

The Past and Future of Patents

How did we get into the current mess and how could we get out again?

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Original intention of patents

- ▶ to provide an **exclusive right to exclude others** from using a technology, during a **limited time**,
- ▶ in exchange of the **publication of technical details**,
- ▶ in order **to stimulate** creation of technology **for the betterment of society**.

From Wikipedia's "History of Patent Law", about the origins of the US Patent Law:

The right to useful inventions (...) belongs to the inventors. The public good fully coincides in both cases with the claims of the individuals.



Sample of recent patent system derailment

(12) **United States Patent**
Hickman et al. (10) **Patent No.:** **US 8,639,644 B1**
(45) **Date of Patent:** **Jan. 28, 2014**

(54) **SHARED ROBOT KNOWLEDGE BASE FOR USE WITH CLOUD COMPUTING SYSTEM**

(56) **References Cited**

U.S. PATENT DOCUMENTS

(75) Inventors: **Ryan Hickman**, Mountain View, CA (US); **James J. Kuffner, Jr.**, Mountain View, CA (US); **James R. Bruce**, Sunnyvale, CA (US); **Chaitanya Gharpure**, Sunnyvale, CA (US); **Damon Kohler**, Munich (DE); **Arshan Poursohi**, Berkeley, CA (US); **Anthony G. Francis, Jr.**, San Jose, CA (US); **Thor Lewis**, San Francisco, CA (US)

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FOREIGN PATENT DOCUMENTS

(73) Assignee: **Google Inc.**, Mountain View, CA (US)

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OTHER PUBLICATIONS

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

Waibel, Markus. "RoboEarth: A World Wide Web for Robots." IEEE Spectrum Feb 5, 2011.*

⇒ privatisation of European FP7 project results!



Mess 1: “the public good” disappeared

The **stimulation** of innovation has been replaced by:

- ▶ the **protection** against competition;
- ▶ the **marginalisation** of small-scale innovators;
- ▶ the **elimination** of newcomers in a domain.

⇒ most of the time, only the **private good** is profiting!



Mess 2: patent trolls

- ▶ patent allows to prevent others from using technology.
- ▶ does not require exploitation by patent holder.

⇒ increasing amounts of non-constructive friction in innovation system.



Mess 3: costly uselessness of patent offices

- ▶ patent office are not adding any value except making **repositories** of filed patents,
- ▶ since it **can give no guarantees** (anymore) about protection.

⇒ replace it by much simpler/cheaper administration staff.

- ▶ copyright on **implementation** suffices to protect investment in **realising** innovation.
- ▶ the “public good” is only served with **realised innovation**, not one that is kept on paper, in a safe, ready to be used as a gun against others trying to realise the innovation’s added value. . .



Mess 4: unsuitability to “Open Innovation”

- ▶ “innovation” is still (implicitly) connected to identifiable individuals in identifiable legal entities.
- ⇒ sharing of IP is bureaucratic nightmare in current distributed development context.
- ⇒ incremental innovation progress/process leads to patent inflation and decreasing returns on investment.
- ▶ “step change” in innovation is not taken into account in patent acceptance.



Solution 1: focus on service not ownership

Compare the following closely related but very differently operating domains:

Surgical procedures	Pharmaceutical drugs
The Internet	Windows/iOS/Oracle/SAP
no patents on open heart surgery, or TCP/IP	patents on each drug or software feature
innovation via co-development	private, corporate development
public funding for innovation	only private funding
making money via “service”	making money via ownership
public co-develops & certifies	privately paid certification



Solution 2: commoditize the platform!

(... If it is not yet too late...)

- ▶ “the Internet” is the best example
- ▶ “the browser” a tremendous sub-example
- ▶ Bell Labs decided to **not** patent the transistor, because it was “too big” an innovation!
- ▶ Google commoditized the smartphone platform (But still monopolizes the services on top of it...)
- ▶ OpenStreetMap/GIS standards commoditized mapping



Solution 2: change the legal system!

- ▶ this is **very difficult!**
- ▶ unless **“the masses”** demand it, and decide to vote for the “right” political changes!

Here is where today’s research community comes in!

- ▶ you are representing innovation that “the masses” care about, a lot!
 - ▶ you work with technology that “the masses” can understand!
 - ▶ you work with technology that “the public good” already pays for, most of the time!
- ⇒ put “patent system reform” on the dissemination/impact agenda of all medical research projects, worldwide, and in a coordinated way!

