# How to improve the web
# A presentation on web technologies
# Stuart Langridge, @media Ajax 2007

# How to
# DESTROY
# the Web

Stuart Langridge, @media Ajax 2007

# How to

# DESTROY

# the Web

**ADVANCED COURSE**

**hey ! this s**

# ajaxload.info

## Generator

Indicator type :    Indicator

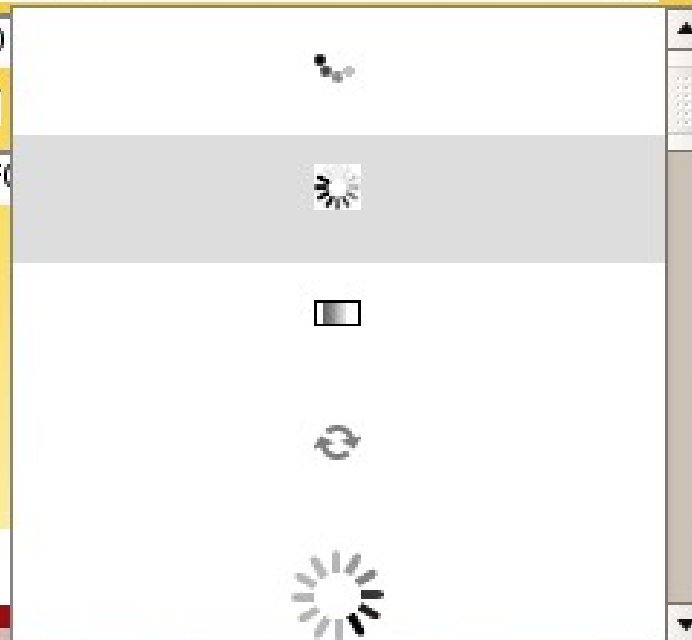Background color # 00

:    ✔

Foreground color # FF

:

!

Preview

```html
<script type="text/javascript">
function ajaxLoader(url,id) {
  if (document.getElementById) {
    var x = (window.ActiveXObject) ?
      new ActiveXObject("Microsoft.XMLHTTP") : new XMLHttpRequest();
  }
  if (x) {
    showLoadingIndicator(); x.onreadystatechange = function() {
      if (x.readyState == 4 && x.status == 200) {
        el = document.getElementById(id);
        el.innerHTML = x.responseText;  hideLoadingIndicator();
      }
    }
    x.open("GET", url, true);
    x.send(null);
  }
}
</script>
<span class="look_like_a_link"
onclick="ajaxLoader('page2.html','contentLYR')">go to page 2</span>
```

```html
<a href="p2.html">go to page 2</a>
```

Google Reader

Home

Home
All items (12)
Starred items
Shared items
Trends

Add subscription          Browse »

Show: **updated** - all          Refresh

All items          View settings... ▼     Ex      iew     List vi

Show: **12 new items** - all items     Mark all as read     Refresh

☆ **Ubuntu Scores First**          6:48 PM (34 minutes ago)
**Major Pre-installed Server Win** »
from eWEEK Linux

Early next year, Dell is expected to announce that Ubuntu
Server will be certified on Dell server lines.

All items ▼     Search

```html
<script type="text/javascript">
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      if (x.readyState == 4 && x.status == 200) {
        el = document.getElementById(id);
        el.innerHTML = x.responseText;
      }
    }
    x.open("GET", url, true);
    x.send(null);
  }
}
</script>
<span class="look_like_a_button"
onclick="ajaxLoader('thispage.html','contentLYR')">refresh</span>
```

The Pirate Bay
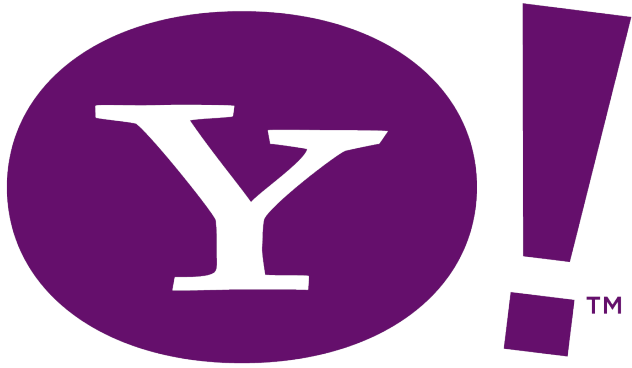
```
mod_gzip_item_include mime ^text/.*
```

jsmin

packer

compressor

jsmin

packer

# conditional GET

`If-Modified-Since` header vs. your last-modified date

`If-None-Match` header vs. your `ETag`

return `status 304` and no content

# polling

# comet

low-latency event-driven connection

push data out to the client
only *when something happens*

dōjō

# Comet Daily

# Articles & News

## Android and Comet

by Dylan Schiemann  *November 12th, 2007*

Google has released the first version of their SDK for Android, an open development platform for mobile devices. Given the critical necessity of low latency data transit with mobile devices, I wanted to find out what initial support is available for Comet on the gPhone platform.

Continue Reading | 1 Comment

## Developing Markets Live for the FT

by Andrew Betts  *November 7th, 2007*

When the Financial Times came to us for a new kind of Markets commentary blog, they had in mind something to really break the mould of the daily market report you'll find on the back of a typical business newspaper. A blog is

R

C.
by
Sin
week ago, a
Comet devel
Caplin, Mochi
Read more

Th
Li
by
A recent disc
always better
2-connection
and its enfor

# libraries

a javascript expert

*(multiprototypius quirksmodii)*

fire and motion

jQuery hacker        pointless celeb

# CSRF

`<img src="http://somewebsite/delete.php?id=54">`

# CSRF

POST is no barrier

Add a user-specific token to form posts

or

Grab the cookie value with JS
and put the value in the body
of the request

# standardisation

The great thing about standards is...

hang on, there are no great things about standards

-- me (not Andrew Tanenbaum)

If you want a picture of the future, Winston, imagine a boot taking forever

-- George Orwell

How to improve the web
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Today we're going to talk about how to improve the
web.

NO!

HOW TO DESTROY THE WEB

Me and Satan, manifests as unicorn mouse cursor

Spent years evangelising to destroy

Developers already working hard: flashing text,
    banner ads, effects, DHTML popups, IE-only sites

You aren't like that. You're professionals.

You're ready for the advanced course.

We're going to destroy the web together.

there are some easy tricks we can try. One of the best is the

---> AJAX LOADING INDICATOR.

It looked for a while like the internet would be hugely improved when everyone got broadband – we worked out ways to make users not have to wait

Some unsung genius invented the Ajax loading icon! It's just like the web in 1997! When you click a link, don't watch the

--> INTERNET EXPLORER LOGO
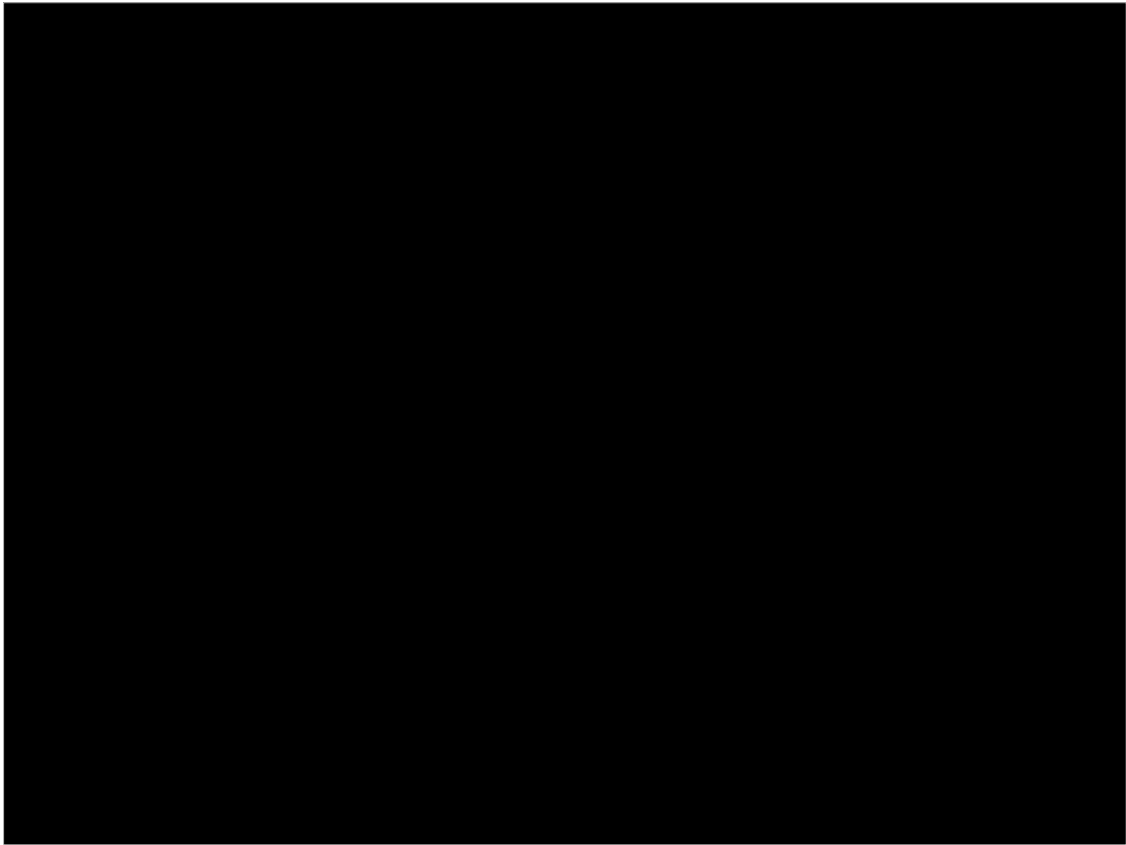
5

or the

--> NETSCAPE N LOGO

spin around all the time, you can watch a little rotating circle instead! Fantastic effort whoever thought of that!

Experience is now the same as ten years ago, but

--> NOW THE CODE TO LOAD A PAGE LOOKS LIKE THIS
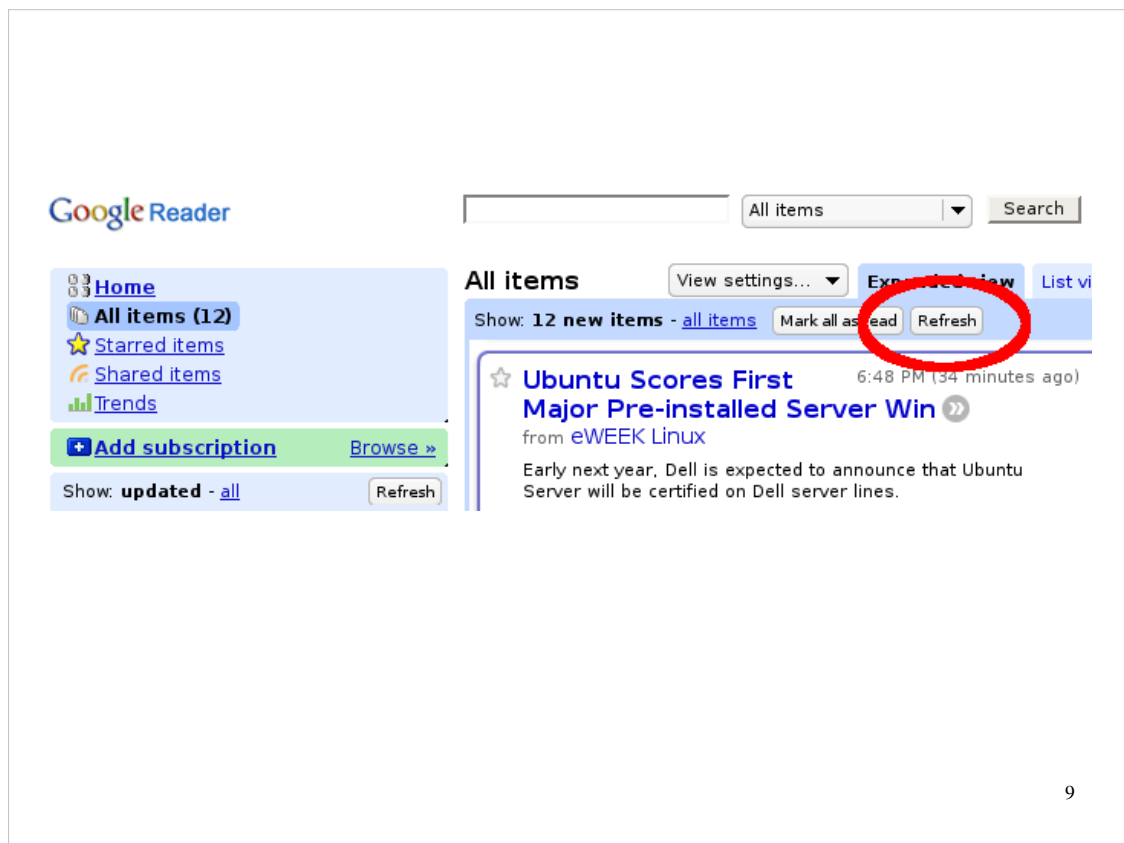
--> AND IT USED TO LOOK LIKE THIS

```
<a href="p2.html">go to page 2</a>
```
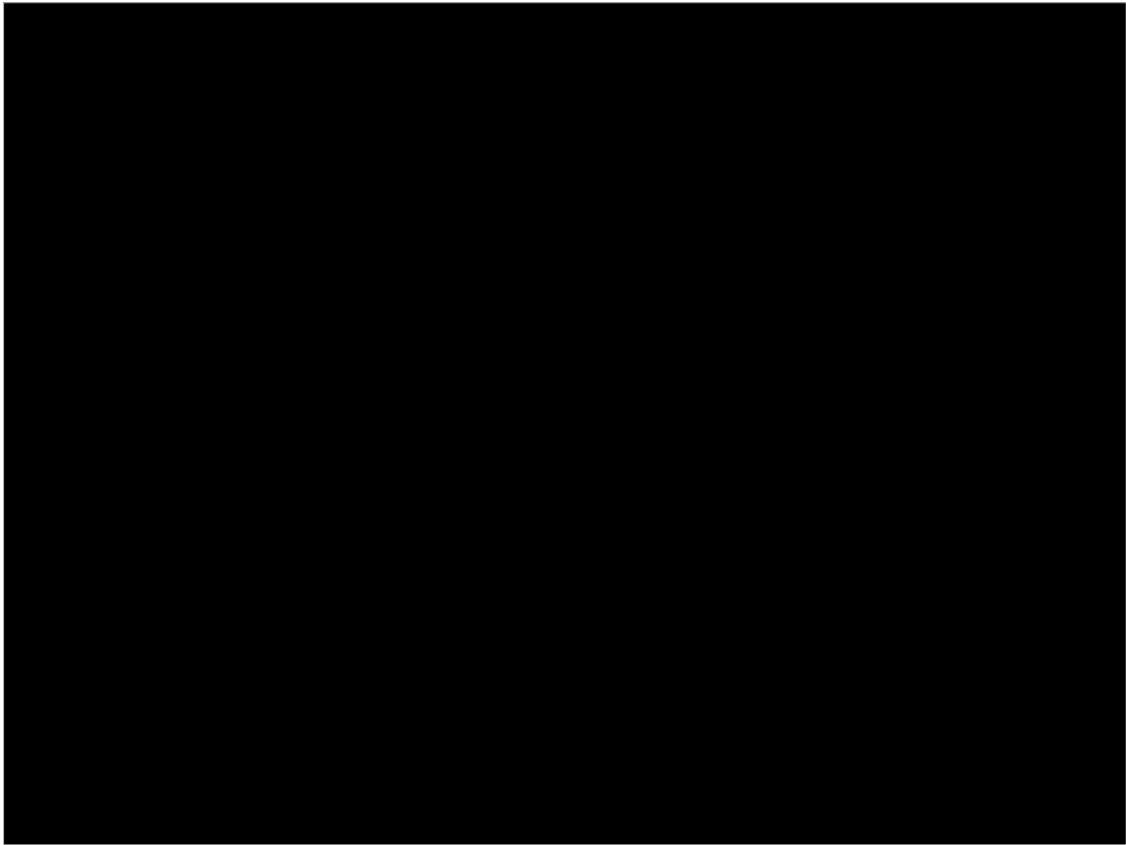
genius

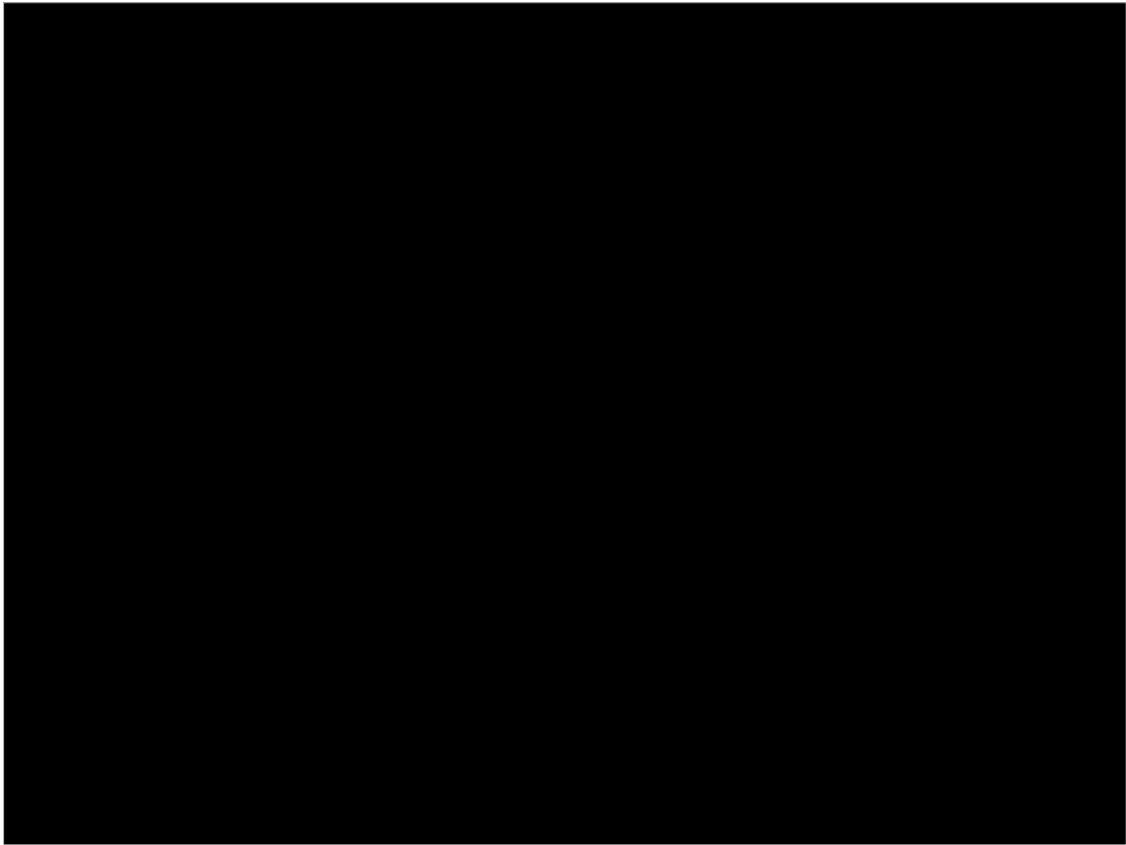Code from javascript.internet.com – special gold
   award for web destruction

Want a refresh button like this one in Google Reader

with new Ajax the code

--> LOOKS LIKE THIS

--> AND IT USED TO LOOK LIKE THIS

nothing! Browser did it for you!

Free bonus: text that looks like a link but isn't – bad accessibility!

Lots of code leads into making people download lots of stuff.

Parkinson's Law – works for bandwidth

All get faster connections – net responds by creating stuff that looks like critical technology but isn't, like
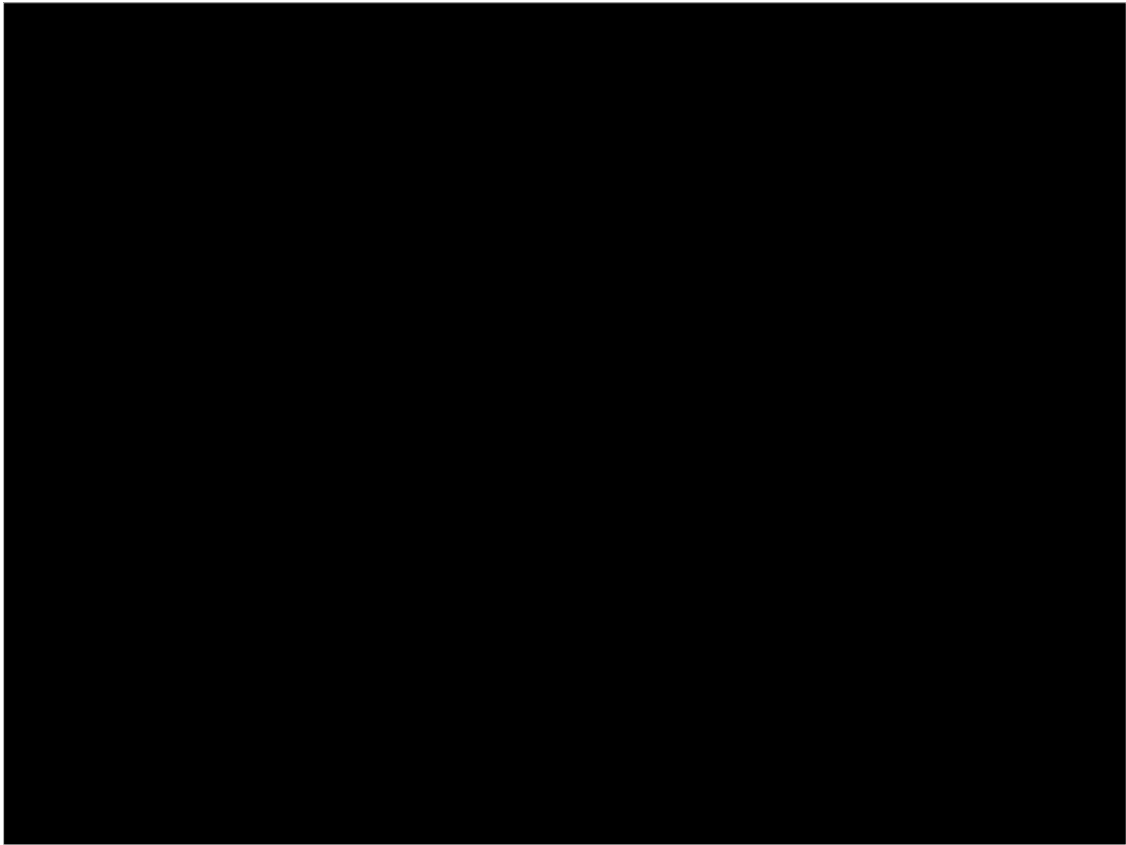
--> BITTORRENT

The Pirate Bay

and Ajax!

Bandwidth & disc space sitting idle: use it up!

You might think: aha! I'm

-->GZIPPING ALL MY CONTENT

it's really easy! just install mod_gzip and suddenly I'm using one fifth of the bandwidth!

but no! resist! what else would they be doing? Downloading **horse porn** or wasting their lives on youtube! You're not here to **help** people. Destroy the web!

Special bonus points to people who *pretend* to understand gzipped content but actually *don't*, like

--> THE FLASH PLUGIN IN IE 6
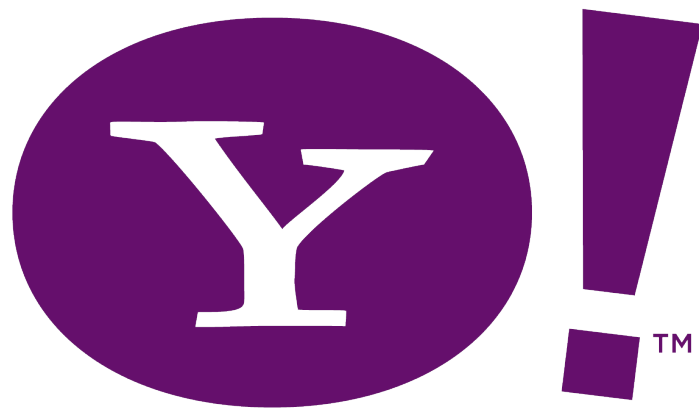
Good work Microsoft and Adobe!

The quest to fill bandwidth doesn't stop there. There's

-->THE YUI COMPRESSOR

compressor

--> DOUGLAS CROCKFORD'S JSMIN

jsmin

--> DEAN EDWARDS'S PACKER

packer

--> ALL OF WHICH SHRINK YOUR JAVASCRIPT

compressor

jsmin

packer

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but who has time to add one line to their deployment script?

Remember, if their bandwidth isn't going on your code, it's going on **horse porn** or Second Life or something.

YUI compressor even compresses CSS! Insidious attempt to sneak bandwidth reductions in behind our back – don't fall for it!

People will tell you to implement
--> CONDITIONAL GET

# conditional GET

`If-Modified-Since` header vs. your last-modified date
`If-None-Match` header vs. your `ETag`

return `status 304` and no content

I mean, they say it's easy: they say that you just
check the If-Modified-Since header against your
last-modified date, and check the If-None-Match
header against your ETag, and if nothing's changed
then just return a status code of 304 and don't
return any content.

But just think how much effort that takes on the
server, in your server code! that's, what, three, four
lines? Instead of writing those lines, you could be
across the road at Starbucks ordering a
mockacockalockachino with extra cinnamon.

--> THINK WHAT YOU'RE SAVING THEM FROM

We're not just destroying the web, we're

--> SAVING THE CHILDREN

No, you can't have ADSL

NOT YOURS
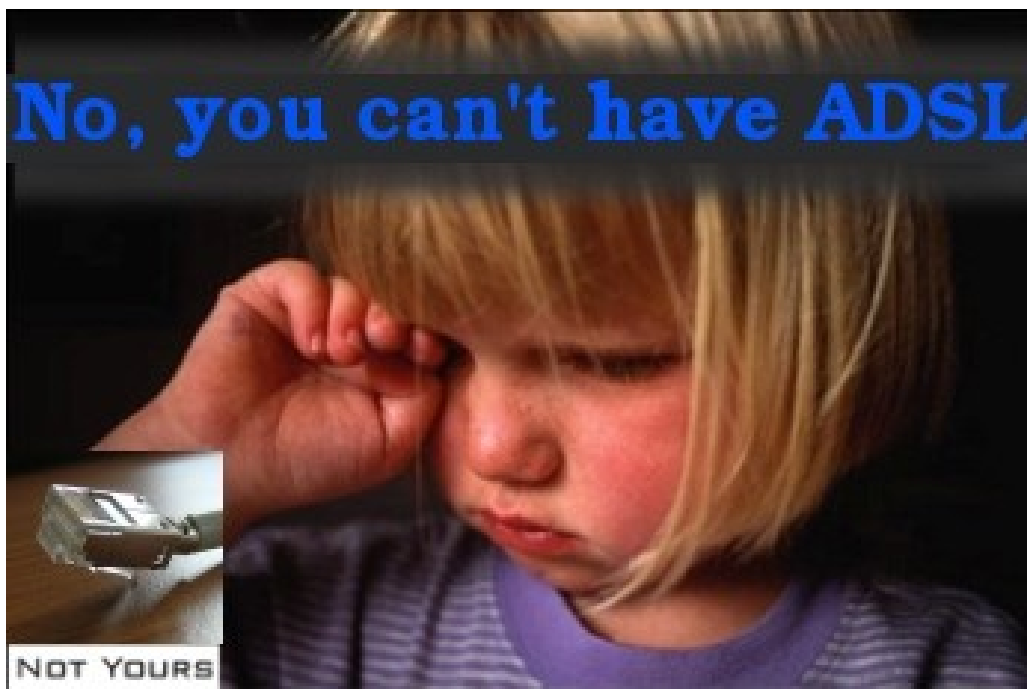
If the web is easy then the terrorists win.

Bandwidth and the best way to use it is even more
important now that

--> EVERYONE'S GOT AN IPHONE

People will get the idea that the internet can work well on something that fits in their pocket. They'll get the idea that it works well when you're in a field. We can't have that. I'll have to sell my shares in eMachines then.

Enough about bandwidth. It's time to talk about

--> POLLING

# polling

To keep your applications unresponsive, there's no better way than polling. If you need to know if something's happened on the server, you should ask the server. Every 10 seconds, if possible. Keep that browser connection open! There's dangerous and seditious talk going on about

--> COMET

# comet

low-latency event-driven connection

push data out to the client
only *when something happens*

This is a critical problem for us, because it has the potential to make applications really properly responsive again. A while back it was sort of theoretical and shrouded in mystery, but now we're at the stage where people are actually building servers to make this sort of thing easy.

--> THE DOJO FOUNDATION have made it really easy

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The Dojo foundation have made it ridiculously easy to use this technology through Dojo now; they've even got cometd, a server which does all the hard work for you. The Wikipedia article on Comet lists 26 implementations!

--> Dylan Schiemann's even set up CometDaily to give handy tips on what it all means
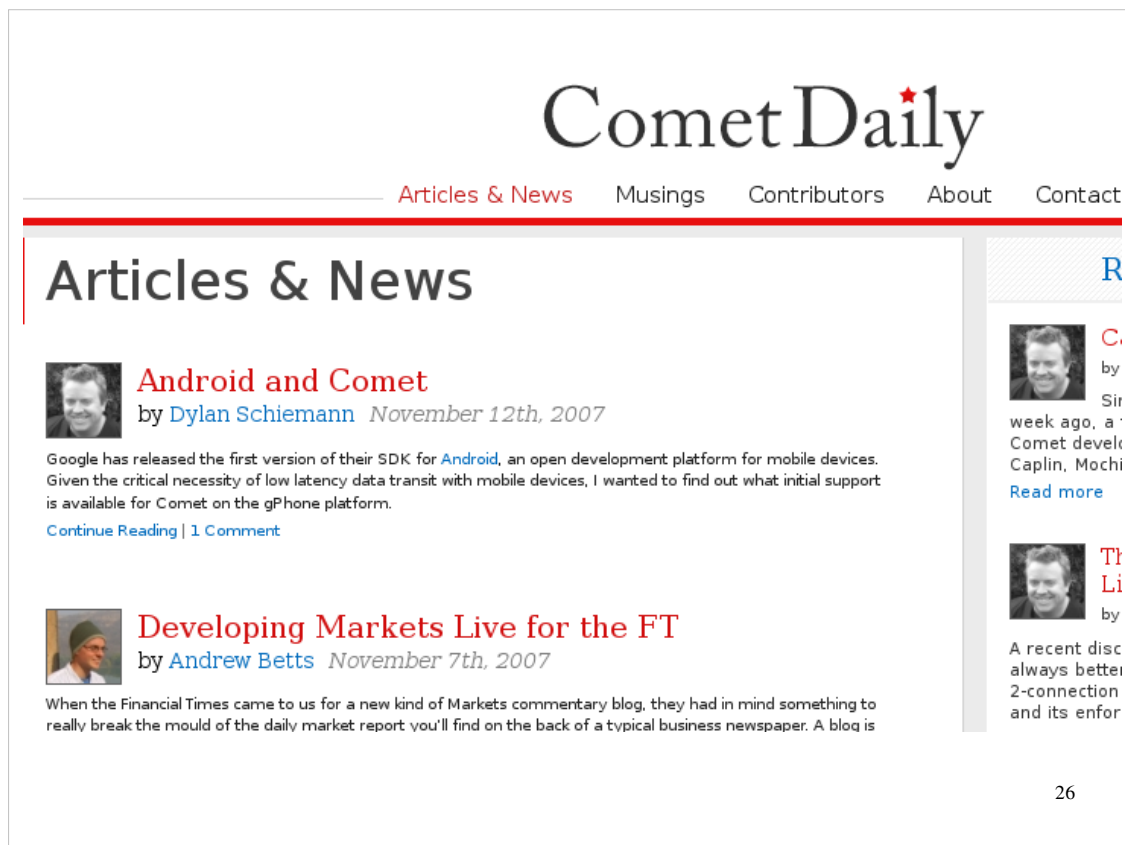
This is a trying time. If the word about Comet gets
   out then everyone will stop using
   XMLHTTPRequest to hit a server every 5 seconds,
   and people will get the idea that web apps can
   actually work decently! It's even got a decent name
   -- we got a really big win when Jesse James
   Garrett decided to build the internet revolution by

--> naming the core technology after bog cleaner

but Comet is a big step back, because

--> it's named after an electrical shop

it's named after an electrical shop and they sell computers and everything, so it's relevant. Help me fight it.

Let's move on, to the subject of

--> JavaScript libraries

# libraries

It's now getting too easy for ordinary people to actually get their hands on all this Ajax power. A great way to stop people pulling together and dragging the web out of its current hole is to tell people that JavaScript libraries are bad.

If we can convince everyone that they need to be

--> JAVASCRIPT EXPERTS

a javascript expert
*(multiprototypius quirksmodii)*

If we can convince everyone that they need to be JavaScript experts to write web applications, then fewer people will write web apps, and the web will crumble into dust. Better still, those people will not use a library, and will spend all their time redoing all the cross-browser work that Sam Stephenson with Prototype and John Resig and the jQuery team and Alex Russell and the Dojo team have already done!

This trick is called
--> FIRE AND MOTION

fire and motion

you keep firing at the enemy, and keep moving, and
all they can do is hide behind sandbags and not
make any progress. I learned about this trick from

--> Joel Spolsky

he learned about it from the

--> Israeli military

and they learned abuot it from

--> MICROSOFT

Microsoft are the past masters of this!

If we can convince people that they need to be
  JavaScript experts to use Ajax technologies, then
  people won't use them as much and the web as a
  whole will be degraded! yes! Remember, you want
  to use phrases like "the law of leaky abstractions"
  and "efficiency" and "understanding" and "guns in
  the hands of children" to make your point here.
  Let's convince the mass of web developers that
  they're not allowed to touch JavaScript unless
  they're PPK or Douglas Crockford, and then we'll
  stop the web getting any better!

--> DON'T TRUST LIBRARY WRITERS;
  RESIG=KELLY

jQuery hacker     pointless celeb

Don't listen to him.

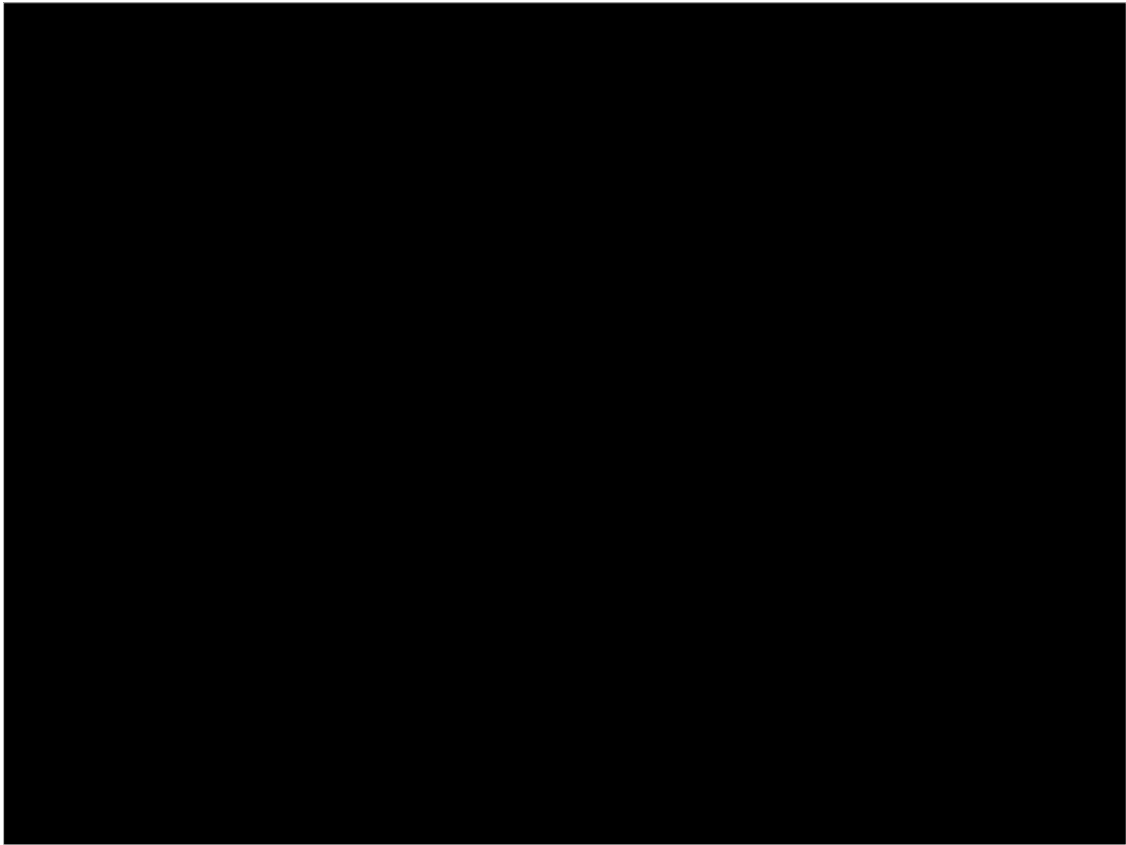There are so many ways to destroy the web.

--> CSRF

# CSRF

It sounds like a Cornish separatist organisation, but it means Cross Site Request Forgery, as you all know.

It's just so easy to do!

Just put

--> CODE

or similar on one of your pages and if the user's logged into that website, then it deletes one of their documents! All you have to do to integrate this great new CSRF technology into your web applications is make sure that you don't protect against it! We covered not doing dangerous stuff with GET requests in the Basic course, and Google gave the quest to destroy the web a big leg up when they made the Google Web Accelerator pre-fetch a load of URLs that actually deleted stuff -- nice one, Google, it's great to have you on the team.

-->The beauty of the CSRF trick is that it even works with POST!

# CSRF

POST is no barrier

Add a user-specific token to form posts

<span style="color:red">or</span>

Grab the cookie value with JS
and put the value in the body
of the request

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--> FINAL TOOL IS STANDARDISATION

# standardisation

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--> QUOTE

The great thing about standards is...
hang on, there are no great things about standards

-- me (not Andrew Tanenbaum)

most powerful tool: standardisation process. Get
involved in it and derail it.

Make everyone discuss minutia, not fix problems.

Committees are where good ideas go to die

If HTML4, demand XHTML1-> XHTML1.1 -> XHTML2

Make JS like your fave language (Java/Python/Ruby)

Browser vendors: refuse other ppl standards,
demand yours

Build non-web things that pretend to be the web but
actually require a plugin

More important to steal a 2 month bit of competitive
advantage now than it is to build a world where
everything works for everyone, because we're here
to destroy the web.

If you want a picture of the future, Winston, imagine a boot taking forever

-- George Orwell