

Are You Fed Up With Your Web Browser?

Firefox is an alternative browser to Opera, Safari, Internet Explorer and other Web browsers.

-A Web browser is sort of like the tires on your car. You don't really give them much daily thought, but without them, you're not going anywhere. The second something goes wrong, you definitely notice.

Chances are, you're reading this article on a version of Microsoft's Internet Explorer. It's the browser that comes already installed on computers with Windows operating systems; most people use Windows, and many Windows users don't give a second thought to which browser they're using. In fact, some people aren't aware that they have an option at all. It's called Firefox. From its origins as an offshoot of the once-popular Netscape browser, Firefox is building a growing legion of dedicated users who spread their enthusiasm by word of mouth (or blog).

For a while, it seemed like Microsoft's Internet Explorer was going to dominate the browser market indefinitely. Its competitors included Netscape Navigator and the AOL Browser -- and it soundly beat both of them. When Firefox debuted, it faced an uphill battle to claim space in the market. But Firefox's popularity has grown since its debut, particularly among Web administrators and developers.

-The word is spreading quickly. On June 17, 2008, Firefox held an event called Download Day as it unveiled the final build of Firefox 3. The goal for the event was to encourage people to download the new browser and establish a record for the most downloads of a single application within a 24-hour period. The event was a success -- Firefox 3 is now in the Guinness Book of World Records for the application receiving the most downloads in a single day: 8,002,530 to be exact [source: Spread Firefox].

In this article, we'll find out what makes Firefox different, what it can do and what effect an open-source browser might have on the Internet landscape.
5: What's New?

Firefox Problems and Concerns

What's next for Firefox

Firefox History

The origins of Firefox can be traced directly to Netscape, a company whose Web browser, Netscape Navigator, was the dominant browser before Microsoft developed Internet Explorer. The internal company name for the browser was Mozilla. Eventually, Netscape released the source code for Navigator under an open source license, meaning anyone could see and use the code. A non-profit group was set up to direct the development of browsers using this code. This group became the Mozilla Foundation in 2003.

However, Firefox is not the browser the Mozilla group would have released if everything had gone as planned. Like Netscape Navigator before it, the Mozilla software was becoming bigger and bigger as more features were added in -- a problem in software development known as "feature creep" or "bloat." Enter Blake Ross, a computer enthusiast who first started helping out the Mozilla project as a hobby when he was 14. Instead of accepting feature creep, Ross decided to start developing his own Mozilla-based browser, focusing on a streamlined and simple version. Software developer Dave Hyatt also played a major role. Ross was joined by Ben Goodger in 2003, and development progressed rapidly from that point. There were trademark problems, however, so the name was changed to Firebird. Another software company had a project known as Firebird, so the name changed again. Firefox was chosen because it was distinctive, and no one else was using it (although it turned out a European company did own the trademark to the word Firefox, and a deal was reached).

When Firefox was still in the beta stage (when a program hasn't been publicly released, but people can download and use it to help find and fix problems), it was already generating a healthy buzz among tech-savvy Web surfers. In just four months after the official release on Nov. 9, 2004, an estimated 23 million people downloaded Firefox. Web tracker OneStat.com reported on Nov. 22, 2004, that Internet Explorer's share of Web browser use had dropped five percent since May of that year. Firefox had a user percentage of 4.5 percent. Current estimates (as of September 2009) have Firefox's market share at nearly 20 percent [source: Net Applications].

Next, learn about the basics of Firefox and how to download it.

Popularity Contest

According to W3Schools, an educational site focusing on Web tutorials, more than 47 percent of its visitors use the Firefox Web browser [source: W3Schools].

Internet Explorer has dropped to second place with 39.3 percent split between IE 6, IE 7 and IE 8.

The easiest way to learn about Firefox is to go ahead and download it (it's free). You can find it at the official site: <http://www.getfirefox.com>. There you'll find the latest version of Firefox: Firefox 3.5. If you're hesitant to install and learn to use a new program, rest assured that Firefox looks and acts very similar to Internet Explorer and most other Web browsers. There's even a feature for IE users that lists the expressions with which you're familiar and tells you the corresponding Firefox names for those functions.

At the top of the screen, you'll find the Awesome Bar (a space for typing in Web addresses), a small search panel and a row of buttons -- the typical tools for common Web-surfing activities. Forward, back, home, reload and stop can all be found in this basic setup. These buttons, like just about everything else in Firefox, are fully customizable. You can rearrange them, get rid of some of them or add new ones. It's linked to your browsing library. If you visit

a site like HowStuffWorks.com regularly, Firefox's Awesome Bar will learn and anticipate your browsing habits. As soon as you begin typing "how," the browser will pull up a list of sites you've visited that it thinks you want. You can just pick from the list in the drop-down menu and the browser will take you there directly. The Awesome Bar doesn't just track URLs, either. It also picks terms found in the sites you visit. So if you're looking for a site with a particular name, just start typing the name in the Awesome Bar, and there's a good chance that Firefox can help you track the site down.

Now, if Firefox is so similar to Internet Explorer, why bother switching? There are quite a few reasons, but the most important for many users is security.

There is much debate over the security of Web browsers, stemming mainly from Internet Explorer's vulnerability as a common target for hackers and virus writers. Microsoft regularly releases patches and updates to fix security holes in Internet Explorer that might allow someone to install malicious software or steal information from a computer. Early on, Firefox was considered safer than IE, but every program has its flaws. In fact, just five hours after Firefox 3 was released, a vulnerability was discovered in the browser's code [source: Gohring]. Internet Explorer is still a bigger target for hackers because more people use it, but as Firefox becomes more popular among Web browsers, that may change. See the Firefox Security section on the next page to learn more.

Now let's take a closer look at Firefox's features and see how they can be expanded.

Now That's Advertising

In December 2004, a two-page ad ran in The New York Times promoting Firefox. The main text read:

Are you fed up with your Web browser? You're not alone. We want you to know that there is an alternative.

The sponsors of the ad were more than 10,000 Firefox fans who donated money to promote their favorite indie browser. The ad was intended to coincide with the release of Firefox 1.0 in November 2004, but publication was delayed -- it took until December to figure out how to squeeze the names of more than 10,000 underwriters into the spread."

Firefox comes with a few useful features that set it apart from earlier versions of Internet Explorer -- so useful, in fact, that virtually every other browser, including Internet Explorer, Opera, Safari and Google Chrome, has also adopted them. One of the most noticeable is tabbed browsing. If you're browsing in Internet Explorer 6, and you want to visit a new Web site while keeping your current one open, you have to open a completely new browser window. Intensive Web surfing can result in browser windows cluttering up your taskbar and dragging on system resources. Firefox solves that by allowing sites to open in separate tabs within the same browser window. Instead of switching between browser windows, a user can change between two or more different sites by clicking on the tabs that appear just below the

toolbar in Firefox.

You can open a new, blank tab from a menu or by clicking on the "New Tab" button that you can add to the toolbar. This prevents annoying ads from popping up in front of the browser window. You can configure it to let you know when pop-ups are blocked and to allow certain pop-ups from certain sites. This lets you enable pop-ups that are useful windows as opposed to unwanted ads.

One feature of Firefox that's vital to some users is that it is a cross-platform application. That means that Firefox works under several different operating systems, not just Windows. For now, all versions of Windows after Windows 98 are supported, along with recent versions of Mac OS X and Linux.

Firefox 3.5, released in 2009, added some other new features that, again, are becoming standard on multiple browsers. One of these is called Private Browsing. This feature allows you to use the browser without it recording any of your search history or other identifiable information about your session. Or if you prefer, you can use the Forget this Site option instead to eliminate all traces of that one source.

There's another notable Firefox feature that might be the coolest. It's like when someone asks you what you'd wish for if you could only have one wish, and you say, "I'd wish for unlimited wishes." Firefox extensions mean the browser has an almost unlimited number of features, with new ones being created every day. Still, the program remains fairly small, because users only add the extensions they want to use.

Firefox features include tabbed browsing, a built-in pop-up blocker, cross-platform capabilities and security advantages.

Junior high school students probably don't need stock market tickers, while people doing serious research don't necessarily need an MP3 player built into their browsers. If there's a feature from another browser that you really like, chances are someone has made an extension so that it can be included in Firefox.

Where do all these extensions come from? They're a product of Firefox's open source nature (see What does "open source" mean?). Not only is the code to Firefox available for examination and use, but Firefox provides developer tools for free to anyone who wants to create an extension.

Up next, we'll check out a sampling of extensions available for Firefox. Explore Firefox extensions like mouse gesturing, FoxyTunes, Ad Block, ForecastFox and RadialContext.

Firefox extensions range from the indispensable (ad blocking) to the utterly silly (an extension that changes the Options menu's definition of "Cookies" from a technical explanation to "Cookies are delicious delicacies"). Here are a few of the more notable extensions.

Gestures -- Mouse gesturing is a feature taken from another browser, Opera. When this extension is installed, users can execute various common Web surfing commands by holding down the right mouse button and "gesturing" in a certain direction with the mouse. A gesture to the left takes you back one page, while a gesture to the right takes you one page forward. You can customize the gestures and combine them (a down-then-left gesture minimizes the browser window, for example).

FoxyTunes -- This extension places a small control panel on the Firefox toolbar, allowing users to control any media player software from within the browser.

ForecastFox -- This popular extension puts a short-range weather forecast in your toolbar. You can select your location (or several different ones), how many days you want in the forecast and whether you want only daytime forecasts or both days and nights.

RadialContext -- Most browsers give you a drop-down menu of options when you right-click on a Web site. The RadialContext extension livens this up by giving you a small dial of graphical options (sort of like the controls on your car stereo) instead of that plain text menu.

RadialContext

Adblock Plus -- There are several different ad-blocking extensions available in addition to the pop-up blocking Firefox has built-in. These extensions allow users to block some or all banner ads and other advertisements that appear on Web pages. Some use a list of known ad servers or block images from servers with the words "banner" or "adserver" in the domain name. Others display ads normally, but if a user finds a particular ad exceptionally annoying or obtrusive, he or she can right-click on it and choose to remove it in the resulting drop-down menu.

Before and after using the remove-ad feature

On the next page, learn about Firefox security. -- View Web pages or e-mail as spoken by the Swedish Chef Hammer Time -- Hear Hammer's voice every time you stop a page from loading Xoom -- Adds a racing game with a top-down view to the browser. Where Internet Explorer uses security zones, which can sometimes be confused by malicious software, Firefox does not rely on zones. Also, Firefox doesn't use digital signatures, which are verifications programmers can purchase. If you try to install software on your computer, Internet Explorer checks to see if the digital signature matches the actual vendor of the program. Peter Torr, a program manager at Microsoft, pointed this out as a serious flaw in Firefox's security. However, a digital signature doesn't guarantee safe software, either. It just means that someone paid for the signature, and there have been cases of fraudulent signatures being issued.

ActiveX controls present another security issue. ActiveX is built into Internet Explorer and allows certain Web sites to automatically download scripts or execute small applications.

While the absence of ActiveX in Firefox does mean that some sites will not be viewable, it also closes many security holes; in this case, Firefox chooses security over functionality.⁵ offers several other security enhancements. Clicking on the favicon -- that small image at the left of its URL in the Awesome Bar -- will tell you if that site's identity can be verified. In addition, Firefox now offers anti-phishing and anti-malware protection. If you visit a site that may attempt to install spyware, a Trojan horse or worm on your computer, Firefox will give you a warning and even provide you with a reason why it's not safe to visit that site.

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Another aspect of Firefox versus Internet Explorer security is the fact that Firefox is an open source program. This means that anyone can access the code in which the program is written. That might sound like a bad idea, because you're giving potential hackers access to the code; but in fact, the opposite is true. There are far more people who want to close security holes than there are hackers who want to exploit them. Having thousands of people looking over your code and helping to spot problems means that most security flaws will get fixed very quickly. In fact, the developers of Firefox even offered a "bounty" of \$500 and a t-shirt to anyone who successfully spotted a bug in the program.

In 2009, a new version of the Firefox browser appeared. We'll look at how the browser changed in the next section.⁵: What's New?

Firefox 3.5 includes some new features, functions and a few fixes thrown in to boot. Between its June 2009 release and September of that same year, more than 220 million copies of the new browser were downloaded worldwide [source: Mozilla]. In the first 24 hours of its release, Firefox 3.5 was being downloaded at a rate of 100 copies per second [source: Siegler].

The current generation of Firefox is built on the Gecko 1.9.1 rendering engine [source: Mozilla Developer Center]. A rendering engine is a program that interprets code and markup languages (such as HTML or XSL) and generates the image of the Web page you see in your Web browser. The Gecko 1.9.1 engine is faster than previous versions but it comes with a price. As Mozilla began to upgrade its engine, starting with Firefox 3 the browser isn't compatible with Windows 98 or earlier versions. It also won't work on versions of Mac OS X before version 10.3. It seemed that Firefox consumed more memory resources the longer it remained active, particularly if the user opened multiple tabs while browsing. Firefox had a memory leak.

Memory leaks aren't necessarily a serious problem -- most of the time, a simple reboot takes care of the issue. But having to reboot your computer multiple times whenever you sit down

for an extended Web browsing break is pretty annoying. grn online If you have a lot of applications running at the same time, your computer's processing speed might slow to a crawl. Patching the memory leaks became a top priority for Mozilla with Firefox 3.

The Firefox development team has several tools that help them measure and patch memory leaks. These tools have names like BloatView, Leaky and Trace Malloc. The developers used these tools to diagnose the problems in earlier Firefox builds [source: Mozilla]. In addition, the XPCOM cycle collector tool in Firefox 3.5 looks for unused memory to feed back to the computer [source: Mozilla].

Mozilla designed the browser to integrate as seamlessly as possible with different operating systems. Each version -- Windows, Mac and Linux -- has a look and style that complements the native operating system.

Next, we'll look at possible problems with Firefox.

Misapplication

One of the criticisms some users have for new versions of Firefox is that it doesn't support all the extensions you could add to earlier generations of the browser. But if a particular extension was really popular in the previous version, there's a good chance a developer is working on a new version. It might. As Firefox grows in popularity, Microsoft feels more pressure to compete with added features of its own. In a move that industry analysts attribute to Firefox's success (but Microsoft attributes to IE6 security risks), Microsoft released Internet Explorer 7 and Internet Explorer 8 separately from its Windows operating system.

Now that Firefox has a healthy share of the browser market, it will start getting a lot more attention, and not all of it welcome. The efforts of hackers focusing on the upstart browser could cause security problems. The result might be an ongoing, ever-escalating arms race as programmers race to patch security holes and hackers find new ones -- much like the current situation with Internet Explorer. Higher usage rates will also remove one of the benefits of using Firefox that appeals to many users -- it's something different. Not only is the program free to download and use, but the code is also freely available -- to look at, develop independently and release in an altered form. It's likely that some developers will grow dissatisfied with the direction of Firefox and splinter off to form their own version. Already, there are alternate builds of Firefox available, though they lack the stability of the official release.

Another possible problem with Firefox is its ability to block advertisements on Web sites. Although some ads are obtrusive and annoying, they also pay for the huge amount of information available on many sites (like this one). If people can quickly and easily avoid seeing those ads, Web sites will have to find a new business model for providing content while turning a profit.

One survey indicates that Firefox users are less likely to click on Web ads than users of other

browsers, but this seems to be more an indication of greater Internet savvy than of ad-blocking [source: Marson]. One solution to the problem: Advertisers need to create better ads, ones that aren't malicious or deceptive. Ads that mimic Windows error messages or system dialogue boxes are universally hated, while flashing, blinking and scrolling ads are distracting for almost everyone.

The problem may not be as serious as some think. Removing all banner ads on Web pages doesn't come built into Firefox -- users have to install an extension. If Firefox's market share grows, it will reach more users who are less technically inclined -- users who are less likely to seek out and install extensions. So what's going to be in the next version of Firefox? Starting with the current generation, there's plenty of room to grow. Firefox 3.5 includes support for a host of next-generation Web technologies, including HTML 5, Ogg Vorbis, Ogg Theora, microformats and animated portable network graphics (APNG). These formats are likely to change Web page functionality once they're adopted more fully.

Support for computers with multitouch functionality is under development at Mozilla. Multitouch refers to computer interfaces such as touchscreens on cell phones and trackpads on portable computers that can detect the touch of more than one finger at a time and support special multifinger commands. When it becomes available, the Firefox multitouch application programming interface (API) will allow Web developers to include new features in Web sites that provide more functionality for users. The first version of Firefox to support multitouch may come as soon as version 3.6 [source: Gilbertson].⁵ was released in June 2009, there were already screenshots of Firefox 3.7 floating around the following July. Of course, specifications for beta software are always in question, but Firefox 3.7 may feature a new see-through, glassy interface. Mozilla's product roadmap has releases planned for versions 3.6 and 3.7, and it already details some of the specifications for Firefox 4.0. As of this writing, it's due out in October or November 2010. Multitouch and interface changes are on the list, but so are other improvements, such as faster JavaScript, better page loading capability and synchronization of bookmarks, which can be handled now with the help of third-party plug-ins. In addition, Firefox may be borrowing features from the newcomer to the browser wars, Google Chrome: Tabs may have their own processing threads, which means that if one Web site open in your browser is having trouble, it's less likely to force you to restart your entire session [source: Brandrick].

If you'd like to read more about Mozilla Firefox and related technologies, browse over to the next page.

[How Internet Search Engines Work](#)

[How the Internet Infrastructure Works](#)

[What's new about Internet Explorer 7?](#)

[What's new with Internet Explorer 8?](#)

How Computer Viruses Work

How Web Advertising Works

What does "open source" mean?

SpreadFirefox

Official Firefox site

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