

Next ...

Handling the past

What's next - standards and browsers

What's next - applications and technology

Next ...

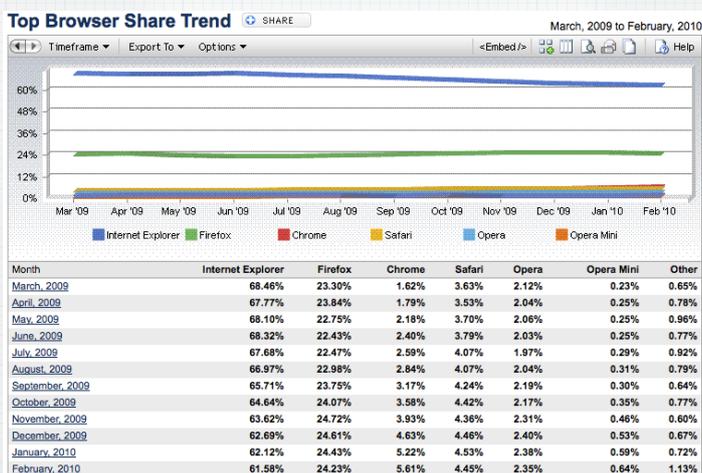
Handling the past

What's next - standards and browsers

What's next - applications and technology

Browser usage

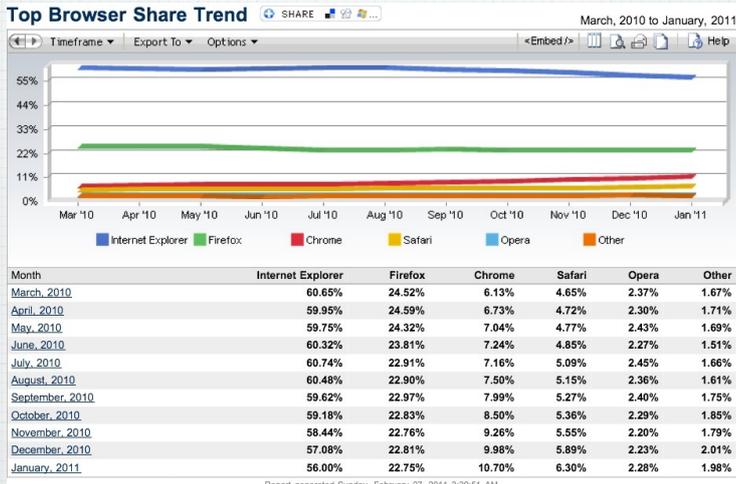
<http://marketshare.hitslink.com>



marketshare.hitslink.com, March 10

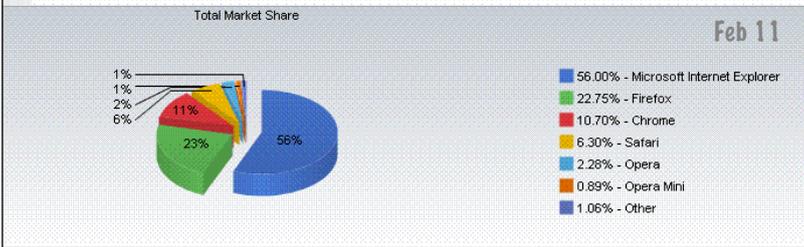
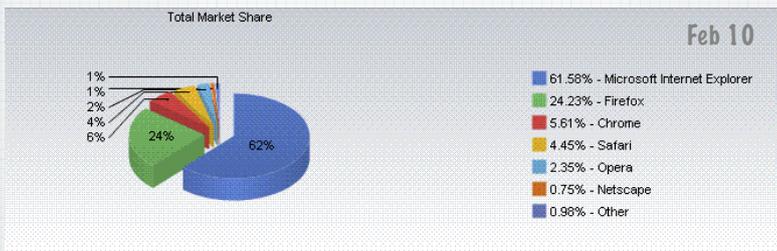
Browser usage

<http://marketshare.hitslink.com>



marketshare.hitslink.com, February 11

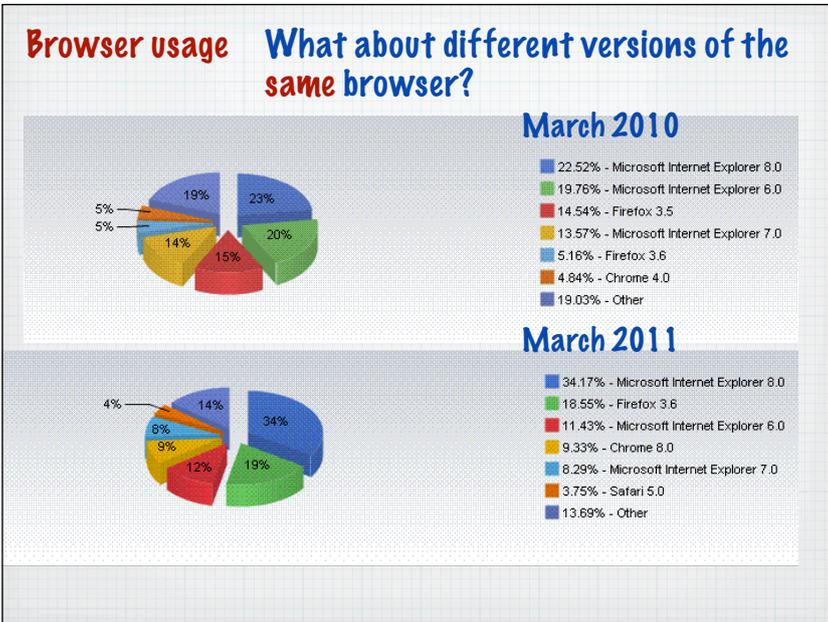
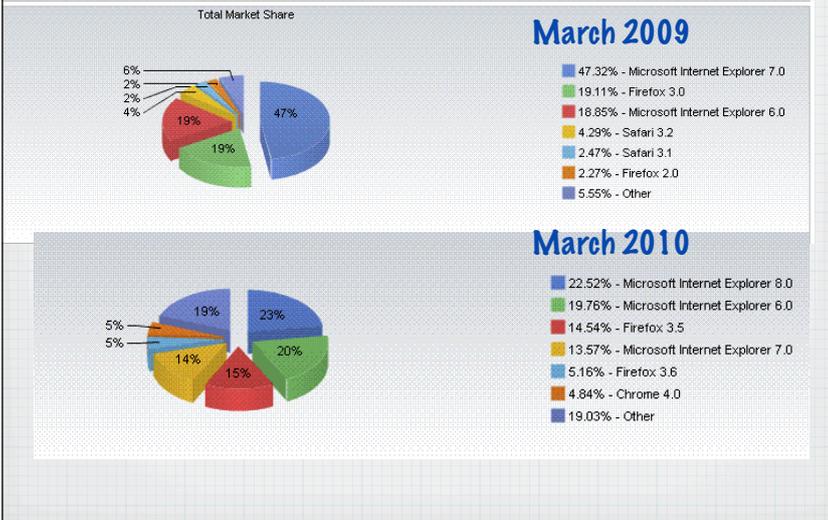
Browser usage



Browser usage

- Be careful... how do these figures get measured?

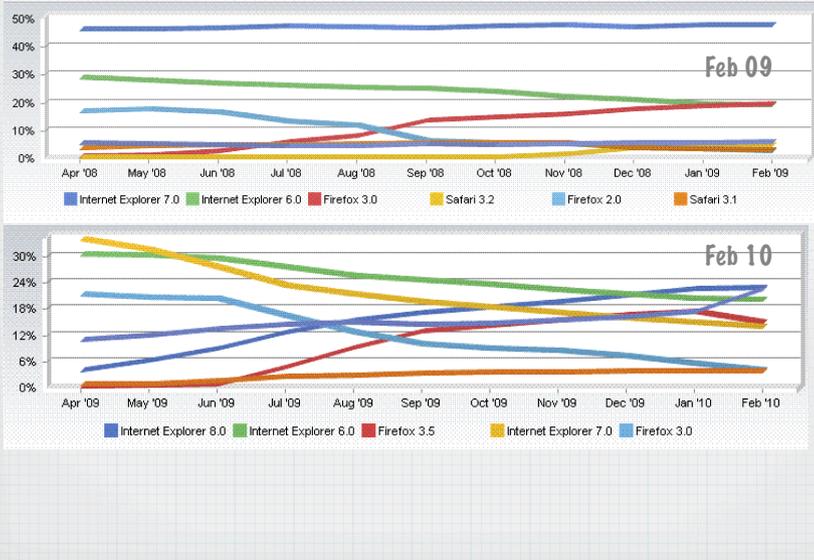
Browser usage What about different versions of the same browser?



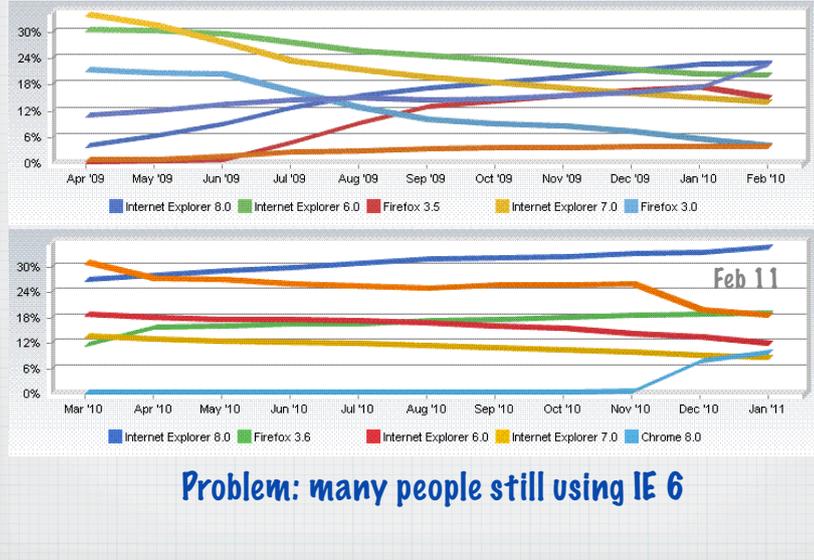
Browser usage - fragmentation

Browser Version	Total Market Share
Microsoft Internet Explorer 8.0	34.17%
Firefox 3.6	18.55%
Microsoft Internet Explorer 6.0	11.43%
Chrome 8.0	9.33%
Microsoft Internet Explorer 7.0	8.29%
Safari 5.0	3.75%
Firefox 3.5	2.09%
Safari 4.0	1.54%
Opera 11.x	1.44%
Firefox 3.0	1.25%
Netscape 6.0	0.81%
Opera 10.x	0.63%
Firefox 4.0	0.50%
Microsoft Internet Explorer 9.0	0.50%
Firefox 2.0	0.29%
Chrome 9.0	0.29%
Microsoft Internet Explorer 8.0 - Maxthon Edition	0.28%
Microsoft Internet Explorer 7.0 - Maxthon Edition	0.27%
Opera Mini 4.1	0.25%
Opera Mini 5.1	0.25%
Microsoft Internet Explorer 6.0 - TheWorld Edition	0.24%
Opera Mini 4.2	0.24%
Chrome 10.0	0.24%
Chrome 7.0	0.23%
Safari on Windows 5.0	0.23%
Safari 3.1	0.22%
Chrome 6.0	0.21%
Safari 4.1	0.21%
Microsoft Internet Explorer 6.0 - Tencent Traveler Edition	0.20%

Version usage Trends?



Version usage Trends?



Problem: many people still using IE 6

Safari (Mac)

Kingston University London
Faculty of Business and Law

Welcome
The Faculty of Business and Law was established in 1984 combining the School of Business and School of Law, which can both trace their roots back to the 60s. Currently it has more than 5,000 students enrolled on over 30 undergraduate and postgraduate programmes delivered on either a part-time or full-time basis.

Latest news

- Kingston law graduate appointed President of the Surrey Law Society ... 22 Jan 2008 - 11:04:00
- Surrey Law Society (SLS) has appointed Keith ... Read more
- Law students in European regional final ... A team from Kingston Law School comprising Level 6 ... Read more 21 Jan 2008 - 10:58:00
- Place in national final for BA Business Management student ... Ronald Katamba beat eight other students in a ... Read more 11 Jan 2008 - 10:09:00
- Deutsche Bank aided by RT Student project ... Students studying on the BSc (Hons) Business ... Read more 07 Jan 2008 - 11:28:00

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Firefox (Mac)

The screenshot shows the Kingston University London Faculty of Business and Law website in a Firefox browser window on a Mac. The browser's address bar shows the URL: file:///Users/barryvany/Documents/teaching/Internet2/technologies/200708/session2+... The website header features the university's name and a navigation menu on the left. The main content area includes a 'Welcome' message, a 'Latest news' section with four items, and accreditation logos for the Association of MBAs and CIPD. The browser's status bar at the bottom shows 'Done' and system resources like '0.008 s', '0.445%', and '2.44 KB'.

Firefox (PC)

This screenshot displays the same Kingston University London website in a Firefox browser window on a PC. The browser's address bar shows a local file path: file:///P:/PF1/sharedouter/bak1819%20border/F/08%20semantic.html. The website layout is identical to the Mac version, featuring a navigation menu, a 'Welcome' message, a 'Latest news' section, and accreditation logos. The browser's status bar at the bottom shows 'Done'.

IE (PC)

The screenshot shows the Kingston University London website in an Internet Explorer browser window on a PC. The browser's address bar shows the URL: file:///P:/PF1/sharedouter/bak1819%20border/F/08%20semantic.html. The website layout is consistent with the other two screenshots, including a navigation menu, a 'Welcome' message, a 'Latest news' section, and accreditation logos. The browser's status bar at the bottom shows 'Internet'.

Browser usage

Many people slow to upgrade - how do we support people using an older browser...

... which may behave strangely (bugs) or support standards in incorrect ways (proprietary decisions)

Browser history

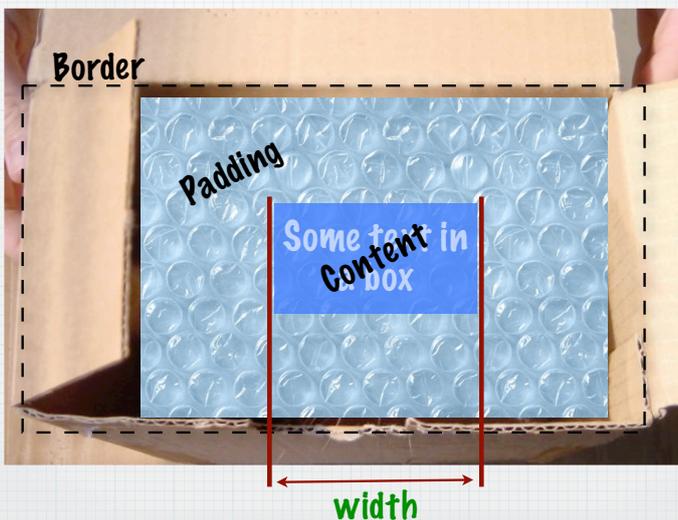
IE version 5, March 1999

Poor support for standards and many bugs

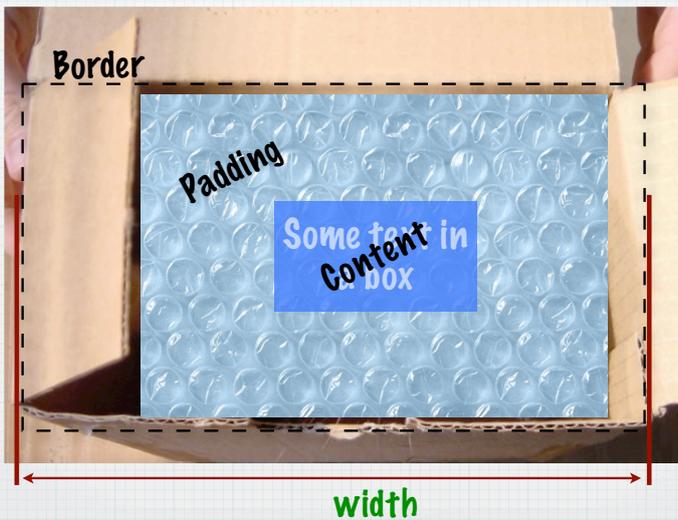
HTTP link header to stylesheets unsupported	a:active applied to focus
Preferred stylesheets unsupported	body font not applied inside tables
Alternative stylesheets unsupported	case sensitive classes
Specificity of style attribute wrong	ex applied as 0.5em
Space required between @ and import	... and many more ...

Microsoft 'version' of the box model different to CSS standard

W3C CSS box model



Microsoft CSS box model



Browser history

IE version 6, August 2001

Choices

Keep the millions of pages working
(i.e. maintain the bugs and standard errors in the new version)

Break millions of pages
(i.e. fix the bugs and follow the standard in the new version)

Browser Quirks, Almost Strict and Strict mode

Quirks mode (Q)

Make the browser work like the old version

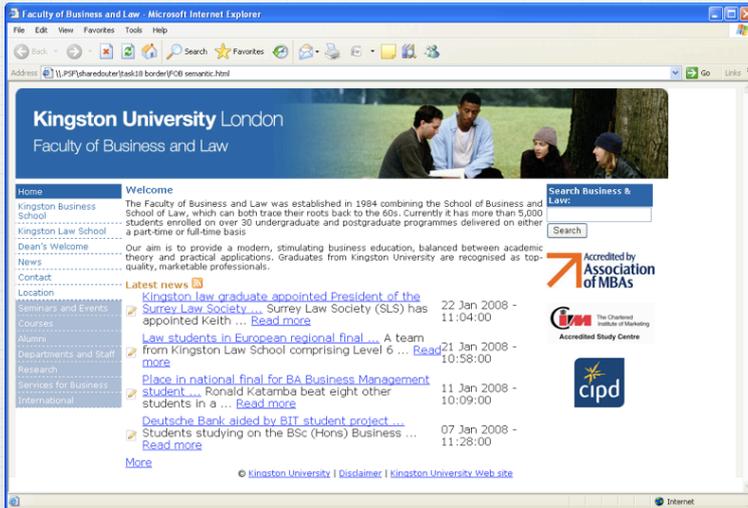
Almost Strict mode (A)

Make the browser work like the standard except for one or two old behaviours still supported

Strict mode (S)

Fix the bugs and support the standards

IE (PC) - Quirks mode



IE (PC) - Standards mode



Mode switching

Done by using the presence of the **doctype** and the **xml element** at the top of the document

Doctype

None

HTML 3.2

```
<!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 3.2 Final//EN">
```

HTML 4.01

```
with system identifier
<!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.01//EN" "http://www.w3.org/TR/html4/strict.dtd">
```

```
without system identifier
<!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.01//EN">
```

```
with system identifier
<!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.01 Transitional//EN" "http://www.w3.org/TR/html4/loose.dtd">
```

```
without system identifier
<!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.01 Transitional//EN">
```

```
with system identifier
<!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.01 Frameset//EN" "http://www.w3.org/TR/html4/frameset.dtd">
```

```
without system identifier
<!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.01 Frameset//EN">
```

Mode switching

Done by using the presence of the **doctype** and the **xml element** at the top of the document

	NS6	Gecko pre-1.0.1	Gecko 1.0.1+ Safari Opera 9.X Konq 4.X	Konq 3.2	Opera 7.5	IE 7 Opera 7.10	IE 6 Opera 7.0	IE Mac
	Q	Q	Q	Q	Q	Q	Q	Q
	Q	Q	Q	Q	Q	Q	Q	Q
<code><!DOCTYPE html PUBLIC "-//W3.org/TR/html4/strict.dtd"></code>	S	S	S	A	S	A	A	A
	S	S	S	A	S	A	A	Q
<code><?xml "http://www.w3.org/TR/html4</code>	S	S	A	Q	A	A	A	A
<code><?></code>	Q	Q	Q	Q	Q	Q	Q	Q
<code>http://www.w3.org/TR/html4</code>	S	S	A	?	S ^[3]	A	A	S
	Q	Q	Q	?	Q ^[3]	Q	Q	Q

So before authoring a document...

Choose between **HTML** and **XHTML**

Whatever you choose - use 'semantic' style

Choose what **mode** you should aim for

New pages should be working under **strict mode** and have the appropriate trigger at the top

Choose how to handle browser incompatibilities

.. generally an issue with how much **CSS** is supported in **IE**

Design technique - 1

Author the page so that it looks appropriate in Firefox, Safari or Opera

Add **HTML** elements or **CSS** 'hacks' to make it work in **IE**

Having different **CSS** files for different browsers is regarded as being poor - maintainability drops

Design technique - 2

Author the page so that it looks appropriate in IE

Author the page so that it looks appropriate in Firefox, Opera, Safari

Use proprietary Microsoft conditional tags to have links to different style sheets

```
<!--[if lte IE 7]>  
<link rel="stylesheet" type="text/css" href="ie7.css" />  
<![endif]-->  
<!--[if lte IE 6]>  
<link rel="stylesheet" type="text/css" href="ie6.css" />  
<![endif]-->
```

Design technique - 3

Author the page so that it looks appropriate in IE, Firefox, Opera and Safari

Restrict design to lowest common denominator elements and style that work everywhere

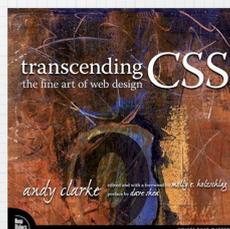
Very restricting

Design technique - 4

Author the page so that it looks appropriate in Firefox, Opera and Safari using cutting edge techniques

Have a different (simpler) design for older browsers or non-standard browsers, along with a message that says 'upgrade and this site would look better'

Transcending CSS



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What's next - applications and technology

What's next - **standards** and browsers

XHTML 2.0 and HTML 5

XHTML 2.0

“XHTML 2 is a bold step forward intended to create an architecture that will become the host language to many other W3C technologies already in use, or in the works. XHTML 2 is based solely on XML, a technology that most believe will enable the Web to reach its full potential. XHTML 2 is driven by how markup should be used, rather than by how markup is currently used”

<http://xhtml.com>

Navigation Lists

Navigation lists are designed to create navigation menus. Navigation lists are defined using an `nl` element and must contain a label element that contains the title for the list. For example:

```
<nl>
<label>You are here:</label>
<li href="/">Home</li>
<li href="/products/">Products</li>
<li href="/products/widget/">Widgit</li>
<li>Features</li>
</nl>
```

Any Element Can Be A Hyperlink

An `href` attribute can be added to any element to transform it into a hyperlink. For example:

```
<q href="http://en.wikipedia.org/wiki/Neil_Armstrong">That's one small step for man, one giant leap for mankind</q>
```

`b`, `i`, `small`, `big`, `tt`, `font`, `basefont`, `iframe` are gone

New Headings and sections Construct

```
<h>...</h>
<p>...</p>
<section>
  <h>...</h>
  <p>...</p>
  <h>...</h>
  <p>...</p>
  <section>
    <h>...</h>
    <p>...</p>
    <section>
      <h>...</h>
      <p>...</p>
    </section>
  </section>
  <h>...</h>
  <p>...</p>
</section>
<h>...</h>
<p>...</p>
</section>
```

XHTML 2.0

Would require re-writing pages and browser support

Could be problematic...

In fact - abandoned

July 2, 2009, the W3C decided to let the XHTML2 Working Group charter expire

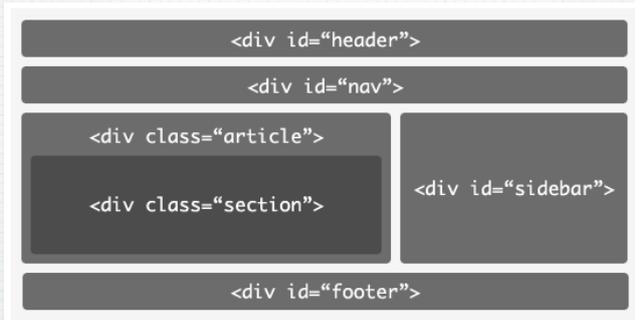
HTML 5

"X/HTML 5 is an extension of HTML 4 and XHTML 1. It is an incremental step forward rather than a grand leap forward in the style of XHTML 2. Working within the confines of HTML 4 and XHTML 1, X/HTML 5 has devised clever solutions to address some of the faults in HTML 4 and XHTML 1.... Unlike XHTML 2, X/HTML 5 is influenced by the current state of the art (Web browser technology, etc.) and how markup is currently used"

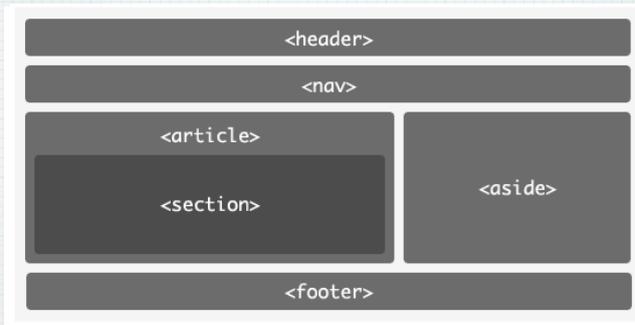
(In fact - will now be known just as HTML)

<http://xhtml.com>

New structure constructs

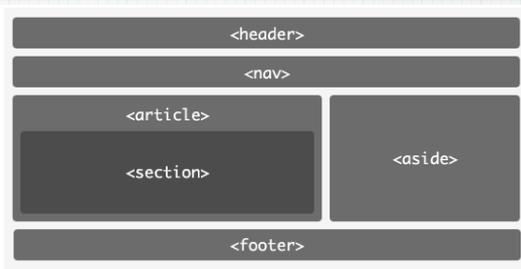


New structure constructs



New structure constructs

```
<body>
<header>...</header>
<nav>...</nav>
<article>
  <section>
    ...
  </section>
</article>
<aside>...</aside>
<footer>...</footer>
</body>
```



New elements

Video and audio can be included directly

```
<video src="video.ogv" controls poster="poster.jpg" width="320" height="240">
  <a href="video.ogv">Download movie</a>
</video>
  <audio src="music.oga" controls>
    <a href="music.oga">Download song</a>
  </audio>
```

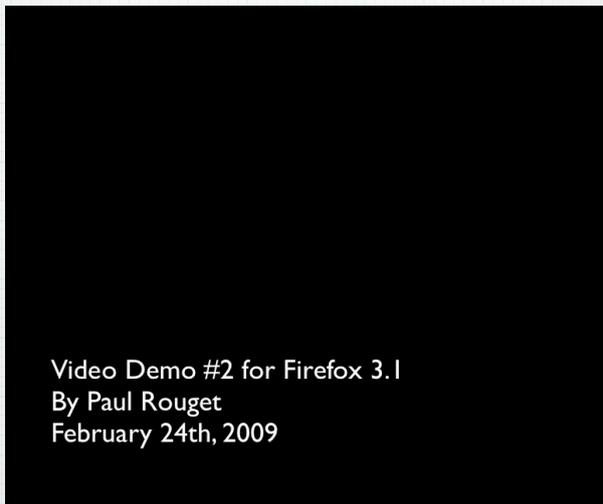
Controlled directly by Javascript

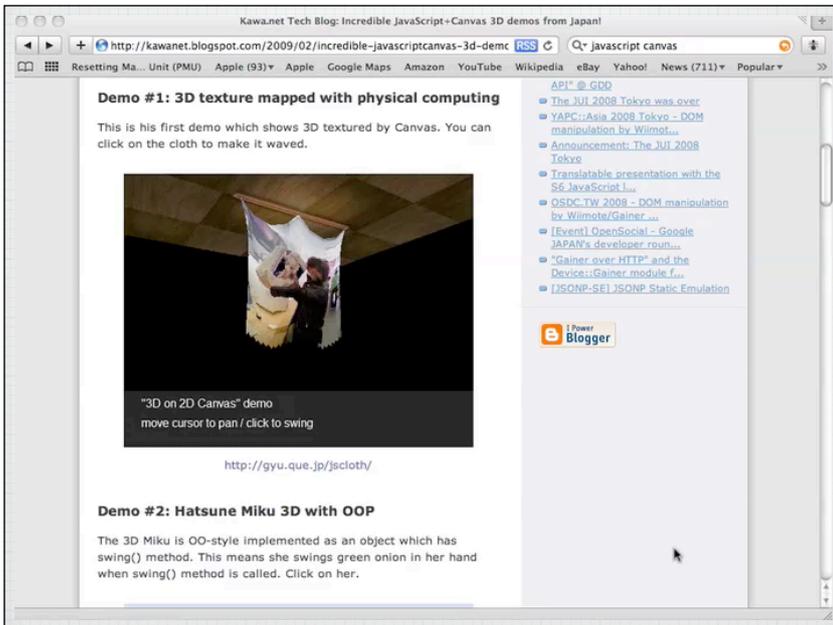
```
<script>
  var video = document.getElementById("video");
</script>
<p><button type="button" onclick="video.play();">Play</button>
  <button type="button" onclick="video.pause();">Pause</button>
  <button type="button" onclick="video.currentTime = 0;">
  << Rewind</button>
```

APIs

- 2D drawing API which can be used with the new canvas element
- API for playing of video and audio which can be used with the new video and audio elements

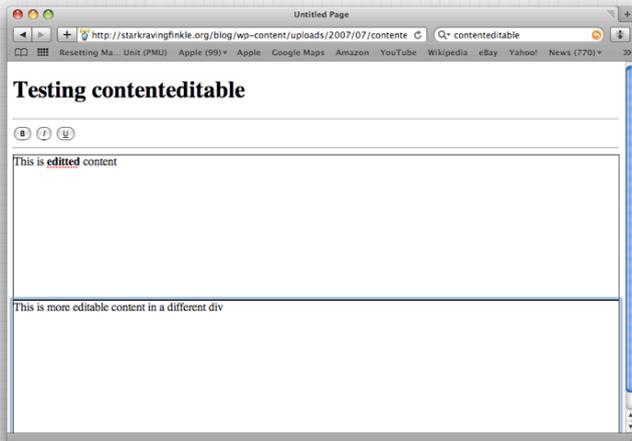
Canvas APIs





APIs

Editing API in combination with a new global contenteditable attribute.

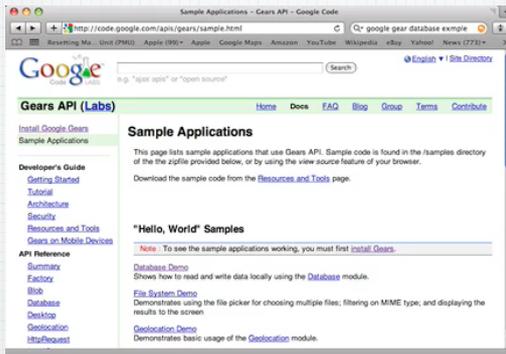


APIs

Persistent storage. Both key / value and a SQL database are supported.

An API that enables offline Web applications on the Client side

Persistent storage demo



HTML 5

Deprecated elements are handled 'gracefully'

Doesn't require re-authoring

Mozilla, Google, Opera and Apple support

'Levels' of Microsoft support

XHTML 5 XML serialization of HTML5

HTML 5 - test for support

Equivalent of ACID test, but for HTML5

<http://beta.html5test.com>

HTML 5 - online tests for support

Equivalent of ACID test, but for HTML5

<http://beta.html5test.com>

<http://www.browserscope.org/>

Parsing Rules Canvas Video
Audio Elements Forms
Microdata Security Geolocation

...and lots of other tests

Firefox 3.6 <http://beta.html5test.com>

THE HTML5 TEST - HOW WELL DOES YOUR BROWSER SUPPORT HTML5?

your browser other browsers

your browser scores

156

AND 4 BONUS POINTS

out of a total of 400 points

ABOUT THE TEST

The HTML5 test score is only an indication of how well your browser supports the upcoming HTML5 standard and related specifications. It does not try to test all of the new features offered by HTML5, nor does it try to test the functionality of each feature it does detect. Despite these shortcomings we hope that by quantifying the level of support users and web developers will get an idea of how hard the browser manufacturers work on

Other browsers

Desktop browsers

Microsoft Internet Explorer	6.0	17	0
Microsoft Internet Explorer	7.0	17	0
Microsoft Internet Explorer	8.0	32	0
Mozilla Firefox	3.6.8	156	4
Apple Safari	5.0.3	231	7
Opera	11.0	234	7
Google Chrome	8	261	13
Google Chrome	9	283	13

Development or beta

Microsoft Internet Explorer	9 beta	104	5
Microsoft Internet Explorer	9 PP 7	115	5
Microsoft Internet Explorer	9 RC	130	5
Mozilla Firefox	4.0 beta 11	255	9
Webkit Nightly	78038	273	9
Google Chromium	11.0.667.0	293	9

Other browsers

Mobile phones

Apple iPad	iOS 3.2	135	7
Apple iPhone and iPod	iOS 4.0	198	7
Apple iPhone and iPod	iOS 4.1	198	7
Apple iPhone, iPod and iPad	iOS 4.2	209	7
Apple iPhone, iPod and iPad	iOS 4.3	209	7

Different test suite <http://www.browserscope.org/>

Summary Security Rich Text Selectors API Network Acid3 JSKB

Top Browsers	score	Security	Rich Text	Selectors API	Network	Acid3	JSKB	# Tests
<input type="checkbox"/> Android 2.2 →	78/100	10/17	129/149	99.3%	9/16	93/100	80	548
<input type="checkbox"/> Chrome 8 →	89/100	14/17	141/149	99.3%	13/16	100/100	81	4510
<input type="checkbox"/> Chrome 9 →	88/100	14/17	139/149	99.3%	12/16	100/100	81	4939
<input checked="" type="checkbox"/> Firefox 3.6 →	82/100	9/17	117/149	99.3%	14/16	94/100	81	45715
<input type="checkbox"/> Firefox Beta 4.0b10pre →	86/100	13/17	118/149	100.0%	14/16	97/100	81	341
<input type="checkbox"/> IE 8 →	55/100	11/17	99/149	58.5%	8/16	20/100	74	16687
<input type="checkbox"/> IE Platform Preview 9.0.6 →	65/100	11/17		100.0%	9/16	95/100	80	120
<input type="checkbox"/> iPhone 3.1 →	76/100	7/17	118/149	97.8%	10/16	100/100	79	666
<input type="checkbox"/> iPhone 4.2 →	85/100	13/17	129/149	99.3%	11/16	100/100	80	158
<input type="checkbox"/> Opera 11 →	72/100	8/17	88/149	99.8%	8/16	100/100	80	3342
<input type="checkbox"/> Safari 5.0 →	85/100	13/17	129/149	99.3%	11/16	100/100	80	5131

Compare Browsers

● We think you're using Firefox 3.6 No? 82157 tests from 11 browsers Downloads: [json](#) [pickle](#) [csv](#) [Link to this page](#)

HTML 5 - test for support

Equivalent of ACID test, but for HTML5

<http://beta.html5test.com>

CSS 3

- Pictures from css3.info

How to create colored borders with CSS3

W3C has offered some new options for borders in CSS3, of which, next to [rounded borders](#), [border-color](#) is also very interesting. Mozilla/Firefox has implemented this function, which allows you to create cool colored borders. This is an example:

Mozilla/Firefox users should see a nice grey fading border on this box...

The CSS code for this is:

```
border: 8px solid #000;
-moz-border-bottom-colors: #555 #666 #777 #888 #999 #aaa #bbb #ccc;
-moz-border-top-colors: #555 #666 #777 #888 #999 #aaa #bbb #ccc;
-moz-border-left-colors: #555 #666 #777 #888 #999 #aaa #bbb #ccc;
-moz-border-right-colors: #555 #666 #777 #888 #999 #aaa #bbb #ccc;
padding: 5px 5px 5px 15px;
```

And ofcourse, you can also do cool color stuff:

Mozilla/Firefox users should see a nicely fading red border on this box...

Border-image: using images for your border

Another exciting new border feature of CSS3 is the property [border-image](#). With this feature you can define an image to be used instead of the normal border of an element. This feature is actually split up into a couple of properties: [border-image](#) and [border-corner-image](#). These two values are shorthands for:

```
border-image:
border-top-image
border-right-image
border-bottom-image
border-left-image
border-corner-image:
border-top-left-image
border-top-right-image
border-bottom-left-image
border-bottom-right-image
```

```
border-image: url(border.png) 27 27 27 27 round round;
```

Which results in:



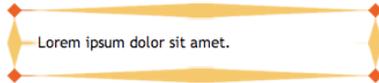
Border-image: using images for your border

Another exciting new border feature of CSS3 is the property `border-image`. With this feature you can define an image to be used instead of the normal border of an element. This feature is actually split up into a couple of properties: `border-image` and `border-corner-image`. These two values are shorthands for:

```
border-image:  
border-top-image  
border-right-image  
border-bottom-image  
border-left-image  
border-corner-image:  
border-top-left-image  
border-top-right-image  
border-bottom-left-image  
border-bottom-right-image
```

```
border-image: url(border.png) 27 27 27 27 stretch stretch;
```

Which then results in:



Border-radius: create rounded corners with CSS!

W3C has offered some new options for borders in CSS3, of which one is `border-radius`. Both Mozilla/Firefox and Safari 3 have implemented this function, which allows you to create round corners on box-items. This is an example:

Mozilla/Firefox and Safari 3 users should see a nicely rounded box, with a nicely rounded border.

The code for this example above is actually quite simple:

```
<div style=" background-color: #ccc;  
-moz-border-radius: 5px;  
-webkit-border-radius: 5px;  
border: 1px solid #000;  
padding: 10px;" >
```

These different corners can also each be handled on their own, Mozilla has other names for the feature than the spec says it should have though, as it has f.i. `-moz-border-radius-topright` as opposed to `-webkit-border-top-right-radius`:

Mozilla/Firefox and Safari 3 users should see a box with a rounded left upper corner.

Mozilla/Firefox and Safari 3 users should see a box with a rounded right upper corner.

Mozilla/Firefox and Safari 3 users should see a box with a rounded left lower corner.

Mozilla/Firefox and Safari 3 users should see a box with a rounded right lower corner.

Box-shadow, one of CSS3's best new features

The CSS3 backgrounds and borders module has a nice new feature called `box-shadow`, which is implemented in Safari 3+ and Firefox 3.1 (Alpha). The specification speaks of multiple shadows, but the author already "has his doubts" on that, and it isn't implemented in Safari 3.

The property takes 3 lengths and a color as it's attributes, the lengths are:

1. the horizontal offset of the shadow, positive means the shadow will be on the right of the box, a negative offset will put the shadow on the left of the box;
2. the vertical offset, a negative one means the box-shadow will be on top of the box, a positive one means the shadow will be below the box;
3. the blur radius, if set to 0 the shadow will be sharp, the higher the number, the more blurred it will be.

The shadow should be following curved corners created with `border-radius`. For those of you without a supporting browser, here's a [screenshot](#).

There should be a nice grey fading shadow under this box...

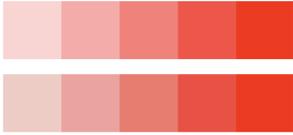
The CSS code for this is:

```
box-shadow: 10px 10px 5px #888;  
padding: 5px 5px 5px 15px;
```

Opacity

The most widely implemented feature of CSS3 up till now is `opacity`. It's probably also the one people have been waiting for the most...

See the example:



See the difference in the code between the first row, which uses the same color value for each row, combined with an opacity value, and the second, which uses RGB values:

```
<div style=" background: rgb(255, 0, 0) ; opacity: 0.2;"></div>
<div style=" background: rgb(255, 0, 0) ; opacity: 0.4;"></div>
<div style=" background: rgb(255, 0, 0) ; opacity: 0.6;"></div>
<div style=" background: rgb(255, 0, 0) ; opacity: 0.8;"></div>
<div style=" background: rgb(255, 0, 0) ; opacity: 1;"></div>
```

Text-shadow, Photoshop like effects using CSS

CSS3 finally eliminates the need for Photoshop when all you want to do is a simple shadow. The `text-shadow` property is used as follows:

```
text-shadow: 2px 2px 2px #000;
```

This produces the following text with a shadow 2px right and below of the text, which blurs for 2px:

Users of Webkit (from Safari 3+), Opera 9.5, Firefox 3.1(pre-Alpha), Konqueror or iCab should see a grey drop-shadow behind this paragraph.

For anyone not using those browsers, here is a reference image (from Opera 9.5):

Users of Webkit (from Safari 3+), Opera 9.5, Firefox 3.1(pre-Alpha), Konqueror or iCab should see a grey drop-shadow behind this paragraph.

word-wrap

The `word-wrap` property was invented by Microsoft and added to CSS3. It allows long words to be able to be broken and wrap onto the next line. It takes in two values; `normal` or `break-word`.

In the first paragraph below, `normal` is used. This is the same as if the property wasn't used, i.e. the long word breaks out of the box as there isn't enough width for it to be fully contained in the box. In the second paragraph, `break-word` is used and the long word is broken into two pieces, so that the second part wraps onto the next line.

This is currently supported in IE, Safari, and Firefox 3.1 (Alpha).

This paragraph has long words
thisisaveryverylongwordthatisntreallyoneword
and again a
longwordwithnospacesinit

This paragraph has long words
thisisaveryverylongwordthatisntreallyoneword and again a
longwordwithnospacesinit

The resize property in CSS3

Always wanted to be able to resize elements in a site? Done dirty hacks for it? CSS3 offers the solution in its [CSS3 User interface section](#): the `resize` property. It allows you to specify if a box is resizable. WebKit implemented it in the latest nightlies. Below is an example box, which is resizable if your browser supports `resize`:

Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat. Duis aute irure dolor in reprehenderit in voluptate velit esse cillum dolore eu fugiat nulla pariatur. Excepteur sint occaecat cupidatat non proident, sunt in culpa qui officia deserunt mollit anim id est laborum.



The code for this is very simple:

```
div.resize {
  width: 100px;
  height: 100px;
  border: 1px solid;
  resize: both;
  overflow: auto;
}
```

Multi-column layout

W3C offers a new way to arrange text "news-paper wise", in columns. [Multi-column layout](#) is actually a module on its own. It allows a webdeveloper to let text be fitted into columns, in two ways: by defining a width for each column, or by defining a number of columns. The first would be done by `column-width`, the latter by `column-count`. To create a space between the columns, you need to specify a width for `column-gap`.

Multi-column layout is currently only supported in Mozilla based browsers and Safari 3, who have prefixed the properties with respectively `-moz-` and `-webkit-`. The example below is done with `column-width`, the CSS for it is as follows:

```
-moz-column-width: 13em;
-webkit-column-width: 13em;
-moz-column-gap: 1em;
-webkit-column-gap: 1em;
```

Which results in the following:

>Lorem ipsum dolor sit amet, consectetur adipiscing elit. Aenean egestas blandit ipsum. Morbi nulla metus, luctus et, ullamcorper sit amet, commodo quis, nisl. Ut blandit lacus nec nibh. Phasellus eleifend enim et risus. Nam condimentum.	..Praesent euismod auctor dui. Nunc ut leo vel magna adipiscing tempor. Donec pretium, ligula et hendrerit faucibus, sem velit accumsan tortor, sodales tempor est ligula non velit. Nulla sagittis, odio quis porta nonummy, mauris arcu gravida odio, quis aliquam lacus elit non	..libero. Proin aliquam augue accumsan augue. Quisque ut eros at erat ultrices sodales. Nunc vitae ipsum. Mauris in elit in dolor imperdiet interdum. Vivamus egestas sagittis justo. Sed lorem. Sed vel neque in ipsum gravida nonummy. Nulla tempor blandit elit.
---	---	---

Next ...

Handling the past

What's next - standards and browsers

What's next - applications and technology

What's next - standards and **browsers**

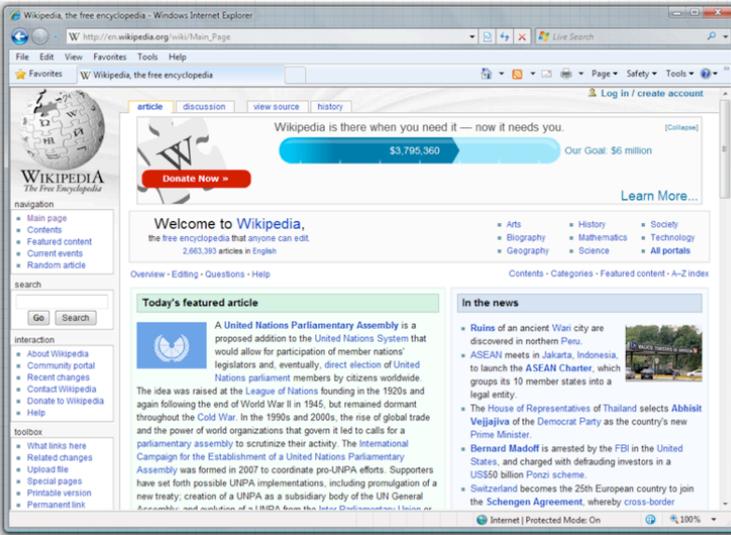
Browsers

Many new versions recently

	Date
Internet Explorer 8	April 2009
Firefox 3.6	January 2010
Safari 5	June 2010
Chrome	Permanent beta ?

	HTML 5	CSS 3	Javascript
Internet Explorer 8	Some	Some	Same
Firefox 3.6	Many	Many	Faster
Safari 5	Many	Many	Very Fast
Chrome	Many	Many	Very Fast

IE8



IE8

Features

In private

As seen in Safari and Firefox

Accelerators

Web Slices

As seen in Safari

Autocomplete address bar

As seen in Firefox

Smart screen filter

As seen in Firefox

Automatic crash recovery

As seen in Safari

Safari 5



Safari 5

Features

Eye 'candy'

Top sites

Similar to Firefox and IE

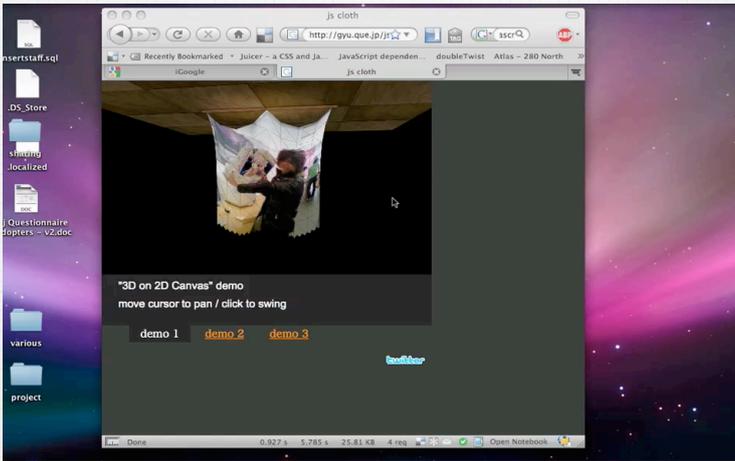
Cover flow

CSS3

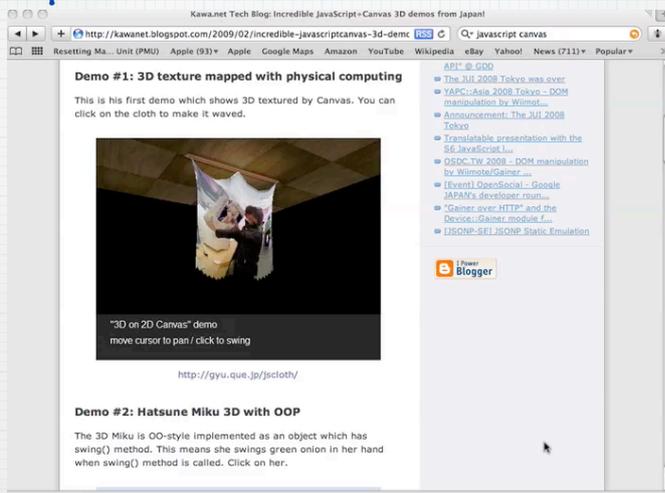
HTML 5

Nitro javascript engine - very fast

javascript demo - old firefox



javascript demo - new safari



Google Chrome - continual updates

Features

Each tab is its own 'process'

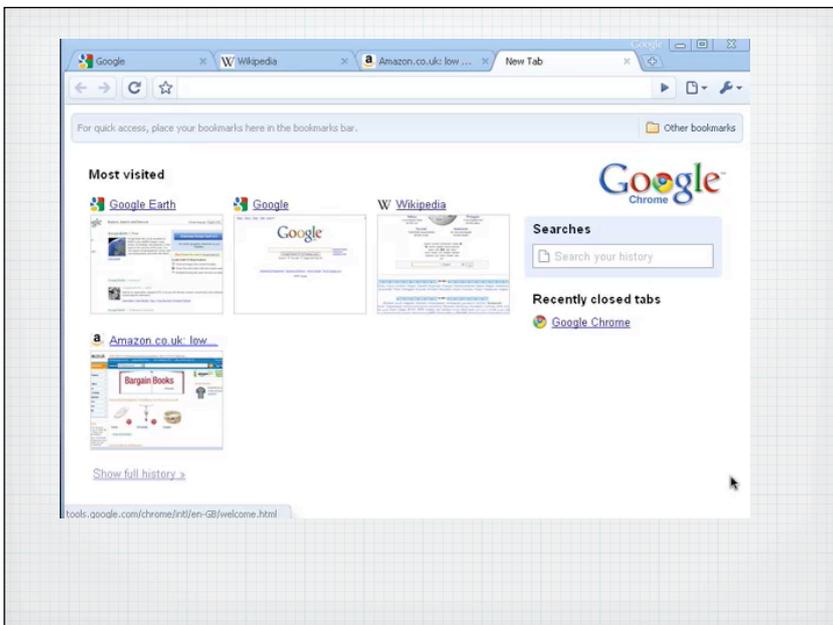
Crash and security excellent

Google gears built in

CSS3

HTML 5

v8 javascript engine - very fast



Google Chrome

The screenshot shows the 'About Memory' page in Google Chrome. The page title is 'About memory' with the subtitle 'Measuring memory usage in a multi-process browser'. It contains two tables: 'Summary' and 'Processes'.

Summary

Browser	Memory			Virtual memory	
	Private	Shared	Total	Private	Mapped
Chromium 1.0.154.48	52,008K	6,431K	58,439K	46,352K	11,320K

Note: If other browsers (E, Firefox, Opera, Safari) are running, they show their memory details here.

Processes

PID	Name	Memory			Virtual memory	
		Private	Shared	Total	Private	Mapped
2092	Browser	24692K	5216K	29908K	15088K	3724K
3064	Tab 2 Wikipedia	7880K	6668K	14756K	9336K	2532K
3052	Tab 5 Google	4880K	6764K	11644K	6512K	2532K
3540	Tab 8 Amazon.co.uk: low prices in Electronics, Books, Music, DVDs & more	14548K	6876K	21424K	15416K	2532K
3160	Tab 9 (diagnostics) Untitled	1044K	4152K	5196K	548K	2532K
		Σ		82928K	46960K	13852K

Browsers

New versions

	Date
Internet Explorer 9	March 2011
Firefox 4.0	March 2011
Safari 6	June 2011 (guess)
Chrome	Permanent beta

IE9

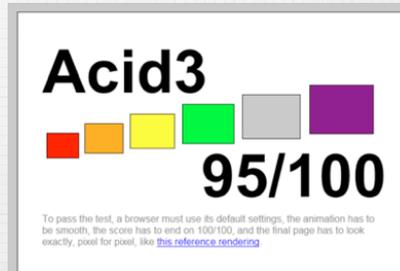
Features

Improved JavaScript speed - chakra engine

Hardware accelerated graphics

More support for HTML5

More support for CSS3



Firefox 4

Features

Improved JavaScript speed - gecko 2 engine

Hardware accelerated graphics

More support for HTML5

More support for CSS3

