

# The Digital Era needs a Paradise Law

Welcome Ladies and Gentlemen,

I would like to thank the University of Bologna for giving me the opportunity to give this talk here, professor Renzo Davoli for organizing this meeting, and everybody else who helped, like Francesco Benincasa, who took the initiative.

Software patents.

We will take a look at

- trivial software patents that should never have been granted,
- the dangers for Small & Medium-sized Enterprises,
- scientific evidence,
- problems with interoperability
- bureaucratic irresponsibility,
- and the political situation.

Is there anyone who knows how many software patents there are in the US?

About 135,000.

Imagine you are a software writer in the US, you want to be completely honest, not violate anyone's intellectual property. How could you do that?

Stop writing software. It is impossible to write software in the US without violating patents. May be you manage, but you will never know. Well, we all know they can overdo things in the US, but, surely, here in old Europe, we are not that crazy, are we?

## Webshop

Let's take a look at the webshop poster. These are patents that have been granted in Europe. A simple webshop can violate 23 patents. Every patent holder can sue the webshop owner, and take part of the revenue. There will not be any revenue left.

On number one we see “Selling things over a network using a server, client and payment processor, or using a client and a server” This patent covers every internet shop. Everyone with a webshop will have to pay. Is it an invention to sell something? No, it is not, it is an everyday idea. Was implementing it so difficult? No, in every book on programming in Java for beginners it is explained. It is just a simple applet.

On number two we see another amazing invention: “Order by cell phone: Selling over a mobile phone network” Again, selling as an invention. Another trivial patent, with a very broad scope.

On number three we see the “Shopping cart: Electronic shopping cart”. I found the code for this one in “Programming in Java for Dummies”. Some 230 lines of code, a few hours work. There are books with titles like: learn Java programming in 24 hours. When you start with such a book in the morning, before lunch you will violate your first patent. Imagine you finish the book and put everything you learned on the internet. I can only say: Don't try this at home!

All kinds of things we already know, like “tabs” (4) or “pay with a credit card” (9) are patentable, as soon as a computer is involved. These patents are trivial, and very broad in scope. They should never have been granted. A patent is a monopoly for 20 years, in turn for the disclosure of an invention. These are not inventions. These are simple, everyday ideas, ideas that everyone can come up with themselves. And now, these ideas are owned by someone. This is what I personally find so objectionable. I believe in creativity. Monopolies on ideas kill creativity. Clearly, the patent system in Europe has gone wild. Software is already protected by copyright. Patents are not needed. Without software patents, someone will come up with the “invention” anyhow, within a few years, weeks, or days. Software patents only delay the free availability with some 17 to 20 years.

## Small & Medium-sized Enterprises

Small & Medium-sized Enterprises are the backbone of economy. They create most jobs, they are most innovative. They create most value, pay most taxes. How will software patents effect Small & Medium-sized Enterprises? Let's take a look at the US. In the US, there are about 135.000 software patents. It is impossible to know all these patents, all these patents are land mines you can accidentally step on. IBM buys 3400 patents a year, it has a total of 40.000 patents now. IBM just goes to software companies, and says they have to take a license. It offers a license you can't refuse – it can almost always find a patent you violate. IBM earns 1.7 billion dollars each year this way. This is often called the IBM tax. The man who designed this scheme, now works for Microsoft. Microsoft promised its shareholders to file for over 3,000 patents a year.

As we saw with the webshop, software patents do not only effect the software field itself, the scope is much broader. All internet shops are effected. Commercial use of Open Source software can be sued. Software prices go up for companies and consumers.

Can Small & Medium-sized Enterprises protect themselves with patents? Often it is said that small companies can protect themselves against big companies with patents. It may be true in the automobile industry, with many manufacturers of parts. They patent the part, and, that part is then protected. But in the software field, one person or a small company can make a full product, and that product violates many patents of the big players. Those big players can always say: let's make an agreement, we can use your invention, and you can use some of ours. To have one patent is a lottery, 1000 patents is an insurance, 40.000 patents is an empire. In the software field, patents do not protect the small companies. Unless they stop making software and become legal street fighters. Get yourself a few strategical patents and then sue everyone. Become a patent shark. Would this behavior stimulate innovation? No. Does it happen? Yes, it happens.

Investors found out that patents do not help companies to survive. In fact, it are non-developers that benefit most from software patents. Trolls.

In a report for the German government, regarding how to promote innovation, called, “Innovation in Germany -- Windows of opportunity”, Deutsche Bank Research writes: “Measures to take. The German government is among the tentative critics of the EU software patent bill. This position should be bolstered, by (1) putting forward academic evidence and (2) making SMEs' concerns heard. SMEs are crucial providers of path breaking innovations, but would be most adversely affected by patentability.”

The CEA-PME, an association representing 500.000 Small & Medium-sized Enterprises in Europe., strongly opposes software patents. Stefan Zickgraf, secretary-general of this organization, said in Brussels that it took a long time to see the CII directive is actually about software patents. He called it a directive in disguise.

## Studies

Let's take a look at the scientific evidence. The most interesting study was conducted by Bessen and Hunt, "An Empirical Look at Software Patents". It is an empirical study on the effects of software patents on investments in innovation in the US. It concludes that software patents have in the US resulted in a transfer of resources from R&D to patenting activities. More patents meant less innovation, even within the companies that patented most. Most software patents are owned by large hardware companies and obtained for strategic purposes rather than for preventing imitation of products.

Software patents hinder instead of encourage innovation in fields where most innovation is incremental, such as in software development.

Jim Bessen said in Brussels that only 15% of R&D investments are protected by patents. 85% is protected by other means, such as copyright. So patents do have some value, but it relatively small.

The US Federal Trade Commission conducted hearings to find out how the patent system promotes and / or inhibits competition in different fields. Its conclusions were bundled in a report with the title: "To Promote Innovation: The Proper Balance of Competition and Patent Law and Policy"

- Not all industries are the same, in the computer hardware and software industries patents are used more and more for defensive purposes. This results in patent thickets: overlapping and entangled patent rights of different companies, which means you have to obtain a license to all such patents before you can commercialize a product.

- The software industry is characterized by cumulative innovation, low capital costs, rapid consequential innovation and a short life span of products and alternative incentives for innovation such as copyright and Open Source. This is quite different from the hardware industry, biotech and pharmaceuticals.

- Innovation in the software industry is driven by competition.

- Software patents can inhibit consequential innovation and increase the entry cost. Avoiding infringement is expensive and uncertain.

- There are also large problems due to trivial patents.

- A long quote from Robert Barr, Vice President and head of intellectual property at Cisco Inc (one of the market leaders in networking technology),

"My observation is that patents have not been a positive force in stimulating innovation at Cisco. Competition has been the motivator; bringing new products to market in a timely manner is critical. Everything we have done to create new products would have been done even if we could not obtain patents on the innovations and inventions contained in these products. I know this because no one has ever asked me 'can we patent this?' before deciding whether to invest time and resources into product development.

The time and money we spend on patent filings, prosecution, and maintenance, litigation and licensing could be better spent on product development and research leading to more

innovation. But we are filing hundreds of patents each year for reasons unrelated to promoting or protecting innovation.

Moreover, stockpiling patents does not really solve the problem of unintentional patent infringement through independent development. If we are accused of infringement by a patent holder who does not make and sell products, or who sells in much smaller volume than we do, our patents do not have sufficient value to the other party to deter a lawsuit or reduce the amount of money demanded by the other company. Thus, rather than rewarding innovation, the patent system penalizes innovative companies who successfully bring new products to the marketplace and it subsidizes or rewards those who fail to do so.” (unquote, Robert Barr)

Mario Baldassari, Italian deputy minister of economics and finance in Italy, apparently knows this study, on May 14th, 2004, he wrote to Mr. Lucio Stanca, Minister for the Innovation and the Technologies: “The American Federal Trade Commission (FTC) has expressed worry on the implications of the effect of their model of patentability of software in the United States, and what the Irish Presidency proposed is extremely similar.” (unquote) During the May 18<sup>th</sup> vote in the Council, Italy abstained.

This morning there was a press conference in Milano with Eva Lichtenberg, member of the European Parliament and Fiorello Cortiana, member of the Italian Senate. They aim at re-enforcing the Italian position.

Europe wants to be the most dynamic knowledge society in 2010.  
PriceWaterhouseCoopers doubts whether this will be possible with software patents.

## Interoperability

One of the worst things that may happen, is that a standard is covered by a patent. If that happens, interoperability is lost. Keeping standards and protocols free of patents, is one of the biggest concerns of the W3C Consortium, as you know, the organization that makes the internet protocols. It is costing them an enormous lot of time and effort, and even then they can not be sure. It is impossible to make a standard without any doubts whether it will violate a patent. If they fail, a standard can be taxed. Everyone who uses the protocol can be sued and has to pay.

You all know what this is. It is an Ethernet connection cable, with an Ethernet connection plug. Without this plug, no network. According to Dr. David Martin, this plug is covered by 600 patents.

Visiting a web page, involves 15 protocols. These protocols can be patented.

## Bureaucracy

Patents are supposed to stimulate innovation. It is the only reason for their existence. And if they do not stimulate innovation, they should not exist. Unfortunately, there are other reasons they exist, bureaucratic reasons. The European Patent Office gets paid for every patent it grants. And patent officers get a point for every case they handle, and granting a patent is less work than denying a patent. It is a silly dynamic, leading to more and more patents.

The European Patent Office already granted 30.000 software patents, three quarters of them are owned by United States and Japanese companies. Most license money will leave Europe. The new members of the Union, mostly Eastern European countries, hardly own software patents and will never catch up - a European patent costs about 30.000 euros. The directive will have a devastating effect on the new member states' software companies. Eastern Europe will never own its software industry under the Council's text. A modern form of slavery. And with less than 1.5 percent of the patents, countries like Italy and the Netherlands won't do much better.

We have seen the patent system going crazy in the US. We have seen it going wild in Europe. The European Commission and the Council of Ministers want to harmonize the European patent laws. What does this mean?

The European Patent Convention says that “software as such” can not be patented. Well, if “software as such” can not be patented, how come we have 30.000 software patents already? The European Patent Office uses very creative ways of interpreting the European Patent Convention. So in some countries judges may follow this interpretation, and in others they may say: “what a nonsense”. The software patents granted by the European Patent Office are not enforceable on a European scale, they are only enforceable in some countries. The Commission and the Council want to make a directive. After the harmonization with a directive, the patents granted, will be enforceable on a European scale. The patents will have a higher value, we can expect many, many more. Harmonization is not a neutral operation.

Don't let yourself be fooled. The European Commission made the first proposal for the directive. It has twelve pages of background information. Let's take a look at it. It's very informative. We have already seen that the European Patent Convention excludes “software as such” from patentability. Now here comes the trick. The European Patent Office says that “software as such” is software without a technical character. But, when software does have a technical character, it is not “software as such”, it can be patented. So, and when does software have a technical character? In the Controlling pension benefits system case, the European Patent Office decided: - and here comes my favorite quote - “all programs when run in a computer are by definition technical (because a computer is a machine), and so are able pass this basic hurdle of being an invention.”

This is totally crazy. To be patentable, you demand of software that it has a technical character, and it has a technical character when it runs on a computer. But what software does not run on a computer?

Now we can understand the webshop we saw earlier. Why all these everyday ideas were patentable. Because a program is by definition an invention, when run on a computer.

IMHO, this is sick reasoning, irresponsible. It is a condition that is always met.

We are facing an irresponsible bureaucracy. How should we deal with it? Set very strict rules. Does it happen? No. In the Council's text, "technical contribution" is defined in vague terms. We all know now what the European Patent Office does with rules that are not carved out in stone. The road is set for disaster.

The only objective condition to get a software patent is "new". Europe will see a host of trivial software patents. Innovation will be stifled.



## Summary

I'm coming to the end of this presentation. I will say a few words on the political situation, but first I would like to summarize a few things:

- In the US there are about 135,000 software patents. It is impossible to write software in the US, without violating patents.
- In the EU, a simple webshop can violate 23 patents.
- Monopolies on ideas kill creativity
- Small & Medium-sized Enterprises are the backbone of economy. SMEs are crucial providers of path breaking innovations, but would be most adversely affected by patentability.
- Software patents have in the US resulted in a transfer of resources from R&D to patenting activities. Software patents hinder instead of encourage innovation in fields where most innovation is incremental, such as in software development.
- Innovation in the software industry is driven by competition.
- It is impossible to make a standard without any doubts whether it will violate a patent.
- The European Patent Office gets paid for every patent it grants.
- In Europe, there are already 30.000 software patents.
- The new members of the Union, mostly Eastern European countries, hardly own software patents and will never catch up.
- With less than 1.5 percent of the patents, countries like Italy and the Netherlands won't do much better.
- Most license money will leave Europe.
- My favorite quote: "all programs when run in a computer are by definition technical (because a computer is a machine), and so are able pass this basic hurdle of being an invention."
- The only objective condition to get a software patent is "new".

I can only conclude that for the sake of a few multinationals, often from outside Europe, European Small & Medium-sized Enterprises are sacrificed. Open Source projects are sacrificed. Eastern Europe is sacrificed. A legal minefield is created. We can forget about being the most dynamic knowledge society. Europe will see a host of trivial software patents. Innovation will be stifled, economic growth will be lower. For the sake of a few, many will suffer. Personally, I think it is immoral.

In 1256, Bologna adopted the Paradise Law, it abolished slavery. It was the first city in the world to do this. The world needs another Paradise Law now, software patents need to be abolished. And there is no better place to talk about this, than Bologna.

## Political situation

In 2002 the European Commission's proposal opened all doors for patenting software. In 2003 the European Parliament closed the doors. This year the Council of Ministers re-opened the doors. Only Spain voted against, some countries, like Italy, abstained. Since then, the Dutch parliament has adopted a motion, asking the minister to withdraw his vote. In Germany, motions will be voted on. Clearly, democratic legitimacy is falling away.

Since Nov 1<sup>st</sup>, the way the votes are counted has changed. It seems there is no qualified majority any more, and the Council's agreement is not yet formally adopted. Italy could ask for a B-item, a discussion item, since there are things to discuss. Italy could ask for an explicit vote, or at least an explicit count of votes. On the other hand, pressure on Italy may mount. I really hope Italy will stay firm. And of course, it would be even better if Italy would not abstain, but say no. The Digital Era needs a Paradise Law.

If the proposal gets past the Council, it will go to the European Parliament again. It will be harder this time, the multinationals woke up. Microsoft is reported to invite Members of the European Parliament each night for dinner. It will first go to the Juri-committee, which has a few Italian members. They may play a major role. Do inform them. Feed them with information. Unite, for instance, on the [it-parl@ffii.org](mailto:it-parl@ffii.org) list. Well, we all know it is impossible to unite Italy, but may be in a digital sense it can be done?

Do make noise. Speak out. And I hope that organizations of Small & Medium-sized Enterprises will speak out too. They will have to bear the hardest burden.

Do not monopolize ideas. Do not kill creativity.

Thank you.

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Speech by Ante Wessels at the Computer Science department of the University of Bologna, Nov 12<sup>th</sup> 2004.