The Software Patent Process can be your Friend

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The following essay takes the long way around. The central point is that if you are an individual software developer or a team member and entrepreneur in a small company, you should get to know the patent system. There are two reasons for the length of this article. The first is that I am not smart enough to make my points more simply. My bad. The second is that there is so much lore and misinformation about software and software patents being circulated in our industry, I feel obligated to start somewhat near first principles. So here goes.

Developing software is like contributing to the metaverse. Consider the metaverse in literature—in Neil Stephenson's classic Snow Crash—or experience the metaverse of Second Life, a real virtual site and place in the Web 2.0 ecosystem. If I want to build a house in the metaverse, I just go to the edge of current developments—an edge that is infinitely extendable—and I set up my house. I don't have to bargain with anyone else in the metaverse. I don't have to deal with realtors, with building codes, or zoning. As long as I am willing to move to the edge, to the frontier, I can freely apply my creativity and enjoy—and share--the results.

Software is basically the same. There is always an edge, a frontier. There are, for example, four billion people on the planet who live on less than a dollar a day. What about products and services for them? Some of the most creative people on earth-- including Bill Gates—are focused on this market. People forget that when the personal computer was in its infancy, those who established the industry were considered hippies and freaks. There are plenty of places to pioneer today, and if you have a hankering to pioneer, the world is open to you. There are always new problems to solve, for those who seek them out.

Of course the established main street locations are already taken. No one is promised a world without an establishment. Today, if I want to create a personal computer operating system, I am going to have to contend with Microsoft and relate to Intel. Personal computing is simply not at the edge anymore. The same will be true in the metaverse if I want to set up shop next to a popular hangout on Main Street. But if I am willing to head out to the edge of town, the sky is literally the limit.

There is an infinite amount of software to be invented and built. Software follows Godel's law—as soon as a system is defined, a new alternative and meta system can be conceived. Software goes on and on. Software invention will never end, just as ideas will never end. Any attempt to take possession of the world of software, to dominate software, will sooner or later fail, as long as people are free to think. Software is not like real estate. It cannot be "enclosed" like a park made private. Unlike land, which "they aint making any more of," people just keep on making new software.

Software builds on software—indeed, inventions build on inventions. Ideas morph, new memes emerge, evolve, differentiate, split, replicate, adapt, and create new ideas.

Software is made, not born. Software developers apply Edison's two classes of creativity—inspiration (1%, said Edison) and perspiration (99%). Software is invented, refined, tested, distributed, feedback collected, and refined and reinvented. People do this. Inventors do this. Software engineers and designers tend not to think of themselves as inventors because, unlike, say, mechanical engineers who make high technology weaving machines to spin metal fabrics (I met a very nice one of these folk the other night in a dive bar in Cambridge, down near MIT), software engineers spin their ideas in the comparatively intangible world of code.

Though software is intangible, it is quite real. It is, as they say in accounting, an asset. When software is developed by the inspiration and perspiration of a person, a team, a company, it is rightfully the property of its creators and or their employers and financers. Just a few years ago intellectual property was considered an arcane part of the economy, and was relegated to technologists and legal specialists. Now intellectual property is recognized as the central contributor to the modern economy. Intellectual property is what an iPod is made of, a supercomputer is built from, and new forms of manufacturing are established on. The central contributions in any of these situations are ideas, not the plastic, the gallium arsenide, or the steel of the machines.

People who own intellectual property are free to do with it pretty much as they wish. Like tangible property, owners of intellectual property can give it away, rent it to others,

or just sit on it. One of the wonders of intellectual property is that it can often be shared with as many others as one likes, without diminishing its value to any one user. It is said to be "non-rivalrous" by economists, because two users need not be rivals in relation to it.

Intellectual property is simply yours by dint of your having developed it. On the other hand, intellectual property is regrettably easy to steal. Just as it is often not diminished by being shared, it is often just as valuable to a thief as to its owner. Stories abound about independent software inventors who meet with members of large software companies, are wined and dined with the promise of a job, share their ideas—and then realize months or years later that their ideas were stolen in the process.

Patent protection and the threat of litigation is the strongest way to deter and/or remedy theft of software-based intellectual property. This is a controversial statement in some circles, but I believe it strongly. A review in last year's Economist provides support for the proposition. Without a patent, an independent inventor or small company is at the mercy of the market strength, financial resources, and intimidation power of large companies. Many, many innovative products and services have been crushed by the sheer competitive assault of the largest technology companies. A world without patent protection would not favor small players, it would take away one of the only means a small player has available to become established in the marketplace.

Unfortunately, most independent software inventors and small companies do not have the expertise or resources to file effective protective patents. Even when they are issued valid patents, the small companies have difficulty enforcing them. Thus the patent system is inaccessible to those who need it most. By contrast, large companies employ armies of attorneys and intellectual property specialists, and leading firms file patents continuously throughout the year as a matter of routine business practice.

In the current round of fox-in-the-henhouse "patent reform" IBM and Microsoft now argue for a world where fewer new patents are issued. Both are sponsors, for example, of the "Peer to Patent" project that is intended to help patent examiners challenge patent applicants more aggressively than today. If fewer patents are issued, but existing patents are not revoked, IBM and Microsoft win because they already possess vast existing portfolios of patents that arguably are rendered more valuable in a world where fewer new patents are issued.

Consider the facts. IBM has a portfolio of more than 31,995 patents, and Microsoft announced on March 6, 2006 that it had been issued its 5,000[th] patent. Microsoft has a well-publicized goal of filing more than 3000 patents per year starting in 2005. This

number is, not coincidently, how many IBM has filed each of the past three years. A look at the 2005 annual scorecard technology company patents, many of which are for software innovations, is daunting:

> IBM filed more patent applications than any other company with the U.S. Patent and Trademark Office (USPTO) in 2005 to once again lead the annual ranking put out by the U.S. Department of Commerce office.

> The company filed for 2,941 patents in 2005, which is down from 3,248 applications in 2004 but still well ahead of second-ranked Canon, which filed 1,828 applications, the USPTO said Thursday. The figures are preliminary and subject to correction in the USPTO's annual "Patenting by Organizations" report that is due out in several months.

> IBM has been the top corporate filer of patents since at least 1994, according to data on the USPTO's Web site.

> The number-three filer for 2005 was Hewlett-Packard Development Co., 1,797 applications; followed by Matsushita Electric Industrial (Panasonic), 1,688 applications; and Samsung Electronics, 1,641 applications. The remainder of the top ten was: Micron Technology, 1,561; Intel, 1,549; Hitachi, 1,271; Toshiba, 1,258; and Fujitsu, 1,154.

What is the answer, in a world of giants, of multinational patent mills? How can individual innovation be supported? Must we all live in fear of idea theft by large corporations? Must we all finally succumb and become employees of these same firms?

The problem is particular acute in the new Web 2.0 software and web services ecosystem. Very small companies can now develop very powerful new inventions (read TechCrunch daily if you hope to try to keep up). Indeed, much of the most vital innovation is being accomplished by independent developers and tiny, creatively-focused groups. How can these individuals and teams be helped to thrive?

The best approach may be to join together independent inventors and small company entrepreneurs into something of an intellectual property union or cooperative association. By aggregating patents together into portfolios, the distributed contributions of many smaller players can be brought together to achieve economies of scale and scope.

Jim Moore, The Software Patent Process can be your Friend 4

I am involved in one such initiative, called [Share Patents](). Share Patents is a project of Newsilike Media Group. Share Patents aims to accomplish four things:

First, Share Patents will aggregate the inventions of small players, and pursue patents on behalf of them. By contrast, most work on patent pooling currently happens among large companies, and has the effect of excluding small players or insisting that they relinquish their ability to pursue damages against the largest companies.

Second, Share Patents will make licenses available on an open and free or low-cost basis for educational and public interest purposes. In this way it will be analogous to [Creative Commons](), which is a platform for open licensing of copyrights. Share Patents is an example of the open licensing endorsed by the Patent Commons project.

Third, Share Patents will establish a sustainable business model for commercial licensing, so that funds are collected that can be reinvested in research and development and the establishment of rights for inventors. One of the major barriers to small companies pursuing public interest licensing is that the venture capital community has in general insisted that startup companies hold all assets close, including intellectual property assets. We believe this is short-sighted, and would like to take at least a small step toward changing this convention.

In this initiative we have a unique partnership with intellectual property progressives in the venture capital community. The partners in Newsilike are also co-founders and general partners of the [RSS Investors Fund,]() which is a socially-oriented venture fund established to support Web 2.0 companies. [Schooner Capital]() is invested in Newsilike, and Newsilike shares ownership of [TopTenSources]() with [Highland Capital](), Schooner, and RSS Investors Fund.

We wish to demonstrate a business model that balances public and private values while being attractive to institutional investors. If we can succeed at this, we anticipate that great amounts of financial capital may then become available to socially responsible software firms. Complementarily, we expect that progressive entrepreneurs of current day venture funded companies will be better able to advocate open, public interest licensing of their intellectual assets.

Fourth, Share Patents will use the patent process to stimulate idea sharing and transparency of innovation across the software industry. Perhaps surprisingly, our experience in the software industry reveals that systematic patenting is a powerful enzyme for breaking down intellectual walls and offering each other insights into our

respective creative minds. In exchange for being considered for a patent, one must document publicly one's invention. The exact process varies from nation to nation, but in every case the fundamental quid pro quo is sharing one's ideas. In the US an application document is published by the patent office after within 18 months of its earliest official filing, which is often years before a patent is granted, if at all.

Consider the following discussion from the "Patent" article in Wikipedia:

> The term "patent" originates from the Latin word *patere* which means "to lay open" (i.e. make available for public inspection)…in accordance with the original definition of the term "patent," it is argued that patents facilitate and encourage disclosure of innovations into the public domain for the common good. If inventors did not have the legal protection of patents, they may prefer or tend to keep their inventions secret. Awarding patents generally makes the details of new technology publicly available, for exploitation by anyone after patent protection ends, or for further improvement by other inventors. Furthermore, when a patent's term has expired, the public record ensures that the patentee's idea is not lost to humanity.

Do you want to understand the mind of Google? Read this compilation of the public record of Google patenting, available on convenient CD. Do you want to know what Steve Jobs of Apple Computer is thinking about, especially in relation to RSS and blogging? Read these pending patent applications.

Patents are a most open form of intellectual property protection, because patenting requires publishing one's invention, and documenting it so that a person "schooled in the ordinary arts" of the profession can duplicate it. Patent documents covering software are inherently open source, in contrast to the closed world of software trade secrets—where code is buried in compilation. Even software copyrights have become a way to veil key innovations, due to the requirement that only part of the code need be disclosed in order to gain copyright over the whole.

We are committed to these same values are at the heart of parent company Newsilike. Newsilike is a commercial company with a social mission to expand participation in the Internet. Among other things, we aim to provide technology that can help keep the Internet free of censorship and content blocking. Newsilike is developing global scale Internet communication platforms based on standards RSS and OPML. Both, incidentally, invented by an individual, Dave Winer, sometimes working alone and sometimes with small teams and companies. OPML, in particular, we see as powerful,

scalable platform for web content management. For example our OPMLWorkstation.com project is a free, public, library-like collection of user-contributed directories that are intended to be accessed from even the least powerful computer, anywhere in the world. Indeed, the first patent application that Newsilike is contributing to Share Patents concerns technology to support the scaling out of open, XML-based networks.

I close by speaking to individuals and entrepreneurs in small software and web service companies. Don't despair patents. The problem is not the software patent process. The software patent process can be your friend. The problem is that this process—like many in our society—is difficult to access unless you have money and are part of the establishment. So join together with others to get what you need. Over the next few months Share Patents will be releasing white papers that are intended to provide guidance to the process. Keep in touch. We look forward to meeting you and working with you. Viva Web 2.0!