RMIT School of Computer Science and IT

Course Notes

COSC1147

Semester 2, 2017

Week 07

Lecture Component

- Patents
- Trademarks
- Trade Secrets
- others

Intellectual Objects

- The expression *intellectual objects* refers to various forms of intellectual property.
- Intellectual property consists of “objects” that are not tangible.
- Non-tangible or "intellectual" objects represent creative works and inventions, i.e., the manifestations or expressions of ideas.

Intellectual vs. Tangible Objects

- Tangible objects are *exclusionary* in nature.
  - If Harry owns the laptop computer (a physical object), then Sally cannot, and vice versa.
- Intellectual objects, such as software programs, are *non-exclusionary*.
  - If Sally makes a copy of a word-processing program (that resides in Harry's computer), then both Sally and Harry can possess copies of the same word-processing program.

Ideas vs. Expressions of Ideas

- If an idea is literary or artistic in nature, it must be expressed (or "fixed") in some tangible medium in order to be protected.
  - A “tangible medium” could be a physical book or a sheet of paper containing a musical score.
- If the idea is functional in nature, such as an invention, it must be expressed in terms of a machine or a process.
  - Authors are granted copyright protections for expressions of their literary ideas, while inventors are given patent protection for their inventions.

Intellectual Property Protection Schemes

Four schemes:

- *Copyright law*;-- this has been covered
- *Patents*;
- *Trademarks*;
- *Trade secrets*.

Patent Protections

- A patent is a form of legal protection given to individuals who create an invention or process.
- Unlike copyrights, patents offer a 20-year exclusive monopoly over an expression or implementation of a protected work.
- The present US patent statute is based on the Patent Act of 1952, as amended in 1995.

The Australian Patent Office

- The present Australian patent act was made in 1990 and has two kinds of patents
  - a standard patent with a term of 20 years
  - an innovation patent, with a lower threshold for inventiveness, and a maximum term of 8 years.
- Innovation patents have a faster approval process and lower fees.
- http://www.ipaustralia.gov.au/patents/what_index.shtml

Patents

- Patent protection can be applied to inventions and discoveries that include utilitarian or functional devices such as machines, articles of manufacture, or "compositions of matter.“
- Patents are granted to inventions and discoveries that satisfy three conditions:
  - usefulness,
  - novelty,
  - non-obviousness.

Note:

- Mathematics is considered to express "laws of nature", so no-one can have a patent (monopoly) on a mathematical process.
- Prior to 1980 s/w patents were generally refused because s/w was considered mathematically based and hence under law of nature exclusion.
- Most are patentable now as process control s/w (eg. a compression utility), not algorithms per se.

Patents (Continued)

- Computer hardware inventions clearly satisfied the requirements of patent law.
- Computer software did not (initially).
- Beginning with *Gotshalk v. Benson* (1972), the US Patent Office and the courts established a strong opposition to patents.
- Benson applied for a patent for an algorithm he developed that translated the representation of numbers from base 10 to base 2.

Gotshalk vs. Benson

- Benson’s algorithm is an important feature of all programs.
- If granted a patent for his algorithm, Benson would have controlled almost every computer in use for 12 years.
- The patent was denied to Benson on the basis of a policy that bars patents for mere mathematical formulas or abstract processes that can be performed by a series of "mental steps" with the aid of pencil and paper.

Diamond v. Diehr Case

- In *Diamond v. Diehr*, whose outcome was the result of a 5-4 decision, a patent was finally awarded in the case of a computer program.
- In this instance, the program assisted in a process of converting rubber into tyres.
- Critics argued that Diehr had only a new computer program, since all of the parts of the machine used in the conversion process consisted of traditional technology except for the computer program.
- Justices said the patent awarded to Diehr was not for the computer program but for the rubber tyre transformation process as a whole.

Disadvantages of patenting

- Obtaining a patent may take 1.5 - 2.5 years and cost $10-20K.
- Complete nondisclosure must apply while patent pending, ie. no publication of idea.
- A patent can be challenged in court on any of the 3 criteria. Novelty and obviousness can be undermined by evidence of similar inventions that predate your patent.
- Defending a patent can cost $75K - $1M.

Disadvantages of patenting

- Small companies threatened with patent infringement generally pay royalties to avoid costly litigation. (Legal extortion?)
- Competitors may not enter a niche market if the dominant player has one or more patents.
- Developers must search prior art to avoid inadvertent patent infringement.

Proliferation of Patents for Computer Software

- Some worry that patent protection has gone too far.
- The U.S. Patent and Trademark Office (PTO) issues about 20,000 new software patents every year.
- Look at this patent statistics chart (1963-2015)-

  http://www.uspto.gov/web/offices/ac/ido/oeip/taf/us_stat.htm

Softpatent crisis?

- 11K softpatents granted from early 70's to 1994
- plus 20K outside U.S.
- Same again to 1997 (U.S. PTO figures).
- Hence exponential growth in softpatents.

Some interesting facts …

- U.S. files most softpatents;
- Japan files most end-user application patents.
- IBM has 1/8 of all softpatents.
- The 'hottest' I.T. areas have the most patent applications. Hence, expect an area to become 'hotter' if applications accelerate.

Patent Proliferation (continued)

- The generous granting of patent protections has raised concerns about which kinds of features in the user interfaces on e-commerce sites should be eligible for patents.
- Should an e-commerce site that is the first to display a "shopping cart" icon in its user interface be able to patent that icon?
- Like any other property right, a patent may be sold, licensed, mortgaged, assigned or transferred, given away, or simply abandoned.

Apple versus Samsung patent fight

- Two have been at each other's throats since 2011.
- What is this fight about? This video explains one aspect of their unnecessary fighting:

  https://www.youtube.com/watch?v=qsz5JsDqAYs

Apple versus Samsung patent fight

- Apple and Samsung Electronics have held a series of private negotiations about their patent disputes since last summer when
- Apple notched a victory in one case, according to legal documents and people familiar with the matter. A jury in San Jose, Calif., in August 2012, awarded Apple more than $1 billion after finding that some Samsung devices had infringed its patents. The judge presiding over the case has since reduced those damages as the case wends its way toward an appeal.
- The battle continues..

Trade Secrets

Trade Secrets- *another form of protection*

- A trade secret is defined as:

  information used in the operation of a business or other enterprise that is sufficiently valuable and secret to afford an actual or potential economic advantage over others.

- Trade secrets can be used to protect:
- formulas (such as the one used by Coca-Cola);
- blueprints for future projects;
- chemical compounds;
- process of manufacturing.

Trademark

- A **trademark** or **trade mark** (represented by the symbol ™) or **mark** is a distinctive sign or indicator of some kind which is used by an individual, business organization or other legal entity to identify uniquely the source of its products and/or services to consumers, and to distinguish its products or services from those of other entities.
- A trademark is a type of intellectual property, and typically a name, word, phrase, logo, symbol, design, image, or a combination of these elements.

Trademark

- The owner of a registered trademark may commence legal proceedings for trademark infringement to prevent unauthorized use of that trademark. However, registration is not required.
- The owner of a common law trademark may also file suit, but an unregistered mark may be protectable only within the geographical area within which it has been used or in geographical areas into which it may be reasonably expected to expand.

Trademark and Australia

- If you have no idea about trademarks and need a head start, have a look at the “TM Headstart” service.
- The service provides an assessment which can help you determine the suitability of your proposed trade mark for registration before you make a formal application for registration.
- https://www.ipaustralia.gov.au/trade-marks/applying-for-a-trade-mark/how-to-apply-for-a-trade-mark/tm-headstart

Online Trademark search

- Have a look at the following website- Australian Trade Mark On-line Search System (ATMOSS).

<http://pericles.ipaustralia.gov.au/atmoss/falcon.application_start>

- Watermark website- one of Australia's foremost providers of Intellectual Property services.

<http://watermark.com.au/frontpage.html>

Ugg boots trademark dispute

- The term ‘ugg boots’ has been subject to trademark dispute for many years until recently when IP Australia decided to remove the words ‘ugg boots’ from the Australian trademark registry

Ugg boots trademark dispute

- In 1971, an Australian surfer, Shane Steadman, began selling ugg boots and registered the name UGH as a trademark. In 1979 Brian Smith, another Australian surfer, brought several pairs of Australian-made uggs to the United States and began selling them in New York and to surfers in California. He set up Ugg Holdings Inc., acquired the Australian mark from Steadman, and in 1985 registered a U.S. trademark on a rams head logo with the words “Original UGG Boot UGG Australia”. In 1995 he sold his interest to Deckers. In 1996 Deckers registered a trademark for “UGG” in the United States.

Ugg boots trademark dispute

- In 1999, Deckers began asserting its new trademark and sent out cease and desist letters to Australian manufacturers, but did not press the issue beyond that. In the early 2000s, demand for ugg boots was soaring, partly as a result of US$8 million spent on marketing by Deckers, but also due to several celebrity endorsements. Australian manufacturers began selling uggs over the Internet, and Deckers' law firm Middletons of Melbourne began a serious effort to halt the Australian companies' sales.

Ugg boots trademark dispute

- In 2004, Deckers sent cease and desist letters to a number of Australian manufacturers, including Mortels Sheepskin Factory, preventing them from selling uggs on eBay or from using the word in domain names.
- In response, the issue was discussed in the Australian House of Representatives where Robert Baldwin MP compared the controversy to an Australian company trying to buy the trademark “cowboy boot”.

Ugg boots trademark dispute

- In 2005, the validity of the UGG trademark was challenged in federal court in California; the court ruled for Deckers, stating that consumers in the United States consider UGG to be a brand name. In his final order, the judge stated that the defendants had provided anecdotal evidence the term's generic usage, but Deckers countered through submitting declarations from four professionals in the footwear industry who stated that "UGG" is widely recognized in the industry as a brand name, not a generic term. The case applies only to U.S. usage.

The Case Against Property Rights for Software

- Not everyone believes that property rights for software are justified.
- Some argue that while property rights for physical objects make sense, intellectual property rights for software does not.
- Richard Stallman has opposed copyright protection for software.

Alternative Frameworks to Property Rights for Software

- Stallman (2004) views software ownership as a form of “hoarding” that disregards the general welfare of society.
- He believes that software should be freely available for humankind rather than restricted by property rights.
- Stallman notes that the development of software in the computer industry has evolved from a spirit of cooperation and sharing to one in which cooperation is virtually forbidden.

Alternative Frameworks

- Grodzinsky, Miller, and Wolf (2004) suggest that Stallman's position on why software should be free may have been influenced by the MIT culture of the 1970s, where source code could be freely exchanged.
- Although Stallman advocates for the view that software should be free, he intends “free” to refer to liberty not to price (or “free” as in free speech versus free beer).

GNU

- In the late 1970s and early 1980s, the burgeoning computer industry hired many of the best software developers and programmers from academic computing labs.
- Some of those individuals took the software they developed with them, and some of that software eventually became proprietary.
- In response, Stallman began his GNU (Gnu's Not Unix) project in 1984, whose goal was to develop an entire Unix-like operating system that was "open" and freely accessible.

GNU and the Free Software Foundation (FSF)

- FSF was formed in 1985 to support of Stallman's GNU project.
- According to FSF, four "freedoms" are essential for free software, i.e., the *freedom to*:
  1. run the program, for any purpose;
  2. study how the program works, and adapt it for your needs;
  3. redistribute copies so you can help your neighbor;
  4. improve the program, and release your improvements to the public so that the whole community benefits.

The Open Source Initiative (OSI)

- OSI, which began in 1988, shares many of the same goals as FSF, including the ability of a software user to look at, understand, modify and redistribute the source code for that software.
- Like FSF, OSI requires that the source code for “open source software” (OSS) is freely available.
- So, both the OSS and FSF movements are similar with respect to their requirements for source code in the software development process.
- There are also important differences between OSS and FSF.

OSS and FSF (Continued)

- Eric Raymond (2004) notes that OSS and FSF have different philosophies or “attitudes” because:
  - FSF continues to focus on promoting its philosophical position that software should be free.
  - OSS has concentrated its efforts more on promoting the open source model as an alternative methodology to “closed-source” development for software.
- OSS and FSF also differ with respect to requirements for how the software is used “downstream.”

OSS and FSF (Continued)

- FSF requires that all derivative pieces of software be subject to the original requirements and thus remain “open” and non-proprietary.
- OSS is more flexible with respect to its derivative software.
- FSF requires that users strictly adhere to its GPL (General Programming License) in all derivative uses of its software.
- OSS supports less restrictive licenses that permit programmers to alter the open source software and to release it as a proprietary product.

Alternative Frameworks and the Sharing of Information

- Stallman focuses his arguments specifically on why computer software, not necessarily all information, should be free (although some of his followers subscribe to the view: information wants to be free).
- But Stallman correctly recognizes that information is something that humans desire to *share* with one another.
- We do not need to accept his position on software being free to appreciate the force of Stallman's insight about the broader notion of information.

Alternative Frameworks

- In order for information to be shared, it must be communicated.
- So, intellectual-property laws that prohibit or even discourage the communication of information undermine the very purpose of information as "something to be shared."

The “Common Good” Approach

- Stallman's insight about the nature of information dovetails with the “common-good” approach to ethics.
- Michael McFarland (2004, 2005) draws on some principles of virtue ethics and natural law theory in discussing how the “common good” applies to intellectual property issues.
- McFarland does not necessarily accept Stallman's claim that software should be totally free.

References

- www.uggbootssaleonlineaustralia.com.au/trademark/ugg-boots-trademark-dispute/
- http://www.ipaustralia.gov.au/get-the-right-ip/trade-marks/
- http://www.ipaustralia.gov.au/get-the-right-ip/patents/

Suggested Reading

- Chapter 8: Intellectual Property disputes in cyberspace, *Pages 244-252*

Quiz 4

- Go to Blackboard for PCP 1147
- Find Assignments tab
- Click on Lecture Quizzes
- Select and do quiz 4

- You have 15 mins to answer = 1 min per question + 5 extra minutes allowing for getting into Blackboard
- You cannot go back and change an answer, or skip forward – both will end the quiz.