

Innovation, Technology and the Law: The Case of (Software) Patents

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Who Am I?

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[1]

What is FFII?

Foundation for a **Free** Information Infrastructure

+ More than 400 members, 1000 companies
and 60000 supporters

+ Act as public interest group on policy
regarding exclusion rights (IP) in information
goods – especially software patents

[2]

What is a Patent?

(Temporary) Monopoly Rights over an Invention

Patent right. (a) The exclusive right to an invention, and the control of its manufacture. [Webster's 1913]

[3]

Software Patents:

Software Patents

- Patents over software algorithms. Examples:
 - Amazon One Click
 - Electronic shopping cart (Sun)
 - Progress Bar (IBM)
 - Multimap patent
 - Many more

Estimated that there are 30,000 software patents granted by EPO (but are they valid)

[Politics]

Political Scene

- Changing patentability in the US with extension to software (early 1980s) and business methods (1998)
- Europe: desire from patent establishment to harmonize with US
- EU Directive started 1997/1998 on 'Computer Implemented Inventions'

Directive

- Would have **legitimized** software patents in EU
- But:

July 6th 2005: directive rejected by a landslide at
second reading

Political Economy

- Very unusual result
- IP normally just extended and extended without any evidence
- Why?

Political Economy 2

- IP is a one way street
- Those who gain the benefits of IP are concentrated those who bear the costs (e.g. future innovators and public) are diffuse. This leads to very different lobbying power
- Rights fundamentalism

[Consequences]

We Get Too Much IP

Software Patents are the
Classic Example

Innovation is Crucial to Growth

- Current levels of innovation are unprecedented.
- Difference between 1.5% and 3% rate is the difference between doubling economy in 48 years and 24 years
- Consider the web, internet etc

So costs are **very** high

- So putting much sand in the wheels of innovation, especially software, can cost us **a lot**
- Think about a world without the internet, the web etc
- We need competition and open standards ...

[End]

Innovation: software the site of VERY rapid innovation. Has also allowed new forms of production (F/OSS)

Technology: technology is changing rapidly making software ubiquitous. Cost of communications and hardware continue to halve

Law: software patents have emerged over last 20 years. Now an EU directive.

Five Reasons Software Patents are Harmful:

1. Reward disproportionate to investment (software is about implementation not inspiration)
2. Ecology of software (componentization)
3. Copyright protects what matters (implementation)
4. Loss of competition very significant as low cost of entry
5. Large legal costs

In short:

- Benefits are negative (harms innovation)
- Costs are significant (impedes diffusion and reduces competition)

What fundamentally do we care about?

Ans: Welfare Of Society

(crudely: how well off we are in the widest sense)

! Keep this in mind – it's easy to forget!

[3]

The Theory of Innovation
or:

What are Patents For and Why Should We Care
About Them?

We care about technological progress (Innovation) WHEN it improves welfare of society (through econ. growth)
- when costs $>$ benefits

1. A juggling routine
2. A recipe for a cake
3. A new financial product
4. A faster algorithm for computing the square root of 2 on a computer
5. An encryption algorithm for communications
6. A pharmaceutical drug for combating AIDS such as AZT
7. A more efficient type of plough

Two steps in innovation:

1. Creation: actual invention
(producing the first unit/copy)
2. Diffusion: people using the
innovation

But:

- Reduces diffusion by raising prices
- Hurts other inventors who build on original invention
- Transaction cost issues (gives power to large companies)
- Bad patents

Inventions as Public Goods

- + Non-Rivalry
- + Appropriability and the Free Rider Problem
 - + Up front fixed costs
 - + But are they really

So inventor might need
temporary excludability to
make money.

Idea: Patents (temporary
monopoly) encourage
innovation