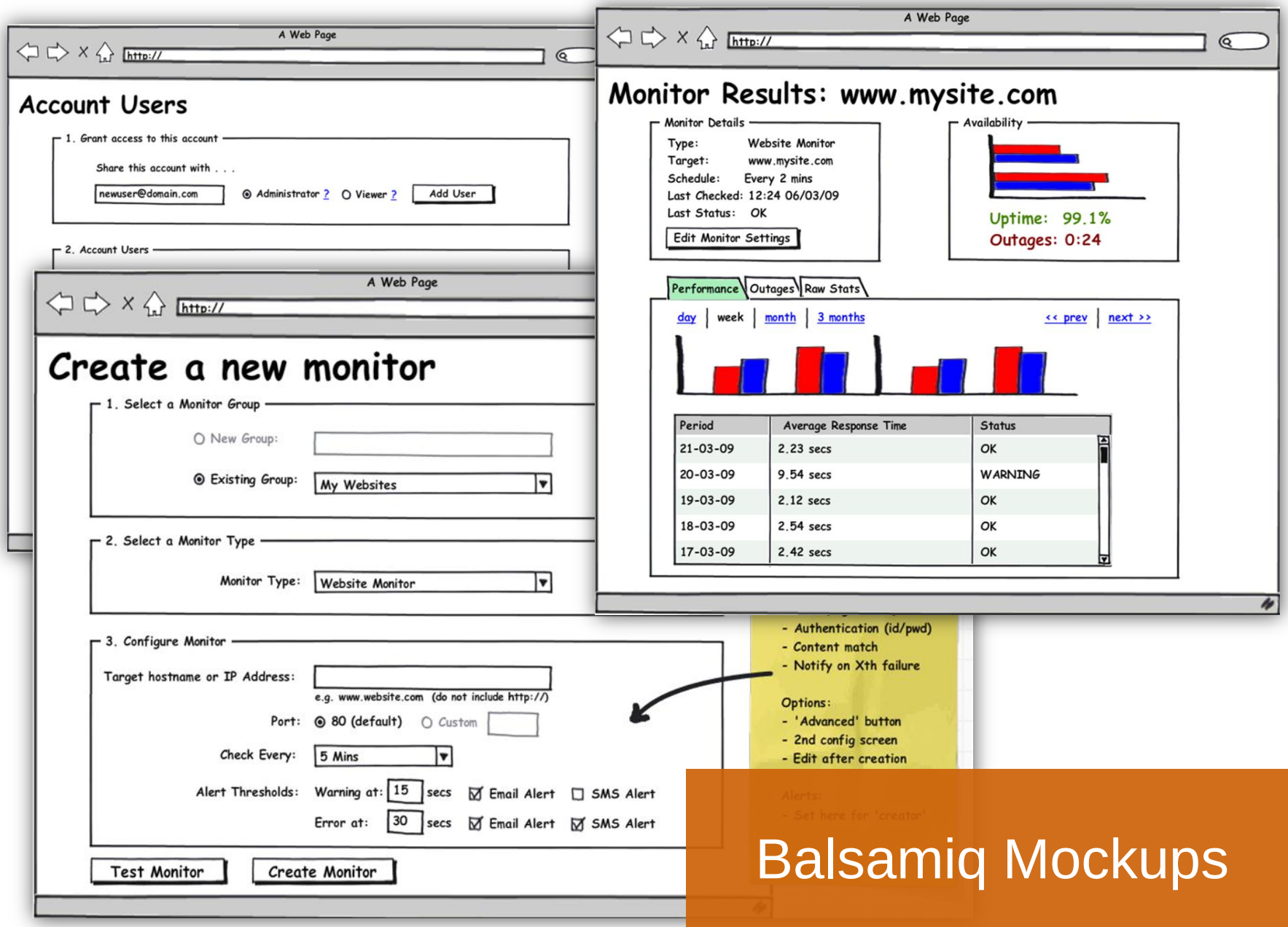


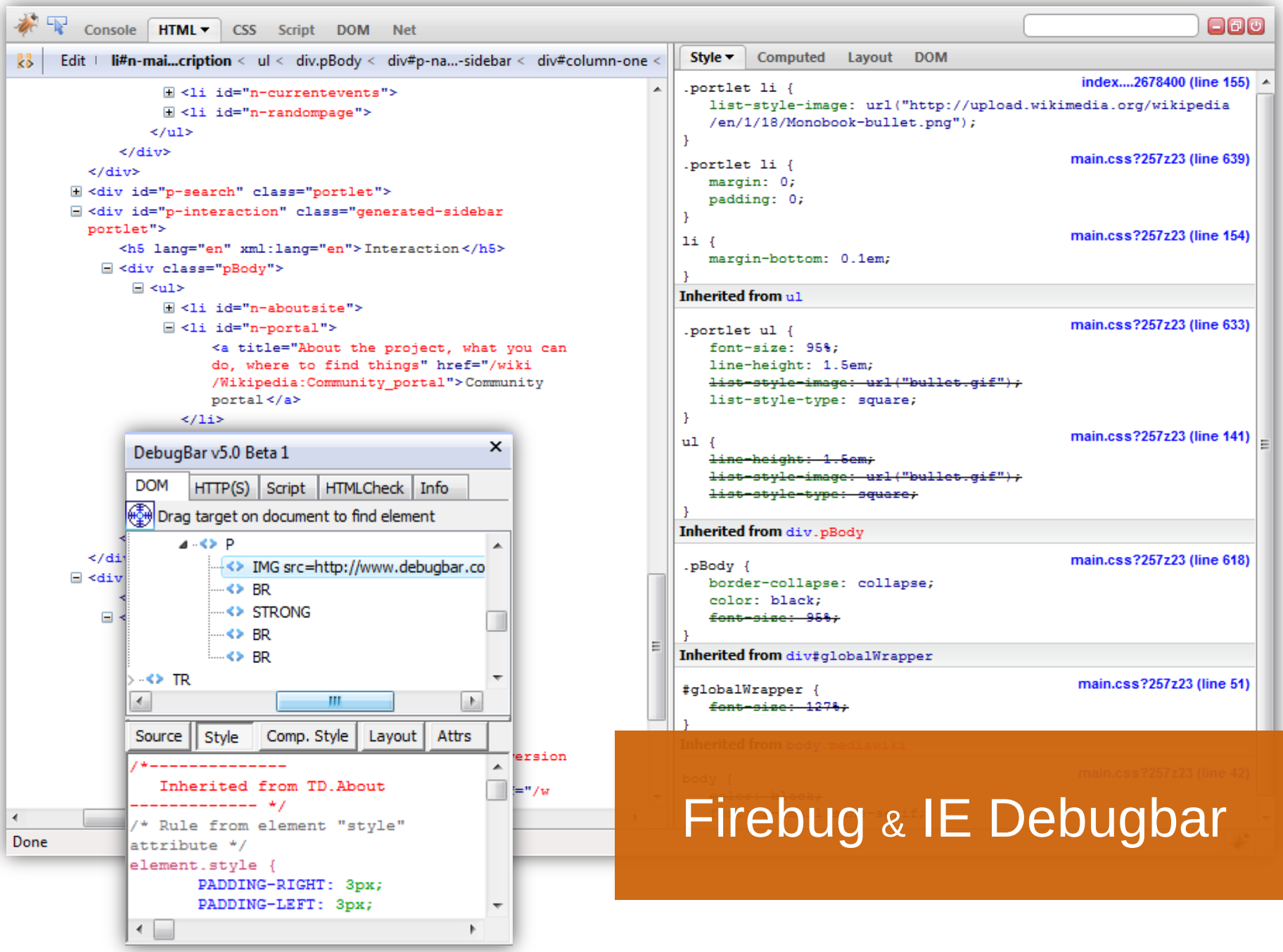
Bringing data together



Intelligence from data

Some of our tools

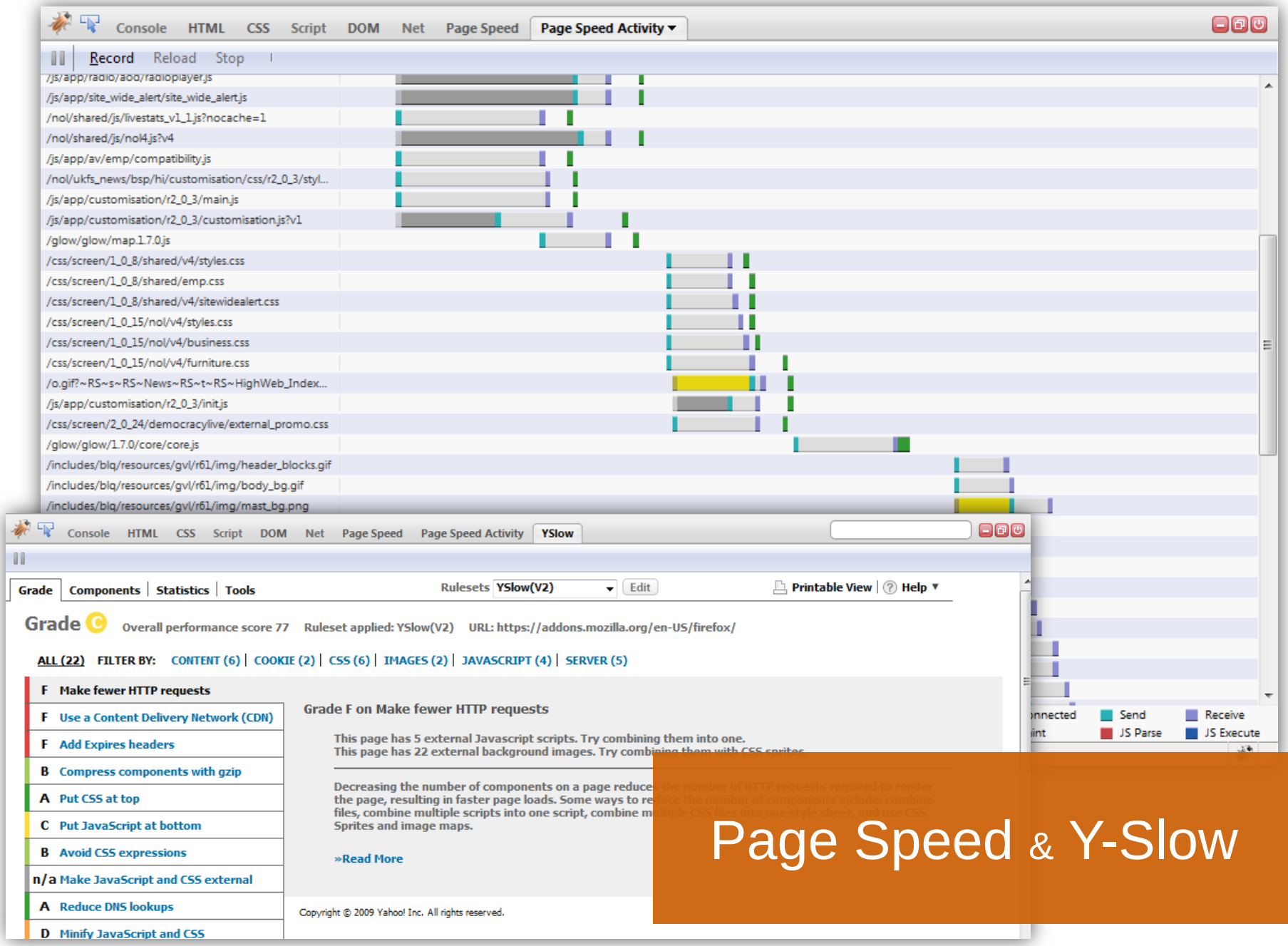

A Web Page
http://
Account Users
1. Grant access to this account
Share this account with . . .
newuser@domain.com
Administrator ?
Viewer ?
Add User
2. Account Users
A Web Page
http://
Monitor Results: www.mysite.com
Monitor Details
Type: Website Monitor
Target: www.mysite.com
Schedule: Every 2 mins
Last Checked: 12:24 06/03/09
Last Status: OK
Edit Monitor Settings
Availability
Uptime: 99.1%
Outages: 0:24
Performance
Outages
Raw Stats
day | week | month | 3 months
<< prev | next >>
Period
Average Response Time
Status
21-03-09 2.23 secs OK
20-03-09 9.54 secs WARNING
19-03-09 2.12 secs OK
18-03-09 2.54 secs OK
17-03-09 2.42 secs OK
A Web Page
http://
Create a new monitor
1. Select a Monitor Group
New Group:
Existing Group:
My Websites
2. Select a Monitor Type
Monitor Type:
Website Monitor
3. Configure Monitor
Target hostname or IP Address:
e.g. www.website.com (do not include http://)
Port:
80 (default)
Custom
Check Every:
5 Mins
Alert Thresholds:
Warning at:
15
secs
Email Alert
SMS Alert
Error at:
30
secs
Email Alert
SMS Alert
Test Monitor
Create Monitor
- Authentication (id/pwd)
- Content match
- Notify on Xth failure
Options:
- 'Advanced' button
- 2nd config screen
- Edit after creation
Alerts:
- Set here for 'creator'
Balsamiq Mockups

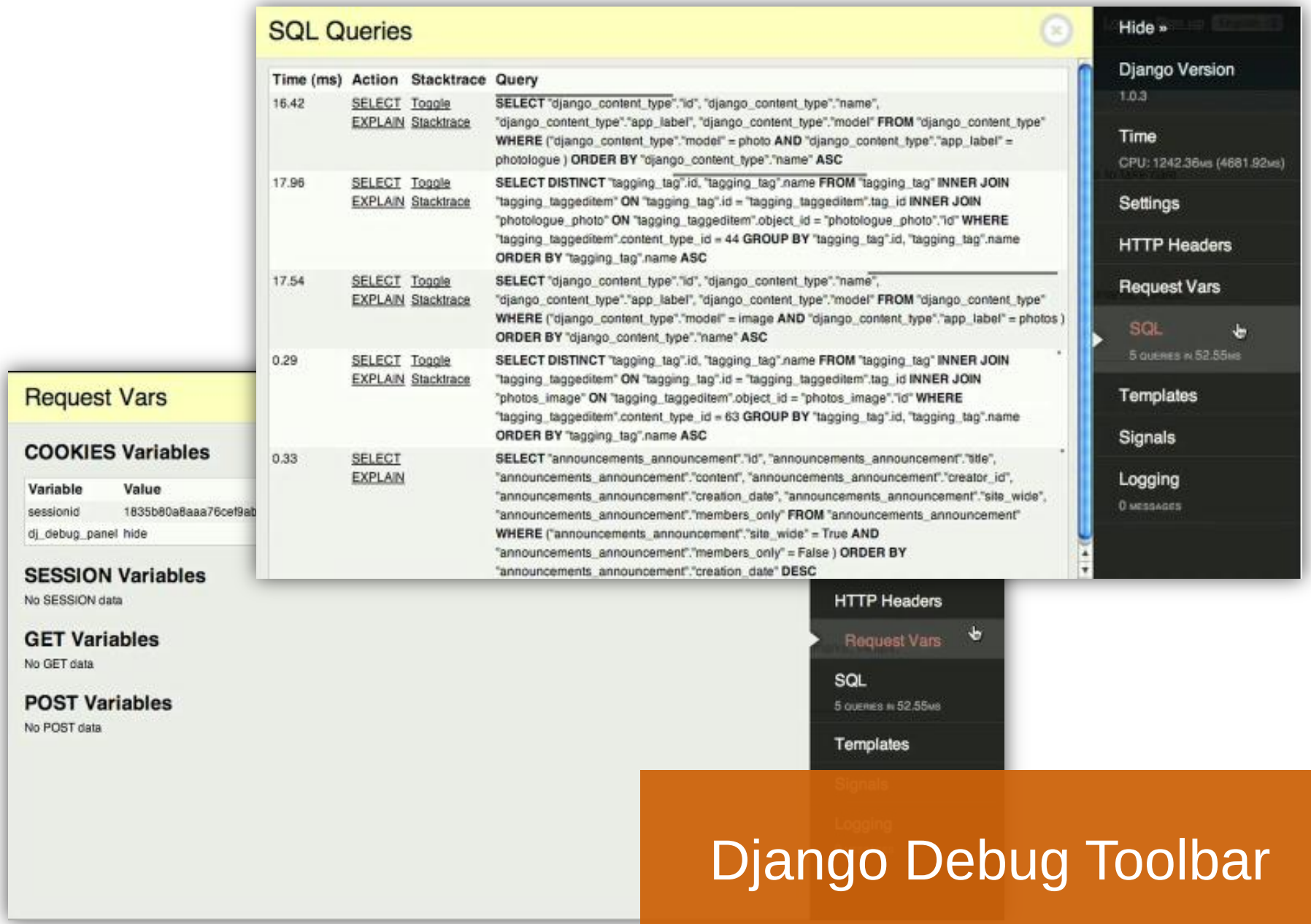

Console
HTML
CSS
Script
DOM
Net
Edit
li#n-mai...cription
ul
div.pBody
div#p-na...-sidebar
div#column-one
<li id="n-currentevents">
<li id="n-randompage">

<h5 lang="en" xml:lang="en">Interaction</h5>

<li id="n-aboutsite">
<li id="n-portal">
Community portal

DebugBar v5.0 Beta 1
DOM
HTTP(S)
Script
HTMLCheck
Info
Drag target on document to find element
P
IMG src=http://www.debugbar.co
BR
STRONG
BR
BR
TR
Source
Style
Comp. Style
Layout
Attrs
/*--------------
Inherited from TD.About
------------- */
/* Rule from element "style" attribute */
element.style {
PADDING-RIGHT: 3px;
PADDING-LEFT: 3px;
Done
Style
Computed
Layout
DOM
index....2678400 (line 155)
.portlet li {
list-style-image: url("http://upload.wikimedia.org/wikipedia/en/1/18/Monobook-bullet.png");
}
main.css?257z23 (line 639)
.portlet li {
margin: 0;
padding: 0;
}
main.css?257z23 (line 154)
li {
margin-bottom: 0.1em;
}
Inherited from ul
main.css?257z23 (line 633)
.portlet ul {
font-size: 95%;
line-height: 1.5em;
list-style-image: url("bullet.gif");
list-style-type: square;
}
main.css?257z23 (line 141)
ul {
line-height: 1.5em;
list-style-image: url("bullet.gif");
list-style-type: square;
}
Inherited from div.pBody
main.css?257z23 (line 618)
.pBody {
border-collapse: collapse;
color: black;
font-size: 95%;
}
Inherited from div#globalWrapper
main.css?257z23 (line 51)
#globalWrapper {
font-size: 127%;
}
Inherited from body.mediawiki
main.css?257z23 (line 42)
body {
Firebug & IE Debugbar


Console HTML CSS Script DOM Net Page Speed Page Speed Activity
Record Reload Stop
/js/app/site_wide_alert/site_wide_alert.js
/nol/shared/js/livestats_v1_1.js?nocache=1
/nol/shared/js/nol4.js?v4
/js/app/av/emp/compatibility.js
/nol/ukfs_news/bsp/hi/customisation/css/r2_0_3/styl...
/js/app/customisation/r2_0_3/main.js
/js/app/customisation/r2_0_3/customisation.js?v1
/glow/glow/map.1.7.0.js
/css/screen/1_0_8/shared/v4/styles.css
/css/screen/1_0_8/shared/emp.css
/css/screen/1_0_8/shared/v4/sitewidealert.css
/css/screen/1_0_15/nol/v4/styles.css
/css/screen/1_0_15/nol/v4/business.css
/css/screen/1_0_15/nol/v4/furniture.css
/o.gif?~RS~s~RS~News~RS~t~RS~HighWeb_Index...
/js/app/customisation/r2_0_3/init.js
/css/screen/2_0_24/democracylive/external_promo.css
/glow/glow/1.7.0/core/core.js
/includes/blq/resources/gvl/r61/img/header_blocks.gif
/includes/blq/resources/gvl/r61/img/body_bg.gif
/includes/blq/resources/gvl/r61/img/mast_bg.png
Send
Receive
JS Parse
JS Execute
Console HTML CSS Script DOM Net Page Speed Page Speed Activity YSlow
Grade Components Statistics Tools
Rulesets YSlow(V2) Edit
Printable View Help
Grade C
Overall performance score 77
Ruleset applied: YSlow(V2)
URL: https://addons.mozilla.org/en-US/firefox/
ALL (22) FILTER BY: CONTENT (6) | COOKIE (2) | CSS (6) | IMAGES (2) | JAVASCRIPT (4) | SERVER (5)
F Make fewer HTTP requests
F Use a Content Delivery Network (CDN)
F Add Expires headers
B Compress components with gzip
A Put CSS at top
C Put JavaScript at bottom
B Avoid CSS expressions
n/a Make JavaScript and CSS external
A Reduce DNS lookups
D Minify JavaScript and CSS
Grade F on Make fewer HTTP requests
This page has 5 external Javascript scripts. Try combining them into one.
This page has 22 external background images. Try combining them with CSS sprites.
Decreasing the number of components on a page reduces the number of HTTP requests required to render the page, resulting in faster page loads. Some ways to reduce the number of components include: combine files, combine multiple scripts into one script, combine multiple CSS files into one style sheet, and use CSS Sprites and image maps.
»Read More
Copyright © 2009 Yahoo! Inc. All rights reserved.
Page Speed & Y-Slow



Django Debug Toolbar

Observations

The browser is becoming a container for applications.

Not just for the web

Add-ons for Firefox - Mozilla Firefox

File Edit View History Bookmarks Tools Help

Mozilla Corporation (US) https://addons.mozilla.org/en-US/firefox/

Google

mozilla

Register or Log in | Other Applications

Add-ons for Firefox

1,841,419,533 add-ons downloaded
169,148,698 add-ons in use

Categories

search for add-ons | within | all add-ons

Advanced

- Alerts & Updates 818
- Appearance 969
- Bookmarks 890
- Download Management 468
- Feeds, News & Blogging 899
- Language Support 444
- Photos, Music & Videos 773
- Plugins 7
- Privacy & Security 618
- Social & Communication 1189
- Tabs 382
- Toolbars 1071
- Web Development 1033
- Other 2086

- Collections
- Personas NEW!
- Dictionaries & Language Packs
- Search Tools
- Themes

Get the latest scores and highlights

FootieFox
Soccer scores for over 200 leagues and cups of 60 countries - live and...
+ Add to Firefox

Pickemfirst Fantasy Sports
Pickemfirst is your fantasy sport assistant. It will save you time and help...
+ Add to Firefox

ESPN
Get the latest sports news, scores, and highlights.
+ Add to Firefox

Like these? Find more add-ons in the Sports Fanatic collection.

Introduction Shopping Sports Reference Web Development Travel

The original App Store

Browse Add-ons

Recommended | Popular | Just Added | Updated

CoolPreviews
by The Cooliris Team
+ Add to Firefox
recommended

Browse faster -- Preview links and images without leaving your

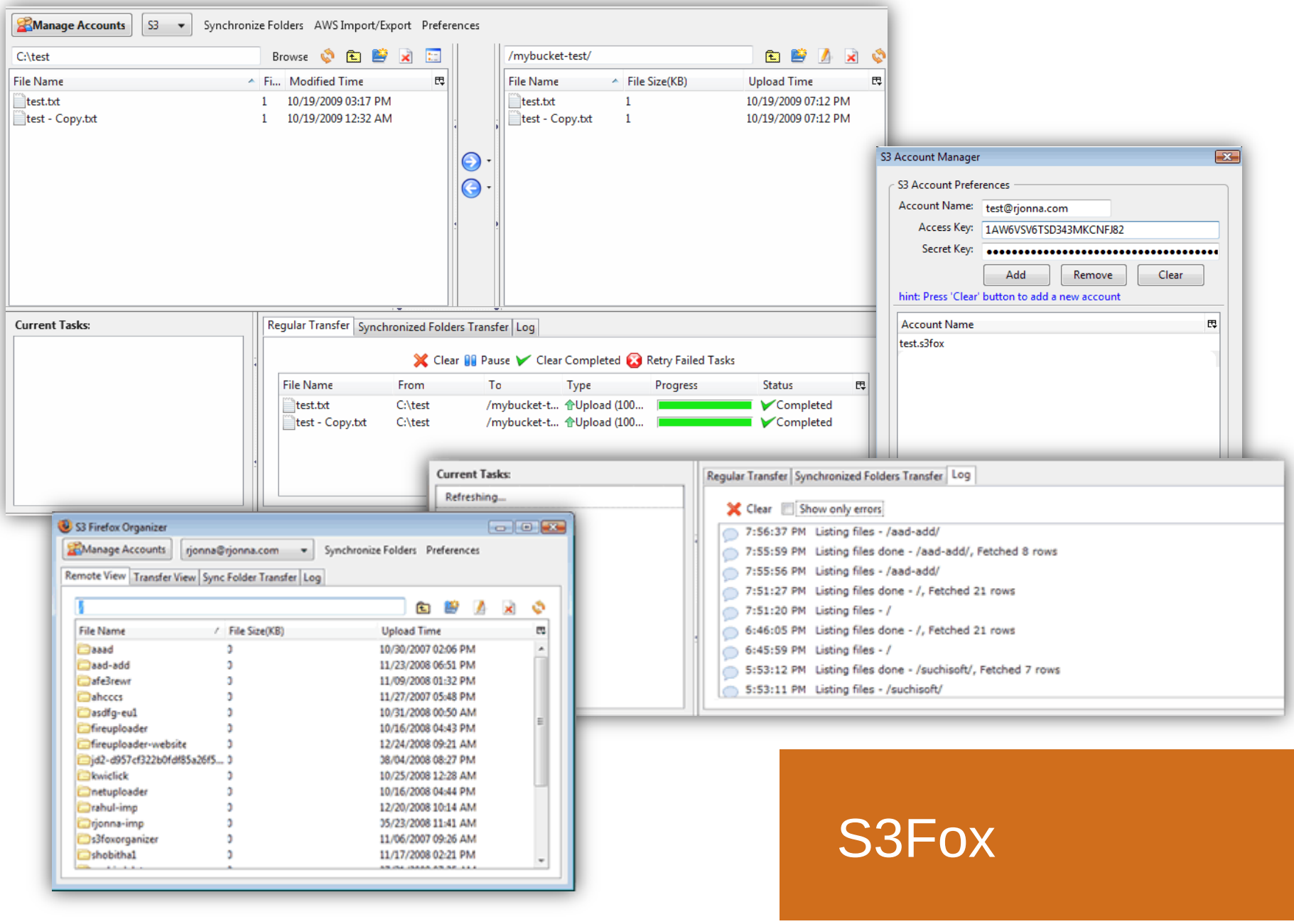
Collections

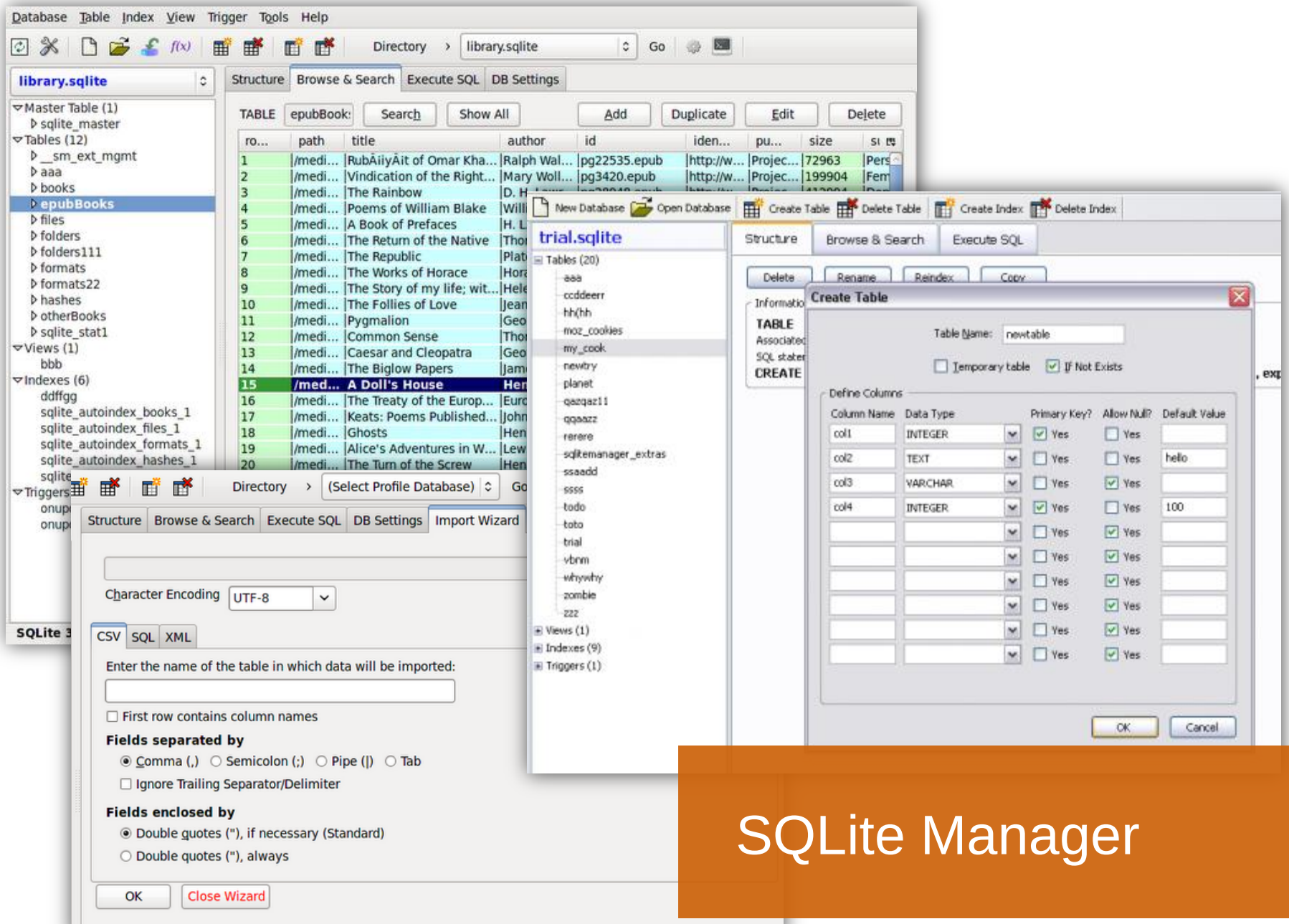
Collections are a way for you to categorize, mix, match and

Most Shared Add-ons (Last

Done

addons.mozilla.org | Fiddler: Disabled

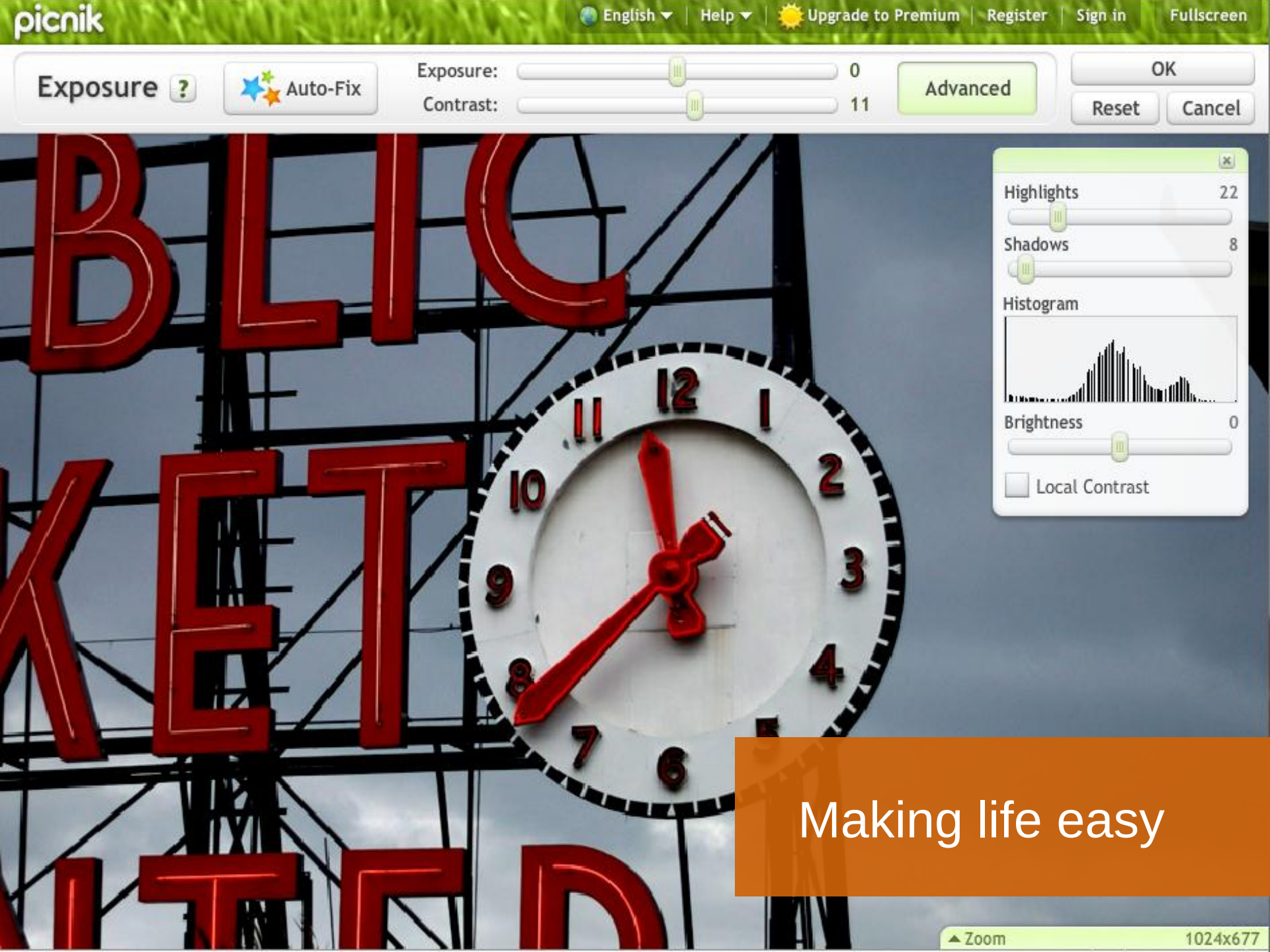

Manage Accounts
S3
Synchronize Folders
AWS Import/Export
Preferences
C:\test
Browse
/mybucket-test/
File Name
Fi...
Modified Time
File Size(KB)
Upload Time
test.txt
test - Copy.txt
10/19/2009 03:17 PM
10/19/2009 12:32 AM
10/19/2009 07:12 PM
Current Tasks:
Regular Transfer
Synchronized Folders Transfer
Log
Clear
Pause
Clear Completed
Retry Failed Tasks
From
To
Type
Progress
Status
C:\test
/mybucket-t...
Upload (100...
Completed
S3 Account Manager
S3 Account Preferences
Account Name:
test@rjonna.com
Access Key:
1AW6VSV6TSD343MKCNFJ82
Secret Key:
Add
Remove
Clear
hint: Press 'Clear' button to add a new account
Account Name
test.s3fox
Refreshing...
Show only errors
7:56:37 PM Listing files - /aad-add/
7:55:59 PM Listing files done - /aad-add/, Fetched 8 rows
7:55:56 PM Listing files - /aad-add/
7:51:27 PM Listing files done - /, Fetched 21 rows
7:51:20 PM Listing files - /
6:46:05 PM Listing files done - /, Fetched 21 rows
6:45:59 PM Listing files - /
5:53:12 PM Listing files done - /suchisoft/, Fetched 7 rows
5:53:11 PM Listing files - /suchisoft/
S3 Firefox Organizer
rjonna@rjonna.com
Remote View
Transfer View
Sync Folder Transfer
aaad
aad-add
afe3rewr
ahcccs
asdfg-eu1
fireuploader
fireuploader-website
kwiclick
netuploader
rahul-imp
rjonna-imp
s3foxorganizer
shobitha1
10/30/2007 02:06 PM
11/23/2008 06:51 PM
11/09/2008 01:32 PM
11/27/2007 05:48 PM
10/31/2008 00:50 AM
10/16/2008 04:43 PM
12/24/2008 09:21 AM
10/25/2008 12:28 AM
10/16/2008 04:44 PM
12/20/2008 10:14 AM
11/06/2007 09:26 AM
11/17/2008 02:21 PM
S3Fox



SQLite Manager

Web Apps are now a real alternative to desktop.

In some cases better


picnik
English
Help
Upgrade to Premium
Register
Sign in
Fullscreen
Exposure
Auto-Fix
Exposure:
0
Contrast:
11
Advanced
OK
Reset
Cancel
Highlights
22
Shadows
8
Histogram
Brightness
0
Local Contrast
Zoom
1024x677
Making life easy

“We’re at the intersection of demand and capability”

Darrin Massena, Dec 2005

Picnik co-founder

HTML5: Exciting times ahead

- Canvas
- Video
- Storage
- Drag + Drop

Adoption is a barrier

Not everybody is an early-adopter, some will take a while.

We’ll pick cherries

… and concentrate on value

Thanks

for

listening

@soxley

Credits

Bootstrapping: http://blog.guykawasaki.com/2006/01/the_art_of_boot.html
Balance: http://www.flickr.com/photos/archeon/2941655917/
The Matrix: Warner Bros. Pictures 1999
Blank canvas: http://rainbowstripe.wordpress.com
Stickman: Original artwork by @soxley
Illusion: http://www.flickr.com/photos/enet/26521372/
HP OpenView: http://fajri.freebsd.or.id/index.php/2007/07/29/
OpenOffice Toolbar: http://www.openofficetips.com/2006/01/28/toolbar-crazy/
Naughty Children: http://www.funny-games.biz/pictures/728-naughty-children.html
Mt Cook, NZ : Original photography by @soxley
Two-man Sled: http://www.flickr.com/photos/johnmcnab/4216604416/
Titled Barrel: http://www.geograph.org.uk/photo/299980
Spinning Plates: http://www.globeparty.com
Line-out: http://www.flickr.com/photos/woesinger/1464460733/
Keep it Simple: http://www.flickr.com/photos/wilderdom/3340381990/
Lever: http://en.wikipedia.org/wiki/File:Palanca-ejemplo.jpg
Mixing Desk: http://www.flickr.com/photos/teliko82/3227659253/
Mandelbrot: http://resumbrae.com/ub/dms423_f05/06/
Tools: http://www.flickr.com/photos/19646481@N06/4299545598/
From the bridge: http://commons.wikimedia.org/wiki/File:Watching_operations_from_the_bridge.jpg
Locomotive plans: Tools: http://www.flickr.com/photos/19646481@N06/4299545598/
Picnik: http://socialinnovationperspectives.blogspot.com/2010/02/guest-post-innovation-giving-birth-to.html
Cherries: http://www.flickr.com/photos/43927576@N00/3655970324
Piggy Bank: http://www.flickr.com/photos/alancleaver/4279482716/