



Patents: Is Open Source Endangered?

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*"We've warned you for a decade.
Now the monster has finally
arrived."*

Bruce Perens

*as quoted by Alfred Essa,
"The Patent Crisis Widens with New Attacks," 20 August 2006*



The “patent monster” arrives

“We've warned you for a decade. Now the monster has finally arrived: attacks against Open Source developers by patent holders, big and small. One is a lawsuit against Red Hat for the use of the principle of Object Relational Mapping used in Hibernate, a popular component of enterprise Java applications everywhere. The other attack is on an individual Open Source developer for his model railroad software.”

Bruce Perens, 30 June 2006 writing for Technocrat.net



Warning 1

- This is a literature survey, not legal advice.
- The references apply only to United States patents, only sometime in Canada, Australia, and Singapore.
- “It depends ... ”
As every patent attorney would say
“Legal advice should only be given by an attorney practicing in the specific legal field and familiar with a complete disclosure of all relevant information.”



Warning 2

- Patent enforcement is rare.
- Challenging the validity of a patent is even more rare.
- Obtaining an injunction is even more rare than that.
 - And suing an individual open source contributor for royalties was unknown *until this year.*

Some context



Patent as a monopoly

“ The exclusive right granted to a patentee in most countries is the right to **prevent or exclude others from making, using, selling, offering to sell or importing the claimed invention**. The rights given to the patentee do not include the right to make, use, or sell the invention themselves. The patentee may have to comply with other laws and regulations to make use of the claimed invention.”

Wikipedia, 4 December 2006



Software patents are bad!

“In seeking royalties [from patents], [universities] are merely doing what the law allows and Congress clearly meant to encourage. Since there are plausible reasons to support the governments’ policy, any argument to the contrary should be taken up with Congress, not the universities.”

Derek Bok, “Universities in the Marketplace: The Commercialization of Higher Education,” 2004 pp. 141-142.

Examples of awarded patents



File Structure for Storing Content Objects in a Data Repository	Pearson Education
On-line Educational System for Processing Exam Questions and Answers	eCollege
System, method and apparatus for connecting users in an online computer system based on their relationship with social networks	Friendster

Examples of pending patents



Content and Portal Systems and Associated Methods	Blackboard
e-Learning Authoring Tool	SAP
e-Learning Course Structure	SAP
Individualized retention plans for students	eCollege
Method and system for presenting online courses.	Manisha Jain



Linux threatened by patents?

“In conclusion, he found that no court-validated software patent is infringed by the Linux kernel. However, Ravicher also found 283 issued but not yet court-validated software patents that, if upheld as valid by the courts, could potentially be used to support patent claims against Linux.”

“27 of the 283 patents are held by Microsoft”

Open Source Risk Management, 2 August 2004



Most of us were unconcerned

Until:

- March 13, 2006 - Jacobsen v. Katzer
- June 26, 2006 - Firestar Software v. Red Hat
- July 26, 2006 - Blackboard v. Desire2Learn



This summer we learned

- March 13, 2006 - Jacobsen v. Katzer
 - An open source software developer was sued for infringement.
- June 26, 2006 - Firestar Software v. Red Hat
 - Firestar claims widely used "Hibernate" software violates their patent.
- July 26, 2006 - Blackboard v. Desire2Learn
 - Core mission software may be infringing.



History suggests

- Neither the college or university, or you personally will be directly affected by patent or copyright infringement in the next few years.
- But, the music publishers outsourced copyright enforcement to the RIAA and the software industry outsourced license enforcement to the SIIA.

Are patents next?



“The Blackboard patent”

- Software and business method patents are U.S. policy and law, and colleges and universities, as well as businesses must and do operate in that environment.
- Blackboard was the *first to enforce* any of the many existing eLearning patents, in *an action that drew attention* of the community.
- This has and will change the business practices of colleges and universities.

*Patents:
A personal perspective*



Jacobsen v. Katzer

- Jacobsen was employed by the University of California operated Lawrence Berkeley National Laboratory.
- Jacobsen developed and distributed open source software for controlling toy trains.
- Katzer sent Jacobsen an invoice for \$203,000 *and sought records (FOIA request) from the Berkeley Lab on his telephone calls, email, and discussions with other employees concerning his open source development activities.*



Jacobson claims

- Katzer patents invalid based on “prior art”
- Violation of Federal antitrust, California Unfair Competition, and libel laws.
- Fraud on the U.S. Patent and Trademark Office and inequitable conduct



“Buyer beware”

“While most patent owners do not sue corporate consumers for fear of alienating potential customers, certain owners, such as ‘patent trolls’, **do not hesitate to target manufacturers, resellers, and end users alike.**”

Mark S. Freeman, “Protecting Your Company from Patent Suits by Contracting for Indemnification,”
Choate Hall & Stewart LLP, 5 October 2006.



The IBM “protection” strategy

- Form a foundation that licenses the contributed software and subsequently licenses and distributes to others
 - Apache Software Foundation



Contributors defined

Anyone who provides “certain details of a device, method, process or composition of matter (substance) (known as an invention)” or “a particular expression of an idea or information.”

www.wikipedia.org, 3 November 2006

especially in the form of software code, drawings, documentation, publications, presentations, or devices.



Contributor License Agreement (1)

“Agreement, You hereby grant to the Foundation and to recipients of software distributed by the Foundation a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable (except as stated in this section) patent license to make, have made, use, offer to sell, sell, import, and otherwise transfer the Work ... ”

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Apache Software Foundation



Contributor License Agreement (2)

“You represent that Your contribution submissions include complete details of any third-party license or other restriction (including, but not limited to, related patents and trademarks) of which you are personally aware and which are associated with any part of Your Contributions.”

Individual Contributor License v2.0
Apache Software Foundation, 10 September 2004



Apache Software Foundation

Georgetown University

	2001-2002	2005-2006
Income	\$9,692	\$149,121
Expenses	\$13,214	\$33,312
Assets	\$115,105	\$243,842

From IRS Form 990 for the respective calendar years.



Contributors should

- Ensure your contribution is “given” to a legal entity, but retain a non-exclusive license to use and distribute.
- Execute a written contribution agreement.
- Maintain a current list of your contributions and copies of the contributions themselves.
- Publish or otherwise evidence date and validity of documents.



Contributors should

- Evaluate carefully if the organization and/or project is protecting your interests before participating or contributing.
- Verify [*a written* policy] they will notify you of any possible patent or copyright infringement when it is learned.

*Patents: An institutional
perspective*



“Patent trolls” (1 of 2)

- “It is becoming more and more common ... to receive letters from patent holders that allege patent infringement and demand a license fee or that ‘invite discussions about a license fee.’”
- “Such letters often come from ... ‘patent trolls.’ The term ‘patent troll’ generally refers to companies whose sole business is the enforcement of a patent or patents in order to collect license fees.”



“Patent trolls” (2 of 2)

- “Indeed, patent trolls often have no or few assets besides patents, and normally carry out **no business activity besides litigation**. Thus, patent trolls typically do not fear counterclaims for patent infringement or unfair trade practices.”

Danielle Williams and Steven Gardner, “Practical Tips for Corporate Counsel for Effective Responses to Patent Trolls,” *Business Lawyer*, June 2006.



For mission critical software

Risk mitigation suggests

- A college or university can:
 - License software from a firm that provides a patent indemnity clause (and has the resources or insurance to support litigation and awards)
- or
- Use open source software for which there is an "Opinion of Non-Infringement," **guarantee not to sue**, or evidence of license agreement.



Patent indemnification (1 or 2)

- (a) The Contractor shall indemnify the *University* and its officers, agents, and employees against liability, including costs, for infringement of any United States patent arising out of the manufacture or delivery of supplies, the performance of services, or the construction, alteration, modification, or repair of real property (hereinafter referred to as "construction work") under this contract, or out of the use or disposal by or for the account of the *University* of such supplies or construction work.



Patent indemnification (2 of 2)

- (b) This indemnity shall not apply unless the Contractor shall have been informed as soon as practicable by the *University* of the suit or action alleging such infringement and shall have been given such opportunity as is afforded by applicable laws, rules, or regulations to participate in its defense.

Based on 48CFR 52.227-3 Patent Indemnity.

The word government has been replaced by University There are additional terms that may be included.



Non-infringement opinion

“A non-infringement opinion addressing a U.S. patent should be authored by a qualified U.S. patent attorney. Using outside counsel may bolster the objectivity of the legal opinion ... The non-infringement opinion should include an accurate technical description of the accused product. Incorporating pictures or diagrams may be particularly helpful, such as for a reviewing judge or jury. Any technical expert providing such technical description of the accused product should be well qualified to do so.”

Suneel Arora at “Minnesota CLE: IP in Complex Corporate Transactions,” May 18, 2005



A new burden for open source

To reduce "user" risk

- Provide a non-infringement opinion or a "design around" for patents held by enforcing patent holders.
- Maintain and publish complete documentation of the design, processes, and contributions.
- Reveal the sources of all code.
- If necessary, seek and execute license agreements with patent holders.



In summary

- Software and business patents are being awarded in the U.S., Canada, and Australia.
- Some patent holders are enforcing their patents, and likely more will.
- Colleges and universities and contributors to open source and open content are “at risk” of litigation and licensing.
- A “risk management” strategy should developed, implemented, and enforced.

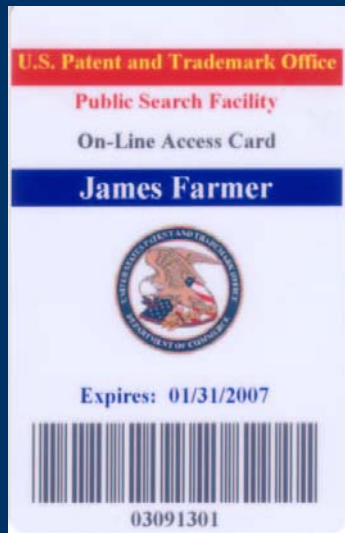


Is open source endangered?

- Yes, patents distract developers and users from their primary mission.
- Yes, it induces costs for intellectual property policy development and enforcement, for record keeping, and, rarely, for defense.

At a time higher education can least afford the diversion of resources and attention.

But, it is public policy; we must live with it!



The end

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*More on patents than you
wanted to learn*



Programmers and prior art

- “What is needed is not the detailed code, but some level of description of what is in that code.”
- “...programmers are usually too interested in moving on to the next task to take the time to document the last one. It isn’t difficult to understand why software results are so often not published in formal journals. Most of the work in this emerging field has been done outside academia.”

Bernie Galler, University of Michigan at the “Public Hearing on Patent Protection for Software-Related Inventions,”
February 10 & 11, 1994



“Business method” patent

“The term ‘business method patent’ remains undefined by statute, but is commonly used to describe patents relating to methods of conducting e-commerce transactions. Such patents often disclose and claim aspects of software and Internet-based communications intrinsic to the business methods. Perhaps the best-known example of a business method patent is Amazon's "one-click" shopping patent.”

David Jacobs, “Counseling Clients About Business Method Patents,” Gesmer Updegrave LLP, 5 December 2000.



Patent Prosecution (1 of 2)

- “ ... known in the business as "patent prosecution," ... a patent attorney will prepare an extensive written description covering every aspect of a certain embodiment of a client's new invention. Then, after filing, it will be discovered that most of the aspects of the new invention have been done before, such that a patent on a device or method covering just those aspects would be improper. A skilled patent attorney will generally be able to identify one or more distinctions between prior devices and methods and her client's invention, even if the devices share many features.”



Patent Prosecution (2 of 2)

“So long as identified distinctions are not obvious in light of the ‘prior art,’ an inventor is entitled to patent claims directed to those distinctions.

Consequently, the patent will issue with a relatively extensive written description but a relatively narrow set of claims. ... In fact, a patent's claims generally cover only a small subset or particular combination of the material described in the written description.”

Sanford E. Warren Jr. and E. E. "Jack" Richard II,
“Claims?? We Don't Need No Stinkin' Claims!!! (Or Do We?),”
International Risk Management Institute, November 2001.



On Willful Infringement (1)

“Willful infringement should be a major concern for almost any business because it allows a judge, in his or her discretion, to award a patentee up to three times the actual damages suffered. In addition, the infringer may be saddled with paying the attorney fees that were incurred during the patent infringement lawsuit.”

Sanford E. Warren Jr. and E. E. "Jack" Richard II,
“Avoiding Willful Infringement in Intellectual Property Litigation,”
International Risk Management Institute, March 2005.



On Willful Infringement (2)

“In the end, if your organization is ever on trial for patent infringement, the patentee will [pursue] treble damages and attorney fees. ... And to ensure that those traditional factors tilt in your favor, a well-reasoned opinion, presented by an expert, may still be the best option.”

Sanford E. Warren Jr. and E. E. "Jack" Richard II,
“Avoiding Willful Infringement in Intellectual Property Litigation,”
International Risk Management Institute, March 2005.



On prior art

“The point is that if enough money is invested, a party can almost always locate some prior art that was not available to the patent office and therefore not considered by the examiner.”

Commissioner Dickinson, at “Public Hearing on Issues Related to the Identification of Prior Art During the Examination of a Patent Application,” 14 July 1999



Limits on the patent examiner

A search of this duration, for example of eight hours or less, is about what we understand a patent examiner can carry out and still meet appropriate patent office production goals.

Commissioner Dickinson, at "Public Hearing on Issues Related to the Identification of Prior Art During the Examination of a Patent Application," 14 July 1999



Prior art of software

- “The history of inventions in the software area is not recorded well. There are few formal journals ... and some textbooks. ... Not only are the results and inventions not published in formal journals most of the time, they usually [are] described if at all, primarily in informal conference reports or newsletters.”

Bernie Galler, University of Michigan at the Public Hearing on Patent Protection for Software-Related Inventions, February 10 & 11, 1994.



On The Software Patent Institute

“The Software Patent Institute has been formed to build a database to assist the PTO with finding prior art, and while the SPI’s intentions are admirable, **it is inconceivable that developers**, small and large, will be willing to give up their trade secrets or even to devote the substantial time needed to evaluate, draft, and submit evidence of existing art to the SPI database.”

Jerry Baker, Oracle Corporation at the Public Hearing on Patent Protection for Software-Related Inventions, January 26 -27, 1994



IBM's view

“We protect the detailed expression in every one of our software products by copyright. And approximately 3 to 5 percent of these programs contain new and unobvious functions that are protected by patent. Patent coverage on these inventive functions protects our investment, gives us important business leverage as well as access into foreign markets.”

Victor Siber, IBM Corporation, at the Public Hearing on
Patent Protection for Software-Related Inventions,
January 26 -27, 1994



Microsoft's view

- "... we do not believe that patent protection should be withheld from an invention that otherwise meets the statutory requirements for patentability, simply on the basis that the invention is or may be embodied in software."
- **Simply: Microsoft supports software patents**

William Neukom, Microsoft Corporation at the Public Hearing on Patent Protection for Software-Related Inventions, January 26 - 27, 1994



Oracle's patent policy

- "Oracle Corporation opposes the patentability of software."
- "Unfortunately, as a defensive strategy, Oracle has been forced to protect itself by selectively applying for patents which will present the best opportunities for cross-licensing between Oracle and other companies who may allege patent infringement."

"Oracle Corporation Patent Policy,"
January 27, 1994

Reexamination and litigation



71%	Percentage of claims that were either amended or canceled in reexamination action.
12%	Percentage of claims that were canceled in reexamination.
38%	Percentage of claims ruled invalid in litigation over prior art patents and publications.

David M. O'Dell and David L. McCombs, "The Use of Inter Partes and Ex Parte Reexamination in Patent Litigation," Haynes and Boone LLP, 8 February 2006.



Patent litigation statistics

Adjudicated	14%
Summary judgment	7.0%
Jury trial	2.5%
Bench trial	0.7%
Want of prosecution	1.6%
No jurisdiction	1.4%
Default	1.1%
Settled	86%



Plaintiff "Win Rate" 1978-2000

	Jury	Judge	All
Trademark	.63	.68	.67
Copyright	.70	.74	.73
Patent	.65	.50	.56
All Civil Trials	.48	.48	.48

William M. Landes, "An Empirical Analysis of Intellectual Property Litigation: Some Preliminary Results," *Houston Law Review*, University of Houston, 8 October 2004.



Ravicher advises

- Support structural patent reform
- [Added: *At least some*] Patent disputes may be resolved in spirit of open source licensing
- Contribute to databases of previously inaccessible prior art
- Be prepared to “design around” patents
- Obtain patent infringement defense insurance

Dan Ravicher, “Mitigating Linux Patent Risk,”
2 August 2004



Patent validity

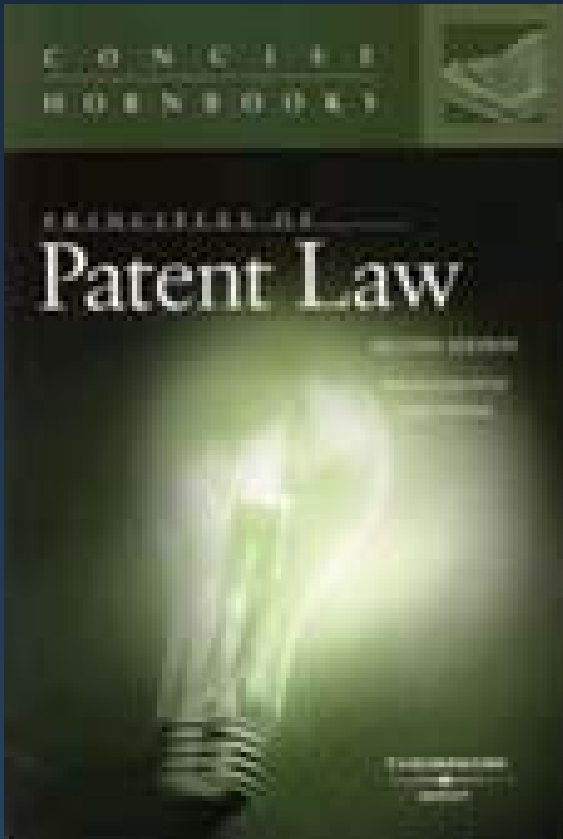
- "... roughly 55 percent of all patents were held valid, 45 percent held invalid, and this is going to final judgment only. Of the 45 percent that were held invalid, prior art entered into play only 26 percent of the time, and so if you have 45 percent held invalid and only 26 percent of those involved documented prior art. ... You're down into the **12 or 13 percent of the patents [litigated] were held invalid because of prior art.**"

Former Commissioner Mossinghof quoting Mark Lemley, at
"Public Hearing on Issues Related to the Identification of
Prior Art During the Examination of a Patent Application,"
14 July 1999



Recommended Reference

Georgetown University



Principles Of Patent
Law (Hornbook Series)
by Roger E. Schechter
and John R. Thomas

Edition: 1st ed., 2004
ISBN: 0314147519
Format: Paperback