CASE: Mozilla vs. Godzilla — The Launch of the Mozilla Firefox Browser ☆

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Abstract

The case describes an interactive marketing campaign used to launch the open source, Mozilla Firefox browser. The case highlights key features of the campaign and the facilitating conditions that enabled product success. The sustainability of the community marketing effort in light of product maturation is the central marketing challenge that the organization now faces.
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Introduction

On November 10, 2004, the second round of the "browser wars" (Cusumano and Yoffie 1998, pg. 16) commenced with the launch of a new open source; free web browser — Mozilla Firefox (Boutin 2004). Observers who had long assumed that Netscape lost and Microsoft's Internet Explorer (IE) won the original browser wars now had a new choice. A Forrester Research report said that Firefox had style and offered, "some tangible benefits over Microsoft's Internet Explorer (IE)" (Root et al. 2005).

Mozilla Firefox had an immediate and dramatic impact. As shown in Table 1, users downloaded Firefox 25 million times in 99 days and 200 million times in 629 days. The European marketshare picture is shown in Table 1. In comparison, at its launch, users downloaded Netscape Navigator nine million times by September 1995, 27 million times by March 1996 and about 95 million times by March 1998 (Yoffie and Cusumano 1999). Even keeping in mind the caveat that downloads do not equal users, this is an indication of a highly successful product launch.

A survey released by WebSideStory on Jan 12, 2005 reported that Microsoft's Internet Explorer's share was down to 90.6%, the lowest in three years (Hamm 2005). Table 2 summarizes the market share of various browsers from 2003 to June 2007 and demonstrates that the usage of Firefox has risen

from 2% in July 2004 to 12% in June 2007. Firefox seems to be especially popular in Europe with a market share as high as 24.1% in March 2007.

An online community (Hagel 1999) of users and developers who gathered at the Spread Firefox site (http://www.spreadfirefox.com) facilitated the success of Firefox through an innovative interactive marketing campaign — see Table 3 for a detailed timeline of relevant events. The time had come to evaluate if community-led interactive marketing was sufficient to take Firefox to a dominant position in the marketplace.

The web browser

A web browser is the software program that retrieves a web page from a web server and displays it on the consumer's computer. The browser occupies a central position in the online environment due to its control over user experience, advertising display, applications and security. First, a browser controls the online experience of users by providing an information architecture through a graphical user interface. The design of the browser affects how millions of users worldwide interact with all online content and applications of all sorts. Due to differences in the design of the browser, the same page might appear different in various browsers. Optimizing web pages for multiple browsers is a major task when designing a web page. Second, browsers can affect how advertising is displayed and presented to the user — e.g. a browser can automatically disable pop-up ads limiting the ad revenue of publishers and the reach of advertisers. Third, the browser is a platform that enables appli-

Table 1
European browser usage data, March 2007 (Source: Xiti Monitor).

FF2 and IE7 Use rate by European country	Firefox 2	IE 7
Finland	27.0%	23.8%
Slovenia	26.8%	8.1%
Germany	25.9%	19.5%
Croatia	23.4%	11.6%
Poland	22.1%	8.3%
Slovakia	21.9%	6.4%
Austria	19.3%	22.7%
Czech Republic	18.7%	8.0%
Greece	18.6%	14.5%
Estonia	18.4%	17.5%
Hungary	16.8%	7.4%
Bulgaria	16.8%	9.9%
Latvia	16.7%	12.6%
Ireland	15.7%	29.7%
Romania	15.1%	9.6%
Sweden	13.8%	29.0%
France	13.6%	33.2%
Switzerland	13.1%	31.5%
Portugal	11.8%	13.4%
Lithuania	11.8%	13.6%
Luxembourg	11.7%	20.5%
The UK	11.3%	32.3%
Belgium	11.3%	29.2%
Norway	10.6%	20.4%
Italy	10.3%	23.6%
Ukraine	10.2%	8.0%
Spain	9.5%	22.7%
Denmark	8.7%	24.5%
Andorra	8.2%	28.8%
The Netherlands	8.1%	29.5%

Table 3
Detailed timeline of relevant events.

Event	Date
Creation of SpreadFirefox.com Website	September 12, 2004
Official Release of Firefox 1.0	November 9, 2004
New York Times, Full-page ad	December 16, 2004
25 millionth download	February 16, 2005
PC Magazine Editor's Choice Award	May 2005
Mozilla Corporation Created	August 3, 2005
100 millionth download	October 19, 2005
CNET Editor's Choice	November 2005
Official Release of Firefox 1.5	November 29, 2005
Firefox Flicks Campaign Initiated	December 2, 2005
200 millionth download	July 31, 2006
Internet Explorer Version 7.0 Released	October 18, 2006
Windows Vista Released	January 17, 2007

designed browser might not be able to detect malignant software applications compromising the data stored on the computer. Due to these factors, the browser is a software program that occupies a strategic position in the online environment.

Despite this strategic importance, directly earning revenue from the browser has proved to be a challenge. First, the browser is a way of locking in a user base enabling future revenue opportunities. As mentioned above, the browser allows possibilities for significant advertising revenue. Second, browser providers must make considerable investments to protect the security of users from viruses and malignant web sites. Firms cannot easily recoup this investment. Online users expect security from browsers and do not necessarily wish to pay for it. It is, perhaps, because of these reasons that there have been very few corporate efforts at developing a browser leading to limited choice for users.

Mozilla philosophy

The Mozilla Foundation is at the center of a portfolio of products built using the open source philosophy (see Appendix 1 for a discussion of the open source concept). The Mozilla Foundation has articulated its philosophy in a manifesto shown

cations. Application providers work with standards set by the browsers when building their programs. For instance, media players such as Real Player and Windows Media Player work with the software of the browser in order to be successful. A corporation controlling the browser can use it to leverage its own applications to the exclusion of others. For example, Microsoft uses MSN as the default search engine on its browser enabling significant advertising revenue. Finally, the web browser is central to the security of the online experience. A poorly

Table 2
Browser market share. [2]

Browser		2007						2006						2005			2004		2003
		June	May	April	March	Feb.	Jan.	Dec.	Nov.	Oct.	Sep.	Aug.	July	Dec.	July	Feb.	Dec.	July	Dec.
1	FireFox	12%	12%	12%	12%	11%	11%	11%	11%	8%	10%	10%	10%	8%	8%	5%	3%	2%	N/A
2	MSIE 3.x	<1%	<1%	<1%	<1%	<1%	<1%	<1%	<1%	<1%	<1%	<1%	<1%	<1%	<1%	<1%	<1%	<1%	<1%
3	MSIE 4.x	<1%	<1%	<1%	<1%	<1%	<1%	<1%	<1%	<1%	<1%	<1%	<1%	<1%	<1%	<1%	<1%	<1%	1%
4	MSIE 5.x	1%	1%	1%	1%	1%	1%	1%	1%	4%	2%	2%	2%	3%	5%	10%	9%	16%	34%
5	MSIE 6.x	54%	56%	56%	58%	58%	63%	70%	76%	83%	81%	82%	82%	83%	83%	81%	80%	77%	59%
6	MSIE 7.x	13%	15%	14%	25%	24%	20%	12%	7%	N/A	2%	1%	<1%	N/A	N/A	1%	<1%	<1%	N/A
7	All Netscape browsers	<21%	<18%	<18%	<8%	<8%	<8%	<8%	<8%	<8%	<8%	<8%	<8%	<8%	<8%	<8%	<8%	<8%	<8%
8	Opera x.x	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
9	Safari	3%	3%	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	1%	1%	1%	1%	N/A
10	Other	<2%	<2%	<2%	<2%	<2%	<2%	<2%	<2%	<2%	<2%	<2%	<2%	<2%	<2%	<2%	<2%	<2%	<2%

[2] Also, see detailed browser release history at- http://en.wikipedia.org/wiki/Comparison_of_web_browsers#endnote_PlatformIE. (Source: http://www.thecounter.com/stats/).

in Appendix 2. The manifesto states, "The Mozilla project is a global community of people who believe that openness, innovation and opportunity are key to the continued health of the Internet." As articulated in the manifesto, the foundation believes in making the Internet an important personal and public asset that enriches the lives of its users by preserving key freedoms.

The Mozilla Foundation and the open source community are very different market actors in comparison to corporations. The open source method and the commitment to freedom enable greater choice and innovation in the market rather than aiming for mass-market domination. As Mitchell Baker, "Chief Lizard Wrangler" for Mozilla Corporation, puts it—

> The constant search for new, killer features is one of the drivers in what is known as software bloat — something we want to avoid. We don't think Firefox will (or should) "take over the mass market". *We're about choice rather than dominance (emphasis added)*. The problem with focusing on "one killer feature" is that we all use and experience the web differently.
>
> Firefox, with its large community of add-on developers, can provide thousands of features that are "killer" for scores of niche audiences which can really help in attracting all the users in the long tail while the basic Firefox can attract a large number of users at the top of the curve. That combination has allowed us to reach a substantial number of users and I see no reason for that dynamic to change any time soon.

Background

Even though Mosaic is popularly remembered as one of the earliest browsers, research points out that there were four browsers before Netscape Communications was created by Marc Andreessen — Erwise, Midas and Viola (designed for the X-Windows operating system) and Cello (designed for Windows) (Berghel 1998).

However, Netscape's Navigator browser, released in October 1994, was one of the first to gain large-scale acceptance. Individuals had to pay to use Navigator. Netscape Navigator became the *de facto* industry standard until Microsoft launched its Internet Explorer (IE). IE was free and came bundled with every computer that ran Microsoft's Windows operating system. Netscape soon lost share to IE and America Online (AOL) acquired it for $4.3 billion (Cusumano and Yoffie 1999). As shown in Yoffie and Cusumano (1999), the share of Netscape went from an all-time high close to 90% in April 1996 to less than 50% in October 1998. The term "browser wars" usually refers to this competition between Netscape and IE (Cusumano and Yoffie 1999).

The fundamental argument in the antitrust case against Microsoft was that the company had engaged in potential anti-competitive and predatory conduct (Gilbert and Katz 2001). Four specific actions were scrutinized — "1) Microsoft's massive investments in browser technology; 2) Microsoft's zero pricing of Internet Explorer; 3) Microsoft's exclusive distribution contracts with Internet access providers; and 4) Microsoft's tying of Internet Explorer to windows" (Klein 2001, pg. 46). A detailed discussion of the case itself is beyond the scope of this paper and interested readers are referred to Lopatka and Page (1999), Klein (2001), Gilbert and Katz (2001), Whinston (2001) and Windrum (2001). During the antitrust trial, Microsoft argued that the browser was an integral part of the operating system.

In January 1998, Mozilla appeared as an open source version of Netscape. In so doing, Netscape's hope was that a volunteer developer community would take control of the product innovation process. In the past, Netscape had "struggled to make cross-platform development work as advertised" (Cusumano and Yoffie 1999). The open source innovation model provided an avenue to overcome this constraint.

Since that time, Mozilla has released many versions of its browsers and the code base has improved considerably in comparison to the original Netscape browser. Firefox (originally called Phoenix and briefly called Firebird) is the latest version of the Mozilla browser. A non-profit organization, the Mozilla Foundation, supports development activities related to the Mozilla project. On August 3, 2005, the Mozilla Foundation announced the creation of the Mozilla Corporation, a wholly owned taxable subsidiary of the non-profit foundation.

The interactive marketing campaign

The marketing of Firefox provides an example of how a loose network of volunteers had major market impact using interactive marketing techniques. By creating a tipping point of volunteers, the Firefox community enabled the necessary network effects for success (Ancarani and Shankar 2003). A web site, Spread Firefox (www.spreadfirefox.com), helped vitalize and organize a community of at least sixty-three thousand volunteers with the single-minded objective of increasing the adoption and usage of the Mozilla Firefox browser. Volunteers helped establish brand identity and build traffic by linking to the main download site (http://mozilla.org/firefox), blogging about Firefox, adding a link in their e-mail signature file in classic viral marketing style, putting up buttons on their web site, collecting testimonials and visiting technical sites to vote for their favorite browser. The result of these myriad seemingly-small interactive marketing activities conducted on SpreadFirefox as well as on the web sites of individual volunteers, Mozilla Firefox has emerged as a credible competitor in a tough marketplace dominated by the world's largest producer of software, i.e., Microsoft.

Virtual online ecosystem

One of the main features of the Firefox marketing campaign was that the community organized many distinct web sites. These web sites were:

1. Download site — This was the site that everybody had to visit to download the browser. This site is located at — http://

www.mozilla.org/products/firefox or http://www.getfirefox. com. The main purpose of this site was to act as a distribution conduit. Users visited here with the goal of downloading the product and they could do so by clicking on a link on this page.

2. Marketing site — This site is located at http://www. spreadfirefox.com. The main purpose of this site was to organize all the volunteers. The site recognized affiliates who provided the most traffic. Regular updates about the number of downloads were provided. Users learnt about where the latest referral came from. Leaders provided volunteers with clear instructions about how to generate greater word-of-mouth through tools such as buttons and banners. Community members suggested potential ad slogans.

3. Browser switching site — The volunteer community was focused on one action, getting consumers to switch from IE to Firefox. Therefore, this site (www.switch2firefox.com) focused on this decision. The site contained detailed information on reasons to switch and stories of other individuals who switched with a prominent call to action.

4. Google's Referral System — The leading search engine (Google.com) created a referral scheme that rewards consumers $1 for every one person that switches to Firefox 1.5. Clearly, Google was trying to outmaneuver Microsoft, a key competitor. Volunteers also created their own sites that publicized this referral scheme. A great example of this is Explorer Destroyer (http://www.explorerdestroyer.com). This site promoted Google's referral program and provided a script that made the process easier and more accessible.

All these sites linked to each other creating a virtual organization with clear behavioral expectations.

The New York Times advertisement

Perhaps, the most visible sign of the community's marketing success was its two-page advertisement in *The New York Times* on December 16, 2004. The advertisement was featured in the print version of the newspaper. However, an online fund-raising drive using interactive marketing techniques raised the necessary funds. Over 10,000 volunteers donated $30 each to help launch a full-page ad in the *The New York Times* (See Fig. 1 for an image of the historic advertisement). In exchange, the advertisement featured the name of every donor.

Announcements on various online forums

When the Firefox campaign launched, volunteers publicized it in online forums frequented by open source developers and others who work in the software industry.

Figs. 2 and 3 describe two specific examples of the early adopters and the techniques used to target them. First, the campaign was announced on Slashdot (http://www.slashdot.org), an online community that has a large open-source following. The specific link to the Firefox release is available at http://slashdot.org/article.pl?sid=04/11/09/132219. The Slashdot community member responded vigorously to this release notice with hundreds of comments. Second, the open source community has long used USENET (http://groups.google.com) as a way to
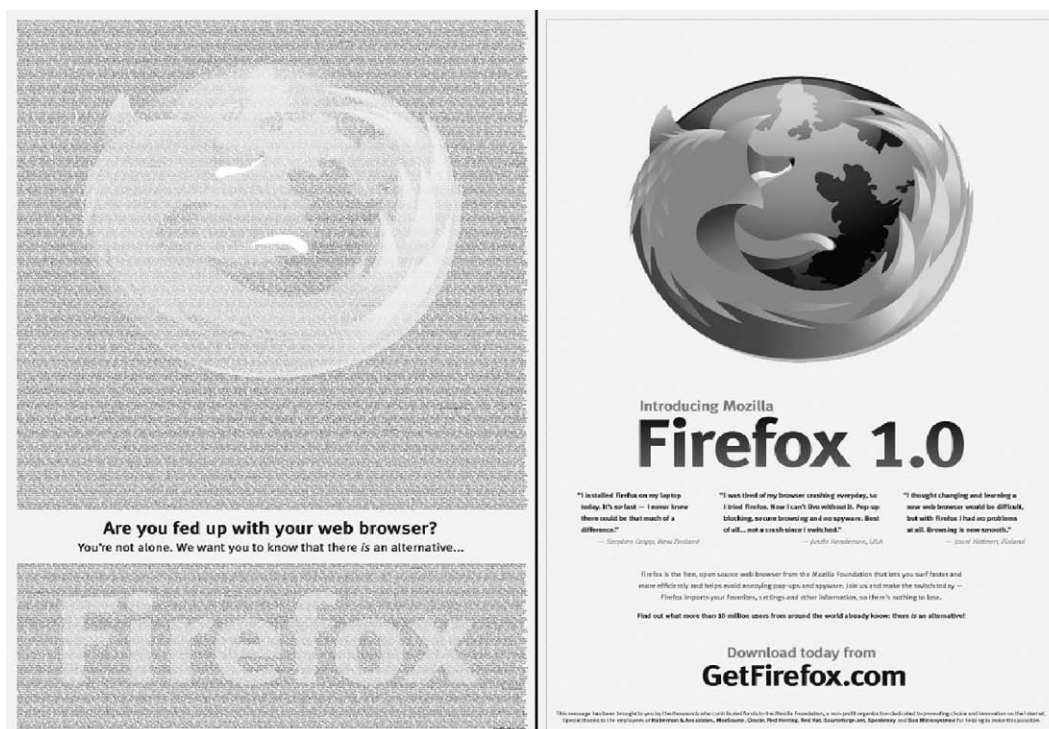

Fig. 1. Mozilla Firefox New York Times Ad.
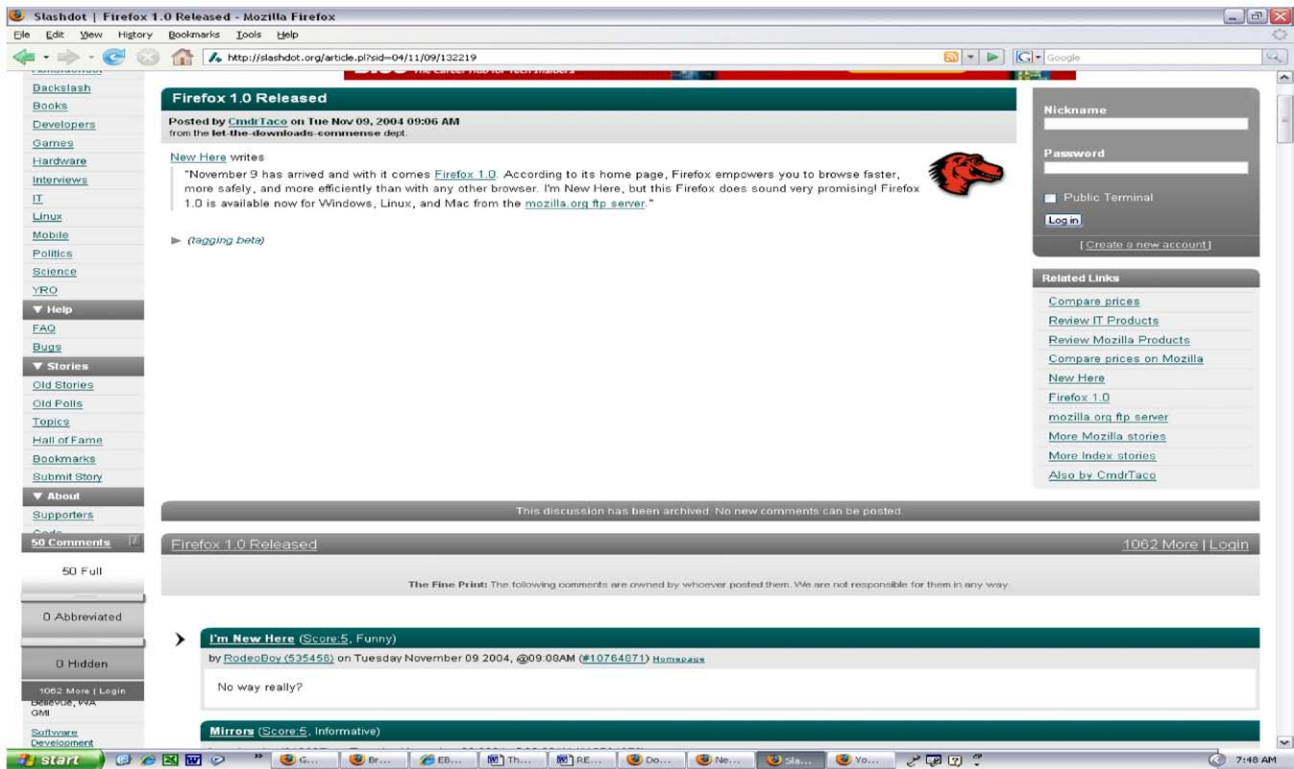
Fig. 2. Screenshot of firefox launch announcement on slashdot. (Source: http://slashdot.org/article.pl?sid=04/11/09/132219).

communicate with other developers. Therefore, several members interested in Firefox posted notices on USENET groups to increase the visibility of this product. These posts were informal in nature and yet, positive.

Firefox Flicks campaign (for Version 1.5 only)

The Firefox Flicks campaign (see http://www.firefoxflicks. com) launched in December 2005 to support the launch of Version 1.5. Creative media professionals and students submitted thirty-second ad spots featuring Firefox. About 200 of the best advertisements appeared on the aforementioned web site.

Speaking about the campaign, Christopher Beard, VP, Products, at Mozilla Corporation said (Mozilla Foundation 2005) — "Our success has been driven by satisfied users letting other people know they are having a better Web experience with Firefox. Firefox Flicks taps into the creative energy and enthusiasm of our community to tell the world in their own words why they love Firefox". Prof. Grant McCracken refers to such consumer participation in the marketing campaign as brand co-creation and analyzes consumer motivation for participating in such campaigns by saying — "They want to because they can. And some of them can do it really, really well." (Walker 2006).

Community marketing projects

The volunteers who participated in the marketing of Firefox organized themselves into various projects with clearly defined

functions. Table 4 summarizes the various community marketing projects. The projects ranged from the conventional (e.g. writing press releases) to the cutting-edge (e.g. contact web sites to donate advertisements).

The community surrounding Mozilla Firefox has performed three types of marketing activities — brand builders, traffic builders and adoption builders. Brand builders focus on specifying the brand name, identity and message. Traffic builders focus on raising awareness and spreading the message. Adoption builders help increase the conversion rate of visitors. The hierarchy then is brand → traffic → adoption.

Brand builders

These activities are attempts to boost the brand:

1. Using banners and buttons on individual web sites.
2. Posting positive reviews on third-party sites.
3. Voting positively on technical sites.

Traffic builders

Volunteers took many actions that help build traffic to the download site. These activities included:

1. Using e-mail signature files to provide information about Firefox with a link to the download site.
2. Using banners and buttons on individual web sites (see some of the examples in Fig. 4).
3. Provide a positive review on individual web sites or blogs to create word-of-mouth (Dwyer 2007).
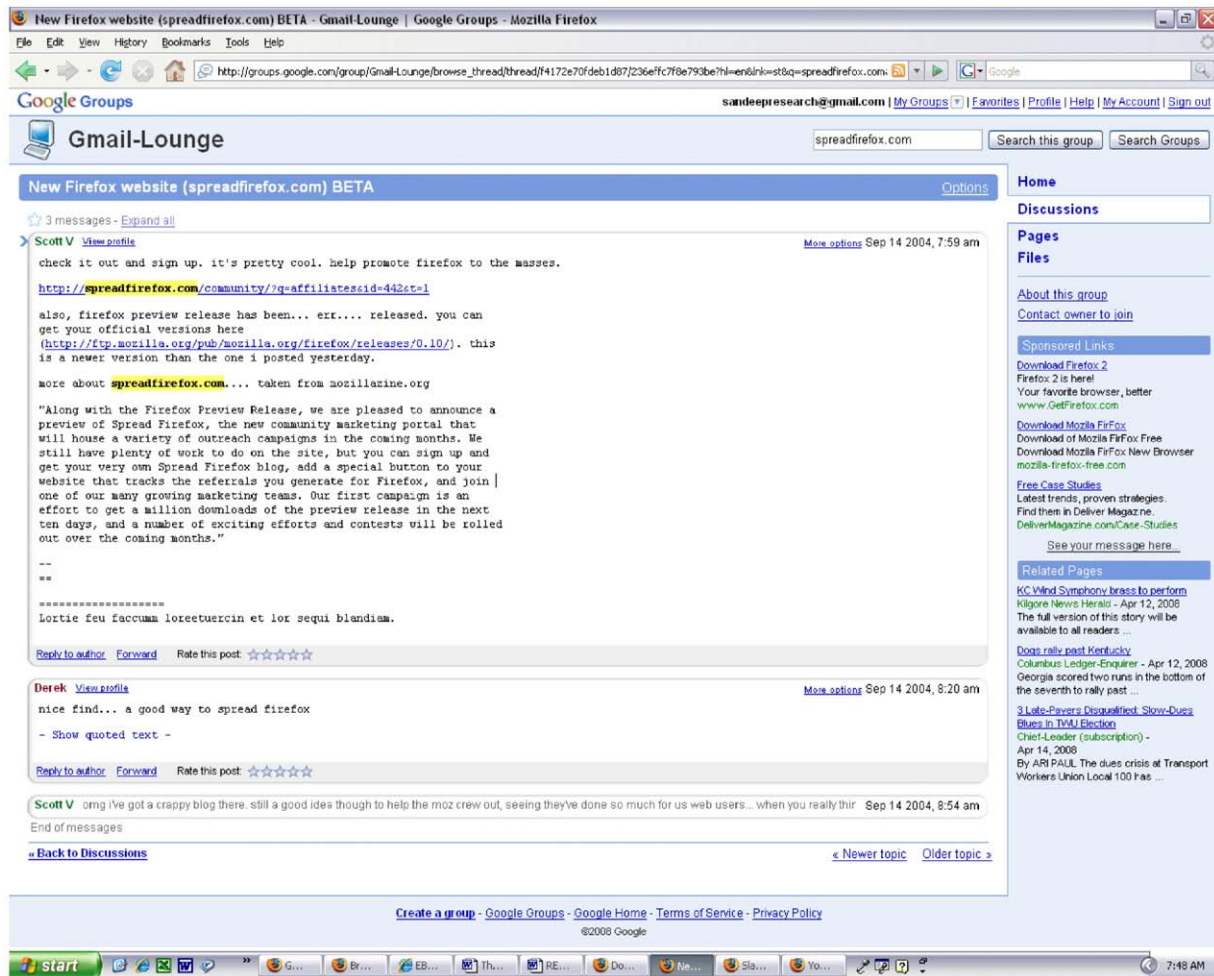
Fig. 3. Informal announcement of firefox launch on a USENET group. (Source: http://groups.google.com/group/Gmail-Lounge/browse_thread/thread/f4172e70fdeb1d87/236effc7f8e793be?hl=en&lnk=st&q=spreadfirefox.com#236effc7f8e793be).

Adoption builders

These activities encourage adoption of the product:

1. Telling others about the product on one's blog.
2. Getting other people to switch through personal contact.

Community-led interactive marketing

While the term online community has defied clear definition for a while (Hagel 1999), the core idea has emerged from Metcalfe's Law, which emphasizes positive externalities due to interaction among like-minded community members (Kalyanam and McIntyre 2002). Online communities are social actors built on ideas of communication and interaction (Bagozzi and Dholakia 2002). In this case, we define community-led interactive marketing as a set of interactive marketing activities performed by a community in order to promote a product or service that is of interest to all community members.

Community-led interactive marketing is a messy process that involves extensive conversation, planning and experimentation among community members. Unlike a corporate organization, there are few reporting relationships and there is greater freedom

in terms of membership and expression. Mitchell Baker thinks of it in this way—

It's not about "tapping into a movement". It's about building a movement, sharing leadership, and viewing oneself as a participant in something larger. Mozilla didn't reach out to some big pool of open source talent. There wasn't some movement looking for a project to get behind.

The most counterintuitive element of the SpreadFirefox campaign is that its social structure was not a democracy, rather it was a meritocracy. As Mitchell Baker described it—

We created a meritocratic community of participation around the different aspects of making a browser. Bad ideas were weeded out and good ideas and capable people rose to the top. It's not a free-for-all. It's not a democracy.

How do you prevent people from adding bad code to Firefox? You have different levels of review. You have tools that help people do the right thing. You have lots of feedback to make sure that failures are corrected and not repeated, etc. It's really no different.

Table 4
Community marketing projects [Source: http://www.spreadfirefox.com/?q=forum/22, downloaded on January 26, 2005].

Forum	Short description
Ad donations	Contacts web sites to donate print and online ads
CD deals	Contacts computer publications to bundle Firefox on CD
College reps	Hires student reps at college campuses around the world
College reps admin team	Coordinates the efforts of college reps
Donations	Responds to donations-related inquiries
Events team	Works with computer tradeshows
For the record	Monitors the media
Licensing	E-mails responses to license queries
Mozilla design	SWAT team of graphic designers
Partners	Responds to business partnership inquires
Press e-mail	Response team that responds and dispatches press inquires
Press teams	Writes press releases
Visual identity team	Creates logos, themes, visual identity
Web apps	SWAT team of web programmers
Wordsmiths	Editors who wordsmith marketing materials

This is, perhaps, the most misunderstood element of community-led interactive marketing. While online communities are built on the idea of free expression, often, there are key gatekeepers and influential community members that dictate the dynamics of the community. This is true in many communities based on open systems. For instance, Jimmy Wales is commonly considered as a benevolent dictator on matters pertaining to Wikipedia and Linus Torvalds continues to have veto power in the Linux community. In this case, Asa Dotzler, one of the Firefox developers, had a very high profile in the SpreadFirefox community.

Firefox is a trademark owned by the Mozilla Foundation. Therefore, every creative communication that includes the Firefox logo is approved by the Mozilla Foundation. Any member of the SpreadFirefox.com community might submit artwork for approval to the Foundation. Based on the large number of submissions, a few interesting creative materials were used to promote the product.

In addition to this official interactive marketing campaign, there has been considerable work done by a loose open source community on an unofficial campaign, as shown in Fig. 4. Many of these were never officially approved by the Foundation for these reasons:

1. They met regional and local marketing needs rather than global needs. The Foundation focused on creating a global brand rather than a regional version.
2. Some of the marketing materials created by volunteers were anti-IE and anti-Microsoft. The Mozilla Foundation explicitly emphasized browser choice as the key value element rather than pushing for an open and negative battle against Microsoft.

However, these unofficial marketing materials contributed to a doppelganger brand image (Thompson, Rindfleish and Zeynep 2006) that helped create an online persona for Firefox and accelerate the diffusion rate.

Internal conditions that facilitated the success of Firefox

Product superiority

A Forrester Research Report survey identified these factors as the most important reasons for switching from IE to Firefox — better protection from popups (42%), better security (39.6%), faster browser speed (39%), better browsing features (31.8%), just wanted to try something new (28.2%), better protection from phishing (18.2%) and new browser came with new computer system (10.1%) (Root et al. 2006). Distilling from these factors, Firefox was a superior product because of five reasons — simplicity, compatibility, security, tabbing and plug-ins/extensions. These are now discussed.

Simplicity

The core Mozilla Firefox development team was obsessed about the idea of simplicity. They wanted a very simple product. Blake Ross described this philosophy in this way (Ross 2005):

> I remember sitting on IRC with Dave, Ben and Asa painstakingly debating feature after feature, button after button, pixel after pixel, always trying to answer the same basic question: *does this help mom use the web?*(emphasis added) If the answer was no, the next question was: does this help mom's teenage son use the web? If the answer was still no, the feature was either excised entirely or (occasionally) relegated to config file access only. Otherwise, it was often moved into an isolated realm that was outside of mom's reach but not her son's, like the preferences window. This policy emerged from our basic belief that, for the 99% of the world who don't shop at Bang & Olufsen, a technology should be nothing more than a means to an end. Software is no different.

Compatibility with other operating systems (Linux, Windows and Apple)

Internet Explorer is compatible only with Windows-based operating systems (specifically Microsoft Windows® 98, Windows 2000, or Windows XP). In contrast, Firefox is compatible with Linux, Windows and Apple operating systems. This widens the potential audience for the product.

Security

Blake Ross argued, "There's a widespread perception that IE is not secure — and here we are" (McHugh 2005). Many experts agree with him that Mozilla Firefox is more secure than Internet Explorer (Mossberg 2004). Hackers have targeted IE because it is so widely used (Lemos and Festa 2004). Therefore, by providing users with greater choice, Firefox enables greater security for all users.

Some observers have argued that the use of open source as the development methodology is a sound way to enhance the

Fig. 4. Unofficial marketing materials. (Source: http://mozilla.wikia.com/wiki/Marketing:Firefox_Materials).

security of the product. Open source products allow anybody to inspect the codebase. This enhances the chances of detecting vulnerabilities and bugs ahead of time. However, it is not clear if the security advantage offered by Firefox will last over a long period.

Specifically, Microsoft had already identified security as a major concern in the launch of its Vista operating system. Internet Explorer 7.0 (IE7) was envisioned to include anti-phishing capabilities, betterment to ActiveX controls, data protection features such as data protection and bundling of Windows Defender (a software that protects against malicious software) (Lambert, Penn and Whiteley 2006).

Tabbing

Most browsers open a new link in a new window. Mozilla Firefox popularized a new feature called tabbing. This allows the user to open multiple pages in one window. This feature provides the user with many benefits. First, the user does not have to open multiple windows to view myriad pages. All the pages can be opened under one window making it easy to close. Second, this feature is particularly attractive to web designers who obsess about comparison across web pages. Third, tabbed browsing allows users to open a host of pages stored in a folder in one window allowing for convenient browsing. Even the official spokesperson of Microsoft reported great interest in tabbing (Stross 2004). It is no wonder that Internet Explorer Version 7.0 included tabbed browsing as a feature.

Plug-ins/extensions

Many of the users of Firefox were competent programmers themselves. These volunteers prepared many plug-ins and

extensions that added to the functionality of the browser. These programs can be viewed at -https://addons.mozilla.org/firefox/. The programs include NoScript (a program that only allows trusted domains to run scripts), IETab (a program that allows the user to open the page in IE in a new tab), DownThemAll (a program that makes it easier to download all files from a web site), Gmail Space (a program that enables you to use Gmail as a file storage area) and FasterFox (a program that enables users to run Firefox faster). The greater number of plug-ins and extensions for Firefox in comparison to IE is because of its open source nature, i.e., free availability of source code for Firefox in contrast to IE.

Interestingly, some add-ons detracted from the Firefox advantage. As Root, Moore and Teubner (2005) point out, a major add-on called GreaseMonkey could jeopardize the corporate computing landscape through the introduction of scripts. In their words—

> We can't say this strongly enough: Greasemonkey has absolutely no place on corporate computers. At its best, it introduces unpredictable behavior in the otherwise-solid Firefox browser. At its worst, it opens you up to exploits, performance problems, and support chaos. Since Firefox doesn't have robust deployment and configuration control features that IT can use to enforce the "no Greasemonkey" rule, firms with strict security policies and low risk tolerance will have to settle for a "no Firefox" rule for now, which is a shame.

Volunteer support

The credit for the marketing success of Firefox goes to the volunteers. Since Firefox had released a preview version before its official release, it was able to ascertain the level of interest in the community. This gave the team considerable confidence when soliciting funds for the *The New York Times* advertisement. Volunteers participated in many activities on the site.

The tone of the entire campaign was democratic. The leaders of the campaign did not dictate. At the same time, the leaders motivated the community through messages such as the one in Exhibit I (at the end of the document). Frequently, volunteers disagreed with what the lead team proposed when it came to marketing.

Presence of marketing leader

In the context of software development, some observers have pointed out the existence of a strong leader in certain FLOSS communities (Moon and Sproull 2000; Stone 2004). Asa Dotzler, a paid Firefox programmer, evolved as a major leader on SpreadFirefox. He initially worked as a volunteer in 1999 and was paid starting in 2000. Asa designed the SpreadFirefox site, posted updates and motivated community members. Many volunteers participated in the community activities. Rob Davis, a marketing professional with experience in political campaigns (see his web site http://www.playpolitics.org), assisted in the creation of the *New York Times* advertising campaign.

External conditions that facilitated Firefox' success

Microsoft's Internet Explorer

At the time of Mozilla Firefox' launch, the largest competitor, Microsoft's Internet Explorer (IE), had become a static product — the company largely focused on "security updates and limited feature enhancements" (Class 2007). As a result of the long-drawn antitrust dispute with the US Government, Microsoft had made a strategic decision to link IE to its operating system limiting innovation in the browser arena (Mossberg 2004). Moreover, the result of the antitrust suit had eroded various sources of competitive advantage for Microsoft – default home page and search settings – by providing consumers with the option of not using IE as the default browser.

Microsoft's strategy was to incorporate Web browsing into its operating system making the stand-alone browser irrelevant in order to improve its competitive standing (McHugh 2005). What this meant was that, generally speaking, the releases of newer versions of IE were linked to the release of newer versions of Windows. Since Microsoft had reduced the frequency with which it updated its operating system, this led to infrequent releases of IE as well. The only changes to IE related to the security vulnerabilities of the product. These changes did not affect the user experience. Microsoft was to release a new version of IE in 2006 "at the earliest" (Stross 2004). Microsoft's habit of releasing and announcing security patches for its products had reduced the level of user confidence in the product. Even Steve Ballmer, Microsoft's CEO, has conceded that "the focus on security has pushed back some of the innovations" (McCue and Parsons 2004).

A major overhauling of the Windows operating system was underway as part of the Longhorn project (later renamed as Vista). As a result, Microsoft was prepared to compete with browsers such as Firefox. As one analyst from Forrester Research put it, "Longhorn will turn the newly ignited browser wars into an apples-to-oranges battle, forcing Firefox to prove not just that it's better than Internet Explorer, but that it's worth running on top of an operating system that already has a browser irrevocably built in." (Root et al. 2005). Interestingly, perhaps as response to Firefox, Microsoft released Internet Explorer Version 7.0 (IE7) on October 18, 2006. Windows Vista launched on January 17, 2007. This quick response limited the growth of Firefox adoption among enterprise customers. As a Forrester Research report points out, in March 2007, IE7 had acquired a 13.5% market share among enterprise customers in comparison to 12.4% for Firefox (Mendel, Iqbal and Hammond 2007).

Moreover, the strategic importance of the browser to Microsoft had diminished over time (Class 2007). First, due to the changed architecture of the operating system, the browser had simply become one feature of the desktop computing environment. Second, Microsoft had started to adopt a multi-browser, multi-device strategy to overcome user fragmentation across devices and computing environments. Microsoft's Silver Light (http://www.microsoft.com/silverlight/overview/whatis.aspx) is,

perhaps, the first manifestation of this strategy. Apple has similarly adapted its Safari browser to its iPhone. Third, as mentioned earlier, the browser is largely a revenue drain for Microsoft since it necessitates considerable investment in security-based features. Due to these factors, Microsoft approached the browser purely from a defensive standpoint — i.e., it had to have a browser presence merely to reassure its followers. The strategic impact of the browser itself had diminished.

Moreover, the goal of the Mozilla Foundation was to provide consumers with greater choice. Mozilla Firefox may have been to spur its competitors to start innovating rather than focusing on "lazy one-upsmanship" (Root et al. 2006). As Mitchell Baker put it—

> Microsoft was forced to make the first substantial update to IE since 2001. This improvement of the overall user experience is a phenomenal success of the Mozilla project. Both Microsoft and Opera have been building much stronger user communities since Firefox came on the scene.

Google

Browsers affect search engines dramatically. Specifically, the default search engine on a browser (MSN, in the case of IE) allows greater advertising revenue. To combat MSN's prominent position, Google, the dominant search engine firm, worked with the Foundation to make its search page the default home page when the Firefox browser is first installed. This deal transformed Mozilla by bringing in revenue of more than $100 million over a two-year period (Cohen 2007). The Mozilla Foundation's revenue improved from $6 million in 2004 to $52 million in 2005 (Cohen 2007). Mitch Kapok, the founder of Lotus Corporation and board member of the Mozilla Foundation, argues—

> Always on my mind, in all my involvement is (the question) — how is it going to be sustainable? I am a big believer that begging is not the right business model. When it began to become clear there was a business opportunity, in monetizing search in the browser, I saw this as a great opportunity.

Aligning with Google enhanced the revenue base of the Mozilla Foundation enabling it to meet its mission better. However, it brought with it some tension reconciling the commercial approach with the open source philosophy (Cohen 2007). Moreover, there was some concern that the market might view Mozilla as acting on behalf of Google in the marketplace.

The decision

A Forrester Research report states, "Firefox's much lauded advantages in security and stability are largely just temporary effects — widespread usage will bring the same scrutiny and attacks that uncover problems with IE." (Root et al. 2005). While Firefox enjoyed considerable attention because of its initial success, the browser product category is likely to move towards product maturation with a few stable and effective products.

Mitchell Baker and her team face an important decision in the future months. Should the Foundation market Firefox in any way other than SpreadFirefox.com? While the site has succeeded in building an enthusiastic marketing community, the sustainability of that marketing effort is now under question. The bottom line is this — "Will the Mozilla Foundation be better off using conventional marketing techniques (e.g., TV advertising, online advertising) or should it continue to apply the community-led interactive marketing techniques that brought it some market success?"

An online community brings with it an element of unpredictability. Recently, a key Firefox community member, Chris Messina, posted a sixty-minute long video about his thoughts on the future of Mozilla.[1] In this video, he suggests, "browsers are dead" and advocates moving away from a commodity business to building a strategic online platform. Managing this unpredictability in a mature product marketplace might offer unique challenges.

The product maturation also brings up another set of challenges focused around the target audience. In the initial stages of the launch of the product, open-source enthusiasts supported Firefox. As Firefox becomes a mature product that is accessible to the mainstream, it will have to revisit its fundamental marketing approach. While community-based interactive marketing might work for the early adopters who are Internet-savvy, it might be hard to translate it when targeting the mainstream. When dealing with an audience that has limited time and attention, it is not clear if Firefox can pull off the same level of success.

Moreover, one must return to the fundamental philosophy undergirding Firefox' success — open source. A product such as Firefox is likely to have a core group of developers who are always involved in strategic product decisions. In other words, in open source, the community is forever. The size of the community relative to the overall audience might change. However, there is always going to be a community involved in the marketing and production of this product. Given this *fait accompli*, managing the community-based marketing process as the product matures will be the ultimate challenge that the Mozilla team faces.

Questions for case discussion and case writeup:

1. Is community-led marketing sustainable for the Mozilla Foundation or should they use their increased revenue to launch a media blitz?
2. How would you judge the extent of the competitive challenge to Microsoft? Is this something that is minor that will go away or is Firefox a product of great significance that will have major market impact? Choose one side — minor or major.

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[1] See- http://factoryjoe.com/blog/2007/05/10/thoughts-on-mozilla/

3. Why is it that so many people are volunteering their time to market a product that they do not directly benefit financially from?

4. This case argues that a special set of circumstances came together here making it less generalizable. Is that your view or do you hold the opposite view that community-led marketing can be used very generally even by corporations?

5. Does the open source nature of the product contribute to its success in this case? Choose to answer in the affirmative or not.

6. What is it about the Internet and the Web that contributes to community-led marketing?

7. In this case, the product was free. Consider products that consumers require a non-zero price. Does community-led marketing apply in such cases? Choose "Yes" or "No" and then proceed to support your claims.

8. What should Microsoft do now? What should Opera (another browser) do now? Prepare a plan of action for the next 1 year for Microsoft and Opera.

9. Google has opportunistically benefited from Firefox through its referral scheme. How should Google approach Firefox in the future? There have been many whispers that Google is interested in coming up with its own browser — Gbrowser. Is this a good idea?

10. The Mozilla Foundation just created the Mozilla Corporation. How do you think this switch from a not-for-profit corporation to a for-profit corporation change things?

Appendix 1. Introduction to open source

Open source software refers to generally free programs that provide access not just to the executable program, but also the source code (i.e., the raw instructions that run the software program). Open source products are now common at all levels in the computing environment — Operating system (e.g. Linux, BSD), Internet infrastructure (e.g. Apache, Sendmail, and Bind), Desktop applications (e.g. OpenOffice) and Internet Applications (e.g. Mailman — an electronic mailing list manager). Open source can also be a corporate branding philosophy (Pitt et al. 2006). Open source products are community-oriented. Readers who are unfamiliar with open source are encouraged to visit Sourceforge.net to see these communities in action.

The success of open source projects is open to question and further investigation. While there are some glowing successes, it is clear that many projects do not get off the ground. For instance, many projects on Sourceforge are inactive and do not attract developer activity. A recent paper suggests that — "Open systems are a profound threat not only because they outsucceed commercial firms but also because they outfail them." (Shirky 2007) The reasoning is that since open source projects are built using volunteer labor, failures do not cost as much.

Open source offers a new model for innovation, a new business model and a new model of intellectual property.

First, open source is about the democratization of innovation (Von Hippel 2005). Rather than limiting innovation to a corporation and its employees, open source proposes that a large community of individuals be involved in various activities related to product innovation. Volunteers help envision the product, develop it, test it, fix bugs, provide customer service and provide feature requests for future product extensions.

Second, open source provides a new business model (Krishnamurthy 2003). Corporations can benefit from the open source movement in many ways. First, in many cases, corporations can benefit from free source code that can be integrated into their commercial products at no cost. For instance, Microsoft uses code taken from the BSD operating system in Windows NT and other operating systems. In exchange, Microsoft thanks the developers of BSD in its release notes and is not compelled to pay a fee. Second, open source enables a service model. For instance, Red Hat Linux offers its own version of Linux built on the publicly available source code. The company earns revenue by signing long-term service contracts with companies that use its products, by certifying developers and programmers and by training users and application developers. This enables an entirely new business model. Third, companies now encourage open source developers to contribute to their ongoing projects. Google has invited developers to participate in at least five open source projects on Sourceforge.net, Google mAIM, CoreDumper, Sparse Hashtable, Perftools, and GoopyFunctional, and Microsoft has opened up projects such as WiX, WTL and FlexWiki.

Third, open source software provides us a new vision of intellectual property (source code, in this case). In the case of proprietary software, the company owns and controls all intellectual property. However, with an open source software product, the code is made available to anyone interested under several licenses. Licenses vary from the highly permissive to some that are very restrictive. The General Public License (GPL) is perhaps the best known since it requires that any product that is built using GPLed code must also be open source.

Empirical academic research (Lakhani and Wolf 2005; Lakhani and Von Hippel 2003; Lerner and Tirole 2002; Roberts, Hann and Slaughter 2006; Stewart and Gosain 2006) have identified three fundamental dimensions of motivation of participants in open source — intrinsic (i.e., originating from the act of participation, e.g. fun, flow, learning, community), extrinsic (i.e., originating from external rewards, e.g. financial rewards, improving future job prospects, signaling quality) and ideological (i.e., originating in an ideological belief in open source development methodology). These components are not mutually exclusive and might co-exist.

Appendix 2. The Mozilla Manifesto, Version 0.9 (Source: http://www.mozilla.org/about/mozilla-manifesto.html)

Introduction

The Internet is becoming an increasingly important part of our lives.

The Mozilla project is a global community of people who believe that openness, innovation and opportunity are key to the continued health of the Internet. We have worked together since 1998 to ensure that the Internet is developed in a way that benefits everyone. We are best known for creating the Mozilla Firefox web browser.

The Mozilla project uses a community-based approach to create world-class, open source software, and to develop new types of collaborative activities. We create communities of people involved in making the Internet experience better for all of us.

As a result of these efforts, we have distilled a set of principles that we believe are critical for the Internet to continue to benefit the public good as well as commercial aspects of life. We set out these principles in the Mozilla Manifesto presented below.

These principles will not come to life on their own. People are needed to make the Internet open and participatory — people acting as individuals, working together in groups, and leading others. The Mozilla Foundation is committed to advancing the principles set out in the Mozilla Manifesto. We invite others to join us and make the Internet an ever better place for everyone.

Principles

1. The Internet is an integral part of modern life — a key component in education, communication, collaboration, business, entertainment and society as a whole.
2. The Internet is a global public resource that must remain open and accessible.
3. The Internet should enrich the lives of individual human beings.
4. Individuals' security on the Internet is fundamental and cannot be treated as optional.
5. Individuals must have the ability to shape their own experiences on the Internet.
6. The effectiveness of the Internet as a public resource depends upon interoperability (protocols, data formats, content), innovation and decentralized participation worldwide.
7. Free and open source software promotes the development of the Internet as a public resource.
8. Transparent community-based processes promote participation, accountability, and trust.
9. Commercial involvement in the development of the Internet brings many benefits; a balance between commercial goals and public benefit is critical.
10. Magnifying the public benefit aspects of the Internet is an important goal, worthy of time, attention and commitment.

Advancing the Mozilla Manifesto

There are many different ways of advancing the principles of the Mozilla Manifesto. We welcome a broad range of activities, and anticipate the same creativity that Mozilla participants have shown in other areas of the project. For individuals not deeply involved in the Mozilla project, one basic and very effective way to support the Manifesto is to use Mozilla Firefox and other products that embody the principles of the Manifesto.

Mozilla Foundation Pledge

The Mozilla Foundation pledges to support the Mozilla Manifesto in its activities. Specifically, we will:

1. build and enable open-source technologies and communities that support the Manifesto's principles;
2. build and deliver great consumer products that support the Manifesto's principles;
3. use the Mozilla assets (intellectual property such as copyrights and trademarks, infrastructure, funds and reputation) to keep the Internet an open platform;
4. promote models for creating economic value for the public benefit; and
5. promote the Mozilla Manifesto principles in public discourse and within the Internet industry.

Some Foundation activities – currently the creation, delivery and promotion of consumer products – are conducted primarily through the Mozilla Foundation's wholly owned subsidiary; the Mozilla Corporation.

Invitation

The Mozilla Foundation invites all others who support the principles of the Mozilla Manifesto to join with us, and to find new ways to make this vision of the Internet a reality.

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