

## Mozilla tackles mobile



### Monopoly, Mozilla and the Mobile Web

Suzanne Hard

Post University

The current technology market is replete with walled-garden ecosystems, aggressive patent infringement litigation, and monopolistic behavior. What is transpiring in the world that creates our tools to access the internet, may be a threat to innovation and consumer values.

According to the United States Federal Trade Commission (FTC.gov), "Competition is about price, selection, and service. It benefits consumers by keeping prices low and the quality and choice of goods and services high...Competition makes our economy work." Thus, monopoly and restraints on trade are bad for consumers. Innovation, competition and an open market place -- where the obstacles to bringing new solutions to consumer needs are minimized -- are good. But what we see in the behavior of technology businesses such as Apple and Google, may be antithetical to the values of free markets.

Conduct that is troubling to some in the web development community includes creating products that limit where consumers can obtain apps, limiting developers in what they can create for the product, and allegedly arbitrarily closing out certain apps from app stores. Apple is the company most frequently accused of these actions. Apple defends its approach as wanting control over their user experience and the quality of their products. So far, they have had enough good to offer consumers for their closed system to be very successful, but as users become more tech-savvy, that may change.

An example of a response to the pressures of the current market is seen in the decision by Mozilla to develop its own smartphones, creating an exciting potential new direction for developers and consumers. Mozilla, according to their Mission Statement, is the "proudly non-profit organization dedicated to keeping the power of the Web in people's hands." (Mozilla, 2013) They bring us the open source Firefox browser and other web applications. "Mozillians" see themselves as "the good guys;" from this perspective, Apple, Google and Microsoft, because of their size and closed, or relatively closed, ecosystems, are "the bad guys."

Mozilla defines their mission as "promot[ing] openness, innovation & opportunity on the Web." (Mozilla, 2013) The company even has a Manifesto in which they detail a set of principles they "believe are critical for the Internet to continue to benefit the public good as well as commercial aspects of life." (Mozilla, 2012, February 20) These folks and their supporters take their commitment to the Open Web very seriously. When you consider that the internet has much in common with traditional public utilities, a viable pro-consumer non-profit player is likely a healthy presence in the market.

Mozilla was the offspring of Netscape Communications Corporation, whose Navigator, you may recall if you were an internet user in the '90s, was the dominant browser in the early years of the consumer internet. According to Wilson (2005), some of the founders of Netscape had previously worked for a company named Mosaic Communications, which contributed the first syllable of the name "Mozilla." Eventually, Microsoft took away much of Netscape's market share, first by offering their browser Internet Explorer for free, and then by packaging IE with Windows and integrating IE into the operating system. For example, when searching for a term in a document, IE would automatically navigate the web for you. Eventually this conduct led to a Federal Anti-trust lawsuit against Microsoft. (United States v. Microsoft) In 1998, Netscape began Mozilla as an open source software project and set out to fully redesign their browser. In 2003, when AOL, Netscape's then parent, pulled back from Mozilla, the Mozilla Foundation was formed to continue the project. Its Firefox browser was launched in 2004. (Mozilla, 2012, February 1)

When Firefox began to gain in popularity and market share for PC browser use, the company entered into compensation arrangements with Google and other search companies. They established the Mozilla Corporation to handle the income-generating aspects of its activities. Firefox has been the definitive alternative to Internet Explorer on PCs, until Google Chrome caught up recently. The bulk of Mozilla's income is coming from search ad revenue earned when people use their browser. (P., Adam, 2011) All those young developers and programmers need to be paid; even geeks need to eat and eventually care for their families. Having

consumers be able to use and access their browser now and in the future is important to Mozilla's continued viability. A major international shift is occurring in our use of the internet. The growth of the mobile web continues, and a greater percentage of people's interaction with the web is happening on mobile devices, such as smartphones and tablets, especially outside the U.S. This trend is likely to continue and accelerate, making it difficult for Firefox to retain and grow its share of consumer browser use, and its income, because its mobile availability is limited. This is the case for several reasons, including that Firefox is not available on iPhones, and recently Microsoft announced that it will bar the browser from future Windows 8 devices that contain ARM processors. (Shankland, 2012, May 9)

The biggest threat to Mozilla is that in the arena where more and more of our internet interactions are taking place -- the mobile world of cellphones and tablets -- the company is being shut out. According to Mitchell Baker, the head of the Mozilla Foundation, "The current state of the mobile ecosystem concerns us the most. The stage we're in with mobile devices -- is much more closed. It's lacking many of the freedoms of the Web. In the mobile space, we have less impact, and more computing time is moving in that direction." (Shankland, 2012, November)

Thus, Mozilla needs to make sure people can get their hands on their browser, and if Apple and Microsoft are going to try to ban them from the mobile web, they are wise to offer their own mobile operating system and developing a product to put it on. If you can't join them, beat them.

In February 2013, Mozilla made available to developers preview versions (manufactured by Geeksphone in partnership with Telefonica) of phones running their new Firefox mobile OS. They are encouraging developers to make apps for this phone, explaining reasons for such work as follows:

1-Keep the web open. Support the open web and help make sure the power of the web is available to everyone -- even on mobile devices.

2-Simplicity. Develop on a single technology stack (HTML5/CSS/JavaScript/new WebAPIs) and deliver across the web and devices.

3-Freedom. You're not locked in to a vendor-controlled ecosystem. You can distribute your app through the Firefox Marketplace, your own website, or any other store based on Mozilla's open app store technology. (Peters, 2013) As opposed to apps developed for iOS or Android, apps developed for the Firefox phone will be able to freely distributed and purchased and have the potential to be used across platforms. These reasons and this opportunity serve as strong motivation to their development community, who are committed to the open Web. (Olivarez-Giles, 2012).

The vast majority of consumers, who may not even be aware of the definition of a browser or an operating system, and may not be aware that there are choices in the marketplace, are likely content with their experiences of the walled-garden ecosystems tended by the likes of Apple and Google. But consumers, especially those in areas of the world new to smartphones, may benefit from a new era of open source mobile devices as Mozilla, and other companies, strike out to establish new open platform ecosystems.

## Glossary

Smartphone -- A cellular phone which connects to the internet.

Smart Device - A tablet, e-reader or other digital device that can access the internet.

Browser -- The software on desktop and mobile computers that is used to navigate the World Wide Web. A browser enables a user to locate, read and manipulate information on the web. Examples of browsers are Firefox, Safari, Chrome, Internet Explore and Opera. Browsers can be downloaded for free.

Operating System- The software that runs a computer or mobile device. Examples include Windows, Mac OS X, or Linux. Examples of mobile operating systems are Windows Phone, Blackberry OS, iOS, Android, and Firefox OS. This software does such things as provide your desktop/interface and manage your files and programs. Sometimes the word **platform** is used for interchangeably with operating system.

Open Source Software -This term refers to software in which the source code is visible and available for others to work with and revise. In addition, any software that is developed from the original work must be similarly open.

This concept is related to the definition of the **Open Web**. This term is not clearly defined, but in generalities it refers to an ideal of the world wide web in which there are few obstacles to individual participation and innovation. (Mozilla Wiki, 2010)

**Free Culture-** This concept refers to a movement advocating the ability for people to manipulate existing works, without violating copyright. An example is someone being able to take a cartoon and intermixing it with opera, both copyrighted works, to create a new work, without fear of copyright prosecution.

Lawrence Lessig, a Harvard Law professor was one of the first articulators of these principles, which evolved in response to changes in technology and the democratization of access to it. Lessig helped develop the Creative Commons License, in which creators have an alternative to traditional copyright. In his book *Free Culture*, Lessig offers a helpful definition: "[W]e come from a tradition of 'free culture' not 'free' as in 'free beer' (to borrow a phrase from the founder of the free-software movement [2]), but 'free' as in 'free speech,' 'free markets,' 'free trade,' 'free enterprise,' 'free will,' and 'free elections.' A free culture supports and protects creators and innovators. It does this directly by granting intellectual property rights. But it does so indirectly by limiting the reach of those rights, to guarantee that follow-on creators and innovators remain as free as possible from the control of the past. A free culture is not a culture without property, just as a free market is not a market in which everything is free. The opposite of a free culture is a 'permission culture'—a culture in which creators get to create only with the permission of the powerful, or of creators from the past." (Lessig, p. xiv preface, citing Richard M. Stallman, *Free Software, Free Societies 57* (Joshua gay, ed. 2002)) The word 'free' makes many nervous, as it is often misunderstood. Consequently, the word 'open' has been used with frequency in discourse more recently.

**HTML5 -** HTML is a computer programming language that is used to present content on the web. It stands for Hypertext Markup Language. The last time HTML was revised was in 1999. One of the big goals in developing HTML5 was that it should be device independent; an App developed with HTML5 is capable of being ported to all major devices. Also, the developers wanted programming to be less reliant on flash and externals, so there are options for directly building in video and audio.

**Walled-garden ecosystem** We tend to think of an ecosystem as a niche in the environment, in which the living organisms exist in an interdependent relationship to each other and their physical environment. A similar concept is applied to the digital world; there are separate ecosystems around Apple and Google Android products, for example. Each one has distinctive hardware, software, applications, operating systems and App stores that sustain them. They are not interchangeable. If you buy an app on itunes, you can not use it on your Android phone.

There are advantages to consumers in this type of system; Apple can enforce quality control on the apps its device owners can use. The consumer does not have to educate itself on what to look for in an app; they can leave it up to Apple. There is consistency, predictability. But there are potential costs to the consumer in the form of decreased competition. And for developers, who must design apps to be ecosystem specific.

To understand the current walled-garden situation, it helps to consider its opposite. In such a situation, consumers could purchase apps and devices as they like and use them interchangeably. A developer could develop an app and have it be available at all outlets and work on every platform and every device.

Another example of a walled-garden is Amazon's Kindle. You can only put apps on your Kindle that you download from the Amazon App store. Similarly, Twitter only allows developers to use their development tools.

**Apps -** An app is generally thought of as a program for a specific purpose on your smartphone or other device; examples include *Open Table* or *Urban Spoon*. We come upon an app as an icon on the home page/user interface of your device. Some come pre-installed on your phone, and some are downloaded from a dedicated website, such as the itunes App store, the Amazon App Store, or Google Play.

Originally, this term referred to computer software on a desktop that performed a specific function, like a web browser (see above) or a spreadsheet program (eg. Excel). Apps for desktops are now downloadable through these online stores, along with apps for phones, tablets, e-readers, etc.

There is an additional distinction that has emerged- **native apps** and **web apps**. A native app is one that is installed on the phone. It can access all of the features of the phone, such as its camera and contacts. They are not necessarily internet-dependent. These apps are written in the language of the operating system that is installed on the phone. Thus, has arisen a world in which there are as many versions of certain apps as there are operating systems and devices.

Another type of app is a web app, where the app is accessible through the device's browser. A web app can run on all browsers, and thus all smartphones. A good example is when you use the *linkedin* app versus visiting *linkedin's* mobile website through the browser. In the future, with the promise of HTML5, web apps, which do not have to be downloaded to be used (thus using up less of the phone's resources), may be as seamless and powerful as native apps. For the user, they may be indistinguishable, sitting as icons

on their homescreen. Some apps are hybrids, being installed on the phone but with some elements that depend upon the internet.

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