

Patents against Democracy about the anatomy of a prevented abuse

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This paper was prepared as a manuscript for the plenary discussion at the conference “from legal word play to economic reality”¹ at the hearing of the European Parliament at the 8th of Mai 2003².

The software patent directive as well as the current practice of the APO exhibits several error. This article discusses some consequences and suggest ways out of the dilemma.

The problem of the discussion about software patents is, that intellectual values are counted up against economic advantages and intellectual achievements are mixed up with natural law. Both topics have to be discussed strictly separate. In the first part I’ll discuss the impact of inadequate patent law as regarding the show case – my own company attacking civil liberties. Here we’ll have to defend the rights of the individual and sovereign (the people) and draw a border of negotiable and inalienable rights. The second part (page 5 ff.) will try to outline an idea, how to identify elements, which could become subject to patents.

For the sake of illustration I want to show how I – as a German company – have to abstain from taking a patent because otherwise law and order would be at risk. This risk is naturally a bit theoretical, because justice would have to stop the nonsense. Therefore we need to pinpoint the mistakes.

The danger persists anyway: any lawsuit is a severe threat for small and medium enterprises, no matter who would eventually win. The cup of hemlock for a legion of software developers is the planned change in the patent law.

As a company we organize a network of service providers on the basis of the first intrusion resistant, free operating system Askemos. The aim is to provide document management like electricity, so to say “from the wall plug”. Inclusive fine granular administration free management of access and usage rights. That’s it. – No it’s not.

The story starts with the analysis of rights management and the question whether at all software should be patentable and if so where to draw the fence. At one side I had an insight, which has a useful effect, once written down as a program – tax Euro. At the other hand a patent is a monopoly and a program text is just an expression. The conflict with the right of free speech just ahead.

1 Loosing the Reality – The world without material

There is a technology, which wants to “change the world”. That’s the important thing to do, at least according to Karl Marx (11. Feuerbach-These). New technology needs new legal concepts – he says. There’s less danger in Europe from Marxists at that very moment than from certain patent attorneys.

¹ <http://swpat.ffii.org/termine/2003/euoparl/05/07/index.en.html>

² <http://www.greens-efa.org/en/agenda/detail.php?id=998>

That's why we better check before. Whether this new technology fulfills the requirements to grant their masters a monopoly and whether or not these newly required concepts are consistent with the legal concept which has cost so much trouble to build during the last three centuries. If not, we'll have to ask ourself, which concept is of higher value.

We might want to trade stock options, but we keep our inalienable rights. A dynamic concept of legal certainty, modeled after stock indexes, is something Europe simply doesn't need.

Three examples shall illustrate along the way, which serious impact comes from careless abandoning the difference between material and idea just to make it possible to patent "virtual technology", i.e., intellectual creations.

1.1 The patented Truth

We need just one mistake in a chain. From that point we can derive the worst nonsense – completely logical. We find the spot in both the current law and the proposal of the 20th Feb 2002. Both exclude software "as such" from patent law.³ Such a wording can only come out, if it has been impossible at that time to find a better definition.

Error ...

What does "as-such" say? It's encouraging that also Noel Mamère, whom the French greens nominated for president, opposes these words. But we want to think ourself. "As such" is either an empty phrase and not good to describe software, or it points towards a philosophical discussion, which goes back to Platon.

In short: "as such" asks for the essence of the things. How does it come that I can distinguish two horses at one hand and abstract them in the idea of a horse. Without an answer we know: the horse "as such" exists only in the head, but not in real life. As much as software "as such" doesn't exist at all. The "as such" clause allows to reduce the traditional basis of all science to just about nothing. All discussions about freedom, law and order, as it lives since the time of enlightenment can be closed as well. We can't talk about software "as such" but just as it exists in real life.

Now, if one makes a mistake when sticking and interpretation onto this "as such"... then the whole proposal becomes nonsense, logically.

Actually it looks as if the mistake has been made. Looking at the far reaching consequences, we better take a moment to really understand it.

The mistake is to assume that information can be piled up as material things can.

But that's at odds with the nature. Natural languages express the difference with the words for "the same thing" and "equal to each other". In colloquial speech people mix them up quite often.

One example: If all of you affirm me – maybe even several times – that I'm existing, I will not learn anything new; I definitely will not be cloned that way. You all say the same truth, even though in a different way.

Would you instead give me a Euro, I had a profit. But don't forget, until today you are allowed to copy the truth. Regarding the Euro you better hide yourself.

Conclusion: All virtual copies are in effect equal pictures of the fact they express. Yet another copy of them increases the chance to conserve the fact. Besides that it never creates *new* value. Much in contrast to the material world, where copying always incurs labor.

³About the exception of programs, rules of organisation and other rules we read in recital 7: "These rules [...] have their Berechtigung nur [...] da die besagten Gegenstände und Tätigkeiten as such don't belong to a field of technology."

<http://swpat.ffii.org/papers/eubsa-swpat0202/prop/index.de.html#recit7>

Virtual objects may describe reality, but they don't have to, because the the law of nature doesn't apply. "Harmonisation & Clarification" can be achieved, when the "as such" clause is replaced by a clear definition of rules and laws.

...and Trial

Software has – as everything in live – two sides: theory and reality.

The most part of software belongs to reality. Often repeated patterns, only distinguished by small details. repeated in the aim of a certain effect. The interesting part for the theory is the program text by itself. For that one we use formal languages, as mathematics and physics do. These languages form expressions for algorithms, facts and everything else. At the end we are concerned about true and false here.

Sometimes it might be tedious to distinguish between reason and effect, but is must be in the interest of the whole society to keep access to knowledge, truth and reasons equally open for all it's members.

Under no circumstances we can allow to make algorithm, descriptions of natural law – simple truth – the subject of a patent. The society would have to take the right to use the truth from all individual members (and finally from itself) to grant a monopoly to a single one.

Far too much allows the proposal in point 6 of the preface, when it reads ⁴: "the holder of a patent [...] has the right to prevent third parties from using *any software* which implements his invention (as defined by the patent claims). This principle holds even though various ways might be found to achieve this..."⁵ (Emphased by me.)

1.2 The patented Silliness

All programmers did it: an endless loop. A computation without result. Simply useless. – Really? What follows from our mistake?

A screen saver, which animates M. C. Eschers lithography "waterfall" is, like any screen saver, basically nothing different. But it's worse. The screen saver shows what every patent examiner would have to reject as a perpetuum mobile. Now with the new concept of the "computer implemented invention", they'll have to accept the technical character and wave the otherwise so important reality check.

The chance to express ideas "computer comprehensible" can't suddenly be enough to patent them all of them. Otherwise it's left to the phantasy of the inventors, to repeat the abuse different way.

Patent law as real satire?

The proposal encourage that. According to the adopted approach (article 2 of the proposal) is gives the sovereign (people) just a "technical contribution"⁶ instead of the invention of an application of forces of nature as todays law requires them.

Furthermore article 2(1) defines the new legal concept of the "computer implemented invention"⁷: ""computer-implemented invention" means any invention the performance of which involves the use of a computer, computer network or other programmable apparatus and having

⁴<http://swpat.ffii.org/papers/eubsa-swpat0202/pref/index.de.html#pako>

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⁶The Potemkin village of a technical contribution is cynically positioned as an important value when it reads: ""Die Commission ist der Ansicht, dass die Gemeinschaft zumindest vorläufig auf der erreichten Stufe verharren und den Patentschutz für computerimplementierte Erfindungen nicht ausweiten sollte, etwa durch Verzicht auf das Kriterium des technischen Beitrags." Ebenda, Vorwort Abschnitt 8 ""Gewählter Ansatz"" <http://swpat.ffii.org/papers/eubsa-swpat0202/pref/index.en.html#adop>

⁷ <http://swpat.ffii.org/papers/eubsa-swpat0202/prop/index.en.html#art2>

one or more prima facie novel features which are realised wholly or partly by means of a computer program or computer programs;”

So if I perform juggling, which involves some balls, which have the novel feature of flashing lights controlled by a computer... Just another idea. Nobody would use a computer to flash the light, so I'll get the patent on the performance!?? Seriously.

Article 3 condemns the member states of the EU to make sure these constructs, which are prematurely called “inventions” are accounted as belonging to a field of technology.

The style of the proposal reminds to an attempt to overtake the global power by means of law.

1.3 Monopoly on Freedom

These first two examples had more theoretical character. The real problems start, once the mistake is less clear and obscured by vast amounts of words of doubtful meaning. The vocabulary of the young, but in the results impressive computer science is subject to frequent changes of fashion. We can easily find enough room to play the game:

Operating systems play role within computers, which is kind of similar to the state in the society. The rule about the access to resources and the speaking terms (german “das Miteinander”). Therefore we find similar algorithm and words. The insight lets characterise the usual operating systems at the market place as similar to monarchies. But Europe had a reason to replace absolute monarchies by democratic forms of governments. That's the basic construction idea for the product, so to say an operating system according to democratic principles – without super power – which will even stand evil attacks from “inside” members and continue to fulfill it's job correct untroubled.

Readers, who want to skip the details may advance the paragraphs until “result”.

The method of construction is the translation of the lessons of state theory, law and order in a democracy into an axiomatic system, that is in algorithm, which are finally written down as a program text.

Our product is probably already patentable according to the watered rules of the european patent office. Nobody will seriously deny the technical character of an operating system. It's the part of the system, which is most similar to the hardware we can touch. (The german case law would have to be ignored here.)

The question, whether the forms of organization of human societies, belong to natural law at all (and therefore, in the application we present, will be patentable) or are a pure intellectual thing might be a subject to dispute⁸

No matter what the answer will be. The proposal for the Software patent directive pretends in the adopted approach that given: “Europe should, for the time being at least, refrain from [...] dispensing with the technical contribution requirement. Such a course of action would lead to the patenting of computer-implemented business methods.” We've seen before that the “technical requirement is too weak” anyway. But democracy is going to be patentable as “computer implemented invention” (see 1.2) anyway, because according to recital 7 it has been exempt just “as such” but not as actual democracy⁹.

We are left with the requirement of novel feature: our product is forge proof to an extent, which is unimaginable using the conventional way, it eases the construction of highly available systems and it even generates tax Euros.

Article 4(1): “Member States shall ensure that a computer-implemented invention is patentable on the condition that it is susceptible of industrial application, is new, and involves an inventive step.” 4(2) requires that weak technical contribution, which, according to 4(3) has

⁸Therefore the patent would have to be granted until clarification.

⁹ swpat.ffii.org/papers/eubsa-swpat0202/pref/index.en.html#recit7

to be different from the state of the art “as a whole”. It also mentions “non-technical features”, which deserve to be deleted from the text, but here we don’t need them for our argument.

Article 2 explains that a “technical contribution means a contribution to the state of the art [...] which is not obvious to a person skilled in the art.”

From personal experience I can say: marketing a computer implemented organisation principle so far unused in field of technology means 28 years after the first email mostly to show to persons skilled in the art how it is actually possible. It appears that we do more than just fulfill articles two and for.

Article 5 in concert with article 3 helps us to gain the right, that we can claim a “product,[...] or as a process carried out by such a computer, computer network or apparatus through the execution of software.”

So we can claim the process, because the process is also carried out by several computers in the internet¹⁰. Also the following requirement can’t stop us, because contribution does not consist in a program “as such”, but in the application of an effect, which is not technically used so far.

Result

My patent claim would easily comprise all legally binding process, which are based on majority decisions. As a company I have to be forced to abstain from taking patent protection, otherwise the constitutional state would be at risk.

The European Commission acknowledges considerations, that “such patents could have impact at the electronic commerce”. I’d say it will impact not *only* the electronic commerce.

What happens, if I hold back another claim? – Just in case. May I collect royalties for all majority decisions? May I exclude options from those decisions? Is such a scenario really abstruse, or will it be called clever economising as praised these days?

The logic is stringent, the crucial mistake lies obviously in the *adopted approach*. Far reaching patents as proposed will alienate the sovereignty of states of Europa. Under no circumstances it may ever possible to monopolise on algorithm, facts, classes of problem. Once and for ever.

2 The Wisdom of the current Borderline

We’ve seen, how superficiality when defending civil liberties can have really serious impact. In doubt, considerations as the preface “Recital 5 Ergo Harmonisation & Clarification”¹¹ : “enable enterprises to derive maximum advantage from patents” will have to be waved in favor or principles of democratic societies. The right defines, what money may do. Not vice versa. The time of slavery is over.

At the other hand there’s the legitimate interest of the enterprises to refinance their investments. Following we try to narrow the fence in the attempt to find possibly patentable areas.

2.1 Ways of Protection

Up to now the inventor/originator have the following options to protect their profit:

2.1.1 Trade Secret

The useful knowledge is organised as a business process and executed by the owner. Betrayal calls for contract penalty. But in case of betrayal, the secret is lost for ever.

¹⁰The german version I have here is more clear about the inclusion of the process than the english one.

¹¹<http://swpat.ffii.org/papers/eubsa-swpat0202/prop/index.en.html#recit5>

Many software companies deploy trade secrets for their products. They keep the process (source code and build environment) closed. As product they sell just a kind of access key, a so called binary file, which is hard to analyse. This kind of protection works, as long as the cost of the analysis is above the cost to substitute it.

But secrets are only interesting for luxury goods. To protect important values it takes more than faith into others integrity. It needs confidence in the correctness of the process. No single mistake may be hidden. Security relevant software for instance must always be delivered in source code, otherwise the user is put at risk of an unknown (to the user) amount of secret back doors of the product. The author of the software must evade to a similar right of protection.

2.1.2 Copyright

Objects of the virtual world are of intellectual character and as such product of their respective author. As such they belong into the scope of copyright. A wide variety of business models is based on that right. In contrast to trade secrets successful protection by means of copyright requires a more complex work as it's subject than trade secrets do. The cost of plagiarism must only exceed the cost of imitation and no longer including the cost of analysis.

Today's software systems are sufficiently complex. Free software as GNU/Linux and others deploy this protection mechanism. Developers think twice about their reasons before they replace a part of the system through reproduction.

Furthermore trademark protection allows to protect identifying properties against mimicry. Well known small and medium enterprises of the software business in Europe and in the USA use this customer oriented approach.

But this approach is unsuitable to protect new knowledge, if this very knowledge lowers the cost of imitation by a large degree.

Here the patent protection comes in:

2.1.3 Patent Law

By means of a patent the society grants the patent owner for a limited time all advantage of the economic application, which the patent owner could derive, if the usable knowledge in question was kept a private property. In return the usable knowledge has to be changed from a trade secret into a copy protected work.

The man has a short life, the society a longer one¹² – short advantage for long term utility. The economists argue, whether the deal is useful at all. We are satisfied it's just fair.

How to figure out, which possible ways to derive profit from economic application? Therefore a patent application must include besides the algorithm (which is available for imitation within the bounds of copyright as soon as the patent is granted) the actual achievable advantage. For that we require it to be new and we need to know the technology of the application. Everything, which is not among the patent claims is not part of the patent. Period.

The problematic fence between algorithm and its effect in the technological application shall be stressed a bit more.

2.2 Procedures and Processes

One important contribution to demarcate patentable technology can be found, when we see that it shall be technology. This implies we have a process, which shall transform raw input material into valuable end products.

¹²For hardly understandable reasons some people believe that after several millions of years just today's society is randomly selected to stay for ever.

The inventor shall have the right to participate from the profit made from the end product. That's what the monopoly is good for.

A characteristic difference between a formula (algorithm) and a process is, that a formula can be presented as a valid expression according to a language. However only the theoretical possibility of the process can be covered that way.

A concrete process realises the formula by means of replacing abstract parameters with concrete Values (in the language of computer science binding symbolic names to values). Thereby the process produces an external effect: the end products.

In contrast to a formula, the process does actually run. Time elapses and energy is transformed. Concrete data replaces concrete aggregates of a chemical process. To compile these informations and execute the algorithm produces a valuable result, which is worth a reward.

Another characteristic: for raw material and end products there are substitutes. (No matter how unfortunate that fact may be for the individual producers.) Natural law and algorithm can't be substituted by their nature.

In everyday life at the computer, we arrange pictures, sounds and text, write down facts of our perception, compile etc. All activities, which cause trouble and can be done similar, but different way. In theory even by hand – in theory. These concrete *implementation details* are an important part of the technological process. Under current law the technological components constrain the monopoly to the claimed characteristics. The patent is eventually constrained by the phantasy of their inventors, not by the applied theory. Each to their own.

To give a conceivable example: if company had used patent protection in 1984 to publish the source code required to build their desk top operating system, all the effects the patent had claimed would be patent protected until last year. All effects the patent claimed, maybe each letter their omnipresent operating system has printed since.

Not part of the patent however are abstract processes. That is other ways, which the inventor could not proof to have thought of (and therefore could never have exploited), which are however described by the same algorithm. Such processes may instead be subject to patents of substitutes.

Furthermore it's impossible to claim substitute products, which are created different way. No! A patent at water supply, implemented with bearers and bowls may never be infringed by the water pipe! There are enough problems, we need solutions, economically solutions actually!

The already cited consideration 6 of the preface want the opposite: "the holder of a patent [...] has the right to prevent third parties from using any software which implements his invention (as defined by the patent claims). This principle holds even though *various ways might be found* to achieve this...".

2.3 In Return – The Public Interest

Processes and products produced by a certain process can be patentable. This makes sense, because both the product and the development process need energy to perform. The profit for the national economy, which comes from the publication can one day out-weight the damage the time restricted monopoly can cause.

The mentioned "expression as structure", that is timeless facts, have to be left for copyright only. If any logical components shall be patentable at all, than those must have the character of a process.

Furthermore the working source code of all new laws of nature, the effect of which is described by the claims of the patent, have to be published and available for reuse in all context with the exemption of those products claimed by the patent. This follows the spirit of the current law, which descriptions comprehensible to human computers. Given the omnipresence of computers, the requirement would in fact just safe on examination costs.

At the other hand all virtual objects, which can exist without reference to concrete matter may

never become patentable. Fairy tales are no inventions. The job of the inventor as the society understands it, is to give their inventions real, physical character. The inventive step is simply not completed by taking a simple record of the idea, form may not matter.

Furthermore the risk of a new, so called digital divide of the society into a privileged class with access to information and a debarred class, is not yet impeded.

It is already a challenge not just in the so called third world but also in Europe, to provide full access to public information. Countries like Korea and Japan, which recognize the development of information infrastructure as a public interest in parallel to the example of public road construction, deploy more than hundred fold more efficient facilities in daily life.

Europe must not inhibit itself for 20 year to catch up on that edge. Therefore it's important to support the amendment "Am 15 (Itre)" to the directive. This amendment parallels the existing regulation of Copyright, which grants the freedom to "reverse engineering" in the interest of compatibility in communication.¹³

3 Ergo

As seen, the translation of old principles of democracy can create new advantages on virtual spaces. The very same principles defend the grounds of the european culture and our real rights system against slavery through monopoly. Virtual technology is by far not at the point, where it may ask us to alienate civil rights and doubt I will ever see it there. Contracts can take care of the economical questions and don't have to disturb patent law.

We may not draw concepts from the crystal ball of worlds knowledge and mask them as recipes for patent protection. It could be that the worlds picture seen in the crystal ball is upside down. And we better check with the reality.

¹³The amendment is 'Am 15 (Itre)', which would create a new Article 6(a):

"Member States shall ensure that wherever the use of a patented technique is needed for the sole purpose of ensuring conversion of the conventions used in two different computer systems or network so as to allow communication and exchange of data content between them, such use is not considered to be a patent infringement."