CS210: Intellectual property

CS210 Spring 2015
Week 9
Property Law

- Establishing relationships between:
  1. individuals
  2. objects
  3. the state
What Is Property?

• When discussing property, we tend to think of *tangible* items.
• Originally, "property" referred to land.
• Property now also includes objects that one can own, such as:
  ➢ an automobile,
  ➢ articles of clothing,
  ➢ a laptop
Property as a Form of “Control”

• Property can best be understood as a relationship between individuals in reference to things

• The owner of a laptop can control who has access to it
Intellectual Objects

• The expression *intellectual object* can refer to various forms or instances of intellectual property.

• Intellectual property (IP) consists of “objects” that are not tangible.

• 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.
• Intellectual objects, such as software programs, are non-exclusionary.
• Legal protection is given only to the tangible expression of an idea that is creative or original.
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, a film.

• 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.
Philosophical Foundations

• Labor theory - all property is natural right given to the laborer, including IP
• Utilitarian theory - IP is artificial right granted to promote innovation, which benefits society
• Personality theory - IP is a moral right, extension of your person/your identity
Software as Intellectual Property

• Should computer programs be eligible for patent protection?
• Should they be protected by copyright law?
• Do they deserve both, or perhaps neither, kind of protection?
Software as Intellectual Property

• Software is not expressed or "fixed" in a tangible medium
• Software resembles algorithms, which, like mathematical ideas or "mental steps," are not eligible for patent protection.
• Eventually, however, *both* copyright and patent protections were granted to software programs.
IP Protection Schemes

1) Copyrights
2) Patents
3) Trademarks
4) Trade secrets
1) Copyright Protection

• Copyright holders have the exclusive right to:
  ➢ make copies of the work
  ➢ produce derivative works, translations into other languages, movies based on the book, and so forth
  ➢ distribute copies
  ➢ perform works in public (musicals, plays, etc.)
  ➢ display works in public (e.g., art works)
  ➢ Copyright guarantees control for life +70 years (or more!)
Copyright Law

- In 1976, the concept of a literary work was extended to include:
  - programs
  - computers
  - databases that "exhibit authorship."

- To get a copyright for a computer program, the author had to show that the program contained an *original expression of ideas* and not simply the ideas themselves.
Fair Use

• Use of another person's copyrighted work for purposes:
  - criticism
  - comment
  - teaching
  - scholarship
  - research

  ▪ Factors considered:
    - Purpose and character (profit, parody, transformative vs. derivative)
    - Nature of the work (facts and public interest)
    - Amount of work used
    - Effect on market value
First-Sale Doctrine

• Once you purchase a fixed version of the work (copy of a book, audio tape, painting, etc.) you are free to give away, resell, or even destroy the copy of that work.

• It is not clear whether one is permitted to give away digital versions of these works.
2) Patents

- 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.
2) Patents

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

• A *trademark* is a word, name phrase, or symbol that identifies a product or service.

• The Lanham Act, also referred to as the Trademark Act of 1946, was passed to provide protection for registered trademarks.

• The Act intends to ensure that the quality associated with a certain logo or symbol used by a business actually represents the quality that consumers expect.
4) Trade Secrets

- information that is sufficiently valuable and secret to afford an actual or potential economic advantage
- Protected by nondisclosure agreements (NDA)
- 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
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
Open Source Initiative (OSI)

• Like FSF, OSI requires that the source code for “open source software” (OSS) is freely available
• More concerned with open source as a development process
• Allow for BSD and MPL licenses
• Less restrictive, allows for proprietary use
Intellectual Commons

• We have framed laws and policies to protect the *physical commons* (i.e., parks, natural resources, air, etc.).
• The *intellectual commons* is now threatened by strong intellectual property laws
Creative Commons (CC)

- Nonprofit organization launched by Lawrence Lessig and others in 2001
- Provides a set of licensing options that help artists and authors give others the freedom and creativity to build upon their creativity
- Leverage copyright law to give greater flexibility, not “all or nothing” of the exclusive rights outlined earlier
- Provides a “menu” of options for creator to waive/retain rights
Creative Commons Menu

1. **Attribution**—Permit others to copy, distribute, display, and perform the work and derivative works based upon it only if they give you credit

2. **Noncommercial**—Permit others to copy, distribute, display, and perform the work and derivative works based upon it only for noncommercial purposes

3. **Derivative works**—Permit others to copy, distribute, display, and perform only verbatim copies of the work, not derivative works based upon it

4. **Share alike**—Permit others to distribute derivative works only under a license identical to the license that governs your work
DMCA

- Digital Millennium Copyright Act
- Passed in 2000, two controversies
  - Criminalized circumvention of digital rights management (DRM) technology
  - Created concept of a “takedown notice”
  - Provides “safe harbor” provision for ISPs
    - Protects them from users’ actions
    - They act as a “carrier” or “conduit” only
SOPA/PIPA/ACTA/TPP

- Stop Online Piracy Act - regulate linking to copyrighted content, streaming criminalized
  - Removes “safe harbor” provisions of DMCA
- Protect IP Act - rewrite of SOPA
- Anti-Counterfeiting Trade Agreement
- Trans-Pacific Partnership IP Chapter
Patent Trolls

• Patents guarantee a monopoly even if a product is independently developed
• Companies buy patents with no intent to express the patent
• Sue after products are brought to market
• This is rent seeking - using law to collect without producing wealth
• Software patents are particularly easy target
He who receives an idea from me, receives instruction himself without lessening mine; as he who lights his taper at mine, receives light without darkening me. - Thomas Jefferson

I’m going to destroy Android, because it’s a stolen product. I’m willing to go thermonuclear war on this. - Steve Jobs