

Intellectual Property Law for Software Engineers

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Intellectual Property

- Intangible property: product of the mind or intellect, such as information and ideas
- Intellectual property law protects the rights of authors, inventors and other owners of intellectual property, conferring exclusives rights concerning the particular form or manner in which the property is expressed or manifested.

Types of Protection

The Congress shall have power “to promote the progress of science and the useful arts, by securing for limited times to authors and inventors the exclusive right to their respective writings and discoveries.” [Art. I, sec.8, d.8]

- **Patent** (Federal; Constitution)
- **Copyright** (Federal; Constitution)

Types of Protection

Promote “Fair Play” in Business

- **Trade Secret** (Primarily State)
- **Trademark / Servicemark** (Primarily Federal)

Patents vs. Copyrights

	Patent	Copyright
Term	17 years	lifetime + 70 years 95 years
Cost	≥ \$10,000	\$30 to register
Time	≥ months	instantaneous
Protects	claimed invention	expressive form
Against	later inventors	copiers
Applies to	new and useful process, machine, ...	any expression

Patent

- Ownership over an idea or an invention.
- Provides a monopoly; limits competition

Patent Requirements

- Statutory Subject Matter
 - Less than a year of public knowledge
 - Any new and useful process, machine, [article of] manufacture, or composition of matter
 - Not phenomena of nature, scientific principles, abstract ideas, (pure) mathematical formulas
 - Software controversy
- Novelty
 - Does not exist in the “prior art”
- Non-obviousness
 - At the time the invention was made
 - To a person “having ordinary skill in the art”

Patent: Software Issues

- No repository of prior art
- Education of patent examiners
- Time to issue
- “Patent portfolios” - unequal bargaining power
- Effect on later innovation

Copyright

- Protects from unauthorized copying, original works of authorship fixed in any tangible medium of expression, now known or later developed.
- “In no case does copyright protection for an original work of authorship extend to any idea, procedure, process, system, method of operation, concept, principal, or discovery, regardless of the form in which it is described, explained, illustrated or embodied in such a work.”

Copyright Requirements

- Automatic, once work is tangible
- Copyright notice helpful, not required
- Registration optional (easy, cheap, useful)
- Author exclusive right to:
 - Reproduce
 - Distribute
 - Create derivative works
 - Perform or display publicly
- Infringement is unauthorized use with
 - Substantial similarity
 - Access to copyrighted work

Copyright doesn't protect...

- Independent creation
- Underlying ideas
- Portions in the public domain
- Aspects dictated by external constraints
- Copying by “implied license”
- “Fair use”

“Fair Use”

- Purpose and character of the use
- Nature of copyrighted work
- Amount and substantiality of portion used
- Effect on potential market and value of work

Copyright: Software Issues

- Separating functionality (idea) from expression
- Protection of a user interface
- Enforcement, especially with respect to the net
 - Big-time vs. small-time infringers
- Ownership issues and “works for hire”
 - Employee vs. Contractor
- Content providers vs. content consumers

Trade Secret

- Keep It Secret!
- Gives a competitive advantage in business
- Not generally known (not necessarily unique)
- Maintained as confidential

Trade Secret: Software Issues

- Duration potentially infinite
- Public disclosure ends protection
- Independent discovery
- Misappropriation (employees, spies, ...)
- Protection preservation:
 - Nondisclosure agreements
 - Security precautions
 - Employees informed of obligations
- Employee's expertise vs. trade secrets
 - Non-competition agreements?:

Trademark

- The name that a company applies to a product which is used by the public to distinguish these goods from the goods of other companies.
- FUBAR™ FuBar®
- Addresses “likelihood of confusion”

Trademarks

- Identify source or quality of goods or services
- Words, logos, sounds, colors
- Obtain by use in commerce
- Name must be attached to the good
- Duration potentially infinite if not “abandoned”
- Federal registration (suits, statutory damages, ®)
 - ★ “presumption of ownership”
 - ★ “constructive knowledge of ownership in the public”

Internet & Web Issues

- Liability and jurisdiction
- Domain names and trademarks
- Framing, quoting, linking
- Peer-to-peer copying (Napster, ...)

References

- U.S. Patent and Trademark Office
<http://www.uspto.gov>
- Copyright Office
<http://www.loc.gov/copyright>
- Copyright Office Circular 61 on computer programs
<http://www.copyright.gov/circs/circ61.pdf>
- American Intellectual Property law Association
<http://www.aip.org>
- Electronic Frontier Foundation
<http://www.eff.org>
- League for Programming Freedom
<http://lpf.ai.mit.edu>
- Pamela Samuelson, UC Berkeley
<http://www.sims.berkeley.edu/~pam>