

Advanced Topics on Legal and Ethical Issues in IS

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CH. Four Intellectual Property Rights

Examples

- ❑ Software piracy costs the industry \$355 every second, \$21,308 every minute, \$1.2 million every hour, \$30.6 million every day and \$214.7 million every week."
- ❑ One dollar out of every five lost to piracy occurred in the United States."
- ❑ In Middle East and Africa three dollars out of four lost to piracy

Introduction

- ❑ One of the more controversial areas of computer ethics concerns the intellectual property rights connected with software ownership.
- ❑ Trend 1: Software ownership should not be allowed at all.
 - ❑ All information should be free
 - ❑ All programs should be available for copying, studying and modifying by anyone
 - ❑ Example (Richard Stallman - Free Software Foundation)

Introduction

- Trend 2: Software ownership should be allowed and protected
 - software companies or programmers would not invest time and money in the development of software if they could not get the investment back in the form of license fees or sales.
 - Today's software industry is a multibillion dollar part of the economy; and software companies claim to lose billions of dollars per year through illegal copying ("software piracy").

Computer Products

- The physical parts of the computer
 - Tangible form
 - Intrinsic value
 - Clear property rights
- Examples:
 - CPU
 - Printers
 - Monitors
 - Switches

Computer Services

- Acts carried out on behalf of the customer
 - No tangible form
 - Intrinsic value
 - Clear property rights
- Example:
 - Repairing the computer
 - Installing / Configuring the computer network

Computer Software

- Set of logical instructions to perform a task.
 - Non tangible form
 - Intrinsic value
- Software Categories
 - Product: Ready to use software (Windows, Lotus, ...)
The customer has no right to alter or change
 - Services: Specially ordered software
 - Mixed Case: Ready to use software (Windows, Lotus, ...), The customer has the right to add feature that match their needs.

Computer Software

□ Software Development

- Algorithm development (Finding a logical solution for the given problem):
 - In general form all disciplines
- Coding (source code written in programming language)
 - Using a Programming Language to express the algorithm
- Compiling (object code)
- Linking (executable code)
 - Usage of libraries (P. L. libraries, external libraries)

Foundations of IPR for Computer products

- Computer hardware, software and services requires high level of skills that need time and money
- These technologies are often the results of individual creativity
- Protection of IPR:
 - Creativity
 - Competitiveness
 - Economy sectors are involved

IPR mechanisms

- IPR mechanisms:
 - Copyrights
 - Patents
 - Trademarks
 - Protection of trade secrets
 - Personnel Identity rights
- Extension of related laws and regulation
 - International
 - National/Local

Copyrights

- Copyright is a right accorded by law to an inventor or creator of an expression.
- This includes creative works
 - Literary
 - Musical
 - Pictorial
 - Graphics
 - Artistic
 - Audiovisual works
 - Architectural works
 - ...

Copyrights

□ History:

- 1710 England
- 1790 USA
- 1793 France
- 1886 Berne Convention
- 1952 Universal Copyright Convention
- 1971 Paris and Berne conventions

□ International Organizations:

- 1967: World Intellectual Property Rights Organization (WIPO)
- World Trade Organization (WTO) that start to take in charge these issues (Trade Related Aspects of IRP) under the TRIPPS

Copyrights

□ Requirement for the copyright

■ Originality

- Facts are common property for all humanity, this include mathematical theories.
- Ideas: are common property for all humanity
- Expressions are the only copyrighted, but they may include ideas and facts.

■ Fixation in a tangible form that can be perceived by others

- Questions: Digital form??

■ Expression

□ Copyright duration

Patents

- ❑ Patents protect inventions and discoveries.
- ❑ This does not include the ideas but the process carrying out these idea.
 - ❑ Competitors May take the same idea and use a different process
- ❑ This des not include the variations and derivatives of the invention.
- ❑ A patent give the inventor/discoverers the exclusive right to make, use or sell their invention or discovery for a specific period of of time.

Patents

- ❑ Duration of patent
 - ❑ USA (17 years)
- ❑ Requirement for a patent
 - ❑ Utility
 - ❑ Novelty
 - ❑ No obviousness
 - ❑ Disclosure

Trade Secrets

- A trade secret is a collection of information that gives a company or business a competitive advantage over others in the field → strategic importance
- Duration:
 - Undefined life of protection
- Protection
 - Lack of laws
 - At the contractual level

Trade Secrets

- Requirement for trade secret
 - Its extension out the business
 - The extension of protection measures
 - Value of the information to the owner and competitors
 - The amount of money and time spent by the owner to develop or gather this information
 - The ease or difficulty with which the information may be acquired

Trademarks

- A trademark is a label/name/mark that identifies a product or a service
- It may be:
 - A word
 - A name
 - A picture
 - A symbol
- A trademark gives its owner the right to prevent others from using the same or similar symbol to market their products.

Trademarks

- Requirement for a trademark
 - Acceptance by the public
 - No suggestive connotations to its origin
 - Not a symbol of any country
 - No peoples likenesses without prior consent
- Duration
 - USA (from 10 to 20 years)

Computer Software

- Which of the the following aspects of a program can be protected??
 - The "source code" which is written by the programmer(s) in a high-level computer language like Java or C++.
 - The "object code", which is a machine-language translation of the source code.
 - The "algorithm", which is the sequence of machine commands that the source code and object code represent.
 - The "look and feel" of a program, which is the way the program appears on the screen and interfaces with users.

Legal Protection of Software

- Algorithms are not classified as IP (why??)
- Software/Program is a manifestation or an expression of an algorithm → It is classified as IP and then protected.
- Protection under the copyright
 - Computer Software (source, object and executable code)
 - Software Documentation
 - Limitation: a buyer has the right to make another copy,

Legal Protection of Software

- Protection under Patent Laws
 - Computer hardware
 - Software under certain conditions
 - Total disclosure
 - Patents for programs must be tied to hardware.
- Protection under Trademarks
 - IBM
 - Apple
 - Microsoft: window 98, ...
- Protection under trade Secrets
 - Trade secrets are governed by contract law

Types of IPR Violations

- Publisher Patent and Copyright violation: Intellectual property theft where one producer copies material or process from another for profit.
- Industrial Piracy: when an individual or group attempts duplication and distribution on a large scale for profit.
- Corporate Piracy: The LAN is at the root of corporate piracy. By installing one copy of a software application on a LAN server, potentially hundreds of employees may gain unlicensed access.

Types of IP Violations

- ❑ Reseller Piracy: This involves computer hardware companies selling machines with illegal copies of software pre-loaded on their hard drives.
Examples: selling PCs with software
- ❑ Home Piracy -- includes everything from trading disks with friends to running a not-for-profit bulletin board for the purposes of illegal software distribution

Discussions

- ❑ Describe one kind of software or technique used in software that you think is innovative, like an invention, for which patent protection might be appropriate.
- ❑ Suppose you are a system manager for a university computer. You discover that someone has set up a directory on the system containing copyrighted material and that many people are logging in and downloading copies. Think of some options you can do.

Discussions

- Suppose a group of students creates a WWW home page for their university as a class project. The page includes the university logo, student resumers, an on-line poker game, and a variety of links. The university administration learns of the home page and decides that it should be controlled by Public Relations office. What are some of the issues here? Was the students' freedom of speech violated?