



e-Patents and financial investing

Introduction During the hearing about patenting software on May 8, 2003 in Brussels Laura Creighton spoke in an illustrative way about the subject. She gave permission to publish the text at Vrijschrift.org. Reading this is a good starting point to get familiar with the threat software patents cause to our society.

Laura's story

Hello, my name is Laura Creighton, and I am a financial investor. I am here representing my own company AB Strakt, where I am a founder and a Member of the Board of Directors (<http://www.strakt.com>) and the Python Business Forum (<http://www.python-in-business.org>) a non-profit organisation representing 50 companies, from all over the world, who develop software using the Programming Language Python, and myself as a small investor. Since January 2000 I have invested nearly 3 million Euros in small software companies in Europe. I would like to explain to you why Software Patents, far from increasing competitiveness, actually destroy competitiveness and are detrimental to my industry as a whole and thus to all members of Society.

I am not here to denounce the Patent System in general, or to object to the notion of one central European Patent Office. These goals are laudable. My objections centre around software patents and software patents alone. I would like, at this time, to remind you that what you are being asked to do is to create new law, and change existing practice. You are being asked to regulate something which has never been regulated before, and establish a monopoly in software creations. I have read the proposed legislation, and nowhere do I see any claims as to why Society will be better off if we allow software patents. The best I could come up with is that some people think that it would be good to have software patents because the Americans already have them, while other people believe that if patents are good for other technology based industries, then they ought to be good for Software as well.

These are both misconceptions. First of all, the granting of Software Patents in the United States is an extremely recent phenomenon. Later today you will hear from American regulators, lawyers, and legal experts who will report on the results of this experiment. The findings are uniformly negative (see: James Bessen and Robert M. Hunt, "An Empirical Look at Software Patents" <http://www.researchoninnovation.org/swpat.pdf>). American software patents are not responsible for the Internet, or the editors and other programs with which you are likely familiar. We built all of these things before there were software patents in the United States, at a time when software, if protected at all, was protected by Copyright and Trade Secrets. These protections already exist here in Europe as well. They work fine. So the question then becomes: 'Why are you being asked to change existing practice?'. As the colloquial expression has it: 'If it ain't broke, don't fix it.' Why are you being asked for a fix to a non-existent problem?

A large portion of the blame comes from my corner of the world -- the investment corner. In order to understand why many venture capitalists are in favour of software patents (or were at one time), we need take a brief, historical tour of the Patent System, itself (historically speaking) a recent phenomenon. (For those who are interested, a more detailed tour is available at <http://www.patent.gov.uk/patent/history/fivehundred/origins.htm>)

Why has Society traditionally handed out patents? What do we get for the trouble of creating a new class of prohibited activities, and making more work for our existing civil servants? Why Patents? Traditionally, there have been five reasons, which I will outline.

The earliest patents were King's monopolies. The King would grant a monopoly, because he wanted to. This leads to:

1. A way for the King to reward his supporters and friends, and often to enrich his own coffers.

These sorts of Patents and Monopolies were common. Society did not benefit, and was indeed harmed by such patents. (In England, patent abuse was directly responsible for the removing of the King, and his head.)

2. To import a technique that exists in some other part of the world into a country where the technique was unknown.

Sometimes, the only way to import a new technique was to grant a limited monopoly to a foreign expert. For instance, the earliest known English patent for invention was granted by Henry VI to Flemish-born John of Utynam in 1449. The patent gave John a 20-year monopoly for a method of making stained glass, required for the windows of Eton College, that had not been previously known in England.

Granting this sort beneficial patent was seen by Society (and the king) to be the lesser of two evils. It presents the typical case, where Society is told, in effect, 'grant the monopoly or do without'. Without the Patent, John of Utynam would have stayed home.

3. To enforce standardisation.

When the initial English train inventors began to produce trains, each picked a different size of a wheelbase. Thus the tracks were set at different distances apart, and each train could only run on his own set of tracks. This was hideously inefficient. From time to time, Society grants monopolies, in areas such as telephony, out of an intense desire to make sure that everybody in Society is in the same system. In this case the monopoly, generally a thing to be avoided, is what is desired for its own sake beyond all other considerations.

These days, most of this effect can be had by mandating that all producers abide by some common standard, rather than by allowing one player's current practice to become the standard by forbidding others to compete with him.

4. To allow inventors to acquire private capital.

An inventor often needs capital in order to build a factory for the manufacture of his invention. In some nations, most recently among the South-East Asian 'Tigers', the government sees the provision of such capital as one of its jobs, but generally this is left to private investors. (People like me.) But people like me are reluctant to part with our capital without assurances that the other private financiers are not all trying to back similar projects. On the day our new factory opens, we don't want to discover that there are 14 other factories scheduled to open the very same week.

This is especially true because it is atypical for the first entrant into any market to also be the most successful. Later entrants take the successful idea, and skip the mistakes made by the pioneers, to produce a more profitable company. With the granting of monopolies, the nature of the competition changes. The initial company only has to establish such a commanding lead that nobody can catch them. They will thus forever remain the market leader. Their early mistakes go unpunished, since nobody is competing with them in their industry.

This is bad for Society. But the alternative is worse. Private capitalists would refuse to lend. They would wait, hoping that somebody else would be the pioneer, and they would only be 'the team that did it better'. This would result in many inventions never reaching market at all. Once more, the Patent is seen as the lesser of the two evils. 'Grant the monopoly of do without', again.

The computer industry has seen plenty of these sorts of patents -- hardware patents. We will come back to them later.

5. To defer the extremely high development costs of new products.

This is a relatively new development. Society has seen fit to grant monopolies because some useful products have enormous development costs. For instance, in the pharmaceutical industry, researching a new drug is fairly cheap and easy -- but the clinical trials necessary to demonstrate that the new product does not harm consumers is overwhelmingly expensive. Pharmaceutical companies have plead for and received the right to 'gouge' the local consumers by selling new drugs much above cost, in order to defer these costs. Again, this is a case where the benefit is considered to outweigh the disadvantages. If we did not grant such monopolies, then the government might have to foot the bill for the clinical trials. Better to let private enterprise do this, and have the users to the newly developed drugs pay more than they would otherwise need to -- after all, before the drug was developed and tested, they were doing without.

There is a down-side. Pharmaceutical companies are motivated to develop drugs which they can sell to the developed world at monopoly (high) prices. Thus research lags for drugs which would cure or ameliorate the diseases of the poor, who cannot subsidise any clinical trials whatsoever.

Now, which of these five reasons apply to the proposed new category, software patents?

Could it be #5? To offset development costs?

Not a chance. It is only very rarely, as for the deployment of a new Air Traffic Control System, that software has high development costs. Software is extremely cheap to develop, compared to other industrial products. There are virtually no material costs. You really can start a computer company in a garage -- this is still going on, and out there in the audience are people who are doing just that. Almost anything else which one can develop will cost more -- scientists need laboratories, and non-software engineers require materials with which to create things. The only comparable activities are in the Arts or Humanities -- composing music, writing a book, developing a new philosophy or theory.

What about #4? To allow inventors access to private capital?

On the face of it, this seems plausible. But it doesn't stand up, either. Hardware companies need capital, indeed, to build factories, but the demands of Software companies are much more modest. The following is the normal development pattern of small software companies, who intend to produce a product for retail. (Note, that companies who intend to produce a product for retail, rather than a service are in themselves, unusual. Most people who develop software do so as part of the day-to day running of the companies who hire them as 'the in-house expert', either full time or as a consultant. What they produce is not intended for retail at all. These people will be effected by Software Patents as surely as those of us who are developing commercial products, but I will leave them to tell their story.)

Here is how things work in the Retail Software Industry. A few -- at most 5 -- people get together to form a company and develop a piece of software. They look for funding. Unless some of the founders have rich parents, they receive none -- because they cannot convince the lenders to lend. This is because all they have to offer is their very bright idea. Ideas about the software I intend to develop are akin to ideas about the hit-CD my band intends to produce, or the great novel I will write some day. They sound great, but only rarely live up to their dreams. In the Software industry, we have a word for such unrealised dreams. We call them 'vapourware'. And financial lenders have learned to not invest in 'vapourware', for obvious reasons.

Undiscouraged, our hero-founders decide to develop their software anyway. In order to fund their venture, they take on a consulting contract, typically in an unrelated, but lucrative field. This means that their product gets developed more slowly than would otherwise be the case. If all goes well, they reach the point where they would dearly love to jettison the consulting business, and make all of their income on business related to their new product. Or, if their consulting business is related to their product, they need to expand.

In short, they need a round of financing. This is where I come in. This is where I do my investing, and most small innovative software companies need cash to the tune of 50,000 to 250,000 Euros. This is an incredibly small sum. There is a tremendous need for this sort of funding, but it is very hard to find. And Software Patents will not help you acquire this. The amount of money you need to 'go around the corner' is one or two orders of magnitude smaller than the amount of money that you need to open a factory. It is the same problem that faces small businesses in every industry.

The American experience argues that Software Patents were contributory to the Internet Stock Bubble, and our current climate of economic weakness. American Venture Capitalists, who were used to funding hardware manufacturers to the tune of tens and hundreds of millions of dollars, were uninterested in investing small sums in software companies. They were, however, interested in investing large sums - the sort of numbers with which they were comfortable. But before the existence of software patents, it was very difficult to get them to invest large sums of money in software, because they could not tie their money to any tangible asset. As the expression goes: 'it was all vapourware'.

Software Patents changed things. When people were able to patent their ideas, they were able to go to the capitalists and receive a lot of money. Thus they began startups with scores of people, way too much equipment, and a funny idea which might or might not work. Too much money rushed into ventures which had little or no hope of ever being profitable. Too large an initial development team meant that the

fledgling companies began with a communication burden which is typical of large, well established companies. Often they could never develop the software at all. When they could develop it, it suffered from being developed by too many people. Acrimonious fights abounded. Small groups of 2-3 people went their own way and had a great time producing something that was unrelated to the core business. People changed their minds as to what was their core business more frequently than they changed socks. And all of this didn't matter -- as long as the money came in. Software Patents encouraged venture capitalists to make foolish investments, because they believed the patents were worth something. Venture capitalists often do not mind if the companies where they have invested go bankrupt -- as long as they hold title to the patents. They can start over again with a different team.

Sadly, when the bubble burst, the venture capitalists discovered that their patents were only good for a trip to court -- or at least some legal wrangling with a bunch of lawyers. A software patent is not like a hardware patent, where typically one, or at most a few covers the whole invention. Dozens, sometimes hundreds of patents, are relevant to any piece of software. So an investor, who now owns the assets of a defunct company -- cannot take its patents and hand them to a new development team and say 'build this'. It is impossible to develop software today without infringing somebody's American patent.

The venture capitalists, having lost fortunes backing companies which had no real product, are now uninterested in investing in any software companies whatsoever. Right now the American economy could benefit from more investment -- but the capital is not going into software companies. Again, part of the problem is software patents. The venture capitalists have learned that all software is in violation of somebody's patent. So they do not want to touch the stuff. Thus on the up side, and the down side, the existence of software patents have contributed to creating the stock bubble, and making the recovery slower and harder than it needed to be. So #4 is right out -- the existence of software patents are inhibiting investment right now, and for very good reason.

What about reason #3? Would we get badly needed standardisation?

Would we make sure that all members of society used the same system? Not at all. We have standards committees for when we need standards. Granting a monopoly would not produce a better result for those rare cases where we desire one standard for all. Software changes so rapidly that users of version X of some program frequently find that their files cannot be read by version X+1. And consumers frequently complain about 'lock-in' -- an industry practice where users of a system cannot change to a competitors system because the conversion cost is too high. The fact that they bitterly desire to change vendors is a strong indication that we should not grant monopolies. We could generate software standards this way, but we do not want them.

What about reason #2? Do we need to import a technique which is not known in Europe from the rest of the world?

Not in today's global marketplace. Assuming that you can find a desired software technique which is unknown in Europe, -- you will also find a salesman who trying to sell it to us.

This leaves us with reason #1 -- a way for the king to reward his favourites and increase his own coffers.

The modern insiders are not the friends of the monarch, but patent lawyers, insurance companies, and other assorted purveyors of overhead. They will come out very nicely under this scheme. It will also be good for large businesses. They already have large legal staffs. If they can manage to make 'and have good lawyers' as part of what a company needs in order to compete within an industry, they are well on their way to locking out the small and medium sized business. Right now, it is commonplace to demand that software produced 'for hire' by independent contractors be indemnified from patent violation. Since this is impossible, what contractors do is to buy insurance, which is hideously expensive. We are talking about tens of thousands, sometimes hundreds of thousands of Euros here. Small businesses generally cannot afford it, so they simply cross their fingers and pray they are not sued. Those rare ones that can afford such things are treated to an experience that has the same flavour as paying the Mafia 'insurance' to make sure that one's business does not burn down.

And as for the monopoly-holders? They often damage themselves in the process, because the possessor of a monopoly tends to milk it for profits now, rather than innovate in order to create more profits later. Again, the computer industry has an instructive example. When IBM released the IBM-pc, they did not patent the architecture. As a result, people in south-east Asia quickly began making cheap IBM-pc compatible 'clones'. In the short term, this was bad for IBM. It was, however, good for Society -- the price of computers plummeted, and soon everybody could afford one. And, over the long haul, this has been good for IBM as well. Right now they are selling programs and services to a whole host of people who would never have become customers if computers had remained expensive. Not having the IBM-pc monopoly has benefited IBM, illogical as it seems at first glance.

Notice that I did not mention the reason why most people incorrectly assume that patents will be good for any industry. They assume that patents protect 'the little guy' from the Big Companies. But in the case of software patents, the reverse is the case. The Python Business Forum unanimously condemns software patents as being harmful to their businesses. On the one hand, large companies hold more software patents than small ones. This means that it is much more likely that Big Company will be suing you, than the reverse. Since it is impossible to develop software without violating somebody's American patent, many European companies have quietly decided to do without the American market. Lucrative though it may be - the legal uncertainties make the United States unattractive.

Right now if you produce software in the United States you can be sued at any time for patent infringement. It is impossible to avoid violating patents, which are often left for the courts to determine in any case. One typical practice is to wait until a company is about to 'go public' -- to sell its stock on NASDAQ or the New York Stock Exchange. Suddenly, you are told that you are in violation of some patent or other. The patent holder - often a company that does nothing but hold software patents and wait for companies like yours to go public, will be happy to drop his lawsuit with you if you will sign a licensing agreement for some undisclosed amount of money.

Most companies pay - even if they believe that they could defeat the claims in court. Not only is it likely to be cheaper to settle than to litigate, but one cannot afford to have the cloud of litigation as one launches one's Initial Public Offering. Better to pay the sharks. This is why the sharks stay in business -- they simply wait for companies to go public and bleed them at this time. This is bad for business. It is an unofficial 'tax' on going public, rent seeking of the worst sort.

But let us say that the unusual does occur. Let us say that you are a real inventor, not a pure rent-seeker, and you patent a piece of innovative software. Then you find that Big Company is in violation of your patent. Terrific News, no? Actually not. The first thing that Big Company will do is to look at your software, and point out that you are in violation of several dozen of their patents. They will then offer you a cross-licensing agreement. You will get to use their patents, and they will get to use yours. This, of course, does not suit you, who

want to stop Big Company from competing with you, but Big Company has the cash, the lawyers, the time, and the experience to put up a fight. Most small companies give up at this point and let Big Company do whatever it wants. But let us say that you are more stubborn. You decide to go to court.

How do you pay for your lawyer? In most cases, you pay him by assigning him some percentage of rights to your patent. (Make sure that you save some back to pay him for the inevitable appeal.) Usually the small inventor loses. But even when they wins it is often a pyrrhic victory -- the court vindicated their position, but now their lawyer owns the invention. They have wasted precious months, often years of their lives in court, rather than creating. Society has lost again, the lawyers have won, and Big Company continues on as usual, often purchasing the patent at some ridiculous low price.

Software Patents have not protected the Small inventor from the Big Company -- instead they have made legal expertise an additional barrier to entry into the software business. And they scare investors like me out of investing in software businesses. In the United States there are plenty of companies whose fervent desire is to become successful enough to make their founders comfortable -- and no more successful. They are trying very hard to remain 'too small to be worth suing'. This does not benefit Society either.

And Software Patents harm the Small investor such as myself, and those companies I would like to invest in. These days I need to reserve capital in case my own companies get sued. Thus capital is tied, while hungry startups go without. This, too, benefits only the existing players, who have eliminated the competition long before it could develop into a threat. Society is worse off.

In conclusion, software patents are a failed American experiment. We should not embrace American mistakes, because they do not benefit Society, and indeed harm the small and medium sized businesses which are the source of nearly all innovation. I appeal to you to not institute software patents, to the detriment of all of us. It is _not_ broken. Please do not try to fix it.

Laura Creighton

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