

Computer Law in Context

- ☉ Computer science
 - ☛ *By subdiscipline:* architecture, theory, AI, programming languages, networks, ...
 - ☛ *By application area:* web development, biomedical computing, scientific visualization, ...

- ☉ Law
 - ☛ *By subdiscipline:* contracts, torts, family law, constitutional law, real property, criminal law, intellectual property, ...
 - ☛ *By application area:* health care law, labor law, aviation law, computer law, ...

Intellectual Property Law Basics For Computer Science Instructors



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The Breadth of Computer Law

- ☉ Intellectual property
- ☉ Contracting for computer systems
- ☉ Liability for malfunction
- ☉ Privacy of computer-based records
- ☉ Computer crime
- ☉ Computer-based records as evidence
- ☉ Transborder data flow
- ☉ Antitrust in the computer industry

(Cf. Applications of computing to law practice)

Law and Computing: Different Goals, Different Cultures

	Computer Industry	Legal System
Domain	formal, mechanical systems	social systems
Individual autonomy	absolute (sometimes)	nonexistent
Time scale	months (or nanoseconds)	decades
Notions of “elegance”	efficiency, clarity	precedent, “code reuse”
Ambiguity	eliminate	accommodate

Multiple, Coexisting Legal Systems

- Ⓞ Federalism: Distributed control
 - ✦ U.S. Constitution defaults to the states
- Ⓞ Legislation vs. Common Law
 - ✦ U.S. Congress, 50 state legislatures
 - ✦ Federal courts (trial and appeal), state courts (trial and appeal)
- Ⓞ Appellate court opinions have the force of law (in their jurisdiction)
- Ⓞ Adversary system; “case or controversy”
- Ⓞ Legal “causes of action”

Categories of Intellectual Property Law

- Ⓞ Patent (Federal Law) and
- Ⓞ Copyright (Federal Law)

U.S. Constitution: 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.1, sec.8, cl.8]

- Ⓞ Trade Secret (Mostly State Law) and
- Ⓞ Trademark (Mostly Federal)

Promote “fair play” in business

Patents vs. Copyrights

	Patent	Copyright
Term	20 years (17)	life + 70 years
Cost	≥ \$10,000	\$20
Time	≥ Months	Instantaneous
Protects	Claimed invention	Expressive form
... against	Later inventors	Copycats
Applies to	New and useful process, machine, ...	Any expression

Patent Requirements

- Ⓞ Statutory Subject Matter
 - ✦ Any new and useful process, machine, [article of] manufacture, or composition of matter
 - ✦ Not phenomena of nature, scientific principles, abstract ideas
 - ✦ Mathematical formulas?
- Ⓞ 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 Problems

- Ⓢ No repository of prior art
- Ⓢ Education of patent examiners
- Ⓢ Time to issue
- Ⓢ “Patent portfolios” and unequal bargaining power

Copyright Requirements

- Ⓢ Automatic once work is tangible
- Ⓢ Copyright notice helpful, not required
Copyright © 2000 by Peter Programmer. All rights reserved.
- Ⓢ Registration optional (but easy, cheap, and useful)
- Ⓢ Author exclusively may:
 - Ⓢ Reproduce
 - Ⓢ Distribute
 - Ⓢ Create derivative works
 - Ⓢ Perform or display publicly
- Ⓢ Infringement is unauthorized use with
 - Ⓢ Substantial similarity
 - Ⓢ Access to copyrighted work

Copyright Does Not Protect ...

- Ⓢ Independent creation
- Ⓢ Underlying ideas
- Ⓢ Portions in the public domain
- Ⓢ Aspects dictated by external constraints (e.g., standards, compatibility, efficiency)
- Ⓢ “Fair use”

Copyright Problems

- Ⓢ How to separate functionality (idea) from expression
- Ⓢ How far copyright can protect a user interface
- Ⓢ Enforcement against infringers, especially on the net
 - Ⓢ Big-time vs. small-time infringers
- Ⓢ Ownership issues and “works for hire:”
employee vs. contractor

Trade Secret Requirements

- ☛ Gives a competitive advantage in business
- ☛ Not generally known (but not necessarily rocket science)
- ☛ Maintained as confidential

Trade Secret Protections and Problems

- ☛ Duration potentially infinite
- ☛ Public disclosure ends protection
 - ☛ Independent discovery
 - ☛ Misappropriation (by employees or spies)
- ☛ To help preserve protection:
 - ☛ Explicit nondisclosure agreements
 - ☛ Security precautions
 - ☛ Employees informed of obligations
 - ☛ But: Are employee non-competition agreements enforceable?
- ☛ Improved know-how vs. trade secrets

Trademarks

- ☛ Identify source or quality of goods or services in a particular market
- ☛ Words, logos, sounds, colors
- ☛ Obtain by use in commerce
- ☛ Duration potentially infinite if not “abandoned”
- ☛ Federal registration permits suits, statutory damages, use of ®

Internet and Web-Unique Issues

- ☛ Liability and jurisdiction in cyberspace
- ☛ Domain names and trademarks
- ☛ Framing, quoting, and linking