



# Software Patent Issues

A review of Software Patent Issues

for ICT Branch, Industry Canada

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# Outline

- Introduction to patent policy
- Software patent policies (USA, EU, Canada)
- Software patent issues
  - How is software different?
  - Software innovation without patents
  - Statutory, Useful, Novel and Unobvious, fair use
  - Software patents as a challenge for standards organizations
- Recommendations



# Key Sources

A Review of Software Patent Issues, by Russell McOrmond (July 2003)

<http://www.flora.ca/patent2003/>

Information Process Patents In The U.S. And Europe: Policy Avoidance And Policy Divergence, by Brian Kahin (March 2003)

[http://www.firstmonday.dk/issues/issue8\\_3/kahin/](http://www.firstmonday.dk/issues/issue8_3/kahin/)

Toward A Doctrine Of Fair Use In Patent Law, by Maureen A. O'Rourke *Columbia Law Review*, Volume 100, No. 5 (June 2000)



# Introduction to Patents

- Common criteria for patentable subject matter:
  - statutory - qualifies as invention according to patent law in a country, not mentioned in any exceptions
  - useful - has industrial application (no perpetual motion machines)
  - novel - not invented already (prior art), not state of art
  - unobvious - not obvious to someone skilled in art



# 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 International

- World Intellectual Property Organization (WIPO)
  - specialized agency of the United Nations
  - administers 23 international treaties
  - cooperation with WTO (World Trade Organization) on TRIPS (trade-related aspects of intellectual property rights)
- Focused on global harmonization
- USA very active in promoting that there be few (if any) limits to patentable subject matter



# Patentable Subject Matter Canada

- Canadian Patent Act does not mention software inventions
  - exclusion list minimal: "No patent shall be granted for any mere scientific principle or abstract theorem."
  - Patent Rules, Courts interpreting act and rules
- Canadian Intellectual Property Office (CIPO)
  - sets guidelines for patentability
  - new chapter 26 of Manual of Patent Office Practices drafted for the review of computer implemented inventions and business methods
- Only court decision: Schlumberger Canada (1981)



# Why Is Software Different?

[http://www.firstmonday.dk/issues/issue8\\_3/kahin/](http://www.firstmonday.dk/issues/issue8_3/kahin/)

- “business methods”
  - one patent, many products
    - breadth problem
- pharmaceuticals, chemicals
  - one patent, one product
    - discrete technology
- “software”
  - one product, many patents
    - complex technology problem

patents are  
valued/needed,  
accepted by  
consensus, and  
contribute to flow  
of knowledge



# Why Is Software Different?

- Software is both the process and the product
- One 'product' is a combination of many possibly patentable processes, leading to extremely complex license negotiations
- As with other non-rivalrous information processes, there is no separation between creation and “mass production”
- Software can be created/used in manufacturing processes, created/distributed using manufacturing methodologies, or created/used/distributed entirely outside a manufacturing context
- Software patents not generally read (or written) by those skilled in art. Some avoid reading patents to not be 'tainted'



# FLOSS And Patents

- Free/Libre and Open Source Software (FLOSS)
- FLOSS Copyright licenses are incompatible with patents except in the case of royalty-free license
- FLOSS creates a pool of software relatively unencumbered by license negotiations
- Innovation is faster paced with full disclosure of innovation (source code)



# Patent Quality

- Possibly 60%+ of patents issued by USPTO invalid
- 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



# Standards Organizations: Patent Disclosure

- Standards groups have disclosure requirements after high profile problem cases involving "patent farming"
  - Rambus case: JEDEC Solid State Technology Association. Media report: Jury found Rambus Inc. had committed fraud by failing to disclose its synchronous patent applications to the industry JEDEC standards
  - Dell case: VESA (Video Electronics Standard Association). Federal Trade Commission: "Dell cannot enforce its patent rights"



# Standards Organizations: Patent Licenses

- World Wide Web Consortium (W3C)
  - Patent policy working group
  - Early RAND ("Reasonable and Non-Discriminatory") draft caused many concerns
  - Adopted Royalty-Free policy still creates uncertainties for Free Software ("field of use")
- Internet Engineering Task Force (IETF)
  - Section 10 of The Internet Standards Process (RFC2026) defines IP policy
  - Maintains page of notices



# Fair Use in Patent Law

- Copyright law includes fair use exemptions
  - Should software interfaces receive such an exemption?
  - Should Free Software receive such an exemption?
  - Should competition policy supersede IPR?
  - How should we deal with abuse of exclusive rights?

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# Recommendations (1)

- Assessment of the economic rationale for software patent protection
- Canada should promote economically sound patent policy in support of technological innovation worldwide
- Call for suspension of WTO/WIPO efforts toward international harmonization of patent policy to patentable subject matter such as software, information processes and business methods



## Recommendations (2)

- Duration of a patent should be related to the specific subject matter
- Clarify statutory subject matter: exclusions, useful, novel, and unobvious
- CIPO guidelines: rigorous tests for useful, novel, and unobvious.
- Non-patent prior art: Free Software library, file prior art without fee
- "State of the art" test
- Software engineers to assess: unobvious



## Recommendations (3)

- CIPO should reject questionable software patent applications and leave the decision to the courts

*Better for a legitimate patent to temporarily be offered inadequate protection than to offer protection for an invalid patent which no one might be in a position to fight in court*

- In case of dispute, patent holder needs to prove that the patented technique was used
- Fair use should be codified as defense in the Patent Act



# Software History

- Early computing: software included with hardware, minimal separation
- 1960's: some proprietary software, practitioners continue to share, source often came with OS
- 1970's: beginnings of free software (Artificial Intelligence Lab at MIT, Richard Stallman)
- 1980's: first US software patents (1981), formal announcement of GNU project (1983)
- 1990's: explosion of Free Software co-dependent with the Internet vs. explosion of patent applications