



# Single Page Apps and the Future of History

## Michael Mahemoff



The image shows a screenshot of the Twitter website. At the top, there is a navigation bar with the Twitter logo, a search bar, and links for Home, Profile, and Messages. The user's name 'mahemoff' is visible in the top right. Below the navigation bar is a horizontal strip of profile pictures. The main content area is split into two columns. The left column features a 'What's happening?' section with a text input field and a 'Timeline' tab. Below this, several tweets are visible, including one from 'Eastmad' about a Jools Holland mix, one from 'teacup' about a night out, and one from 'paul\_irish' replying to 'ravelrumba'. The right column shows a detailed view of a tweet from 'ravelrumba' asking for a command-line image optimizer. A reply from 'paul\_irish' is shown, stating that 'Optipng and jpegtran' are the tools used. Below this, there are sections for 'Mentioned in this tweet' and 'Tweets from @paul\_irish', both showing the same reply from 'paul\_irish'. A large, semi-transparent text overlay 'The SPA-fication of everything' is positioned across the center of the screenshot.

The SPA-fication of everything



- Everything
- Images
- Videos
- News
- Shopping
- More

London, UK  
Change location

The web  
Pages from the UK

- Any time
- Latest
- Past 24 hours
- Past 2 days
- Past week
- Past month
- Past year

single page ap

Search

- single page application
- single page application jquery
- jquery single page app
- javascript single page application
- building evented single page applications

- Maps
- Google Video
- Images
- Mozilla Firefox Start Page
- iGoogle
- Google News UK
- Shopping
- Business Solutions

[More results from google.co.uk »](#)

[Google Search Appliance \(GSA\) - fast, relevant search for your ...](#)

The **Google Search Appliance (GSA)** provides fast, relevant search for your ...  
[www.google.co.uk/enterprise/search/gsa.html](http://www.google.co.uk/enterprise/search/gsa.html) - Cached

[Google Product Search](#)

**Google's** UK price comparison service, with searches by keyword, which can ...  
[www.google.co.uk/products](http://www.google.co.uk/products) - Cached - Similar

[+ Show more results from google.co.uk](#)

[Google Custom Search - Site search and more](#)

With **Google Custom Search**, you can harness the power of **Google** to create a customized **search** experience for your own website. ...  
[www.google.com/cse/](http://www.google.com/cse/) - Cached - Similar

# The SPA-fication of everything



How did we get here?



site:gawker.com

X Search

Instant is on  
SafeSearch

[Advanced search](#)

Everything

Images

Videos

**News**

Shopping

More

Top Stories

The web

[Pages from the UK](#)

All news

Images

Blogs

Any time

Past hour

**Past 24 hours**

Past week

Past month

Archives

Custom range...

**Sorted by relevance**

Sorted by date

Reset tools

Past 24 hours

Your search - **site:gawker.com** - did not match any documents. [Reset search tools](#)

Suggestions:

- Make sure all words are spelled correctly.
- Try different keywords.
- Try more general keywords.

The selection and placement of stories on this page were determined automatically by a computer program. The time or date displayed reflects when an article was added to or updated in Google News.

RSS

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# How did we get here?

## Ajax Lite Versus Ajax Deluxe

February 16th, 2006 · 4 Comments · HumansAndTech, Links, SoftwareDev · Edit

Harry Fuecks suggests [there are two types of Ajax apps](#): HTML++ and Client/SOA. This is something I've noticed too, and it cuts right across the Ajax architecture, impacting on the user-interface, the physical architecture (browser-server separation) and the abilities of the developers involved.



The “Ajax App” pattern addresses this as a decision. It’s the root pattern for the entire

Ajax Patterns language (Ajax App is not yet on [the AjaxPatterns wiki](#)). As you might see, each pattern has a “Decisions” section, identifying the decisions you’ll have to make if you go with the pattern. In the case of Ajax App, a big

# Fat Clients

# WebWait

How Long is your WebWait? (Dainty Beta Mode) [FAQ](#) [@Flickr](#) [Ajax Wiki](#) [Mahemoff's Blog](#) 

Enter website address (e.g. "quizr.com"):

zacklive.com  
*Average load time after 1 runs:*  
**2.73s**

#### Multiple Call Options

# Calls (0=forever):

Call Interval (secs):



#### What's WebWait?

- » WebWait is a website timer.
- » Use WebWait to benchmark your website or test the speed of your web connection.
- » Timing is accurate because WebWait pulls down the entire website into your browser, so it takes into account Ajax/Javascript processing and image loading which other tools ignore.

**Bookmarklet/Favelet - Add Web Wait to your Toolbar**

## Statement

Are you ready to make one?

### Fast and Small PDF Reader: Foxit R

September 20th, 2008 | No Comments | Posted in Free S

zacklive.com  
*Last WebWait run lo*  
**2.73s**  
*Next run in 55 secon*



# TiddlyWiki

a reusable non-linear personal web notebook

- HelloThere
- TiddlyWiki
- MainFeatures
- TiddlyWiki/Dev
- GettingStarted
- UsingThisSite
- Community
- DownloadSoftware
- Plugins
- Donations
- RSS

© 2006 [osmosoft](#)

 TiddlyWiki 2.0.11

## DownloadSoftware

DownloadSoftware

Because TiddlyWiki is a single HTML file, you've actually already downloaded the entire software just by viewing this site. If you want to be able to SaveChanges, you can save your own blank TiddlyWiki to your local drive by right clicking on `[[this link to empty.html|empty.html]]` and selecting 'Save link as...' or 'Save target as...'. You can choose where to save the file, and what to call it (but make sure that it's saved in HTML format and with an HTML extension).

@@There can be confusing and subtle differences between different browsers. Some points to watch: @@  
\* Do "not" use the File/Save command in your browser to save TiddlyWiki,

instructions

Type tags separated with spaces, `[[use double square brackets]]` if necessary, or add existing tags

[close](#) [close others](#) [view](#) [permalink](#) [references](#) [jump](#)

## HelloThere

[JeremyRuston](#), 20 April 2006 (created 20 September 2005)

Welcome to [TiddlyWiki](#), a free [MicroContent WikiWikiWeb](#) created by [JeremyRuston](#) and a busy [Community](#) of independent developers. It's written in HTML, CSS and *JavaScript* to run on any modern browser without needing any [ServerSide](#) logic. It allows anyone to create personal [SelfContained](#) hypertext documents that can be posted to a [WebServer](#), sent by email or kept on a USB thumb drive to make a [WikiOnASTick](#). It also makes a great [GuerillaWiki](#). This is revision 2.0.11 of [TiddlyWiki](#), and is published under an [OpenSourceLicense](#).

tags:  
welcome

## LatestNews

[JeremyRuston](#), 11 May 2006 (created 18 January 2006)

This is Revision 2.0.11 of [TiddlyWiki](#), see the [TiddlyWiki/Dev](#) site for details of all

tags:

search

[close all](#)

[permaview](#)

[options »](#)

[Timeline](#) [All](#) [Tags](#) [More](#)

- 24 May 2006
  - [Esperanto](#)
  - [Catalan](#)
- 19 May 2006
  - [German](#)
  - [Italian](#)
- 11 May 2006
  - [LatestNews](#)
  - [Donations](#)
- 9 May 2006
  - [Plugins](#)
- 8 May 2006
  - [PluginDirectory](#)
  - [Community](#)
- 21 April 2006
  - [MainMenu](#)
- 20 April 2006
  - [HelloThere](#)
- 18 April 2006
  - [GettingStarted](#)
  - [InternetExplorer](#)
  - [Tags](#)
  - [ShadowTiddlers](#)
  - [Tiddler](#)
  - [Japanese](#)
- 17 April 2006
  - [DownloadSoftware](#)
- 11 April 2006
  - [SiteTitle](#)
- 7 April 2006
  - [PermalinkCommand](#)
  - [PermaView](#)
- 31 March 2006
  - [MainFeatures](#)

- Apps** ↑
- Education
  - Entertainment
  - Family
  - **Games**
  - Lifestyle
  - News & weather
  - Productivity
  - Shopping
  - Social & communication
  - Utilities

- Extensions**
- Blogging
  - Developer tools
  - Fun
  - Shopping
  - Sports
  - by Google
  - [More categories](#)

**Themes** >

- Collections**
- Art & Design
  - Books
  - Favorite Paid Apps
  - Food
  - Getting Started
  - Money
  - Music











**Apps > Games**



Bubble Witch

CLICK TO PLAY

**Featured** All »

 Entanglement	 Kid Mode for Chrome	 Word²	 Atari - Centipede	 Qbox - Wisdom of the Ages
 Elmo and Zoe Count Hats	 SparkChess	 The Fancy Pants Adventure: World 2	 Curling	 3DTin



ISLE OF TUNE



MeeGenius!



Count Hats with Zoe and Elmo

STUDENTS

Apps to help you get to the head of the class. Discover now.

App or Not?



**WIKIPEDIA**  
The Free Encyclopedia

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**Welcome to Wikipedia,**  
the free encyclopedia that anyone can edit.  
3,460,493 articles in English

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- [History](#)
- [Society](#)
- [Biography](#)
- [Mathematics](#)
- [Techn](#)
- [Geography](#)
- [Science](#)
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### Today's featured article



The **United States Senate election in California, 1950** followed a campaign characterized by accusations and name-calling. Republican [Richard Nixon](#) defeated Democrat [Helen Gahagan Douglas](#), after Democratic incumbent [Sheridan Downey](#) withdrew during the primary election campaign. Nixon won the Republican

primary and Douglas the Democratic contest, with each also finishing third in the other party's contest. A contentious Democratic primary race left the party divided, and Democrats were slow to rally to Douglas—some even endorsed Nixon. The [Korean War](#) broke out only days after the primaries, and both Nixon and Douglas contended that the other had often voted with leftist New York Congressman [Vito Marcantonio](#) to the detriment of [national security](#). Nixon's attacks were far more effective, and he won the election by almost 20 percentage points, carrying 53 of California's 58 counties and all metropolitan areas. The campaign gave rise to two memorable political nicknames: "the Pink Lady" for Douglas and "Tricky Dick" for Nixon. ([more...](#))

Recently featured: [Acra](#) – [Tropical Storm Chantal](#) – [Richard Cantillon](#)

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### In the news

- In baseball, the [San Francisco Giants](#) (*MVP* [Edgar Rentería](#) pictured) defeat the [Texas Rangers](#) to win the **World Series**. 
  - [Dilma Rousseff](#) of the [Workers' Party](#) is elected Brazil's first female president.
  - At least 32 people are injured in a **suicide bombing** in [Istanbul](#), Turkey.
  - Archaeologists in [Blombos Cave](#), South Africa, discovered evidence of early [Homo sapiens](#) using [pressure flaking](#) to make [stone tools](#) in 73,000 BCE, 55,000 years earlier than previously thought.
  - [Tianhe-1](#), developed in China, becomes the world's fastest supercomputer ahead of the publication of the [TOP500](#)
- [Wikinews](#) – [Recent deaths](#) – [More current](#)

### On this day...

**November 2: Election Day** (United States midterm election 2010); **All Souls' Day** in Western Christianity; **Day of the Dead** in Mexico

**Mapnificent**

twitter  Home Profile Messages mahemoff

OUR friends on Y back

### What's happening?

Timeline @Mentions Retweets Searches Lists

**Eastmad** David E  
Nice mix on Jools Holland tonight.  
1 minute ago

**teacup** Dot  
Tonight with @binarytales, @fatbusinessman & @kurafire was deliciously awesome. Oh Brighton.  
3 minutes ago

**wrumsby** Walter Rumsby  
The names of 2 albums from @robynkonihiwa?  
(@paul\_iris, @mbliej)  
4 minutes ago

**tekgrrl** Mandy Waite  
Great read <http://bit.ly/b0wzuY> @ProfBrianCox says he would have been on the album cover but no-one asked (@bellesglasgow)  
7 minutes ago

**paul\_iris** Paul Irish  
@ravelrumba I couldn't find one. Optipng and jpegtran is what we went with  
8 minutes ago ☆ Favorite ↻ Retweet ↩ Reply

**ara\_p** Ara Pehlivanian  
Vacation, day 1: Did some demolition at parents' place, painted the

**ravelrumba** Rob Flaherty  
Is there a good all-in-one command line image optimizer? Like [smush.it](http://smush.it), but command line?  
37 minutes ago

In reply to @ravelrumba ↑

**@paul\_iris** Paul Irish

**@ravelrumba** I couldn't find one. Optipng and jpegtran is what we went with  
8 minutes ago via Echofon ☆ Favorite ↻ Retweet ↩ Reply

Mentioned in this tweet

**ravelrumba** Rob Flaherty  
NYC Web Designer & Developer

Tweets from @paul\_iris

**paul\_iris** Paul Irish  
@ravelrumba I couldn't find one. Optipng and jpegtran is what we went with  
8 minutes ago

**paul\_iris** Paul Irish  
@imjared hahahhahaahah incredible.  
2 hours ago

Twitter

**Frantic**



WIKIPEDIA  
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- Featured content
- Current events
- Random article
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  - At Wikipedia
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Main Page Discussion

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- Arts
- Biography
- Geography
- History
- Mathematics
- Science
- Society
- Techn
- All por

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A wikipedia app?



# Landscape

**Landscape** comprises the visible features of an area of land, including the physical elements of landforms, water bodies such as rivers, lakes and the sea, living elements of land cover including indigenous vegetation, human elements including land uses, buildings and structures, and transitory elements such as lighting and weather conditions.

Combining both their physical origins and the cultural overlay of human presence, often created over millennia, landscapes reflect the living synthesis of people and place vital to local and national identity. Landscapes, their character and quality, help define the self image of a region, its sense of place that differentiates it from other regions. It is the dynamic backdrop to people's lives.

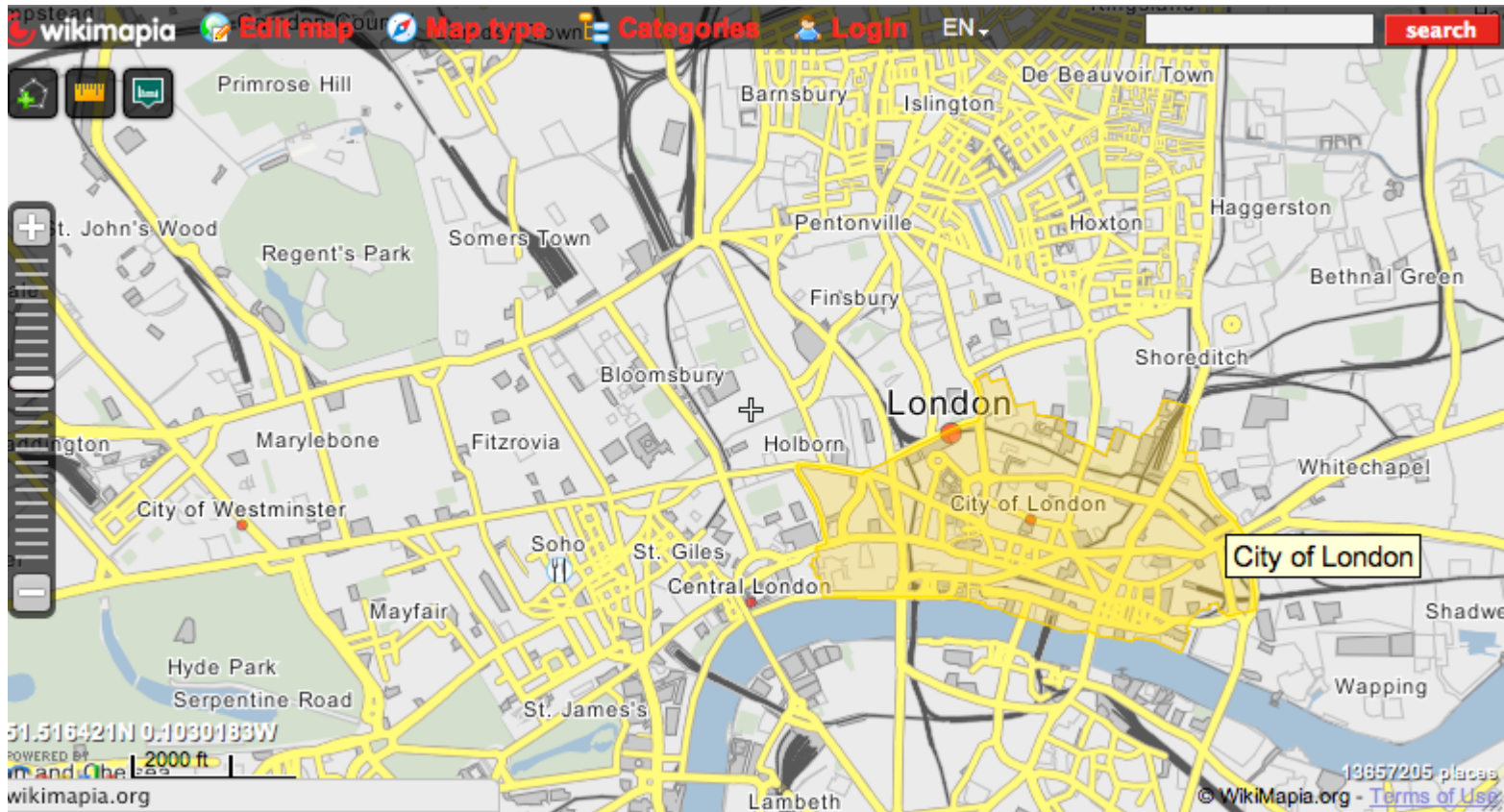
The Earth has a vast range of landscapes including the icy landscapes of polar regions, mountainous landscapes, vast arid desert landscapes, islands and coastal landscapes, densely forested or wooded landscapes including vast boreal forests and tropical rainforests, and agricultural landscapes of temperate and tropical re-



Landscape photograph of Tolima  
Colombia



Oeschinen Lake in the Swiss Alps,  
an example of a highly diversified  
landscape.



## Welcome to Wikipedia Game Beta



[Create Account](#) · [FAQ](#) · [Top Players](#) · [Feedback & Feature Requests](#)

### Play Wikipedia Game now!

Go! Your start page is:

[Portmanteau](#)

You are looking for:

**Tokyo**

[Tokyo at wikipedia.org](#) 

4 seconds left in the current game.

### How to play Wikipedia Game

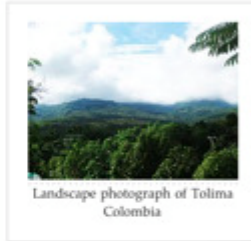


Wendell the Wikipedia Game octopus says:  
**It's easy!**

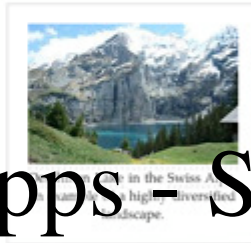
1. You're given a start Wikipedia article, like "*Banana*"
2. And a winning article, like "*Britney Spears*"
3. Now click as few links as possible to get from "*Banana*" to "*Britney Spears*", as fast as you can!

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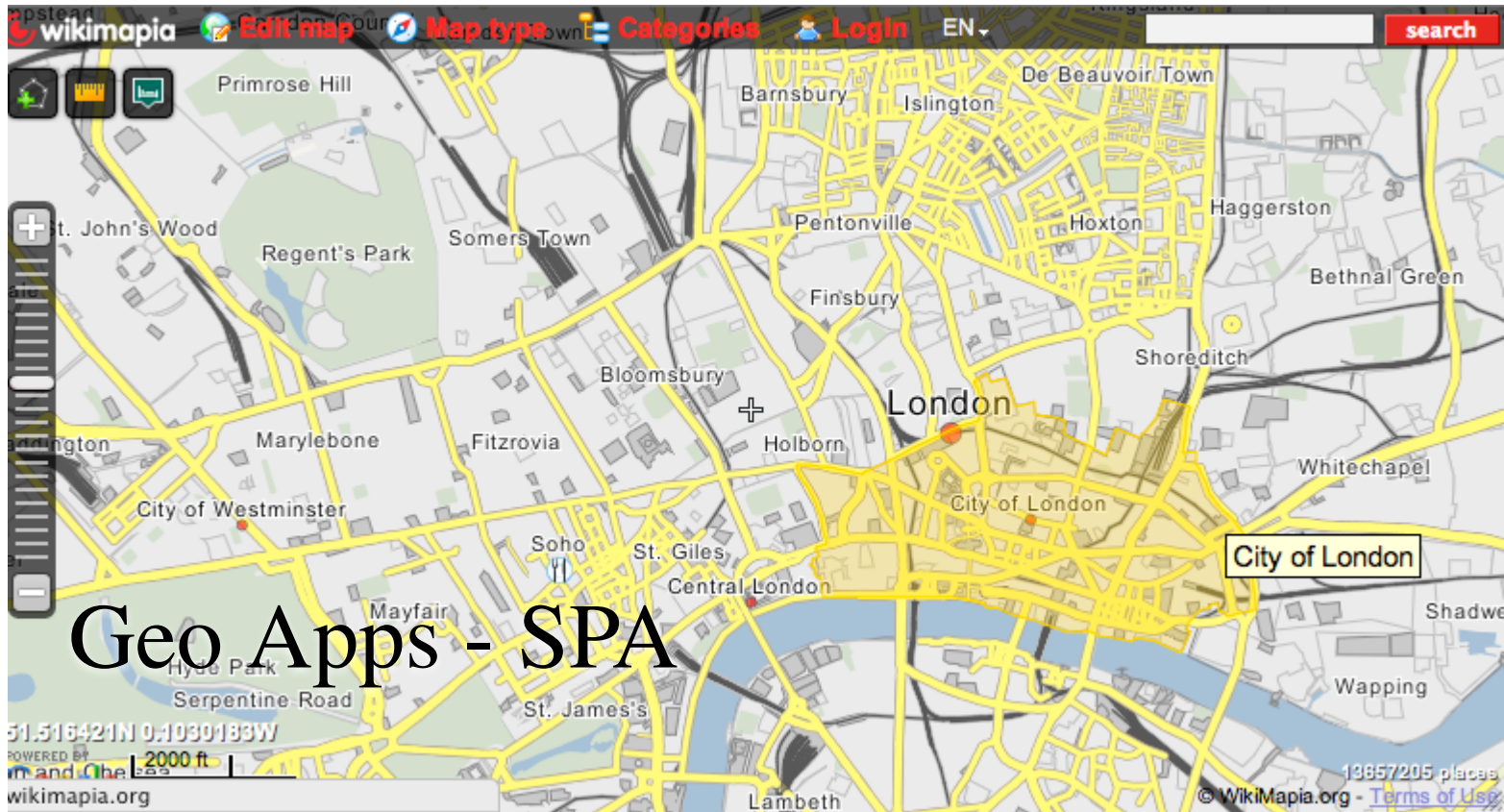


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Reader Apps - SPA



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# Games - SPA



So, how *\*did\** we get here?



Web 0.0.0.1: Just like a magazine, only 56kbps!





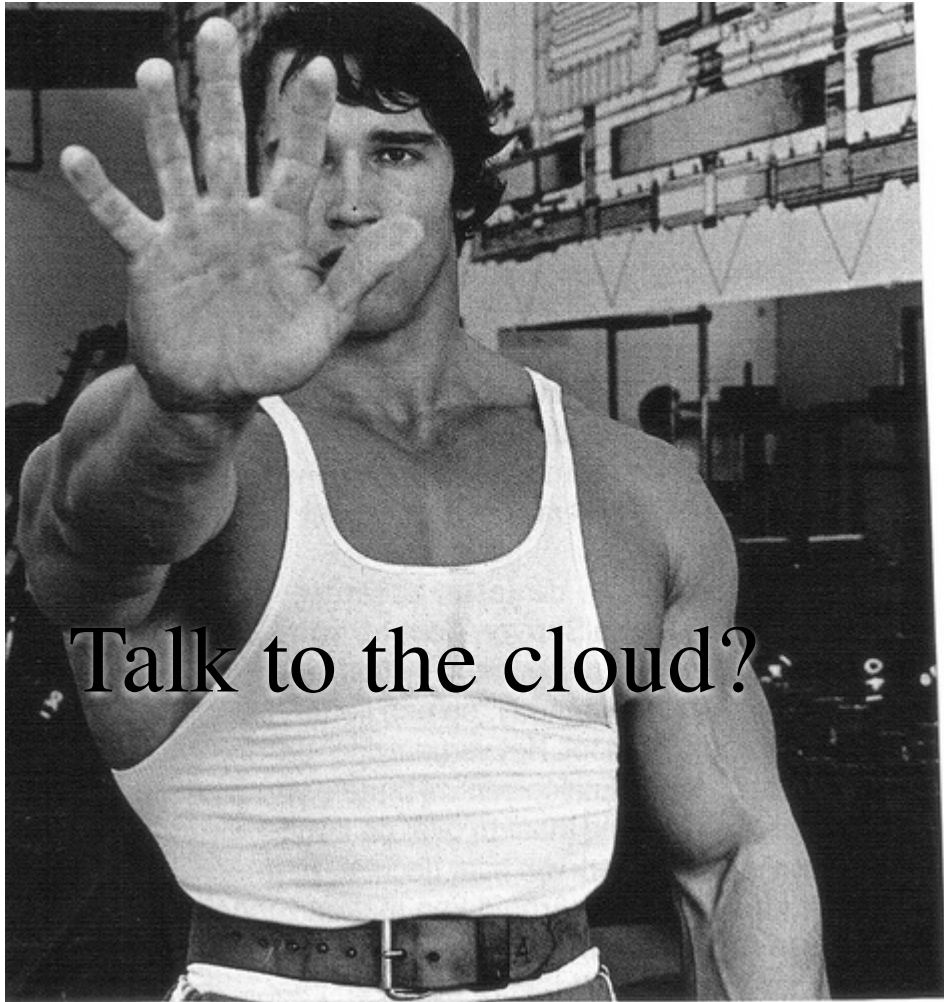
# Forms and Hyperlinks



# HotMail: A 1997 Web App



# The Dancing Bears of Web 1.0



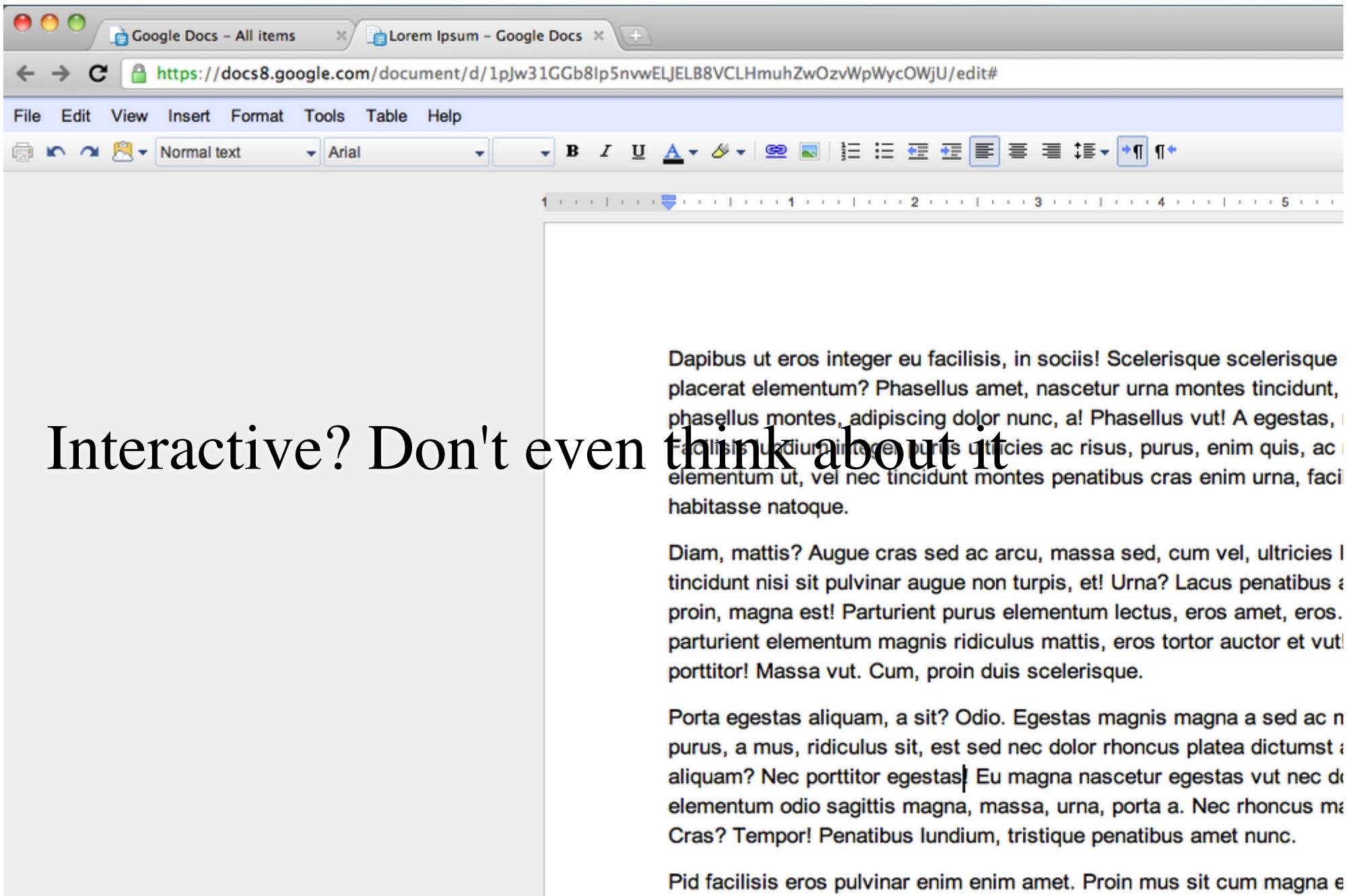
Talk to the cloud?

**WE NEED YOUR HELP!** Please re-enter the **areas marked in red** below to complete your registration. Some information may be missing or something you entered was not understood. Thank you -- we look forward to having you as a new member!

**Step 1: General Information**

<b>First Name</b>	<input type="text" value="Joe"/>	<b>Common Prob</b>
<b>Last Name</b>	<input type="text" value="Citizen"/>	
<b>Birthdate</b>	<input type="text" value="January"/> <input type="text" value="1"/> <input type="text" value="1901"/> <small>(e.g. 1968)</small>	
<b>Gender</b>	<input type="text" value="Male"/>	
<b>Street Address</b>	<input type="text"/>	
<b>ZIP Code</b>	<input type="text"/> <small>(e.g. 94114)</small>	
<b>Primary Email Address</b>	<input type="text"/>	<b>Outside the USA?</b>
<b>Confirm Email Address</b>	<input type="text"/>	<b>ZIP Code</b> Must be five digits (
		<b>Primary Email</b> Please enter your e

Work a bit  
Click on a link  
Are we there yet?



Interactive? Don't even think about it

Dapibus ut eros integer eu facilisis, in sociis! Scelerisque scelerisque placerat elementum? Phasellus amet, nascetur urna montes tincidunt, phasellus montes, adipiscing dolor nunc, a! Phasellus vut! A egestas, Facillisis uzdium integer, puris ultricies ac risus, purus, enim quis, ac elementum ut, vel nec tincidunt montes penatibus cras enim urna, faci habitasse natoque.

Diam, mattis? Augue cras sed ac arcu, massa sed, cum vel, ultricies l tincidunt nisi sit pulvinar augue non turpis, et! Urna? Lacus penatibus a proin, magna est! Parturient purus elementum lectus, eros amet, eros. parturient elementum magnis ridiculus mattis, eros tortor auctor et vut! porttitor! Massa vut. Cum, proin duis scelerisque.

Porta egestas aliquam, a sit? Odio. Egestas magnis magna a sed ac n purus, a mus, ridiculus sit, est sed nec dolor rhoncus platea dictumst a aliquam? Nec porttitor egestas! Eu magna nascetur egestas vut nec d elementum odio sagittis magna, massa, urna, porta a. Nec rhoncus ma Cras? Tempor! Penatibus lundium, tristique penatibus amet nunc.

Pid facilisis eros pulvinar enim enim amet. Proin mus sit cum magna e



## Lorem ipsum

*Dolor sit amet*, consectetur adipiscing elit. Suspendisse ac tristique ipsum. Nunc tellus justo, eleifend sed fermentum non, interdum id felis. Suspendisse potenti. Nullam porta accumsan nisl vitae condimentum. Donec ipsum nunc, aliquet id pellentesque et, blandit a nisl. Nulla sapien enim, bibendum et mollis non, rhoncus eget ipsum. In habitasse platea dictumst. Lorem ipsum dolor sit amet, consectetur adipiscing elit. Aliquam erat volutpat. Sed gravida ornare tristique.

No really.



# A New Architecture for Web Apps





→ **Asynchronous** ←



**The Network Happens**

**The UI Happens**



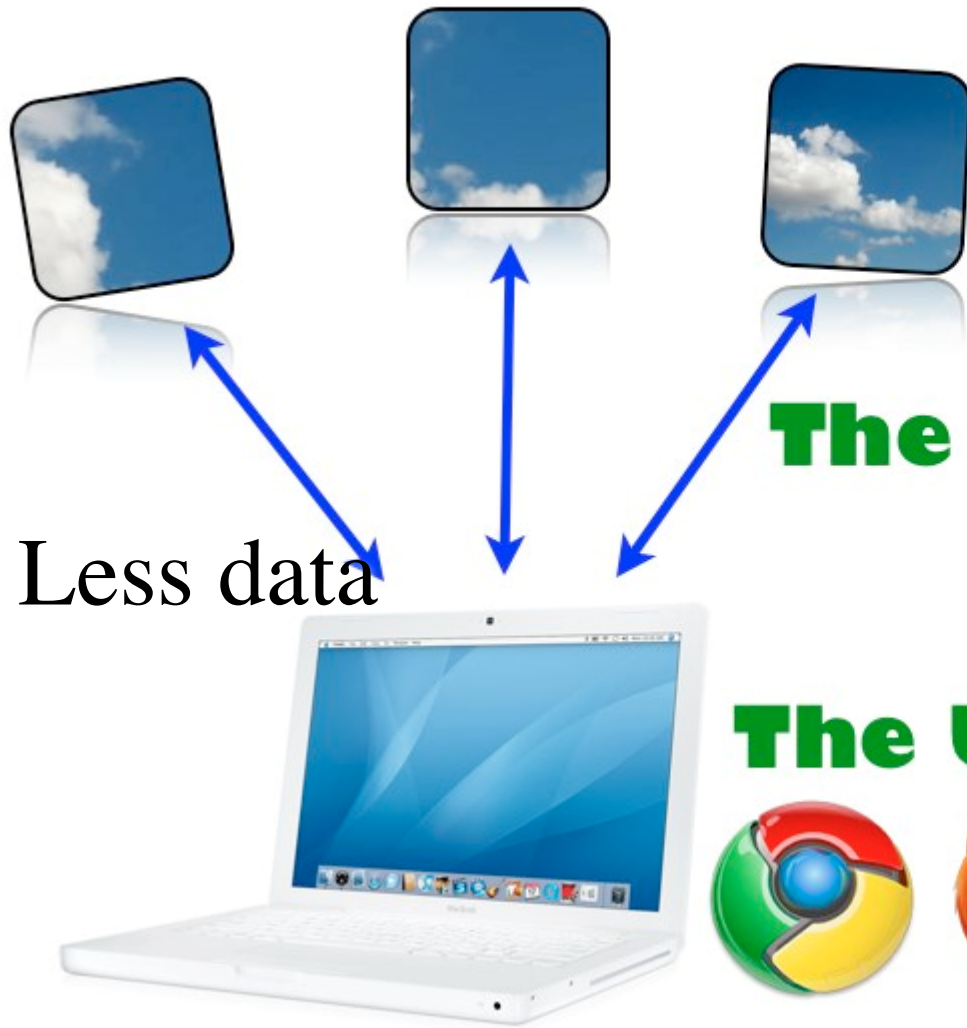


Authentication  
Data persistence  
Business logic

The Network Happens

HTML/CSS/JavaScript  
User interaction





**The Network Happens**

**The UI Happens**





Mobile: Save bandwidth



NOW UNDER DEVELOPMENT FOR LATE 2010

### jQuery Mobile: Touch-Optimized Web Framework for Smartphones & Tablets

A unified user interface system across all popular mobile device platforms, built on the rock-solid jQuery and jQuery UI foundation. Its lightweight code is built with progressive enhancement, and has a flexible, easily themeable design. [Project strategy](#)



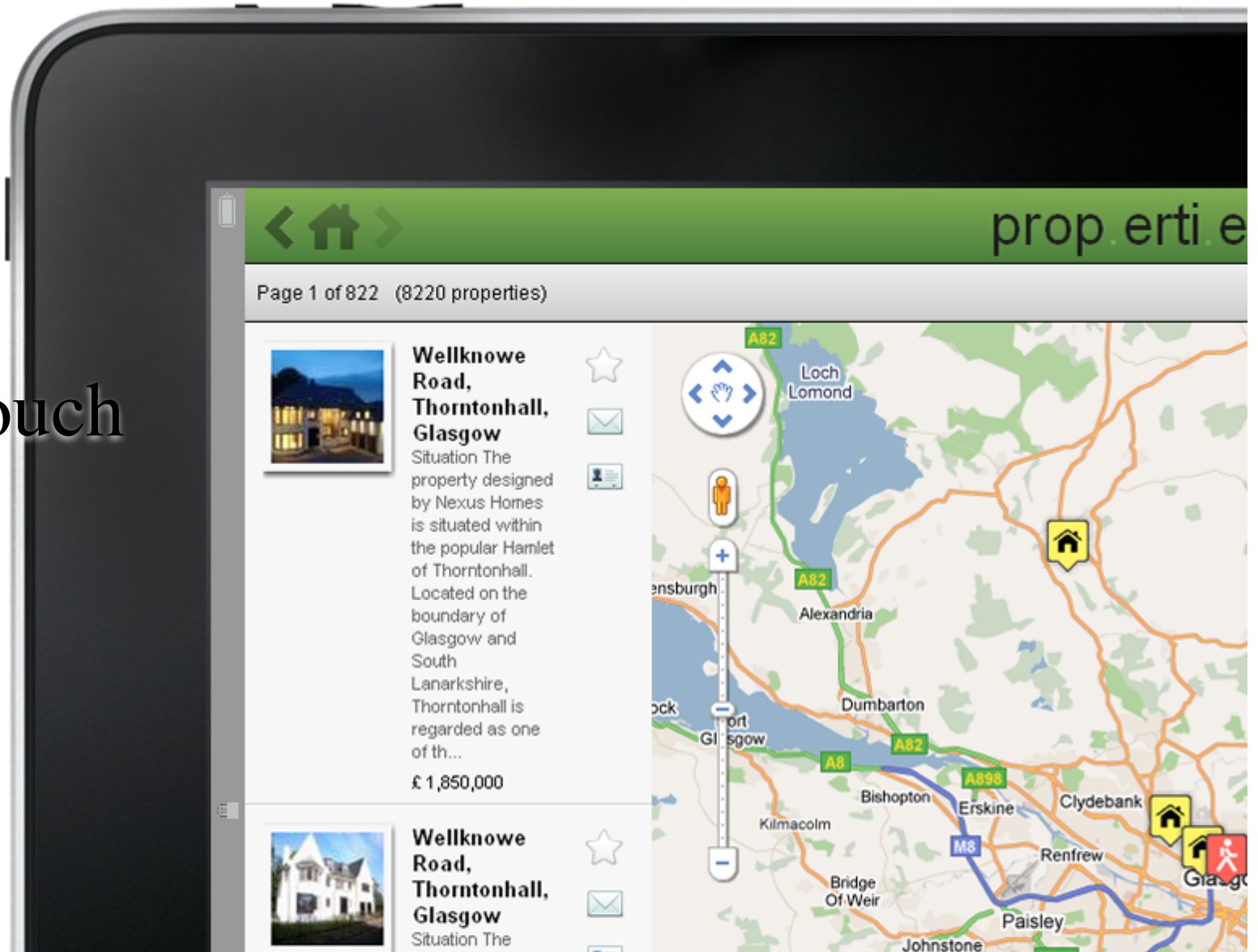
### Project Goals and Strategy

#### Seriously cross-platform & cross-device

jQuery mobile framework takes the "write less, do more" mantra to the next level: Instead of writing unique apps for each mobile device or OS, the jQuery mobile framework will allow you to design a single highly branded and customized web application that will work on all popular smartphone and tablet platforms.

[Device support and](#)

# Sencha Touch



Offline-friendly







The biggest reason

national bestseller

# flow

mihaly  
csikszentmihalyi

the psychology of  
optimal experience  
“Important. . . .  
Illuminates the  
way to happiness.”  
—*New York Times*  
*Book Review*

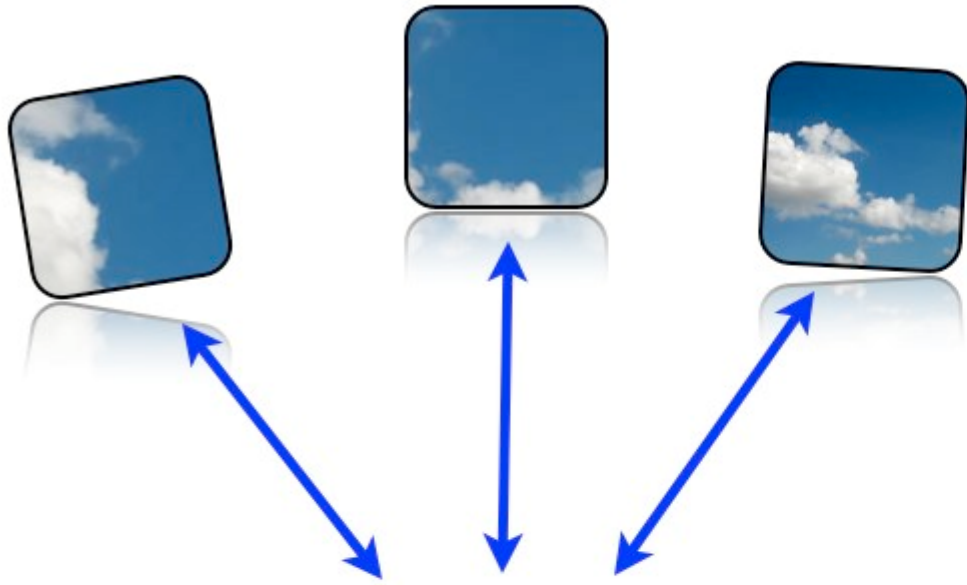
HARPERPERENNIAL  MODERNCLASSICS

P.S.  
PERSONAL  
INTEREST  
& MORE





More SPA!  
Less Refresh!



## The UI Happens

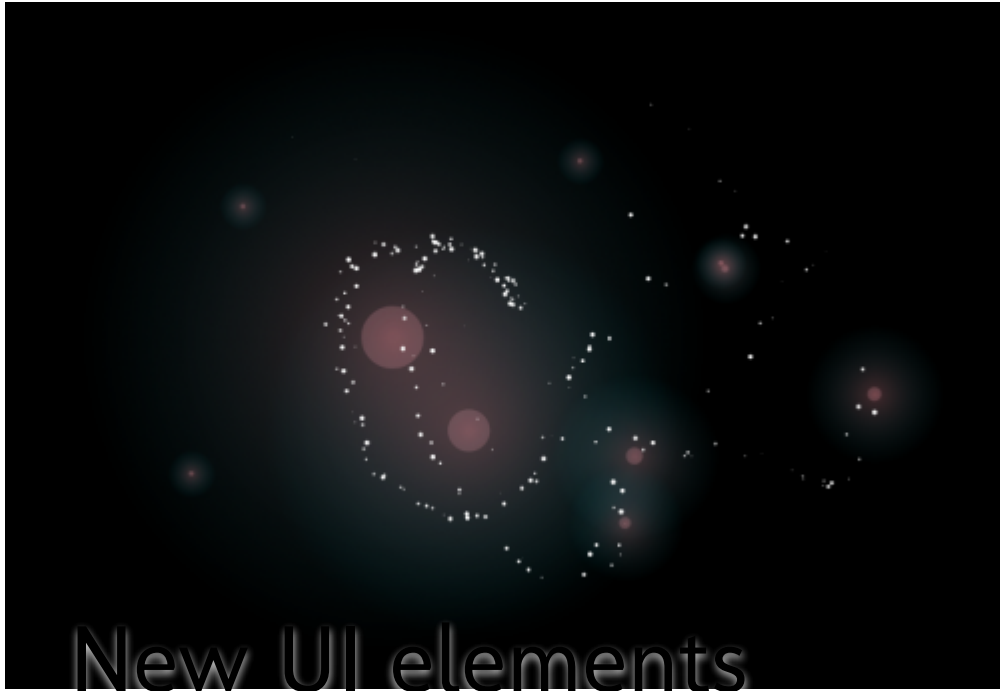


## Grokking the DOM

**Business Logic**

**Revealing conten**





New UI elements

**Styling**

## Layering

Had Octopart (YC W07) helps nearly a half a million people find parts every month

44 points, 2 hours ago by smock, read later [tweet](#)

settings

57 Y time

Show Deve

Soci

Home News & Analysis Business EE Life Embedded.com Design P

EE Times

EE Times Home > EE Life

The Entrepreneurial Engineer

Octopart helps nearly a half a million people find parts every month

Sean Murphy  
3/3/2011 5:37 PM EST

I originally made a note to blog about Octopart in October of 2008 as I used them to research part information for projects. The interface has evolved over the years but the search and information rich way to search for parts and part information content from a number of sites into a single coherent view. Octopart was founded by Sam Wurzel, Andres Morey, and Harish Agarwal

EE Times  
Fundamentals Course  
Learn now

Animation



Se

## Video File Upload

[Upload video](#) or [Record from webcam](#)

Drag and drop videos anywhere on the page.

**Videos can be...**

- High Definition
- Up to 2 GB in size.
- Up to 15 minutes in length.
- A wide variety of formats

# Drag-Drop File APIs



Better browsers → less memory leaks

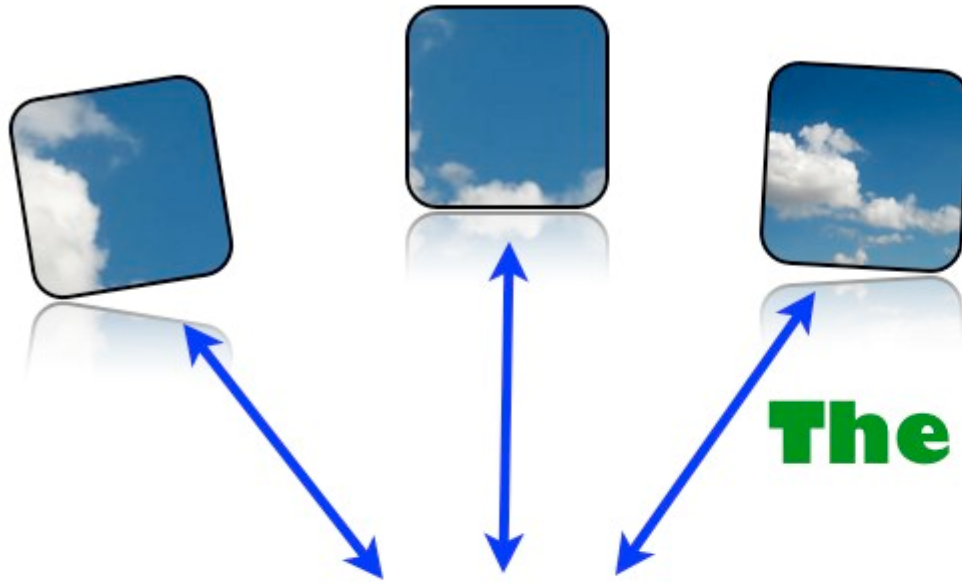
# Application Cache



A photograph taken from inside a dark tunnel, looking out through an opening. The view is framed by the dark, jagged edges of the tunnel. In the foreground, a set of railway tracks with gravel ballast curves away from the viewer towards the right. Beyond the tracks, a wide, calm lake stretches across the middle ground. In the background, there are green, forested mountains under a clear sky. Two utility poles with power lines are visible on the left side of the lake. The overall scene is bright and scenic, contrasting with the dark interior of the tunnel.

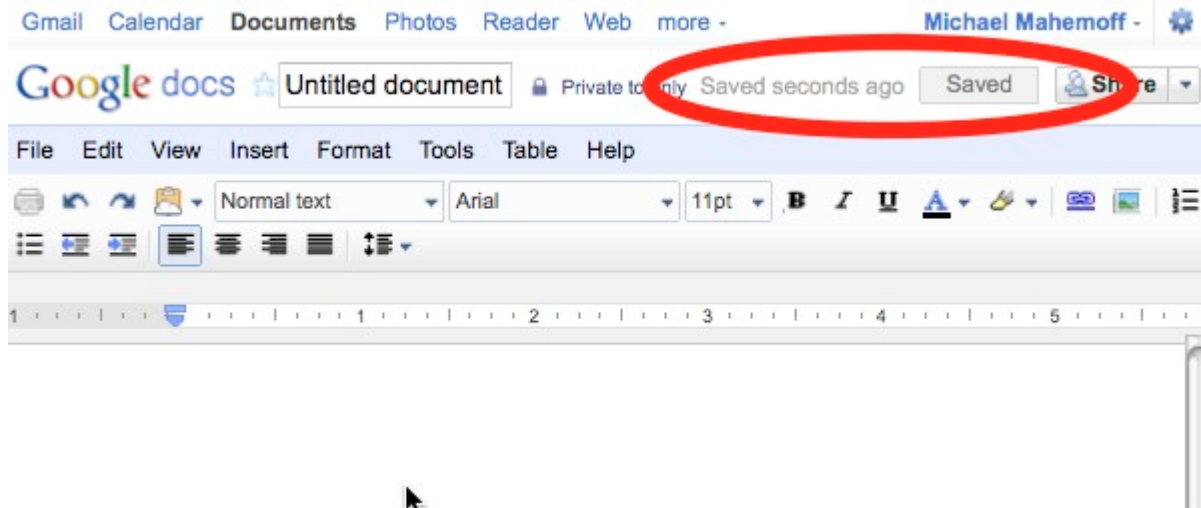
# Client Side Storage





# The Network Happens





# Auto-Saving

Full name  ✔ ok  
Your full name will appear on your public profile

Username  username has already been taken  
Your public profile: [http://twitter.com/ Mahemoff](http://twitter.com/Mahemoff)

Password  ✔ Good

Email

Let others find me by my email address  
Note: Email will not be publicly displayed

# Server queries



- Everything
- Images
- Videos
- News
- Shopping
- More

London, UK  
Change location

- The web
- Pages from the UK
- Any time
- Latest
- Past 24 hours
- Past 2 days
- Past week
- Past month
- Past year

single page ap

Search

- single page application
- single page application jquery
- jquery single page app
- javascript single page application
- building evented single page applications

anced search

gle |

- Maps Google Video
- Images Mozilla Firefox Start Page
- iGoogle Google News UK
- Shopping Business Solutions

More results from google.co.uk »

Autocomplete

[Google Search Appliance \(GSA\) - fast, relevant search for your ...](#) 🔍

The **Google Search Appliance (GSA)** provides fast, relevant search for your ...  
[www.google.co.uk/enterprise/search/gsa.html](http://www.google.co.uk/enterprise/search/gsa.html) - Cached

[Google Product Search](#) 🔍

**Google's** UK price comparison service, with searches by keyword, which can ...  
[www.google.co.uk/products](http://www.google.co.uk/products) - Cached - Similar

[+ Show more results from google.co.uk](#)

[Google Custom Search - Site search and more](#) 🔍

With **Google Custom Search**, you can harness the power of **Google** to create a customized **search** experience for your own website. ...  
[www.google.com/cse/](http://www.google.com/cse/) - Cached - Similar

[Google Custom Search](#) 🔍

**1,461** **Apple Keynote - AJAX enabled site with live updating, no refreshing needed.**  
Digg ↑ [macrumorslive.com](http://macrumorslive.com) — MacRumorsLive uses AJAX to update their page with news from the Apple Keynote every 60 seconds. Just open it once - no need to reload the page! Sep 12, 2006

Share Tweet Email 31 Save Bury

# Auto-Refresh

Lightboxen



Møyan Breun Berkut83@hotmail.it

### Funny Bulldogs

By ♀Møyan\_Breun♂I'LL BE BACK MARCH 6TH ★ Favorite

Tweet

100K+

Buzz

1

tumblr.

email

# Kotaku

1,042 views, Mar 8, 2011 6:30 AM

HOME 🔥 🔍 LATEST

PREFER THE TRADITIONAL

Switch to the blog view



iFrame Renaissance

HOLLYWOOD



## Robert De Niro Is Keen For *Uncharted* Movie Madness

 **Brian Ashcraft** — David O. Russell, director of *Three Kings* and *The Fighter*, has a kooky idea for making *Uncharted* into a



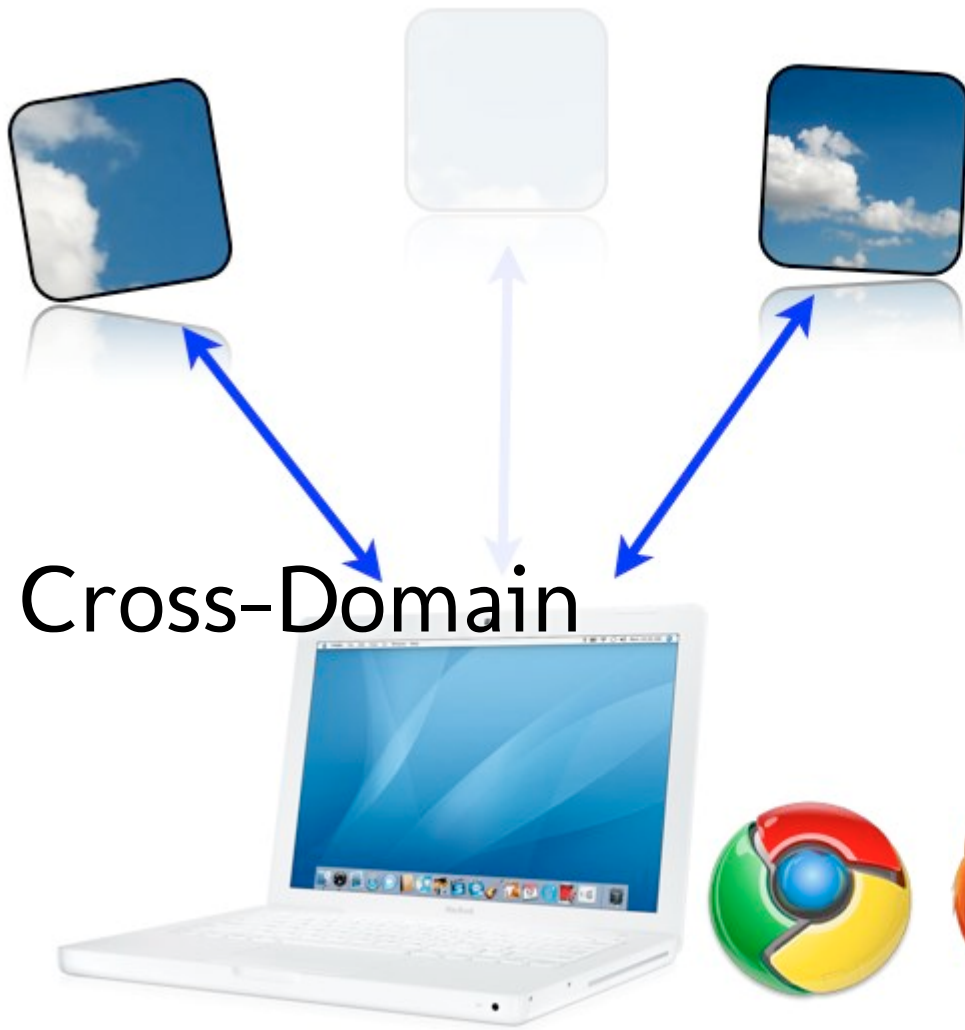
PIRACY  
7:00 AM

Ninten  
Around

HOLLYWOOD



Robert De Niro Is Keen For *Uncharted* Movie Madness [Hollywood]



**Cross-Domain**

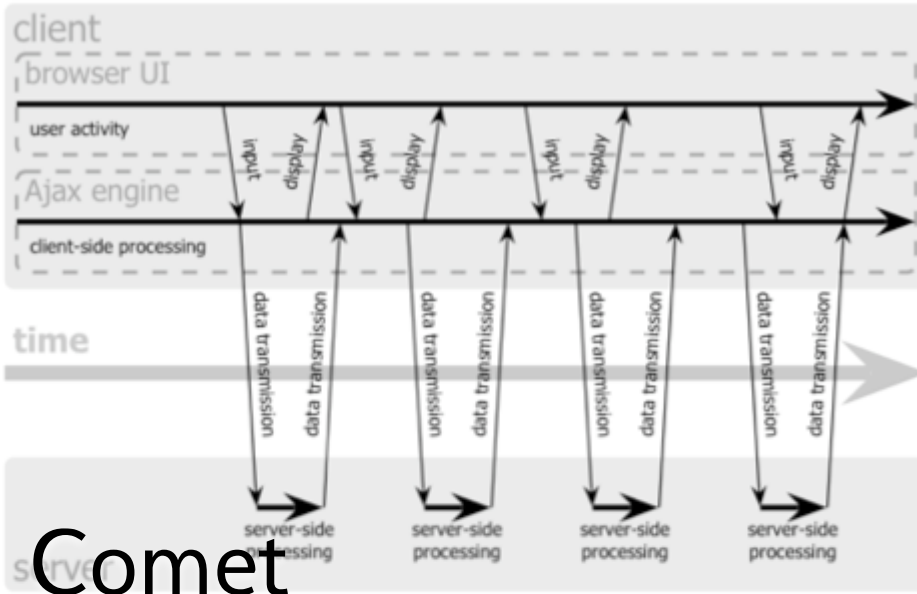




<http://api.geonames.org/findNearByWeatherJSON?lat=51&lng=0&username=demo&callback=onweather>

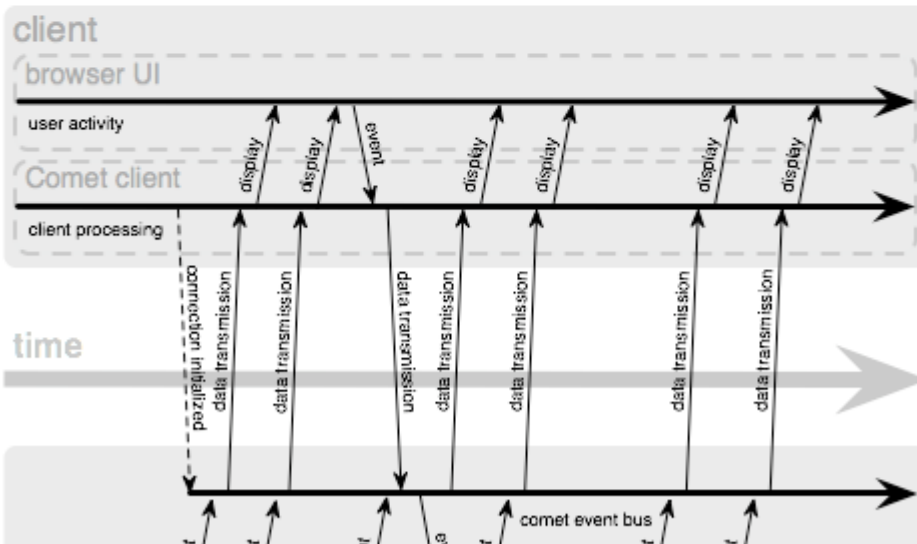
```
onweather({"weatherObservation":  
{"clouds":"n/a","weatherCondition":"n/a","observation":"EGKK  
021320Z 04016KT 020V110 6000 NSC 07/01  
Q1034","windDirection":40,"ICAO":"EGKK","elevation":62,"countryCode":  
"/ Gatwick Airport","datetime":"2011-03-02  
13:20:00","lat":51.13333333333333,"hectoPascAltimeter":1034}});
```

## Ajax web application model (asynchronous)



Comet

## Comet web application model





~~Easy~~

~~Reliable~~

~~Secure~~

~~Performant~~


# enable cross-origin resource sharing


CORS


<http://enable-cors.org/>





## What is this about?


Cross-Origin Resource Sharing (CORS) is a **specification** that enables a true open access across domain-boundaries. With this site we want to support the adoption of CORS. [\[more...\]](#)


 Friends are busy celebrating the deviantART Fall for Halloween! Have you decorated yet? Reply with a photo!  
<http://twitpic.com/2xemir>  
 13 Oct


 **CNETNews** CNET News.com **t3** by deviantART  
 DeviantArt blends in Fotolia stock-art business <http://bit.ly/awHEs3>  
 13 Oct

 **deviantART** deviantART  
<http://bit.ly/a9KWJF> #deviantART has chosen to partner with Fotolia, a leading microstock provider worldwide!  
 13 Oct




 **deviantART** deviantART  
<http://bit.ly/aJczGu> "Incoming message from the Big Giant Head..." First person to identify this quote gets a 1-month Premium Membership!  
 13 Oct  Favorite  Retweet  Reply


 **deviantART** deviantART  
<http://bit.ly/9de4fZ> Death at a funeral? Not so in today's DDs! View zombies rising from the grave and looking snazzy in suits!  
 13 Oct


 **deviantART** deviantART  
<http://bit.ly/b3UA6T> A reflected tunnel, a steaming cup of bokeh, & a

 **@deviantART**  
 deviantART

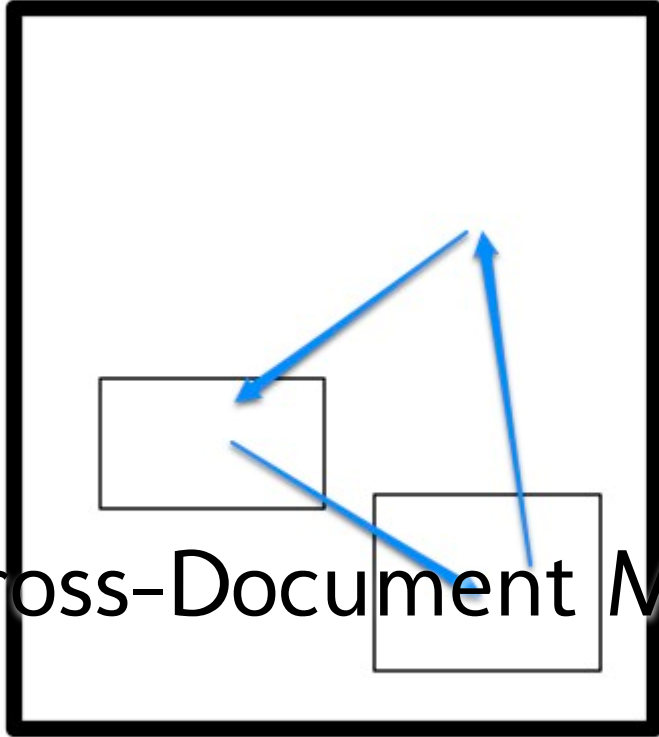
<http://bit.ly/aJczGu> "Incoming message from the Big Giant Head..." First person to identify this quote gets a 1-month Premium Membership!

13 Oct via web  Favorite  Retweet  Reply

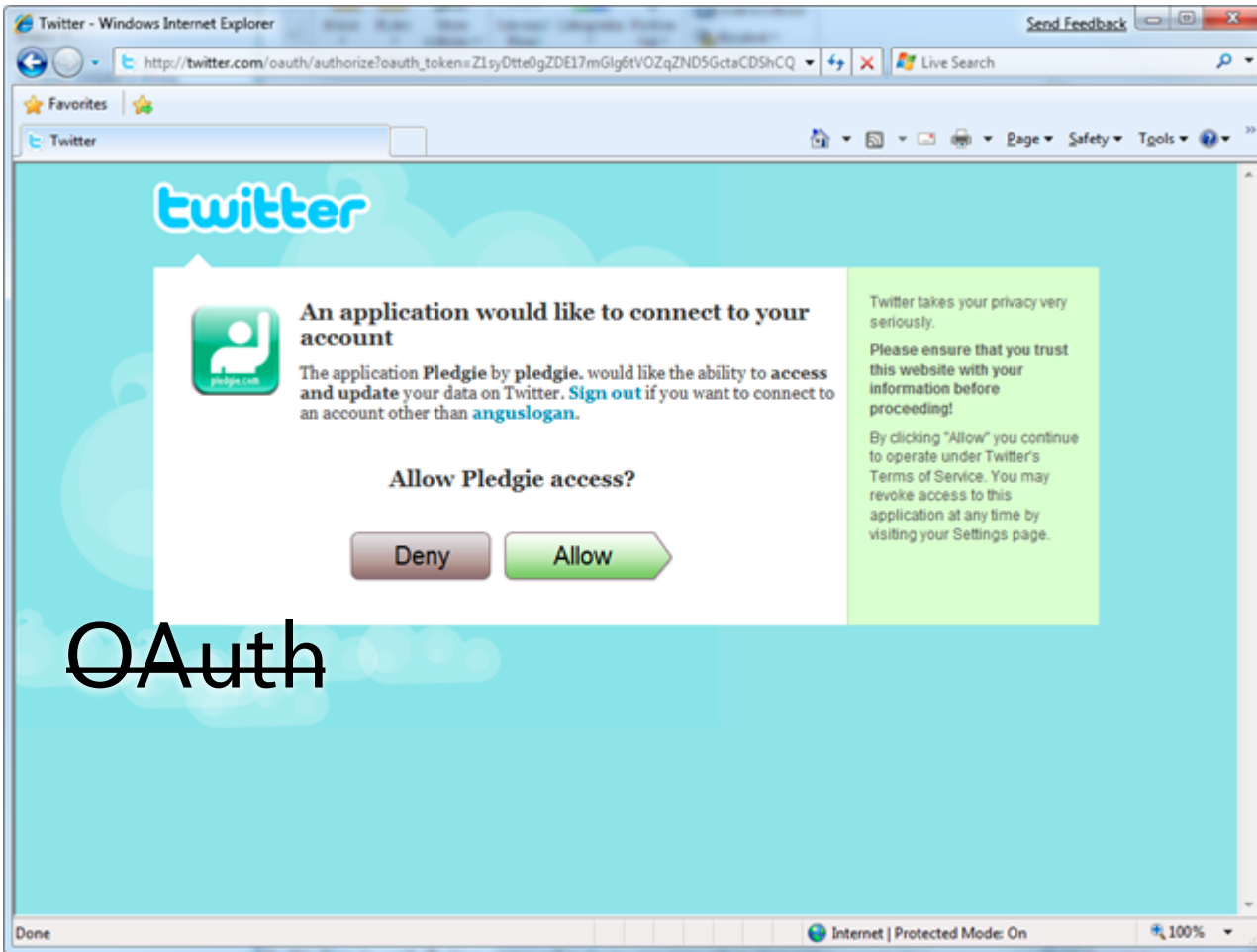


via **deviantWEAR** from  deviantART

oEmbed



# Cross-Document Messaging



OAuth



# Kind deployments are for chumps

52 minutes ago by rockhymas. read later [tweet](#)

simple  
« 3 comm

[URLs](#)  
e on Twitter

The screenshot shows a browser window titled "Twitter" with the URL `https://oauth.twitter.com/2/authorize?oauth_callback_url=http%3A%2...`. The page header shows the Twitter logo and "Logged in as @mahemoff | sign out". The main content area features a blue background with a yellow "H" icon on the left and a profile picture of a man on the right, connected by two white arrows pointing in opposite directions. Below this, the text reads: "Connect **Hacker News Reader** with your **@mahemoff** account to interact with your followers and share content through your timeline." At the bottom of the dialog are two buttons: "Connect" (highlighted in blue) and "Cancel".

# OAuth 2

By clicking "Connect" you agree to the [Twitter Terms of Service](#). In particular, some usage information will be shared back with Twitter. For more, see our [Privacy Policy](#).

# SPA Architecture Options



Full Page

o. Conventional Website:  
Browser-Server





# 1. Serverless SPA





HTML snippets  
JS snippets  
CSS snippets

## 2. UI Services

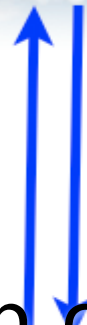




RESTful services

### 3. Semantic Services





RESTful services

# Separation of Concerns

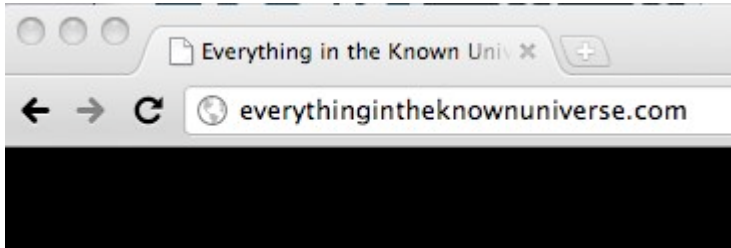




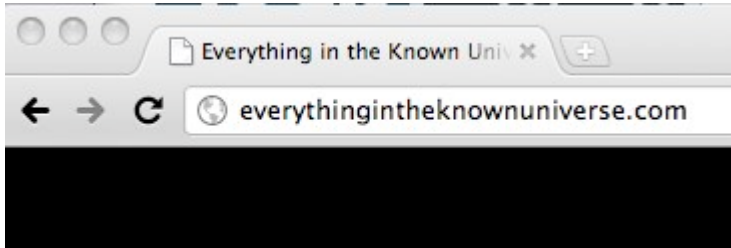




And the REST is History ...



Single Page means Single URL?



Bookmarking, Back Button, Tweeting, etc.

# The Magic Hash

```
document.location="http://example.com/#movies";  
document.location.hash = "#movies"; // same thing'
```

```
http://example.com/#movies  
http://example.com/#books  
http://example.com/#music
```

`http://example.com/#/books`

`http://example.com/#/search/gladwell`

`http://example.com/#/books/gladwell-genius`

`http://example.com/#!books`

`http://example.com/#!search/gladwell`

`http://example.com/#!books/gladwell-genius`

## A proposal for making AJAX crawlable

Wednesday, October 07, 2009 at 10:51 AM

Webmaster Tools > Advanced

Today we're excited to propose a new standard for making AJAX-based websites crawlable. This will benefit webmasters and users by making content from rich and interactive AJAX-based websites universally accessible through search results on any search engine that chooses to take part. We believe that making this content available for crawling and indexing could significantly improve the web.

While AJAX-based websites are popular with users, search engines traditionally are not able to access any of the content on them. The last time we checked, almost 70% of the websites we know about use JavaScript in some form or another. Of course, most of that JavaScript is not AJAX, but the better that search engines could crawl and index AJAX, the more that developers could add richer features to their websites and still show up in search engines.

Some of the goals that we wanted to achieve with this proposal were:

- Minimal changes are required as the website grows





**brikis98** Yevgeniy Brikman

Not only are the gawker sites ugly now, they are also broken due to hash-bang style URLs. Well done. RT @newsycombinator <http://j.mp/g98Doo>

3 weeks ago via Twitter

[Comment](#) - [Like](#)



**michaelneale** Michael Neale

hashbang is being abused by content sites. If its content, let it be content

3 weeks ago via Twitter

[Comment](#) - [Like](#)

# #HashBangHell



**meyerweb** Erik Meyer

Hash-bang URLs? Whoever came up with that idea must've been using a hash-BONG, amirite?

3 weeks ago via Twitter

[Comment](#) - [Like](#)



**brikis98** Yevgeniy Brikman

Not only are the gawker sites ugly now, they are also broken due to hash-bang style URLs. Well done. RT @newsycombinator <http://j.mp/g98Doo>

3 weeks ago via Twitter

[Comment](#) - [Like](#)



**michaelneale** Michael Neale

hashbang is being abused by content sites. If its content, let it be content

3 weeks ago via Twitter

[Comment](#) - [Like](#)



**meyerweb** Eric Meyer

Hash-bang URLs? Whoever came up with that idea must've been using a hash-BANG, amirite?

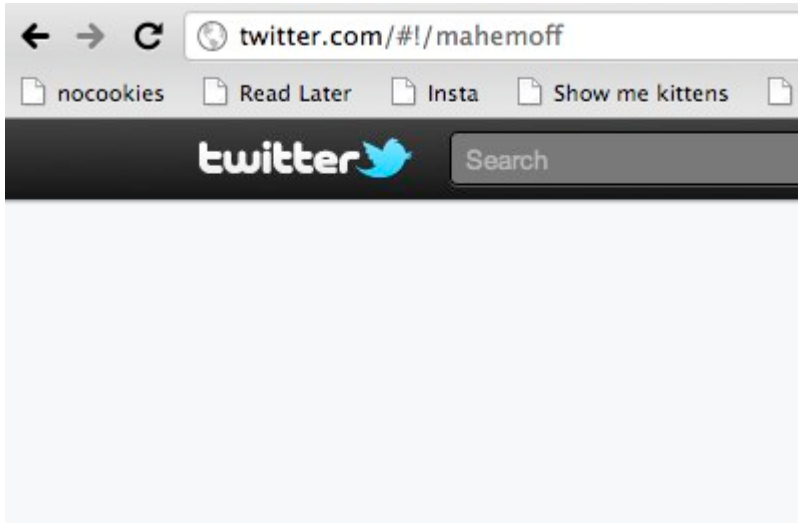
3 weeks ago via Twitter

[Comment](#) - [Like](#)

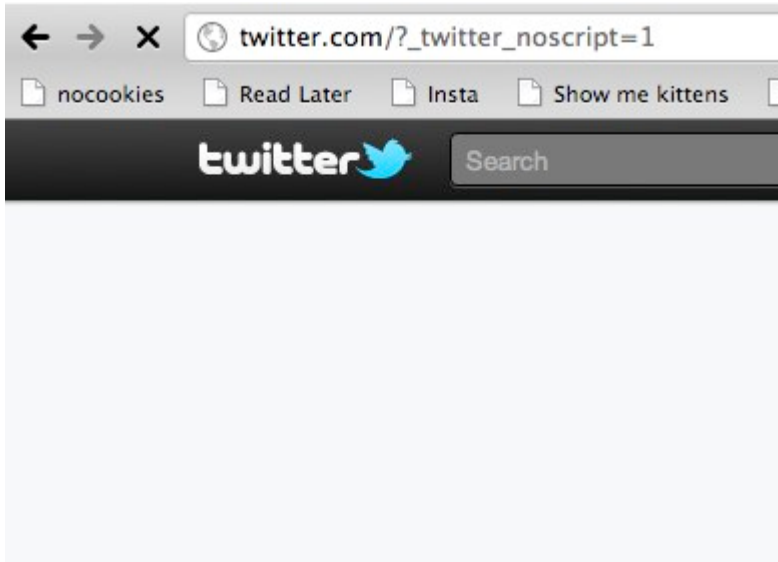
uncool URL

can't easily edit URL

weird scrolling issues



But the real problem ...



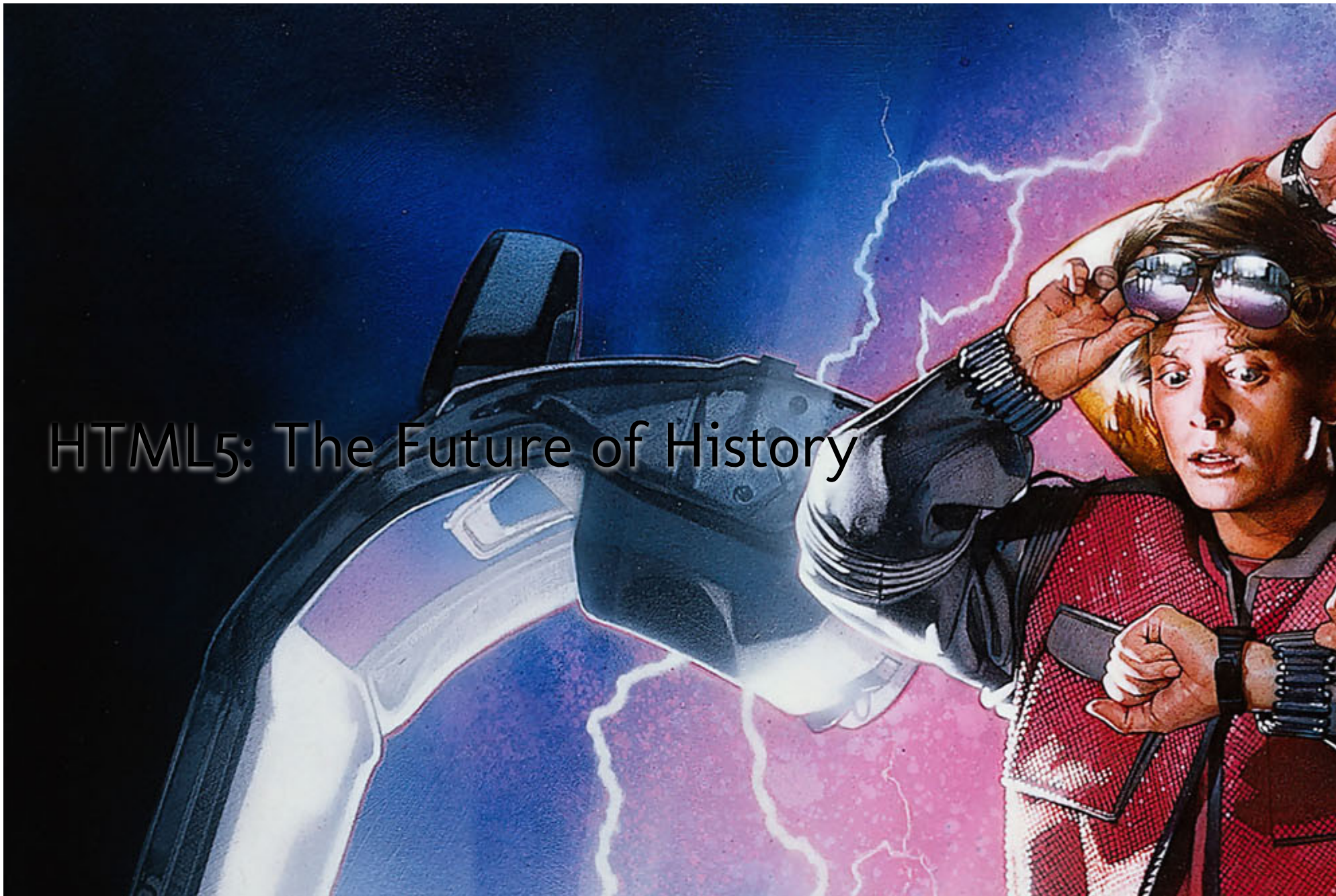
empty

```
<html>
  <head>
    <title>My amazing app</title>
    <script>
      window.onload = function() {
        if (document.location.pathname.match(/^\/\
          // show the search
        }
      };
    </script>
  </head>
  <body>
    <!-- Empty body -->
  </body>
</html>
```



No-JS browsers?  
Search engines?  
Other clients?

# HTML5: The Future of History




```
history.pushState(  
  {search: "rainbows"},  
  "Items containing 'rainbows'",  
  "/search/rainbows"  
);
```



# Abusing the HTML5 History API for fun (and chaos)



Merge branch '3.0.x' of https://github.com/awellis/core into 3.0.x

 shadowhand (author)  
4 days ago

commit 8b3ca8  
tree 611d02  
parent 4e6611  
parent fc1378

core / classes / controller



history
for the Template and RE... [shadowhand]
classes/kohana/encrypt... [awellis]
to relocate it to the ... [shadowhand]
for wrapping an Valid... [shadowhand]
and normalized all cla... [shadowhand]
and normalized all cla... [shadowhand]
ses to classes/ to comp... [shadowhand]

name	age	message
..		
<a href="#">rest.php</a>	June 19, 2009	Create
<a href="#">template.php</a>	June 19, 2009	Create

GitHub

Source: <https://gist.github.com/730603>

~~http://example.com/#!/search/rainbows~~

**http://example.com/search/rainbow**

URL represents ~~State~~ Resource

# Sync resource and URL

```
search.onclick = function() {  
    var query = searchEl.value;  
    // Perform the search, change UI  
    history.pushState({search: query}, "Search", "/s  
}
```

```
window.onpopstate = function(ev) {  
    // transform based on document.location and/or e  
}
```



When does URL change?

Initial Load

Back button, Forward button

User changes URL



# CODING HORROR

programming and human factors  
by Jeff Atwood

Web  Coding

NEWER »

[Why Do Computers Suck at Math?](#)

« OLDER

[Pseudocode or Code?](#)

[Home](#)

[Browse All Posts](#)

[ad] Is no news good news...? Give your customers a voice. Error reporting made easy. [Try it now.](#)

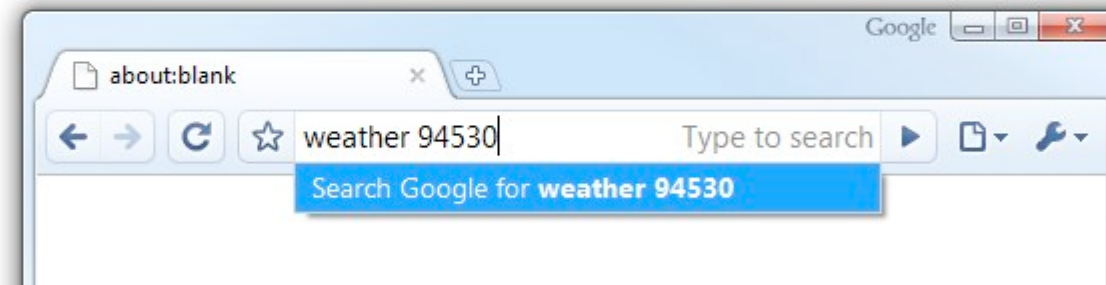
[ad] Tired of endless code review emails? Ditch the emails - try peer code review with [Code Collaborator](#). Also learn tips and tricks with [this free book](#).

[ad] You've maxed out your machine. Now upgrade your

## May 11, 2009

### The Web Browser Address Bar is the New Command Line

Google's [Chrome browser](#) passes anything you type into the address bar that isn't an obvious URI on default search engine.



While web browsers should have some built-in smarts, they can never match the collective intelligence of a worldwide search engine. [For example:](#)

[weather San Francisco](#)  
[CSCO](#)  
[time London](#)

```
history.length
history.back();
history.forward();
history.go(5);

window.onpopstate() { ... }
history.pushState({...}, "title", "/the/url");
history.replaceState({...}, "title", "/the/url");
```



**"http://example.com/search/rainbows"**

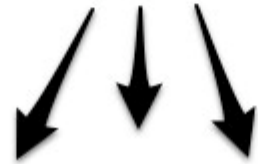
**[empty]**

on page load

transformed via JavaScript

SPA Antipattern

**http://example.com/search/rainbows**



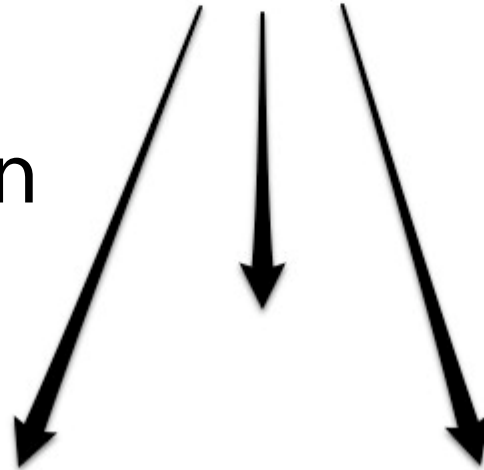


**"http://example.com/search/rainbows"**

**http://example.com/search/rainbows**

straight from server

SPA Pattern



Demo: <http://rampage.mahemoff.com>

Source: <https://github.com/mahemoff/rampage>

```
curl http://rampage.mahemoff.com/monsters/george
```

```
...
```

```
<body>
```

```
  <h1><a href="/">Know Your Rampage</a></h1>
```

```
  <div id="main">
```

```
    <h2><a href="/monsters">monsters</a> > George<
```

```
    
```

```
    <div>Eats men</div>
```

```
    <div>Born 1986</div>
```

```
  </div>
```

```
...
```



site:rampage.mahemoff.com

Search

5 results (0.04 seconds)

[Advanced search](#)

Everything

Images

Videos

News

Shopping

More

London, UK

[Change location](#)

The web

[Pages from the UK](#)

[More search tools](#)

[Try Google Webmaster Tools](#)

Google promotion

[www.google.com/webmasters/](http://www.google.com/webmasters/) Do you own **rampage.mahemoff.com**? Get indexing and ranking data from Google.

[Know Your Rampage](#) 🔍

Come, Meet The Monsters. They're waiting to meet you. And they're hungry. Technical demo and an unofficial fan app about the Rampage video game.

[rampage.mahemoff.com/](http://rampage.mahemoff.com/) - [Cached](#)

[Come, Meet The Monsters - Michael Mahemoff's Homepage](#) 🔍

Technical demo and an unofficial fan app about the Rampage video game.

[rampage.mahemoff.com/monsters](http://rampage.mahemoff.com/monsters) - [Cached](#)

[George - Michael Mahemoff's Homepage](#) 🔍

George. Eats men. Born 1996. Technical demo and an unofficial fan app about the Rampage video game.

[rampage.mahemoff.com/monsters/george](http://rampage.mahemoff.com/monsters/george) - [Cached](#)

[Lizzie - Michael Mahemoff's Homepage](#) 🔍

Lizzie. Eats men. Born 1986. Technical demo and an unofficial fan app about the Rampage video game.

[rampage.mahemoff.com/monsters/lizzie](http://rampage.mahemoff.com/monsters/lizzie) - [Cached](#)

[Know Your Rampage](#) 🔍

Technical demo and an unofficial fan app about the Rampage video game.

[rampage.mahemoff.com/monsters/%7B%7Bid%7D%7D](http://rampage.mahemoff.com/monsters/%7B%7Bid%7D%7D) - [Cached](#)

# The Search Engine Test



```
/
/monsters
/monsters/lizzie
/monsters/george
/monsters/ralph
```



Unique State Resource Identifiers!

```
window.onpopstate = function() {  
  var matches;  
  if (document.location.pathname=="/monsters") {  
    ...  
  } else if (matches = document.location.pathname.  
    var monster = matches[1];  
    ...  
  } else { // can't handle it? Then we need to ref  
    ...  
  }  
}
```

**monsters** > George

Hijax



Eats men

```
<h2><a href="/monsters">monsters</a> > {{name}}</h2>

<div>Eats {{food}}</div>
<div>Born {{born}}</div>
```

```
$("#a").live("click", function(ev) {  
    history.pushState({}, title, this.href);  
    onURLUpdate();  
    ev.preventDefault();  
});
```



# Dual Side Templating: *Mustache* library

```
{{#monster}}  
  <h2><a href="/monsters">monsters</a> > {{name}}<  
    
  <div>Eats {{food}}</div>  
  <div>Born {{born}}</div>  
{{/monster}}
```



## **SERVER [RUBY]**

```
get '/monsters/:monster' do
  mustache :monster,
    :monster=>get_monster(params[:monster]),
    :layout=>true
end
```

## **BROWSER [JAVASCRIPT]**

```
$(this).html(
  Mustache.to_html($("#monster_template").html(),
    {monster:monster})
).show();
```

```
http://rampage.mahemoff.com/monsters.json
```

```
[  
  {"born":1986,"food":"men","name":"Lizzie","id":'  
  {"born":1986,"food":"women","name":"George","id":'  
  {"born":1986,"food":"businessmen","name":"Ralph'  
]
```

```
// popState handler
if (document.location.pathname=="/monsters") {
    $.getJSON("/monsters.json", function(monsters)
        $("#main").fadeOut(function() {
            $(this).html(
                Mustache.to_html($("#monsters_template")
            ).show();
        });
    });
};
```



## Embracing the SPA

# 1. Client: HTML5 History

## 2. Server: RESTful Web Services

### 3. Server: Full Page for every URL

## 4. Dual-Side Templating



## 5. Hixax: Standard links, augmented

6. Leverage libraries - history.js,  
jquery.history.js, sammy.js

## 7. Consider HashBang for Older Browsers



Thankyou

More HTML5 at <http://html5rocks.com>

Mail: [mahemoff@google.com](mailto:mahemoff@google.com)

Twitter: mahemoff

# Image Credits

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