



# Software Patents and Free/Libre and Open Source Software (FLOSS)

## Could software patents end FLOSS?

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# Summary

- What is a patent, contrast with other PCT
- Should software be patentable?
- Software patent issues specific to FLOSS
- How realistic are different types of threats?
- Policy proposals
- Discussion

# Standard Disclaimers

- IANAL (I Am Not A Lawyer)
- TINLA (This Is Not Legal Advise)
- While my passion is law and public policy, my formal background is in technology
- If I use acronyms which aren't clear, please interrupt and force me to clarify

# Patent, Copyright, Trademark (PCT)

- The term “Intellectual Property” is confusing as it makes an analogy to tangible property which confuses non-lawyers, and lumps together very different areas of law
  - Patent: applies to “art, process, machine, manufacture or composition of matter” which are workable, new, and ingenious (useful, novel, unobvious) – (application).
  - Copyright: applies to an expression of an idea - (no registration)
  - Trademark: word, symbol or design, or a combination of these, used to distinguish the goods or services of one person or organization from those of others in the marketplace – (application/registration)

# PCT

- Also includes: Industrial Designs, Printed Circuit Topographies, Plant Breeder Rights, ...
- Resources:
  - <http://cipo.gc.ca/>
  - [http://www.digital-copyright.ca/Jefferson\\_Debate](http://www.digital-copyright.ca/Jefferson_Debate)
  - <http://wsis-pct.org/ipr-disclaimer.html>

# Patentable Subject Matter

## USA: From No...

- Software patents fought by USPTO prior to 1981
  - *Gottshalk v. Benson* (1972) and *Parker v. Flook* (1978)
  - "difficult questions of policy" ... "form and duration of such protection can be answered by Congress"
- 1981 US Supreme Court, *Diamond v. Diehr*,  
Industrial process for the molding of rubber products, which included software. This was not a pure software patent

# Patentable Subject Matter

## USA: To Yes

- 1981 decision relied on re-interpretation of Committee Reports accompanying the 1952 Patent Act
  - "include anything under the sun that is made by man."
- 1998, US Court of Appeals for Federal Circuit, *State Street Bank v. Signature Financial Group*

Allows business model patent and removes historical exceptions to patentable subject matter except "laws of nature, natural phenomena, and abstract ideas."

# Patentable Subject Matter European Union

- European Patent Convention article 52 excludes "programs for computers", and was reflected in 1978 Examination Guidelines
- European Patent Office (EPO) published new guidelines in 1985, interpreting exclusion list such that software patents are being granted
- Policy discussions are active as part of the proposed Community Patent. European software community does not trust EPO as they ignore article 52 exclusions

# Patentable Subject Matter Canada

- Canadian Patent Act does not mention software
  - exclusion list minimal: "27(8)No patent shall be granted for any mere scientific principle or abstract theorem."
- Canadian Intellectual Property Office (CIPO)
  - sets guidelines for patentability in Manual of Patent Office Practices (MOPOP)
- Only court decision: Schlumberger Canada (1981)
  - used a computer to analyze data concerning soil characteristic measurements for oil and gas exploration

# Manual of Patent Office Practices (MOPOP)

- Updated in 2004
  - Closed “consultation” including special interest patent agents
  - Lead to new Chapter 16: Computer implemented inventions
- Resources
  - [http://strategis.gc.ca/sc\\_mrksv/cipo/patents/mopop/mopop-e.html](http://strategis.gc.ca/sc_mrksv/cipo/patents/mopop/mopop-e.html)
  - <http://www.flora.ca/A-2004-00246/>

# MOPOP Chapter 16

- “Software in the form of a data model or an algorithm is automatically excluded from patentability under subsection 27(8) of the Patent Act, in the same manner as a mathematical formula, and is considered to be equivalent to a mere scientific principle or abstract theorem. However, computer related subject matter is not excluded from patentability if the traditional criteria for patentability are satisfied. Software that has been integrated with statutory subject matter may be patentable”

# MOPOP Chapter 16

- “The presence of a programmed general purpose computer or a program for such a computer does not lend patentability to, nor subtract patentability from, an apparatus or process.”
- Pure software not patentable in Canada, but this is vague enough that most people don't understand this distinction. (Including examiners?)

# Should software be patentable?

- “27(8) No patent shall be granted for any mere scientific principle or abstract theorem.”
  - Why?
- Processes involving manipulation of nature, including those involving computers, are patentable
- Where do information/mental processes sit between the two?
  - Economics: Zero Marginal Cost

# Practical issues: Patent quality

- Possibly 60%+ of SWpatents issued by USPTO invalid (Greg Aharonian, bustpatents.com)
- Practically impossible to review all software prior art
- Internet distribution not yet clearly considered publishing for prior art
- Expensive litigation should not be needed to file prior art to invalidate patent
- Unobvious needs to mean unobvious to someone **skilled in art**: Amazon 1-click was obvious

# Patent busting Groups

- Groups getting poor quality patents re-examined and invalidated
  - [eff.org/patent](http://eff.org/patent)
  - [pubpat.org](http://pubpat.org)
- Others simply say software should not be patentable
  - [FSF.org](http://FSF.org) and [endsoftpatents.org](http://endsoftpatents.org)
  - [ffii.org](http://ffii.org) and [eupat.ffii.org](http://eupat.ffii.org)

# Practical Issues: FLOSS

- Being FLOSS means certain activities can be done by someone acquiring software downstream without additional permission or payment.
- Patent law is considered working well when patent holders are able to extract royalties
- RAND (Reasonable and Non-Discriminatory) licensing ideal for hardware (royalty per instance of tangible product), but inappropriate for software which has a natural zero marginal cost

# Practical issues

- What to do if you are infringing a patent?
  - Obtain license
  - Go to court to invalidate patent, request re-examination (Poor quality makes this expensive, but often successful)
  - Innovate around patent
- Of these options, only the obtaining of a license has special implications for FLOSS given we need a RF (Royalty Free) license, not RAND or other royalty-bearing license

# Patent practises

- Often SW patents are filed by FLOSS and non-FLOSS companies as a defence against other patents, not as a source of revenue
- Patents used in 'interfaces' where innovating-around is not possible – FLOSS excluded
- Patent pools used to render patents held by practitioners in the art harmless (I see your 100 SW patents, and raise you 50 more)
- **THREAT:** patent trolls or shell companies that do not themselves produce any product or service - Contrary to the purpose of patent law

# Is Microsoft a threat?

- Microsoft claims “Linux” violates over 200 of their patents, but has not yet disclosed any
  - shades of SCO - more politics than law
- While Microsoft is unhappy with the growth of FLOSS, they are an active practitioner in the art. Microsoft likely infringes upon as many patents held by companies in FLOSS patent pools
  - Threats, not suits: many interface patents
- Threat of lawsuits is from companies outside the sector, or anti-FLOSS shell companies

# Is IBM a threat?

- IBM seen as active supporter and participant in FLOSS community, platinum member of The Linux Foundation, etc
- Lawyers for IBM have been promoting software patentability worldwide, especially in Europe
- In Canada's 2004 consultation, one of the strongest pushes for increased software patentability came from Peter K Wang of IBM Canada
- IBM as lobbier greater threat than IBM (or Microsoft) as patent holder

# Policy Proposals

- Patent policy is economic policy, which requires economic study and not legal analysis
  - Studies indicate that competition, not exclusive rights, drive innovation in software
  - Exclusions for practical, moral, ethical reasons
- Patent quality must be assured in each subject matter area. (50% good quality rule?)
- We need “Fair Use” doctrine for patent law, possibly carving out interface patents and royalty-free FLOSS implementations

-->Discussion...