

From: Daniel Tunkelang [e-mail redacted]
Sent: Saturday, September 25, 2010 9:01 PM
To: Bilski_Guidance
Cc: [e-mail redacted]
Subject: please support innovation by ending software patents

To whom it may concern at the United States Patent Office:

Since completing my undergraduate studies in mathematics and computer science at the Massachusetts Institute of Technology (MIT) and my doctorate in computer science at Carnegie Mellon University (CMU), I have spent my entire professional life in software research and development. I have worked at large software companies, such as IBM, AT&T, and Google, and I also was a founding employee at Endeca, an enterprise software company where I served as Chief Scientist. I am a named inventor on eight United States patents, as well as on eighteen pending United States patent applications. I played an active role in drafting and prosecuting most of these patents. I have also been involved in defensive patent litigation, which in one case resulted in the re-examination of a patent and a final rejection of most of its claims.

As such, I believe my experience gives me a balanced perspective on the pros and cons of software patents.

As someone who has developed innovative technology, I appreciate the desire of innovators to reap the benefits of their investments. As a founding employee of a venture-backed startup, I understand how venture capitalists and other investors value companies whose innovations are hard to copy. And I recognize how, in theory, software patents address both of these concerns.

But I have also seen how, in practice, software patents are at best a nuisance and innovation tax and at worst a threat to the survival of early-stage companies. In particular, I have witnessed the proliferation of software patents of dubious validity that has given rise to a “vulture capitalist” industry of non-practicing entities (NPEs), colloquially known as patent trolls, who aggressively enforce these patents in order to obtain extortionary settlements. Meanwhile, the software companies where I have worked follow a practice of accumulating patent portfolios primarily in order to use them as deterrents against infringement suits by companies that follow the same strategy.

My experience leads me to conclude that the only beneficiaries of the current regime are patent attorneys and NPEs. All other parties would benefit if software were excluded from patent eligibility. In particular, I don't believe that software patents achieve either of the two

outcomes intended by the patent system: incenting inventors to disclose (i.e., teach) trade secrets, and encouraging investment in innovation.

First, let us consider the incentive to disclose trade secrets. In my experience, software patents fall into two categories. The first category focuses on interfaces or processes, avoiding narrowing the scope to any non-obvious system implementation details. Perhaps the most famous example of a patent in this category is Amazon's "one-click" patent. The second category focuses on algorithm or infrastructure innovations that typically implemented as inside of proprietary closed-source software. An example in this category is the patent on latent semantic indexing, an algorithmic approach used in search and data mining applications. For the first category, patents are hardly necessary to incent disclosure, as the invention must be disclosed to realize its value. Disclosure is meaningful for patents in the second category, but in my experience most companies do not file such patents because they are difficult to enforce. Without access to a company's proprietary source code, it is difficult to prove that said source code is infringing on a patent. For this reason, software companies typically focus on the first category of patents, rather than the second. And, as noted, this category of innovation requires no incentive for disclosure.

Second, let us ask whether software patents encourage investment in innovation. Specifically, do patents influence decisions by companies, individual entrepreneurs, or investors to invest time, effort, or money in innovation?

My experience suggests that they do not. Companies and entrepreneurs innovate in order to further their business goals and then file patents as an afterthought. Investors expect companies to file patents, but only because everyone else is doing it, and thus patents offer a limited deterrent value as cited above. In fact, venture capitalists investing in software companies are some of the strongest voices in favor of abolishing software patents. Here are some examples:

Chris Dixon, co-founder of software companies SiteAdvisor and Hunch and of seed-stage venture capital fund Founder Collective, says:

Perhaps patents are necessary in the pharmaceutical industry. I know very little about that industry but it would seem that some sort of temporary grants of monopoly are necessary to compel companies to spend billions of dollars of upfront R&D.

What I do know about is the software/internet/hardware industry. And I am absolutely sure that if we got rid of patents tomorrow innovation wouldn't be reduced at all, and the only losers would be lawyers and patent trolls.

Ask any experienced software/internet/hardware entrepreneur if she wouldn't have started her company if patent law didn't exist. Ask any experienced venture investor if the non-existence of patent law would have changed their views on investments they made. The answer will invariably be no (unless their company was a patent troll or something related).

<http://cdixon.org/2009/09/24/software-patents-should-be-abolished/>

Brad Feld, co-founder of early-stage venture capital firms Foundry Group, Mobius Venture Capital and TechStars, says:

I personally think software patents are an abomination. My simple suggestion on the panel was to simply abolish them entirely. There was a lot of discussion around patent reform and whether we should consider having different patent rules for different industries. We all agreed this was impossible – it was already hard enough to manage a single standard in the US – even if we could get all the various lobbyists to shut up for a while and let the government figure out a set of rules. However, everyone agreed that the fundamental notion of a patent – that the invention needed to be novel and non-obvious – was at the root of the problem in software.

I've skimmed hundreds of software patents in the last decade (and have read a number of them in detail.) I've been involved in four patent lawsuits and a number of "threats" by other parties. I've had many patents granted to companies I've been an investor in. I've been involved in patent discussions in every M&A transaction I've ever been involved in. I've spent more time than I care to on conference calls with lawyers talking about patent issues. I've always wanted to take a shower after I finished thinking about, discussing, or deciding how to deal with something with regard to a software patent.

I'll pause for a second, take a deep breath, and remind you that I'm only talking about software patents. I don't feel qualified to talk about non-software patents. However, we you consider the thought that a patent has to be both novel AND non-obvious (e.g. "the claimed subject matter cannot be obvious to someone else skilled in the technical field of invention"), 99% of all software patents should be denied immediately. I've been in several situations where either I or my business partner at the time (Dave Jilk) had created prior art a decade

earlier that – if the patent that I was defending against ever went anywhere – would have been used to invalidate the patent.

<http://www.feld.com/wp/archives/2006/04/abolish-software-patents.html>

Fred Wilson, managing partner of venture-capital firm Union Square Ventures:

Even the average reader of the Harvard Business Review has a gut appreciation for the fundamental unfairness of software patents. Software is not the same as a drug compound. It is not a variable speed windshield wiper. It does not cost millions of dollars to develop or require an expensive approval process to get into the market. When it is patented, the “invention” is abstracted in the hope of covering the largest possible swath of the market. When software patents are prosecuted, it is very often against young companies that independently invented their technology with no prior knowledge of the patent.

<http://www.unionsquareventures.com/2010/02/software-patents-are-the-problem-not-the-answer.php>

In summary, software patents act as an innovation tax rather than a catalyst for innovation. Perhaps it is possible to resolve the problems of software patents through aggressive reform. But it would be better to abolish software patents than to maintain the status quo.

Sincerely,

Daniel Tunkelang

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Daniel Tunkelang

<http://thenoisychannel.com/>