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1 Introduction

The directive on the patentability of *computer-implemented inventions* has come a long way already. It was originally proposed by the European Commission in 2002 and informally more or less approved by the Council in 2002.

It went through three Committees of the European Parliament: CULT, ITRE and JURI. The two former proposed several limiting amendments, of which only the one related to interoperability was retained by the latter. On 24 September 2003, after several delays, the European Parliament finally voted on the directive in its Plenary Session of that day.

Both passionate proponents and opponents can be found as far as the EP's fundamental amendments are concerned. No-one can however deny that the decision of the MEPs was a quite revolutionary one, as they did not follow the Commission, the Council nor the responsible JURI committee.

Instead, they followed the recommendations of CULT and ITRE, as well as opinions that were personally delivered to them by researchers, economists, SME's and software developers who will be directly affected by the outcome of this directive.

Currently, the EU Council of Ministers is discussing this proposal. Published working documents indicate that their internal Working Party suggests to abandon all amendments that could somehow limit patentability from the Parliamentarians.

This conference will try to shed some light on the issues surrounding software patents: why is there so much opposition to their introduction, what would be the effects of the different proposals and what are the underlying economical dynamics.

We would like to sincerely thank all people that helped to make this even a reality, not in the least all distinguished speakers we can present to you today. Of course, our thanks also go to the MEPs who kindly accepted to lead the three panel discussion.

Note that on 9 and 10 November, we will organise another conference on the same subject, based on what we will learn today and on the useful discussions that will hopefully follow. More information on that event can be found at <http://plone.ffii.org/events/2004/test>.

The results of this conference will be documented at <http://plone.ffii.org/events/2004/bx104/prep/>. We hope you will find this meeting an instructive and pleasant experience.

The Organising Committee.

2 Panel I: Recent Developments in Granting and Use of ICT Patents

This panel will discuss and try to provide answers to the following questions:

- How many patents of which types have been granted and enforced in various jurisdictions?
- How have ICT businesses been affected?
- Patent enforcement practices?

This will happen with a focus on real experience with patents. The panel will be chaired by Ms Olga Zhrihen MEP.

If you are interested in following up with the participants and other interested people, you can subscribe to the mailing list via de the web interface at <http://lists.ffii.org/mailman/listinfo/bxl44panel1/>.

2.1 Jozéf Halbersztadt¹⁸: Differences in Interpretations of Treaties

I am representing here Internet Society Poland. Internet Society is a global organization. Some claim it is very powerful, because ISOC technical sub-organizations and committees run the Internet. Maybe, but I feel that Internet Society is only an umbrella over those powerful bodies. However, locally in Poland we have just recently gained influence on legislation advocating open standards in public institutions. This has occurred because we entered a vacuum left by established computer associations. My personal expertise for my participation on this panel derives from the fact that I am working in the Polish Patent Office. Nevertheless the opinions I express are my own, not the views of my employer.

The contemporary problems with patentability are more general than we usually think. Over the last 20 years one can observe a pressure from dominant big business companies – the “economic majority” – on patent decisions that are in direction of the US courts. The pressure is for extension of exclusive rights systems. Because nowadays the true battles are not for control of raw materials but for the control of “productive knowledge”.

20 years is a long time. There wasn’t a strong reaction, or even any noticeable reaction at all, from the other branches of power. As a result we can observe drifts originating from the example set by the USA, in terms of (1) integration of new fields (even beyond science-based principles, e.g. business method patents), (2) exclusive rights on pure ideas and discoveries (e.g. genetic codes and some mathematics), and (3) the introduction of the “submarine patent” technique -allowing submissions of unclear patent applications at very early stages of research. More on this drift will be covered during the third panel.

This pressure to extend the patent system in Europe is exercised by means of the European Patent Office. The resistance of the EPO to these sorts of tendencies is very weak. You can see this clearly when you compare with the activities of some people, also high ranking, in the PTO in Washington. Controversial cases usually go through many stages. I studied one such case, the Alappat case, or the “means-plus-functions” case. The EPO has accepted without blinking the trick that proposes that although 2+2 is unpatentable, an apparatus for 2+2 is OK. Whereas in Washington the PTO President called a special panel chaired by himself specifically to make it unpatentable. However, Alappat claims are allowable now because his efforts were overruled in court. For the majority of the panel the sorts of claims addressed by the Alappat case do not represent an abstract formula but a special machine. Nevertheless, you can still read there a dissenting opinion of a judge on the panel. This sort of activity is nothing like that in the EPO quasi-court Boards of Appeal. As a result, the EPO and the other European patent offices have tended to slavishly mirror the US drift with 4-6 year lag.

Re Alappat (Fed.Cir.1994) US5440676

A rasterizer for converting vectors in a data list representing sample magnitudes of an input waveform into antialiased pixel illumination intensity data to be displayed on a display means comprising:

- **means for determining** a vertical distance between the endpoints of each of the vectors in the data list;
- **means for determining** an elevation of a row of pixels that is spanned by the vector;
- **means for normalizing** the vertical distance and elevation; and
- **means for outputting** illumination intensity data as a predetermined function of the normalized vertical distance and elevation.

I do not know of any case in the 1990s when a US patent application was opposed within the EPO on non-technicality grounds, as being software as such. The EPO is simply accepting all US non-technical applications; from some they demand cosmetic improvements. As a result, claims in the EPO B1 documents are sometimes more precise.

Adobe tabbed palettes (Photoshop, PageMaker, . . .) in EPO and USPTO EP0689133=US5546528 (number 4 in webshop.ffii.org):

A method for combining on a computer display an additional set of information **in a first area of the display and having associated with a selection of indicators** into a group of multiple sets of information needed on a recurring basis **displayed in a second area of the screen**, comprising the steps of: establishing **the second area (10)** on the computer display in which the group of multiple sets of information is to be displayed, **the second area** having a size which is less than the entire area of the computer display, **the second**

¹⁸Patent expert of Internet Society, PL

area (10) displaying a first of the multiple sets of information; (the words in bold were added because the EPO demanded clarity)

Until 2004 Poland wasn't a member of the EPO and during the last few decades was outside the economic mainstream. But we have an old, 85 years old patent office. Like many other smaller European countries, such as Austria, Czechoslovakia, and Holland, Poland followed German standards and traditions in patenting.

Up until now patent applications on software only come from abroad; their number is not very high and the Polish Patent Office often does not follow the EPO line. This can happen because:

1. The Polish version of art. 84 EPC "The claims shall define the matter for which protection is sought. They shall be clear . . ." presents a clear obstacle to acceptance of means-plus-functions claims. Alappat claims do not disclose for what protection is being sought;
2. In the Polish version of art. 52 EPC, which has been included in the law only since 2000, the "as such" part is not included. Furthermore the regulation of the Prime Minister has a clear "tangibility clause" modeled on the famous Red Dove / Disposition program landmark decisions, according to which a patent application should not be recognized as an invention when "it does not concern any tangible creation susceptible of application, determined by means of technical features relating to its structure or composition, nor any particular technical way in which it affects a material."

Two such cases are in court:

1. On the clarity issue the IBM web generic server was refused, a server able to access servers of a plurality of different protocol types WO9718635=EP0861551=PL0326670. Here is the abstract:

An information handling system enables a client computer device to access information located at a server computer device over a network between the client and server computer devices. The client computer device accesses the server computer device using HyperText Transfer Protocol (HTTP) and presents information received from the server computer device to a user of the client computer device using HyperText Markup Language software. The information handling system includes the network between the client and server computer devices, **the network using a network transmission protocol other than HTTP and using a network data format other than HTML, and a transmission protocol converter which converts HTML/HTTP information sent out from or received by at least one of the client computer device** and the server computer device, via the network, to the network transmission protocol and the network data format.

There were many claims and a thick description. Nevertheless, according to the patent office, they contain not much more as an idea than the fact that another protocol than HTTP and another data format than HTML is used. The lower appeals court will decide on the issue very soon, in April 2004.

2. A second refusal was given, on the basis of non-technicality, to Philips' application for converting a series of information words to a modulated signal EP0789910=US5696505=PL0319407. The patent office applied the rule that if the problem solution is already completed as an abstract solution of an abstract problem before its implementation in a technical field, the subject matter is not patentable.

This application for a patent on conversion, probably applicable to DVD technology, is claimed as method, apparatus and other elements of the system. While it might help improve quality of multimedia, One can suspect that it could also be a basis for simultaneously monopolizing the data format.

The abstract:

Series of m-bit information words are converted to a modulated signal. For each information word from the series, an n-bit code word is delivered. The delivered code words are converted to the modulated signal. The code words are distributed over at least one group of a first type and at least one group of a second type. When a code word belonging to a group of the first type is delivered, its group establishes a coding state of a first type. When a code word belonging to an group of the second type is delivered, a coding state of a second type is established which is determined by the information word which is to be converted to the delivered code word. When one of the code words is assigned to the received information word, this code word is selected from a set of code words which depends on the coding state established. The sets of code words belonging to the coding states of the second type are disjoint. In this coding method, the number of unique bit combinations that may be established by the code words in the series are enlarged. The modulated signal

obtained may be reconverted to information words by first converting the modulated signal to a series of code words and then assigning an information word to each of the code words from the series in dependence on the code word to be converted and also in dependence on the logical values of the bit string bits which are situated at predetermined positions relative to the code word.

Information processes should never be patentable. Saying that only information processes carried out by physical means would be patentable doesn't make sense, because it's always done that way: with a computer, with pencil and paper, with brain (chemical processes, electrical signals!), ... The reason is that humans are physical, and can't interact with non-physical things (just like a computer cannot physically interact with a computer program, or a cook cannot physically interact with a recipe). The "as a whole" formula espoused by the EPO cannot deliver a miracle.

Thanks to "Gnade der späten Geburt" (the blessing of being born late) Poland has a chance of becoming a champion of the Parliament version of the Directive. It is only a chance, however, because awareness of European interests in Poland is very weak and the political elite in many of its decisions often blindly follows the US government line. The US dominant business companies are able to use others channels of influence, as well. During the last year Microsoft has introduced more patent applications in Poland than IBM has over a decade. They have hired the most experienced patent attorneys, and for many years their people are involved in influential business associations. And they are not passive there. At this very moment, through the business associations, they are lobbying against Polish Parliament attempts to open standards in the information infrastructure.

2.2 Adrian Lozano ¹⁹: Software Patent Data Mining

2.2.1 Background

A quantity of EPO approved patents are de facto software patents.

2.2.2 Problem

Localize these (or many of them) among the millions of patents in EPO's archives. This is not feasible using manual methods.

2.2.3 Approach

Bayesian inference methods have proven excellent tools for text classification, especially of unwanted commercial email a.k.a "spam". We chose to modify the antispam tool SpamAssassin to classify patents instead of email, and the categories swpat/nonswpat instead of spam/nospam.

The working name of this modified tool is PatAssassin.

2.2.4 How does it work?

- *Bayesian inference*

BI is a learning system, using statistical analysis of prior datasets (email, patents) and their corresponding (manual) classifications. The more input it gets, the better it "guesses" the correct classification.

- *SpamAssassin*

One of the methods SpamAssassin uses to classify spam is by feeding the email to a BI engine. When the engine has got approximately 200 spam and an equal amount nonspam it has a statistical sound base for evaluation. As it continues working, it learns more and become better at classifying.

- *PatAssassin*

Using the same method, PatAssassin analyses patents in our patent database. To aid PatAssassin in this work we have published a website where you can browse patents, comment on them and even classify them for the benefit of the engine. As the number of manually classified patents increases, more patents can be automatically classified.

2.2.5 Results

At this time, using a simpler prototype of SpamAssassin we have located approximately 20 000 patents which could be qualified as software patents. Many of these covers trivial and well-known methods of programming or obvious concepts, similar to "clicking a link to load a new web page" or "using a shopping cart to save items to be purchased on a web site".

¹⁹Patent data mining expert, SE

2.3 Bernd Herd²⁰: Losses Caused to me by Software Patents

2.3.1 Introduction

Who am I? I am a free software developer since 1992 and large parts of my work consist of software development of small components ordered by other software development companies because the components are too difficult or too specialized for them to develop themselves. The clients are both small and large companies, including well-known names like SAP, Siemens, McAfee, AGFA and others.

Wherever possible I produce open source software under the GPL license.

Losses caused by Software Patents In my work I have experienced several cases of losing money due to software patents, both by losing revenue and as a result of increased costs. There are at least the following noticeable effects:

- Already completely developed software could not be or could no longer be marketed when I came to know that the technologies involved were patented.
- Marketing of software was limited by patents, so revenues were reduced.
- Software development was stalled during the conception phase after it became clear that patent issues were involved. Some kinds of software simply cannot be developed since the patent owners prevents it.
- Complex workaround solutions had to be invested in where the most obvious solution was protected by a patent, causing higher expenses for software development.
- Whenever a component has to use patented technologies the expenses for consulting are high, since clients don't know what to do and ask me. This is more severe, since I'm not a lawyer and the situation is usually unclear.
- When 100,000 CD copies of a software were to be produced using a technology where someone claimed to have a patent, we decided to modify the software even if the claim was not proven and was not very likely to prove enforceable, just to avoid the risk of a callback of the CDs.
- Ineluctable patent research in advance of development and during development wasted a lot of developer time.
- One technology invented by me in 1994 and marketed as closed-source was patented later by IBM, so the patent reduced the value of my work subsequently.

While software patents are not fully applicable in Germany now, they have still caused damage to me both for the costs related to uncertainty regarding the law and due to the fact that they are applicable when exporting to the USA.

Trying to solve the problem by contracting with an insurance company failed: such risks are not insurable.

2.3.2 Example: EADS Dornier Patent

In 1999 a small innovative German software company ordered a module to retrieve map images from various map CDs sold by different vendors from different countries, all using their own file format. The client uses that module to plan motorcycle rides and to transfer maps of the area near planned rides to a transportable GPS solution installed on the motorcycle. As a part of the payment he agreed that I would have the right to publish my work as Open-Source software under the GPL license. The software was developed as planned, worked nicely and was released.

In 2000 my client was notified by EADS Dornier GmbH that his software (my module) violated patent EP 0218109 given to Dornier and that the client was to pay a licensing fee.

Let me remark that such a map CD consists of the valuable map data and a small piece of software to display the map on a windows PC. The valuable map data on that CD is copyrighted by the "Landesvermessungsämter"

²⁰Herdsoft.com, DE

in Germany, not by EADS Dornier and the client did not use any software developed by Dornier, so this was purely a patent issue and had nothing to do with copyrights.

The claim of that patent is in a few words that every display of a map on a computer is patented by Dornier if the digital map has been created by digitizing the films that were created to print the map on paper, no matter how it has been done and which software is used. So the patent claims the easiest way to digitize a map, no high invention.

After numerous consultations it became clear that while the patent might be invalid, difficult and expensive lawsuits would have to be fought to invalidate it. The necessary lawsuits would have been so expensive that the small client company could not have afforded them and the client was anxious to release their software to the market on a timely basis, so the client decided to pay a licensing fee of EUR 10,000.00 for a 3 year license to Dornier, even if there was potentially no need to do so.

Since I also did not want to risk a lawsuit for the GPL release of the software, I decided to abandon the idea of the open source release. For that reason there is still no way available to display such a map on anything else but a Windows PC. Since the open source release was also planned to be a form of marketing for me, I have been financially damaged.

Since the patent is applicable no matter whose software is used to create the map image files, the Landesvermessungsämter cannot overcome the patent by using another piece of code on the CD, that means the patent makes the German government dependent on EADS Dornier.

Meanwhile in 2004 I heard that the Landesvermessungsämter offered the map data to a second company in .tiff format, and the second company now releases a second CD with a different file format. One supposes they were probably upset that Dornier made use of their map data to extract dubious patent license fees. If the patent would have been valid (and not invalid as suspected), then the Landesvermessungsämter would not have been able to do that.

I have also heard that the EADS Dornier software now uses a different file format, so the open source release would no longer display the maps on a GNU/Linux or Mac OS machine.

2.3.3 Example: Unisys LZW Patent

Packer-API In 1994 I developed a set of DLLs to process compressed files, for example ZIP, LHA, ZOO, ARC and other package files. It was for example licensed by antivirus software companies to add scanning for viruses in archives to their virus scanners.

In 1995 it became publicly known that the well-known LZW compression algorithm is patented by Unisys and IBM and Unisys started to exploit the patent. Analyzing the technologies involved I found that the ZOO and ARC file formats used the LZW algorithm. Since only very few clients were willing to buy an LZW license from Unisys, maintenance of the software was no longer interesting, and so I ceased to market the already-developed technology any further.

GIFs in the Windows help engine In 1996 I developed a product to allow the display of animated images with transparency in the windows help engine. Most of those images are usually stored in the well-known GIF data format also used for the same purpose in internet publishing. To allow the display of GIF images I planned to obtain a license for the LZW algorithm from Unisys. A first glance on publicly available sources showed that licensing prices were quite acceptable: About 1% of revenue to 10 cent per copy, whichever is higher. I implemented the concept and the software worked nicely.

Then I tried to obtain the patent license from Unisys, but failed: Due to the special nature of the software component being “redistributable”, Unisys asked for every client to individually obtain a license with a minimum payment of 1,000 US \$ and quarterly reporting of copy counts and revenues to Unisys. The fact that the product price planned was just 150 US \$ and that other competitors offered comparable technologies for that price were not factors in Unisys’s consideration.

As a consequence I tried to obtain a license for a program to convert the original GIF images to some other file format that does not use LZW compression so the license required would avoid the “redistributable” problem. Unisys answered that this would only be a clearly deliberate act of circumventing that patent and continued their request for 1,000 US \$ per customer.

As a result I had to throw away a product that was already 80 complete.

ears later I read on <http://www.gnu.org/philosophy/gif.html> that most lawyers consider the Unisys patent to be limited to LZW data compression, not data decompression. Unisys simply claims that their patent also covers decompression, and this claim has simply never been tested in a court of law. So there was no basis for them to call for licenses of even one cent, let alone the 1,000 US \$ per customer that they sought. Unisys wasted my efforts of several months for no reason. Other competitors who simply ignored the Unisys claim were able to collect revenues without any problem.

Obviously dealing with patents is a matter of risking a lawsuit and dealing with it as soon as it happens. This is a strategy that is affordable for big companies, but too risky for small and medium-sized enterprises with limited capital, which make up about 80

The Unisys patent especially entailed a lot of unnecessary consulting time. For example clients buying a software module for EUR 70 would have to discuss matters for half an hour on the phone regarding the fact that they didn't know what to do about the patent involved – and in the end the clients would still have no security. Other cases dealt with implementing workarounds for a patent which we knew was very unlikely to be valid, but which forced us to act since we didn't want to risk producing 100,000 CDs with software on which a patent was claimed, however dubious.

2.3.4 Example: Encoded Vector Index patent

In 1993 I developed an efficient technology to store indices for full text retrieval. The algorithm was simple, the concept was created in an afternoon, and it was implemented in a few weeks. Since the software sold was only in binary form without source code it was not published in the sense of patent law. ¶Years later I read a description of exactly the same method of index retrieval developed and patented by IBM in 1998 on <http://www-1.ibm.com/servers/enable/site/bi/evi.html>. If this is now patented, my capability to market my own work from 1993 are now limited.

This example illustrates how patents can devalue work already performed, and demonstrates that in a software patent regime software developers are compelled to patent every little thing they invent, and to check all new patent claims published by the EPA, causing a lot of extra work, costs for patent lawyers and reduced efficiency.

2.3.5 Summary

Even with the already existing patent laws I have experienced several reductions of income caused by patents. With the continued extension of the practice of software patents across europe, they would become a permanent source of unpredictability, uncertainty and lawsuits. The opportunity for developers to work independently or to develop free source software would become drastically reduced and the very existence of many small and medium-size enterprises would be endangered.

Developments such as Linux by Linus Torvalds, BSD from Berkeley Laboratories or Windows from Microsoft could not be repeated in a world populated with software patents. Microsoft also started off as a small company, but at a time when software patents were not an issue.

2.4 Burak Canboy ²¹: win.rar and Software Patents

I am CEO of a shareware company specialized in compression software. We are market leaders in Europe and have 2 million downloads per month and growing. Our business model is successfully built on copyright and being ahead of competitors.

A serious problem is that small parts of programs are patented. Future companies might end up in a situation where they don't know which parts. You might then receive letters from companies wanting money for licensing things you wrote yourself.

²¹CEO, win.rar GmbH, DE

2.5 Jean-Paul Smets ²²: Nexedi Position on Software Patents

2.5.1 Nexedi Business Model

Nexedi is an innovative software publisher located in Lille, France. Nexedi has developed a complete ERP software -ERP5- based on a novel business model which allows to represent any corporate information with only 5 core concepts. Nexedi has also developed innovative technologies which allow to implement QOS on regional wireless networks: PEWIT.

Nexedi business model consists in selling large scale ERP projects based on ERP5 technology. Each project includes a combination of consulting, custom development, and training. More than 30 added value relates to R&D. More than 5 man years have been invested in R&D in ERP5 at this date.

Nexedi balance was positive in 2002 and 2003. It is expected to be positive in 2004.

2.5.2 Nexedi IP Strategy

Nexedi views intellectual property (IP) as a strategical tool for software business. Nexedi IP strategy is based on 4 approaches:

- **copyright:** we use copyright to license our software technology. For example, we provide our ERP5 software under GPL license. This license allows to build a community of developers and, at the same time, prevents anyone from stealing our technology.
- **trademark:** we use trademarks in both a defensive way and an offensive way. Owning a trademark gives us a kind of defensive protection for our Internet domain names. It prevents another company from claiming our domain names. Offensive use of trademarks include the ability for us to prevent another company from using the ERP5 brand to commercialise a project which is not related to ERP5 or create market confusion.
- **secret:** we keep some software code secret. For example, client specific code which allows to compute industrial prices or margins is part of our client trade secret. It is never published.
- **patents:** we currently file software patents as a preventive measure. Patents provide us no protection, cost us time and money but will be required if the European Union decides to legalize software patents.

2.5.3 Nexedi and Software Patents

Nexedi holds a couple of patents on so-called *computer implemented inventions*. One of our patents relates to a technology which allows to use of peer to peer in business. Another patent relates to a system which allows to view all Japanese television channels in France. Another patents relates to the use of an SQL index to query an object database.

All our patents describe innovations which are new, inventive and have as much technical effect as any software patent We also tend to file broad patents on innovations which are simple, yet non trivial, rather than narrow patents on complex innovations.

Our patents are filed before any line of code is written or published. We use a procedure called *deferred examination* which allows to pay only 35 EUR for getting a patent. We then transform our patents into *utility certificates*, which provide the same level of protection as a patent, but during only 7 years, and do not require any examination. Up to now, all our patent applications have been accepted.

Once a patent is filed, we wait for the official approval from the French Patent Office to publish our technology, which usually takes 3 months. We then start writing code and publish it within a few weeks. As a consequence, going through software patents adds a delay of 3 months to the release our technology and costs us about 2 days of engineering resource for writing the patent itself.

2.5.4 Nexedi Intentions with Software Patents

Nexedi's intention with software patents is dual:

²²CEO & patent owner, nexedi.com, FR

- **defensive measure:** in the event software patents become enforceable in Europe and a competitor tries to use patents to prevent Nexedi from doing business or to prevent the ERP5 community from developing ERP5, Nexedi will give away its patents to whoever can attack this competitor.
- **fiscal optimisation:** our competitors use software patents to increase their profitability. For example, Ireland is used as a hub by US software companies to evade corporate taxes through patent licenses. Some EU companies use software patents to reduce corporate taxes during acquisition / merger operations. Patents are considered as long term asset and benefit from special fiscal Laws. This creates a strong incentive to account software R&D through patents rather than through copyright. Until software R&D fiscal Law gets harmonized and until accountants get used to consider copyright as a valuable asset, Nexedi must follow the same practices as its competitors.

2.5.5 Software Patents ROI

Nexedi has no intention to use software patents to prevent another company from imitating Nexedi technology. We are perfectly aware that software developments, including the most innovative ones, are made up of 99% patent for the remaining 1% between software companies usually end up with cross licensing agreements which mostly benefit to lawyers and patent attorneys rather than to software innovators.

As it has been perfectly summarized by Pierre Haren, CEO of Ilog, world leader in optimisation component software: The general use of software patents has the effect for software publishers to divert their resources from product improvement to juridical intelligence and legal dispute activities. Patents cost time and money to Nexedi, and force us to postpone the public release of our technologies. Patents generate no turn-over. They may eventually provide us some fiscal flexibility whenever Nexedi migrates its HQ to another country in the distant future.

This is why we consider at Nexedi that software patents have a negative ROI (return on investment).

2.5.6 Conclusion: Nexedi Against Software Patents

Nexedi does not want software patents to be legalized in Europe and supports amendments voted by the European Parliament that exclude data processing from subject matter, ensure freedom of publication and interoperability. We believe those amendments set a clear limit to the patent system, protect interoperability in the software industry and make sure software publishers are not threatened by the patent system, yet allow traditional industry keep on patenting their technology.

2.6 Roland Orre ²³: A Patented Method to Fix the Patent System

I'm Roland Orre, chairman and research director for NeuroLogic Sweden AB. A research and development company, developing multi relational data mining methods and artificial intelligence data analysis methods, based upon data warehousing principles. Since several years we have been developing early warning systems, and unsupervised pattern recognition methods for WHO, the World Health Organization, which are now becoming a standard within the pharmacovigilance sector.

Before this I was working at Asea Brown Boveri with human computer interaction where I was also developing expert systems to analyse power distribution failures, from which time I also have an EPO patent. This patent was a feature space approach to store analogue disturbances in a knowledge data base. An idea I got from my, at that time, recent experiences with neural networks, which I later did my PhD in.

Our company's view is that the patent system of today has serious flaws. One of these flaws is that software, which in reality is mathematics, interpretable by the abstract concept of a Turing machine, has become seen as a technology, which it is not, and as we have seen from United States almost everything has become patentable. As I said, software for me is mathematics and my favourite language, scheme, is very close to a mathematical theory called lambda calculus.

One of the original intentions with the patent system was that patents should be incentives to innovations and thus stimulate technological development, as we have seen from the software world, patents there have exactly the opposite effect. They slow down development, they are inefficient, as they can in reality only be thoroughly checked for free software, and they are trivial. In my Master thesis work I had for instance, used two trivial constructs which I ten years later got to know that these both constructs were patented at this time.

For a few years I was considering how these flaws of the patent system could be corrected, and I realized that a somewhat paradoxical way was to patent a method which could make inventions from peoples ideas, one of my old visionary dream inventions from the middle of the eighties.

When I finally had understood, how to implemented this method, I patented it. The method is an artificial intelligence approach to do business, which is able to create inventions from peoples ideas, you could see it as collaborate innovation, in a somewhat similar way as the GPL, General Public License, works.

This patented method, which is a software solution, a business method and a system for manufacturing on demand, will, if this patent will be allowed within EU, be a cure for the patent system over time. It will speed up the technological development, it will correct the flaws of the patent system of today, as the system will produce new inventions it will also counteract trivial inventions. The system will enhance the patent system towards the real innovations.

The patented method will also stimulate shaping of standards within knowledge representation and generic design. It will create win-win-win scenarios for the patent holder, for the customer and for the society as well, because it will also create new job incentives. One funny thing is, however, that if the patent system didn't have these flaws, that is, software and business methods being patentable, then I would hardly be able to patent this method.

²³CEO and patent owner, neurologic.se

2.7 Joerg Wittenberger ²⁴: Intrusion Resistant Computing and Program Claims

2.7.1 Who am I

I'm Jörg F. Wittenberger from softeyes.net, a free software developer since 1993. My business often involved document workflow, version/configuration control and communication of such information between my clients and their subcontractors and customers. As such I've been constantly concerned with the social, legal and moral impact of permission regulations.

At a point I had the idea to use set theory to proof permission handling systems safe. (Which means to proof that no user can ever become impersonated by any other including administrative personnel.) I'm now actively marketing a [product](#) based on that idea. But such a protection scheme only reaches as far as no malicious person can take physical action to modify sensitive data, let alone find a way to abuse administrative power.

To make my system safe, I had to assure the processes continue in the face of hardware failure or malicious attack from inside. To do so I reorganized the computation in such a way, that only the majority of all nodes of a network can define how the systems reacts over all. Then even the owner of a machine can not forge the global state of affairs. Equipped with my permission handling scheme, the system is now an intrusion resistant operating system, which serves undeniable processes – “computation like power from the wall plug”, which no limits on network size.

In the context of that network, called “[Askemos](#)”, several logical providers offer the execution of arbitrary operations as a service - following the model of power companies. All operations are completely defined by contract. Loyalty with respect to the contract is constantly checked during operation by comparison of cryptographic checksums. Furthermore in the abstract framework there is no concept of physical location or interaction - these are always done via the network.

I understand that all objects and operations within Askemos are consequences of a business process and a priori without technical reference. Future theories may refine the definition of that criterion and proof other objects and operations non-technical.

2.7.2 How does the Askemos concept relate to patent law?

If program claims were allowed in patent law, how would that translate into the Askemos system?

Since the providers have a Carrier status with respect to the operation, they can't be liable for the combination of operations. This could be used as a patent law work around, which is obviously needed for the US but hopefully avoidable in Europe.

Program claims would furthermore conflict with freedom of speech and publication and freedom of contract:

Askemos has a commercial counter part, where a business contract with different licensing conditions replaces the GPL. The system itself can work under any contract, as long as the contract provides “inalienable rights” and a Turing complete machine. Guaranties of some further properties are just direct consequences. Related here is just one.

All devices used legally binding context must - similar to governmental authorities - guarantee that they will not accidentally give up on rights of their users (respectively citizens). Since it is easy to find that “security through obscurity” doesn't work, as all serious security experts will eventually confirm, devices must produce a proof that they follow a certain procedure. At that point we need to provide two things to our users:

- The freedom to follow any code of their choosing
- The chance to read the code beforehand.

If now article 3a of the parliamentary decision were dropped and “data processing” (which is to me the need of a “turing machine”, no matter in which context) became a field of technology - and thus due to TRIPS treaty subject to patent law - then anything in need of a computation became patentable and thus under legal control of an individual.

In our implementation of the Askemos concept, there is a configuration variable [insecure-mode](#) to control whether application of procedures is eventually under control of individuals (as they were when they were patented). If some critical parts are under such control, the whole system becomes so flexible, that any event is also deniable.

²⁴SME in artificial intelligence, DE

This in turn renders the system completely useless in any legally binding context. Otherwise - in contrast - no event is ever deniable, once the majority of required nodes is informed and none-deniability is what our users need.

To us insisting on article 3a (now 3) is a teaching from the implementation of the due procedure, which eventually boils down to the proof whether the system can be corrupted or not. If that article was dropped, the legal system became instable in much the same way and we will have to rename said configuration variable “**law-compliant-mode**”. But I’m not keen to explain to my customers that they better switch off that mode! Law should not be in favor of the illegal!

2.7.3 Conclusion

Program claims are ill-logical since the support of a device instead of the brain to perform some mental operation doesn’t make the operation itself a technical one. But the “media shift” to use computers for business matter makes contracts, trade and other business methods become subject to data processing. Our product just facilitates that trend. We need to have non-patentability of turing machines for granted, otherwise the new electronic media would be rendered useless in any legally binding context.

Remembering historical more or less successful attempts to exhaust spheres of patentable subject matter from patent claims, like “public patents pools” and “defensive publication” (also called “patent profylax”), we hope our proposal will open a new way to use the patent system as to make the patent system achieve it’s goals: to stimulate the shaping of standards in design and knowledge representation and stimulate cooperation between researchers and companies. Maybe this “workaround” will not be necessary in Europe, but the US need is obvious.

3 Panel II: EU Legislation Benchmarking

Panel II will focus on juridical issues surrounding the software patents debate. In this spirit, they will talk about which issues an optimal legal framework has to take into account. Additionally, the semantics of the European Parliament and Council proposals will be considered: clarity, compatibility with treaties and constitutions, effects on patent granting and effects on patent enforcement.

The panel will be chaired by Mr Bent Hindrup Andersen MEP.

If you are interested in following up with the participants and other interested people, you can subscribe to the mailing list via de the web interface at <http://lists.ffii.org/mailman/listinfo/bxl44panel2/>.

3.1 Reinier Bakels ²⁵: Europe: “me too” or unique in its own strength?

The freedom of ideas, essential for the development of new ideas, and at the heart of culture in the broadest sense of the word. Appropriation of knowledge can be very dangerous.

Much of the policy of the European Commission seems to be geared at trying to imitate the United States of America and its perceived prosperity: the USE against the USA. If that’s the *Lisbon strategy*, it is a mistake.

Now whether you are fond of American politics remains a matter of taste. But in the context of patents, and knowledge management in general, Europe should not adopt a “me too” approach once more. Instead, we should foster our unique selling points, being the oldest developed cultural community in the world. Linux originated in Europe (in Finland). Should we now adopt legislation to help Microsoft fight Linux?

Don’t get confused: unlike the Commission says, European patents are *not* patents *for Europeans*, but patents *in Europe*! It is not a mistake that the Americans complained about the amendments. They want a strong European software patent directive, in order to fight European software, a huge threat!

See also Appendix A for the slides and accompanying commentary from Mr. Bakels’ presentation.

²⁵Centre for Intellectual Property Law, Utrecht University, NL

3.2 Christian Beauprez²⁶: International Obligations and “Computer Implemented Inventions”: Legal Facts, Legal Fictions

3.2.1 Introduction

As someone with an interest in law and issues of software authorship, I have always taken an interest in emerging Internet and software law. I should say now that my primary area of legal expertise is mostly based in contract and the copyright aspects of law. Historically these are the areas of interest to software authors. So why am I here? Well, when a computer implemented invention is also a computer program, my rights as a software author suffer. It is not mere personal experience, but research into this question that has led me to this conclusion.

Mr. Bakels has give an excellent definition of the differences between copyright and patenting. He must forgive me if I restate any of what he has to say, but it is important to understanding the points I am about to raise.

This is what I like to call a tale of two rights holders

3.2.2 Definitions and terminology

Under copyright an author has **exclusive right** to produce and profit from his original works. Under patent law an inventor has the **exclusive right** to do likewise, but also to block these very same actions. An author cannot own underlying ideas to his work, but an inventor can.

This is why defining a boundary between the two is critically important, not only in the area of data processing, but in all areas. The author and the inventor cannot share the same field because their rights are contradictory. Although this happens all the time in the practice of other countries, it is not mandated in the international treaties.

On the question of exactly what a computer implemented invention is, we should first ask what a computer program is.

According to dictionary.com,

computer program n : (computer science) a sequence of instructions that a computer can interpret and execute²⁷

Let’s now have a look at the definition of a process,

a series of actions that you take in order to achieve a result²⁸

We can see from the definition that a **data process caused by software is synonymous with software itself and interchangeable with an effect upon a computer.** This is an incredibly important point.

Computer programs and the effects they produce have always been known to be the same thing. In the software copyright directive of 1991, protection of computer programs as literary works was defined clearly:

“the permanent or temporary reproduction of a computer program by any means and in any form, in part or in whole. Insofar as loading, displaying, running, transmission or storage . . .”²⁹

3.2.3 The “invention” concept and computer programs as literary works

Unfortunately the patent offices have confused a computer process (aka a computer program) with a patentable process. This is why we have the directive in the first place apparently.

According to the EPO,

²⁶Law scholar and developer, UK

²⁷<http://dictionary.reference.com/search?q=computer%20program>: Dictionary.com definition of a “computer program”

²⁸<http://dictionary.cambridge.org/define.asp?key=63092&dict=CALD>: Definition of “process” as defined by Cambridge Dictionary

²⁹http://europa.eu.int/smartapi/cgi/sga_doc?smartapi!celexapi!prod!CELEXnumdoc\&lg=en\&numdoc=31991L0250\&model=guichett: The Software Copyright Directive (1991) Article 4 (a)

“Programs for computers could be considered as patentable inventions if they have a technical character”³⁰

This is a breach under international obligations. A program for a computer cannot be considered as an invention not only under article 52 EPC which states,

3. The following in particular shall not be regarded as inventions within the meaning of paragraph 1:
 - C. programs for computers;³¹

Article 10 of the TRIPS Treaty adds to this,

Computer programs, whether in source or object code, shall be protected as literary works under the Berne Convention (1971).³²

The WTO’s interpretation on clause 10 was,

obligation to protect computer programs as literary works means e.g. that only those limitations that are applicable to literary works may be applied to computer programs.³³

Article 4 of the WIPO copyright Treaty has an identical clause,

Computer programs are protected as literary works within the meaning of Article 2 of the Berne Convention. Such protection applies to computer programs, whatever may be the mode or form of their expression³⁴

Literary works are by definition not inventions. If literary works could be inventions then all ideas within them that were new, non-obvious and useful could be patented as inventions. We would also not be allowed to prevent this, because discrimination under Article 5 (27) of Trips on the field of technology is prohibited.

3.2.4 Conflicting protections

There are also obligations under the these Treaties regarding how we can treat this protection.

Under article 1³⁵ of the TRIPS Treaty we are allowed to apply more stringent forms of protection than is provided in the Treaty. **But this is subject to provisos, namely that such protection would not be in contradiction to other clauses. Such as article 9 of the Berne Convention³⁶, Article 10 of the WIPO Copyright Treaty and Article 13 of TRIPS. These are the articles that show computer program patenting to be in contradiction and explain why the Council compromises are deeply flawed.**

Members shall confine limitations or exceptions to exclusive rights to certain special cases which do not conflict with a normal exploitation of the work and do not unreasonably prejudice the legitimate interests of the right holder.³⁷

Again the WIPO Treaty explains even more clearly,

1. Contracting Parties may, in their national legislation, provide for limitations of or exceptions to the rights granted to authors of literary and artistic works under this Treaty in certain special cases that do not conflict with a normal exploitation of the work and do not unreasonably prejudice the legitimate interests of the author.

³⁰http://db1.european-patent-office.org/dwl/legal/case_law/clar_all_en.pdf: EPO Case Law T1173/97 (OJ 1999, 609) and T935/97 (1998)

³¹<http://www.european-patent-office.org/legal/epc/e/ar52.html#A52>: The European Patent Convention Article 52

³²http://www.wto.org/english/docs_e/legal_e/27-trips_04_e.htm#1: Article 10 WTO (Trade Related Aspects of Intellectual Property)

³³http://www.wto.org/english/tratop_e/trips_e/intel2_e.htm: WTO Interpretation of Article 10

³⁴http://www.wipo.int/clea/docs/en/wo/wo033en.htm#P57_5418: WIPO Copyright Treaty Article 4

³⁵http://www.wto.org/english/docs_e/legal_e/27-trips_04_e.htm#1: Article 1 WTO (Trade Related Aspects of Intellectual Property)

³⁶<http://www.law.cornell.edu/treaties/berne/9.html>: Article 9 of the Berne Convention

³⁷http://www.wto.org/english/docs_e/legal_e/27-trips_04_e.htm#13: Article 13 WTO (TRIPS)

2. Contracting Parties shall, when applying the Berne Convention, confine any limitations of or exceptions to rights provided for therein to certain special cases that do not conflict with a normal exploitation of the work and do not unreasonably prejudice the legitimate interests of the author.³⁸

In software and computer processes the “right holder” is defined as an author of an original work and not as an inventor.

3.2.5 Requirements to fulfill treaty obligations

It is important to note that an original work does not contain completely new ideas, but existing ideas mingled with abstract or logical innovation. Just as the author of a book cannot claim every supposedly new and useful embedded idea that they use. Ideas are not inventions unless they have a physical application.

It is therefore essential that any clarifying directive should state clearly that a computer program or the effects produced by data processing, which are synonymous, are not patentable material. The European Parliament does so explicitly by stating that data processing is not a field of technology. Indeed they are quite correct to do so. A computer is a glorified calculator. This is why people working in data processing are known as authors and are protected by copyright. No one can own underlying ideas when they are logical or abstract expressions with no physical appliance apart from a passing reference to a technical improvement on a computer or network. One can own a unique expression of logical or abstract ideas under copyright, but these ideas themselves are the property of humanity even if they are non-obvious at first sight.

If we let people claim the logical ideas produced by data processing as being patentable inventions, we would be opening up the field to a new right holder who could aggressively pursue their rights to a monopoly, and prevent software authors who create original works from profiting from them, even if they have no knowledge of a patent. This is where the above clauses concerning the authors exclusive rights are violated.

3.2.6 The Council proposal and EPO practice

How does the Council’s proposal keep the author separate from the inventor:

Inventions involving computer programs which implement business, mathematical or other methods and do not produce any technical effects beyond the normal physical interactions between a program and the computer, network or other programmable apparatus in which it is run shall not be patentable. [EP Amd. 17 corresponds to 14017/02.]³⁹

So what is the problem with this description? Well, the EPO had an identical definition in their case law in 1999 in **T 1173/97** (OJ1999, 609) and **T 935/97**:

Thus, a computer program claimed by itself was not excluded from patentability if the program, when running on a computer or loaded into a computer, brought about, or was capable of bringing about, a technical effect which went beyond the “normal” physical interactions between the program (software) and the computer (hardware) on which it was run. The board has not yet decided how such a claim is to be formulated.⁴⁰

The very next listed case:

In **T 513/98** patentability (Art. 52(2) and (3) EPC).

Even if the new features of the system did not change the hardware of the known system, the required software changes would nevertheless cause the system to be technically different to the dividing, storing and transmitting of mail handling data⁴¹

Once again the effects of data processing were being patented on the grounds that they could cause a computer to be technically different. This is a thoroughly misleading misconception. Software is a set of logical instructions it can never, in itself, cause an effect on a computer which the computer was not already intended to perform- if it did the computer would not be able to interpret them. It may perform an improvement on methods currently used, but these methods are not inventions they are computer programs and as such protectable only under copyright.

³⁸http://www.wipo.int/clea/docs/en/wo/wo033en.htm#P84_10623: WIPO Copyright Treaty Article 10

³⁹<http://swpat.ffii.org/news/04/cons0129/index.en.html>: Council Compromise Directive examined on the FFII website

⁴⁰http://db1.european-patent-office.org/dwl/legal/case_law/clr_all_en.pdf: EPO Case Law T1173/97 (OJ 1999, 609) and T935/97 (1998)

⁴¹http://db1.european-patent-office.org/dwl/legal/case_law/clr_all_en.pdf: EPO Case Law T513/98

3.2.7 Conclusion

What the Parliament’s proposal does effectively is state clearly that a resulting process must be a real and physical process outside of data processing and that this kind of claim is unallowable . It does so by defining industry in a strict sense and stating clearly that data processing as a field is not a field of invention. It also specifies that the new invention must contain a teaching to applied natural science (forces of nature) and not to mere logic or abstraction as found in computer programs and all other literary works.

What the Council compromise does is re-introduce outmoded safeguards that have already been overrun by EPO practice. If we can all agree that we want to stop pure software patentability as everyone in European politics recites like a mantra, then why can we not have our directive passed into law? The Council document proposes a “compromise”, but there can be no compromise. Either computer programs are literary works or they are inventions – and international law says they are literary works.

3.2.8 Overview

See Appendix C for a compliance chart showing how the Parliament’s and the Council solutions measure up in a broader sense on the international obligations in these treaties.

3.3 David Ellard ⁴²: The View of the European Commission

Mr. Ellard will share with us the views of the European Commission on this dossier, and clarify their goals and the means they are trying to use to obtain these goals.

3.4 Georg Jacob ⁴³: The Good, the Bad and the Ugly - Can this Distinction be Made for Software Patents?

The distinction between “good” and “bad” software patents is (for both mathematical and technical reasons) impossible to draw logically as well as legally. As such, any text that would try to do so, would fail, because it would unavoidably lead to the protection of *mere* (read: not inventive) ideas.

3.5 David Sant ⁴⁴: Effects of the Proposed Texts on Patent Granting

Mr. Sant will present the European Patent Office’s view on the different proposed directives, from the angle of how they would affect patent granting practice.

3.6 Philippe Aigrain ⁴⁵

Mr. Aigrain will speak about interoperability, especially in the light of obligations by the TRIPs treaty and the practical differences of article 6a from the Parliament compared to the provisions from article 6 of the Commission and the Council.

⁴²European Commission, DG Internal Market

⁴³Law scholar at Salzburg University and president of FFS.org.at, AT

⁴⁴Official at the Brussels Liaisons Bureau of the Europea Patent Office

⁴⁵Software entrepreneur, formerly European Commission Infosoc, FR

4 Panel III: Competitiveness of Knowledge Economies

Some of the questions around discussion will revolve in this panel are:

- How can EU become “the most competitive knowledge economy by 2010”?
- What EU policy goals have been formulated, by whom, with what understanding?
- Which factors affect Europe’s “competitiveness” compared to US, Japan, India etc.
- How do public and private research and patents influence “competitiveness” of Europe?
- The Commission Recital 16 claims that software patents would improve Europe’s competitiveness with respect to its main trading partners. JURI and Council add a new rationale which says that Europe’s competitiveness is improved mainly with respect to “low-cost economies” (e.g. China, India, Russia, Poland, Hungary, ...), to which currently manufacturing processes are being shifted. Can these claims be verified?
- The Irish Presidency has spelled out “competitiveness”, raising percentage of research expenditures in GDP to 3%, increasing private R&D, strengthening public investment in network infrastructure, ... centralising the patent system, securing “protection” of “computer-implemented inventions” etc. as policy goals, see links in Ireland and software patents. What is driving these policies, on what rationales and interests are they based, how reliable are the comparative statistics (e.g. on R&D expenditures in regions) which they cite?

This will happen with a focus on real experience with patents. The panel will be chaired by Mr Daniel Cohn-Bendit MEP.

If you are interested in following up with the participants and other interested people, you can subscribe to the mailing list via de the web interface at <http://lists.ffii.org/mailman/listinfo/bxl44panel3/>.

4.1 Birgitte Andersen ⁴⁶: IPR Policy for Business and Society

4.1.1 Contact details

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4.1.2 Abstract

The speech will emphasize how we need to bring interdisciplinary research (including law, economics, management, and politics etc.) and social responsibility into the consideration of intellectual property rights (IPRs). Furthermore, it will highlight how cross-institutional dialogue between the researchers and the designers, owners and users of the IPR system (including policy makers, international organizations, governmental agencies, the businesses, collecting societies and other groups) is the best underpinning for both informed research and informed IPR policy and IPR management.

Three research priority themes for more informed IPR policy and IPR management is discussed.

1. The rationales (i.e. policy goals), operation and effects of IPR regimes

Here the speech will address the policy goals or rationales for intellectual property rights (i.e. why we have the IPR system and what the objectives of the system are), and then discuss if the system really performs in relation to its objectives. The focus will be on

- (a) natural rights and moral rationales,
- (b) economic incentives to invest in invention and innovation rationales,
- (c) increased competition and “market protection of entrepreneurial talent” rationales,
- (d) economic rationales of organising science, technology and creativity for knowledge spill-over.

The importance of an appropriate design of an IPR regime to achieve its objectives, will also be addressed. It is argued how an understanding of the rationales for the IPR system is urgently needed for assessing the social and economic effects of the IPR system and when designing policy fostering the knowledge-driven techno-economic paradigm in the twentieth first century.

2. The evolution of IPR regimes setting the rules of the game for business and society in the knowledge-driven economy

This part of the speech contributes to an understanding of the changing role of IPR regimes, as the main institution setting the rules for the game (or forms of competition) for business and society. Furthermore, it is argued how the IPR regimes should not merely be designed with the interaction of the roles and interests of the stakeholders in the IPR system. Rather, it should be about achieving economic performance, growth and sustainable development at the corporate, sectoral and global level, at the same time as providing a higher quality of life at the level of all groups of civilization in all regions of the world.

3. Governing value and rent (or profit) creation and distribution from IPRs

It is well known that knowledge bases underpinning manufacturing and research have become inter-dependent across firms and sectors, and one firm cannot alone advance the technological frontier of a technological trajectory. Thus, collaborative innovation networks within sectoral systems are increasing in relevance and complexity. Therefore, IPR policy must not be based upon “too exclusive” rights.

4.1.3 Background material

- Andersen, B (2004). If 'Intellectual Property Rights' is the answer, what is the question? Revisiting the patent controversies, *Economics of Innovation and New Technology*, vol 13(5), 417-442 (email me for a copy)
- Global network on IPR research (an ACADEMIC RESEARCH network set up and managed by B Andersen: <http://www.ipr.bbk.ac.uk/global/>)

⁴⁶Birkbeck University of London, UK

4.1.4 Slides

See Appendix [B](#)

4.2 Yann Ménière ⁴⁷: Specifics of the Software Branche related to Patents

In the first part of the presentation, I argue that assessing correctly the economic impact of software patents requires taking into account some important specificities of the software technology. The traditional economic wisdom about patents is that they promote innovation. Patents indeed provide an incentive to invest in R&D and they facilitate the trading of knowledge.

They may however also impede innovation in some particular cases, namely when innovations are complementary and cumulative. Innovations are cumulative when they result from each other, and complementary when they are embedded in several broader technologies.

This is typically the case of software, where routines and subroutines are regularly improved and re-used. The economic problem with such interdependent innovations is that as one final software product may embody several, and eventually a lot of, different patents belonging to different owners.

The need to identify these patents and to strike a deal between all their owners creates uncertainty and yields significant additional costs on innovation. This problem is worsened if the patent office is not able to implement correctly the patentability requirement. This is the case in the United States where it has resulted in a flood of weakly inventive software patents with claims of high generality.

⁴⁷Cerna, FR

4.3 Sylvain Perchaud ⁴⁸: Venture Capitalism in European Software Business

The Silicon Valley entrepreneurs have always benefited from large investments of Venture Capital (VC) funds. In fact the Silicon Valley is said to be one of the most liberal place of the planet, thanks to near-zero tax on the benefits made by VC funds.

Why is european venture capitalism so weak in comparison ? Why is IT the poor relation of EU investors ? In regard to the latests EU engagements in favour of innovation, we'll discuss the solutions at hand to encourage investment in IT companies.

⁴⁸CEO Europe Shareware, FR

4.4 Jean-Paul Smets ⁴⁹: Software Patents and Competitivity

European protection system for software innovations has always excluded the enforceability of software patents. This situation raises concerns regarding the competitiveness of European vs. US economy where the patent systems are different:

- Is it a competitive advantage or a disadvantage for the European economy to be based on a different system than the United States ?
- Is it a competitive advantage or a competitive disadvantage for the United States economy to be based on a different system than Europe?

Our presentation will discuss the relative competitiveness of interacting markets based on different patent system. We will study market barrier effects and segmentation of innovators.

⁴⁹CEO & patent owner, nexedi.com, FR

APPENDIX

A Presentation given by Reinier Bakels

Europe: “me too” or unique in its own strength?

Brussels, 14 April 2004

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Property – common misconceptions

- “I made it so I own it”
- property of things
 - comprehensive legal protection
 - *droit inviolable et sacré*
- property of knowledge and other information
 - fragmentation of legal systems
 - copyright/patents/trademarks/designs ...
 - to be “completed”??

Patents are considered a form of “intellectual property”. But what is “property”?

This slide highlights some common misconceptions. An obvious - but incorrect - thought is: “I own what I have created”.

Indeed, for physical goods, things you can see and touch, the ancient Romans already knew this form of property creation: *specificatio*. In later centuries, property rights were not always acknowledged, especially in feudal times. But during the French revolution property was firmly established as a *droit inviolable et sacré*: an “inviolable and sacred right”.

However, for “immaterial goods” such as knowledge and other forms of information, there is no such comprehensive legal protection system. Instead, especially from the 19th century on, several specialised systems were developed for legal protection, starting with copyright and patent law, and ending (so far) with semiconductor topography and database law.

Still, it is an incomplete and fragmented system. Don't we need a pro-active approach to complete this “building” of legal systems for the protection of information, in its various forms and shapes? Isn't this part of the infrastructure needed in a modern, competitive Europe, in today's “knowledge economy”, in view of the Lisbon strategy?

Property of Information - reality

- A matter of efficiency rather than principle
- fundamental
 - information can be *shared*
 - information is *culture* (incl. science, trade etc.)
 - exclusive rights can block
- implications for the law
 - restrictive approach (*fundamentally* “incomplete”)
 - specialised systems geared to specific needs
- property of information is the exception

In reality, “information” by nature is essentially different from material goods. Therefore, it needs a very legal different approach.

Unlike physical goods, information can be shared: it can be employed by multiple users at the same time. And information does not deteriorate by being used. Apparently there is no reason to impose legal constraints on the use of information.

On the other hand, there are reasons to conclude that information ought to be free whenever possible, in particular information created by the “human brain”, because such information is essential for the continuous development of human culture, be it in science, politics, trade or even entertainment.

Consequently, *purposely* the law only protects information in specific cases, to a specific extent, if and when a specific need is perceived, as an *exception* to the rule of freedom of information.

Dichotomy

- copyright law (analogy)
 - ideas are *free*
 - expressions of ideas can be *protected*
- patent law
 - mere theories and ideas are *free*
 - inventions can be *protected*
 - technical designs typically are *not* inventions
- patents protect *research*, not *development* investment

Where should the line be drawn between information that should be free and information that needs some form of legal protection?

It may be helpful to compare copyright law and patent law for that purpose. In copyright law, the “idea-expression dichotomy” is a well-known concept. For instance, the story in a book as it is written is copyright protected. But someone else may write a book on the same topic, in his own words. Isn't that plagiarism? No, normally not. Clearly, the distinction is rather subtle. But over time, courts have developed criteria how to draw the dividing line between the two. There is no doubt that it should be somewhere between unprotectable ideas and protectable “expressions” of ideas.

In patent law a similar distinction can be made. There is no doubt that laws of nature can not be patented, only their applications (if any) may be patented (if the requirements are met). But can patent law protect *ideas*? It is often stated that “software patents are needed to protect the *underlying ideas* because copyright law only protects direct copying (piracy)”. This is a serious mistake: not every idea, and not every design qualifies as an *invention*. Of course, commercial software development companies may want to fence every idea, every design they made. But patent law is only destined to protect *research*, not routine craftsmanship, not regular development.

Business Models for knowledge

- commercial business model
 - sell the knowledge you have (or keep it)
 - buy the knowledge you need
 - huge transaction & litigation cost
 - “strategic” behaviour: compete with inferior products
- “cultural” business model
 - share (and obtain) your knowledge for *free*
 - stimulus for creativity
 - earn a living by *application*
 - lawyers, Open Source Software developers, etc.

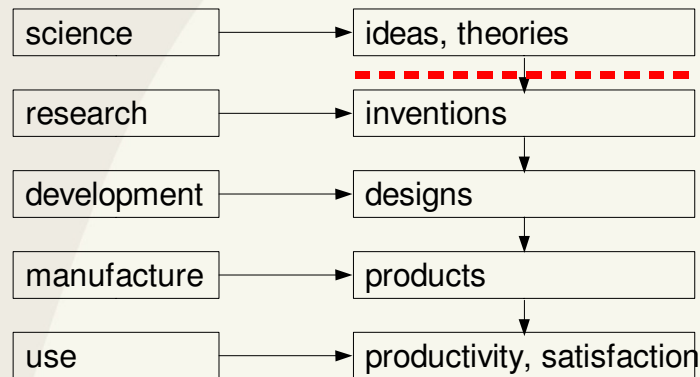
From the above, it may seem reasonable that not all ideas can (and must) be legally protected. But - on a less abstract level - don't software development companies deserve some legal protection for their development investment - in addition to copyright?

In a “commercial” business model, one is inclined to sell everything for money that meets a market demand, including knowledge. And, consistently, one must then be prepared to pay for someone else's knowledge, if needed. But is “knowledge” really so similar to other “raw material”? The reality from patents shows the opposite: the “trade” in knowledge can bring tremendous transaction and litigation costs. While conceivably it's impossible to “steal” material goods by mistake, one may reinvent an invention and infringe a patent inadvertently. On the other hand, a patent owner can play all kinds of games with patents to fight his competitors. Even with inferior products: the old saying is: *if you can't beat them, sue them!*

The Open Source business model follows a different approach. Is this software perhaps developed by *communists*, hobbyists or oversubsidised universities abusing taxpayer money? No! Actually, there is a striking similarity with - commercial - lawyers. They write articles in legal magazines all the time. Aren't they afraid to hurt their business by revealing their “secrets”? Not at all: they make a living by the *application* of their knowledge, very similar to IT consultants making a living by supporting their customers in the use of Open Source Software.

In sum, the free availability of knowledge and other information does not preclude professionals from making a profit. On the contrary, the free exchange of knowledge is the lifeline of “knowledge workers”.

The Food Chain



Freedom of knowledge versus ownership of patents - it seems contradictory. Let us have a closer look at the “food chain” of knowledge - from the inception of an idea until the realisation of a product that meets a market demand.

As is shown in the diagram, an invention is the result of research. Such research can be distinguished from pure science as it aims for *application*. Theories and ideas may lend themselves also for application, but only indirectly: they have to be developed into inventions first. Typically the research process of developing an invention is not straightforward, but a largely unpredictable process that may or may not be successful. In contrast, a development process is a matter of craftsmanship. It may still be laborious, but it is more or less straightforward, and unlikely to fail if only properly managed.

Businessmen may want legal protection for ideas. That would allow them to ask money for each and every application of their ideas. It seems excellent business: a huge “scope of protection” for (typically) a minor effort. But that is the very reason mere ideas are *not* protected by law. Only true inventions are legally protected. The research effort to accomplish an invention is larger, and the scope of protection is more in balance. Typically, software patents are more like patents on *ideas* than patents on *inventions*.

Institutional Aspects

- patent offices tend to be “customer-friendly”
 - equated to inventor-friendly
 - society-friendly is something else
 - USPTO worse than EPO
- EPO Boards of Appeal
 - not a proper court
 - however no appeal to an independent court
- every grant of a patent is a withdrawal from the public domain!

From the above, it is clear that patents must only be granted for true inventions. Not for trivial inventions. And certainly not for mere ideas, for “non-inventions”.

With all the fuzz about the directive we may forget that it is, and always has been the task of patent offices such as the EPO to examine patent applications whether all requirements are met for patentability.

But these offices play a complicated role. Do they acknowledge that the grant of every patent withdraws some knowledge from the public domain? The United States Patent and Trademark Office boasting of its “customer satisfaction” is a particularly bad example. Of course, I don't say the EPO is dishonest, just looking for more “business”, but it may be against their natural habit to be restrictive in patent granting.

No system is perfect, and imperfect systems need proper feedback mechanisms. However, the EPO Boards of Appeal may not be too suited for that purpose as they are unmistakably part of the “patent system”. However, there is no appeal to a court which is really external to the patent system.

Patent granting authorities should always acknowledge: the grant of a patent creates one winner, and potentially many losers. But this is not a game. This is very serious business! An infringer is not just a loser, he may even be considered a *criminal*.

Conclusion

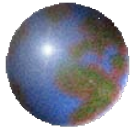
- Innovation thrives by freedom of ideas
 - Appropriation of knowledge kills creativity
- Europe should foster its strength
 - tradition of academic and scientific freedom
 - beware for undue commercialisation
- Compete
 - with Unique Selling Point
 - *not* with “me too” approach!
- European patents are patents *in Europe*
 - not patents (just) *for Europeans*

Finally, let's go back where we started: to the freedom of ideas, essential for the development of new ideas, and at the heart of culture in the broadest sense of the word. Appropriation of knowledge can be very dangerous.

Much of the policy of the European Commission seems to be geared to try to imitate the United States of America and its perceived prosperity: the “United States of Europe” against the USA. If that's the *Lisbon strategy*, it's a mistake. Now whether you are fond of American politics remains a matter of taste. But in the context of patents, and knowledge management in general, Europa should not adopt a “me too” approach once more. Instead, Europe should foster its own *unique selling points*, with its rich cultural and scientific heritage. Linux originated in Europe (in Finland). Should we now adopt legislation to help Microsoft to fight Linux?

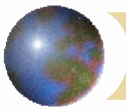
Don't get confused: unlike the Commission says, European patents are *not* patents *for Europeans*, but patents *in Europe*! The Americans did not complain by mistake about the amendments “weakening” the directive! They want a strong European software patent directive, in order to fight European software on the legal battlefield!

B Presentation given by Birgitte Andersen



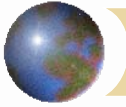
IPRs for Business and Society

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Economic rationales for IPRs: Patent policy goals

- To stimulate innovation-enhanced competition
- To protect entrepreneurial talent for industrial development
- To signal prospect for reward, that stimulates incentives to invest in invention and innovation
- To stimulate the direction of technological development towards useful inventions (i.e. those people want).
- To facilitate trade in ideas and knowledge spillover.



IPRs for Business and Society:

Cross institutional dialogue and interdisciplinary research

- Conflicts, contradictions and tradeoffs...
- An interdisciplinary science across law, economics, management and politics.
- The best way to reach our policy goals?
- Performance and measurement issues of patents in relation to production systems and social issues.

C Treaty Compliance Chart by Christian Beauprez

| Compliance | Parliament's Proposal | Council Compromise |
|--|---|--|
| WTO (TRIPS) | | |
| Article 1 | √ No additional "protection" added that would contradict agreement | X "Protection" breaches other clauses |
| Article 5 | √ all new and useful physical products or processes are patentable | √ all "new" and "useful" products or processes are patentable (including data processes) |
| Article 10 | √ Computer programs remain protected as literary works | X No longer true, underlying ideas patentable |
| Article 13: | √ Does not prejudice the right holder (author) of software works | X "inventors" can block authors rights |
| Article 27 | ? <i>Technical contribution to state of art (inherited from earlier drafts)</i> | ? Technical contribution to state of art (inherited from earlier drafts) |
| EPC | | |
| Art 52 | √ Computer programs not reclassified as inventions | X "Sui generis" established.. data processing reclassified as field of technology |
| WIPO Copyright | | |
| Article 4 | √ Computer programs remain protected as literary works | X No longer true, underlying ideas patentable |
| Article 6 | √ Exclusive Right to Rent assured | X No longer true, underlying ideas patentable |
| Article 7 | √ Exclusive Right to Distribute assured | X No longer true, underlying ideas patentable |
| Article 8 | √ Exclusive Right to Communicate to public assured | X No longer true, underlying ideas patentable |
| Article 10 | √ Does not prejudice the right holder (author) of software works | X "inventors" can block publication and demand payment |
| | | |
| | | |
| Software Copyright Directive | √ Computer programs remain protected as literary works irregardless of form | X Computer programs reclassified if they make a "technical contribution" |
| | | |
| Berne Convention (all provisions) | √ Does not prejudice the right holder (author) of software works | X No longer true, underlying ideas patentable |