

THE DHTML AND CSS BROWSERS

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The browser wars are over. That is, most everyone cruising the Web is using either Microsoft Internet Explorer 5.5 or 6. So all of us can simply code for Internet Explorer, right? No. There are still a significant number of browsers that are not produced by Microsoft. The good news is that, because of the convergence of standards and the dominance of a single browser, it is getting easier to code once and use it everywhere. Still, it's important that you understand not only the different browsers that your viewing audience might be using to visit your Web site, but also all the different standards out there for you to contend with.

In this online resource, you'll find a brief overview of the main Web standards and how they fit with the top browsers.

The Browser Standards

For a browser to be considered DHTML- and CSS-capable, it must support the following technologies to some degree. The browsers discussed in this online resource all meet (or exceed) these criteria.

HTML/XHTML

HTML is the foundation of all DHTML. The most recent version of the Hypertext Markup Language is version 4.01, but the W3C has “re-cast” this workhorse of Web design as XHTML, combining it with XML. The “4” browsers were created long before XHTML, but most modern browsers support XHTML, while remaining backward compatible with HTML.

JavaScript

If HTML is the foundation, JavaScript is the keystone of DHTML. However, JavaScript goes by many names:

- ◆ **JavaScript 1.5:** The Netscape/Mozilla flavor, originally created by Netscape. The first DHTML browsers used version 1.2, but modern DHTML browsers use version 1.5.
- ◆ **JScript 5:** The Microsoft flavor of JavaScript. Although extremely similar to JavaScript, JScript has slightly different syntax for some methods. DHTML browsers first used JScript 3, but are currently using JScript 5.
- ◆ **ECMAScript 262:** ECMAScript is the official standardized version of JavaScript, used by Safari and Opera.

Although they’re roughly equivalent, there are important differences that are noted throughout this book and in Online Resource C.

CSS

Cascading Style Sheets provide the form for HTML's structure. CSS has evolved over the years.

- ◆ **CSS Level 1:** CSS1 provided much-needed style controls for Web layout, as well as the ability to define elements as objects on the screen.
- ◆ **CSS Positioning:** CSS-P introduced the ability to move and change objects. However, the browser must support the positioning controls in the early CSS-P standard—which was later integrated into CSS Level 2.
- ◆ **CSS Level 2:** CSS2 combines and expands on the abilities of CSS1 and CSS-P. Most modern browsers support CSS2.

The W3C released a slight revision to the Level 2 standard (2.1), which corrects some errors and adds some of the most popular features that will eventually find their way into the long-delayed Level 3 specification. However, since browsers can take years to update, don't expect to see any of these changes implemented anytime soon.

DOM

The browser must use some form of the Document Object Model in order to locate and change objects rendered by the browser. Modern browsers all use the W3C standard DOM, but older versions of Netscape and Internet Explorer used their own proprietary DOMs.

- ◆ **W3C DOM 1 or 2** standardizes the object model for Web pages, allowing Web designers to code once (for the most part) for dynamic scripts. However, differences in the type of JavaScript used by the browser may require differences in syntax. The W3C DOM is currently at Level 2, but most browsers still only support Level 1, while a few are already looking to the forthcoming Level 3, still only in the proposal stage.
- ◆ **All DOM** was introduced in Internet Explorer 4, and although it is still available in Internet Explorer 5 and 6, it's generally not used, in favor of the W3C DOM.
- ◆ **Layers DOM** was only ever available in Netscape 4, and was replaced by the W3C DOM in later browser versions.

Table E.1

Internet Explorer 4 Specs	
TECHNOLOGY	VERSION
HTML	HTML 4
JavaScript	JScript 3
CSS	CSS1, CSS-P
DOM	All DOM

Table E.2

Internet Explorer 5 + (Win) Specs	
TECHNOLOGY	VERSION
HTML	HTML 4 (partial), XHTML 1 (partial)
JavaScript	JScript 5
CSS	CSS1 (partial), CSS2 (partial)
DOM	W3C DOM 1 (partial), All DOM

Internet Explorer for Windows and the Web Standards Project

There is little doubt that Internet Explorer 6 is a huge step forward in standards compliance, especially when compared with version 4. But even Internet Explorer 6's implementations of CSS and the DOM are far from complete.

By integrating the browser further into the operating system, Microsoft managed to increase the divide between users of the Windows version of Internet Explorer and users of all other browsers, even Internet Explorer 5 for the Mac (discussed later in this online resource). In fact, Microsoft has only implemented some of the most important standards, such as the W3C DOM and HTML 4, and has already drawn the ire of many developers, including the Web Standards Project (www.webstandards.org/wfw/ieah.html).

Internet Explorer

www.microsoft.com/windows/ie

Microsoft's Internet Explorer has become the dominant browser on the Web, garnering the lion's share of Web traffic around the world. Although I recommend creating Web sites that are compatible across browsers and are as standards compliant as possible, most of the people viewing your Web site are likely to be using some version of Internet Explorer.

Internet Explorer 4

Internet Explorer 4 has almost all but disappeared, as most private and business users have upgraded to the more standards-compliant Internet Explorer 5.5 and 6. Version 4 was Microsoft's first serious contender as a Web browser, and despite the legal debates about its integration in the Windows operating system, Internet Explorer is the browser that began to turn the tide on the once-dominant Netscape browser.

Internet Explorer 4 adopted many of the W3C's standards. Although it wasn't perfect, it was the first browser to build its DHTML capabilities around those standards.

Internet Explorer 5 & 6 (Windows)

Internet Explorer has now been strategically integrated into the Windows operating system and dominates the Web-browser market. It's estimated that as much as 85 percent of the browsing market uses it, and it has been widely adopted by the corporate world.

Internet Explorer 7 (Windows)

Although Microsoft had promised not to release another standalone version of its browser, increasing security concerns and the surprising popularity of the Firefox browser forced the company to release IE7 in advance of Windows Vista. Although it still has several standards shortcomings, IE7 goes a long way toward improving CSS compatibility, most notably implementing several contextual selector types.

Because IE7 was released as a critical Windows update, it most likely will rapidly replace older versions.

Internet Explorer 5 (Mac)

www.microsoft.com/mac

Aside from the fact that they were both made by Microsoft, the Mac and Windows versions of Internet Explorer 5 have only two things in common: They are both Web browsers, and they are both called Microsoft Internet Explorer 5. Beyond that, Internet Explorer 5 for the Mac is as different from the Windows version as the Mac OS is from Windows.

Although it was the most popular browser on the Mac for several years, Microsoft decided in early 2003 to stop development in deference to the new Safari browser created by Apple. Since then, Safari has become the default browser for Macs, and the use of Internet Explorer with Macs has rapidly declined, to the point where it is not considered to be an important browser for general cross-browser compatibility.

Table E.3

Internet Explorer 5 (Mac) Specs	
TECHNOLOGY	VERSION
HTML	HTML 4, XHTML 1
JavaScript	JScript 5
CSS	CSS1, CSS2 (partial)
DOM	W3C DOM 1, All DOM

Table E.4

Mozilla Specs	
TECHNOLOGY	VERSION
HTML	HTML 4, XHTML 1
JavaScript	JavaScript 1.5
CSS	CSS1, CSS2 (Partial)
DOM	W3C DOM 1

Mozilla

www.mozilla.org

Mozilla.org has created three different browsers based on the Gecko rendering engine. All of them are DHTML compatible.

Although similar to Netscape, the Mozilla interfaces are paired down. Mozilla includes all of the same features as Netscape, including email, chat, address book, and HTML editing tools.

Firefox (Mac/Windows/Linux)

Unlike Mozilla, Firefox (formerly Firebird) is just a browser. No bells and whistles. This makes it extremely fast and easy to use. Many Web designers rely on this as their primary browser.

Camino (Mac)

Like Firebird, Camino is a basic browser, except that it has been built specifically for the Mac OS X operating system, taking advantage of its GUI elements.

Flock (Mac/Windows/Linux)

www.flock.com

Although not a part of the Mozilla group of browsers, Flock uses the Mozilla Firefox rendering engine, combining it with a suite of social networking tools.

Safari (Mac)

www.apple.com/safari

Possibly realizing that it couldn't depend on Microsoft forever to deliver a Web browser for its operating system, Apple developed the Safari Web browser. Based on the open-source Konqueror browser, Safari was built specifically for Mac OS X and is the most commonly used browser among consumers.

Like Konqueror, Safari is extremely standards compliant and generally will work very much like Firefox for developmental purposes.

Table E.5

Safari Specs	
TECHNOLOGY	VERSION
HTML	HTML 4, XHTML 1.0
JavaScript	ECMA Script 262
CSS	CSS1, CSS2 (partial)
DOM	W3C DOM 2, W3C DOM 3 (partial)

Table E.6

Opera Specs	
TECHNOLOGY	VERSION
HTML	HTML 4, XHTML
JavaScript	ECMA Script 262
CSS	CSS1, CSS2
DOM	W3C DOM 2

Opera (Mac/Windows/Unix)

www.opera.com

Opera Software set out with a mission to create a completely standards-compliant browser. With version 7 of the Opera browser, the company is closer than ever to hitting the moving target of Web standards. Although the browser is not perfect, Opera considers W3C standards not just a good idea, but also the law.

Opera began as a Windows-only browser, but the company has added support for several other platforms, including EPOC, Linux, and Mac. The current Mac version is version 6; the Windows version is version 7. Both versions work very much the same.

In addition to computer-based browsers, Opera is increasingly popular for Web delivery on other platforms, such as PDAs and mobile phones.

Netscape

browser.netscape.com

Netscape (the company) has undergone significant changes in the last several years, as it has moved from producing the premier Web browser to being a portal service, and now an Internet service provider. Beginning with version 6, the Netscape browser is developed by Mozilla rather than Netscape. Both Netscape and Mozilla share the same core technology, called “Gecko,” to create their Web pages. In theory, this means that all browsers using Gecko (Netscape 6+, Mozilla, Firebird, and Camino) should render Web pages more or less alike.

Netscape 4 (Mac/Windows)

Netscape 4 lasted more than four years as Netscape’s flagship Web product and became the workhorse browser for many Web designers, despite its shaky and incomplete support of Web standards. To be fair, however, many of the standards used today either did not exist or were in nascent form when Netscape 4 appeared on the scene.

Netscape 4 introduced its own flavor of DHTML that relied on the <layer> tag. This technique never caught on, though, and Netscape has since abandoned it in favor of the standards set forth by the W3C.

Netscape 4 is now all but gone from the World Wide Web, making up, at best, less than 1 percent of the market. Unless you know that your audience is likely to have continued using this browser, I don’t recommend coding for it.

Table E.7

Netscape 4 Specs	
TECHNOLOGY	VERSION
HTML	HTML 4
JavaScript	JavaScript 1.2 (4.0–4.05), JavaScript 1.3 (4.06+)
CSS	CSS1 (partial), CSS-P (partial)
DOM	Layers DOM

Table E.8

Netscape 6+ Specs	
TECHNOLOGY	VERSION
HTML	HTML 4, XHTML 1
JavaScript	JavaScript 1.5, JScript 1.5 (partial)
CSS	CSS1, CSS2 (Partial)
DOM	W3C DOM 1

Netscape 6+ (Mac/Windows)

Netscape 6 (version 5 was never released to the public) was built around the Gecko rendering engine, which was created to comply with the latest Web standards. This news was welcome to the Web-development community, which had suffered for years trying to make incompatible browsers play nicely on Web sites.

Netscape 7 makes some speed and interface enhancements over the previous version and also adds greater compatibility with Internet Explorer.

Netscape 8 (Windows only) updates the Mozilla rendering engine and introduces a new interface that accommodates RSS feeds.

Other Browsers

The browser wars may be over, but that doesn't stop developers from producing new and better browsers. Nowhere is this more apparent than in the alternative browsers being created by the open-source community and for the Mac.

OmniWeb (Mac)

www.omnigroup.com/applications/omniweb

OmniGroup is renowned in the Mac community for its excellent Mac OS X software. The Web browser it developed, one of the first available for Mac OS X, is no exception. Although OmniWeb had some initial difficulties rendering DHTML in earlier versions, it has come a long way and now takes advantage of the built-in Web capabilities of Mac OS X, making it extremely standards compliant.

Konqueror (Open Source)

www.konqueror.org

Konqueror is not only an open-source browser, but it also works as a file manager and viewing application. Although it's not likely to be used by the general public—Safari is based on Konqueror and suffices for most people instead—its development bears close watching.

iCab (Mac)

www.icab.de

iCab is small—a mere 900 KB download. It is fast—pages seem to appear as soon as you click a link. It adheres to the standards, following the W3C's recommendations to the letter. It does everything that a Web surfer needs it to do. However, since it is not preinstalled on Macs and lacks the marketing support of Firefox, iCab is not commonly used.

Table E.9

OmniWeb Specs	
TECHNOLOGY	VERSION
HTML	HTML 4, XHTML 1
JavaScript	ECMA Script 262
CSS	CSS1, CSS2 (partial)
DOM	W3C DOM 2, W3C DOM 3 (partial)

Table E.10

Konqueror Specs	
TECHNOLOGY	VERSION
HTML	HTML 4, XHTML 1
JavaScript	ECMA Script 262
CSS	CSS1, CSS2 (partial)
DOM	W3C DOM 2, W3C DOM 3 (partial)